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**2006-08 BRAKES**

**ABS System - Civic (All Except Hybrid)**

## COMPONENT LOCATION INDEX

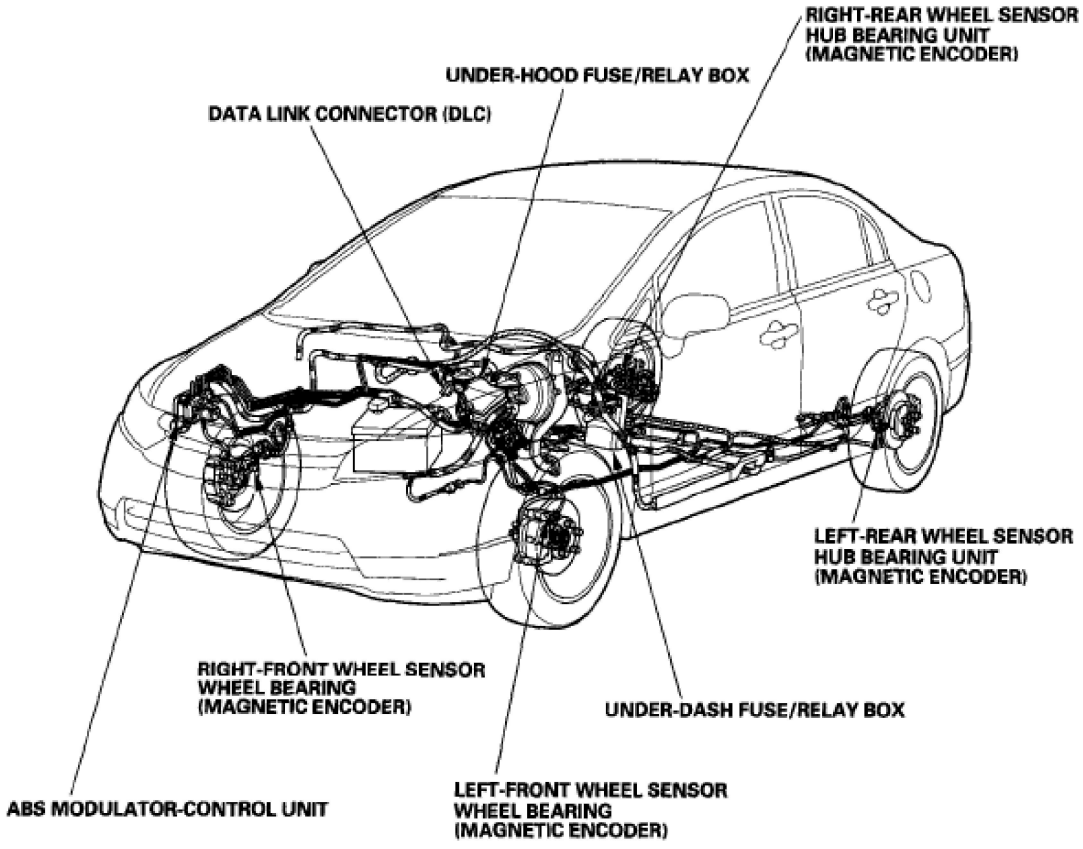



**Fig. 1: Locating ABS Components**

## GENERAL TROUBLESHOOTING INFORMATION

### SYSTEM INDICATOR

This system has two indicators:

- ABS indicator (A)
- Brake system indicator (B)

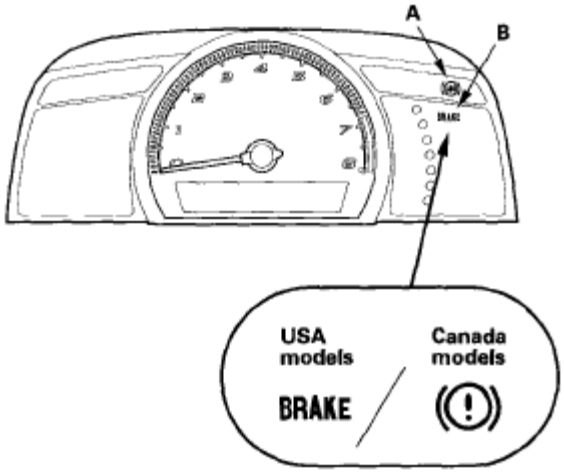



**Fig. 2: Identifying ABS And Brake System Indicators**

When the system is OK, each indicator comes on for about 2 seconds after turning the ignition switch ON (II), then goes off.

When the system detects a problem, a DTC will be set and, depending upon the failure, the ABS modulator-control unit will determine which indicator(s) will be turned on. If the problem goes away (system returns to normal), the indicator(s) will be controlled in the following way depending upon the DTC that was set:

- The indicator(s) will come on and stay on when the ignition switch is ON (II).
- The indicator(s) will automatically go off.
- The indicator(s) will go off after the vehicle is driven.

**ABS Indicator**

The ABS indicator comes on when the ABS function is lost. The brakes still work like a conventional system.

**Brake System Indicator**

The brake system indicator comes on when the EBD function is lost, the parking brake is applied, and/or the brake fluid level is low.

**NOTE: If two or more wheel sensors fail, the brake system indicator will come on.**

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**DIAGNOSTIC TROUBLE CODE (DTC)**

- The memory can hold all DTCs. However, when the same DTC is detected more than once, the more recent DTC is written over the earlier one. Therefore, when the same problem is detected repeatedly, it is memorized as a single DTC.
- The DTCs are indicated in the order they occur.
- The DTCs are memorized in the EEPROM. Therefore, the memorized DTCs cannot be canceled by disconnecting the battery. Do the specified procedures to clear the DTCs.

**SELF-DIAGNOSIS**

- Self-diagnosis can be classified into two categories:
  - Initial diagnosis: Done right after the ignition switch is turned ON (II) and until the ABS indicator goes off.
  - Regular diagnosis: Done right after the initial diagnosis until the ignition switch is turned OFF.
- When the system detects a problem, the ABS modulator-control unit shifts to fail-safe mode.

**KICKBACK**

The pump motor operates when the ABS modulator-control unit is functioning, and the fluid in the reservoir is forced out to the master cylinder, causing kickback at the brake pedal.

**PUMP MOTOR**

- The pump motor operates when the ABS modulator-control unit is functioning.
- The ABS modulator-control unit checks the pump motor operation during regular diagnosis when the vehicle is driven over 10 mph (15 km/h) the first time after the ignition switch is turned ON (II). You may hear the motor operate at this time, but it is normal.

**BRAKE FLUID REPLACEMENT/AIR BLEEDING**

Brake fluid replacement and air bleeding procedures are identical to the procedures used on vehicles without ABS (see **BRAKE SYSTEM BLEEDING** ).

**HOW TO TROUBLESHOOT DTCS**

The troubleshooting procedures assume that the cause of the problem is still present and the ABS indicator is still on. Following a troubleshooting procedure for a code that has been cleared and does not reset can result in incorrect diagnosis.

1. Question the customer about the conditions when the problem occurred, and try to reproduce the same conditions for troubleshooting. Find out when the ABS indicator came on, such as during ABS operation, after ABS operation, when vehicle was traveling at a certain speed, etc.
2. When the ABS indicator does not come on during the test-drive, but troubleshooting is done based on the DTC, check for loose connectors, poor contact of the terminals, etc. before you start troubleshooting.
3. After troubleshooting, or repairs are done, clear the DTCs, and test-drive the vehicle under the same conditions that originally set the DTCs. Make sure the ABS indicator does not come on.
4. Check for other unit DTCs which are connected via F-CAN, if there are DTCs that are related to F-CAN, the most likely cause was that the ignition switch was turned ON (II) with the ABS modulator-control unit connector disconnected. Clear the DTCs. Check for PGM-FI and ABS codes, and troubleshoot those first.

**INTERMITTENT FAILURES**

The term "intermittent failure" means a system may have had a failure, but it checks OK now. If the indicator(s) of the system does not come on, check for poor connections or loose pins at all connectors related to the circuit that you are troubleshooting. If the indicators were on but then went out, the original problem may have been intermittent.

**HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)**

1. If the system indicators stay on, connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.

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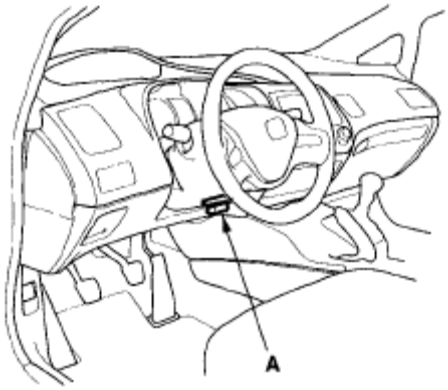



**Fig. 3: Connecting HDS To DLC**

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the ABS modulator-control unit. If it doesn't, troubleshoot the DLC circuit: Except Si model (see **DLC CIRCUIT TROUBLESHOOTING** ), Si model (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Check the diagnostic trouble code (DTC) and note it. Also check the on board snapshot data, and download any data found. Then refer to the indicated DTC's troubleshooting, and begin the appropriate troubleshooting procedure.

**NOTE:**

- **The HDS communication will be stopped when the vehicle speed is at 31 mph (50 km/h) or more.**
- **The HDS can read the DTC, current data, and other system data.**
- **For specific operations, refer to the Help menu that came with the HDS.**

**HOW TO RETRIEVE DTCS**

1. With the ignition switch to LOCK (0), connect the HDS to the data link connector (DLC) under the driver's side of the dashboard.
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the ABS modulator-control unit. If it doesn't, troubleshoot the DLC circuit: Except Si model (see **DLC CIRCUIT TROUBLESHOOTING** ), Si model (see **DLC CIRCUIT**

**TROUBLESHOOTING** ).

4. Follow the prompts on the HDS to display the DTC(s) on the screen. After determining the DTC, refer to the **DTC TROUBLESHOOTING**.
5. Turn the ignition switch to LOCK (0).

**HOW TO CLEAR DTCS**

1. With the ignition switch to LOCK (0), connect the HDS to the data link connector (DLC) under the driver's side of the dashboard.
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the ABS modulator-control unit. If it doesn't, troubleshoot the DLC circuit: Except Si model (see **DLC CIRCUIT TROUBLESHOOTING** ), Si model (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Clear the DTC(s) by following the screen prompts on the HDS.
5. Turn the ignition switch to LOCK (0).

## DTC TROUBLESHOOTING INDEX

## DTC TROUBLESHOOTING INDEX

| DTC | | Detection Item | ABS Indicator | Brake System Indicator |
|---|---|---|---|---|
| **11** | -13 | Right-front wheel sensor circuit malfunction | ON | ON/OFF(1) |
| **12** | -11 | Right-front wheel sensor electrical noise or intermittent interruption | ON | ON/OFF(1) |
| | **-12** | Right-front wheel sensor short to the other sensor circuit | ON | ON/OFF(1) |
| | **-21** | Right-front wheel | ON | |

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| | | | | |
|---|---|---|---|---|
| | | sensor installation error | | ON/OFF(1) |
| | **-22** | Right-front wheel sensor installation error (19 mph (30 km/h) or more) | ON | ON/OFF(1) |
| | **-23** | Right-front wheel sensor installation error (0 to 9 mph (0 to 15 km/h)) | ON | ON/OFF(1) |
| **13** | -13 | Left-front wheel sensor circuit malfunction | ON | ON/OFF(1) |
| **14** | -11 | Left-front wheel sensor electrical noise or intermittent interruption | ON | ON/OFF(1) |
| | **-12** | Left-front wheel sensor short to the other sensor circuit | ON | ON/OFF(1) |
| | **-21** | Left-front wheel sensor installation error | ON | ON/OFF(1) |
| | **-22** | Left-front wheel sensor installation error (19 mph (30 km/h) or more) | ON | ON/OFF(1) |
| | **-23** | Left-front wheel sensor | ON | ON/OFF(1) |

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| | | | | |
|---|---|---|---|---|
| | | installation error (0 to 9 mph (0 to 15 km/h)) | | |
| **15** | -13 | Right-rear wheel sensor circuit malfunction | ON | ON/OFF(1) |
| **16** | -11 | Right-rear wheel sensor electrical noise or intermittent interruption | ON | ON/OFF(1) |
| | **-12** | Right-rear wheel sensor short to the other sensor circuit | ON | ON/OFF(1) |
| | **-21** | Right-rear wheel sensor installation error | ON | ON/OFF(1) |
| | **-22** | Right-rear wheel sensor installation error (19 mph (30 km/h) or more) | ON | ON/OFF(1) |
| | **-23** | Right-rear wheel sensor installation error (0 to 9 mph (0 to 15 km/h)) | ON | ON/OFF(1) |
| **17** | -13 | Left-rear wheel sensor circuit malfunction | ON | ON/OFF(1) |
| **18** | -11 | Left-rear wheel sensor electrical noise or | ON | ON/OFF(1) |

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| | | | | |
|---|---|---|---|---|
| | | intermittent interruption | | |
| | **-12** | Left-rear wheel sensor short to the other sensor circuit | ON | ON/OFF(1) |
| | **-21** | Left-rear wheel sensor installation error | ON | ON/OFF(1) |
| | **-22** | Left-rear wheel sensor installation error (19 mph (30 km/h) or more) | ON | ON/OFF(1) |
| | **-23** | Left-rear wheel sensor installation error (0 to 9 mph (0 to 15 km/h)) | ON | ON/OFF(1) |
| **21** | -11 | Right-front magnetic encoder malfunction (pulse missing) | ON | ON/OFF(1) |
| **22** | -11 | Left-front magnetic encoder malfunction (pulse missing) | ON | ON/OFF(1) |
| **23** | -11 | Right-rear magnetic encoder malfunction (pulse missing) | ON | ON/OFF(1) |
| **24** | -11 | Left-rear magnetic encoder malfunction | ON | ON/OFF(1) |

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| | | | | |
|---|---|---|---|---|
| | | (pulse missing) | | |
| **31** | -01 | ABS right-front inlet solenoid valve malfunction (solenoid initial pulse) | ON | ON |
| | **-21** | ABS right-front inlet solenoid valve malfunction (solenoid pulse) | ON | ON |
| | **-22** | ABS right-front inlet solenoid valve malfunction (solenoid speculative) | ON | ON |
| | **-23** | ABS right-front inlet solenoid valve malfunction (solenoid stuck ON) | ON | ON |
| **32** | -01 | ABS right-front outlet solenoid valve malfunction (solenoid initial pulse) | ON | ON |
| | **-21** | ABS right-front outlet solenoid valve malfunction (solenoid pulse) | ON | ON |

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| | | | | |
|---|---|---|---|---|
| | **-22** | ABS right-front outlet solenoid valve malfunction (solenoid speculative) | ON | ON |
| | **-23** | ABS right-front outlet solenoid valve malfunction (solenoid stuck ON) | ON | ON |
| **33** | -01 | ABS left-front inlet solenoid valve malfunction (solenoid initial pulse) | ON | ON |
| | **-21** | ABS left-front inlet solenoid valve malfunction (solenoid pulse) | ON | ON |
| | **-22** | ABS left-front inlet solenoid valve malfunction (solenoid speculative) | ON | ON |
| | **-23** | ABS left-front inlet solenoid valve malfunction (solenoid stuck ON) | ON | ON |

| | | | | |
|---|---|---|---|---|
| **34** | -01 | ABS left-front outlet solenoid valve malfunction (solenoid initial pulse) | ON | ON |
| | **-21** | ABS left-front outlet solenoid valve malfunction (solenoid pulse) | ON | ON |
| | **-22** | ABS left-front outlet solenoid valve malfunction (solenoid speculative) | ON | ON |
| | **-23** | ABS left-front outlet solenoid valve malfunction (solenoid stuck ON) | ON | ON |
| **35** | -01 | ABS right-rear inlet solenoid valve malfunction (solenoid initial pulse) | ON | ON |
| | **-21** | ABS right-rear inlet solenoid valve malfunction (solenoid pulse) | ON | ON |
| | **-22** | ABS right-rear | ON | ON |

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| | | | | |
|---|---|---|---|---|
| | | inlet solenoid valve malfunction (solenoid speculative) | | |
| | **-23** | ABS right-rear inlet solenoid valve malfunction (solenoid stuck ON) | ON | ON |
| **36** | -01 | ABS right-rear outlet solenoid valve malfunction (solenoid initial pulse) | ON | ON |
| | **-21** | ABS right-rear outlet solenoid valve malfunction (solenoid pulse) | ON | ON |
| | **-22** | ABS right-rear outlet solenoid valve malfunction (solenoid speculative) | ON | ON |
| | **-23** | ABS right-rear outlet solenoid valve malfunction (solenoid stuck ON) | ON | ON |
| **37** | -01 | ABS left-rear | ON | ON |

| | | | | |
|---|---|---|---|---|
| | | inlet solenoid valve malfunction (solenoid initial pulse) | | |
| | **-21** | ABS left-rear inlet solenoid valve malfunction (solenoid pulse) | ON | ON |
| | **-22** | ABS left-rear inlet solenoid valve malfunction (solenoid speculative) | ON | ON |
| | **-23** | ABS left-rear inlet solenoid valve malfunction (solenoid stuck ON) | ON | ON |
| **38** | -01 | ABS left-rear outlet solenoid valve malfunction (solenoid initial pulse) | ON | ON |
| | **-21** | ABS left-rear outlet solenoid valve malfunction (solenoid pulse) | ON | ON |
| | **-22** | ABS left-rear outlet solenoid | ON | ON |

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| | | | | |
|---|---|---|---|---|
| | | valve malfunction (solenoid speculative) | | |
| | **-23** | ABS left-rear outlet solenoid valve malfunction (solenoid stuck ON) | ON | ON |
| **41** | -21 | Right-front wheel lock | ON | ON/OFF(1) |
| **42** | -21 | Left-front wheel lock | ON | ON/OFF(1) |
| **43** | -21 | Right-rear wheel lock | ON | ON/OFF(1) |
| **44** | -21 | Left-rear wheel lock | ON | ON/OFF(1) |
| **51** | -11 | Motor lock | ON | OFF |
| | **-12** | Motor lock circuit malfunction | ON | OFF |
| | **-13** | Motor relay OFF malfunction | ON | OFF |
| **52** | -12 | Motor stuck OFF | ON | OFF |
| **53** | -01 | Motor relay stuck ON 1 | ON | OFF |
| | **-12** | Motor relay stuck ON 2 | ON | OFF |
| **54** | -03 | Fail-safe relay 1 stuck ON | ON | ON |
| | **-04** | Fail-safe relay 1 stuck OFF (initial) | ON | ON |

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| | | | | |
|---|---|---|---|---|
| | **-21** | Fail-safe relay 1 stuck OFF (main) | ON | ON |
| **61** | -01 | Modulator-control unit initial IG low voltage | ON | ON |
| | **-21** | Modulator-control unit power source low voltage 1 | ON | ON |
| | **-22** | Modulator-control unit power source low voltage 2 | ON | OFF |
| | **-23** | Modulator-control unit power source low voltage 3 | ON | ON |
| **62** | -21 | Modulator-control unit IG high voltage | ON | ON |
| **71** | -21 | Right-front or left-rear different diameter tire malfunction | ON | ON |
| | **-22** | Left-front or right-rear different diameter tire malfunction | ON | ON |
| | **-23** | Right-front and right-rear different diameter tire malfunction | ON | ON |
| | **-24** | Left-front and | ON | ON |

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| | | | | |
|---|---|---|---|---|
| | | left-rear different diameter tire malfunction | | |
| | **-25** | Right-front and left-front different diameter tire malfunction | ON | ON |
| | **-26** | Right-rear and left-rear different diameter tire malfunction | ON | ON |
| **81** | -01 | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| | **-05** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| | **-06** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| | **-08** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| | **-11** | Central processing unit (CPU) internal | ON | ON |

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| | | | |
|---|---|---|---|
| | circuit malfunction | | |
| **-14** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| **-23** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| **-30** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| **-31** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| **-32** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| **-51** | Central processing unit (CPU) internal circuit malfunction | ON | ON |
| **-52** | Central processing unit | ON | ON |

| | | | | |
|---|---|---|---|---|
| | | (CPU) internal circuit malfunction | | |
| | **-71** | Central processing unit (CPU) internal circuit malfunction | ON | OFF |
| **86** | -01 | F-CAN bus-off malfunction | OFF | OFF |
| | **-24** | F-CAN communication with engine malfunction | OFF | OFF |
| | **-25** | F-CAN communication with engine malfunction | OFF | OFF |
| | **-FF** | F-CAN communication with ABS malfunction | OFF | OFF |
| (1) Brake system indicator turns ON when 2 or more wheel sensors fail. | | | | |

## SYMPTOM TROUBLESHOOTING INDEX

When the vehicle has one of these symptoms, check for a diagnostic trouble code (DTC) with the HDS. If there is no DTC, do the diagnostic procedure for the symptom, in the sequence listed, until you find the cause.

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure |
|---|---|
| HDS does not communicate with | Troubleshoot the DLC circuit: Except Si model (see |

| | |
|---|---|
| the ABS modulator-control unit or the vehicle | **DLC CIRCUIT TROUBLESHOOTING** ), Si model (see **DLC CIRCUIT TROUBLESHOOTING** ). |
| ABS indicator does not come on | 1. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).<br>2. Substitute a known-good ABS modulator-control unit, then recheck. If it is OK, replace the original ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ). |
| ABS indicator does not go off, and no DTCs are stored | 1. Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING** ).<br>2. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ). |
| Brake system indicator does not come on | 1. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).<br>2. Substitute a known-good ABS modulator-control unit, then recheck. If it is OK, replace the original ABS modulator-control unit; Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ). |
| Brake system indicator does not go off, and no DTCs are stored | 1. Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING** ).<br>2. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ). |
| ABS indicator and brake system indicator do not go off at the same time | 1. Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING** ).<br>2. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ). |

## SYSTEM DESCRIPTION

**ABS MODULATOR-CONTROL UNIT INPUTS AND OUTPUTS FOR 25P CONNECTOR**




Wire side of female terminals

**Fig. 4: Identifying ABS Modulator-Control Unit Inputs And Outputs For 25P Connector**

## ABS MODULATOR-CONTROL UNIT INPUTS AND OUTPUTS FOR 25P CONNECTOR

| Terminal number | Wire color | Terminal sign | Description | Measurement (Disconnect the ABS modulator-control unit 25P connector) | | |
|---|---|---|---|---|---|---|
| | | | | Terminal | Conditions | Results |
| 1 | WHT | CAN-H | F-CAN communication circuit | - | - | - |
| 2 | GRN | FR+B | Detects right-front wheel sensor signal | - | - | - |
| 3 | GRY | FL-GND | Detects left-front wheel sensor signal | - | - | - |
| 5 | PUR | RL-GND | Detects left-rear wheel sensor signal | - | - | - |
| 6 | LT GRN | RR+B | Detects right-rear wheel sensor signal | - | - | - |
| 8 | WHT | FSR+B | Power source for the fail-safe relay | 8-GND | At all times | Battery voltage |
| 9 | RED | MR+B | Power source for the motor | 9-GND | At all times | Battery |

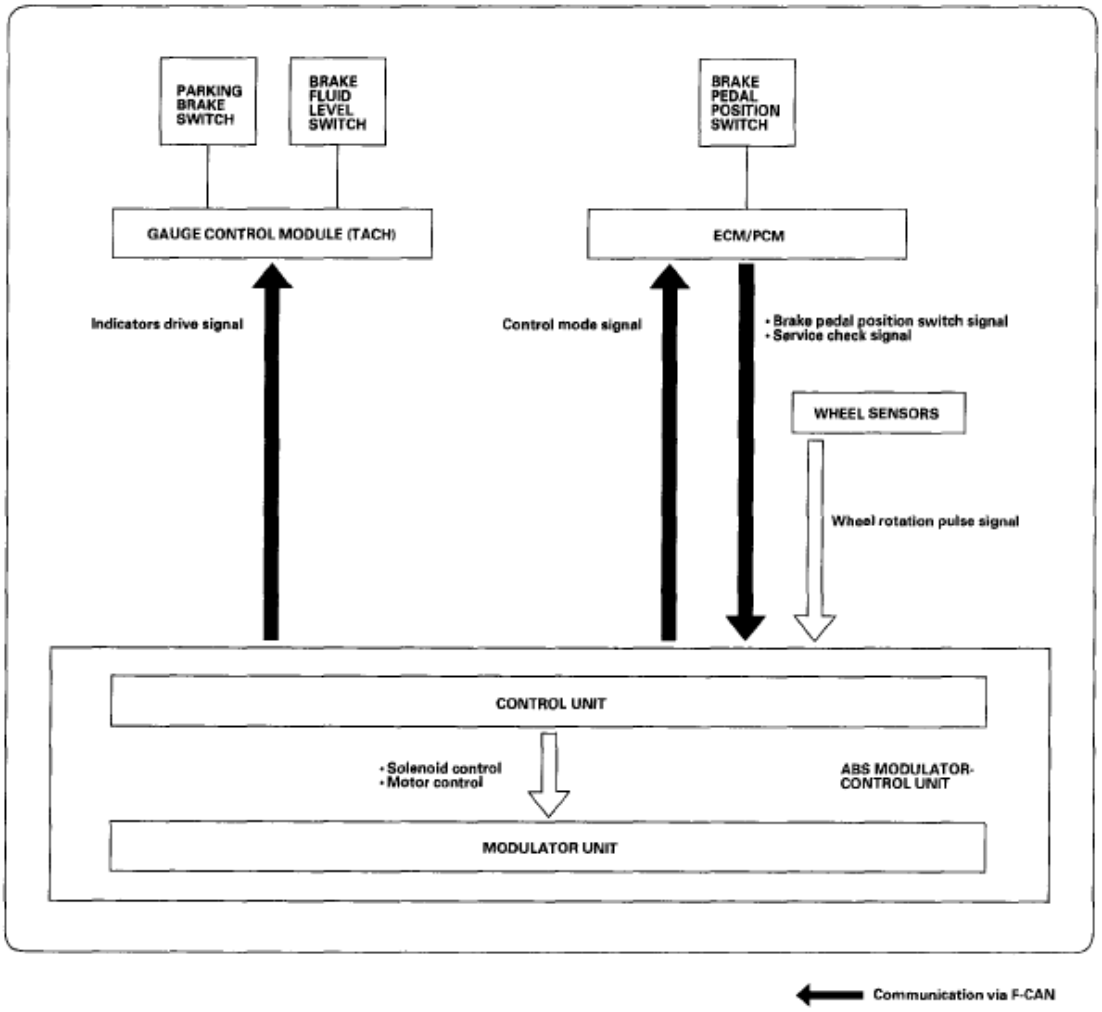
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| | | | | | | |
|---|---|---|---|---|---|---|
| | | | relay | | | voltage |
| 10 | LT BLU | K-LINE | Communication with HDS | - | - | - |
| 12 | ORN | FL+B | Detects left-front wheel sensor signal | - | - | - |
| 14 | BLU | RL+B | Detects left-rear wheel sensor signal | - | - | - |
| 15 | WHT | RR-GND | Detects right-rear wheel sensor signal | - | - | - |
| 16 | GRY | IG1 | Power source for activating the system | 16-GND | Ignition switch | ON (II) Battery voltage |
| 17 | RED | CAN-L | F-CAN communication circuit | - | - | - |
| 18 | PNK | FR-GND | Detects right-front wheel sensor signal | - | - | - |
| 24 | BLK | GND | Ground for the ABS modulator-control unit | 24-GND | At all times | Continuity |
| 25 | BLK | MR-GND | Ground for the pump motor | 25-GND | At all times | Continuity |

**SYSTEM OUTLINE**

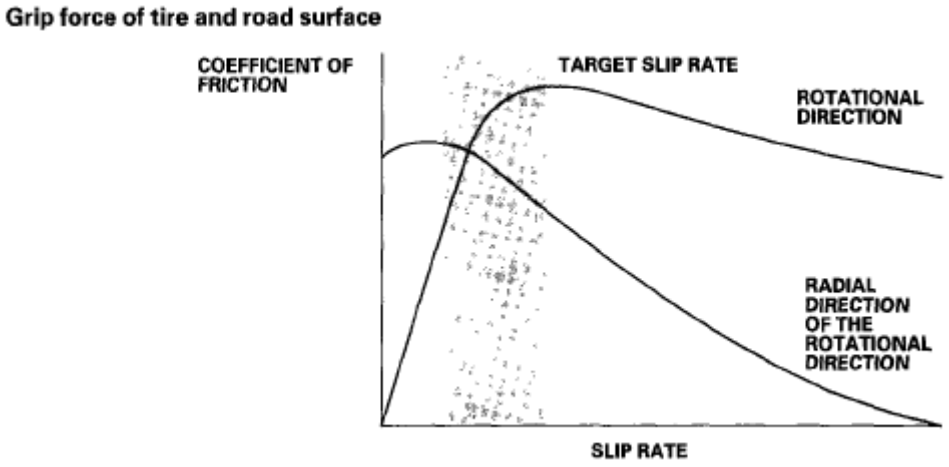
This system is composed of the ABS modulator-control unit, the wheel sensors, and the system indicators in the gauge control module. The ABS modulator-control unit controls the anti-lock brake and the brakes distribution functions.




## Fig. 5: Identifying ABS Modulator-Control Unit System Outline

**ABS FEATURES**

Without ABS, when the brake pedal is pressed while driving, the wheels sometimes lock before the vehicle comes to a stop. In such an event, the maneuverability of the vehicle is reduced if the front wheels are locked, and the stability of the vehicle is reduced if the rear wheels are locked, creating an extremely unstable condition. With ABS, the system precisely controls the slip rate of the wheels to ensure maximum grip force from the tires, and it thereby ensures maneuverability and stability of the vehicle. The ABS calculates the slip rate of the wheels based on the four wheel speeds, then it controls the brake fluid pressure to reach the target slip rate.

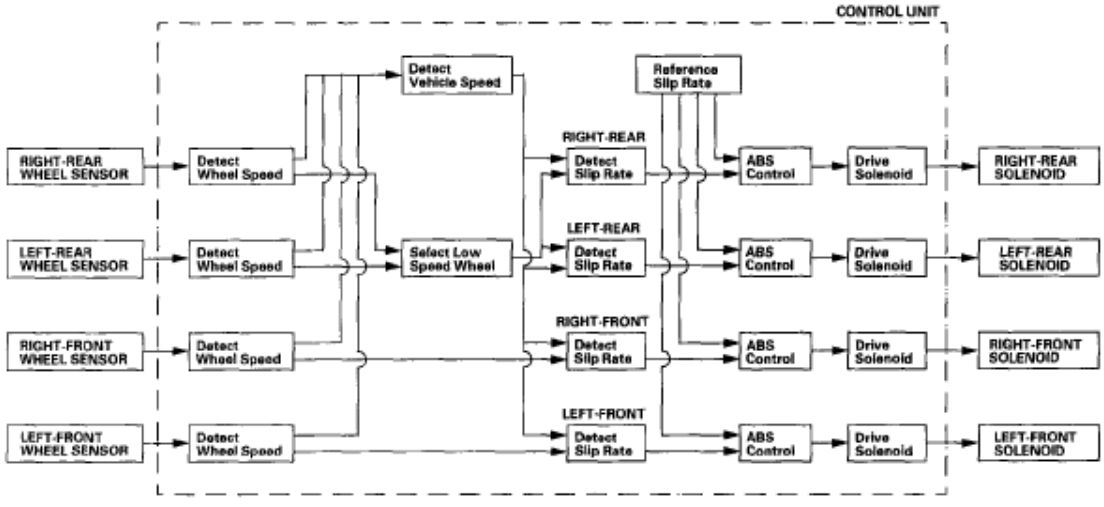



## Fig. 6: Identifying Grip Force Of Tire And Road Surface

The control unit detects the wheel speed based on the wheel sensor signals it received, then it calculates the vehicle speed based on the detected wheel speed. The control unit detects the vehicle speed during deceleration based on the rate of deceleration.

The control unit calculates the slip rate of each wheel, and transmits the control signal to the modulator unit solenoid valve when the slip rate is high.

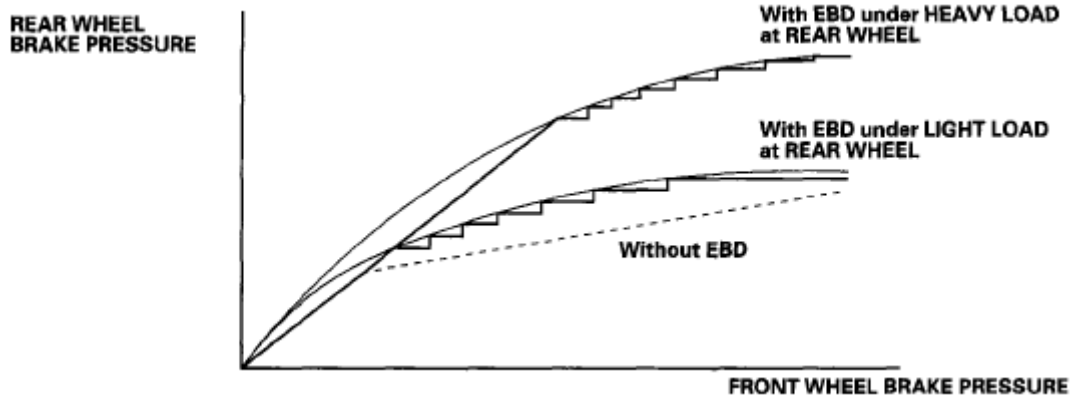
The hydraulic control has three modes: Pressure intensifying, pressure reducing, and pressure retaining.




## Fig. 7: Identifying Hydraulic Control Unit Flow Diagram

**EBD FEATURES**

The electronic brake distribution (EBD) feature helps control vehicle braking by adjusting the rear brake force in accordance with the rear wheel load before the ABS operates. Based on the wheel sensor signals, the control unit uses the modulator to control the rear brakes individually. When the rear wheel speed is less than the front wheel speed, the ABS modulator-control unit retains the current rear brake fluid pressure by closing the inlet valve in the modulator. As the rear wheel speed increases and approaches the front wheel speed, the ABS modulator-control unit increases the rear brake fluid pressure by momentarily opening the inlet valve. This whole process is repeated very rapidly. While this is happening, there is kickback at the brake pedal.




## Fig. 8: Identifying Rear Wheel Brake Pressure

**MODULATOR UNIT**

The ABS modulator consists of the inlet solenoid valve, the outlet solenoid valve, the reservoir, the pump, the pump motor, and the damping chamber. The modulator reduces the caliper fluid pressure directly. It is a circulating-type modulator because the brake fluid circulates through the caliper, the reservoir, and the master cylinder. The hydraulic control has three modes; pressure intensifying, pressure retaining, and pressure reducing. The hydraulic circuit is an independent four channel type; one channel for each wheel.

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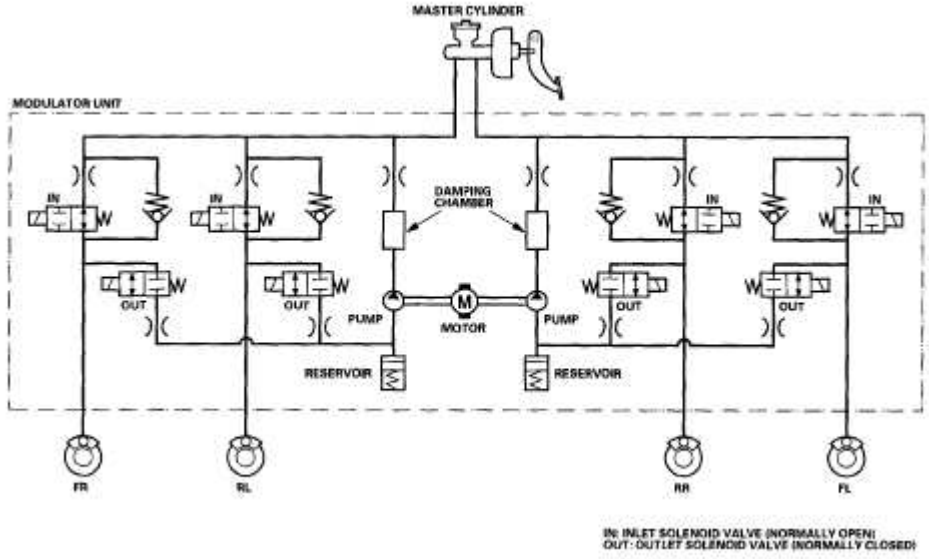



**Fig. 9: Identifying Modulator Unit Circuit Diagram**

## MODES AND INLET/OUTLET SOLENOID VALVE POSITION

| Mode | Inlet Solenoid Valve | Outlet Solenoid Valve | Brake Fluid |
|---|---|---|---|
| Pressure intensifying mode | open | closed | Master cylinder fluid is pumped out to the caliper. |
| Pressure retaining mode | closed | closed | Caliper fluid is retained by the inlet and outlet valves. |
| Pressure reducing mode | closed | open | • Caliper fluid flows through the outlet valve to the reservoir.<br>• The motor pumps the reservoir fluid through the damping chamber to the master cylinder (1) . |
| (1) The motor will keep running until the operation of the one anti-lock brake control is finished with the first pressure reducing mode. | | | |

## CIRCUIT DIAGRAM

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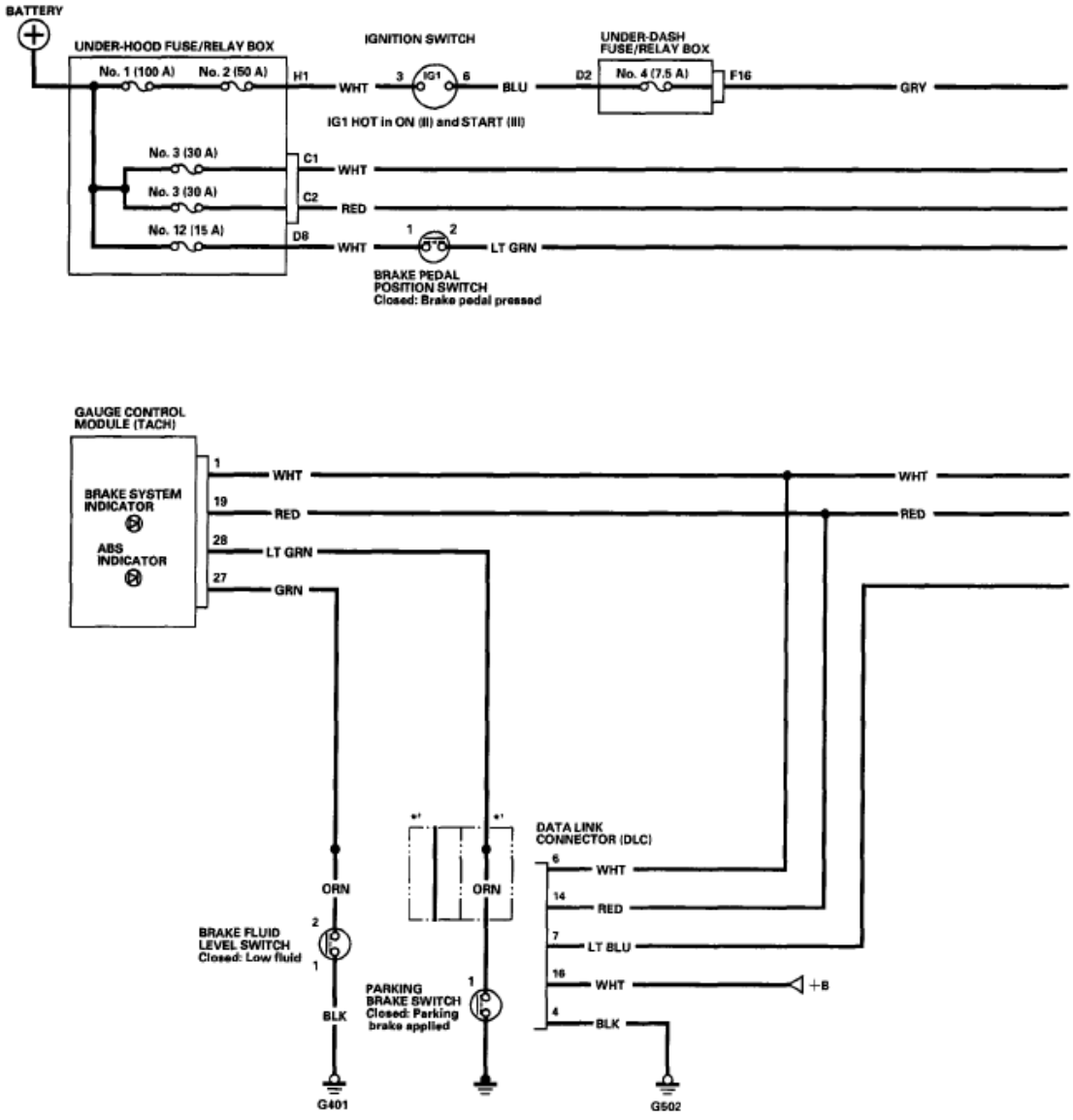



**Fig. 10: Anti-Lock Brake System Circuit Diagram (1 Of 3)**

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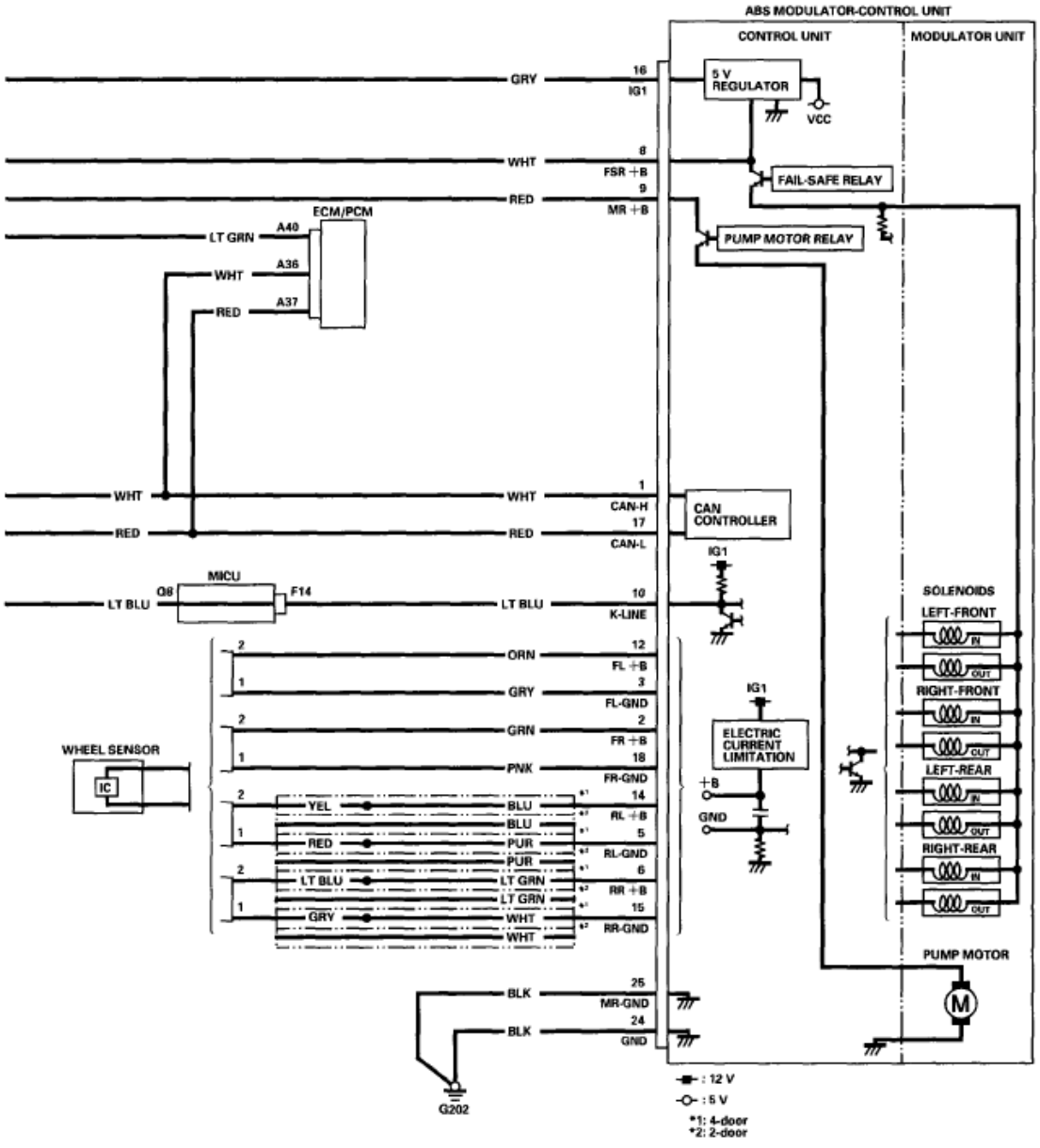
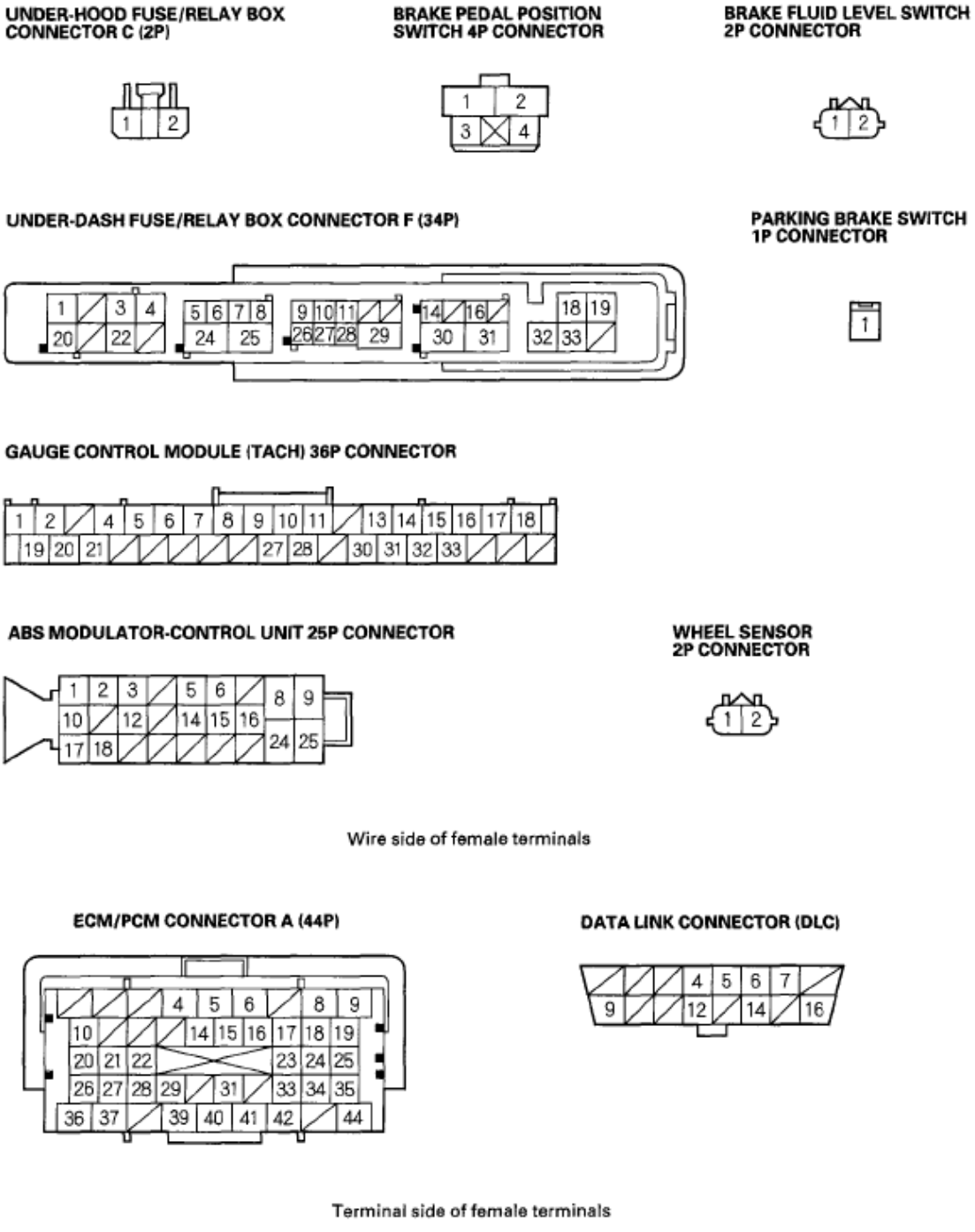



**Fig. 11: Anti-Lock Brake System Circuit Diagram (2 Of 3)**

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## Fig. 12: Anti-Lock Brake System Circuit Diagram (3 Of 3)

## DTC TROUBLESHOOTING

**DTC 11-13: RIGHT-FRONT WHEEL SENSOR CIRCUIT MALFUNCTION; DTC 13-13: LEFT-FRONT WHEEL SENSOR CIRCUIT MALFUNCTION; DTC 15-13: RIGHT-REAR WHEEL SENSOR CIRCUIT MALFUNCTION; DTC 17-13: LEFT-REAR WHEEL SENSOR CIRCUIT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 11-13, 13-13, 15-13, and/or 17-13 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel sensor 2P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

5. Turn the ignition switch to LOCK (0).
6. Disconnect the ABS modulator-control unit 25P connector.
7. Check for continuity between the appropriate ABS modulator-control unit 25P connector wheel sensor +B and GND terminals (see **ABS MODULATOR-CONTROL UNIT 25P CONNECTOR WHEEL SENSOR +B AND GND** ), then check for continuity between the same terminals and reverse the positive and negative tester probes.

**ABS MODULATOR-CONTROL UNIT 25P CONNECTOR WHEEL SENSOR +B AND GND**

| DTC | ABS Modulator-control Unit 25P Connector Terminal No. | |
|---|---|---|
| 11-13 | No. 2 | No. 18 |
| 13-13 | No. 12 | No. 3 |
| 15-13 | No. 6 | No. 15 |
| 17-13 | No. 14 | No. 5 |

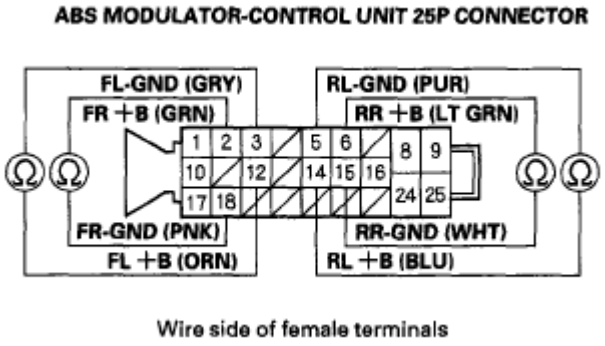



**Fig. 13: Checking Continuity Between Appropriate ABS Modulator-Control Unit 25P Connector Wheel Sensor +B And GND Terminals**

*Is there continuity in both directions?*

**YES** - Go to step 8.

**NO** - If there is no continuity in either direction, go to step 10. If there is continuity in only one direction, go to step 12.

8. Disconnect the appropriate wheel sensor 2P connector.
9. On the sensor side, check for continuity between appropriate wheel sensor 2P connector terminals No. 1 and No. 2, then check for continuity between the same terminals and reverse the positive and negative tester probes.

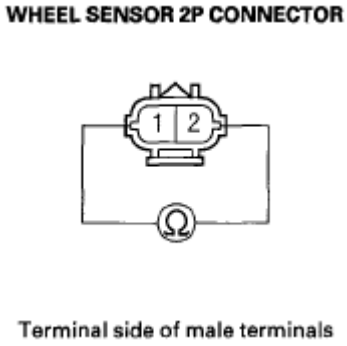



**Fig. 14: Checking Continuity Between Appropriate Wheel Sensor 2P Connector Terminals No. 1 And No. 2**

*Is there continuity in both directions?*

**YES** - Replace the appropriate wheel sensor (see **WHEEL SENSOR**

**REPLACEMENT** ).

**NO** - Repair short in the wire between the appropriate wheel sensor and the ABS modulator-control unit.

10. Disconnect the appropriate wheel sensor 2P connector.
11. On the sensor side, check for continuity between appropriate wheel sensor 2P connector terminals No. 1 and No. 2, then check for continuity between the same terminals and reverse the positive and negative tester probes.

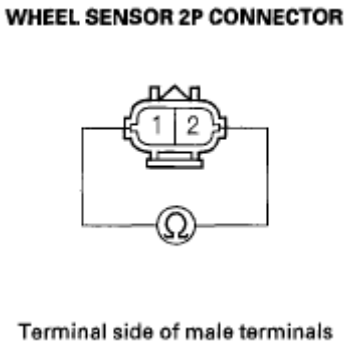



**Fig. 15: Checking Continuity Between Appropriate Wheel Sensor 2P Connector Terminals No. 1 And No. 2**

*Is there continuity in only one direction?*

**YES** - Repair open in the wire between the appropriate wheel sensor and the ABS modulator-control unit.

**NO** - Replace the appropriate wheel sensor (see **WHEEL SENSOR REPLACEMENT** ).

12. Check for continuity between body ground and the appropriate ABS modulator-control unit 25P connector terminal (see table).

**BODY GROUND AND APPROPRIATE ABS MODULATOR-CONTROL UNIT 25P CONNECTOR TERMINAL**

| DTC | ABS Modulator-control Unit 25P Connector Terminal No. | |
|---|---|---|
| 11-13 | No. 2 | No. 18 |
| 13-13 | No. 12 | No. 3 |

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| | | |
|---|---|---|
| 15-13 | No. 6 | No. 15 |
| 17-13 | No. 14 | No. 5 |

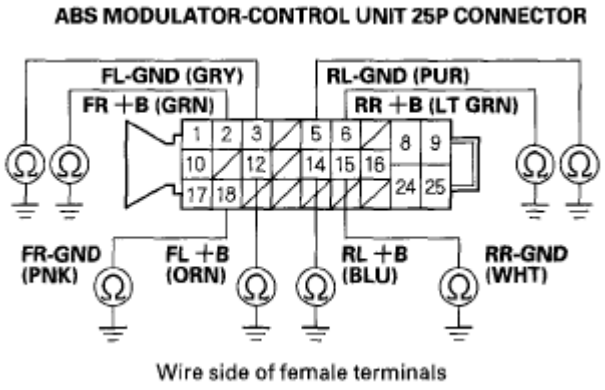



**Fig. 16: Checking Continuity Between Body Ground And Appropriate ABS Modulator-Control Unit 25P Connector Terminal**

*Is there continuity?*

**YES** - Go to step 13.

**NO** - Go to step 15.

13. Disconnect the appropriate wheel sensor 2P connector.
14. On the sensor side, check for continuity between body ground and appropriate wheel sensor 2P connector terminal No. 1 and No. 2 individually.

**NOTE: Check the wheel sensor while mounted on the vehicle.**

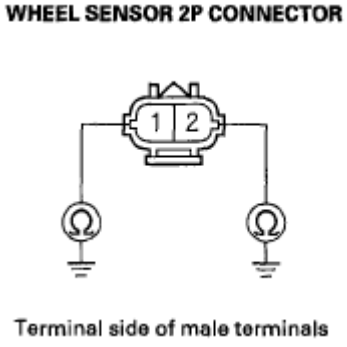



**Fig. 17: Checking Continuity Between Body Ground And Appropriate**

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**Wheel Sensor 2P Connector Terminal No. 1 And No. 2**

*Is there continuity?*

**YES** - Replace the appropriate wheel sensor (see **WHEEL SENSOR REPLACEMENT** ).

**NO** - Repair short to body ground in the wire between the appropriate wheel sensor and the ABS modulator-control unit.

15. Turn the ignition switch ON (II).
16. Measure voltage between body ground and the appropriate ABS modulator-control unit 25P connector terminal (see **BODY GROUND AND APPROPRIATE ABS MODULATOR-CONTROL UNIT 25P CONNECTOR TERMINAL** ).

**BODY GROUND AND APPROPRIATE ABS MODULATOR-CONTROL UNIT 25P CONNECTOR TERMINAL**

| DTC | ABS Modulator-control Unit 25P Connector Terminal No. | |
|---|---|---|
| 11-13 | No. 2 | No. 18 |
| 13-13 | No. 12 | No. 3 |
| 15-13 | No. 6 | No. 15 |
| 17-13 | No. 14 | No. 5 |

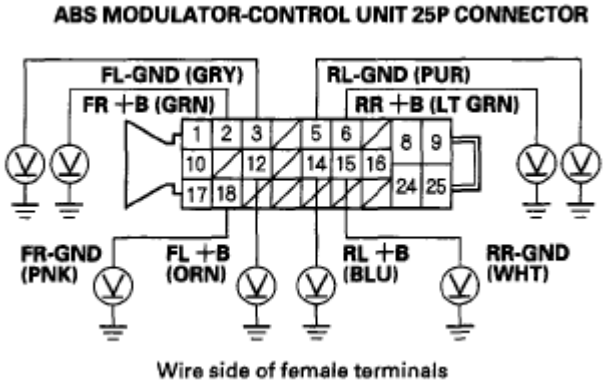



**Fig. 18: Measuring Voltage Between Body Ground And Appropriate ABS Modulator-Control Unit 25P Connector Terminal**

*Is there 0.1 V or more?*

**YES** - Repair short to power in the wire between the appropriate wheel sensor and the ABS modulator-control unit.

**NO** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

**DTC 12-11: RIGHT-FRONT WHEEL SENSOR ELECTRICAL NOISE OR INTERMITTENT INTERRUPTION; DTC 14-11: LEFT-FRONT WHEEL SENSOR ELECTRICAL NOISE OR INTERMITTENT INTERRUPTION; DTC 16-11: RIGHT-REAR WHEEL SENSOR ELECTRICAL NOISE OR INTERMITTENT INTERRUPTION; DTC 18-11: LEFT-REAR WHEEL SENSOR ELECTRICAL NOISE OR INTERMITTENT INTERRUPTION**

**NOTE: These DTCs may be caused by electrical interference. Check for aftermarket devices installed in the vehicle when these DTCs are indicated.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle.
4. Check for DTCs with the HDS.

*Is DTC 12-11, 14-11, 16-11, and/or 18-11 indicated?*

**YES** - If the DTC 12-12,14-12,16-12 or 18-12 is indicated at same time, do the DTC 12-12,14-12, 16-12 or 18-12 troubleshooting (see **DTC 12-12: RIGHT-FRONT WHEEL SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 14-12: LEFT-FRONT WHEEL SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 16-12: RIGHT-REAR WHEEL SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 18-12: LEFT-REAR WHEEL SENSOR SHORT TO THE OTHER SENSOR CIRCUIT** ). If DTC 12-12,14-12,16-12 or 18-12 is not indicated, go to step 5.

**NO** - Troubleshoot the indicated DTC. If there are no DTCs indicated, there may be an intermittent failure, the system is OK at this time. Check for loose

terminals between the wheel sensor 2P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

5. Turn the ignition switch to LOCK (0).
6. Check that the appropriate wheel sensor is properly mounted (see **WHEEL SENSOR REPLACEMENT** ).

**WHEEL SENSOR**

| DTC | Appropriate Wheel Sensor |
|---|---|
| 12-11 | Right-front |
| 14-11 | Left-front |
| 16-11 | Right-rear |
| 18-11 | Left-rear |

*Is the wheel sensor installation OK?*

**YES** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

**NO** - Reinstall the wheel sensor, and check the mounting position (see **WHEEL SENSOR REPLACEMENT** ).

**DTC 12-12: RIGHT-FRONT WHEEL SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 14-12: LEFT-FRONT WHEEL SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 16-12: RIGHT-REAR WHEEL SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 18-12: LEFT-REAR WHEEL SENSOR SHORT TO THE OTHER SENSOR CIRCUIT**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle. Drive the vehicle at 13 mph (20 km/h) or more, and go a distance of 328 ft (100 m) or more.

**NOTE: Drive the vehicle on the road, not on the lift.**

4. Check for DTCs with the HDS.

   *Is DTC 12-12, 14-12, 16-12, and/or 18-12 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel sensor 2P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

5. Turn the ignition switch to LOCK (0).
6. Disconnect the ABS modulator-control unit 25P connector.
7. Check for continuity between the appropriate ABS modulator-control unit 25P connector wheel sensor +B terminals (see **ABS MODULATOR-CONTROL UNIT 25P CONNECTOR WHEEL SENSOR +B TERMINALS** ).

**ABS MODULATOR-CONTROL UNIT 25P CONNECTOR WHEEL SENSOR +B TERMINALS**

| DTC | ABS Modulator-control Unit 25P Connector Terminal No. | | | |
|---|---|---|---|---|
| | Appropriate Terminal | Other Terminals | | |
| 12-12 | No. 2 | No. 12 | No. 6 | No. 14 |
| 14-12 | No. 12 | No. 2 | No. 6 | No. 14 |
| 16-12 | No. 6 | No. 2 | No. 12 | No. 14 |
| 18-12 | No. 14 | No. 2 | No. 12 | No. 6 |

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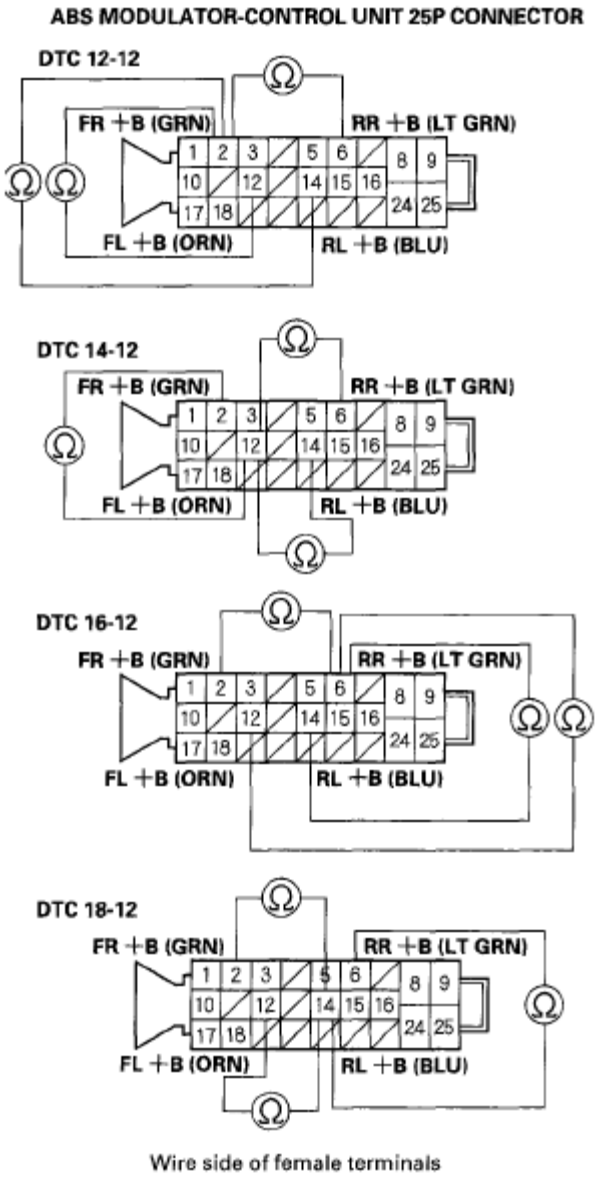



**Fig. 19: Checking Continuity Between Appropriate ABS Modulator-Control Unit 25P Connector Wheel Sensor +B Terminals**

*Is there continuity?*

**YES** - Repair short in the wires between the appropriate wheel sensor and the ABS modulator-control unit.

**NO** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see

**REMOVAL - SI MODEL** ), and retest.

**DTC 12-21: RIGHT-FRONT WHEEL SENSOR INSTALLATION ERROR; DTC 14-21: LEFT-FRONT WHEEL SENSOR INSTALLATION ERROR; DTC 16-21: RIGHT-REAR WHEEL SENSOR INSTALLATION ERROR; DTC 18-21: LEFT-REAR WHEEL SENSOR INSTALLATION ERROR**

1. Test-drive the vehicle. Drive the vehicle at 7 mph (10 km/h).

   **NOTE: Drive the vehicle on the road, not on the lift.**

2. Check the RF, LF, RR, LR WHEEL SPD in the ABS DATA LIST with the HDS.

   *Are all four the same indicated value?*

   **YES** - Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel sensor 2P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

   **NO** - Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check that the appropriate wheel sensor is properly mounted (see **WHEEL SENSOR REPLACEMENT** ).

**WHEEL SENSOR**

| DTC | Appropriate Wheel Sensor |
|---|---|
| 12-21 | Right-front |
| 14-21 | Left-front |
| 16-21 | Right-rear |
| 18-21 | Left-rear |

*Is the wheel sensor installation OK?*

**YES** - Replace the appropriate wheel sensor (see **WHEEL SENSOR REPLACEMENT** ).

**NO** - Reinstall the wheel sensor, and check the mounting position (see **WHEEL SENSOR REPLACEMENT** ).

**DTC 12-22: RIGHT-FRONT WHEEL SENSOR INSTALLATION ERROR (19 MPH (30 KM/H) OR MORE); DTC 14-22: LEFT-FRONT WHEEL SENSOR INSTALLATION ERROR (19 MPH (30 KM/H) OR MORE); DTC 16-22: RIGHT-REAR WHEEL SENSOR INSTALLATION ERROR (19 MPH (30 KM/H) OR MORE); DTC 18-22: LEFT-REAR WHEEL SENSOR INSTALLATION ERROR (19 MPH (30 KM/H) OR MORE)**

1. Test-drive the vehicle. Drive the vehicle between 19 mph (30 km/h) and 31 mph (50 km/h) for 70 seconds or more.

   **NOTE: Drive the vehicle on the road, not on the lift.**

2. Check the RF, LF, RR, LR WHEEL SPD in the ABS DATA LIST with the HDS.

   *Are all four the same indicated value?*

   **YES** - Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel sensor 2P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

   **NO** - Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check that the appropriate wheel sensor is properly mounted (see **WHEEL SENSOR REPLACEMENT** ).

**WHEEL SENSOR**

| DTC | Appropriate Wheel Sensor |
|---|---|
| 12-22 | Right-front |
| 14-22 | Left-front |
| 16-22 | Right-rear |
| 18-22 | Left-rear |

*Is the wheel sensor installation OK?*

**YES** - Replace the appropriate wheel sensor (see **WHEEL SENSOR REPLACEMENT** ).

**NO** - Reinstall the wheel sensor, and check the mounting position (see **WHEEL SENSOR REPLACEMENT** ).

**DTC 12-23: RIGHT-FRONT WHEEL SENSOR INSTALLATION ERROR (0 TO 9 MPH (0 TO 15 KM/H)); DTC 14-23: LEFT-FRONT WHEEL SENSOR INSTALLATION ERROR (0 TO 9 MPH (0 TO 15 KM/H)); DTC 16-23: RIGHT-REAR WHEEL SENSOR INSTALLATION ERROR (0 TO 9 MPH (0 TO 15 KM/H)); DTC 18-23: LEFT-REAR WHEEL SENSOR INSTALLATION ERROR (0 TO 9 MPH (0 TO 15 KM/H))**

1. Test-drive the vehicle. Drive the vehicle between 1 mph (1 km/h) and 9 mph (15 km/h) in a straight line.

   **NOTE: Drive the vehicle on the road, not on the lift.**

2. Check the RF, LF, RR, LR WHEEL SPD in the ABS DATA LIST with the HDS.

   *Are all four the same indicated value?*

   **YES** - Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel sensor 2P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

   **NO** - Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check that the appropriate wheel sensor is properly mounted (see **WHEEL SENSOR REPLACEMENT** ).

**WHEEL SENSOR**

| DTC | Appropriate Wheel Sensor |
|---|---|
| 12-23 | Right-front |
| 14-23 | Left-front |
| 16-23 | Right-rear |

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| | |
|---|---|
| 18-23 | Left-rear |

*Is the wheel sensor installation OK?*

**YES** - Replace the appropriate wheel sensor (see **WHEEL SENSOR REPLACEMENT** ).

**NO** - Reinstall the wheel sensor, and check the mounting position (see **WHEEL SENSOR REPLACEMENT** ).

**DTC 21-11: RIGHT-FRONT MAGNETIC ENCODER MALFUNCTION (PULSE MISSING); DTC 22-11: LEFT-FRONT MAGNETIC ENCODER MALFUNCTION (PULSE MISSING); DTC 23-11: RIGHT-REAR MAGNETIC ENCODER MALFUNCTION (PULSE MISSING); DTC 24-11: LEFT-REAR MAGNETIC ENCODER MALFUNCTION (PULSE MISSING)**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle. Drive the vehicle at 13 mph (20 km/h) or more, and go a distance of 328 ft (100 m) or more.

**NOTE: Drive the vehicle on the road, not on the lift.**

4. Check for DTCs with the HDS.

   *Is DTC 21-11,22-11,23-11, and/or 24-11 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel sensor 2P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

5. Turn the ignition switch to LOCK (0).
6. Inspect the appropriate magnetic encoder for debris or cracks.

**MAGNETIC ENCODER**

| | Appropriate | |
|---|---|---|

| DTC | Magnetic Encoder | Note |
|---|---|---|
| 21-11 | Right-front | Remove the driveshaft outboard joint from the appropriate wheel hub (see **KNUCKLE/HUB REPLACEMENT** ). |
| 22-11 | Left-front | |
| 23-11 | Right-rear | Remove the hub bearing unit: Disc brake type (see **HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE** ), drum brake type (see **HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE** ). |
| 24-11 | Left-rear | |

*Is the magnetic encoder surface OK?*

**YES** - Replace the wheel bearing (front) or the hub bearing unit (rear):

- Front: Replace the front wheel bearing (see **KNUCKLE/HUB REPLACEMENT** ).
- Rear (disc brake type): Replace the rear hub bearing unit (see **HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE** ).
- Rear (drum brake type): Replace the hub bearing unit (see **HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE** ).

**NO** - Clean off dust or dirt from the appropriate magnetic encoder surface on the wheel bearing or the hub bearing unit, then go to step 1 and recheck. If the DTC is still present, replace the appropriate wheel bearing or hub bearing unit.

**DTC 31-XX*: ABS RIGHT-FRONT INLET SOLENOID VALVE MALFUNCTION; DTC 32-XX*: ABS RIGHT-FRONT OUTLET SOLENOID VALVE MALFUNCTION; DTC 33-XX*: ABS LEFT-FRONT INLET SOLENOID VALVE MALFUNCTION; DTC 34-XX*: ABS LEFT-FRONT OUTLET SOLENOID VALVE MALFUNCTION; DTC 35-XX*: ABS RIGHT-REAR INLET SOLENOID VALVE MALFUNCTION; DTC 36-XX*: ABS RIGHT-REAR OUTLET SOLENOID VALVE MALFUNCTION; DTC 37-XX*: ABS LEFT-REAR INLET SOLENOID VALVE MALFUNCTION; DTC 38-XX*: ABS LEFT-REAR OUTLET SOLENOID VALVE MALFUNCTION**

*:Subcode

1. Turn the ignition switch ON (II).

2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

**SOLENOID VALVE MALFUNCTION**

| Subcode | Malfunction | Note (DTC) |
|---|---|---|
| 01 | Solenoid Initial Pulse | 31-01,32-01,33-01, 34-01,35-01,36-01, 37-01,38-01 |
| 21 | Solenoid Pulse | 31-21,32-21,33-21, 34-21,35-21,36-21, 37-21,38-21 |
| 22 | Solenoid Speculative | 31-22,32-22, 33-22, 34-22,35-22,36-22, 37-22, 38-22 |
| 23 | Solenoid Stuck ON | 31-23, 32-23, 33-23, 34-23, 35-23, 36-23, 37-23, 38-23 |

*Is DTC 31-xx, 32-xx, 33-xx, 34-xx, 35-xx, 36-xx, 37-xx, or 38-xx indicated?*

**YES** - Replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

**NO** - Intermittent failure, the system is OK at this time.

**DTC 41-21: RIGHT-FRONT WHEEL LOCK; DTC 42-21: LEFT-FRONT WHEEL LOCK; DTC 43-21: RIGHT-REAR WHEEL LOCK; DTC 44-21: LEFT-REAR WHEEL LOCK**

The DTCs may be indicated under these conditions:

- The vehicle goes into a spin.
- The ABS continues to operate for a long time.
- Snow build-up on the wheel sensor.
- Misadjusted brake switch
- Contaminated brake fluid

1. Raise the vehicle, and support it with safety stands in the proper locations (see

**LIFT AND SUPPORT POINTS** ).

2. Turn the appropriate wheel by hand.

**APPROPRIATE WHEEL**

| DTC | Appropriate Wheel |
|---|---|
| 41-21 | Right-front |
| 42-21 | Left-front |
| 43-21 | Right-rear |
| 44-21 | Left-rear |

*Is there brake drag?*

**YES** - Repair the brake drag.

**NO** - Go to step 3.

3. Check that the appropriate wheel sensor is properly mounted (see **WHEEL SENSOR REPLACEMENT** ).

*Is the wheel sensor installation OK?*

**YES** - Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel sensor 2P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** . If the vehicle continues to code, replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

**NO** - Reinstall the wheel sensor, and check the mounting position (see **WHEEL SENSOR REPLACEMENT** ).

**DTC 51-11: MOTOR LOCK; DTC 51-13: MOTOR RELAY OFF MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.

4. Wait 5 seconds.
5. Operate each SOLENOID in the ABS FUNCTION TEST five times with the HDS.
6. Check for DTCs with the HDS.

   *Is DTC 51-11 or 51-13 indicated?*

   **YES** - Replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

   **NO** - Intermittent failure, the system is OK at this time.

**DTC 51-12: MOTOR LOCK CIRCUIT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 51-12 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for loose terminals at the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

5. Turn the ignition switch to LOCK (0).
6. Check the No. 3 MTR (30 A) fuse in the under-hood fuse/relay box.

   *Is the fuse blown?*

   **YES** - Go to step 7.

   **NO** - Reinstall the checked fuse, then go to step 9.

7. Disconnect the ABS modulator-control unit 25P connector.
8. Check for continuity between ABS modulator-control unit 25P connector terminal No. 9 and body ground.

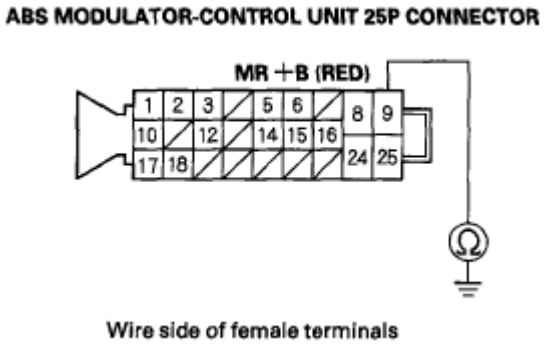



**Fig. 20: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminal No. 9 And Body Ground**

*Is there continuity?*

**YES** - Repair short to body ground in the wire between the No. 3 MTR (30 A) fuse in the understood fuse/relay box and the ABS modulator-control unit.

**NO** - Install a new No. 3 MTR (30 A) fuse in the under-hood fuse/relay box, then go to step 10.

9. Disconnect the ABS modulator-control unit 25P connector.
10. Measure voltage between ABS modulator-control unit 25P connector terminal No. 9 and body ground.

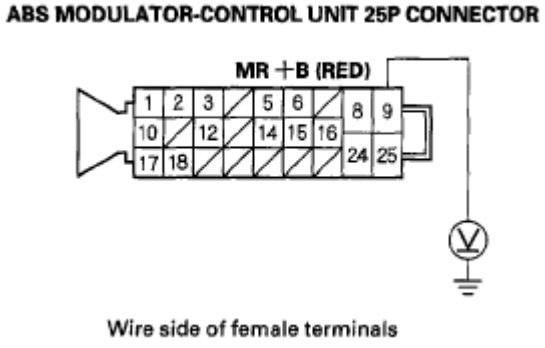



**Fig. 21: Measuring Voltage Between ABS Modulator-Control Unit 25P**

## Connector Terminal No. 9 And Body Ground

*Is there battery voltage?*

**YES** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

**NO** - Repair open in the wire between the No. 3 MTR (30 A) fuse in the under-hood fuse/relay box and the ABS modulator-control unit.

**DTC 52-12: MOTOR STUCK OFF**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Operate each SOLENOID in the ABS FUNCTION TEST five times with the HDS.
5. Check for DTCs with the HDS.

*Is DTC 52-12 indicated?*

**YES** - Replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

**NO** - Intermittent failure, the system is OK at this time.

**DTC 53-01: MOTOR RELAY STUCK ON 1; DTC 53-12: MOTOR RELAY STUCK ON 2**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

*Is DTC 53-01 or 53-12 indicated?*

**YES** - Go to step 5.

**NO** - Intermittent failure, the system is OK at this time. Check for loose terminals at the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

5. Turn the ignition switch to LOCK (0).
6. Disconnect the ABS modulator-control unit 25P connector.
7. Check for continuity between ABS modulator-control unit 25P connector terminal No. 25 and body ground.

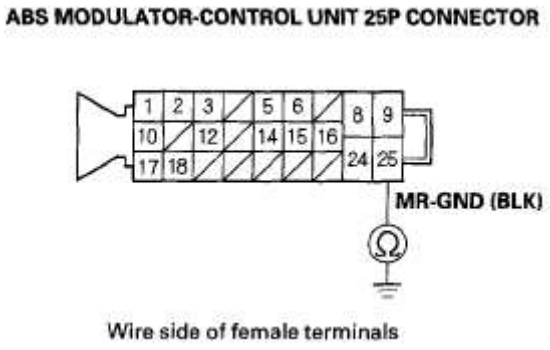



**Fig. 22: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminal No. 25 And Body Ground**

*Is there continuity?*

**YES** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

**NO** - Repair open in the wire between the ABS modulator-control unit and body ground (G202).

**DTC 54-03: FAIL-SAFE RELAY 1 STUCK ON**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.

4. Check for DTCs with the HDS.

   *Is DTC 54-03 indicated?*

   **YES** - Replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

   **NO** - Intermittent failure, the system is OK at this time.

**DTC 54-04: FAIL-SAFE RELAY 1 STUCK OFF (INITIAL); DTC 54-21: FAIL-SAFE RELAY 1 STUCK OFF (MAIN)**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 54-04 or 54-21 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for loose terminals at the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Check the No. 3 FSR (30 A) fuse in the under-hood fuse/relay box.

   *Is the fuse blown?*

   **YES** - Go to step 7.

   **NO** - Reinstall the checked fuse, then go to step 9.

7. Disconnect the ABS modulator-control unit 25P connector.
8. Check for continuity between ABS modulator-control unit 25P connector

terminal No. 8 and body ground.

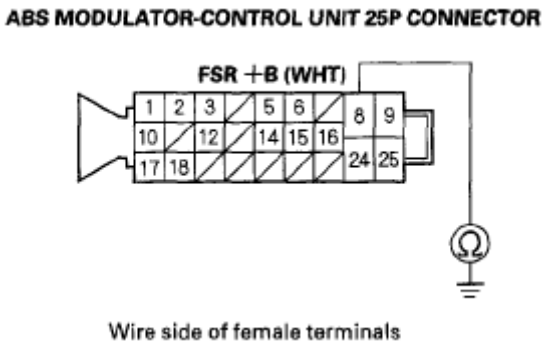



**Fig. 23: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminal No. 8 And Body Ground**

*Is there continuity?*

**YES** - Repair short to body ground in the wire between the No. 3 FSR (30 A) fuse in the under-hood fuse/relay box and the ABS modulator-control unit.

**NO** - Install a new No. 3 FSR (30 A) fuse in the under-hood fuse/relay box, then go to step 10.

9. Disconnect the ABS modulator-control unit 25P connector.
10. Measure voltage between ABS modulator-control unit 25P connector terminal No. 8 and body ground.

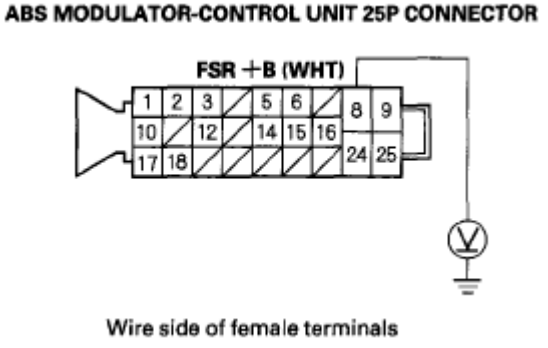



**Fig. 24: Measuring Voltage Between ABS Modulator-Control Unit 25P Connector Terminal No. 8 And Body Ground**

*Is there battery voltage?*

**YES** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

**NO** - Repair open in the wire between the No. 3 FSR (30 A) fuse in the under-hood fuse/relay box and the ABS modulator-control unit.

**DTC 61-01: MODULATOR-CONTROL UNIT INITIAL IG LOW VOLTAGE; DTC 61-21: MODULATOR-CONTROL UNIT POWER SOURCE LOW VOLTAGE 1; DTC 61-22: MODULATOR-CONTROL UNIT POWER SOURCE LOW VOLTAGE 2; DTC 61-23: MODULATOR-CONTROL UNIT POWER SOURCE LOW VOLTAGE 3**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then start the engine.
4. Check for DTCs with the HDS.

   *Is DTC 61-01, 61-21, 61-22, or 61-23 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for loose terminals at the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

5. Check and note BATTERY voltage in the ABS DATA LIST with the HDS. If the voltage listed is 0 V, go to step 8, otherwise go to step 6.
6. Using a voltmeter, measure and note the voltage between the battery terminals.

**NOTE: If the voltage is below 9.5 V, check the battery (see BATTERY TEST ), and troubleshoot the alternator regulator circuit: Except Si model (see ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING ), Si model (see ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING ).**

7. Compare the voltage noted in step 5 to the voltage in step 6.

   *Is the difference between the two voltage readings less then 3 V?*

   **YES** - Intermittent failure, the system is OK at this time. Check for loose terminals at the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** . If the code resets after clearing, replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

   **NO** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the ABS modulator-control unit 25P connector.
10. Measure voltage between ABS modulator-control unit 25P connector terminal No. 8 and body ground.

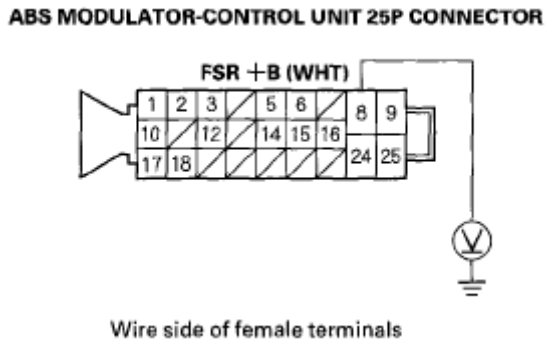



**Fig. 25: Measuring Voltage Between ABS Modulator-Control Unit 25P Connector Terminal No. 8 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 11.

**NO** - Repair open in the wire between the No. 3 FSR (30 A) fuse in the under-

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hood fuse/relay box and the ABS modulator-control unit.

11. Turn the ignition switch ON (II).
12. Measure voltage between ABS modulator-control unit 25P connector terminal No. 16 and body ground.

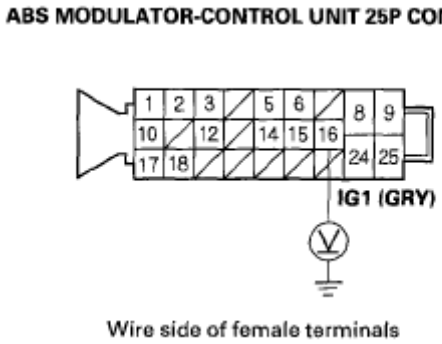



**Fig. 26: Measuring Voltage Between ABS Modulator-Control Unit 25P Connector Terminal No. 16 And Body Ground**

*Is there battery voltage?*

**YES** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

**NO** - Repair open in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse/relay box and the ABS modulator-control unit.

**DTC 62-21: MODULATOR-CONTROL UNIT IG HIGH VOLTAGE**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then start the engine.
4. Check for DTCs with the HDS.

*Is DTC 62-21 indicated?*

**YES** - Go to step 5.

**NO** - Intermittent failure, the system is OK at this time.

5. Using a voltmeter, measure the voltage between the battery terminals. Compare the voltage measured at the battery with the voltage shown in the ABS DATA LIST with the HDS.

   *Is there a voltage difference of 3 V or more?*

   **YES** - Replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

   **NO** - Check the battery (see **BATTERY TEST** ), and troubleshoot the alternator regulator circuit: Except Si model (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ), Si model (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ). Also check for loose terminals in the ABS modulator-control unit 25P connector. If it is OK, replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

**DTC 71-21: RIGHT-FRONT OR LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-22: LEFT-FRONT OR RIGHT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-23: RIGHT-FRONT AND RIGHT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-24: LEFT-FRONT AND LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-25: RIGHT-FRONT AND LEFT-FRONT DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-26: RIGHT-REAR AND LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION**

**NOTE: The DTC will be indicated when the vehicle has a different diameter tire(s) compared to the other tire(s).**

## DIFFERENT DIAMETER TIRE MALFUNCTION

| DTC | Sectional | Note |
|---|---|---|
| 71-21 | Right-front or left-rear | |
| 71-22 | Left-front or right-rear | |
| 71-23 | Right-front and right-rear | |
| 71-24 | Left-front and left-rear | |
| | | |

| | | |
|---|---|---|
| 71-25 | Right-front and left-front | |
| 71-26 | Right-rear and left-rear | |

1. Check the tires for proper inflation (see **WHEEL ALIGNMENT** ).
2. Turn the ignition switch ON (II).
3. Clear the DTC with the HDS.
4. Turn the ignition switch to LOCK (0).
5. Test-drive the vehicle.
6. Check for DTCs with the HDS.

   *Is DTC 71-21, 71-22, 71-23, 71-24, 71-25, or 71-26 indicated?*

   **YES** - Replace all four tires with the proper size (see **WHEEL ALIGNMENT** ).

   **NO** - Intermittent failure, the system is OK at this time.

**DTC 81-XX*: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION**

* : Subcode (Except DTC 81-11, 81-51, and 81-52)

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 81-xx indicated?*

   **YES** - If the DTC 81-11, 81-51, or 81-52 is indicated at the same time, do the DTC 81-11,81-51, or 81-52 troubleshooting (see **DTC 81-xx*: Central Processing Unit (CPU) Internal Circuit Malfunction** ). If DTC 81-11, 81-51, or 81-52 is not indicated, replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

   **NO** - Intermittent failure, the system is OK at this time.

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**DTC 81-11: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-51: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-52: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0).
4. Test-drive the vehicle.
5. Check for DTCs with the HDS.

   *Is DTC 81-11, 81-51, or 81-52 indicated?*

   **YES** - Replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

   **NO** - Intermittent failure, the system is OK at this time.

**DTC 86-01: F-CAN BUS-OFF MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 86-01 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for loose terminals between ECM/PCM connector A (44P) and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

5. Turn the ignition switch to LOCK (0).
6. Short the SCS line with the HDS.
7. Disconnect ECM/PCM connector A (44P).

8. Disconnect the HDS from the data link connector (DLC).
9. Disconnect the gauge control module (tach) 36P connector.
10. Disconnect SRS unit connector A (28P).
11. With EPS: Disconnect EPS control unit connector D (28P).
12. With TPMS: Disconnect the TPMS control unit 20P connector.
13. Disconnect the ABS modulator-control unit 25P connector.
14. Check for continuity between the ABS modulator-control unit 25P connector terminals No. 1 and No. 17 and body ground individually.

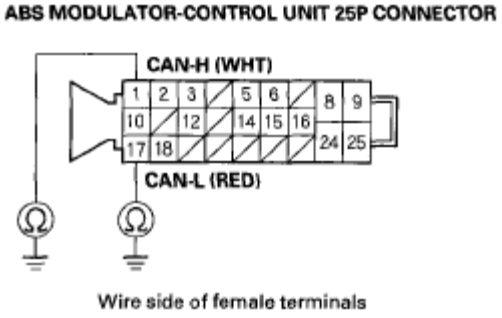



**Fig. 27: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminals No. 1 And No. 17 And Body Ground**

*Is there continuity?*

**YES** - Repair short to body ground in the wire between the ECM/PCM, the gauge control module (tach), the data link connector (DLC), the SRS unit, the EPS control unit (if equipped), the TPMS control unit (if equipped), and the ABS modulator-control unit.

**NO** - Go to step 15.

15. Check for continuity between body ground and the ABS modulator-control unit 25P connector terminals No. 1 and No. 17 individually.

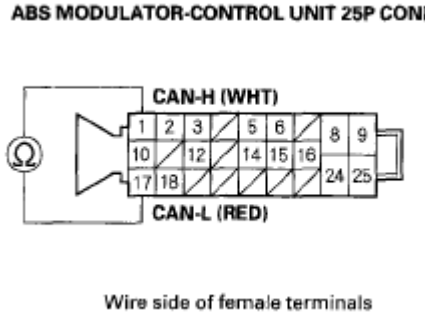



**Fig. 28: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminals No. 1 And No. 17**

*Is there continuity?*

**YES** - Repair short in the wires between ABS modulator-control unit 25P connector terminals No. 1 (CAN-H line) and No. 17 (CAN-L line).

**NO** - Go to step 16.

16. Check for continuity between ABS modulator-control unit 25P connector terminal and ECM/PCM connector A (44P) terminal (see **ABS MODULATOR-CONTROL UNIT 25P CONNECTOR TERMINAL AND ECM/PCM CONNECTOR A (44P) TERMINAL** ).

**ABS MODULATOR-CONTROL UNIT 25P CONNECTOR TERMINAL AND ECM/PCM CONNECTOR A (44P) TERMINAL**

| Sign | Connector Terminal No. | |
|---|---|---|
| | ABS Modulator-control Unit | ECM/PCM |
| CAN-L | 17 | 37 |
| CAN-H | 1 | 36 |

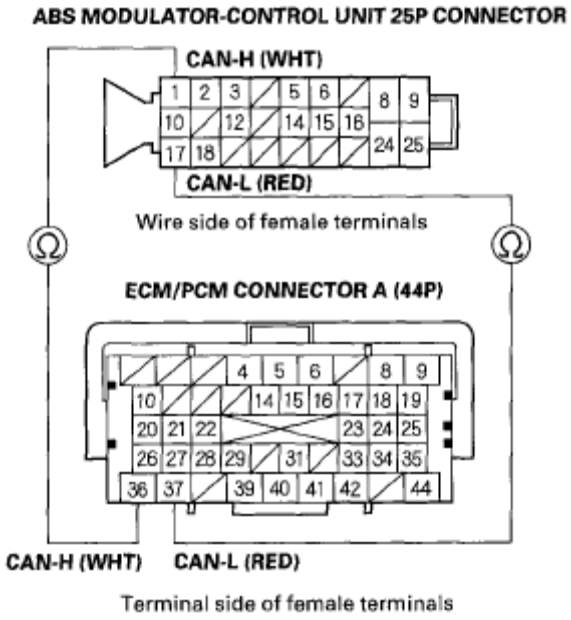



**Fig. 29: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminal And ECM/PCM Connector A (44P) Terminal**

*Is there continuity?*

**YES** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

**NO** - Repair open in the wire between the ECM/PCM and the ABS modulator-control unit.

**DTC 86-24: F-CAN COMMUNICATION WITH ENGINE MALFUNCTION; DTC 86-25: F-CAN COMMUNICATION WITH ENGINE MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0).
4. Test-drive the vehicle. Drive the vehicle at 7 mph (10 km/h) or more.
5. Check for DTCs with the HDS.

*Is 86-24, and/or 86-25 DTC indicated?*

**YES** - Go to step 6.

**NO** - Intermittent failure, the system is OK at this time. Check for loose terminals between ECM/PCM connector A (44P) and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

6. Turn the ignition switch to LOCK (0).
7. Short the SCS line with the HDS.
8. Disconnect ECM/PCM connector A (44P).
9. Disconnect the ABS modulator-control unit 25P connector.
10. Check for continuity between ABS modulator-control unit 25P connector terminal and ECM/PCM connector A (44P) terminal (see **ABS MODULATOR-CONTROL UNIT 25P CONNECTOR TERMINAL AND ECM/PCM CONNECTOR A (44P) TERMINAL** ).

**ABS MODULATOR-CONTROL UNIT 25P CONNECTOR TERMINAL AND ECM/PCM CONNECTOR A (44P) TERMINAL**

| Sign | Connector Terminal No. | |
|---|---|---|
| | ABS Modulator-control Unit | ECM/PCM |
| CAN-L | 17 | 37 |
| CAN-H | 1 | 36 |

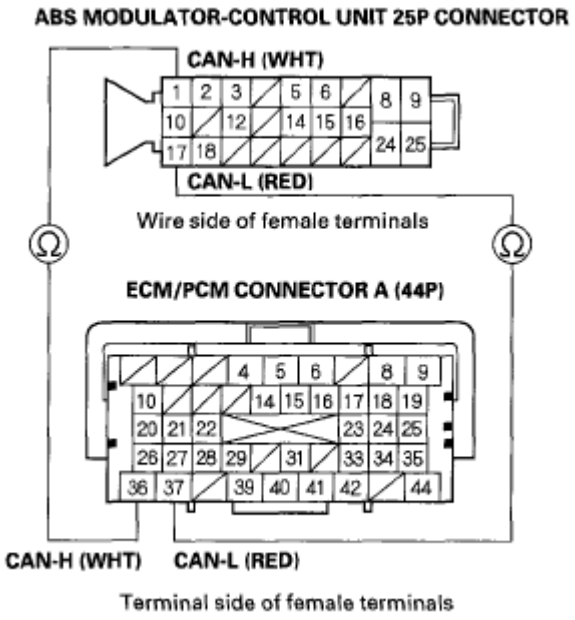



**Fig. 30: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminal And ECM/PCM Connector A (44P) Terminal**

*Is there continuity?*

**YES** - Check for loose terminals in ECM/PCM connector A (44P) and at ABS modulator-control unit 25P connector. If necessary, substitute a known-good ECM/PCM, then go to step 1 and recheck. If no DTCs are indicated, replace the original ECM/PCM: Except Si model (see **ECM/PCM REPLACEMENT** ), Si model (see **ECM REPLACEMENT** ). If DTCs are indicated, replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

**NO** - Repair open in the wire between the ECM/PCM and the ABS modulator-control unit.

**DTC 86-FF: F-CAN COMMUNICATION WITH ABS MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

*Is DTC 86-FF Indicated?*

**YES** - Replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

**NO** - Intermittent failure, the system is OK at this time.

## SYMPTOM TROUBLESHOOTING

### ABS INDICATOR DOES NOT GO OFF, AND NO DTCS ARE STORED

1. Check for the communication between the vehicle and the HDS.

   *Is there the communication?*

   **YES** - Check for loose terminals in the gauge control module (tach) 36P connector. If necessary, substitute a known-good gauge control module (tach), then recheck. If it is OK, replace the original gauge control module (tach) (see **TACHOMETER** ).

   **NO** - If the HDS does not communicate with all the systems of the vehicle, troubleshoot the DLC circuit: Except Si model (see **DLC CIRCUIT TROUBLESHOOTING** ), Si model (see **DLC CIRCUIT TROUBLESHOOTING** ). If the HDS does not communicate with only ABS, go to step 2.

2. Turn the ignition switch to LOCK (0).
3. Check the No. 4 (7.5 A) fuse in the under-dash fuse/relay box.

   *Is the fuse blown?*

   **YES** - Install the new No. 4 (7.5 A) fuse, and recheck. If the fuse continues to blow, check for short to body ground in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse/relay box and the ABS modulator-control unit. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

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**NO** - Reinstall a checked fuse, then go to step 4.

4. Disconnect the ABS modulator-control unit 25P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between ABS modulator-control unit 25P connector terminal No. 16 and body ground.

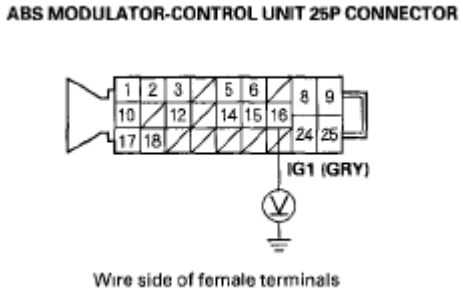



**Fig. 31: Measuring Voltage Between ABS Modulator-Control Unit 25P Connector Terminal No. 16 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 7.

**NO** - Repair open in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse/relay box and the ABS modulator-control unit.

7. Turn the ignition switch to LOCK (0).
8. Check for continuity between ABS modulator-control unit 25P connector terminal No. 24 and body ground.

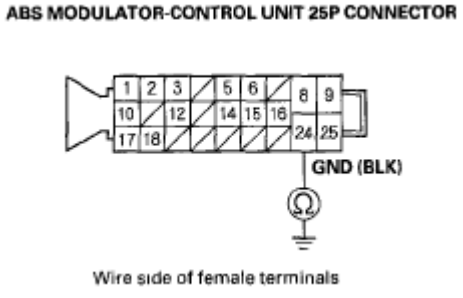



**Fig. 32: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminal No. 24 And Body Ground**

*Is there continuity?*

**YES** - Check for loose terminals in the ABS modulator-control unit 25P connector, clean terminal G202 and recheck. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

**NO** - Repair open in the wire between the ABS modulator-control unit and body ground (G202).

**BRAKE SYSTEM INDICATOR DOES NOT GO OFF, AND NO DTCS ARE STORED**

1. Release the parking brake.
2. Turn the ignition switch ON (II).
3. Check the brake system indicator for several seconds when the ignition switch is turned ON (II).

   *Does the indicator come on then go off?*

   **YES** - Intermittent failure, the system is OK at this time. Check for loose terminals between the gauge control module (tach) 36P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

   **NO** - Go to step 4.

4. Check the BRAKE INDICATOR in the ABS DATA LIST with the HDS.

   *Does it indicate OFF?*

   **YES** - Go to step 5.

   **NO** - Check for loose terminals in the ABS modulator-control unit 25P connector. If necessary, substitute a known-good ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ), and retest.

5. Turn the ignition switch to LOCK (0).
6. Check the brake fluid level in the master cylinder reservoir tank.

   *Is brake fluid level OK?*

   **YES** - Go to step 7.

   **NO** - Do the brake pad inspection: Front (except Si model) (see **INSPECTION - EXCEPT SI MODEL** ), front (Si model) (see **INSPECTION - SI MODEL** ), rear (disc brake type) (see **REAR BRAKE PAD INSPECTION AND REPLACEMENT** ), and add the brake fluid, then go to step 1 and recheck.

7. Disconnect the brake fluid level switch 2P connector.
8. Turn the ignition switch ON (II).

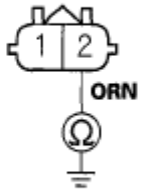
   *Does the brake system indicator go off?*

   **YES** - Replace the brake fluid reservoir tank (brake fluid level switch is included) (see **MASTER CYLINDER INSPECTION** ).

   **NO** - Go to step 9.

9. Turn the ignition switch to LOCK (0).
10. Disconnect the gauge control module (tach) 36P connector.
11. Check for continuity between brake fluid level switch 2P connector terminal No. 2 and body ground.

**BRAKE FLUID LEVEL SWITCH 2P CONNECTOR**




Wire side of female terminals

**Fig. 33: Checking Continuity Between Brake Fluid Level Switch 2P Connector Terminal No. 2 And Body Ground**

*Is there continuity?*

**YES** - Repair short to body ground in the wire between the gauge control module (tach) and the brake fluid level switch.

**NO** - Go to step 12.

12. Reconnect the gauge control module (tach) 36P connector.
13. Disconnect the parking brake switch IP connector.
14. Turn the ignition switch ON (II).

*Does the brake system indicator go off?*

**YES** - Replace the parking brake switch (see **PARKING BRAKE CABLE REPLACEMENT** ).

**NO** - Go to step 15.

15. Turn the ignition switch to LOCK (0).
16. Disconnect the gauge control module (tach) 36P connector.
17. Check for continuity between parking brake switch 1P connector terminal No. 1 and body ground.

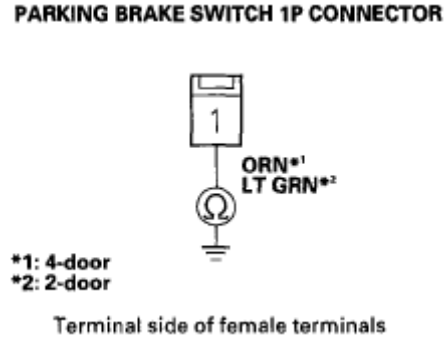



**Fig. 34: Checking Continuity Between Brake Fluid Level Switch 2P Connector Terminal No. 1 And Body Ground**

*Is there continuity?*

**YES** - Repair short to body ground in the wire between the gauge control module (tach) and the parking brake switch.

**NO** - Check for loose terminals in the gauge control module (tach) 36P connector. If necessary, substitute a known-good gauge control module (tach), then go to step 1 and recheck. If it is OK, replace the original gauge control module (tach) (see **TACHOMETER** ).

**ABS INDICATOR AND BRAKE SYSTEM INDICATOR DO NOT GO OFF AT THE SAME TIME**

**NOTE: Check for gauge DTCs with the HDS (see HOW TO CHECK FOR DTCS WITH THE HONDA DIAGNOSTIC SYSTEM (HDS) ). If gauge DTCs are stored, troubleshoot those DTCs first.**

1. Release the parking brake.
2. Turn the ignition switch ON (II).
3. Check the ABS indicator and the brake system indicator for several seconds when the ignition switch is turned ON (II).

   *Do the indicators come on then go off?*

   **YES** - Intermittent failure, the system is OK at this time. Check for loose terminals between the gauge control module (tach) 36P connector and the ABS modulator-control unit 25P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** .

   **NO** - Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Short the SCS line with the HDS.
6. Disconnect ECM/PCM connector A (44P).
7. Disconnect the HDS from the data link connector (DLC).
8. Disconnect the gauge control module (tach) 36P connector.

9. Disconnect SRS unit connector A (28P).
10. With EPS: Disconnect EPS control unit connector D (28P).
11. With TPMS: Disconnect the TPMS control unit 20P connector.
12. Disconnect the ABS modulator-control unit 25P connector.
13. Check for continuity between the ABS modulator-control unit 25P connector terminals No. 1, and No. 17 and body ground individually.

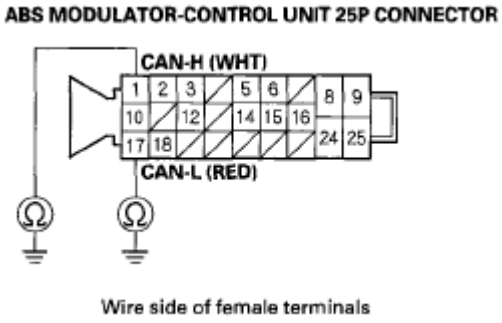



**Fig. 35: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminals No. 1 & No. 17 And Body Ground**

*Is there continuity?*

**YES** - Repair short to body ground in the wire between the ECM/PCM, the gauge control module (tach), the data link connector (DLC), the SRS unit, the EPS control unit (if equipped), the TPMS control unit (if equipped), and the ABS modulator-control unit.

**NO** - Go to step 14.

14. Check for continuity between ABS modulator-control unit 25P connector terminals No. 1 and No. 17.

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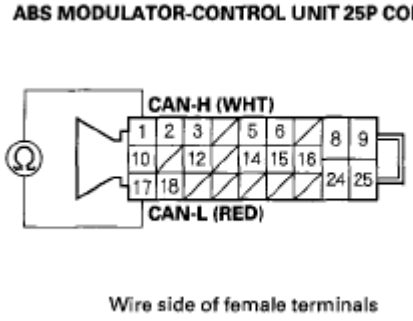



**Fig. 36: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminals No. 1 And No. 17**

*Is there continuity?*

**YES** - Repair short in the wire between ABS modulator-control unit 25P connector terminals No. 1 (CAN-H line) and No. 17 (CAN-L line).

**NO** - Go to step 15.

15. Check for continuity between ABS modulator-control unit 25P connector terminal and gauge control module (tach) 36P connector terminal (see table).

**ABS MODULATOR-CONTROL UNIT 25P CONNECTOR TERMINAL AND GAUGE CONTROL MODULE (TACH) 36P CONNECTOR TERMINAL**

| Sign | Connector Terminal No. | |
|---|---|---|
| | ABS Modulator-control Unit | Gauge Control Module (Tach) |
| CAN-L | 17 | 19 |
| CAN-H | 1 | 1 |

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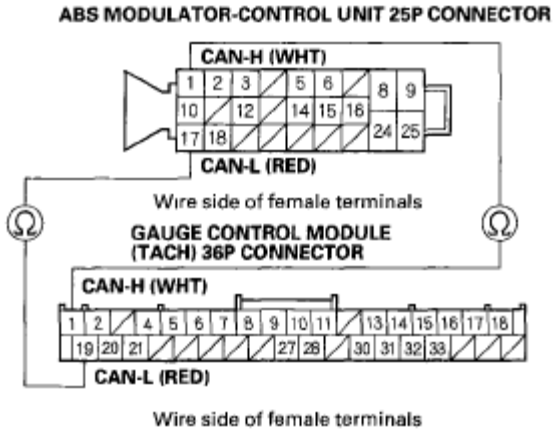



**Fig. 37: Checking Continuity Between ABS Modulator-Control Unit 25P Connector Terminal And Gauge Control Module (Tach) 36P Connector Terminal**

*Is there continuity?*

**YES -** Check for loose terminals in the gauge control module (tach) 36P connector. If necessary, substitute a known-good gauge control module (tach), then go to step 1 and recheck. If it is OK, replace the original gauge control module (tach) (see **TACHOMETER** ). If DTCs are indicated, replace the ABS modulator-control unit: Except Si model (see **REMOVAL - EXCEPT SI MODEL** ), Si model (see **REMOVAL - SI MODEL** ).

**NO -** Repair open in the wire between the gauge control module (tach) and the ABS modulator-control unit.

## ABS MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION

**NOTE:**

- **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.**
- **Be careful not to damage or deform the brake lines during removal and installation.**
- **To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent material.**

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**REMOVAL - EXCEPT SI MODEL**

1. Disconnect the ABS modulator-control unit 25P connector (A) by pulling up the lock (B); the connector disconnects itself.

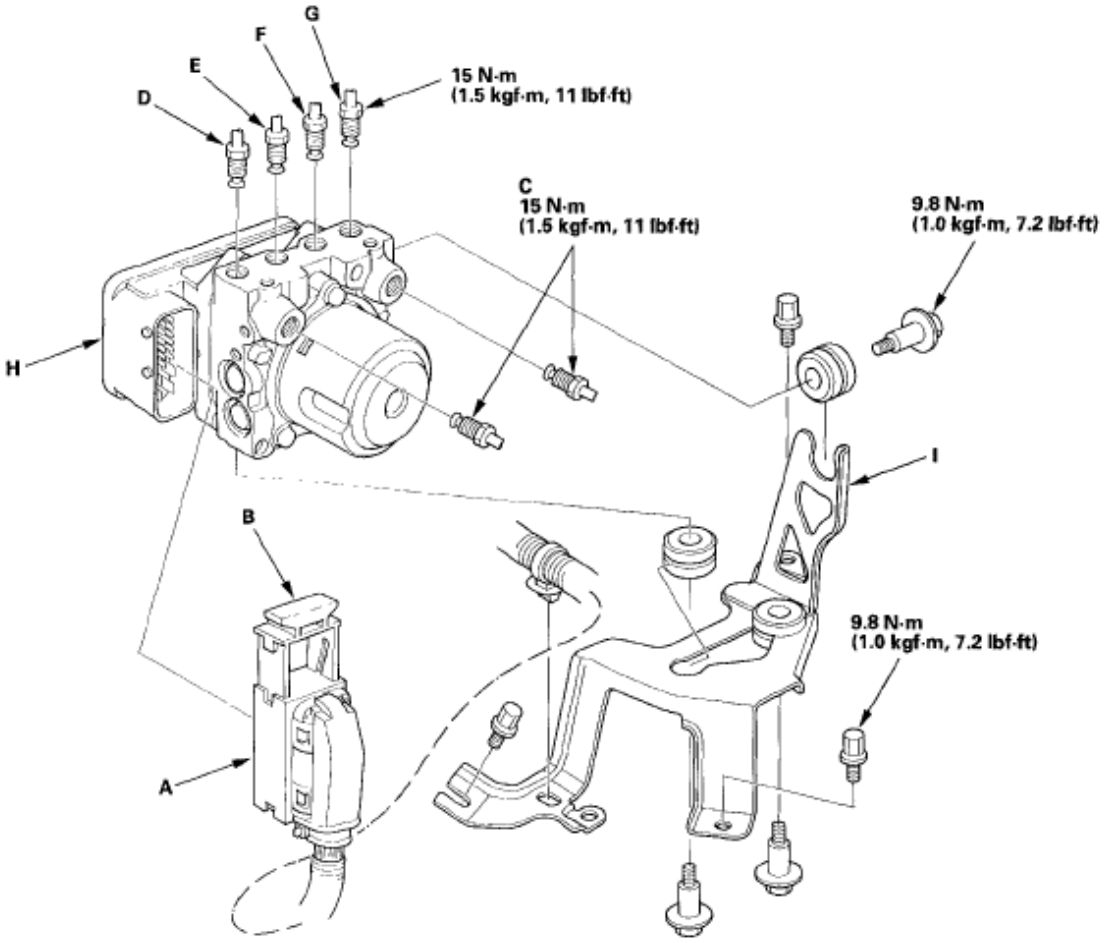



**Fig. 38: Removal And Installation Of ABS Modulator-Control Unit (With Specifications)**

2. Disconnect the six brake lines from the ABS modulator-control unit.

**NOTE: Brake lines are connected to the master cylinder (C) and to the right-front (D), the left-rear (E), the right-rear (F) and the left-front (G) brake system.**

3. Remove the ABS modulator-control unit (H) with the bracket (I) from the body.

4. Remove the ABS modulator-control unit from the bracket.

**INSTALLATION - EXCEPT SI MODEL**

1. Install the ABS modulator-control unit on the bracket.
2. Install the bracket with the ABS modulator-control unit to the body.
3. Reconnect the six brake lines, then tighten the flare nuts to the specified torque.
4. Align the connecting surface of the ABS modulator-control unit 25P connector to the ABS modulator-control unit.
5. Lower the lock of the ABS modulator-control unit 25P connector, then confirm the connector is fully seated.
6. Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
7. Start the engine, and check that the ABS indicator goes off.
8. Test-drive the vehicle, and check that the ABS indicator does not come on.

**NOTE: If the brake pedal is spongy, there may be air trapped in the modulator and then induced into the normal brake system during modulation. Bleed the brake system again (see BRAKE SYSTEM BLEEDING ).**

**REMOVAL - SI MODEL**

1. Disconnect the ABS modulator-control unit 25P connector (A) by pulling up the lock (B); the connector disconnects itself.

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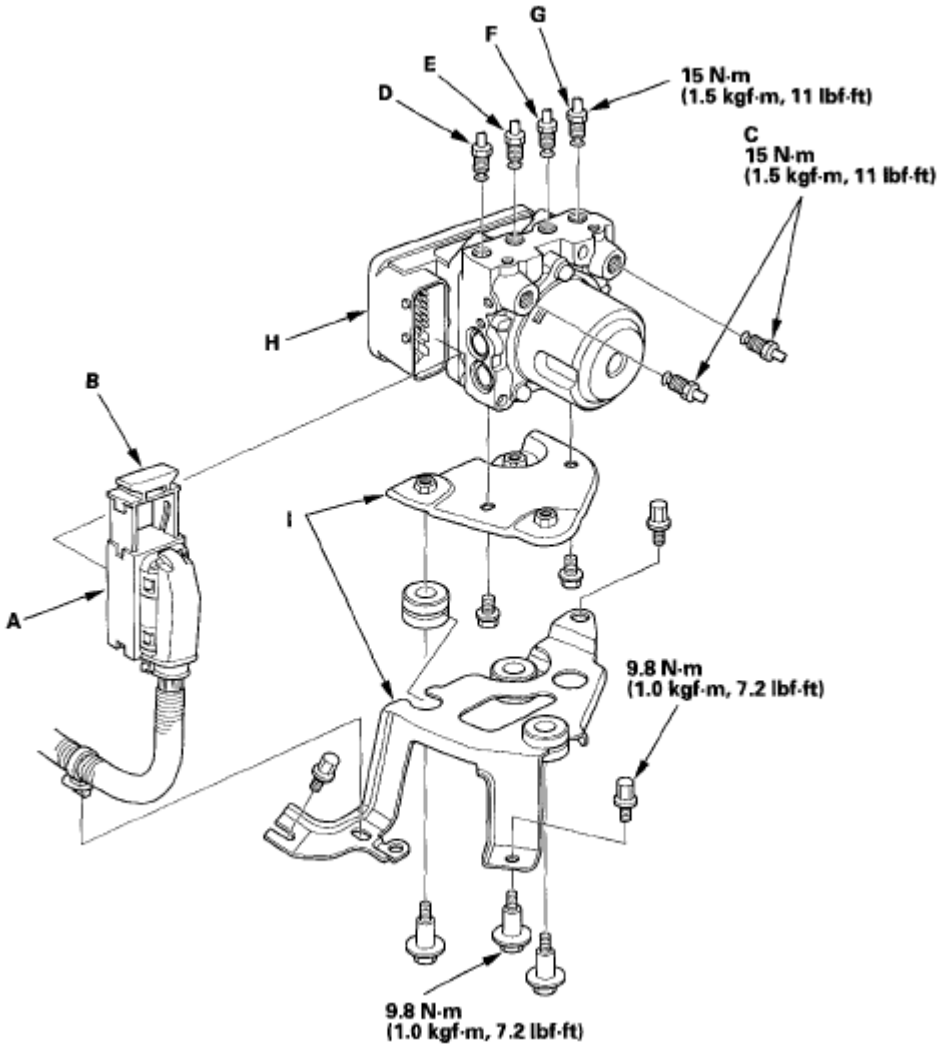



**Fig. 39: Disconnecting ABS Modulator-Control Unit 25P Connector (With Specifications)**

2. Disconnect the six brake lines from the ABS modulator-control unit.

**NOTE: Brake lines are connected to the master cylinder (C) and to the right-front (D), the left-rear (E), the right-rear (F) and the left-front (G) brake system.**

3. Remove the ABS modulator-control unit (H) with the brackets (I) from the body.
4. Remove the ABS modulator-control unit from the brackets.
5. Separate the bracket if necessary.

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**INSTALLATION - SI MODEL**

1. Install the ABS modulator-control unit on the brackets.
2. Install the bracket with the ABS modulator-control unit to the body.
3. Reconnect the six brake lines, then tighten the flare nuts to the specified torque.
4. Align the connecting surface of the ABS modulator-control unit 25P connector to the ABS modulator-control unit.
5. Lower the lock of the ABS modulator-control unit 25P connector, then confirm the connector is fully seated.
6. Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
7. Start the engine, and check that the ABS indicator goes off.
8. Test-drive the vehicle, and check that the ABS indicator does not come on.

**NOTE: If the brake pedal is spongy, there may be air trapped in the modulator and then induced into the normal brake system during modulation. Bleed the brake system again (see BRAKE SYSTEM BLEEDING ).**

## WHEEL SENSOR REPLACEMENT

**FRONT**

1. Release the clamp (A), then disconnect the wheel sensor connector (B).

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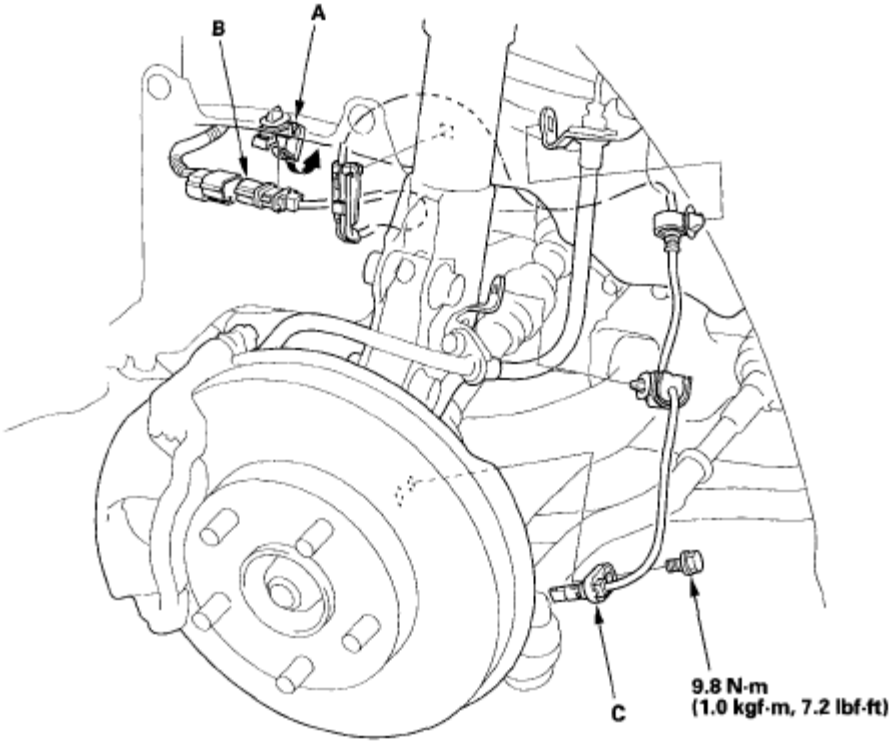



**Fig. 40: Disconnecting Wheel Sensor Connector (With Specifications)**

2. Remove the clips, the bolt, and the wheel sensor (C).
3. Install the wheel sensor in the reverse order of removal, and note these items:
   - Install the sensor carefully to avoid twisting the wires.
   - If the wheel sensor comes in contact with the wheel bearing, it is faulty.
4. Start the engine, and check that the ABS indicator goes off.
5. Test-drive the vehicle, and check that the ABS indicator does not come on.

**REAR**

1. Release the clamp (A), then disconnect the wheel sensor connector (B).

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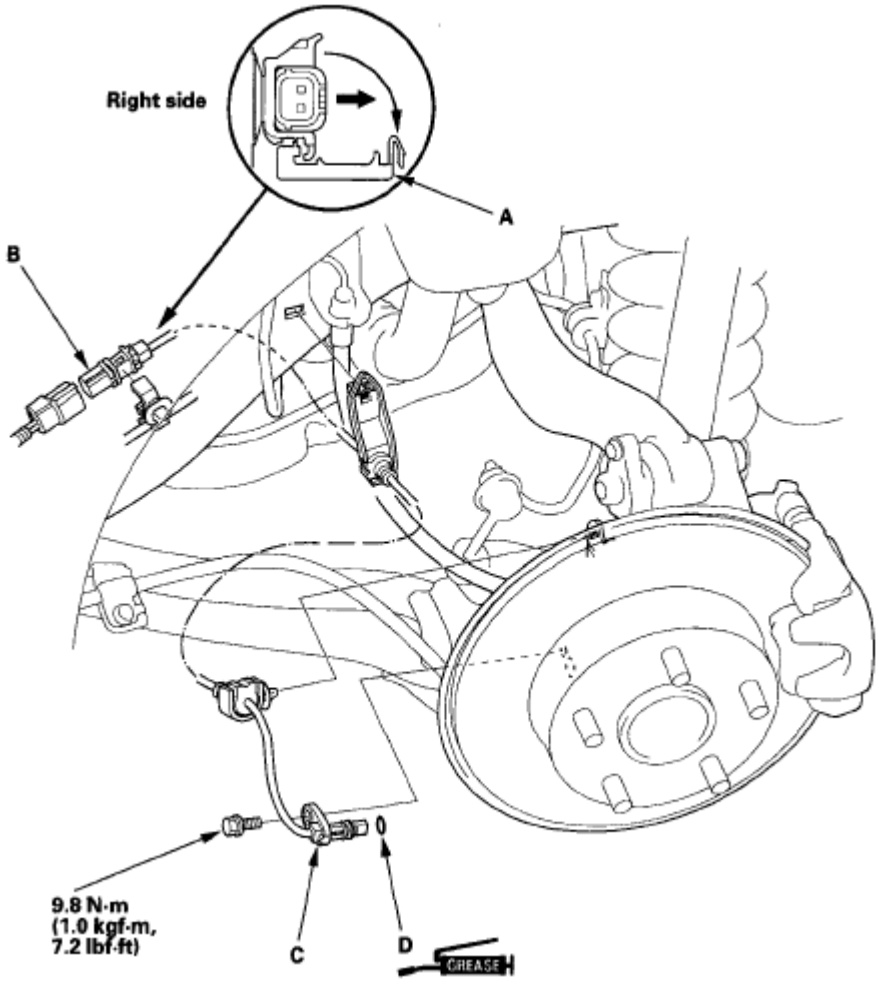



**Fig. 41: Disconnecting Wheel Sensor Connector (With Specifications)**

2. Remove the clips, the bolt, and the wheel sensor (C).
3. Install the wheel sensor in the reverse order of removal, and note these items:
   - Apply multipurpose grease to the O-ring (D).
   - Install the sensor carefully to avoid twisting the wires.
   - If the wheel sensor comes in contact with the hub bearing unit, it is faulty.
4. Start the engine, and check that the ABS indicator goes off.
5. Test-drive the vehicle, and check that the ABS indicator does not come on.

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# 2006-08 RESTRAINTS

## SRS (Supplemental Restraint System) - Civic (Except Hybrid)

## COMPONENT LOCATION INDEX

## 4-door

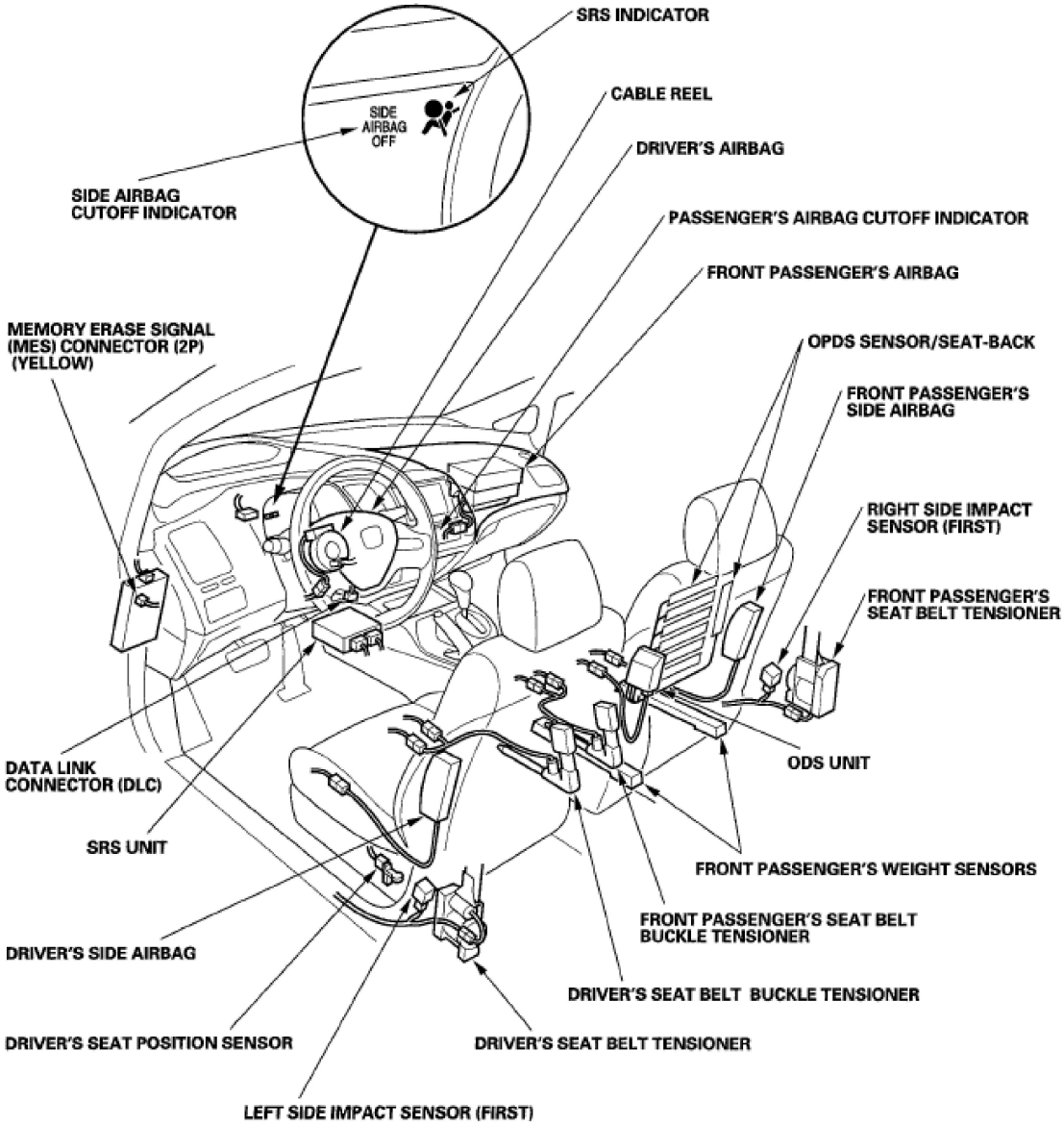



**Fig. 1: Identifying Supplemental Restraint System Component Location 4-Door (1 Of 2)**
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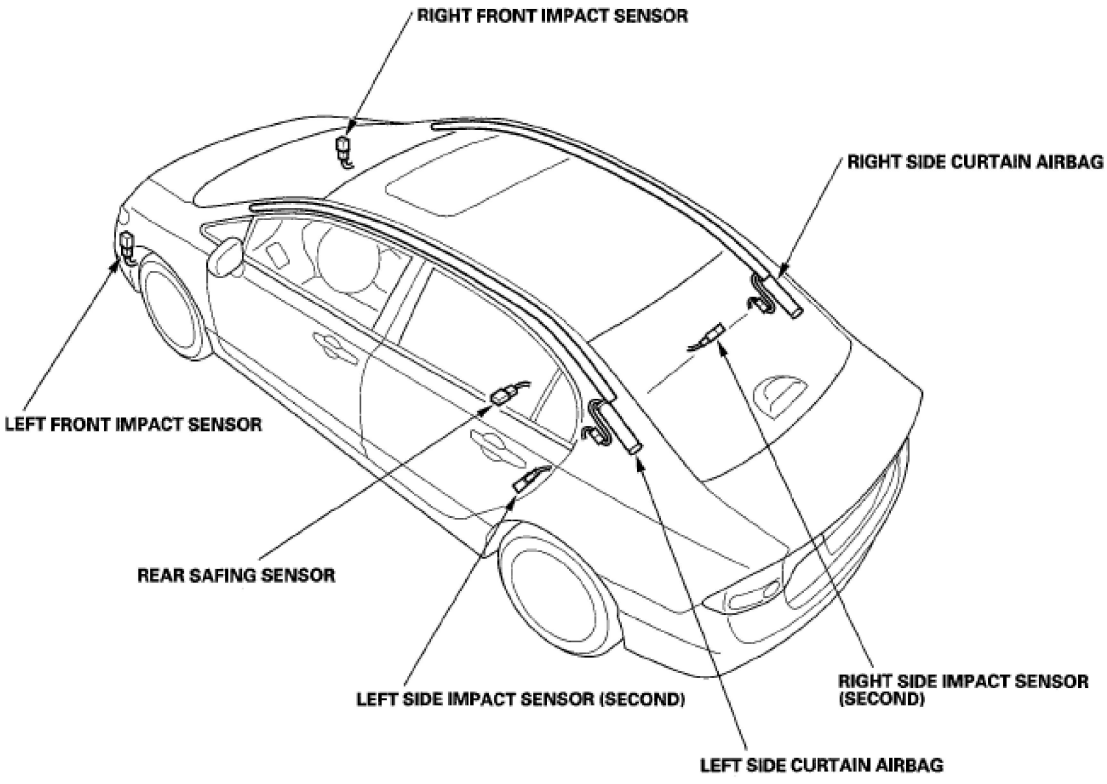



**Fig. 2: Identifying Supplemental Restraint System Component Location 4-Door (2 Of 2)**
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**2-door**

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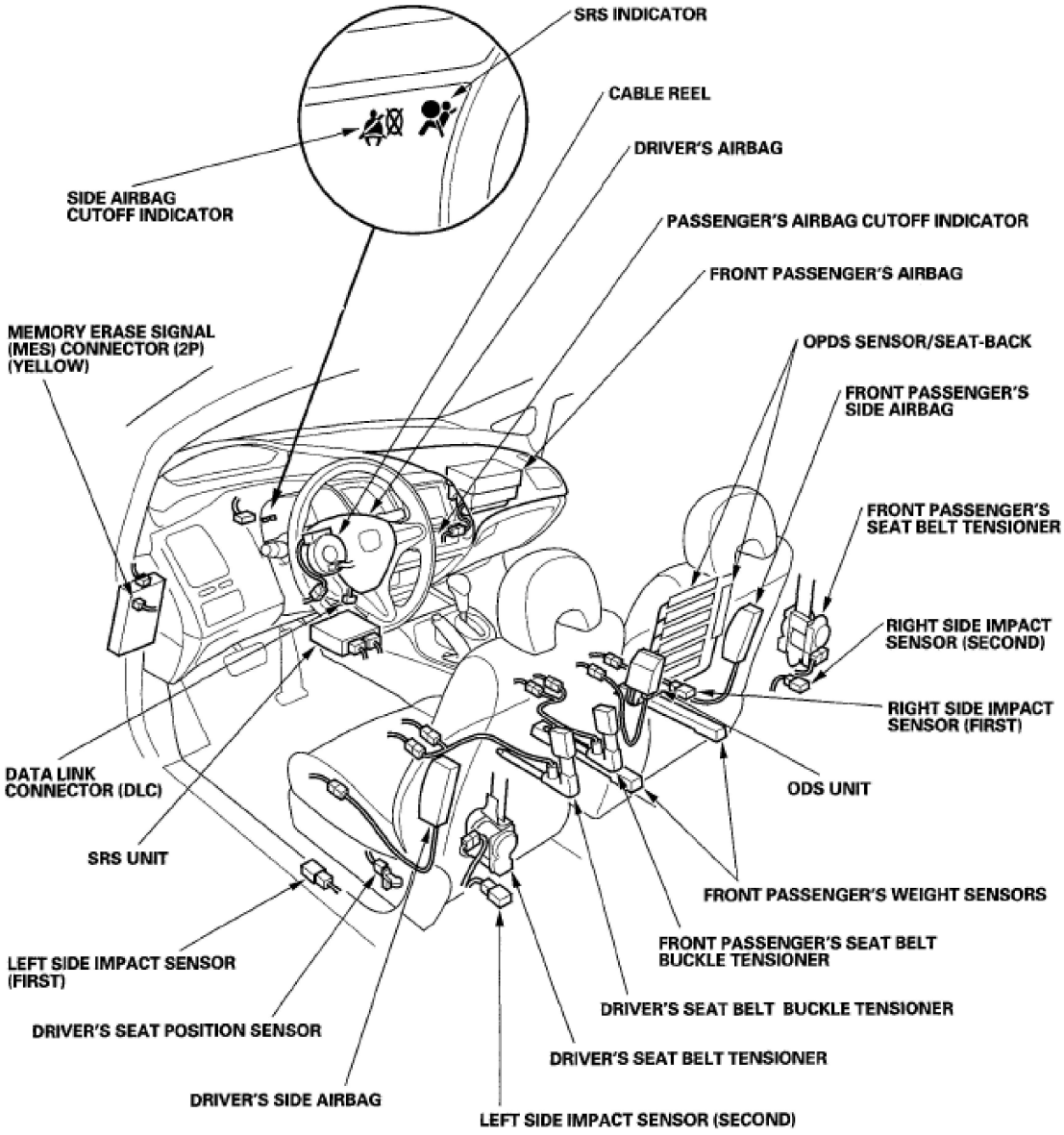



**Fig. 3: Identifying Supplemental Restraint System Component Location 2-Door (1 Of 2)**

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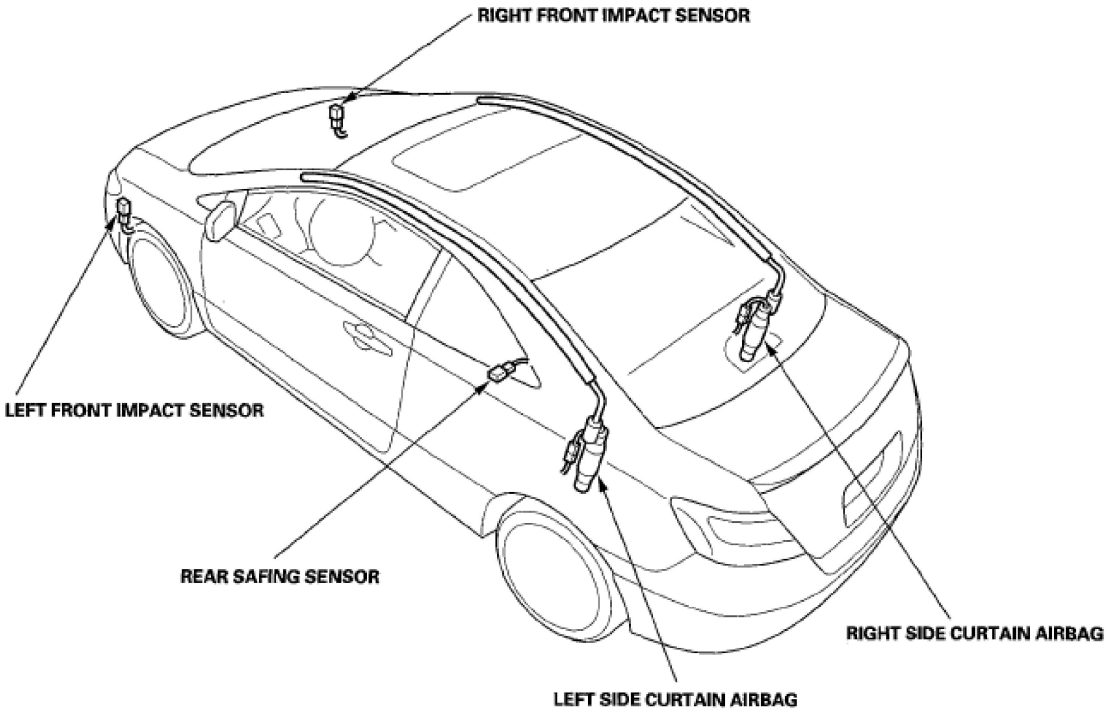



**Fig. 4: Identifying Supplemental Restraint System Component Location 2-Door (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## PRECAUTIONS AND PROCEDURES

### GENERAL PRECAUTIONS

Please read the following precautions carefully before performing the airbag system service. If the instructions described in this article, or the airbags could accidentally deploy and cause damage or injuries.

- Except when performing electrical inspections, always turn the ignition switch OFF, disconnect the negative cable from the battery, then wait for 3 minutes before starting work.

**NOTE: The SRS memory is not cleared even if the ignition switch is turned OFF or the battery cables are disconnected from the battery.**

- Use replacement parts which are manufactured to the same standards and quality as the original parts. Do not install used SRS parts. Use only new parts when making SRS repairs.
- Carefully inspect any SRS part before you install it. Do not install any part that shows signs of being dropped or improperly handled, such as dents, cracks or deformation.

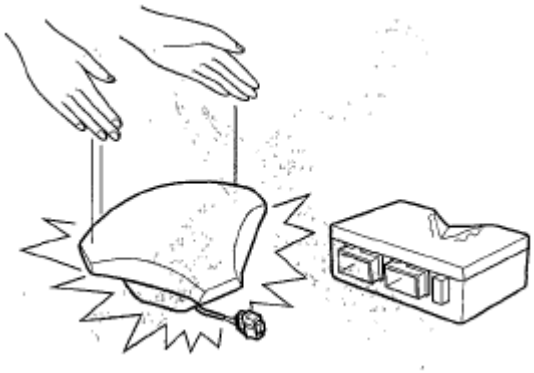


**Fig. 5: Precaution For - Handling SRS**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- Before disconnecting the SRS unit connectors, always disconnect the appropriate SRS parts connectors.
- Use only a digital multimeter to check the system. If it is not a Honda multimeter, make sure its output is 10 mA (0.01 A) or less when switched to the lowest value in the ohmmeter range. A tester with a higher output could cause accidental deployment and possible injury.
- Do not put objects on the front passenger's airbag.
- The original audio and navigation system has a coded theft protection circuit. Make sure you have the anti-theft codes for the audio system or the navigation system (if equipped), then write down the audio presets before disconnecting the negative cable from the battery.
- Before returning the vehicle to the customer, enter the anti-theft codes for the audio system or the navigation system (if equipped), then enter the audio presets; set the clock.

**STEERING-RELATED PRECAUTIONS**

**Cable Reel Alignment**

- Misalignment of the cable reel could cause an open in the wiring, making the SRS system, remote steering wheel controls, and the horn inoperative. Center the cable reel whenever you do the following (see step 6).
  - Installation of the steering wheel
  - Installation of the cable reel
  - Installation of the steering column
  - Other steering-related adjustment or installation
- Do not disassemble the cable reel.
- Do not apply grease to the cable reel.
- If the cable reel shows any signs of damage, replace it with a new one. For example, if it does not rotate smoothly, replace the cable reel.

**AIRBAG HANDLING AND STORAGE**

Do not disassemble an airbag. It has no serviceable parts. Once an airbag has been deployed, it cannot be repaired or reused.

For temporary storage of an airbag during service, observe the following precautions.

- Store the removed airbag with the pad surface up. Never put anything on the airbag.

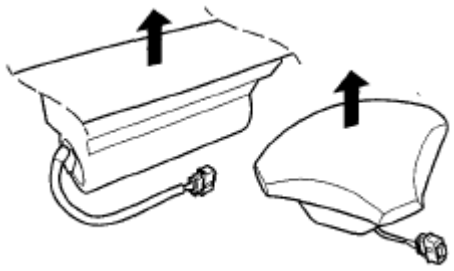


**Fig. 6: Precaution For - Store Removed Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- To prevent damage to the airbag, keep it away from any oil, grease, detergent, or water.

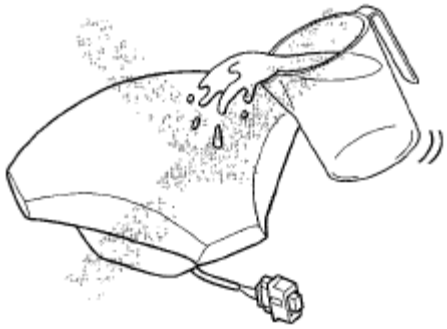


**Fig. 7: Precaution For - Keep It Away From Any Oil, Grease, Detergent, Or Water**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- Store the removed airbag on a secure, flat surface away from any high heat source (exceeding 200 °F/93 °C).



**Fig. 8: Precaution For - Away From Any High Heat Source**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- Never perform electrical inspections to the airbags, such as measuring resistance.
- Do not position yourself in front of the airbag during removal, inspection, or replacement.

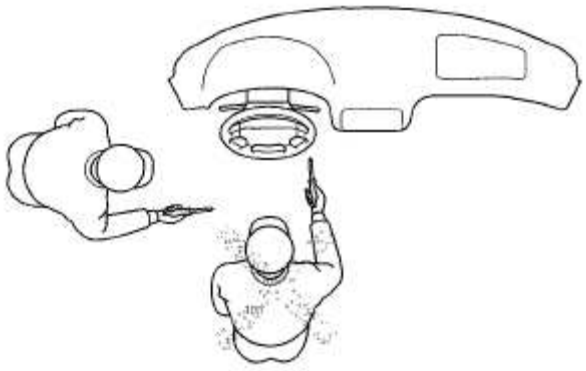


**Fig. 9: Precaution For - Do Not Position Yourself In Front Of Airbag During Removal, Inspection, Or Replacement**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- For proper disposal of a damaged airbag, refer to **AIRBAG DISPOSAL** .
- The side curtain airbag inflator assembly is a long, jointed part containing an inflator (A), a flexible bag (B), and brackets (C). When removing or installing the side curtain airbag assembly, never do the following items:
  - Handle the flexible bag.
  - Drop the curtain airbag.
  - Cut, tear, and peel the tapes.

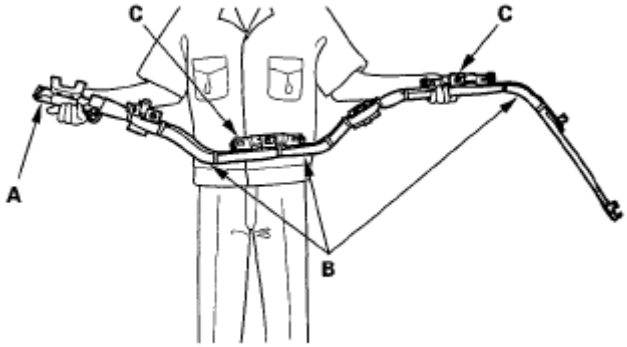



**Fig. 10: Identifying Side Curtain Airbag Inflator Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SRS UNIT, FRONT AND SIDE IMPACT SENSORS, DRIVER'S SEAT POSITION SENSOR, FRONT PASSENGER'S WEIGHT SENSORS AND REAR SAFING SENSOR**

- Turn the ignition switch OFF, disconnect the negative cable from the battery

then wait for 3 minutes before starting installation or replacement of the SRS unit, or disconnecting the connectors from the SRS unit.

- Be careful not to bump or impact the SRS unit, front impact sensors, side impact sensors, or rear safing sensor whenever the ignition switch is ON (II), or for at least 3 minutes after the ignition switch is turned OFF.
- During installation or replacement, be careful not to bump (by impact wrench, hammer, etc.) the area around the SRS unit, front impact sensors, the side impact sensors, or rear safing sensor. The airbags could accidentally deploy and cause damage or injury.



**Fig. 11: Precaution For - Do Not Bump Around SRS Unit**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- After a collision where a front airbag, side airbag or a seat belt tensioner, seat belt buckle tensioner deployed, go to **COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT** . After a collision where the airbags did not deploy, inspect for any damage or any deformation on the SRS unit, front impact sensors, side impact sensors, or rear safing sensor. If there is any damage, replace the SRS unit and/or the sensors.

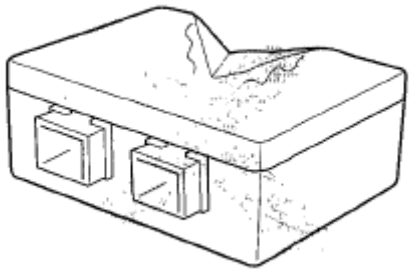


**Fig. 12: Precaution For - Inspect For Any Damage Or Any Deformation On SRS Unit**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- Do not disassemble the SRS unit, front impact sensors, side impact sensors, driver's seat position sensor, front passenger's weight sensors, or rear safing sensor.
- Be sure the SRS unit, front impact sensors, side impact sensors, and rear safing sensor are installed securely with the mounting bolts torqued to 9.8 N.m (1.0 kgf.m, 7.2 lbf.ft). Whenever you remove or replace the SRS unit, safing sensor, or all impact sensors, always install the components with new bolts.
- Do not spill water or oil on the SRS unit or the side impact sensors.

**WIRING PRECAUTIONS**

Some of the SRS wiring can be identified by special yellow outer covering, and the SRS connectors can be identified by their yellow color. Observe the instructions.

- Never attempt to modify, splice, or repair SRS wiring. If there is an open or damage in SRS wiring, replace the harness.

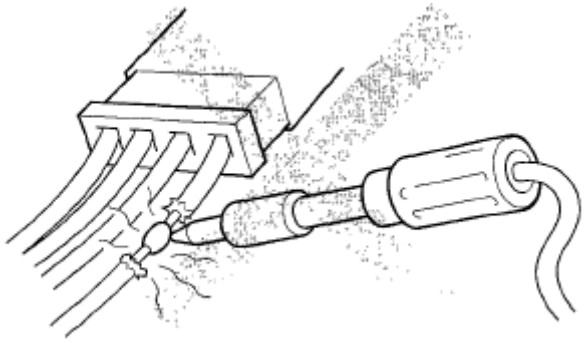


**Fig. 13: Precaution For - Never Attempt To Modify, Splice, Or Repair SRS Wiring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- Be sure to install the harness wires so they do not get pinched or interfere with other parts.

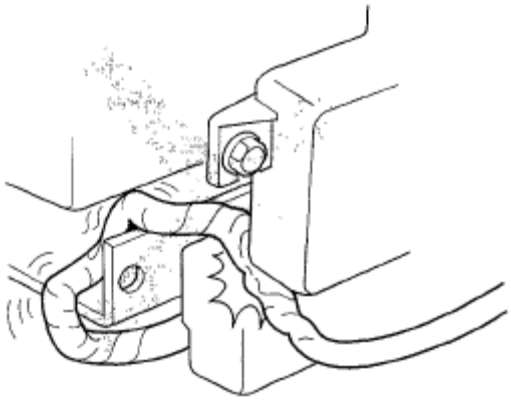


**Fig. 14: Precaution For - Installing Harness Wires**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- Make sure all SRS ground locations are clean, and grounds are securely fastened for optimum metal-to-metal contact. Poor grounds can cause intermittent problems that are difficult to diagnose.

**PRECAUTIONS FOR ELECTRICAL INSPECTIONS**

- When using electrical test equipment, insert the probe of the tester into the wire side of the connector. Do not insert the probe of the tester into the terminal side of the connector, and do not tamper with the connector.

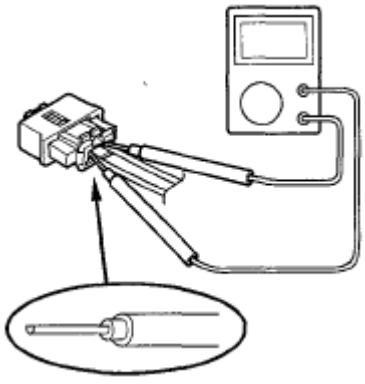


**Fig. 15: Precaution For - Do Not Insert Probe Of Tester Into Terminal Side Of Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- Use a U-shaped probe. Do not insert the probe forcibly.

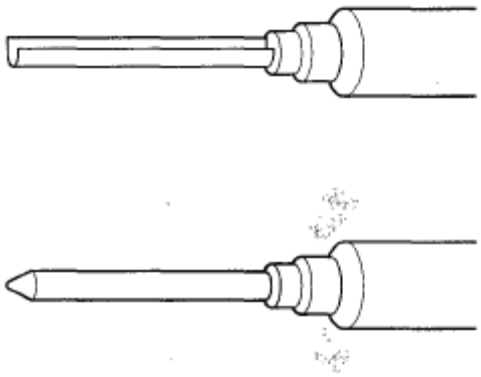


**Fig. 16: Precaution For - Use U-Shaped Probe And Do Not Insert Probe Forcibly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- Use specified service connectors in troubleshooting. Using improper tools could cause an error in inspection due to poor metal-to-metal contact.

**SPRING-LOADED LOCK CONNECTOR**

Some SRS system connectors have a spring-loaded lock.

**Front Airbag Connectors**

**Disconnecting**

To release the lock, pull the spring-loaded sleeve (A) toward the stop (B) while holding the opposite half of the connector. Then pull the connector halves apart. Be sure to pull on the sleeve and not on the connector.

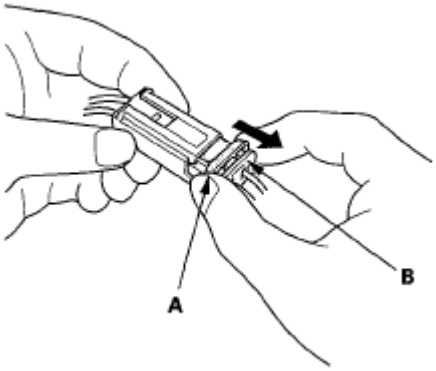



**Fig. 17: Pulling Spring-Loaded Sleeve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Connecting**

To reconnect, hold the pawl-side connector, and press on the back of the sleeve-side connector in the direction shown. As the two connector halves are pressed together, the sleeve (A) is pushed back by the pawl (B). Do not touch the sleeve.

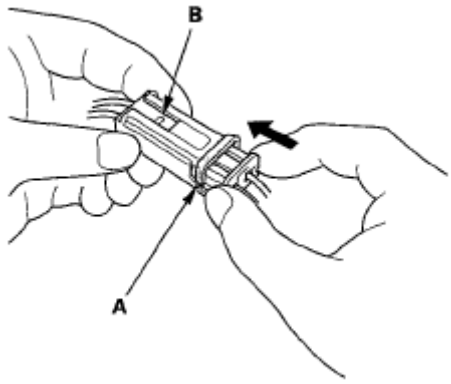



**Fig. 18: Pressing On Back Of Sleeve-Side Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Side Airbag Connector**

**Disconnecting**

To release the lock, pull the spring-loaded sleeve (A) toward the stop (B) while holding the opposite half of the connector. Then pull the connector halves apart. Be sure to pull on the sleeve and not on the connector half.

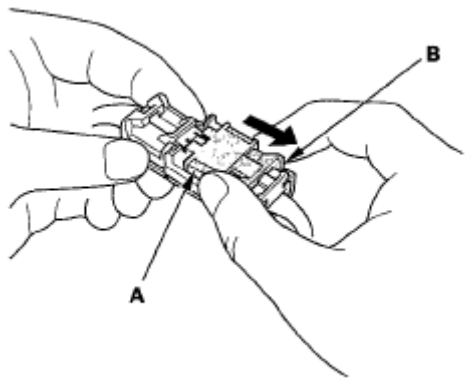



**Fig. 19: Disconnecting Side Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Connecting**

Hold both connector halves, and press them firmly together until the projection (A) of the sleeve-side connector clicks.

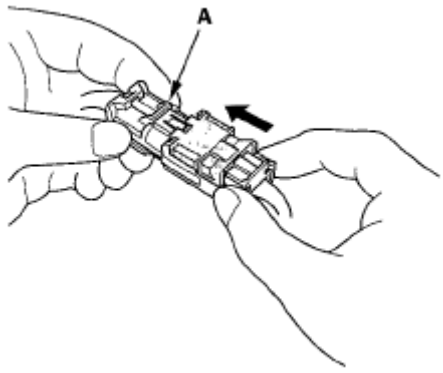



**Fig. 20: Connecting Side Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**OPENING THE SRS UNIT SHORTING CONNECTORS FOR DIAGNOSIS**

## Special Tools Required

SRS short canceller 070AZ-SAA0100

**NOTE:**

- **To prevent damaging of the connector cavity, insert the short canceller straight into the cavity from the terminal side.**
- **Before installing the short canceller, wash it with electric contact cleaner, then dry it with compressed air.**
- **Do not use the short canceller if it is damaged.**
- **Make sure to remove the short canceller before reconnection.**

When SRS unit connectors A (28P) or B (28P) are disconnected, a short circuit is created in the connector by its own function to prevent an airbag deployment. The circuit may need to be open sometimes when diagnosis is done on the system. Insert the short canceller (070AZ-SAA0100) in the specified cavities when it is necessary to keep the circuit open for diagnosis.

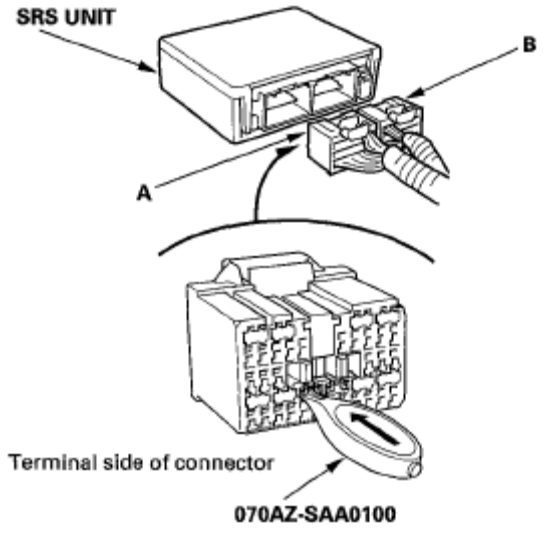



**Fig. 21: Identifying SRS Unit Connectors (28P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Terminal numbers are shown from the wire side of the female terminals. Insert the short canceller(s) into the cavities on the terminal side of the connector.

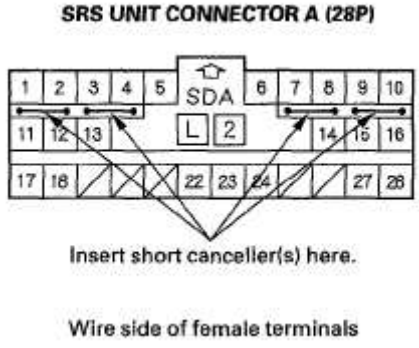



**Fig. 22: Identifying SRS Unit Connectors A (28P) Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

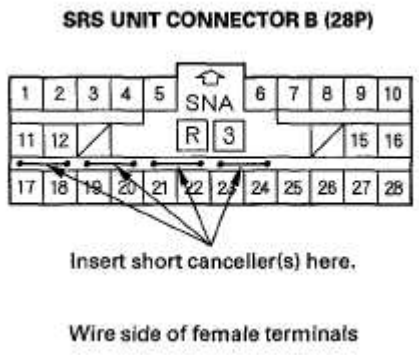



**Fig. 23: Identifying SRS Unit Connectors B (28P) Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Seats with Side Airbags**

Seats with side airbags have a "SIDE AIRBAG" label on the seat-back.




**Fig. 24: Identifying Side Airbag Label**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- When cleaning, use a damp cloth to clean the seat. Do not soak the seat with liquid, and do not spray steam on the seat.
- Do not repair a torn or frayed seat-back cover. Replace the seat-back cover.
- After a collision where the side airbag was deployed, replace the side airbag and seat frame with new parts. If the seat-back cushion is split, it must be replaced.
- Never put aftermarket accessories on the seat (covers, pads, seat heaters, lights, etc.).

**DISCONNECTING SYSTEM CONNECTORS**

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Turn the ignition switch OFF disconnect the negative cable from the battery, then wait for 3 minutes before starting the following procedures.

- Before disconnecting the cable reel 4P connector (1), disconnect the driver's airbag 4P connector (2).
- Before disconnecting SRS unit connector B from SRS unit, disconnect both seat belt tensioner 4P connectors and both seat belt buckle tensioner 4P connectors (3, 4, 5,6).

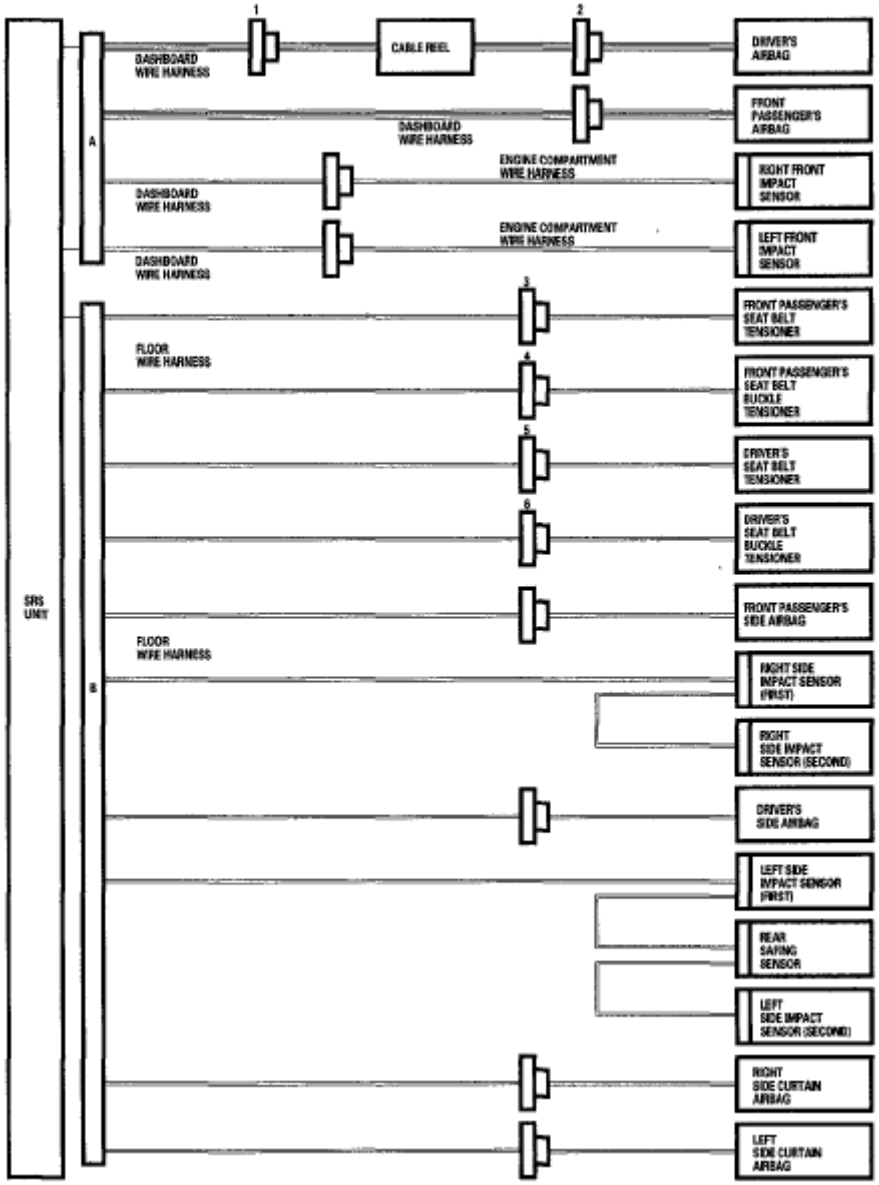



**Fig. 25: System Connectors Diagram**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

1. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.

**Driver's Airbag**

2. Remove the access panel (A) from the steering wheel, then disconnect the driver's airbag 4P connector (B) from the cable reel.

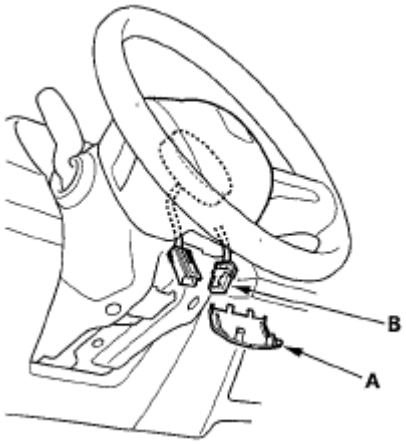



**Fig. 26: Identifying Access Panel And Driver's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Front Passenger's Airbag**

3. Remove the lower glove box, **GLOVE BOX REMOVAL/INSTALLATION** then disconnect the front passenger's airbag 4P connector (A) from the dashboard wire harness.

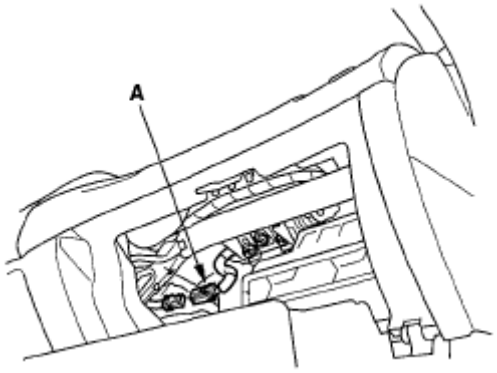



**Fig. 27: Identifying Front Passenger's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Side Airbag**

4. Disconnect both side airbag 2P connectors (A) from the floor wire harness.




**Fig. 28: Identifying Side Airbag 2P Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Side Curtain Airbag**

5. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION** ).
6. Disconnect both floor wire harness 2P connectors (A) from the side curtain airbags.

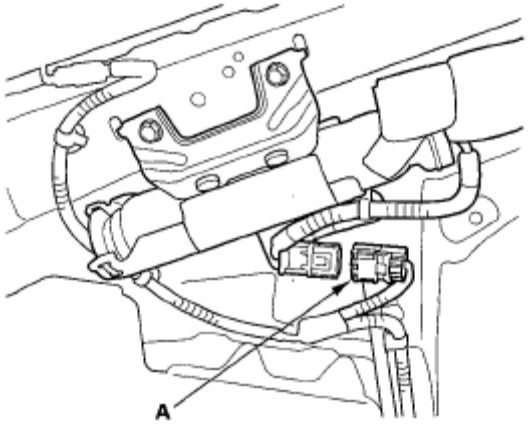



**Fig. 29: Identifying Floor Wire Harness 2P Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Seat Belt Tensioner**

7. Remove the seat belt lower anchor (see **FRONT SEAT BELT REPLACEMENT** ). Disconnect both floor wire harness 4P connectors (A) from the seat belt tensioners.

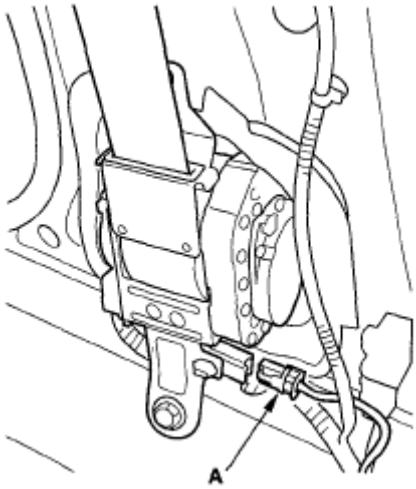



**Fig. 30: Identifying Floor Wire Harness 4P Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Seat Belt Buckle Tensioner**

8. Disconnect both floor wire harness 4P connectors (A) from the seat belt buckle tensioner.

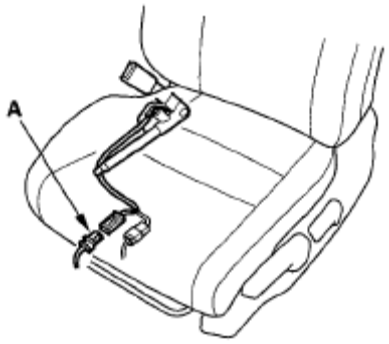



**Fig. 31: Identifying Floor Wire Harness 4P Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SRS Unit**

9. Disconnect both seat belt tensioner connectors and both seat belt buckle tensioner connectors. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ). Disconnect SRS unit connector A (28P) and SRS unit connector B (28P) from the SRS unit.

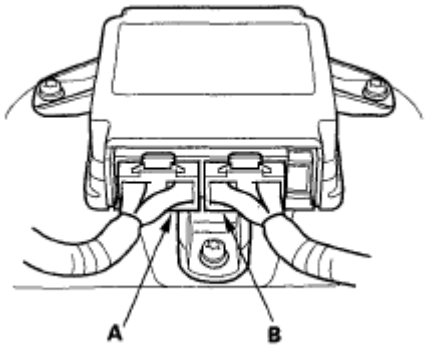



**Fig. 32: Identifying SRS Unit Connector A (28P) And SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## GENERAL TROUBLESHOOTING INFORMATION

### DTC (DIAGNOSTIC TROUBLE CODES)

The self-diagnostic function of the SRS system allows it to locate the causes of system problems and then store this information in memory. For easier troubleshooting, this data can be retrieved via a data link circuit.

- When you turn the ignition switch ON (II), the SRS indicator comes on. If it goes off after 6 seconds, the system is normal, and is not currently detecting any abnormality.
- If there is an abnormality, the system locates and defines the problem, stores this information in memory, and turns the SRS indicator on. The data will remain in the memory even when the ignition switch is turned off or if the battery is disconnected.
- The data is stored in memory as a diagnostic trouble code (DTC).
- The "x" at the end of each DTC denotes a numeric character (0 thru 9) or an alpha character (A thru F) that is display on the HDS.
- DTCs are either latching or resetting depending on the malfunction. With resetting DTCs, the SRS indicator will go off the next time the ignition switch is turned ON and the system is normal, but the DTC is still stored. With latching DTCs, the SRS indicator will not turn OFF until the malfunction is repaired and the DTC is cleared.
- When you connect the HDS to the data link connector (DLC), you can retrieve a more detailed DTC in the Honda Systems "SRS" menu.

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

- After reading and recording the DTC, proceed with the troubleshooting procedure for that code.

**Precautions**

- Use only a digital multimeter to check the system. If it's not a Honda multimeter, make sure its output is 10 mA (0.01 A) or less when switched to the smallest value in the ohmmeter range. A tester with a higher output could damage the airbag circuit or cause accidental airbag deployment and possible injury.
- Whenever the ignition switch is ON (II), or has been turned OFF for less than 3 minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.

- Before you remove the dashboard wire harness, floor wire harness, disconnect the driver's airbag connector, the front passenger's airbag connector, both side airbag connectors, both side curtain airbag connectors, both seat belt buckle tensioner connectors and both seat belt tensioner connectors.
- Make sure the battery is fully charged. If the battery is dead or low, measuring values may not be correct.
- Do not touch a tester probe to the terminals in the SRS unit or harness connectors, and do not connect the SRS unit terminals or the sensor terminals with a jumper wire. Use only the backprobe set and the multimeter. Backprobe spring-loaded lock type connectors correctly.

**READING THE DTC**

1. Make sure the ignition switch is OFF.
2. Connect the HDS to the data link connector (DLC) (A).

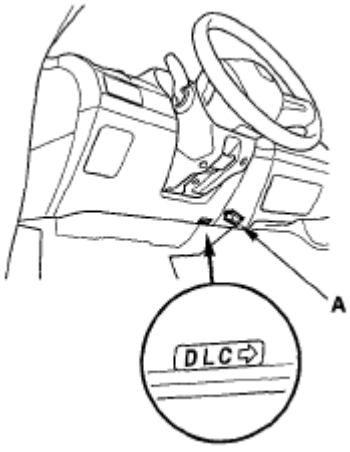



**Fig. 33: Identifying Data Link Connector (DLC)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Use the HDS to check for DTCs.

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**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

6. Read and record the DTC.
7. Turn the ignition switch OFF.
8. Disconnect the HDS from the DLC.
9. Do the troubleshooting procedure for the DTC.

**CLEAR THE DTC MEMORY WITH THE HDS**

**NOTE: Make sure the battery is fully charged before you begin.**

1. Make sure the ignition switch is OFF.
2. Connect the HDS to the data link connector (DLC) (A).

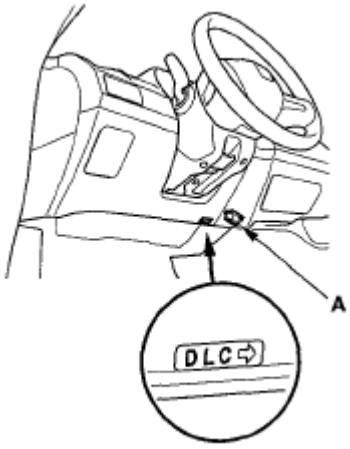



**Fig. 34: Identifying Data Link Connector (DLC)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. In the SRS MENU of the HDS, select SRS, then DTC to clear DTC(s).
6. Turn the ignition switch OFF.

7. Disconnect the HDS from the DLC.

**CLEAR THE DTC MEMORY USING MES CONNECTOR WITHOUT THE HDS**

## Special Tools Required

SCS Service Connector 07PAZ-001010A

To clear the DTC(s) from the SRS unit, use the HDS or the following procedure.

1. Make sure the ignition switch is OFF.
2. Connect the SCS service connector (A) to the yellow MES 2P connector (B). Do not use a jumper wire.

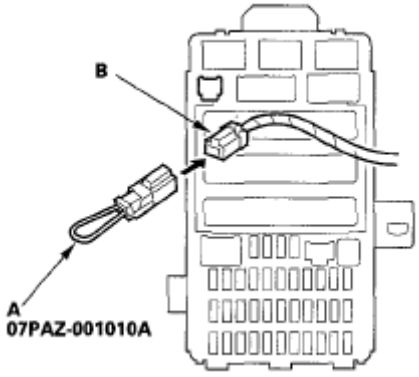



**Fig. 35: Identifying SCS Service And MES 2P Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the ignition switch ON (II).
4. The SRS indicator will come on for about 6 seconds, and then go off. Remove the SCS service connector from the MES connector (2P) within 4 seconds after the indicator goes off.
5. The SRS indicator will come on again. Reconnect the SCS service connector to the MES connector (2P) within 4 seconds after the indicator comes on.
6. When the SRS indicator goes off, remove the SCS service connector from the MES connector (2P) within 4 seconds.
7. The SRS indicator blinks two times, indicating that the memory has been cleared.

8. Turn the ignition switch OFF, and wait for 10 seconds.
9. Turn the ignition switch ON (II) again. If the SRS indicator comes on for 6 seconds, and then goes off, the system is OK.

**TROUBLESHOOTING INTERMITTENT FAILURES**

If there was a malfunction, but it does not recur, it will be stored in the memory as an intermittent failure, and the SRS indicator may come on depending on this malfunction detected.

**NOTE: Check the condition of the battery (see BATTERY (EXCEPT HYBRID) ) and the charging system (see CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING ). Low battery voltage may cause some intermittent failures.**

After checking the DTC, troubleshoot as follows:

1. Make sure the ignition switch is OFF:
2. Connect the HDS to the data link connector (DLC) (A).
3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. In the SRS MENU on the HDS, select SRS, then DTC to clear DTC(s).
6. Read the DTC (see "**READING THE DTC**").
7. Clear the DTC memory (see "**CLEAR THE DTC MEMORY**").
8. Set the parking brake, then start the engine, and let it idle.
9. The SRS indicator comes on for about 6 seconds and then goes off.
10. Shake the related wire harnesses and the connectors, and look for loose connections, poor pinfits, and poor grounds.
11. Take a test-drive (quick acceleration, quick braking, and cornering), turn the steering wheel fully left and right, and hold it there for 5 to 10 seconds. If the problem recurs, the SRS indicator will come on.

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**NOTE: A faulty cable reel can cause intermittent connections related to the driver's airbag inflator DTCs.**

12. If you cannot duplicate the concern, ask the customer about the conditions when it occurred, or ask the customer to demonstrate the concern.
13. If you cannot duplicate the intermittent failure, the system is OK at this time.

**CHECKING FRONT PASSENGER'S WEIGHT SENSORS AFTER A VEHICLE COLLISION**

1. Position the front passenger's seat to the rearmost position, adjust the recliner to the forward most position. Do not move it from this position.
2. Drive the vehicle, accelerate to 20 mph (36 km/h), then stop on level ground.
3. Make sure the ignition switch is OFF.
4. Connect the HDS to the data link connector (DLC) (A).

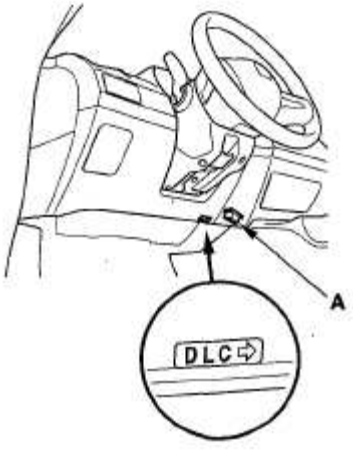



**Fig. 36: Identifying Data Link Connector (DLC)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Turn the ignition switch ON (II).
6. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
7. From the SRS inspection menu, select Seat Weight Sensor, then Misc test, then "SEAT OUTPUT CHK" and follow the prompts until the front passenger's weight sensor operation check is complete.

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## ODS UNIT INITIALIZATION

When a seat-back cover, seat-back cushion, and/or ODS unit is replaced, initialize the ODS by following the procedure.

**NOTE: A new (uninitialized) ODS unit installed with a faulty OPDS sensor can cause DTC 85-71.**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Make sure the front passenger's seat is dry. Set the seat-back in a normal position, and make sure there is nothing on the seat.
3. Make sure the ignition switch is OFF and the MES connector is not shorted.
4. Connect the HDS to the data link connector (DLC) (A).

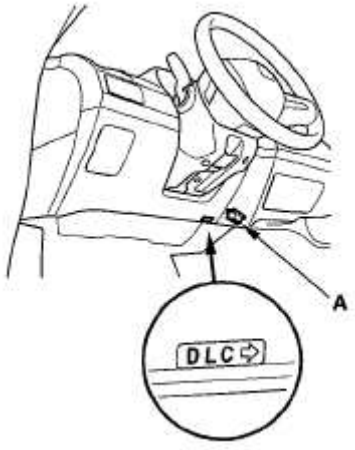



**Fig. 37: Identifying Data Link Connector (DLC)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Turn the ignition switch ON (II).
6. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
7. From the HDS Main Menu, select SRS, then SRS, then Adjustments. In the Adjustment Menu, select ODS INIT. Follow the screen prompts to initialize the ODS unit.

8. Turn the ignition switch OFF.
9. Disconnect the HDS from the DLC.

**NOTE: If the ODS unit fails to initialize after several attempts, replace the OPDS sensor/seat-back and retry. If the ODS unit continues to fail to initialize, replace the ODS unit (see ODS UNIT REPLACEMENT).**

## ODS UNIT CALIBRATION

When you replace the SRS unit, front passenger's weight sensors or ODS unit, calibrate the ODS unit.

While calibrating the ODS unit, observe these precautions:

- Make sure all components of the front passenger's seat are correctly installed.
- Make sure nothing is on or under the front passenger's seat.
- Make sure there is nothing in the front passenger's seat-back pocket.
- Keep the windows closed.
- Do all calibration procedures except, test-driving, in the service bay.
- Make sure the vehicle is on level ground.
- Keep the A/C and the heater off.
- Do not touch the front passenger's seat until you are prompted to or when you have completed the calibration.
- Do not expose the front passenger's seat to sudden temperature changes.

1. Position the front passenger's seat to the rearmost position, and adjust the recliner to the forwardmost position. Do not move the seat from these positions.
2. Make sure the ignition switch is OFF.
3. Connect the HDS to the data link connector (DLC) (A).
4. Turn the ignition switch ON (II).

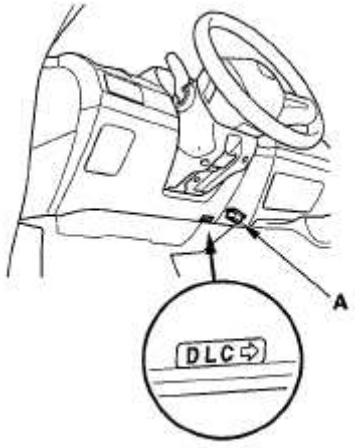



**Fig. 38: Identifying Data Link Connector (DLC)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
6. Drive the vehicle, and accelerate to 20 mph (36 km/h), then stop on level ground.
7. From the Main Menu, select SRS, then Seat Weight Sensor, then Misc Test, then select "SWS INIT," and follow the prompts until the calibration has been completed.

## ODS UNIT OPERATION CHECK

Check the ODS operation after any of these actions.

- Replacement of front passenger's seat component(s) (except ODS unit and/or weight sensors)
- After a vehicle collision
- SRS unit replacement

#### PRE-OPERATION CHECK SET-UP

- Make sure all the components of the front passenger's seat are correctly installed.
- Position the front passenger's seat to the rearmost position.

- Adjust the seat recline to the forwardmost position.
- Do not move the seat from this position.
- Make sure nothing is on or under the front passenger's seat.
- Make sure there is nothing in the front passenger's seat-back pocket.
- Keep the windows closed.
- Do all calibration procedures, except test-driving, in the service bay.
- Make sure the vehicle is on level ground.
- Turn the heater and the A/C off.
- Do not touch the front passenger's seat during the calibration.
- Do not expose the front passenger's seat to sudden temperature changes.

**AFTER REPLACING FRONT PASSENGER'S SEAT COMPONENT(S)**

1. Make sure the ignition switch is OFF.
2. Connect the HDS to the data link connector (DLC) (A).

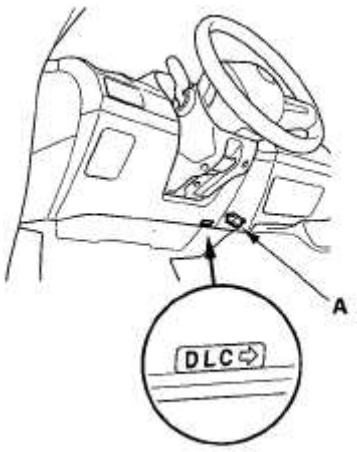



**Fig. 39: Identifying Data Link Connector (DLC)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Drive the vehicle, accelerate to 20 mph (36 km/h), then stop on level ground.

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6. From the HDS Main Menu, select SRS, then weight sensor, then Misc Test, then Inspection. In the HDS Inspection Menu, select "SEAT OUTPUT CHK" and follow the prompts until the ODS unit operation check has been completed.

## DRIVER'S SEAT POSITION SENSOR OPERATION CHECK

Check the driver's seat position after any of these actions.

- Driver's seat position sensor replacement
- Cover plate (front side of driver's seat slide rail) replacement

1. Make sure the ignition switch is OFF (0).
2. Connect the HDS to the data link connector (DLC) (A).

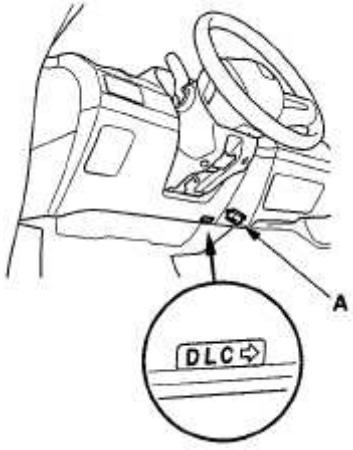



**Fig. 40: Identifying Data Link Connector (DLC)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. From the HDS Main Menu, select SRS, then Parameter Information Buckle Switch, Seat Position Sensor, then driver's seat position sensor.
6. Move the seat all the way forward.

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7. Using a piece of tape (A), mark a line on the seat's outer cover (B) where the front riser cover meets the seat riser (C). The driver's seat position sensor should read "NEAR."

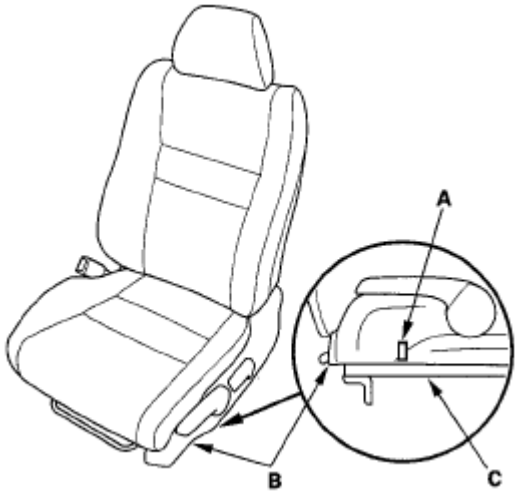



**Fig. 41: Identifying Seat's Outer Cover And Seat Riser**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Move the seat back in small increments (about 0.2 in., 5 mm) until the driver's seat position sensor reads "NOT NEAR." The seat should be about 25 mm (1 in.) from the front.

**NOTE:**

- **It takes a few seconds for the HDS to display changes, so wait about 5 seconds between each move.**
- **If the driver's seat position sensor does not work as described above, check the driver's seat position sensor or the cover plate for damage, and replace parts as needed.**

9. Turn the ignition switch OFF, and disconnect the HDS from the DLC.

## DTC TROUBLESHOOTING INDEX

## DTC TROUBLESHOOTING CHART

| | | | |
|---|---|---|---|

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| DTC | Latch[1] | Reset[2] | Detection Item |
|---|---|---|---|
| **11-1X** | | o | Open in driver's airbag first inflator |
| **11-3X** | | | Short to another wire or decreased resistance in driver's airbag first inflator |
| **11-4X** | | | Open in driver's airbag second inflator |
| **11-6X** | | | Short to another wire or decreased resistance in driver's airbag second inflator |
| **11-8X** | o | | Short to power in driver's airbag first inflator |
| **11-9X** | | | Short to ground in driver's airbag first inflator |
| **11-AX** | | | Short to power in driver's airbag second inflator |
| **11-BX** | | | Short to ground in driver's airbag second inflator |
| **12-1X** | | o | Open in front passenger's airbag first inflator |
| **12-3X** | | | Short to another wire or decreased resistance in front |

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| | | | |
|---|---|---|---|
| | | | passenger's airbag first inflator |
| **12-4X** | | | Open in front passenger's airbag second inflator |
| **12-6X** | | | Short to another wire or decreased resistance in front passenger's airbag second inflator |
| **12-8X** | o | | Short to power in front passenger's airbag first inflator |
| **12-9X** | | | Short to ground in front passenger's airbag first inflator |
| **12-AX** | | | Short to power in front passenger's airbag second inflator |
| **12-BX** | | | Short to ground in front passenger's airbag second inflator |
| **21-1X** | | o | Open in driver's seat belt tensioner |
| **21-3X** | | | Short to another wire or decreased resistance in driver's seat belt tensioner |
| **21-8X** | o | | Short to power in driver's seat belt tensioner |

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| | | | |
|---|---|---|---|
| **21-9X** | | | Short to ground in driver's seat belt tensioner |
| **22-1X** | | o | Open in front passenger's seat belt tensioner |
| **22-3X** | | | Short to another wire or decreased resistance in front passenger's seat belt tensioner |
| **22-8X** | o | | Short to power in front passenger's seat belt tensioner |
| **22-9X** | | | Short to ground in front passenger's seat belt tensioner |
| **27-1X** | | o | Open in driver's seat belt buckle tensioner |
| **27-3X** | | | Short to another wire or decreased resistance in driver's seat belt buckle tensioner |
| **27-8X** | o | | Short to power in driver's seat belt buckle tensioner |
| **27-9X** | | | Short to ground in driver's seat belt buckle tensioner |
| **28-1X** | | o | Open in front passenger's seat belt buckle |

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| | | | |
|---|---|---|---|
| | | | tensioner |
| **28-3X** | | | Short to another wire or decreased resistance in front passenger's seat belt buckle tensioner |
| **28-8X** | o | | Short to power in front passenger's seat belt buckle tensioner |
| **28-9X** | | | Short to ground in front passenger's seat belt buckle tensioner |
| **31-1X** | | o | Open in driver's side airbag inflator |
| **31-3X** | | | Short to another wire or decreased resistance in driver's side airbag inflator |
| **31-8X** | o | | Short to power in driver's side airbag inflator |
| **31-9X** | | | Short to ground in driver's side airbag inflator |
| **32-1X** | | o | Open in front passenger's side airbag inflator |
| **32-3X** | | | Short to another wire or decreased resistance in front |

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| | | | |
|---|---|---|---|
| | | | passenger's side airbag inflator |
| **32-8X** | o | | Short to power in front passenger's side airbag inflator |
| **32-9X** | | | Short to ground in front passenger's side airbag inflator |
| **33-1X** | | o | Open in left side curtain airbag inflator |
| **33-3X** | | | Short to another wire or decreased resistance in left side curtain airbag inflator |
| **33-8X** | o | | Short to power in left side curtain airbag inflator |
| **33-9X** | | | Short to ground in left side curtain airbag inflator |
| **34-1X** | | o | Open in right side curtain airbag inflator |
| **34-3X** | | | Short to another wire or decreased resistance in right side curtain airbag inflator |
| **34-8X** | o | | Short to power in right side curtain airbag inflator |
| **34-9X** | | | Short to ground in |

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| | | | |
|---|---|---|---|
| | | | right side curtain airbag inflator |
| **41-1X** | | o | No signal from the left front impact sensor |
| **41-2X** | | | Internal failure of the left front impact sensor |
| 41-3x | | | |
| 41-Bx | o | | |
| **42-1X** | | o | No signal from the right front impact sensor |
| **42-2X** | | | Internal failure of the right front impact sensor |
| 42-3x | | | |
| 42-Bx | o | | |
| **43-1X** | | o | No signal from the left side impact sensor (first) |
| **43-2X** | | | Internal failure of the left side impact sensor (first) |
| 43-3x | | | |
| 43-Bx | o | | |
| **44-1X** | | o | No signal from the right side impact sensor (first) |
| **44-2X** | | | Internal failure of the right side impact sensor (first) |
| 44-3x | | | |
| 44-Bx | o | | |
| **45-1X** | | o | No signal from the left side impact sensor (second) |
| **45-2X** | | | Internal failure of the left side impact sensor (second) |
| 45-3x | | | |
| 45-Bx | o | | |

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| | | | |
|---|---|---|---|
| **46-1X** | | o | No signal from the right side impact sensor (second) |
| **46-2X** | | | Internal failure of the right side impact sensor (second) |
| 46-3x | | | |
| 46-Bx | o | | |
| **51-XX** | | o | Internal failure of the SRS unit |
| 52-xx | o | | |
| 53-xx | | o | |
| 54-xx | | | |
| 55-xx | | | |
| **61-1X** | | | Open in driver's seat belt buckle switch |
| **61-2X** | | | Short in driver's seat belt buckle switch |
| **62-1X** | | | Open in front passenger's seat belt buckle switch |
| **62-2X** | | | Short in front passenger's seat belt buckle switch |
| **71-1X** | | | Open in driver's seat position sensor |
| **71-2X** | | | Short in driver's seat position sensor |
| **81-4X** | | | Internal failure of the ODS unit |
| 81-5x | | | |
| **81-61** | | | No signal from the ODS unit |
| 81-62 | | | Response data error |

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| | | | |
|---|---|---|---|
| | | | from the ODS unit |
| **81-63** | | | Internal failure of the ODS unit |
| 81-64 | | | |
| **81-71** | | | ODS unit does not calibrate |
| 81-78 | | | |
| **81-79** | | | Front passenger's weight sensors initial check failure |
| **82-1X** | | o | No signal from the inner side front passenger's weight sensor (2-door) |
| **83-2X** | | | No signal from the outer side front passenger's weight sensor (2-door) |
| **82-14** | | | No signal from the front passenger's weight sensor (front inner side) (4-door) |
| **82-15** | | | Internal failure of the front passenger's weight sensor (front inner side) (4-door) |
| 82-16 | | | No signal from the front passenger's weight sensor (rear inner side) (4-door) |
| 82-17 | | | Internal failure of the front passenger's weight sensor (rear inner |

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| | | | |
|---|---|---|---|
| | | | side) (4-door) |
| **83-24** | | | No signal from the front passenger's weight sensor (front outer side) (4-door) |
| **83-25** | | | Internal failure of the front passenger's weight sensor (front outer side) (4-door) |
| **83-26** | | | No signal from the front passenger's weight sensor (rear outer side) (4-door) |
| **83-27** | | | Internal failure of the front passenger's weight sensor (rear outer side) (4-door) |
| **85-4X** | | o | Internal failure of the ODS unit |
| 85-5x | | | |
| **85-61** | | | No signal from the ODS unit |
| 85-62 | | | Response data error from the ODS unit |
| **85-63** | | | Internal failure of the ODS unit |
| 85-64 | | | |
| **85-71** | | | ODS unit not initialized |
| 85-78 | | | |
| **85-79** | | | OPDS sensor initial check failure |
| **86-1X** | | | Faulty OPDS sensor |

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| | | | |
|---|---|---|---|
| 86-2x | | | |
| **92-1X** | | | Open in the passenger's airbag cutoff indicator |
| **92-2X** | | | Open or short to ground in passenger's airbag cutoff indicator |
| **A1-1X** | | | Faulty power supply (VA line) |
| **A2-1X** | | | Faulty power supply (VB line) |
| **B2-1X** | | | No signal from the rear safing sensor |
| **B2-17** | | | Internal failure of the rear safing sensor |
| B2-8x | | | |
| B2-9x | | | |
| B2-Ax | | | |
| B2-Bx | | | |
| **EX-XX** | | | Control operation recorded |
| Fx-xx | | | Airbag and/or tensioners deployment recorded |

**NOTE:**

**The "x" at the end of each DTC denotes a numeric character (0 thru 9) or an alpha character (A thru F) that you will see on the HDS display. The character is unrelated to your troubleshooting; it designates the SRS unit manufacturer and other detail used for product analysis.**

(1) The SRS indicator turns on and stays on whenever the ignition switch is in the ON (II) position, or until the code is cleared

(2) The SRS indicator turns on when the DTC is set. The SRS indicator will not turn on after the ignition switch is cycled from ON (II) to OFF (0), but the DTC is stored in the SRS unit

When an OPDS sensor or front passenger's seat weight sensor failure occurs, the DTC is stored by the SRS unit and the ODS unit. The ODS unit DTC is a subcode of the SRS unit DTC.

## SWS DTC Index (4-door model)

## SWS DTC CHART

| SRS Unit DTC | SWS DTC | Detection Item |
|---|---|---|
| **81-4X** | 41-xx | Internal failure of the ODS unit |
| | 42-xx | |
| | 43-xx | |
| 82-14 | 14-11 | Open in the front passenger's weight sensor (front inner side) power circuit |
| | 14-12 | Short to ground in the front passenger's weight sensor (front inner side) power circuit |
| | 14-13 | Open in the front passenger's weight sensor (front inner side) output circuit |
| | 14-14 | Short to ground in the front passenger's weight sensor (front inner side) output circuit |
| **82-15** | 15-3x | Internal failure of front the passenger's weight sensor (front inner side) |
| 82-16 | 16-11 | Open in the front passenger's weight sensor (rear inner side) power circuit |
| | 16-12 | Short to ground in the |

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| | | |
|---|---|---|
| | | front passenger's weight sensor (rear inner side) power circuit |
| | 16-13 | Open in the front passenger's weight sensor (rear inner side) output circuit |
| | 16-14 | Short to ground in the front passenger's weight sensor (rear inner side) output circuit |
| **82-17** | 17-3x | Internal failure of the front passenger's weight sensor (rear inner side) |
| 83-24 | 24-11 | Open in the front passenger's weight sensor (front outer side) power circuit |
| | 24-12 | Short to ground in the front passenger's weight sensor (front outer side) power circuit |
| | 24-13 | Open in the front passenger's weight sensor (front outer side) output circuit |
| | 24-14 | Short to ground in the front passenger's weight sensor (front outer side) output circuit |
| **83-25** | 25-3x | Internal failure of the front passenger's weight sensor (front outer side) |
| 83-26 | 26-11 | Open in the front |

| | | |
|---|---|---|
| | | passenger's weight sensor (rear outer side) power circuit |
| | 26-12 | Short to ground in the front passenger's weight sensor (rear outer side) power circuit |
| | 26-13 | Open in the front passenger's weight sensor (rear outer side) output circuit |
| | 26-14 | Short to ground in the front passenger's weight sensor (rear outer side) output circuit |
| **83-27** | 27-3x | Internal failure of the front passenger's weight sensor (rear outer side) |
| 81-71 | 71-xx | ODS unit does not calibrate |

**NOTE:**

**The "x" at the end of each DTC denotes a numeric character (0 thru 9) or an alpha character (A thru F) that you will see on the HDS display. The character is unrelated to your troubleshooting; it designates the SRS unit or the ODS unit manufacturer and other detail used for product analysis**

## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING CHART

| Symptom | Diagnostic procedure |
|---|---|
| SRS indicator does not come on | Symptom Troubleshooting (see **SRS INDICATOR DOES NOT COME ON**) |
| SRS indicator stays on, but no DTCs are stored | Symptom Troubleshooting (see **SRS INDICATOR STAYS ON, BUT NO DTCS ARE STORED**) |
| Side airbag cutoff indicator is | Check the DTC. If DTC indicated, go to |

| | |
|---|---|
| flashing | the **DTC TROUBLESHOOTING** |
| Side airbag cutoff indicator stays on | Symptom Troubleshooting (see **SIDE AIRBAG CUTOFF INDICATOR STAYS ON**) |
| Side airbag cutoff indicator does not come on | Symptom Troubleshooting (see **SIDE AIRBAG CUTOFF INDICATOR DOES NOT COME ON**) |
| Passenger's airbag cutoff indicator is flashing | Check the DTC. If DTC indicated, go to the **DTC TROUBLESHOOTING** |
| Passenger's airbag cutoff indicator stays on or comes on suddenly | Symptom Troubleshooting (see **SIDE AIRBAG CUTOFF INDICATOR DOES NOT COME ON**) |
| Passenger's airbag cutoff indicator does not come on | Check the DTC. If DTC indicated, go to the **DTC TROUBLESHOOTING** |
| HDS does not communicate with the SRS unit or the vehicle | Troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ) |

## SYSTEM DESCRIPTION

### SRS COMPONENTS

#### Airbags

The SRS is a safety device which, when used with the seat belt, is designed to help protect the driver and front passenger in a frontal impact exceeding a certain set limit. The system consists of the SRS unit, including safing sensor and impact sensor (A), the cable reel (B), the driver's airbag (C), the front passenger's airbag (D), side airbags (E), side curtain airbags (F), seat belt tensioners (G), seat belt buckle tensioners (H), side impact sensors (first) (I), front impact sensors (J), rear safing sensor (K) and side impact sensors (second) (L).

Since the driver's and front passenger's airbags use the same sensors, both normally inflate at the same time. However, it is possible for only one airbag to inflate. This can occur when the severity of a collision is at the margin, or threshold, that the SRS unit determines whether or not the airbags will deploy. In such cases, the seat belt will provide sufficient protection, and the supplemental protection offered by

the airbag would be minimal.

**Front Passenger's Weight Sensors**

The front passenger's weight sensors (M) are part of seat base. The front passenger's weight sensors detect the weight on the seat, and send the information to the ODS unit (N). If the total weight is about 65 lbs (30 kg) or less, the ODS unit sends a signal to the SRS unit to prevent the passenger's airbag from deploying. When the passenger's airbag is disabled, the passenger airbag cutoff indicator on the center panel comes on to alert the driver that the front passenger's airbag will not deploy in a front-end collision.

**Driver's Seat Position Sensor**

The driver's seat position sensor (O) is under the driver's seat on the left side. When the driver's seat is moved to its full forward position, the deployment of the driver's airbag is moderated to decrease its force of impact during a front-end collision.

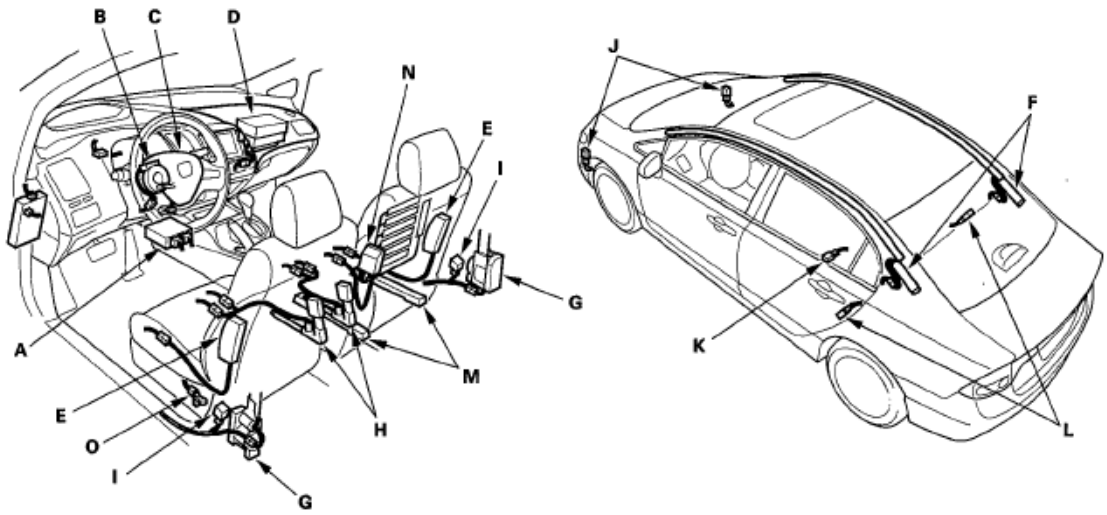



**Fig. 42: Identifying SRS Components Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4-door shown; 2-door is similar.

**Rear Safing Sensor**

The rear safing sensor is located under the rear seat. The rear safing sensor performs the same basic function as the safing sensor in the SRS unit. It measures sideways

G force, such as the force the vehicle would receive in a side collision in the rear, and sends that information to the SRS unit. The SRS unit uses that information, and the information from the second side impact sensors to determine the side that is impacted and the force. If the threshold is met, the SRS unit deploys the side airbag, the side curtain airbag and the seat belt tensioner on that side.

**SIDE AIRBAG CUTOFF INDICATOR/ODS OPERATION**

The indicator comes on if the front passenger's seat is occupied by a small adult or child who is leaning into the deployment path, or an object (grocery bag, briefcase, purse, etc.) is in the seat. This indicates the passenger's side airbag is off and will not deploy; there is no problem with the side airbag. If the passenger sits upright or moves to another seat, or you remove the object from the seat, the light should go off. There will be some delay between the occupant's repositioning and when the indicator will turn on or off.

**PASSENGER AIRBAG CUTOFF INDICATOR**

The indicator comes on if the weight of the front passenger is about 65 lbs (30 kg) or less. This indicates the passenger's front airbag is off and will not deploy. The front airbag is shut off to reduce the chance of airbag-caused injuries.

**SRS OPERATION**

The main circuit in the SRS unit senses and judges the force of impact and, if necessary, ignites the inflator charges. If battery voltage is too low or power is disconnected due to the impact, the voltage regulator and the back-up power circuit will keep voltage at a constant level.

## For the SRS to operate:

**Seat Belt Tensioners and Seat Belt Buckle Tensioners**

1. A front impact sensor, side impact sensor, or the rear safing sensor must activate and send electric signals to the microprocessor.
2. The microprocessor must compute the signals and send them to the tensioners.
3. The charges must ignite and deploy the tensioners.

**Driver's and Front Passenger's Airbag(s)**

1. A front impact sensor must activate and send electric signals to the microprocessor.
2. The microprocessor must compute the signals and send them to the airbag inflator(s).
3. The inflators that receives signals must ignite and deploy the airbags.

**Side Airbag(s)**

1. Aside impact sensor must activate and send electric signals to the microprocessor.
2. The microprocessor must compute the signals and send them to the side airbag inflator(s). However, the microprocessor cuts off the signals to the front passenger's side airbag if the SRS unit determines that the front passenger's head is in the deployment path of the side airbag.
3. The inflator that receives the signal must ignite and deploy the side airbag.

**Side Curtain Airbag(s)**

1. Side impact sensor or the rear safing sensor must activate, and send electrical signals to the microprocessor.
2. The microprocessor must compute the signals and send them to the side curtain airbag and side airbag inflator(s).
3. The inflator that receives the signals must ignite and deploy the side curtain airbag and side airbag at the same time.

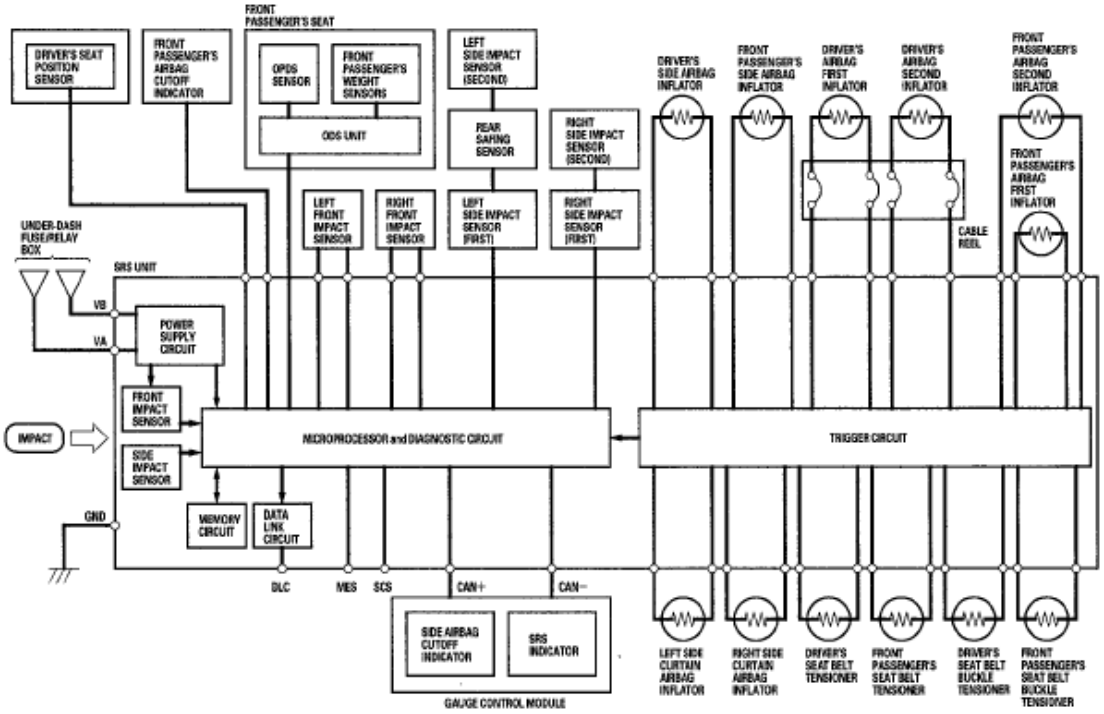



**Fig. 43: SRS - Wiring Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Self-diagnostic System**

A self-diagnostic circuit is built into the SRS unit; when the ignition switch is turned ON (II), the SRS indicator comes on and goes off after about 6 seconds if the system is operating normally.

If the indicator does not come on, or does not go off after 6 seconds, or if it comes on while driving, it indicates an abnormality in the system. The system must be inspected and repaired as soon as possible.

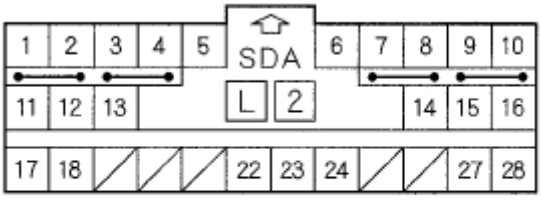
For better serviceability, the SRS unit memory stores a DTC that relates to the cause of the malfunction, and the unit is connected to the data link connector (DLC). This information can be read with the HDS when it is connected to the DLC (see **GENERAL TROUBLESHOOTING INFORMATION**).

**NOTE: Before you disconnect the negative cable from the battery for troubleshooting, make sure you have the anti-theft code for the audio system or the navigation system (if equipped).**

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**SRS UNIT INPUTS AND OUTPUTS AT CONNECTOR A (28P)**




Wire side of female terminals

## Fig. 44: Identifying SRS Unit Connector A (28P) Terminals
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

## CONNECTOR TERMINALS DESCRIPTION

| Terminal Number | Wire Color | Terminal Name | Description |
|---|---|---|---|
| 1 | GRN | LA2+ | Power source for driver's airbag second inflator |
| 2 | PUR | LA2- | Ground for driver's airbag second inflator |
| 3 | LT GRN | RA2+ | Power source for front passenger's airbag second inflator |
| 4 | LT BLU | RA2- | Ground for front passenger's airbag second inflator |
| 5 | LT GRN | MES | Memory clear signal input |
| 6 | ORN | SCS | Service check signal input |
| 7 | LT BLU | LA1+ | Power source for driver's airbag first inflator |
| 8 | BRN | LA1- | Ground for driver's airbag first inflator |

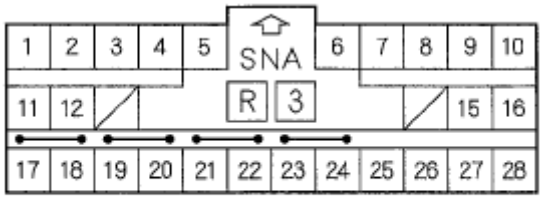
| | | | |
|---|---|---|---|
| 9 | YEL | RA1+ | Power source for front passenger's airbag first inflator |
| 10 | BLU | RA1- | Ground for front passenger's airbag first inflator |
| 11 | WHT | CAN HI | Sends and receives communication signal |
| 12 | RED | CAN LO | Sends and receives communication signal |
| 13 | BLU | PTT | Passenger's airbag cutoff indicator output line |
| 14 | GRN | ODS | Sends and receives communication signal |
| 15 | BRN | LFS- | Ground for left front impact sensor |
| 16 | LT BLU | RFS- | Ground for right front impact sensor |
| 17 | YEL | VA | SRS system sub power (common with ODS) |
| 18 | RED | VB | SRS dedicated power (dedicated booster circuit) |
| 22 | BLK | SRS GND (1) | Ground circuit for the SRS |
| 23 | BLK | SRS GND (2) | Ground circuit for the SRS |
| 24 | LT BLU | K-LINE | Sends and receives scan tool signal |
| 27 | RED | LFS+ | Power source for left front impact sensor |
| 28 | GRN | RFS+ | Power source for right front impact sensor |

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**NOTE: All the wire colors in this table may be BLU or BRN.**

**SRS UNIT INPUTS AND OUTPUTS AT CONNECTOR B (28P)**




Wire side of female terminals

**Fig. 45: Identifying SRS Unit Connector B (28P) Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CONNECTOR TERMINALS DESCRIPTION

| Terminal Number | Wire Color | Terminal Name | Description |
|---|---|---|---|
| 1 | RED | LRP+ | Power source for driver's seat belt tensioner |
| 2 | BRN | LRP- | Ground for driver's seat belt tensioner |
| 3 | GRN | RRP+ | Power source for front passenger's seat belt tensioner |
| 4 | LT BLU | RRP- | Ground for front passenger's seat belt tensioner |
| 5 | GRY | SS- | Ground for driver's seat position sensor |
| 6 | LT GRN | SS+ | Power source for driver's seat position sensor |
| 7 | ORN | LBP+ | Power source for driver's buckle |

| | | | |
|---|---|---|---|
| | | | tensioner |
| 8 | GRN | LBP- | Ground for driver's buckle tensioner |
| 9 | YEL | RBP+ | Power source for front passenger's buckle tensioner |
| 10 | WHT | RBP- | Ground for front passenger's buckle tensioner |
| 11 | YEL | LBSC | Driver's seat belt buckle switch un-buckled signal |
| 12 | LT GRN | LBSO | Driver's seat belt buckle switch buckled signal |
| 15 | BLU | RBSC | Front passenger's seat belt buckle switch un-buckled signal |
| 16 | ORN | RBSO | Front passenger's seat belt buckle switch buckled signal |
| 17 | GRN | LSA+ | Power source for driver's side airbag inflator |
| 18 | RED | LSA- | Ground for driver's side airbag inflator |
| 19 | WHT | RSA+ | Power source for front passenger's side airbag inflator |
| 20 | BLU | RSA- | Ground for front passenger's side airbag inflator |

| | | | |
|---|---|---|---|
| 21 | BRN | LCA1+ | Power source for left side curtain airbag inflator |
| 22 | BLU | LCA1- | Ground for left side curtain airbag inflator |
| 23 | GRY | RCA1+ | Power source for right side curtain airbag inflator |
| 24 | RED | RCA1- | Ground for right side curtain airbag inflator |
| 25 | PNK | LBS1+ | Power source for left side impact sensor (first), left side impact sensor (second), and rear safing sensor |
| 26 | BLU | LBS1- | Ground for left side impact sensor (first), left side impact sensor (second), and rear safing sensor |
| 27 | BRN | RBS1+ | Power source for right side impact sensor (first), right side impact sensor (second) |
| 28 | YEL | RBS1- | Ground for right side impact sensor (first), right side impact sensor (second) |

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**NOTE: All the wire colors in this table may be BLU or BRN.**

## CIRCUIT DIAGRAM

## 4-door ('06 model)

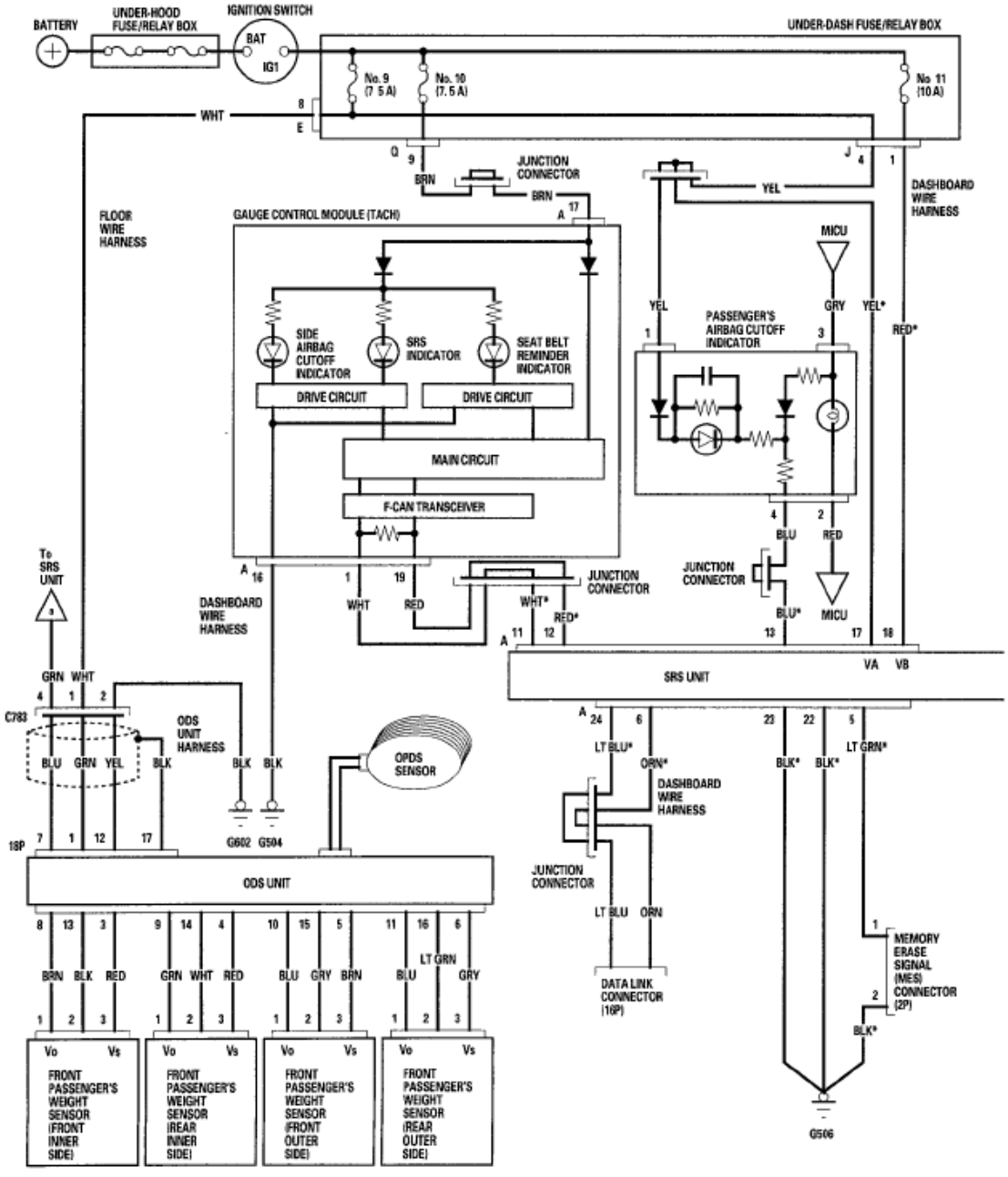



**Fig. 46: SRS - Circuit Diagram - 4-Door (06 Model) (1 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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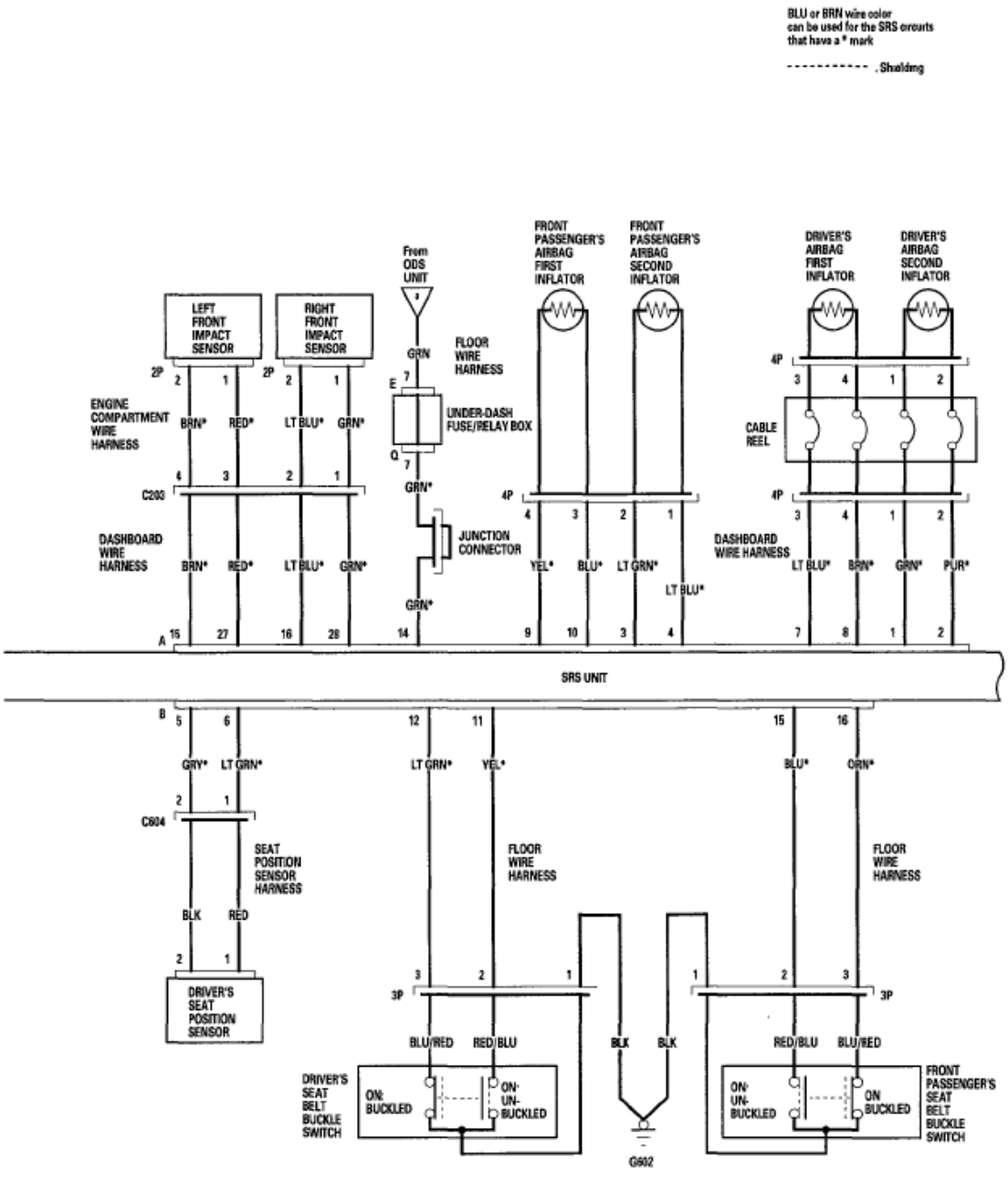



**Fig. 47: SRS - Circuit Diagram - 4-Door (06 Model) (2 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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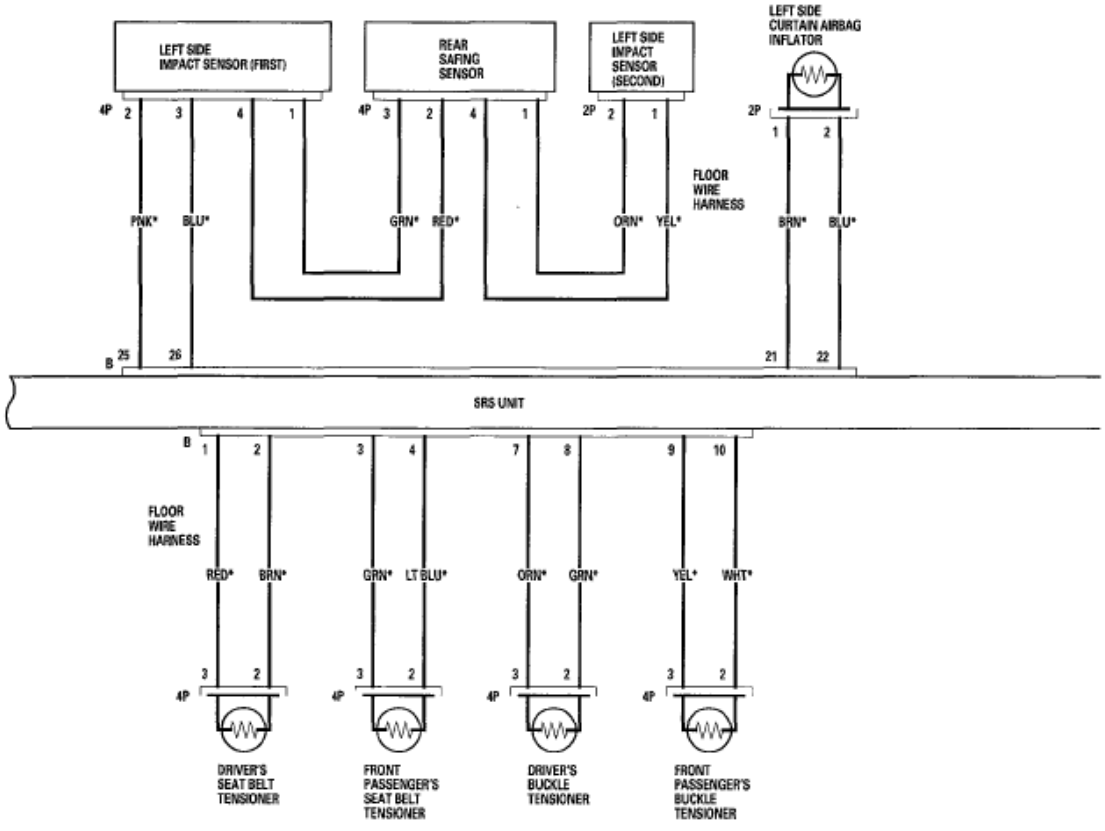



**Fig. 48: SRS - Circuit Diagram - 4-Door (06 Model) (3 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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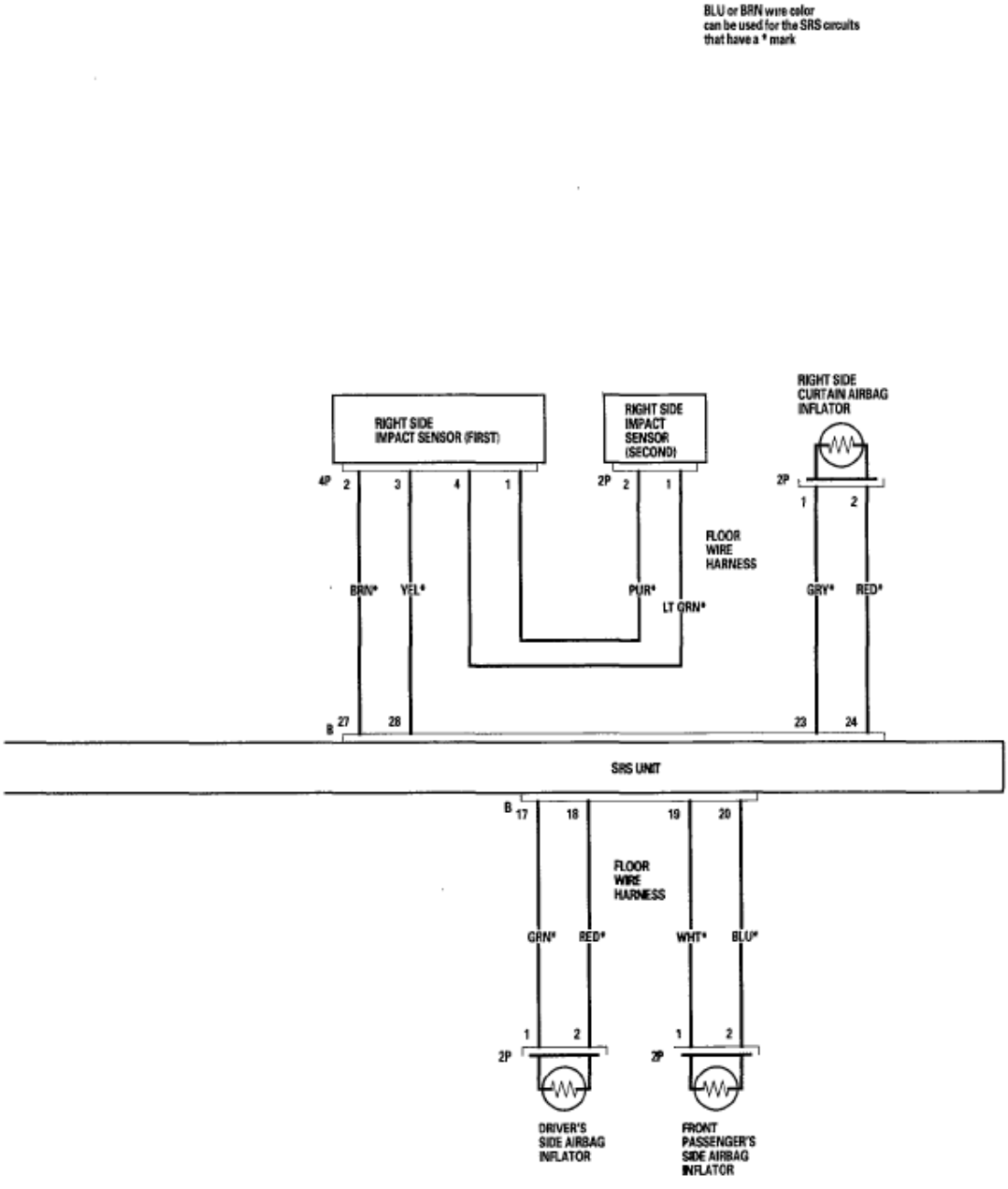



**Fig. 49: SRS - Circuit Diagram - 4-Door (06 Model) (4 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 4-door ('07 model)

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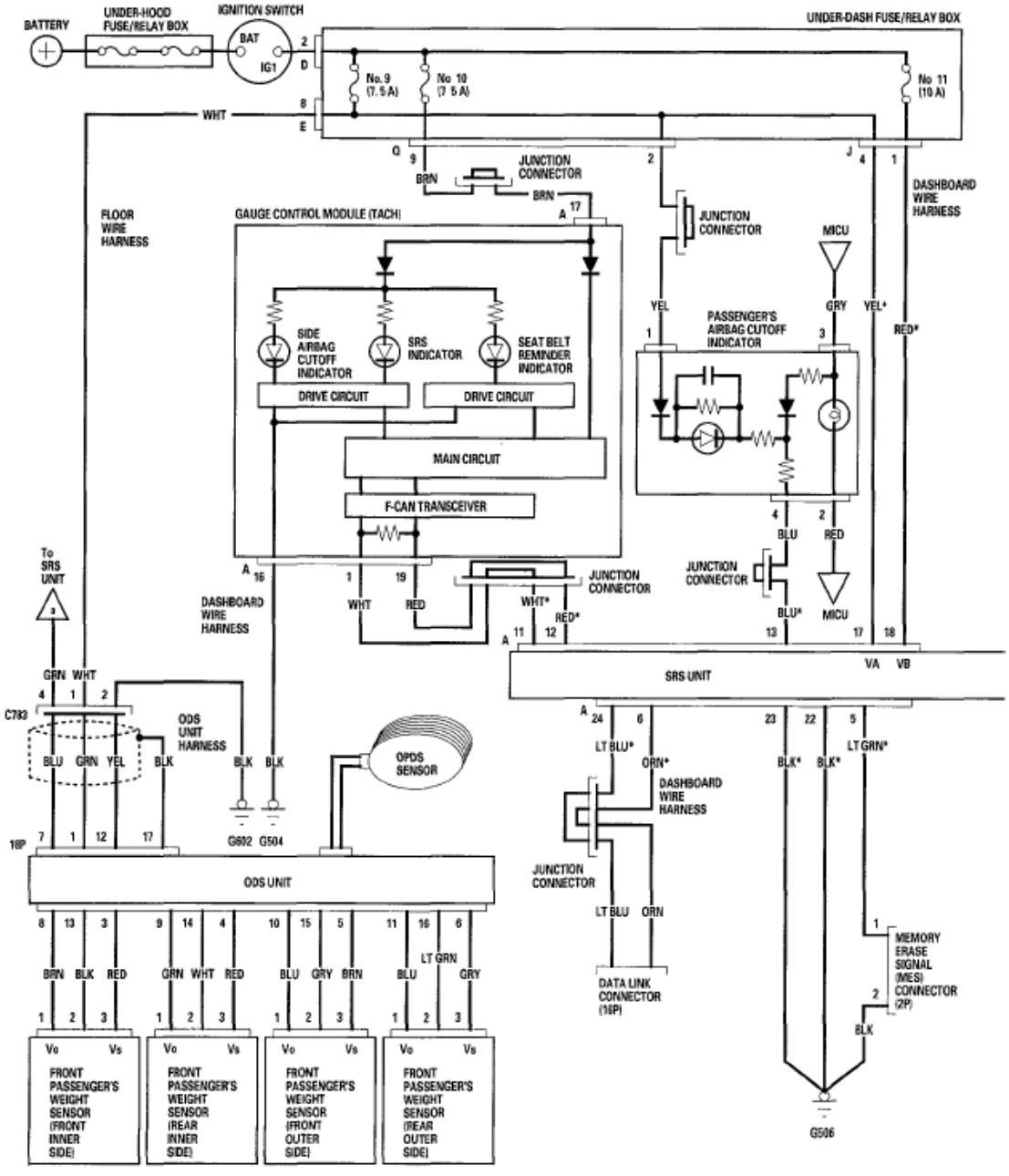



**Fig. 50: SRS - Circuit Diagram - 4-Door (07 Model) (1 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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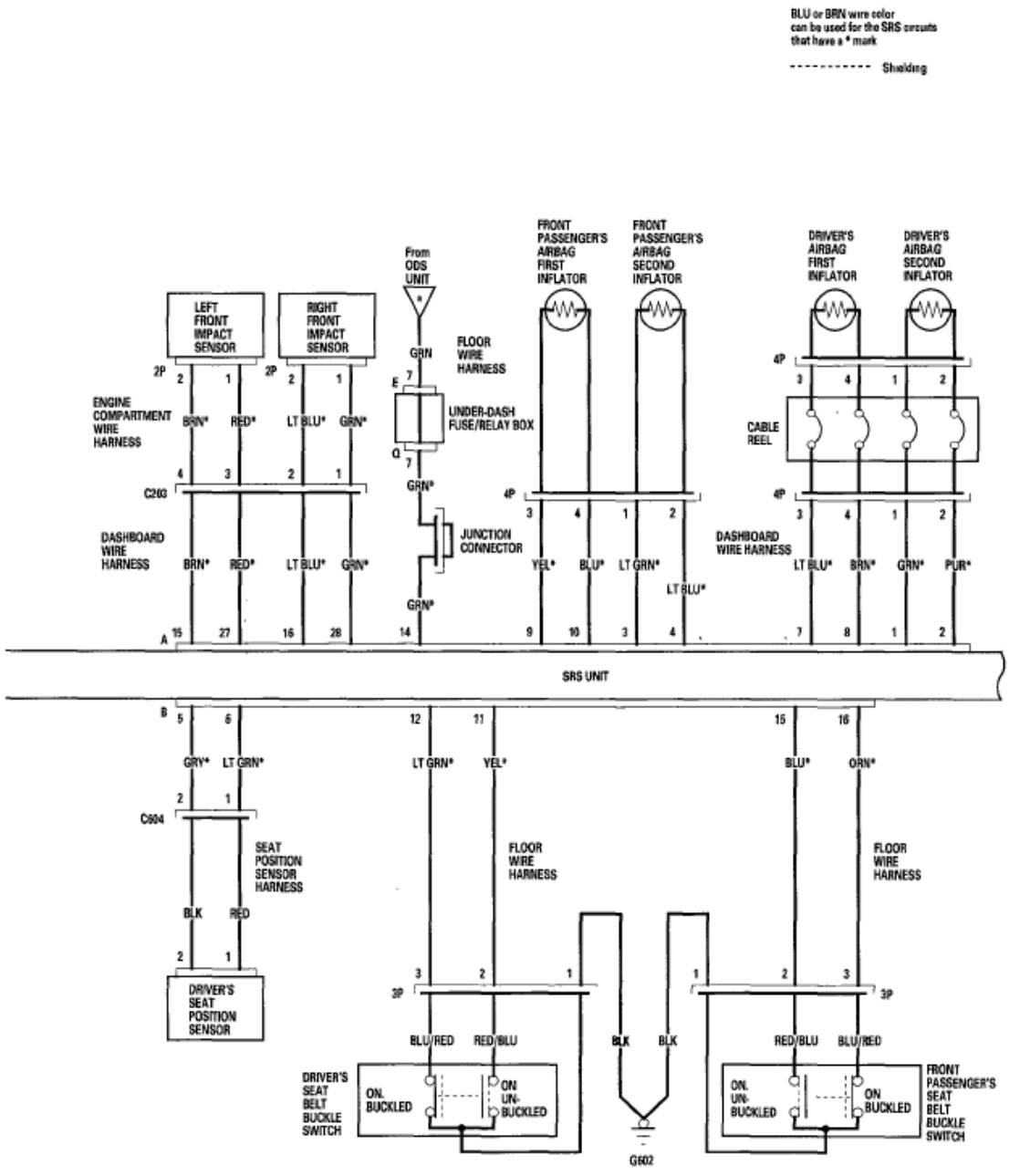



**Fig. 51: SRS - Circuit Diagram - 4-Door (07 Model) (2 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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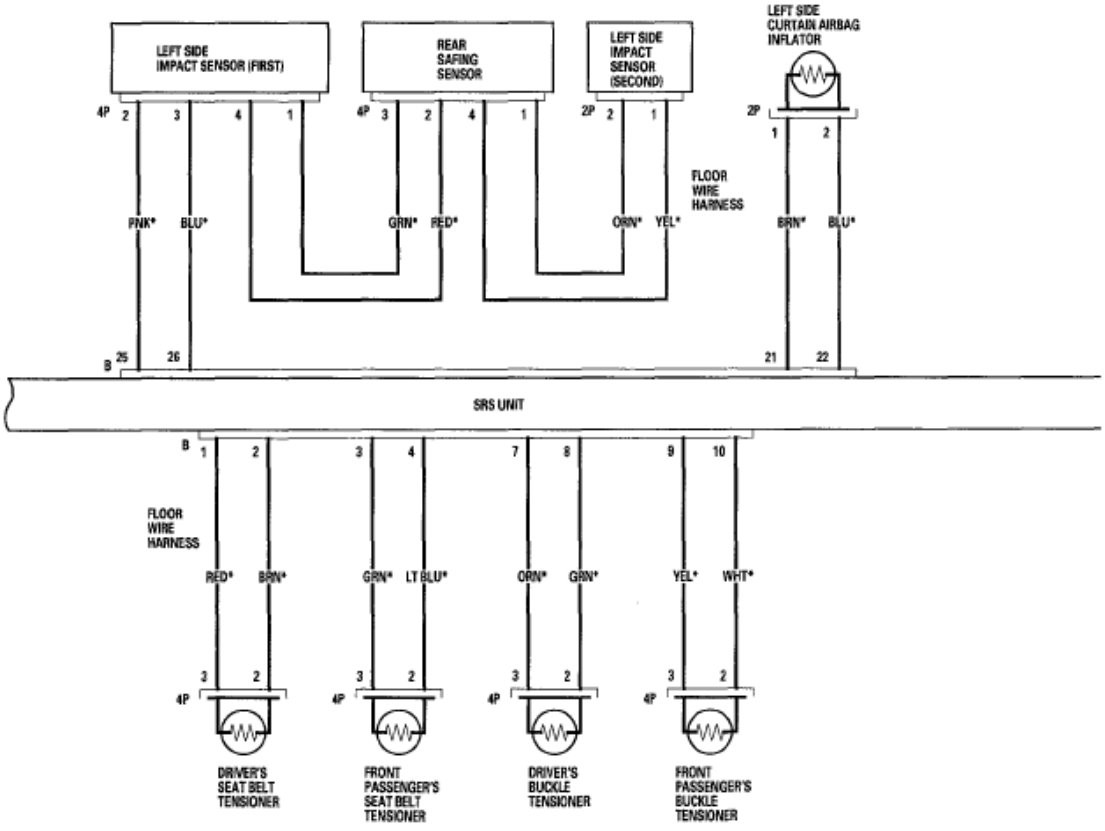



**Fig. 52: SRS - Circuit Diagram - 4-Door (07 Model) (3 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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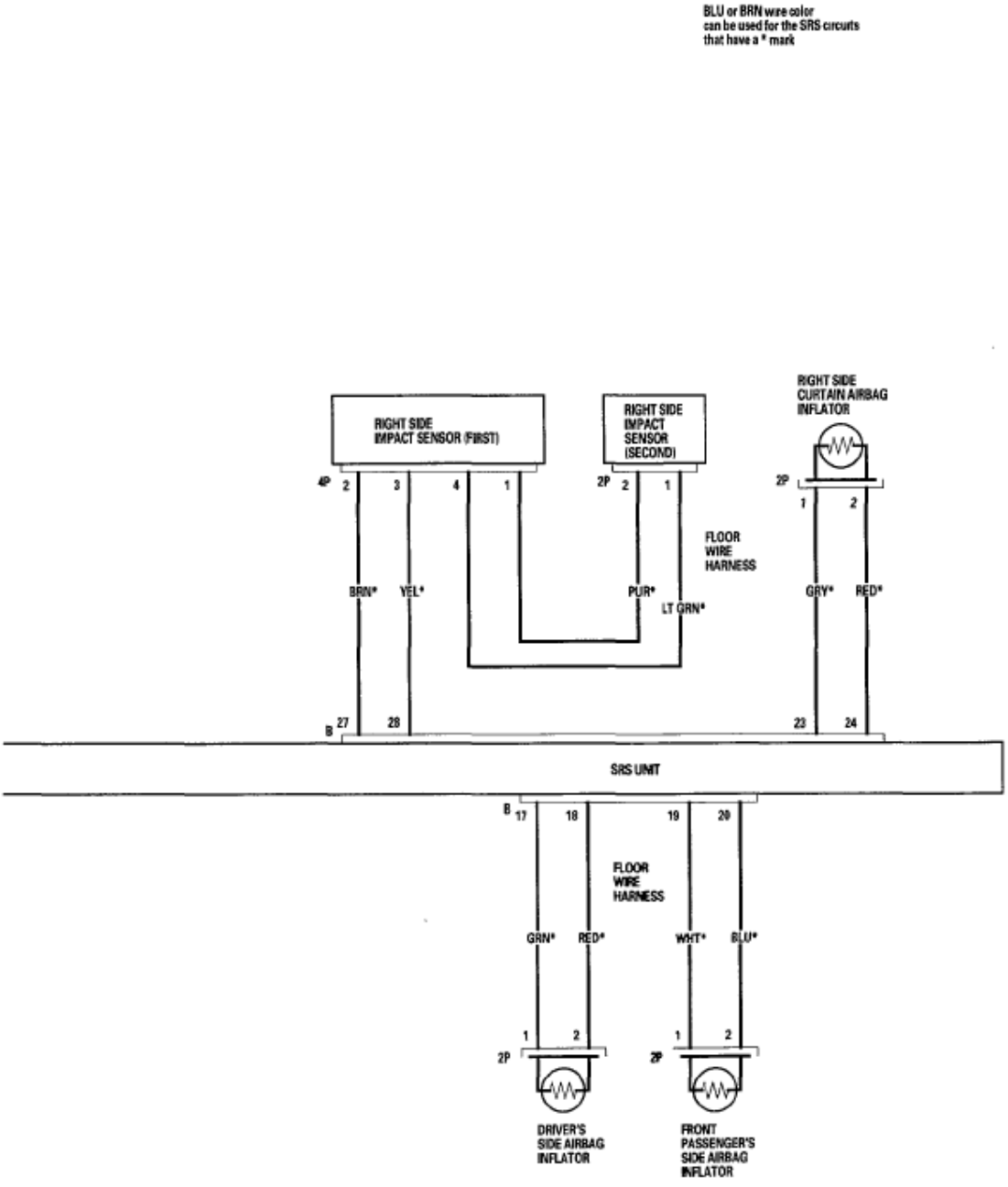



**Fig. 53: SRS - Circuit Diagram - 4-Door (07 Model) (4 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 4-door ('08 model)

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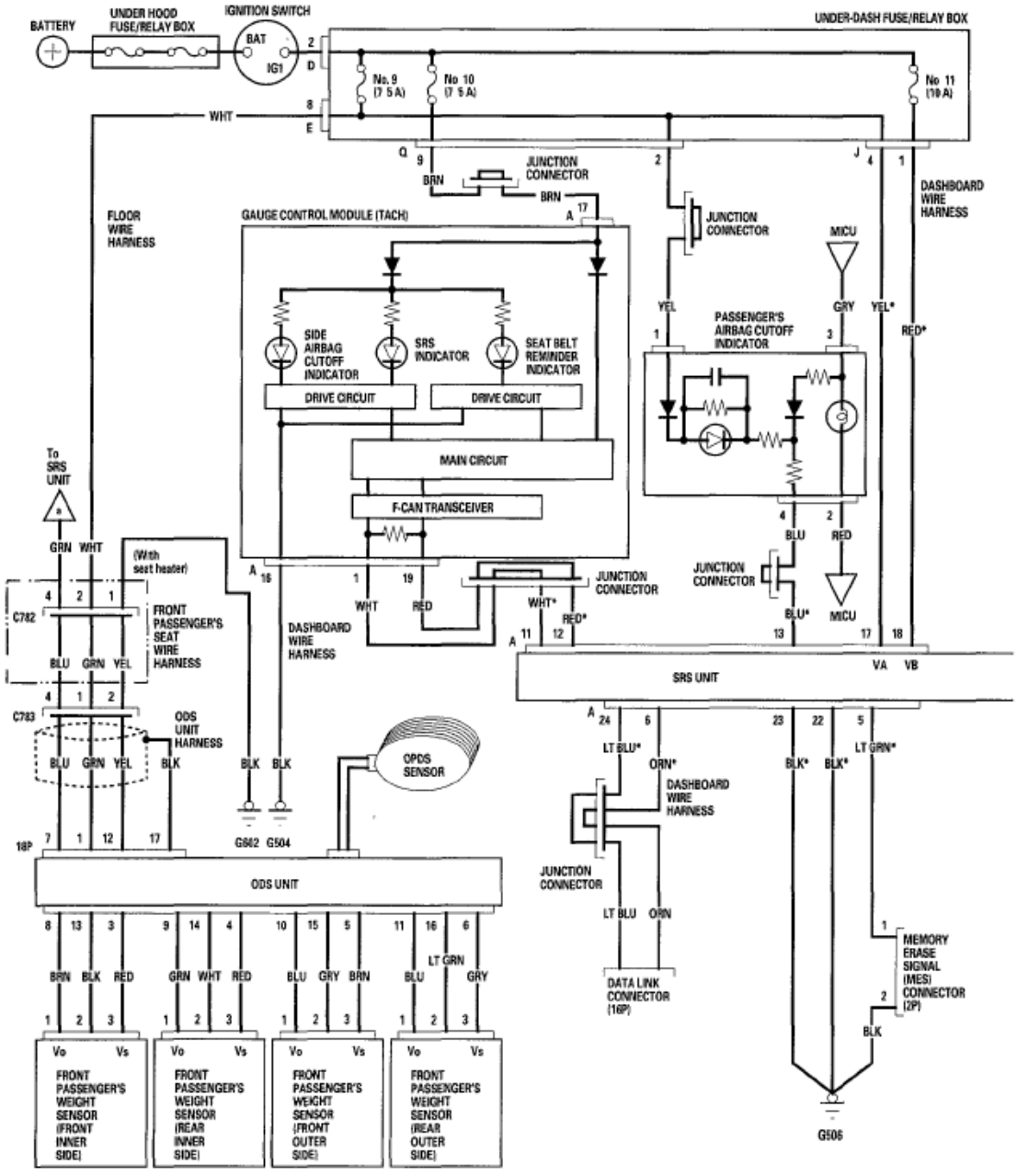



**Fig. 54: SRS - Circuit Diagram - 4-Door (08 Model) (1 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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# 2008 Honda Civic EX

2006-08 RESTRAINTS SRS (Supplemental Restraint System) - Civic (Except Hybrid)

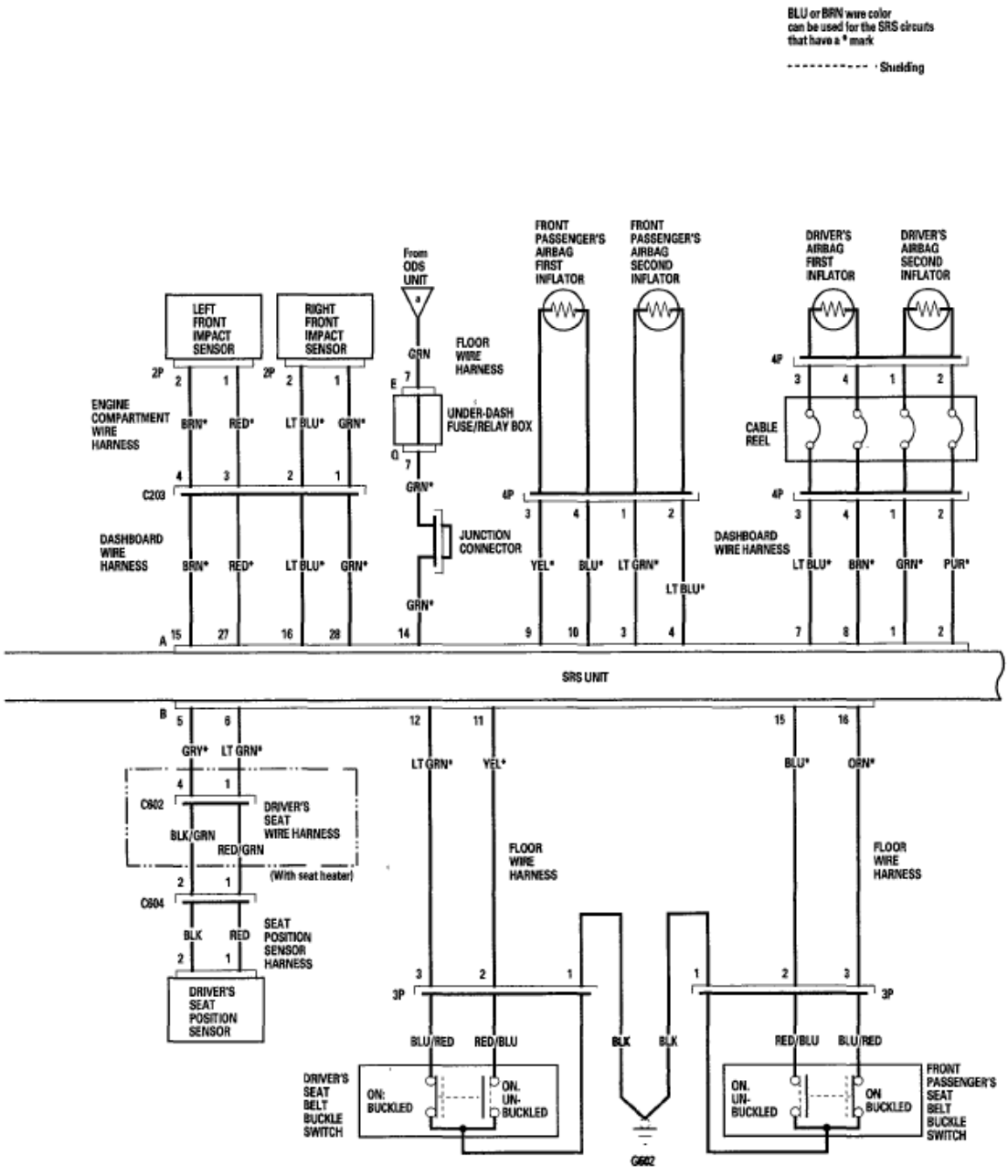



**Fig. 55: SRS - Circuit Diagram - 4-Door (08 Model) (2 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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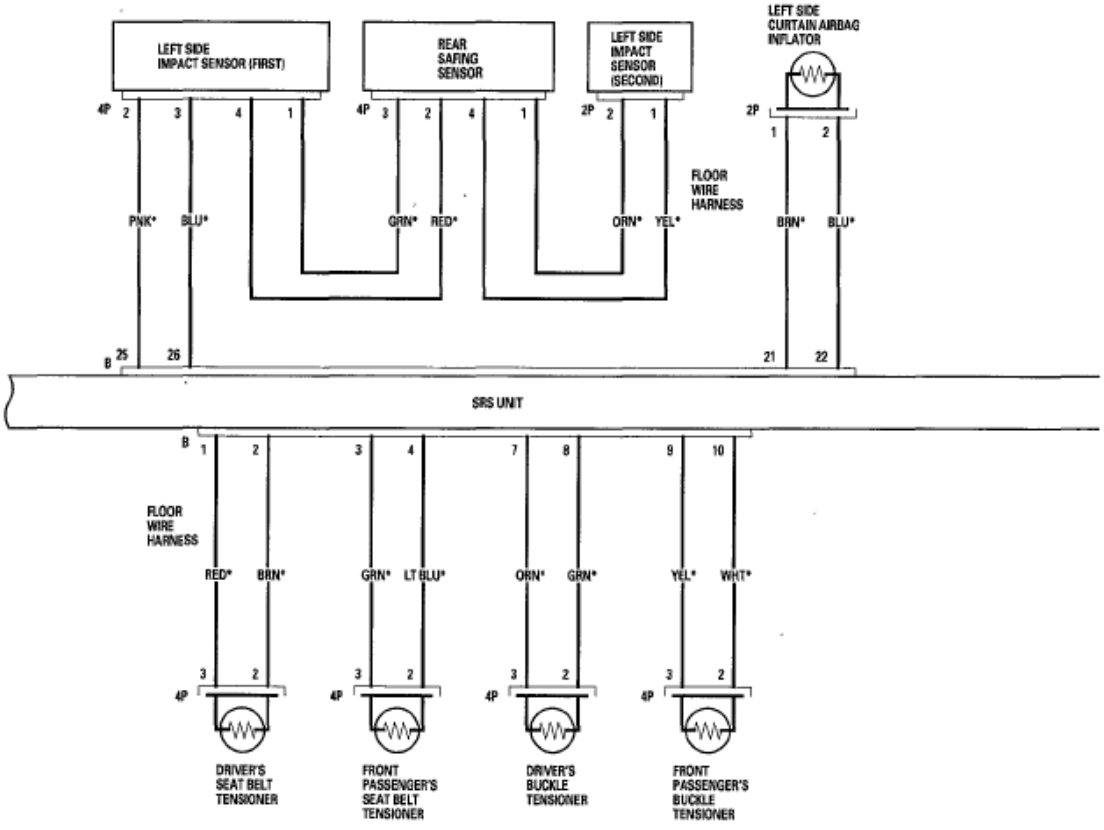



**Fig. 56: SRS - Circuit Diagram - 4-Door (08 Model) (3 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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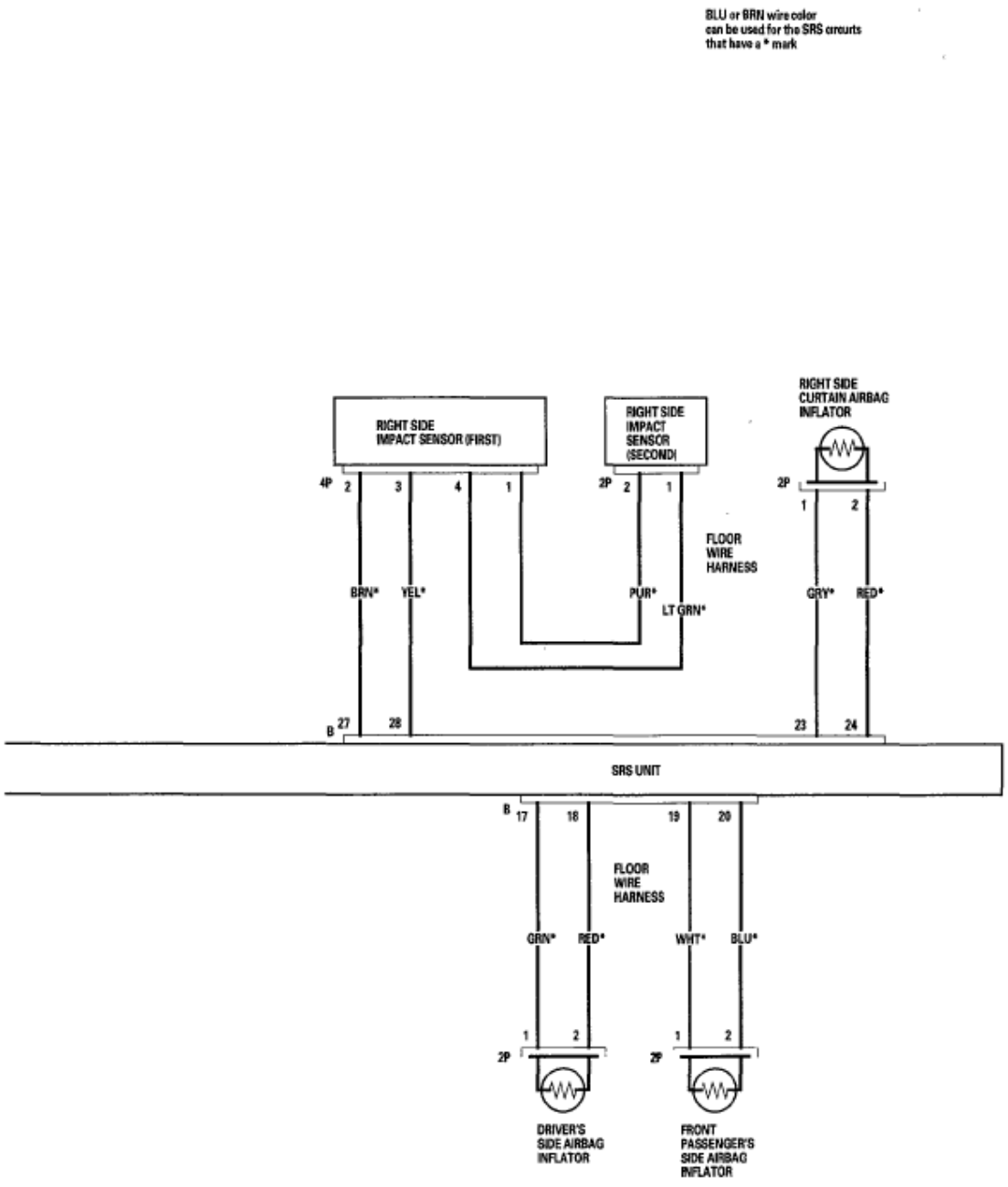



**Fig. 57: SRS - Circuit Diagram - 4-Door (08 Model) (4 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 2-door ('06 model)

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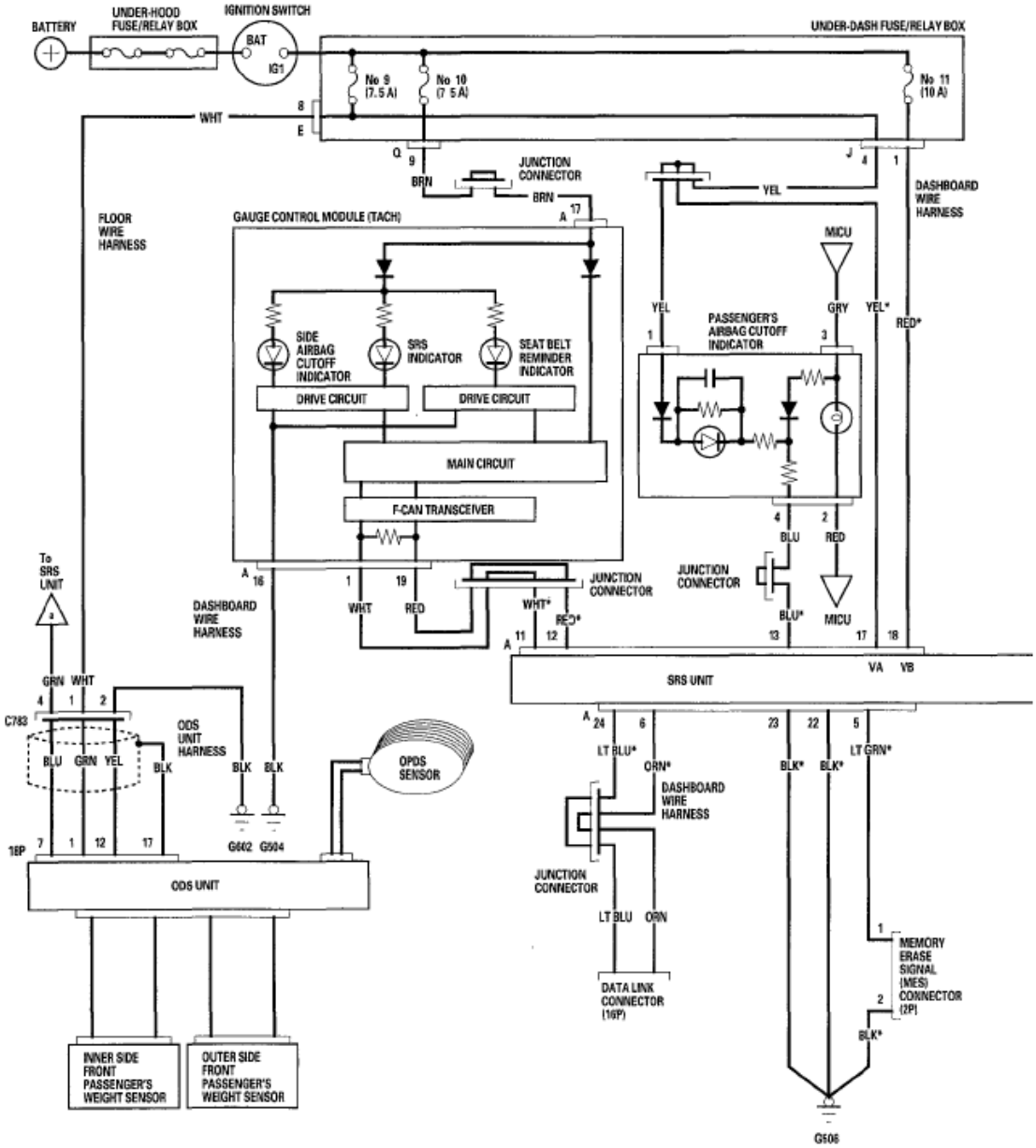



**Fig. 58: SRS - Circuit Diagram - 2-Door (06 Model) (1 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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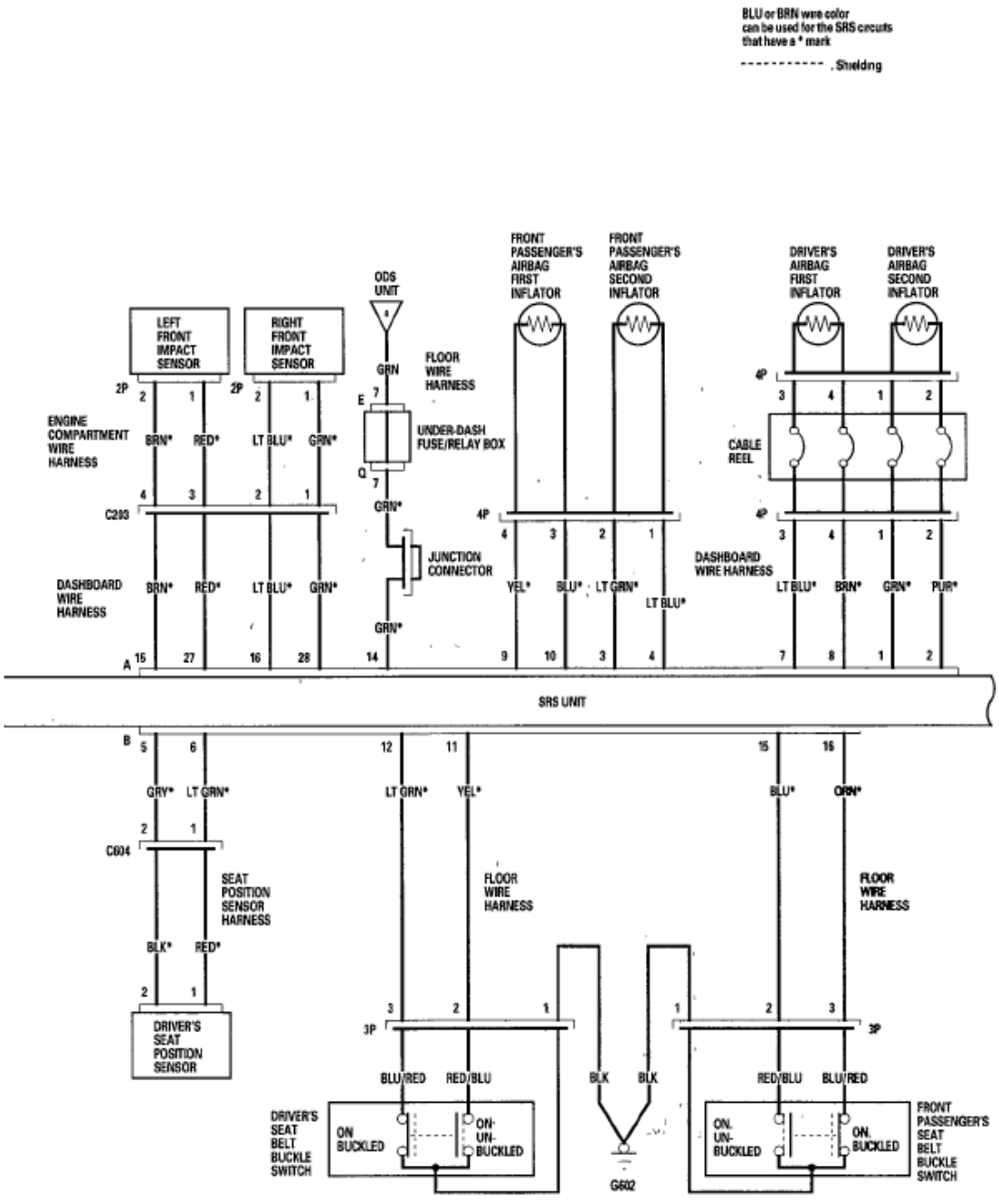



**Fig. 59: SRS - Circuit Diagram - 2-Door (06 Model) (2 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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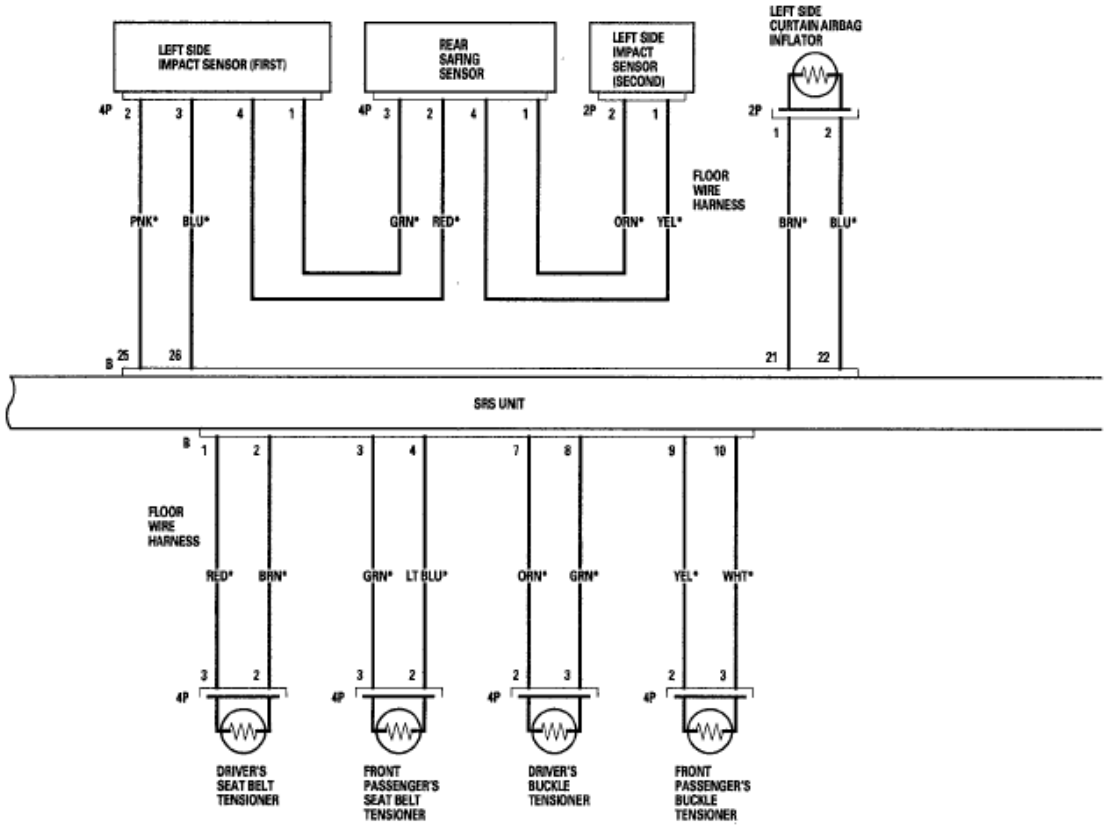



**Fig. 60: SRS - Circuit Diagram - 2-Door (06 Model) (3 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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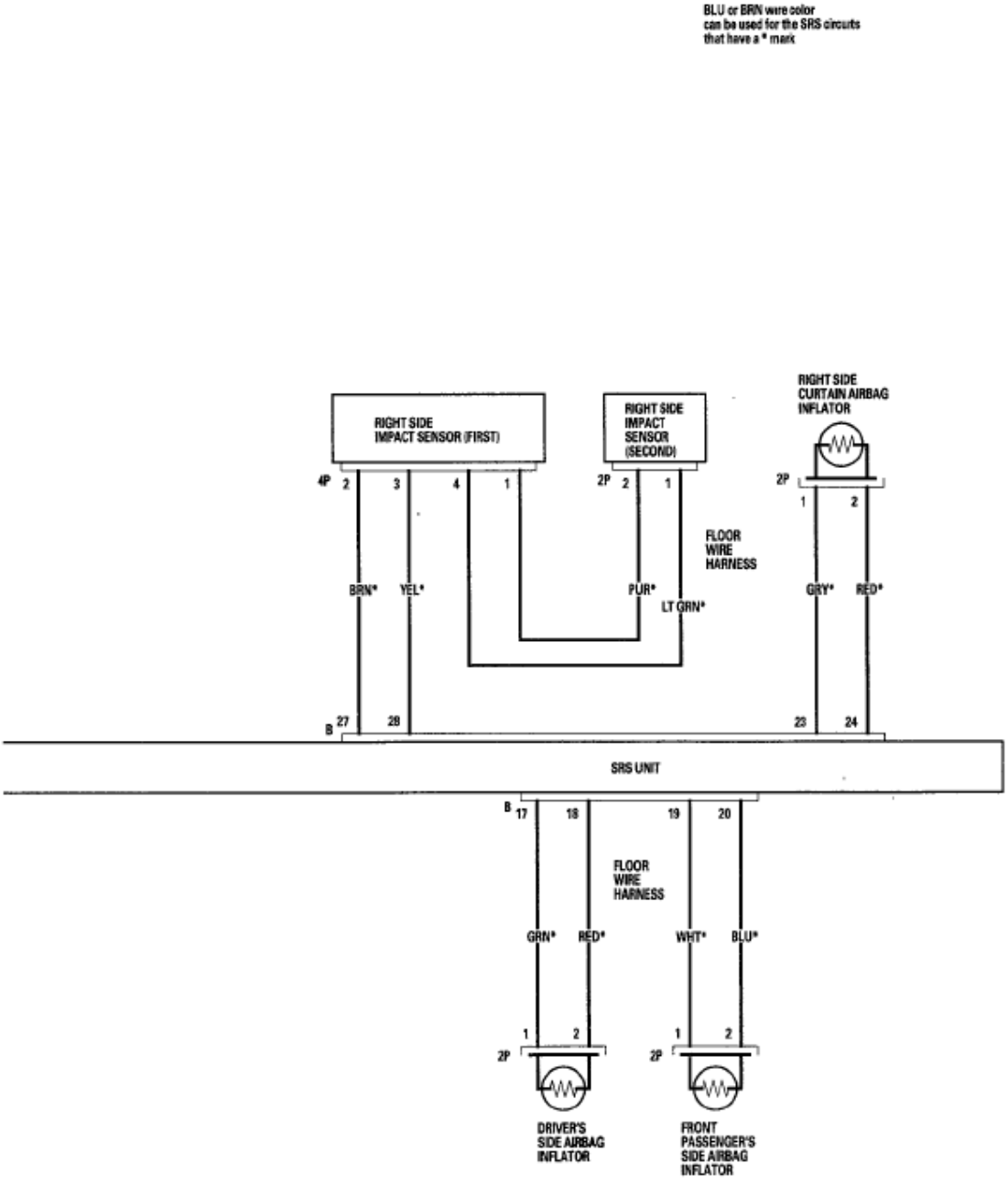



**Fig. 61: SRS - Circuit Diagram - 2-Door (06 Model) (4 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 2-door ('07 model)

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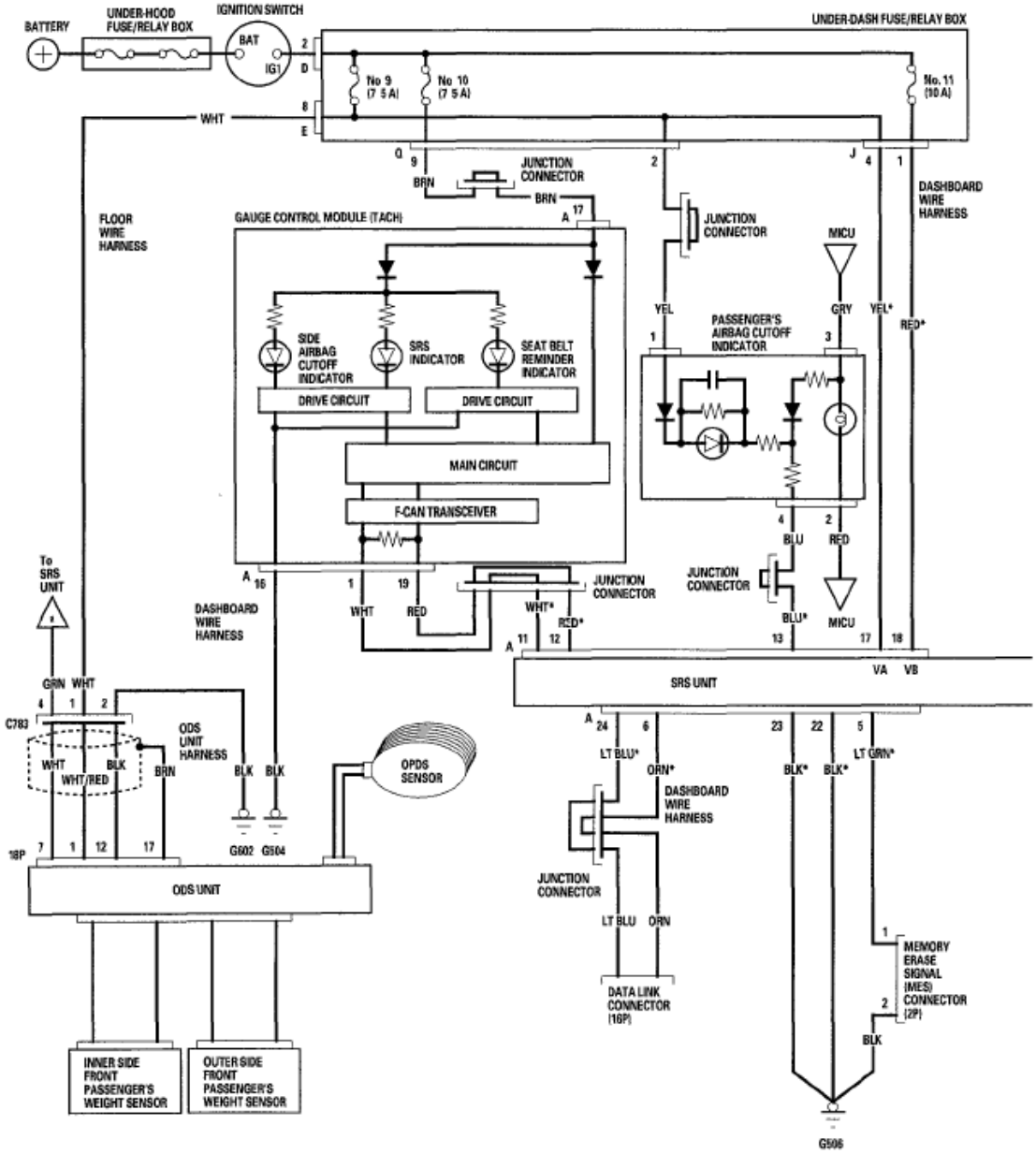



**Fig. 62: SRS - Circuit Diagram - 2-Door (07 Model) (1 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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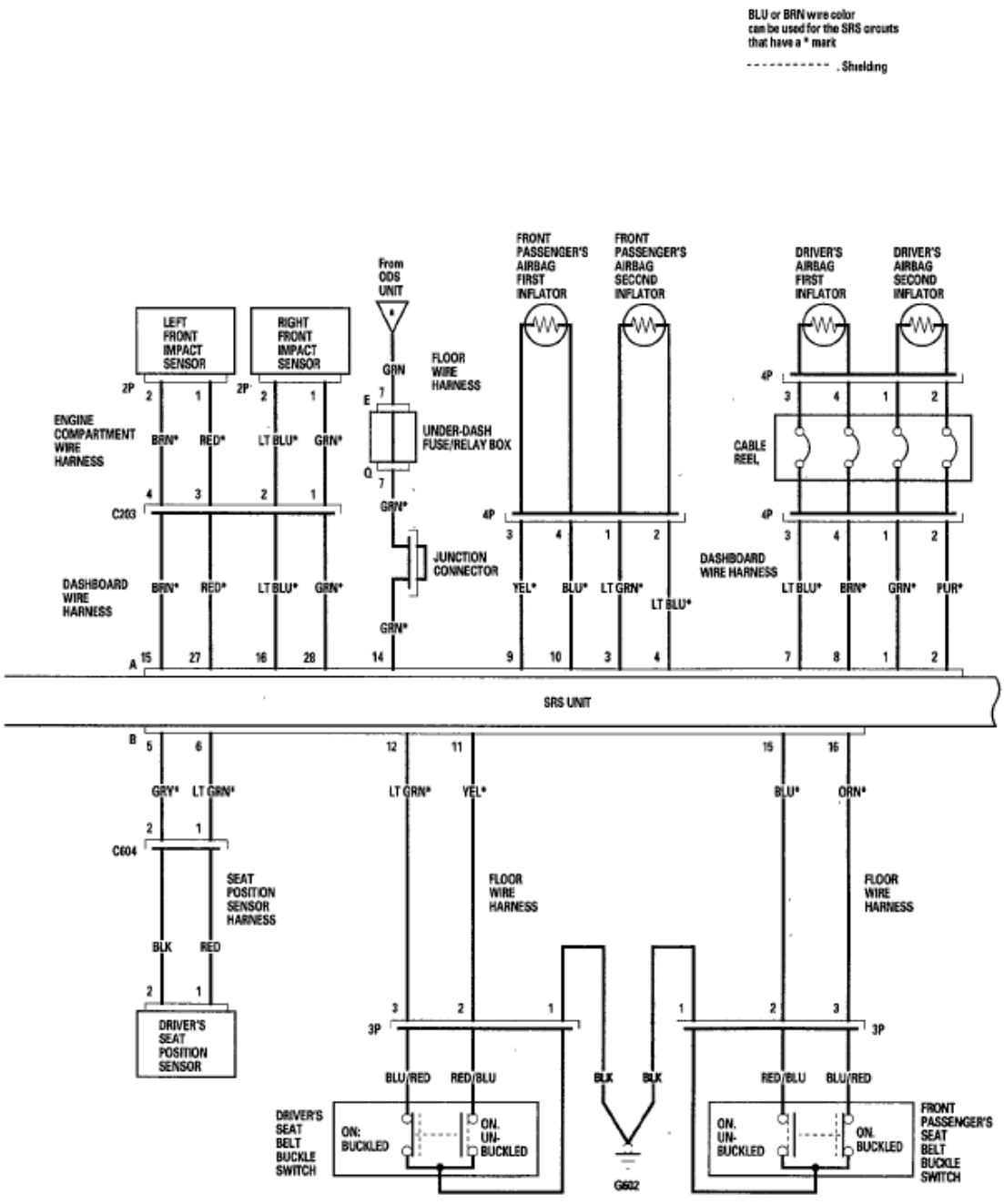



**Fig. 63: SRS - Circuit Diagram - 2-Door (07 Model) (2 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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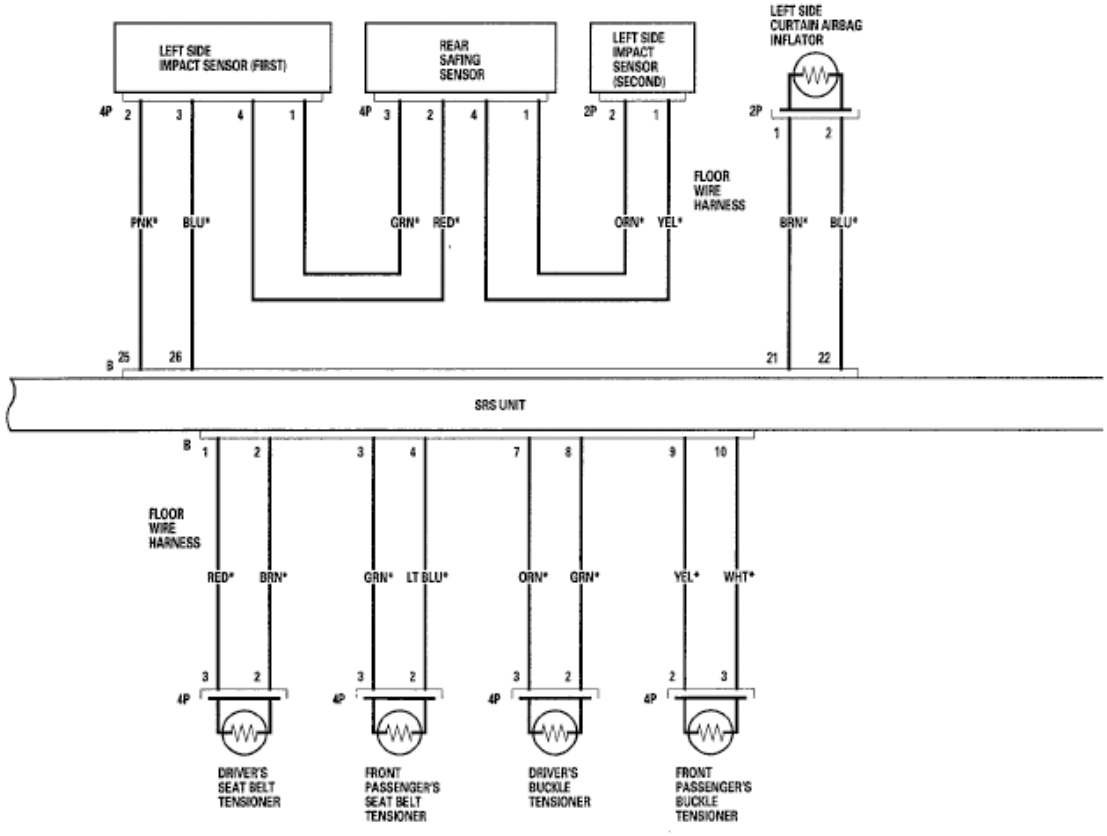



**Fig. 64: SRS - Circuit Diagram - 2-Door (07 Model) (3 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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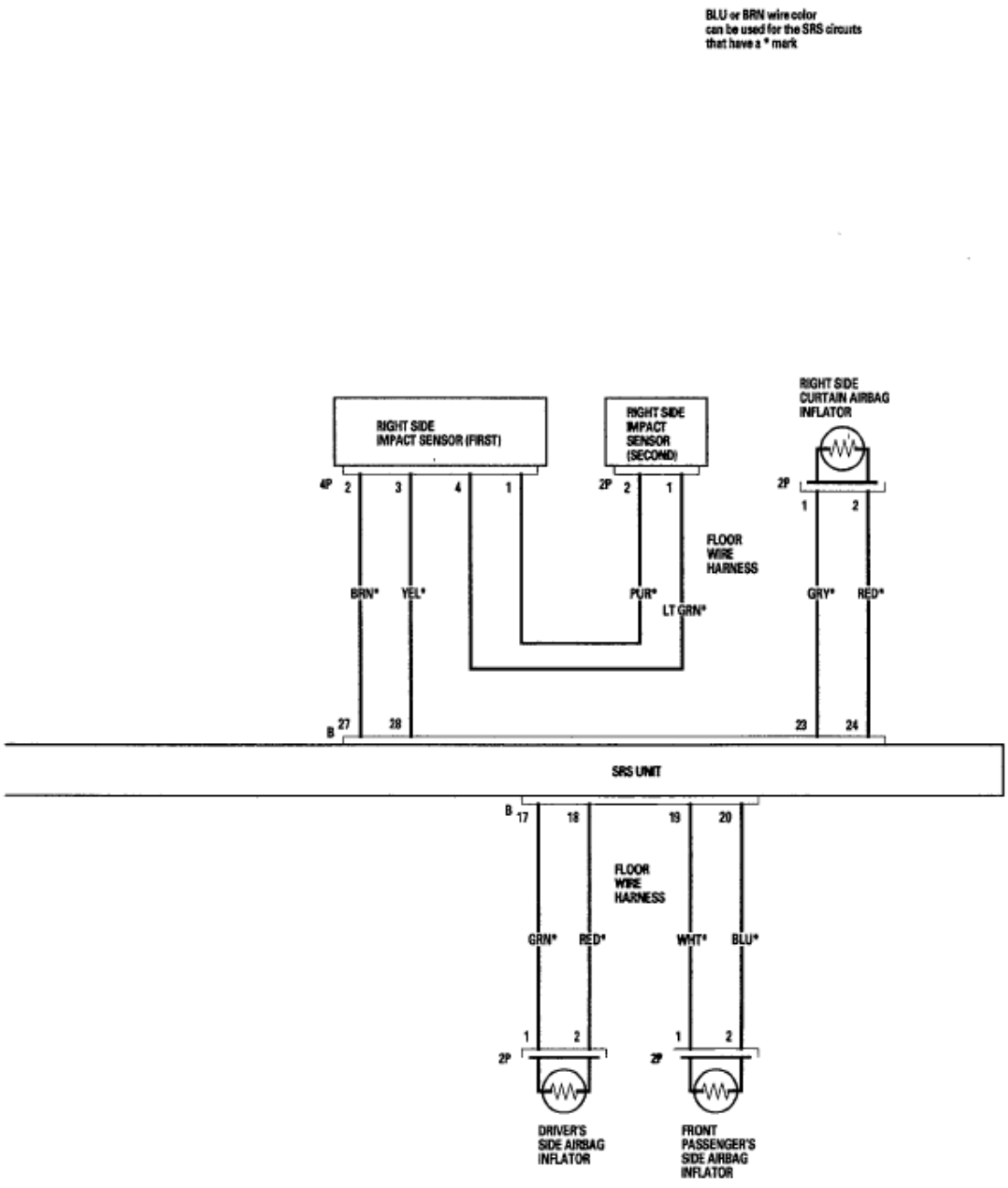



**Fig. 65: SRS - Circuit Diagram - 2-Door (07 Model) (4 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 2-door ('08 model)

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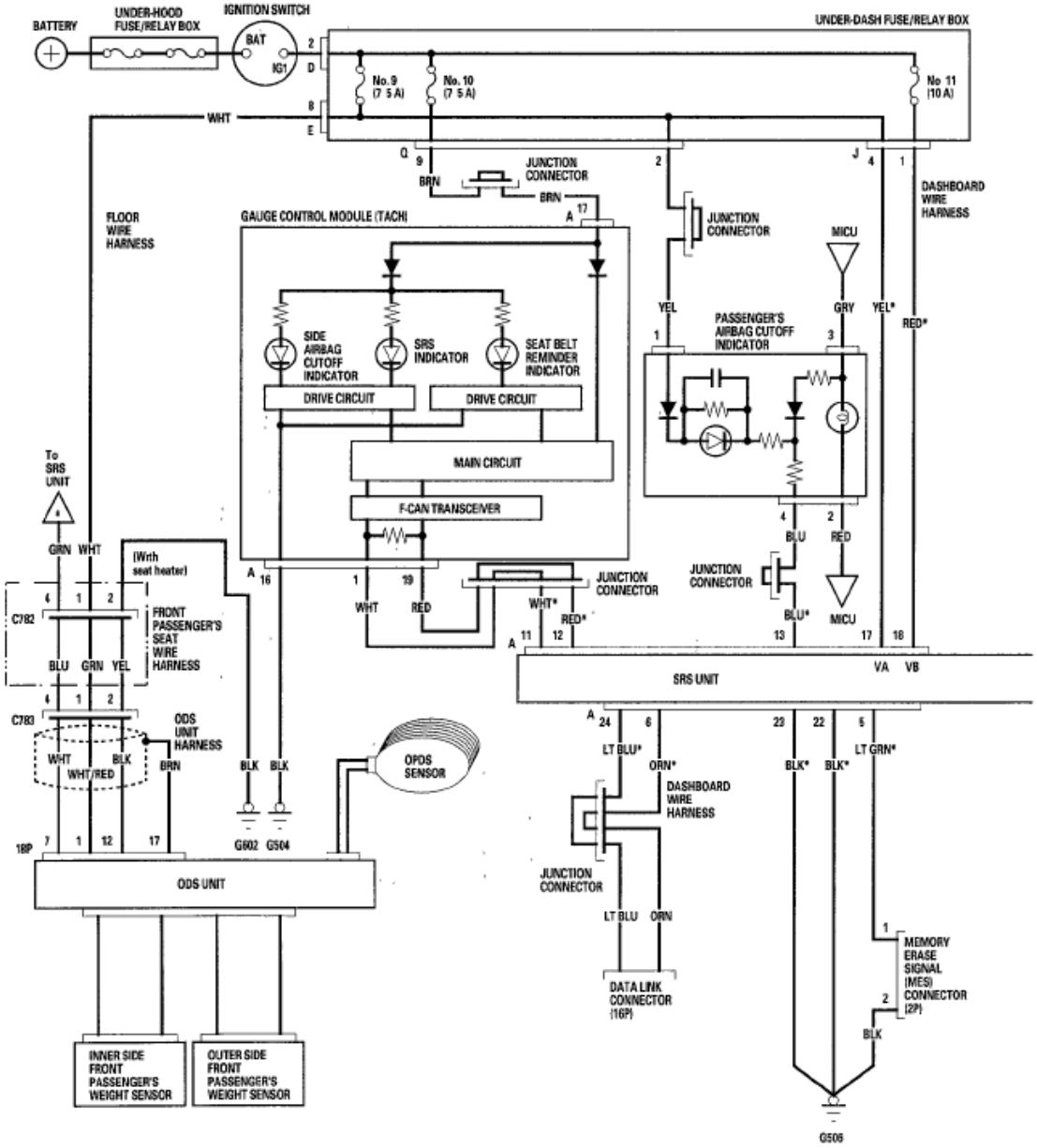



**Fig. 66: SRS - Circuit Diagram - 2-Door (08 Model) (1 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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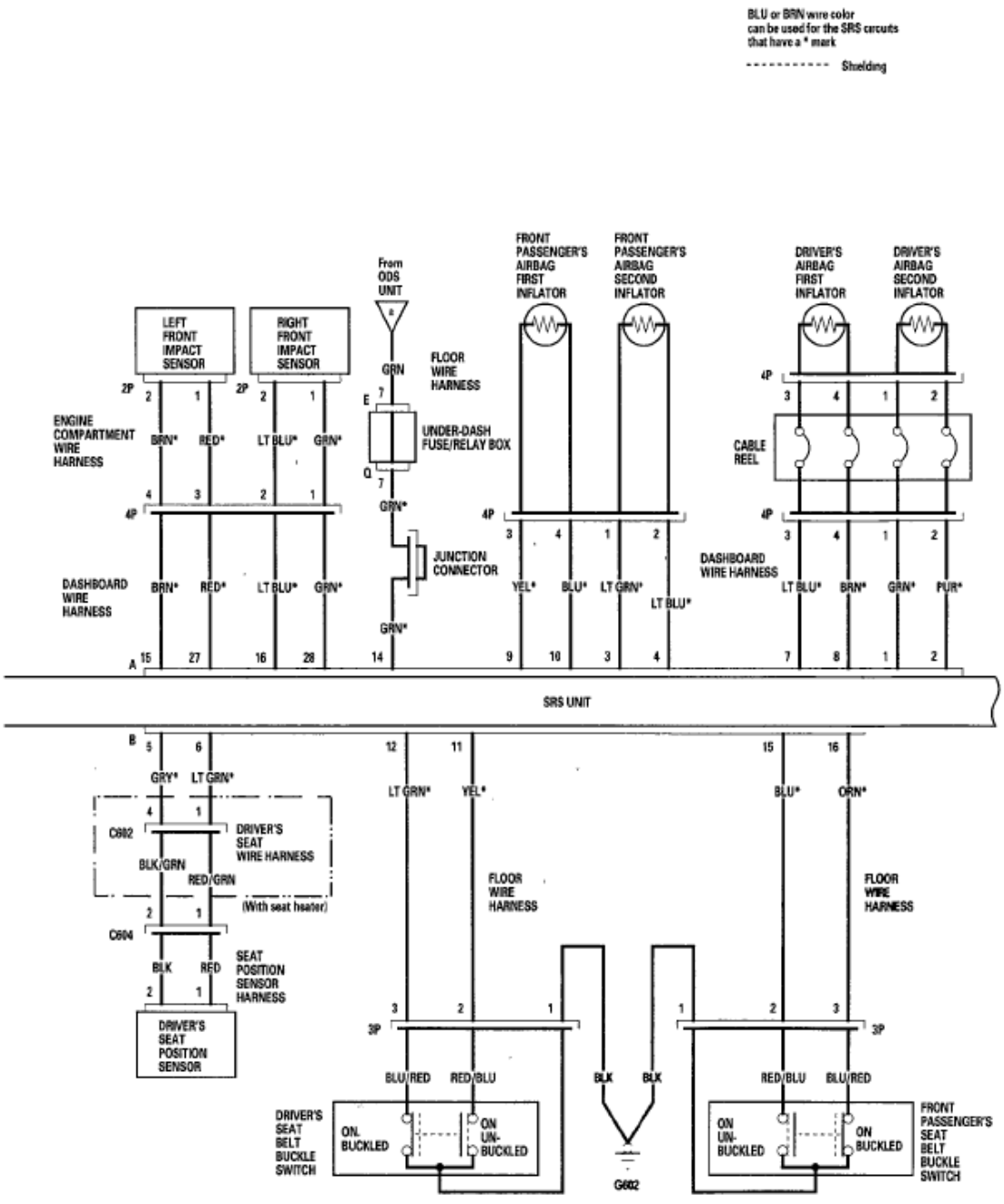



**Fig. 67: SRS - Circuit Diagram - 2-Door (08 Model) (2 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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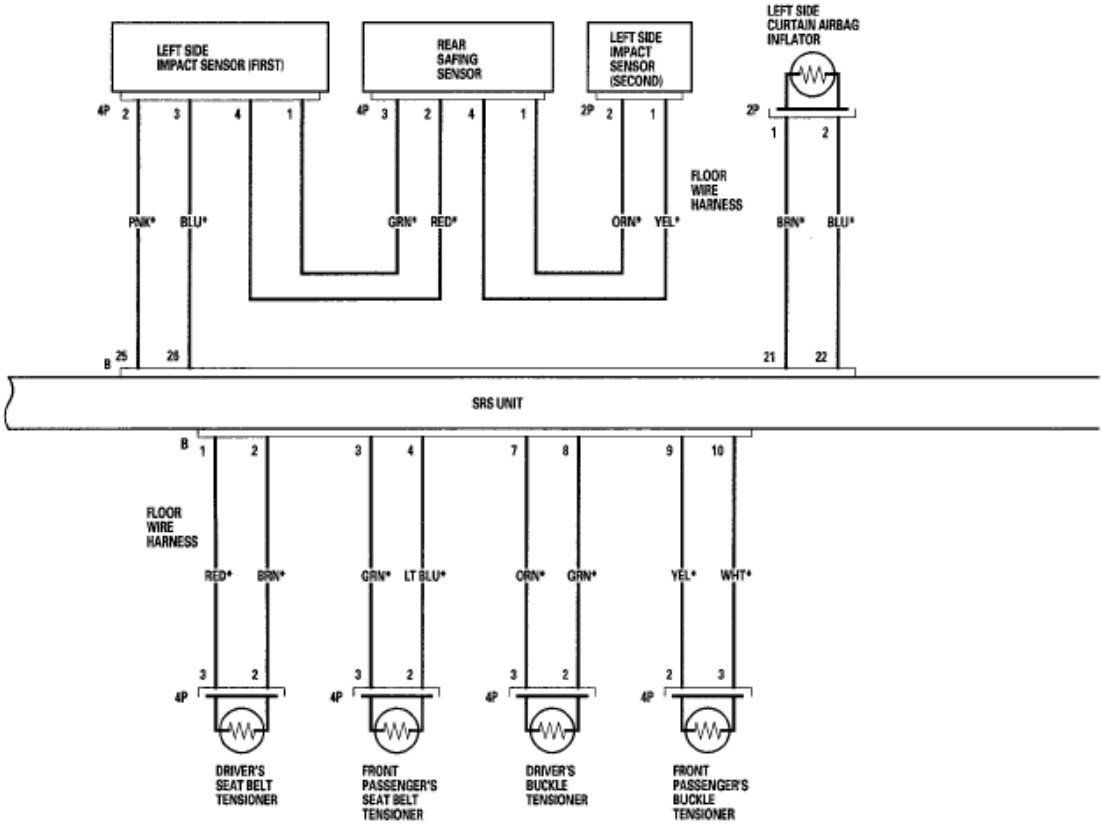



**Fig. 68: SRS - Circuit Diagram - 2-Door (08 Model) (3 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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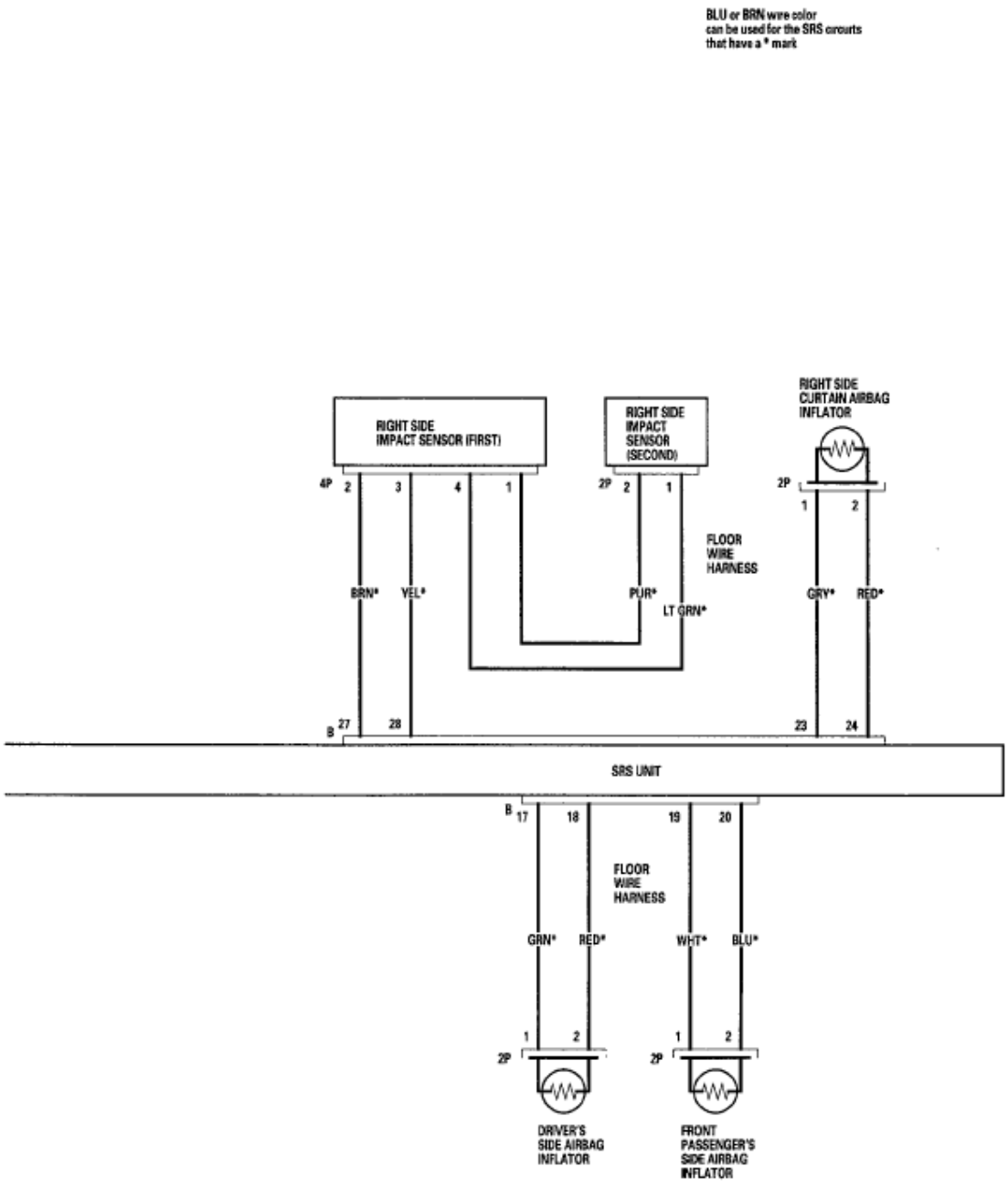



**Fig. 69: SRS - Circuit Diagram - 2-Door (08 Model) (4 Of 4)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DTC TROUBLESHOOTING

**DTC 11-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN DRIVER'S AIRBAG FIRST INFLATOR; DTC 11-4X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN DRIVER'S AIRBAG SECOND INFLATOR**

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## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead J 070AZ-SNAA100

**NOTE: Before doing this troubleshooting procedure, review SRS Precaution and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 11-1x or 11-4x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the driver's airbag 4P connector (A) from the cable reel.

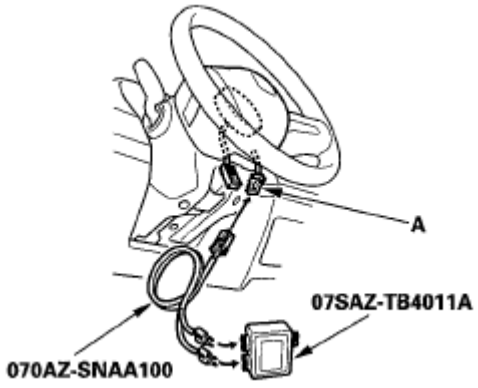


**Fig. 70: Identifying Driver's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead J to the cable reel.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 11-1x or 11-4x indicated?*

   **YES** -Go to step 9.

   **NO** -Open in the driver's airbag first or second inflator; replace the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect the dashboard wire harness 4P connector (A) from the cable reel.

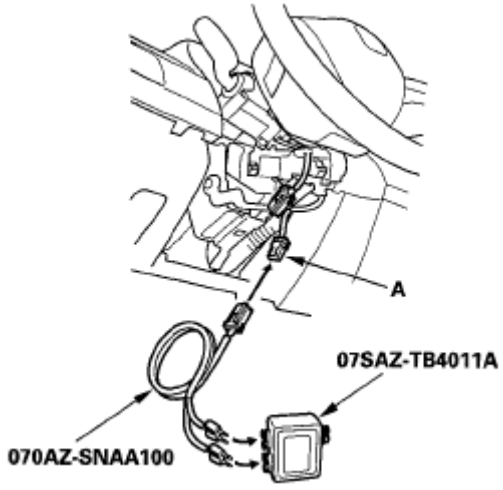



**Fig. 71: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Connect the SRS inflator simulator (2 ohms connectors) and the simulator lead to the dashboard wire harness.

12. Reconnect the negative cable to the battery.
13. Clear the DTC memory.
14. Read the DTC.

    *Is DTC 11-1x or 11-4x indicated?*

    **YES** -Go to step 15.

    **NO** -Open in the cable reel; replace the cable reel (see **CABLE REEL REPLACEMENT**).

15. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
16. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9).
17. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the dashboard wire harness 4P connector.
18. Measure the resistance between the terminals of both SRS simulator leads. There should be 1 ohms or less.

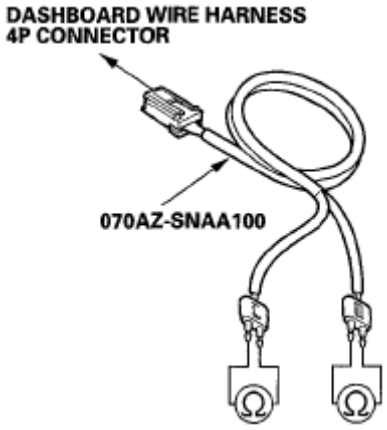



**Fig. 72: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If

the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the dashboard wire harness; replace the dashboard wire harness.

**DTC 11-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN DRIVER'S AIRBAG FIRST INFLATOR; DTC 11-6X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN DRIVER'S AIRBAG SECOND INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead J 070AZ-SNAA100
- SRS short canceller 070AZ-SAA0100

**NOTE: Before doing this troubleshooting procedure, review SRS Precaution and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 11-3x or 11-6x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the driver's airbag 4P connector (A) from the cable reel.

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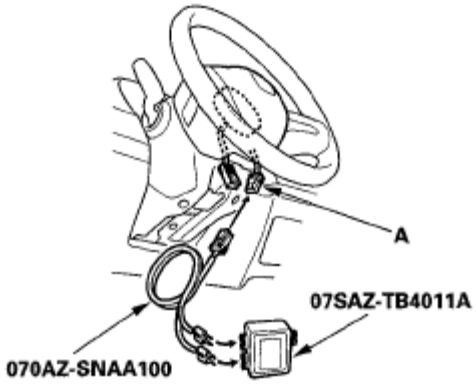



**Fig. 73: Identifying Driver's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead J to the cable reel.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 11-3x or 11-6x indicated?*

   **YES** -Go to step 9.

   **NO** -Short in the driver's airbag first or second inflator; replace the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect dashboard wire harness 4P connector (A) from the cable reel.

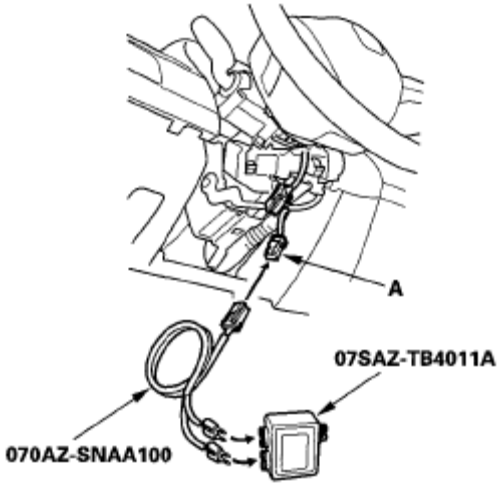



**Fig. 74: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Connect the SRS inflator simulator (2 ohms connectors) and the simulator lead to the dashboard wire harness.
12. Reconnect the negative cable to the battery.
13. Clear the DTC memory.
14. Read the DTC.

    *Is DTC 11-3x or 11-6x indicated?*

    **YES** -Go to step 15.

    **NO** -Short in the cable reel; replace the cable reel (see **CABLE REEL REPLACEMENT**).

15. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
16. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
17. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the dashboard wire harness 4P connector.
18. Connect the SRS short canceller (070AZ-SAA0100) to No. 7 and No. 8 terminals and No. 1 and No. 2 terminals of the SRS unit connector A (28P)

(see **OPENING THE SRS UNIT SHORTING CONNECTORS FOR DIAGNOSIS**).

19. Measure the resistance between the terminals of both SRS simulator leads. There should be an open circuit or at least 1 M ohms.

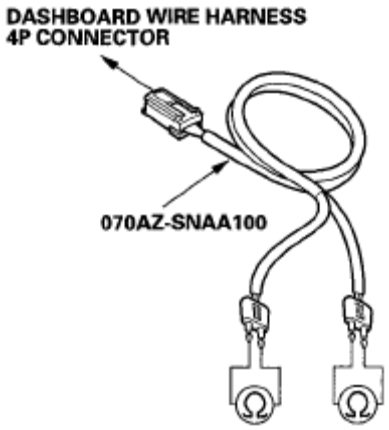



**Fig. 75: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the dashboard wire harness; replace dashboard wire harness.

**DTC 11-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN DRIVER'S AIRBAG FIRST INFLATOR; DTC 11-AX ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN DRIVER'S AIRBAG SECOND INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead J 070AZ-SNAA100

**NOTE: Before doing this troubleshooting procedure, review SRS**

http://ReadManuals.com



**Precaution and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 11-8x or 11-Ax indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the driver's airbag 4P connector (A) from the cable reel.

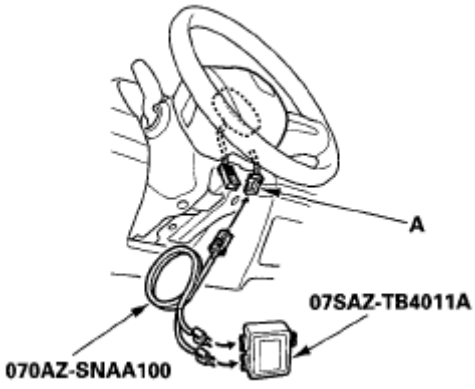



**Fig. 76: Identifying Driver's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead J to the cable reel.
6. Reconnect the negative cable to the battery.

7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 11-8x or 11-Ax indicated?*

   **YES** -Go to step 9.

   **NO** -Short to power in the driver's airbag first or second inflator; replace the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect the dashboard wire harness 4P connector (A) from the cable reel.

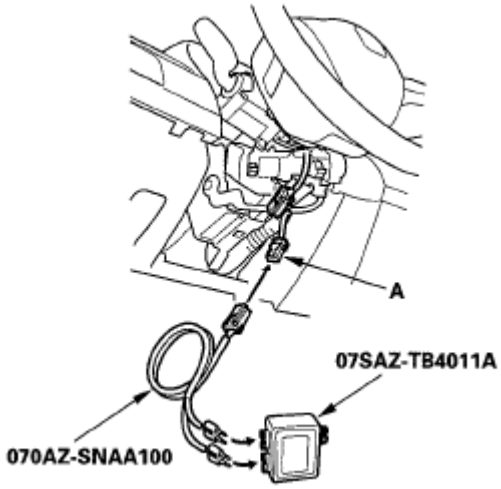



**Fig. 77: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Connect the SRS inflator simulator (2 ohms connectors) and the simulator lead to the dashboard wire harness.
12. Reconnect the negative cable to the battery.
13. Clear the DTC memory.
14. Read the DTC.

    *Is DTC 11-8x or 11-Ax indicated?*

**YES** -Go to step 15.

**NO** -Short to power in the cable reel; replace the cable reel (see **CABLE REEL REPLACEMENT**).

15. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
16. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
17. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the dashboard wire harness 4P connector.
18. Reconnect the negative cable to the battery.
19. Turn the ignition switch ON (II).
20. Measure the voltage between each terminal of the SRS simulator lead and body ground. There should be 0.5 V or less.

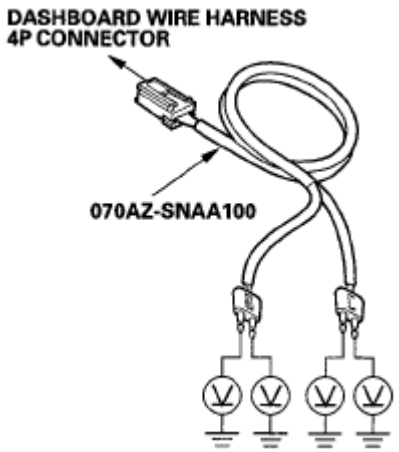



**Fig. 78: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the dashboard wire harness; replace the dashboard wire harness.

**DTC 11-9X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN DRIVER'S AIRBAG FIRST INFLATOR; DTC 11-BX ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN DRIVER'S AIRBAG SECOND INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead J 070AZ-SNAA100

**NOTE: Before doing this troubleshooting procedure, review SRS Precaution and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 11-9x or 11-Bx indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the driver's airbag 4P connector (A) from the cable reel.

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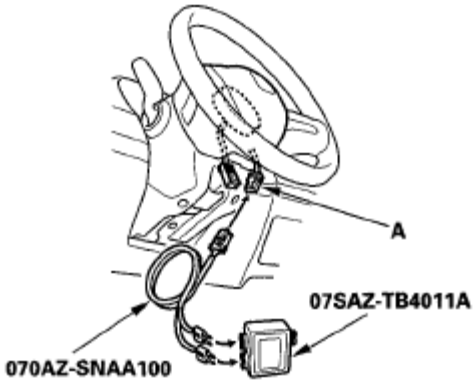



**Fig. 79: Identifying Driver's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead J to the cable reel.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 11-9x or 11-Bx indicated?*

   **YES** -Go to step 9.

   **NO** -Short to ground in the driver's airbag first or second inflator; replace the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect the dashboard wire harness 4P connector (A) from the cable reel.

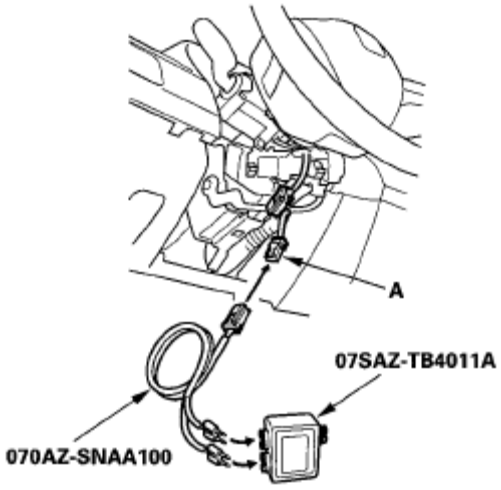



**Fig. 80: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Connect the SRS inflator simulator (2 ohms connectors) and the simulator lead to the dashboard wire harness.
12. Reconnect the negative cable to the battery.
13. Clear the DTC memory.
14. Read the DTC.

    *Is DTC 11-9x or 11-Bx indicated?*

    **YES** -Go to step 15.

    **NO** -Short to ground in the cable reel; replace the cable reel (see **CABLE REEL REPLACEMENT**).

15. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
16. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
17. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the dashboard wire harness 4P connector.
18. Measure the resistance between each terminal of the SRS simulator lead and body ground. There should be an open circuit or at least 1 M ohms.

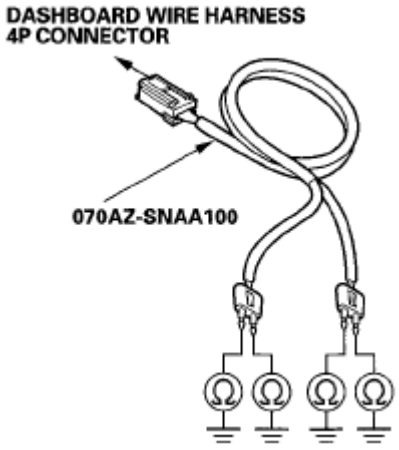



**Fig. 81: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the dashboard wire harness; replace the dashboard wire harness.

**DTC 12-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN FRONT PASSENGER'S AIRBAG FIRST INFLATOR; DTC 12-4X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN FRONT PASSENGER'S AIRBAG SECOND INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead J 070AZ-SNAA100

**NOTE: Before doing this troubleshooting procedure, review SRS Precaution and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 12-1x or 12-4x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the front passenger's airbag 4P connector (A) from dashboard wire harness.

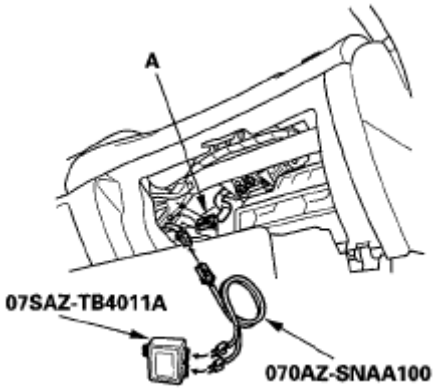



**Fig. 82: Identifying Front Passenger's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead J to the dashboard wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC 12-1x or 12-4x indicated?*

**YES** -Go to step 9.

**NO** -Open in the front passenger's airbag first or second inflator; replace the front passenger's airbag (see **FRONT PASSENGER'S AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9).
11. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the dashboard wire harness 4P connector.
12. Measure the resistance between the terminals of both SRS simulator leads. There should be 1 ohms or less.

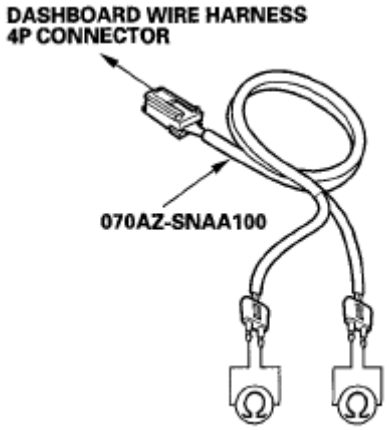



**Fig. 83: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P). Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the dashboard wire harness; replace the dashboard wire harness.

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**DTC 12-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN FRONT PASSENGER'S AIRBAG FIRST INFLATOR; DTC 12-6X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN FRONT PASSENGER'S AIRBAG SECOND INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead J 070AZ-SNAA100
- SRS short canceller 070AZ-SAA0100

**NOTE: Before doing this troubleshooting procedure, review SRS Precaution and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 12-3x or 12-6x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the front passenger's airbag 4P connector (A) from the dashboard wire harness.

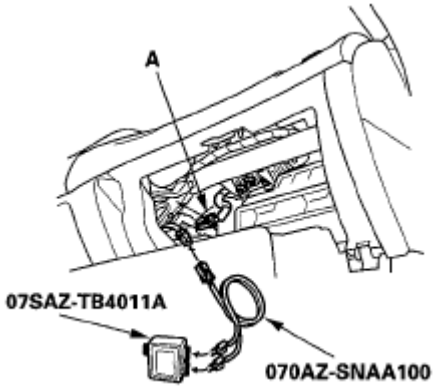



**Fig. 84: Identifying Front Passenger's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead J to dashboard wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 12-3x or 12-6x indicated?*

   **YES** -Go to step 9.

   **NO** -Short in the front passenger's airbag first or second inflator; replace the front passenger's airbag (see **FRONT PASSENGER'S AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9).
11. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the dashboard wire harness 4P connector.
12. Connect the SRS short canceller (070AZ-SAA0100) to No. 9 and No. 10 terminals, and the No. 3 and No. 4 terminals of the SRS unit connector A (28P) (see **OPENING THE SRS UNIT SHORTING CONNECTORS FOR DIAGNOSIS**).

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13. Measure the resistance between the terminals of both SRS simulator leads. There should be an open circuit or at least 1 M ohms.

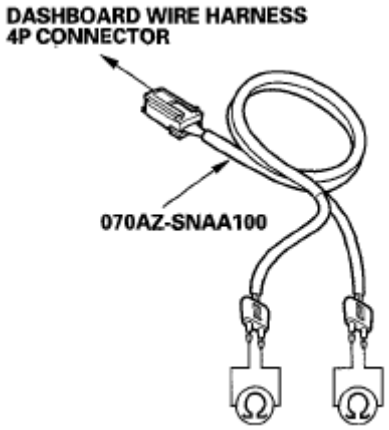



**Fig. 85: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the dashboard wire harness; replace the dashboard wire harness.

**DTC 12-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN FRONT PASSENGER'S AIRBAG FIRST INFLATOR; DTC 12-AX ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN FRONT PASSENGER'S AIRBAG SECOND INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead J 070AZ-SNAA100

**NOTE: Before doing this troubleshooting procedure, review SRS Precaution and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information**

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**(see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 12-8x or 12-Ax indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the front passenger's airbag 4P connector (A) from dashboard wire harness.

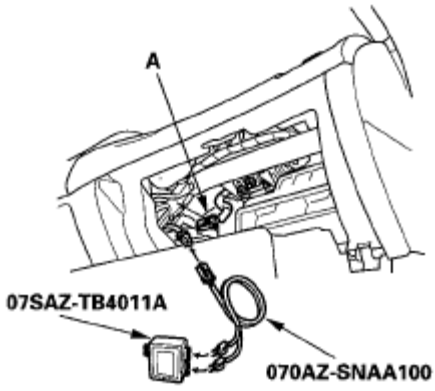



**Fig. 86: Identifying Front Passenger's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead J to the dashboard wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.

8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 12-8x or 12-Ax indicated?*

   **YES** -Go to step 9.

   **NO** -Short to power in the front passenger's airbag first or second inflator; replace the front passenger's airbag (see **FRONT PASSENGER'S AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the dashboard wire harness 4P connector.
12. Reconnect the negative cable to the battery.
13. Turn the ignition switch ON (II).
14. Measure the voltage between each terminal of the SRS simulator lead and body ground. There should be 0.5 V or less.

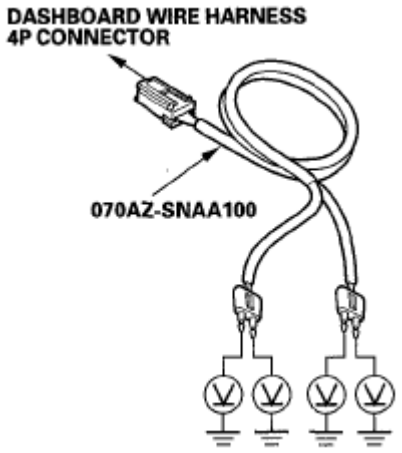



**Fig. 87: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the dashboard wire harness; replace the dashboard wire harness.

**DTC 12-9X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN FRONT PASSENGER'S AIRBAG FIRST INFLATOR; DTC 12-BX ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN FRONT PASSENGER'S AIRBAG SECOND INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead J 070AZ-SNAA100

**NOTE: Before doing this troubleshooting procedure, review SRS Precaution and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 12-9x or 12-Bx indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.

4. Disconnect the front passenger's airbag 4P connector (A) from the dashboard wire harness.

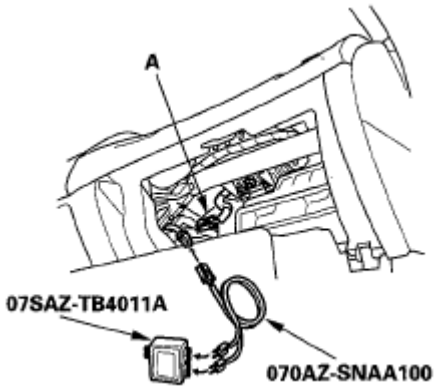



**Fig. 88: Identifying Front Passenger's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead J to the dashboard wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 12-9x or 12-Bx indicated?*

   **YES** -Go to step 9.

   **NO** -Short to ground in the front passenger's airbag first or second inflator; replace the front passenger's airbag (see **FRONT PASSENGER'S AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9).
11. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the dashboard wire harness 4P connector.
12. Measure the resistance between each terminal of the SRS simulator lead and

body ground. There should be an open circuit or at least 1 M2.

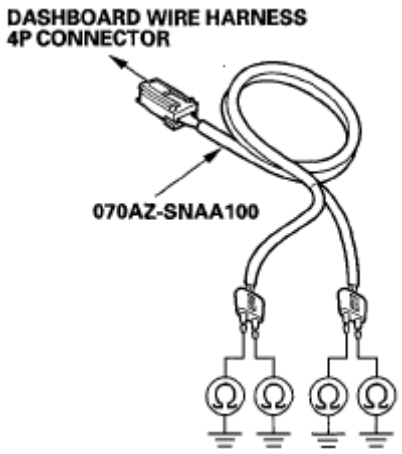



**Fig. 89: Identifying Dashboard Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the dashboard wire harness; replace the dashboard wire harness.

**DTC 21-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN DRIVER'S SEAT BELT TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 21-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the driver's seat belt tensioner.

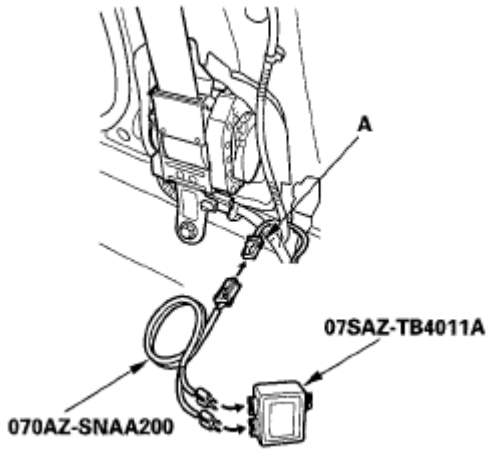



**Fig. 90: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.

8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 21-1x indicated?*

   **YES** -Go to step 9.

   **NO** -Open in the driver's seat belt tensioner; replace the driver's seat belt (see **FRONT SEAT BELT REPLACEMENT** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**) and the front passenger's seat belt tensioner 4P connector (see step 7 **DISCONNECTING SYSTEM CONNECTORS** ).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Measure the resistance between the No. 1 and the No. 2 terminals of SRS unit connector B (28P). There should be 2.0-3.0 ohms.

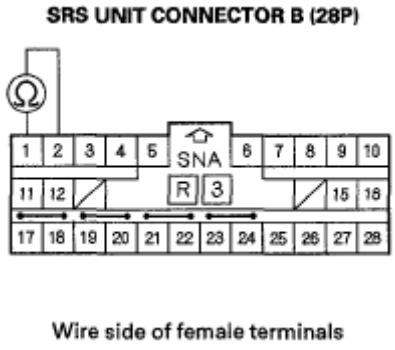



**Fig. 91: Measuring Resistance Between No. 1 And No. 2 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS

unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 21-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN DRIVER'S SEAT BELT TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 21-3x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the driver's seat belt tensioner.

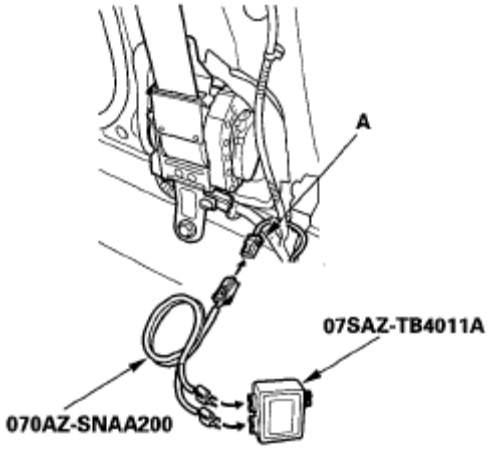



**Fig. 92: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 21-3x indicated?*

   **YES** -Go to step 9.

   **NO** -Short in the driver's seat belt tensioner; replace the driver's seat belt (see **FRONT SEAT BELT REPLACEMENT** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**) and the front passenger's seat belt tensioner 4P connector (see step 7 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.

13. Measure the resistance between the No. 1 and the No. 2 terminals of SRS unit connector B (28P). There should be an open circuit or at least 1 M ohms.

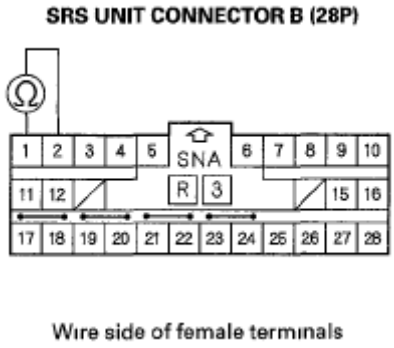



**Fig. 93: Measuring Resistance Between No. 1 And No. 2 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the floor wire harness; replace the floor wire harness.

**DTC 21-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN DRIVER'S SEAT BELT TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (se GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE**

**HDS**).

2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 21-8x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the driver's seat belt tensioner.

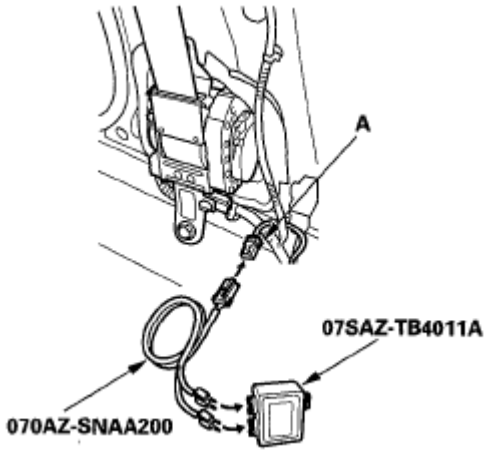



**Fig. 94: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

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*Is DTC 21-8x indicated?*

**YES** -Go to step 9.

**NO** -Short to power in the driver's seat belt tensioner; replace the driver's seat belt (see **FRONT SEAT BELT REPLACEMENT** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**) and the front passenger's seat belt tensioner 4P connector (see step 7 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.
13. Reconnect the negative cable to the battery.
14. Turn the ignition switch ON (II).
15. Measure the voltage between the No. 1 terminal of SRS unit connector B (28P) and body ground, and between the No. 2 terminal and body ground. There should be 0.5 V or less.

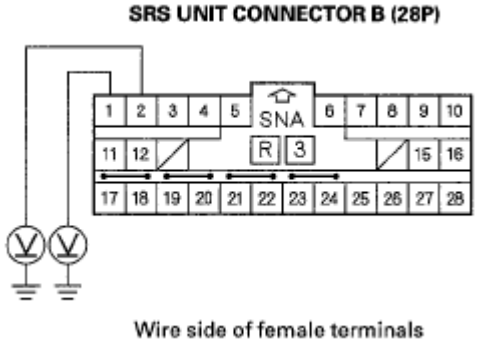



**Fig. 95: Measuring Voltage Between No. 1 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

**DTC 21-9X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN DRIVER'S SEAT BELT TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 21-9x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the driver's seat belt tensioner.

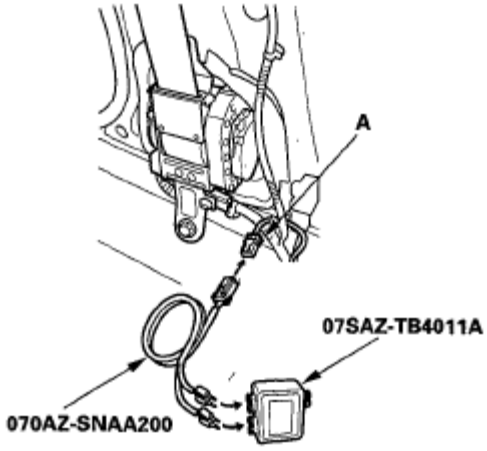



**Fig. 96: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms, connectors) and simulator lead K to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 21-9x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to ground in the driver's seat belt tensioner; replace the driver's seat belt (see **FRONT SEAT BELT REPLACEMENT** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**) and the front passenger's seat belt tensioner 4P connector (see step 7 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.

13. Measure the resistance between the No. 1 terminal of SRS unit connector B (28P) and body ground, and between the No. 2 terminal and body ground. There should be an open circuit or at least 1 M ohms

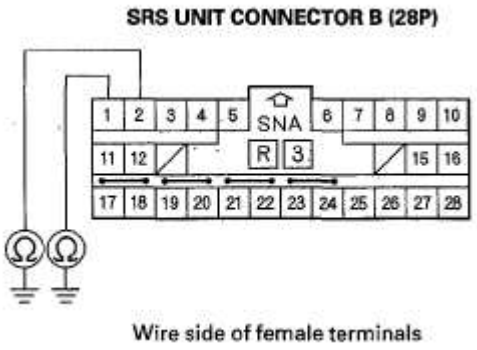



**Fig. 97: Measuring Resistance Between No. 1 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

**DTC 22-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN FRONT PASSENGER'S SEAT BELT TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 22-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the front passenger's seat belt tensioner.

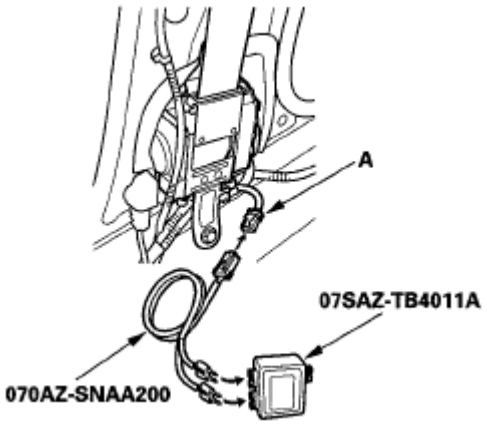



**Fig. 98: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms, connectors) and simulator lead K to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC 22-1 x indicated?*

**YES** -Go to step 9.

**NO** -Open in the front passenger's seat belt tensioner; replace the front passenger's seat belt (see **FRONT SEAT BELT REPLACEMENT** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**) and the driver's seat belt tensioner 4P connector (see step 7 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Measure the resistance between the No. 3 and the No. 4 terminals of SRS unit connector B (28P). There should be 2.0-3.0 ohms.

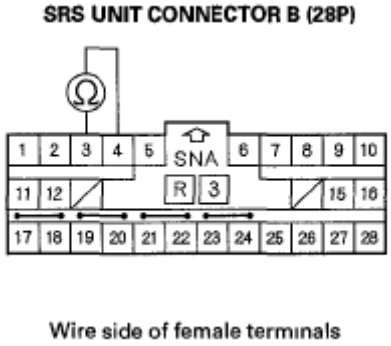



**Fig. 99: Measuring Resistance Between No. 3 And No. 4 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 22-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN FRONT PASSENGER'S SEAT BELT TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 22-3x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the front passenger's seat belt tensioner.

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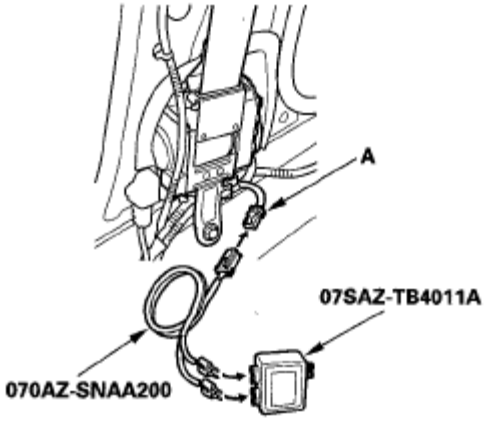



**Fig. 100: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 22-3x indicated?*

   **YES** -Go to step 9.

   **NO** -Short in the front passenger's seat belt tensioner; replace the front passenger's seat belt (see **FRONT SEAT BELT REPLACEMENT** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**) and the driver's seat belt tensioner 4P connector (see step 7 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.

13. Measure the resistance between the No. 3 and the No. 4 terminals of SRS unit connector B (28P). There should be an open circuit or at least 1 M ohms.

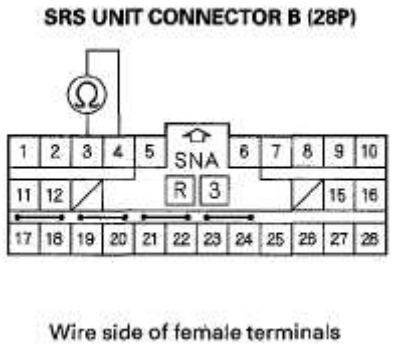



**Fig. 101: Measuring Resistance Between No. 3 And No. 4 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the floor wire harness; replace the floor wire harness.

**DTC 22-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN FRONT PASSENGER'S SEAT BELT TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE**

**HDS**).

2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 22-8x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the front passenger's seat belt tensioner.

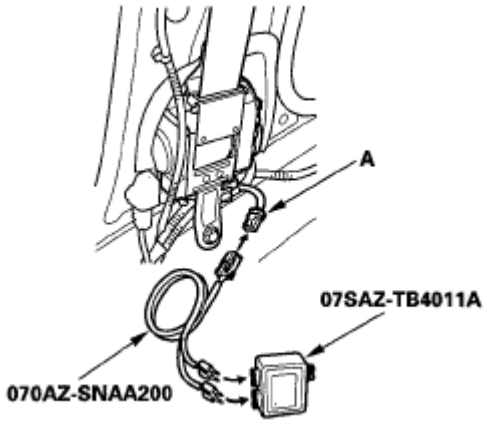



**Fig. 102: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC 22-8x indicated?*

**YES** -Go to step 9.

**NO** -Short to power in the front passenger's seat belt tensioner; replace the front passenger's seat belt (see **FRONT SEAT BELT REPLACEMENT** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**) and the driver's seat belt tensioner 4P connector (see step 7 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.
13. Reconnect the negative cable to the battery.
14. Turn the ignition switch ON (II).
15. Measure the voltage between the No. 3 terminal of SRS unit connector B (28P) and body ground, and between the No. 4 terminal and body ground. There should be 0.5 V or less.

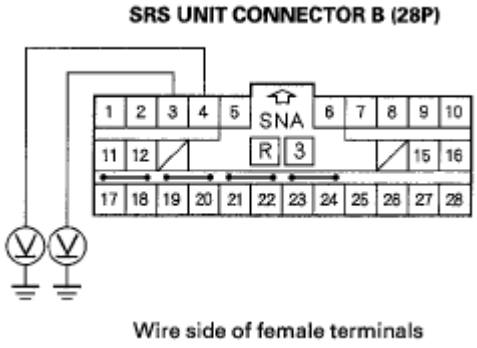



**Fig. 103: Measuring Voltage Between No. 3 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

**DTC 22-9X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN FRONT PASSENGER'S SEAT BELT TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (se e PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 22-9x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES** . If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the front passenger's seat belt tensioner.

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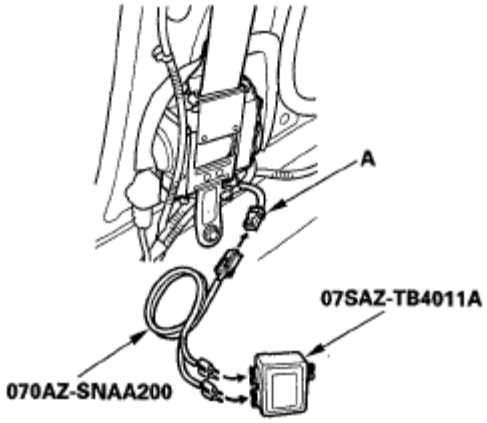



**Fig. 104: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms. connectors) and simulator lead K to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 22-9x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to ground in the front passenger's seat belt tensioner; replace the front passenger's seat belt (see **FRONT SEAT BELT REPLACEMENT** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS** and the driver's seat belt tensioner 4P connector (see step 7 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.

13. Measure the resistance between the No. 3 terminal of SRS unit connector B (28P) and body ground, and between the No. 4 terminal and body ground. There should be an open circuit or at least 1 M ohms.

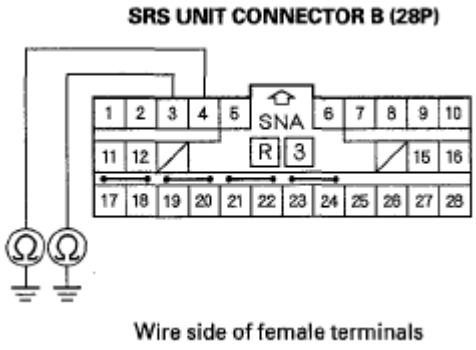



**Fig. 105: Measuring Resistance Between No. 3 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

**DTC 27-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN DRIVER'S SEAT BELT BUCKLE TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 27-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the driver's seat belt buckle tensioner connector (B).

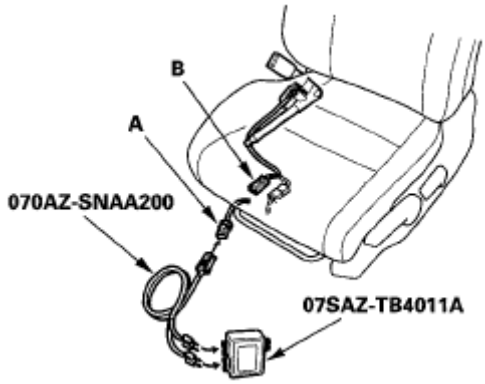



**Fig. 106: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness connector.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC 27-1x indicated?*

**YES** -Go to step 9.

**NO** -Open in the driver's seat belt buckle tensioner; replace the driver's seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and the front passenger's seat belt buckle tensioner 4P connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Measure the resistance between the No. 7 and No. 8 terminals of SRS unit connector B (28P). There should be 2.0-3.0 ohms.

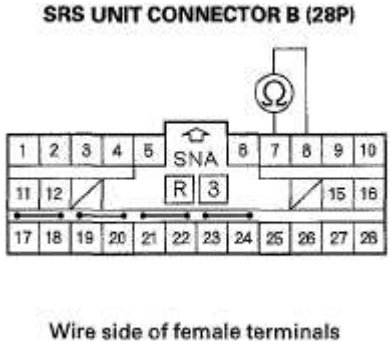



**Fig. 107: Measuring Resistance Between No. 7 And No. 8 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 27-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN DRIVER'S SEAT BELT BUCKLE TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 27-3x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the driver's seat belt buckle tensioner connector (B).

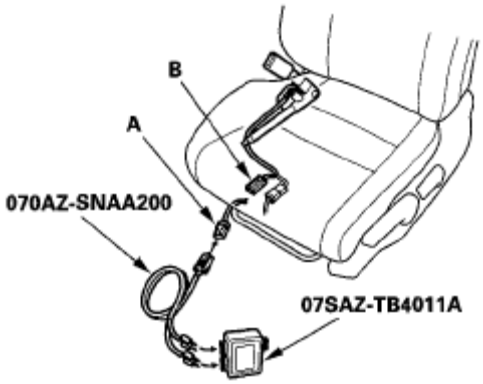



**Fig. 108: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness connector.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 27-3x indicated?*

   **YES** -Go to step 9.

   **NO** -Short in the driver's seat belt buckle tensioner; replace the driver's seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and the front passenger's seat belt buckle tensioner 4P connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.
13. Measure the resistance between the No. 7 and No. 8 terminals of SRS unit

connector B (28P). There should be an open circuit or at least 1 M ohms.

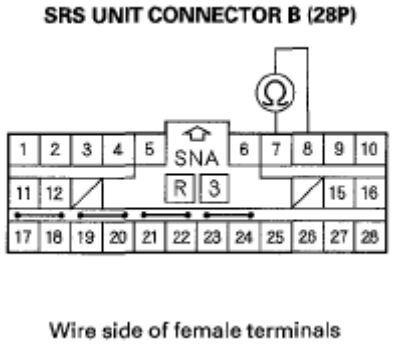



**Fig. 109: Measuring Resistance Between No. 7 And No. 8 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the floor wire harness; replace the floor wire harness.

**DTC 27-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN DRIVER'S SEAT BELT BUCKLE TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).

2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 27-8x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the driver's seat belt buckle tensioner connector (B).

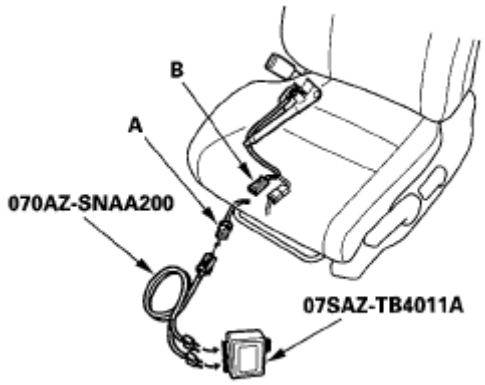



**Fig. 110: Identifying Floor Wire Harness 4P And Driver's Seat Belt Buckle Tensioner Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness connector.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 27-8x indicated?*

**YES** -Go to step 9.

**NO** -Short to power in the driver's seat belt buckle tensioner; replace the driver's seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and the front passenger's seat belt buckle tensioner 4P connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.
13. Reconnect the negative cable to the battery.
14. Turn the ignition switch ON (II).
15. Measure the voltage between the No. 7 terminal of SRS unit connector B (28P) and body ground, and the No. 8 terminal and body ground. There should be 0.5 V or less.

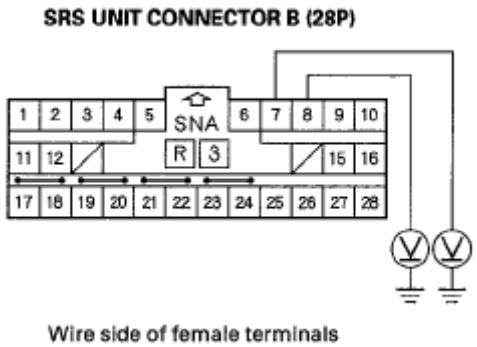



**Fig. 111: Measuring Voltage Between No. 7 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and

the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

**DTC 27-9X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN DRIVER'S SEAT BELT BUCKLE TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 27-9x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the driver's seat belt buckle tensioner connector (B).

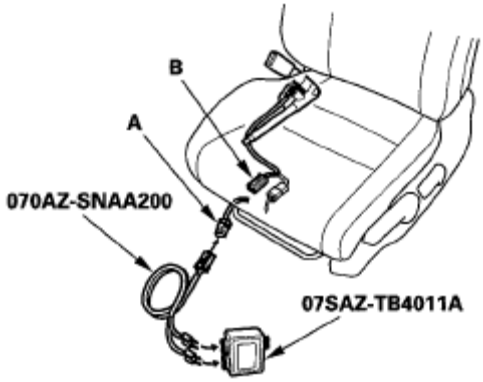



**Fig. 112: Identifying Floor Wire Harness 4P And Driver's Seat Belt Buckle Tensioner Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness connector.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 27-9x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to ground in the driver's seat belt buckle tensioner; replace the driver's seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and the front passenger's seat belt buckle tensioner 4P connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.

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13. Measure the resistance between the No. 7 terminal of SRS unit connector B (28P) and body ground, and the No. 8 terminal and body ground. There should be an open circuit or at least 1 M ohms.

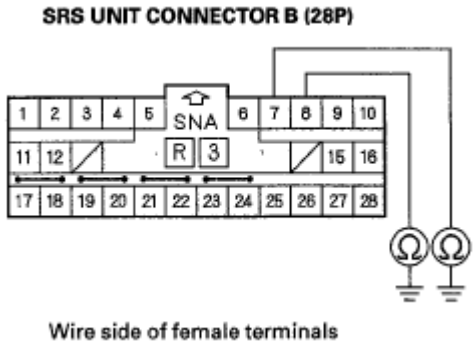



**Fig. 113: Measuring Resistance Between No. 7 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

**DTC 28-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN FRONT PASSENGER'S SEAT BELT BUCKLE TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 28-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES** . If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the front passenger's seat belt buckle tensioner connector (B).

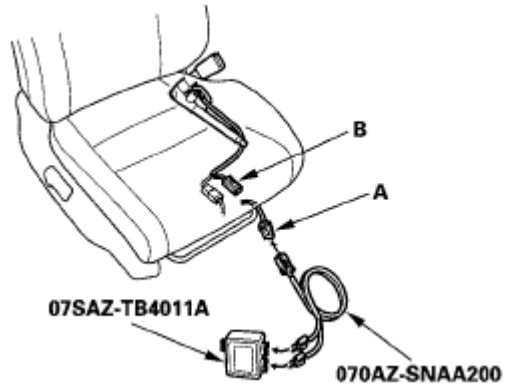



**Fig. 114: Identifying Floor Wire Harness 4P And Front Passenger's Seat Belt Buckle Tensioner Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to the floor wire harness connector.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC 28-1x indicated?*

**YES** -Go to step 9.

**NO** -Open in the front passenger's seat belt buckle tensioner; replace the front passenger's seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and the driver's seat belt buckle tensioner 4P connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step9 **DISCONNECTING SYSTEM CONNECTORS** ).
12. Measure the resistance between the No. 9 and No. 10 terminals of SRS unit connector B (28P). There should be 2.0-3.0 ohms.

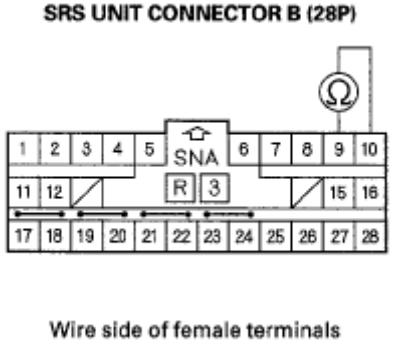



**Fig. 115: Measuring Resistance Between No. 9 And No. 10 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 28-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN FRONT PASSENGER'S SEAT BELT BUCKLE TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 28-3x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the front passenger's seat belt buckle tensioner connector (B).

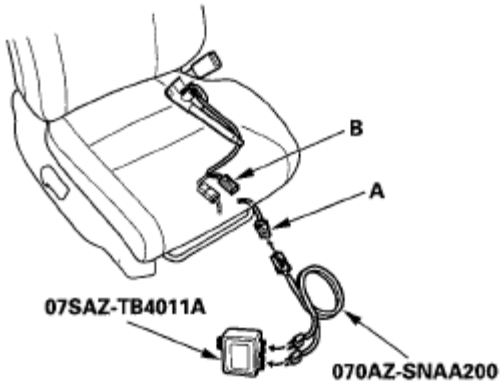



**Fig. 116: Identifying Floor Wire Harness 4P And Front Passenger's Seat Belt Buckle Tensioner Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to floor wire harness connector.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 28-3x indicated?*

   **YES** -Go to step 9.

   **NO** -Short in the front passenger's seat belt buckle tensioner; replace the front passenger's seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and the driver's seat belt buckle tensioner 4P connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.

13. Measure the resistance between the No. 9 and No. 10 terminals of SRS unit connector B (28P). There should be an open circuit or at least 1 M ohms.

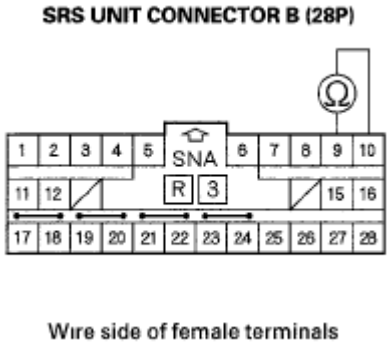



**Fig. 117: Measuring Resistance Between No. 9 And No. 10 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the floor wire harness; replace the floor wire harness.

**DTC 28-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN FRONT PASSENGER'S SEAT BELT BUCKLE TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K 070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE**

**HDS**).

2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 28-8x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the front passenger's seat belt buckle tensioner connector (B).

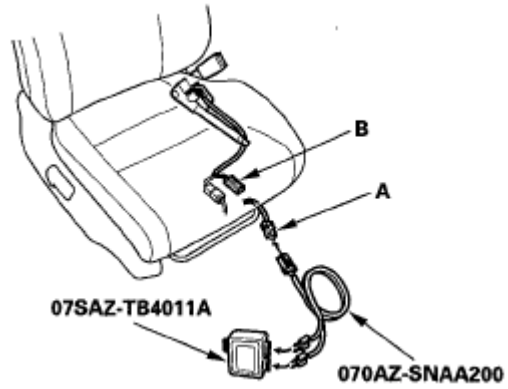



**Fig. 118: Identifying Floor Wire Harness 4P And Front Passenger's Seat Belt Buckle Tensioner Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to floor wire harness connector.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

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*Is DTC 28-8x indicated?*

**YES** -Go to step 9.

**NO** -Short to power in the front passenger's seat belt buckle tensioner; replace the front passenger's seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and the driver's seat belt buckle tensioner 4P connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.
13. Reconnect the negative cable to the battery.
14. Turn the ignition switch ON (II).
15. Measure the voltage between the No. 9 terminal of SRS unit connector B (28P) and body ground, and the No. 10 terminal and body ground. There should be 0.5 V or less.

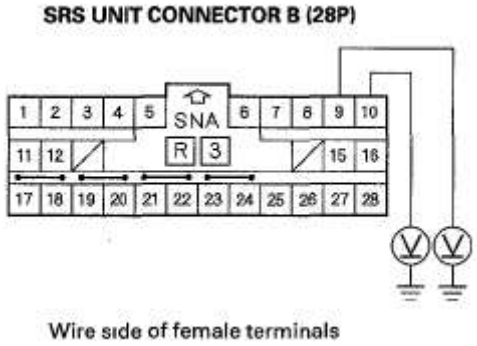



**Fig. 119: Measuring Voltage Between No. 9 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

**DTC 28-9X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN FRONT PASSENGER'S SEAT BELT BUCKLE TENSIONER**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead K070AZ-SNAA200

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 28-9x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 4P connector (A) from the front passenger's seat belt buckle tensioner connector (B).

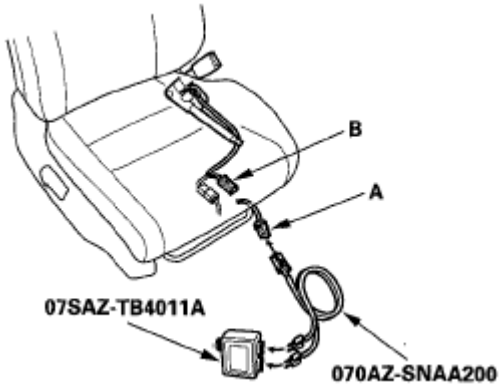



**Fig. 120: Identifying Floor Wire Harness 4P And Front Passenger's Seat Belt Buckle Tensioner Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead K to floor wire harness connector.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 28-9x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to ground in the front passenger's seat belt buckle tensioner; replace the front passenger's seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS** ) and the driver's seat belt buckle tensioner 4P connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the simulator lead from the floor wire harness.

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13. Measure the resistance between the No. 9 terminal of SRS unit connector B (28P) and body ground, and the No. 10 terminal and body ground. There should be an open circuit or at least 1 M ohms.

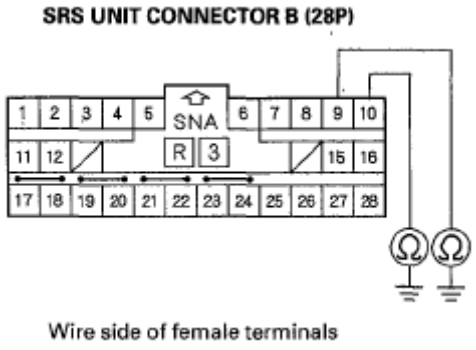



**Fig. 121: Measuring Resistance Between No. 9 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

**DTC 31-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN DRIVER'S SIDE AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 31-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the driver's side airbag (B).

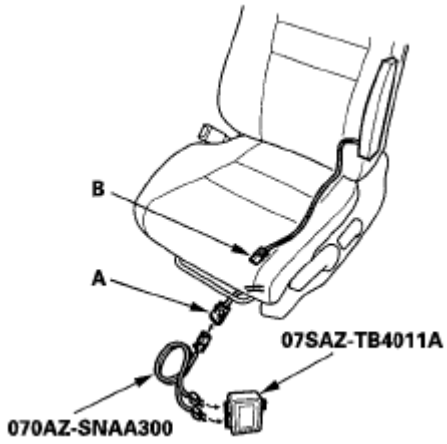



**Fig. 122: Identifying Floor Wire Harness 2P Connector And Driver's Side Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.

8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 31-1x indicated?*

   **YES** -Go to step 9.

   **NO** -Open in the driver's side airbag inflator; replace the driver's side airbag (see **SIDE AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Measure the resistance between the terminals of the black SRS simulator lead (A). There should be 1.0 ohms or less.

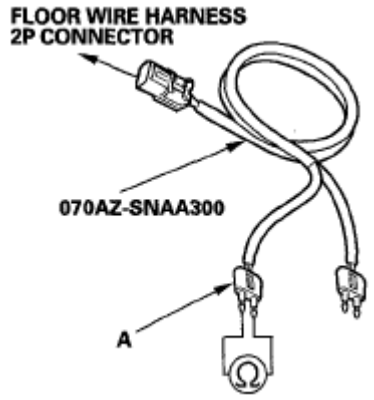



**Fig. 123: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 31-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN DRIVER'S SIDE AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300
- SRS short canceller 070AZ-SAA0100

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 31-3x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the driver's side airbag (B).

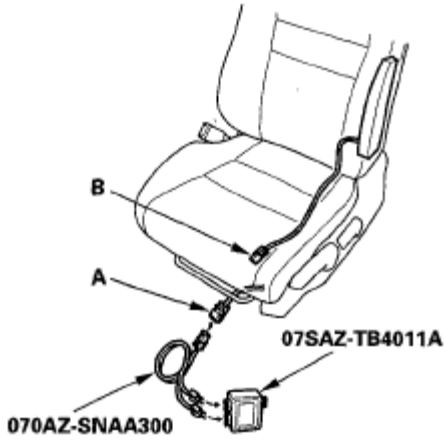



**Fig. 124: Identifying Floor Wire Harness 2P Connector And Driver's Side Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC31-3x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to another wire in the driver's side airbag inflator; replace the driver's side airbag (see **SIDE AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).

12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Connect the SRS short canceller (070AZ-SAA0100) to the No. 17 and No. 18 terminals of SRS unit connector B (28P) (see **OPENING THE SRS UNIT SHORTING CONNECTORS FOR DIAGNOSIS**).
14. Measure the resistance between the terminals of the black SRS simulator lead (A). There should be an open circuit or at least 1 M ohms.

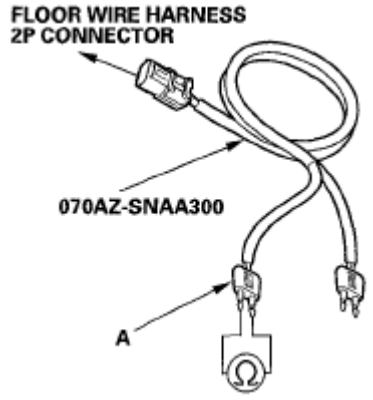



**Fig. 125: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the floor wire harness; replace the floor wire harness.

**DTC 31-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN DRIVER'S SIDE AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

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**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 31-8x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the driver's side airbag (B).

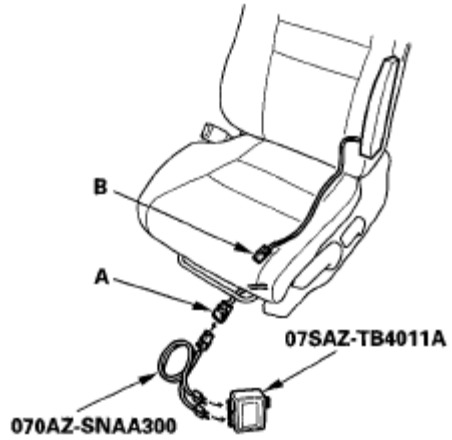



**Fig. 126: Identifying Floor Wire Harness 2P Connector And Driver's Side Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 31-8x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to power in the driver's side airbag inflator; replace the driver's side airbag (see **SIDE AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Reconnect the negative cable to the battery.
14. Turn the ignition switch ON (II).
15. Measure the voltage between each terminal of the black SRS simulator lead (A) and body ground. There should be 0.5 V or less.

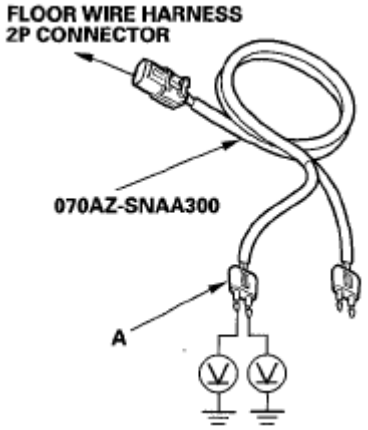



**Fig. 127: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

**DTC 31-9X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN DRIVER'S SIDE AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on

for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC31-9x indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the driver's side airbag (B).

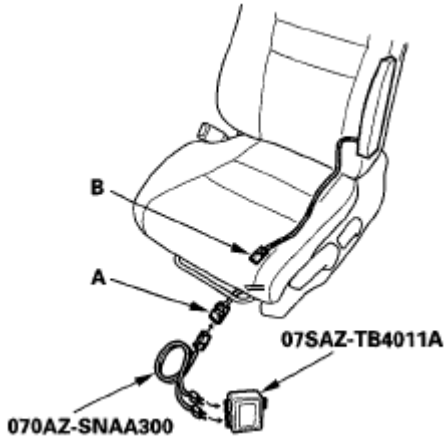



**Fig. 128: Identifying Floor Wire Harness 2P Connector And Driver's Side Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC31-9x indicated?*

**YES** -Go to step 9.

**NO** -Short to ground in the driver's side airbag inflator; replace the driver's side airbag (see **SIDE AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS** ).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Measure the resistance between each terminal of the black SRS simulator lead (A) and body ground. There should be an open circuit or at least 1 M ohms.

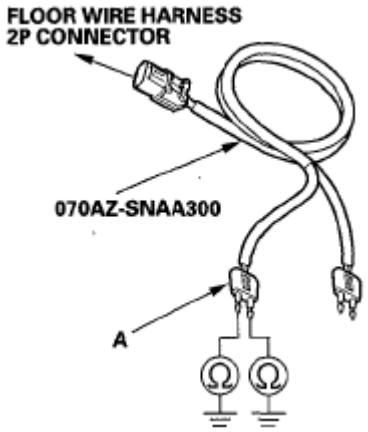



**Fig. 129: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

**DTC 32-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN FRONT PASSENGER'S SIDE AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 32-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the front passenger's side airbag (B).

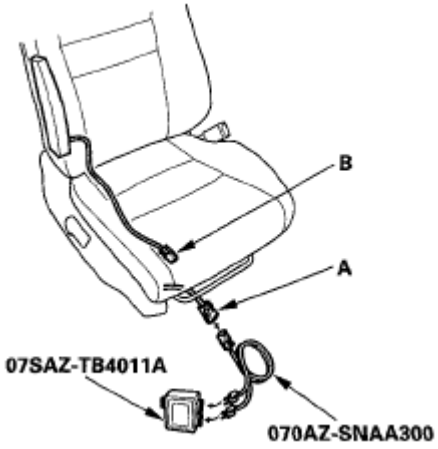



**Fig. 130: Identifying Floor Wire Harness 2P Connector And Front Passenger's Side Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms, connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 32-1x indicated?*

   **YES** -Go to step 9.

   **NO** -Open in the front passenger's side airbag inflator; replace the front passenger's side airbag (see **SIDE AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).

12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Measure the resistance between the terminals of the black SRS simulator lead (A). There should be 1.0 ohms, or less.

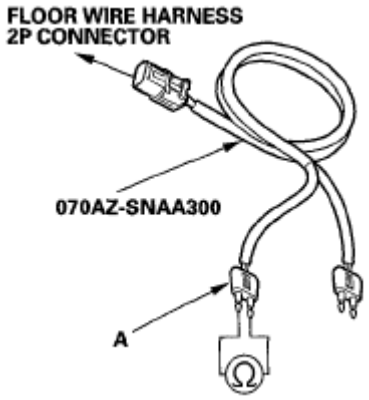



**Fig. 131: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 32-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN FRONT PASSENGER'S SIDE AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300
- SRS short canceller 070AZ-SAA0100

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND**

**PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 32-3x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the front passenger's side airbag (B).

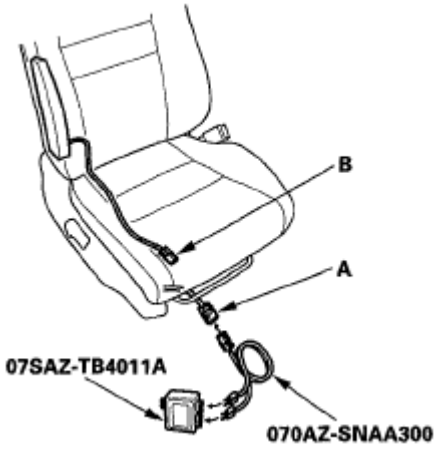



**Fig. 132: Identifying Floor Wire Harness 2P Connector And Front Passenger's Side Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms, connectors) and simulator lead L

to the floor wire harness.

6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 32-3x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to another wire in the front passenger's side airbag inflator; replace the front passenger's side airbag (see **SIDE AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Connect the SRS short canceller (070AZ-SAA0100) to the No. 19 and No. 20 terminals of SRS unit connector B (28P) (see **OPENING THE SRS UNIT SHORTING CONNECTORS FOR DIAGNOSIS**).
14. Measure the resistance between the terminals of the black SRS simulator lead (A). There should be an open circuit or at least 1 M ohms.

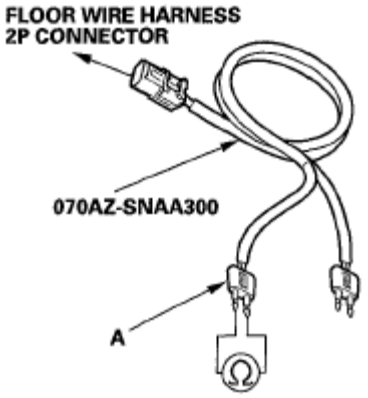



**Fig. 133: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the floor wire harness; replace the floor wire harness.

**DTC 32-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN FRONT PASSENGER'S SIDE AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SA2-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 32-8x indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the front passenger's side airbag (B).

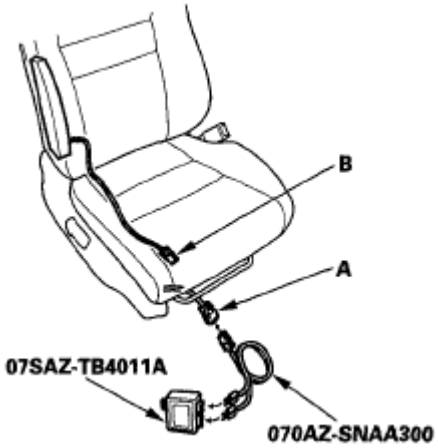



**Fig. 134: Identifying Floor Wire Harness 2P Connector And Front Passenger's Side Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms, connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC 32-8x indicated?*

**YES** -Go to step 9.

**NO** -Short to power in the front passenger's side airbag inflator; replace the front passenger's side airbag (see **SIDE AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7**DISCONNECTING SYSTEM CONNECTORS** ) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Reconnect the negative cable to the battery.
14. Turn the ignition switch ON (II).
15. Measure the voltage between each terminal of the black SRS simulator lead (A) and body ground. There should be 0.5 V or less.

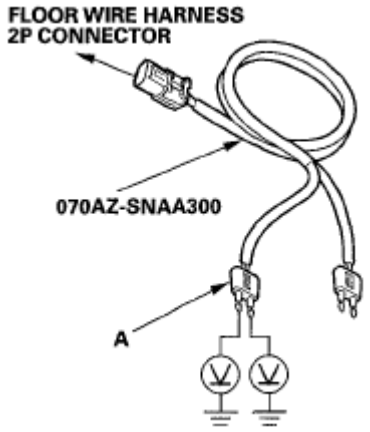



**Fig. 135: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS

unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

**DTC 32-9X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN FRONT PASSENGER'S SIDE AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 32-9x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the front passenger's side airbag (B).

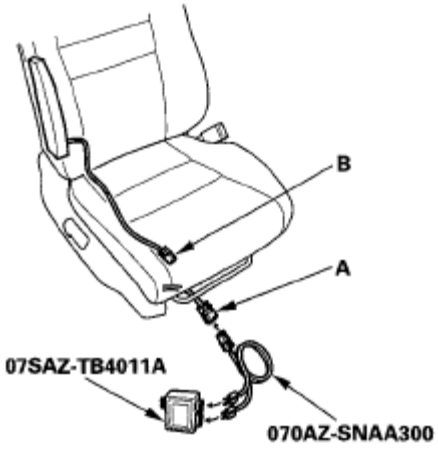



**Fig. 136: Identifying Floor Wire Harness 2P Connector And Front Passenger's Side Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms. connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 32-9x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to ground in the front passenger's side airbag inflator; replace the front passenger's side airbag (see **SIDE AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).

12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Measure the resistance between each terminal of the black SRS simulator lead (A) and body ground. There should be an open circuit or at least 1 M ohms.

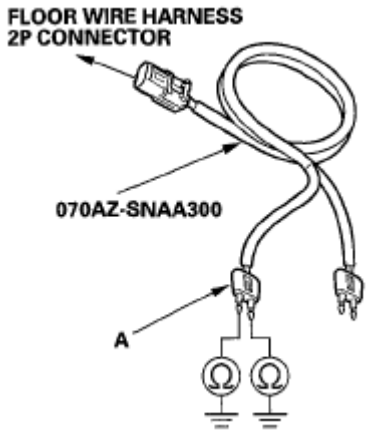



**Fig. 137: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

**DTC 33-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN LEFT SIDE CURTAIN AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information**

**(see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 33-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, trouble shoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the left side curtain airbag connector (B).

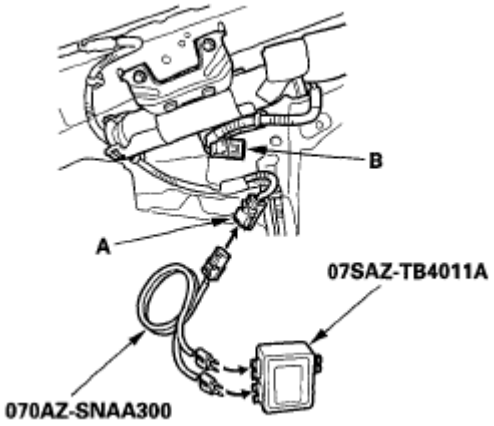



**Fig. 138: Identifying Floor Wire Harness 2P Connector And Left Side Curtain Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.

6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 33-1x indicated?*

   **YES** -Go to step 9.

   **NO** -Open in the left side curtain airbag; replace the left side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**). Do not disconnect the simulator lead from the floor wire harness.
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Measure the resistance between the terminals of the black SRS simulator lead (A). There should be 1.0 ohms, or less.

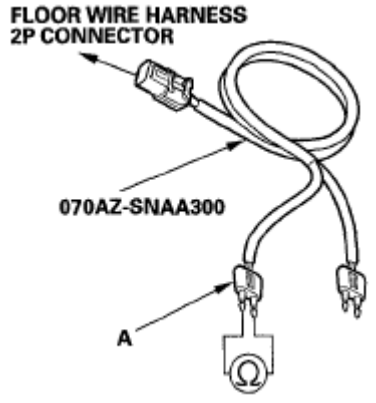



**Fig. 139: Identifying Floor Wire Harness 2P Connector**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at the SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 33-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN LEFT SIDE CURTAIN AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300
- SRS short canceller 070AZ-SAA0100

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 33-3x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery,

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then wait for 3 minutes.

4. Disconnect the floor wire harness 2P connector (A) from the left side curtain airbag connector (B).

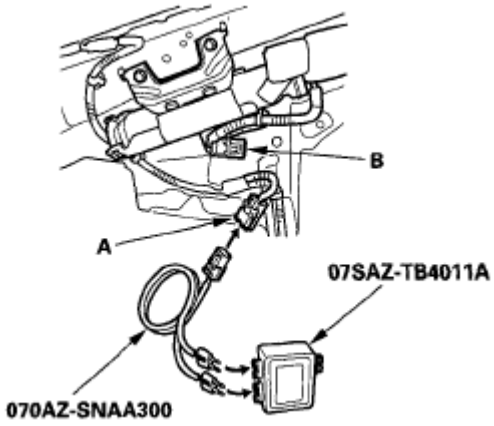



**Fig. 140: Identifying Floor Wire Harness 2P Connector And Left Side Curtain Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 33-3x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to another wire in the left side curtain airbag inflator; replace the left side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM**

**CONNECTORS**).

11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Connect the SRS short canceller (070AZ-SAA0100) to the No. 21 and No. 22 terminals of SRS unit connector B (28P) (see **OPENING THE SRS UNIT SHORTING CONNECTORS FOR DIAGNOSIS**).
14. Measure the resistance between the terminals of the black SRS simulator lead (A). There should be an open circuit or at least 1 M ohms.

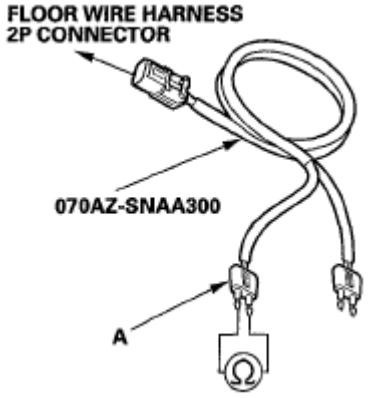



**Fig. 141: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to another wire in the floor wire harness; replace the floor wire harness.

**DTC 33-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN LEFT SIDE CURTAIN AIRBAG INFLATOR**

## Special Tools Required

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- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 33-8x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the left side curtain airbag connector (B).

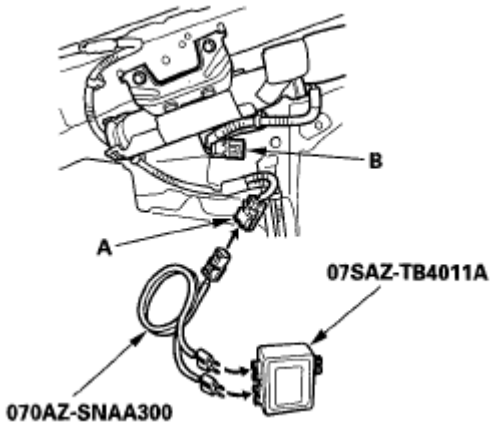


**Fig. 142: Identifying Floor Wire Harness 2P Connector And Left Side Curtain Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms, connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 33-8x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to power in the left side curtain airbag inflator; replace the left side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect the SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Reconnect the negative cable to the battery.
14. Turn the ignition switch ON (II).
15. Measure the voltage between each terminal of the black SRS simulator lead (A) and body ground. There should be 0.5 V or less.

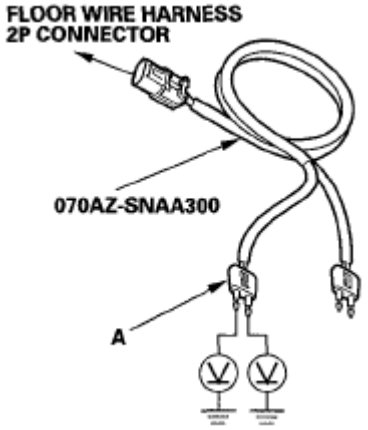



**Fig. 143: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

**DTC 33-9X {"X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO GROUND IN LEFT SIDE CURTAIN AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on

for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 33-9x indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the left side curtain airbag connector (B).

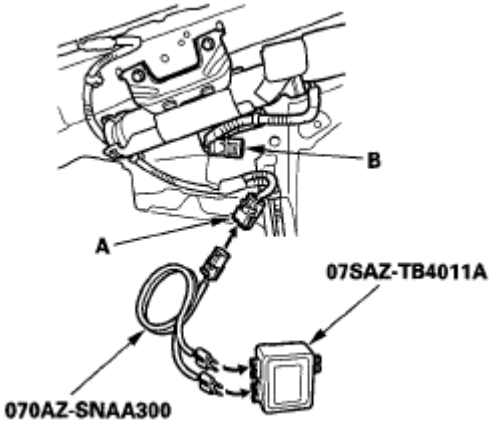



**Fig. 144: Identifying Floor Wire Harness 2P Connector And Left Side Curtain Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC 33-9x indicated?*

**YES** -Go to step 9.

**NO** -Short to ground in the left side curtain airbag inflator; replace the left side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Measure the resistance between each terminal of the black SRS simulator lead (A) and body ground. There should be an open circuit or at least 1 M ohms.

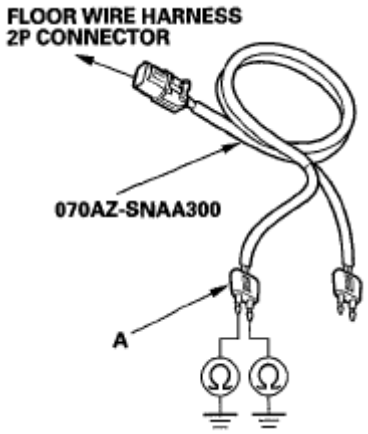



**Fig. 145: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

**DTC 34-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN RIGHT SIDE CURTAIN AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 34-1 x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the right side curtain airbag connector (B).

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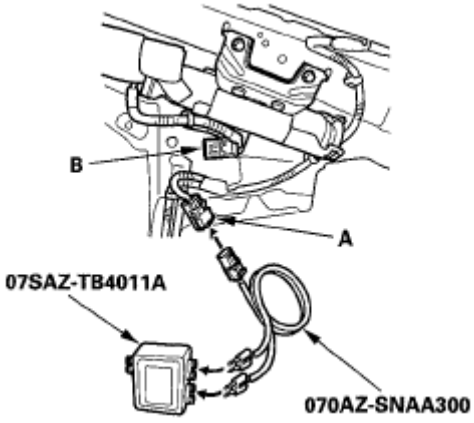



**Fig. 146: Identifying Floor Wire Harness 2P Connector And Right Side Curtain Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 34-1x indicated?*

   **YES** -Go to step 9.

   **NO** -Open in the right side curtain airbag inflator, replace the right side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not

disconnect the simulator lead from the floor wire harness 2P connector.

13. Measure the resistance between the terminals of the black SRS simulator lead (A). There should be 1.0 ohms or less.

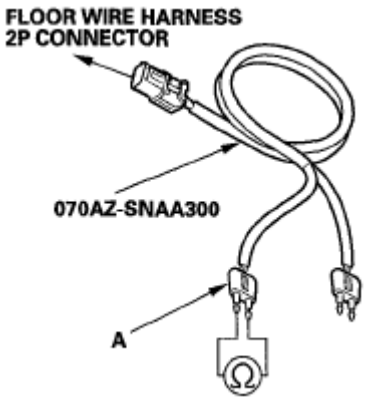



**Fig. 147: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 34-3X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO ANOTHER WIRE OR DECREASED RESISTANCE IN RIGHT SIDE CURTAIN AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300
- SRS short canceller 070AZ-SAA0100

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

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1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 34-3x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the right side curtain airbag connector (B).

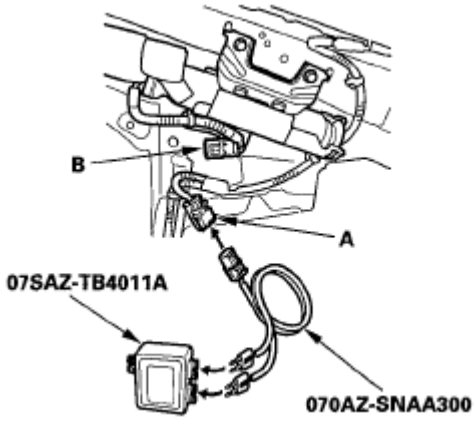



**Fig. 148: Identifying Floor Wire Harness 2P Connector And Right Side Curtain Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms, connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.

8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 34-3x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to another wire in the right side curtain airbag inflator; replace the right side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Connect the SRS short canceller (070AZ-SAA0100) to the No. 23 and No. 24 terminals of SRS unit connector B (28P) (see **OPENING THE SRS UNIT SHORTING CONNECTORS FOR DIAGNOSIS**).
14. Measure the resistance between the terminals of the black SRS simulator lead (A). There should be an open circuit or at least 1 M ohms.

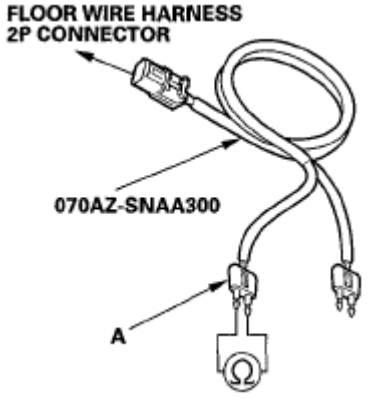



**Fig. 149: Identifying Floor Wire Harness 2P Connector**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the floor wire harness; replace the floor wire harness.

**DTC 34-8X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT TO POWER IN RIGHT SIDE CURTAIN AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 34-8x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.

4. Disconnect the floor wire harness 2P connector (A) from the right side curtain airbag connector (B).

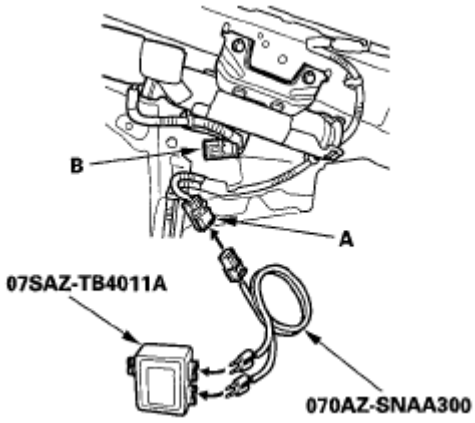



**Fig. 150: Identifying Floor Wire Harness 2P Connector And Right Side Curtain Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 34-8x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to power in the right side curtain airbag inflator; replace the right side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).

11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Reconnect the negative cable to the battery.
14. Turn the ignition switch ON (II).
15. Measure the voltage between each terminal of the black SRS simulator lead (A) and body ground. There should be 0.5 V or less.

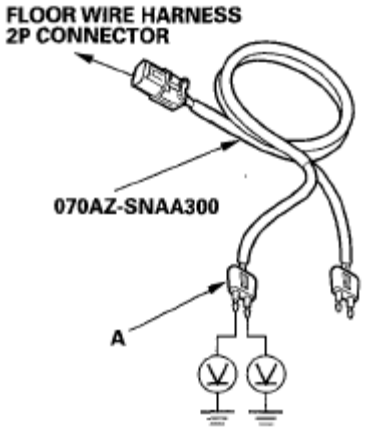



**Fig. 151: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

**DTC 34-9X ("X" CAN BE 0 THRU 9 OR A THRU R: SHORT TO GROUND IN RIGHT SIDE CURTAIN AIRBAG INFLATOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A

- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES ) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 34-9x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the floor wire harness 2P connector (A) from the right side curtain airbag connector (B).

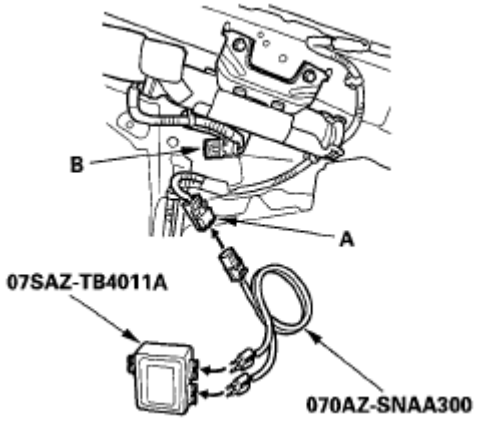



**Fig. 152: Identifying Floor Wire Harness 2P Connector And Right Side**

**Curtain Airbag Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect the SRS inflator simulator (2 ohms, connectors) and simulator lead L to the floor wire harness.
6. Reconnect the negative cable to the battery.
7. Clear the DTC memory.
8. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 34-9x indicated?*

   **YES** -Go to step 9.

   **NO** -Short to ground in the right side curtain airbag inflator; replace the right side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**).

9. Turn the ignition switch OFF: Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner 4P connectors' (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect the SRS inflator simulator from the SRS simulator lead. Do not disconnect the simulator lead from the floor wire harness 2P connector.
13. Measure the resistance between each terminal of the black SRS simulator lead (A) and body ground. There should be an open circuit or at least 1 M ohms.

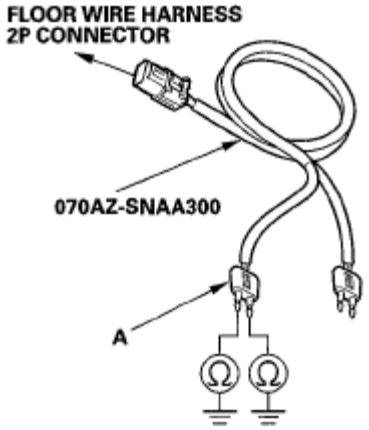



**Fig. 153: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection; if the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

**DTC 41-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE LEFT FRONT IMPACT SENSOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on

for about 6 seconds and then goes off.

*Does the SRS Indicator stay on, and is DTC 41-1x indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF.
4. Disconnect the negative cable from the battery, then wait for 3 minutes.
5. Check the connections between SRS unit connector A (28P) and the SRS unit, between the engine compartment wire harness 2P connector and the left front impact sensor (see **COMPONENT LOCATION INDEX**), and at connector C203 **CONNECTOR TO HARNESS INDEX** .

   *Are the connections OK?*

   **YES** -Go to step 6.

   **NO** -Repair the poor connections and retest. If DTC 41-1x is still present, go to step 6.

6. Disconnect the engine compartment wire harness 2P connector (A) from the left front impact sensor.

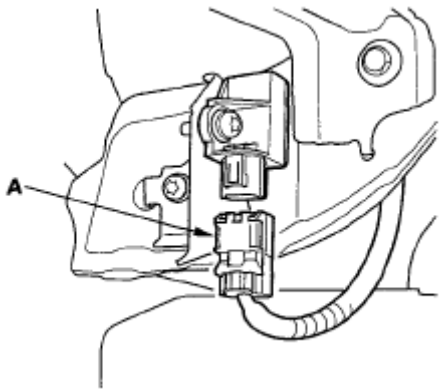



**Fig. 154: Identifying Engine Compartment Wire Harness 2P Connector**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
8. Measure the resistance between the No. 15 and No. 27 terminals of SRS unit connector A (28P). There should be an open circuit or at least 1 M ohms.

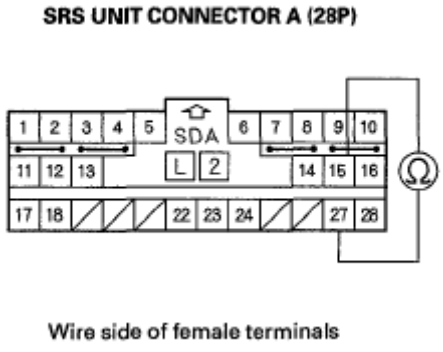



**Fig. 155: Measuring Resistance Between No. 15 And No. 27 Terminals Of SRS Unit Connector A (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 9.

**NO** -Short in the engine compartment wire harness or dashboard wire harness; replace the faulty harness.

9. Measure the resistance between the No. 15 terminal of SRS unit connector A (28P) and body ground, and between the No. 27 terminal and body ground. There should be an open circuit or at least 1 M ohms.

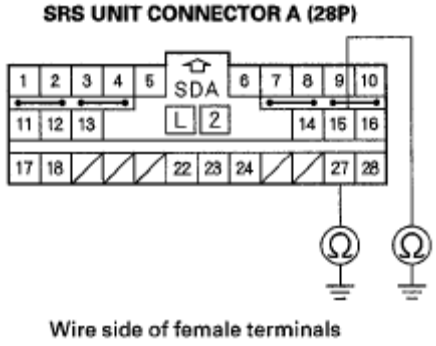



**Fig. 156: Measuring Resistance Between No. 15 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 10.

**NO** -Short to ground in the dashboard wire harness or the engine compartment wire harness; replace the faulty harness.

10. Reconnect the negative cable to the battery.
11. Turn the ignition switch ON (II).
12. Measure the voltage between the No. 15 terminal of SRS unit connector A (28P) and body ground, and between the No. 27 terminal and body ground. There should be 1 V or less.

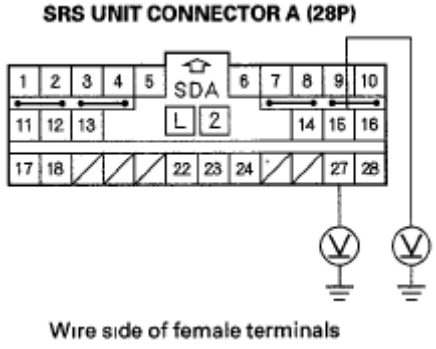



**Fig. 157: Measuring Voltage Between No. 15 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

http://ReadManuals.com



*Is the voltage as specified?*

**YES** -Go to step 13.

**NO** -Short to power in the engine compartment wire harness or the dashboard wire harness; replace the faulty harness.

13. Turn the ignition switch OFF.
14. Connect the SRS inflator simulator (jumper connector) and the black lead (A) of simulator lead L to the engine compartment wire harness 2P connector (B).

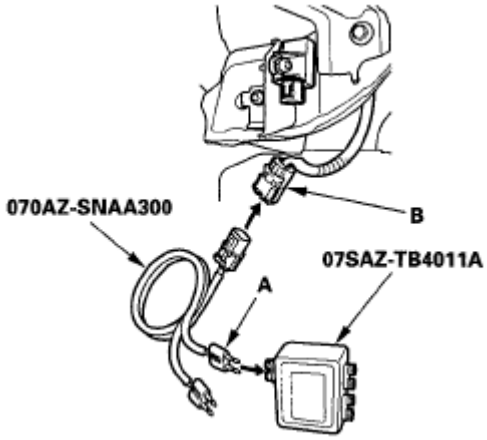



**Fig. 158: Identifying Engine Compartment Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Measure the resistance between the No. 15 and No. 27 terminals of SRS unit connector A (28P). There should be 0-1.0 ohms.

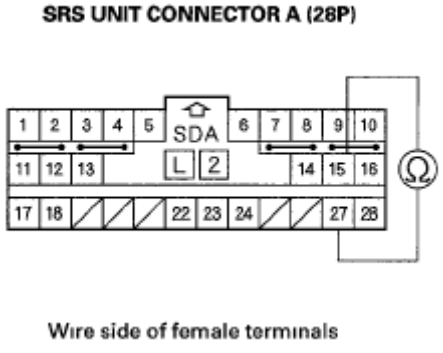



**Fig. 159: Measuring Resistance Between No. 15 And No. 27 Terminals Of SRS Unit Connector A (28P)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty left front impact sensor or SRS unit-replace the left front impact sensor (see **FRONT IMPACT SENSOR REPLACEMENT**). If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Poor connection at C203, open in the engine compartment wire harness, or open in the dashboard wire harness. Inspect C203 **CONNECTOR TO HARNESS INDEX** . If it is OK, replace the faulty harness.

**DTC 42-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE RIGHT FRONT IMPACT SENSOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 42-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF.
4. Disconnect the negative cable from the battery, then wait for 3 minutes.
5. Check the connections between SRS unit connector A (28P) and the SRS unit, between the engine compartment wire harness 2P connector and the right front impact sensor (see **COMPONENT LOCATION INDEX**), and at connector C203 **CONNECTOR TO HARNESS INDEX** .

   *Are the connections OK?*

   **YES** -Go to step 6.

   **NO** -Repair the poor connections and retest. If DTC 42-1x is still present, go to step 6.

6. Disconnect the engine compartment wire harness 2P connector (A) from the right front impact sensor.

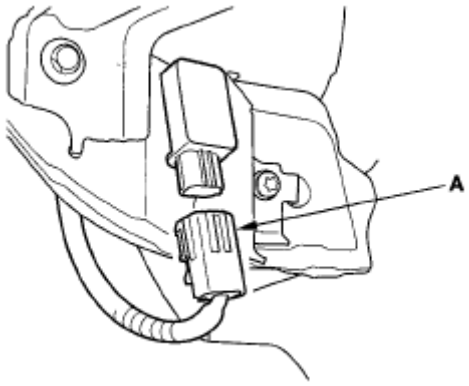



**Fig. 160: Identifying Engine Compartment Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
8. Measure the resistance between the No. 16 and No. 28 terminals of SRS unit connector A (28P). There should be an open circuit or at least 1 M ohms.

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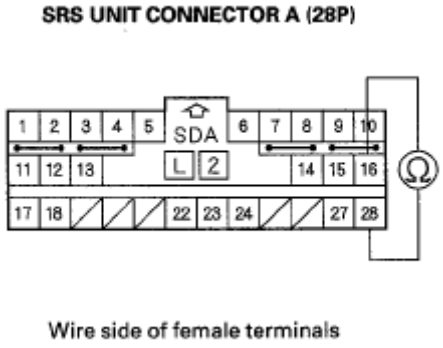



**Fig. 161: Measuring Resistance Between No. 16 And No. 28 Terminals Of SRS Unit Connector A (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 9.

**NO** -Short in the engine compartment wire harness or dashboard wire harness; replace the faulty harness.

9. Measure the resistance between the No. 16 terminal of SRS unit connector A (28P) and body ground, and between the No. 28 terminal and body ground. There should be an open circuit or at least 1 M ohms.

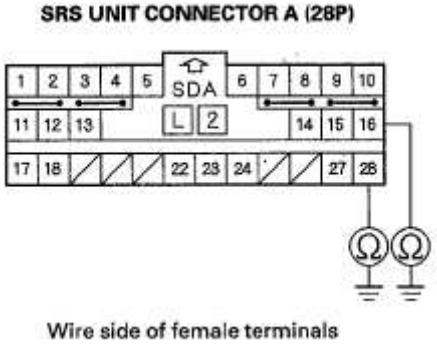



**Fig. 162: Measuring Resistance Between No. 16 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 10.

**NO** -Short to ground in the dashboard wire harness or the engine compartment wire harness; replace the faulty harness.

10. Reconnect the negative cable to the battery.
11. Turn the ignition switch ON (II).
12. Measure the voltage between the No. 16 terminal of SRS unit connector A (28P) and body ground, and between the No. 28 terminal and body ground. There should be 1 V or less.

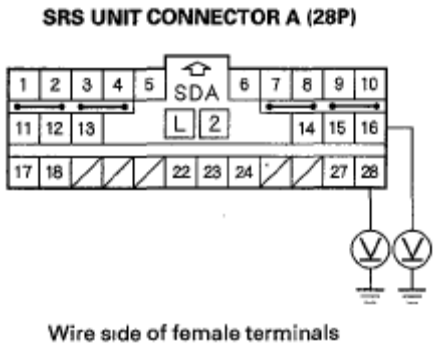



**Fig. 163: Measuring Voltage Between No. 16 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Go to step 13.

**NO** -Short to power in the engine compartment wire harness or dashboard wire harness; replace the faulty harness.

13. Turn the ignition switch OFF.
14. Connect the SRS inflator simulator (jumper connector) and the black lead (A) of simulator lead L to the engine compartment wire harness 2P connector (B).

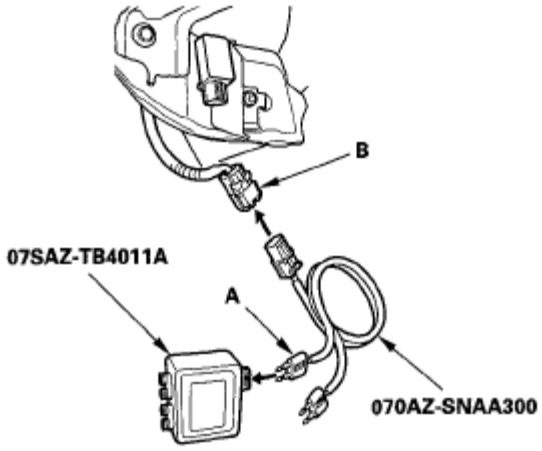



**Fig. 164: Identifying Engine Compartment Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Measure the resistance between the No. 16 and No. 28 terminals of SRS unit connector A (28P). There should be 0-1.0 ohms.

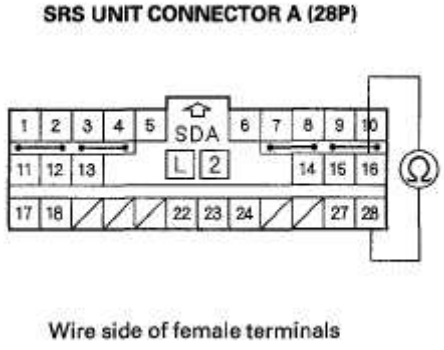



**Fig. 165: Measuring Resistance Between No. 16 And No. 28 Terminals Of SRS Unit Connector A (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty right front impact sensor or SRS unit; replace the right front impact sensor (see **FRONT IMPACT SENSOR REPLACEMENT**). If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Poor connection at C203, open in engine compartment wire harness, or

open in dashboard wire harness. Inspect C203 (see **CONNECTOR TO HARNESS INDEX** ). If it is OK, replace the faulty harness.

**DTC 41-2X, 41-3X, 41-BX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE LEFT FRONT IMPACT SENSOR**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 41-2x, 41-3x, or 41-Bx indicated?*

   **YES** -Replace the left front impact sensor (see **FRONT IMPACT SENSOR REPLACEMENT**). If the DTC returns, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**DTC 42-2X, 42-3X, 42-BX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE RIGHT FRONT IMPACT SENSOR**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on

for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 42-2x, 42-3x, or 42-Bx indicated?*

**YES** -Replace the right front impact sensor (see **FRONT IMPACT SENSOR REPLACEMENT**). If the DTC returns, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**DTC 43-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE LEFT SIDE IMPACT SENSOR (FIRST)**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), then wait for 10 seconds.
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 43-11 indicated?*

   **YES** -Go to step 6.

   **NO** -Go to step 4.

4. Read the DTC.

*Is DTC 43-12 indicated?*

**YES** -Go to step 5.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If DTC 43-1 x except DTC 43-11 and 43-12 is indicated, faulty left side impact sensor (first); replace the left side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**).

5. Read the DTC.

   *Is DTC B2-11 also indicated?*

   **YES** -Troubleshoot DTC B2-1x (see **DTC B2-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE REAR SAFING SENSOR**).

   **NO** -Faulty left side impact sensor (first); replace the left side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**).

6. Read the DTC.

   *Is DTC 45-11 also indicated?*

   **YES** -Faulty left side impact sensor (first); replace the left side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**).

   **NO** -Go to step 7.

7. Turn the ignition switch OFF.
8. Disconnect the negative cable from the battery, then wait for 3 minutes.
9. Disconnect both seat belt tensioner connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
10. Disconnect the floor wire harness 4P connector (A) from the left side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**).

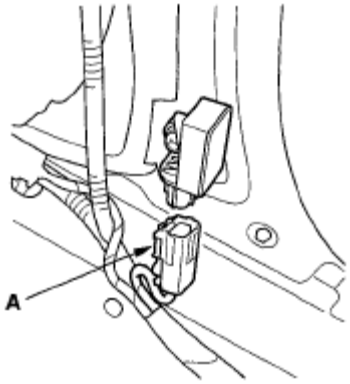



**Fig. 166: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Measure the resistance between the No. 25 and No. 26 terminals of SRS unit connector B (28P). There should be an open circuit or at least 1 M ohms.

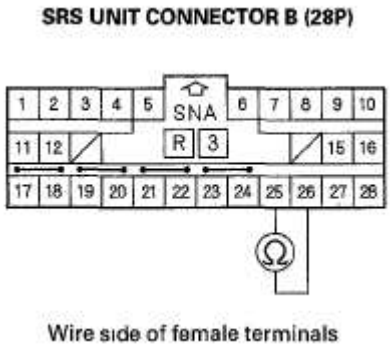



**Fig. 167: Measuring Resistance Between No. 25 And No. 26 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 13.

**NO** -Short in the floor wire harness; replace the floor wire harness.

13. Measure the resistance between the No. 25 terminal of SRS unit connector B (28P) and body ground, and between the No. 26 terminal and body ground.

There should be an open circuit or at least 1 M ohms.

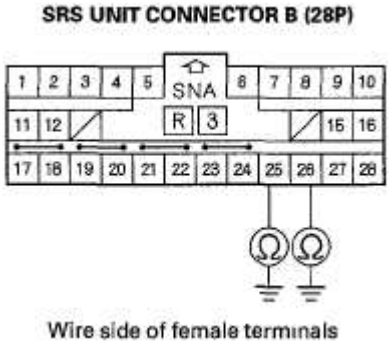



**Fig. 168: Measuring Resistance Between No. 25 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 14.

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

14. Reconnect the negative cable to the battery.
15. Turn the ignition switch ON (II).
16. Measure the voltage between the No. 25 terminal of SRS unit connector B (28P) and body ground, and between the No. 26 terminal and body ground. There should be 1 V or less.

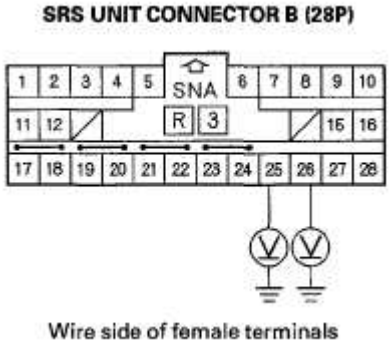



**Fig. 169: Measuring Voltage Between No. 25 Terminal Of SRS Unit Connector B (28P) And Body Ground**

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**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Go to step 17.

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

17. Turn the ignition switch OFF.
18. Connect the SRS inflator simulator (jumper connector) and the black lead (A) of simulator lead L to the left side impact sensor 4P connector (B).

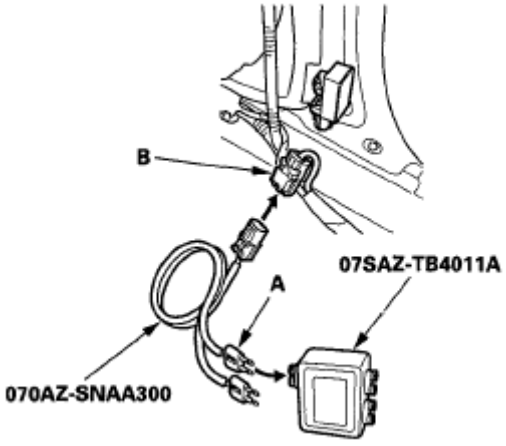



**Fig. 170: Identifying Left Side Impact Sensor 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Measure the resistance between the No. 25 and No. 26 terminals of SRS unit connector B (28P). There should be 0-1.0 ohms.

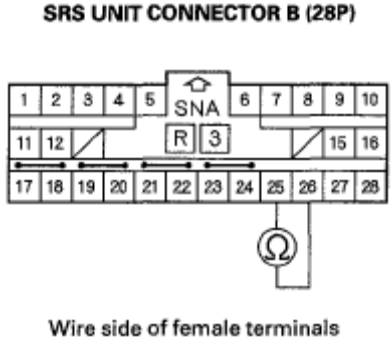



**Fig. 171: Measuring Resistance Between No. 25 And No. 26 Terminals Of**

**SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty left side impact sensor (first) or SRS unit; replace the left side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**). If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 44-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE RIGHT SIDE IMPACT SENSOR (FIRST)**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), then wait for 10 seconds.
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 44-11 indicated?*

   **YES** -Go to step 5.

   **NO** -Go to step 4.

4. Read the DTC.

*Is DTC 44-12 indicated?*

**YES** -Faulty right side impact sensor (first); replace the right side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**).

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If DTC 44-1x except DTC 44-11 and 44-12 is indicated, faulty right side impact sensor (first). Replace the right side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**).

5. Turn the ignition switch OFF.
6. Disconnect the negative cable from the battery, then wait for 3 minutes.
7. Disconnect both seat belt tensioner connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS** ).
8. Disconnect the floor wire harness 4P connector (A) from the right side impact sensor (first).

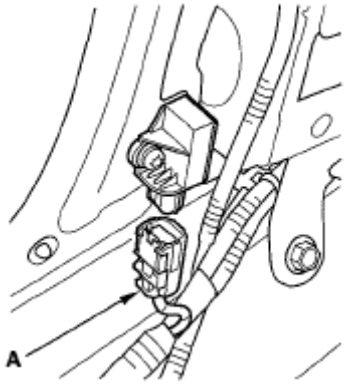



**Fig. 172: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
10. Measure the resistance between the No. 27 and No. 28 terminals of SRS unit connector B (28P). There should be an open circuit or at least 1 M ohms.

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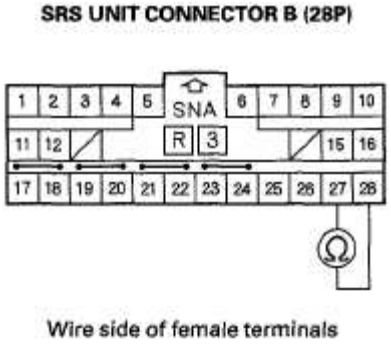



**Fig. 173: Measuring Resistance Between No. 27 And No. 28 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 11.

**NO** -Short in the floor wire harness; replace the floor wire harness.

11. Measure the resistance between the No. 27 terminal of SRS unit connector B (28P) and body ground, and between the No. 28 terminal and body ground. There should be an open circuit or at least 1 M ohms.

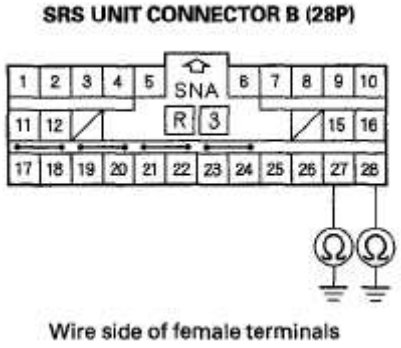



**Fig. 174: Measuring Resistance Between No. 27 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 12.

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

12. Reconnect the negative cable to the battery.
13. Turn the ignition switch ON (II).
14. Measure the voltage between the No. 27 terminal of SRS unit connector B (28P) and body ground, and between the No. 28 terminal and body ground. There should be 1 V or less.

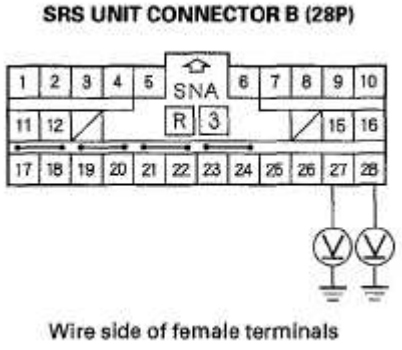



**Fig. 175: Measuring Voltage Between No. 27 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Go to step 15.

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

15. Turn the ignition switch OFF.
16. Connect the SRS inflator simulator (jumper connector) and the black lead (A) of simulator lead L to the right side impact sensor 4P connector (B).

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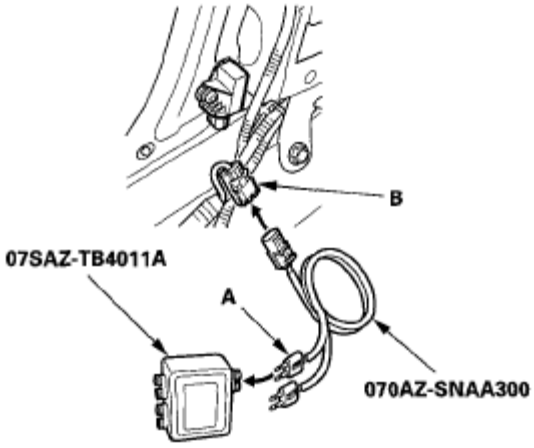



**Fig. 176: Identifying Right Side Impact Sensor 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Measure the resistance between the No. 27 and No. 28 terminals of SRS unit connector B (28P). There should be 0-1.0 ohms.

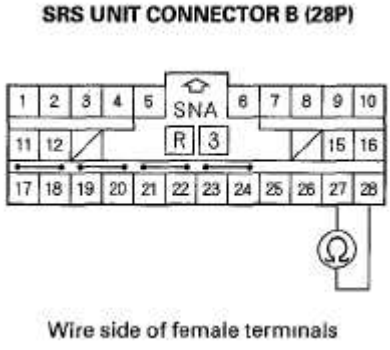



**Fig. 177: Measuring Resistance Between No. 27 And No. 28 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty right side impact sensor (first) or SRS unit; replace the right side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**). If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 43-2X, 43-3X, 43-BX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE LEFT SIDE IMPACT SENSOR (FIRST)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 43-2x, 43-3x, or 43-Bx indicated?*

   **YES** -Replace the left side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**). If the DTC returns, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**DTC 44-2X, 44-3X, 44-BX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE RIGHT SIDE IMPACT SENSOR (FIRST)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 44-2x, 44-3x, or 44-Bx indicated?*

**YES** -Replace the right side impact sensor (first) (see **SIDE IMPACT SENSOR (FIRST) REPLACEMENT**). If the DTC returns, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES** . If another DTC is indicated, troubleshoot the DTC.

**DTC 45-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE LEFT SIDE IMPACT SENSOR (SECOND)**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and wait for 10 seconds.
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 45-11 indicated?*

   **YES** -Go to step 4.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES** . If another DTC is indicated, troubleshoot the DTC.

4. Read the DTC.

   *Is DTC 43-11 also indicated?*

**YES** -Faulty left side impact sensor (second); replace the left side impact sensor (second) (see **SIDE IMPACT SENSOR (SECOND) REPLACEMENT**).

**NO** -Go to step 5.

5. Read the DTC.

   *Is DTC B2-11 also indicated?*

   **YES** -Faulty rear safing sensor; Replace the rear safing sensor (see **REAR SAFING SENSOR REPLACEMENT**).

   **NO** -Go to step 6.

6. Turn the ignition switch OFF.
7. Disconnect the negative cable from the battery, then wait for 3 minutes.
8. Disconnect floor wire harness 2P connector (A) from the left side impact sensor (second).

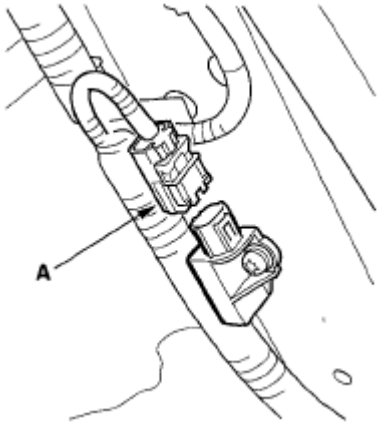



**Fig. 178: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Disconnect the floor wire harness 4P connector (A) from the rear safing sensor.

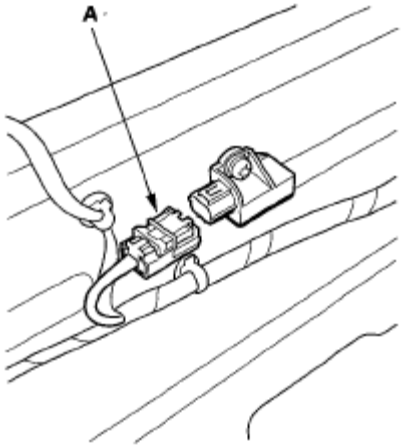



**Fig. 179: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Measure the resistance between the No. 1 and No. 2 terminals of left side impact sensor (second) 2P connector. There should be an open circuit or at least 1 M ohms.

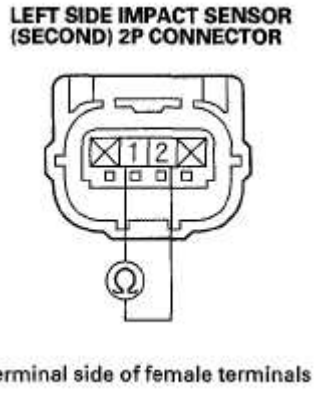



**Fig. 180: Measuring Resistance Between No. 1 And No. 2 Terminals Of Left Side Impact Sensor (Second) 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 11.

**NO** -Short in the floor wire harness; replace the floor wire harness.

11. Measure the resistance between the No. 1 terminal of left side impact sensor

(second) 2P connector and body ground, and between the No. 2 terminal and body ground. There should be an open circuit or at least 1 M ohms.

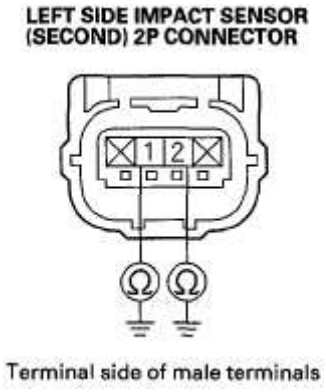



**Fig. 181: Measuring Resistance Between No. 1 Terminal Of Left Side Impact Sensor (Second) 2P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 12.

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

12. Reconnect the negative cable to the battery.
13. Turn the ignition switch ON (II).
14. Measure the voltage between the No. 1 terminal of left side impact sensor (second) 2P connector and body ground, and between the No. 2 terminal and body ground. There should be 1 V or less.

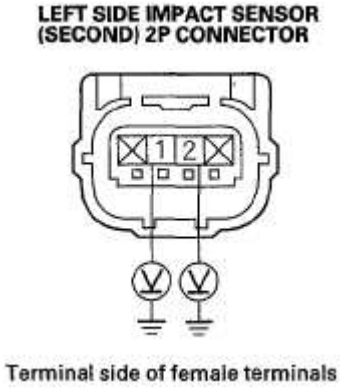


**Fig. 182: Measuring Voltage Between No. 1 Terminal Of Left Side Impact Sensor (Second) 2P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Go to step 15.

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

15. Turn the ignition switch OFF.
16. Connect the SRS inflator simulator (jumper connector) and the red lead (A) of simulator lead L to the rear safing sensor 4P connector (B).

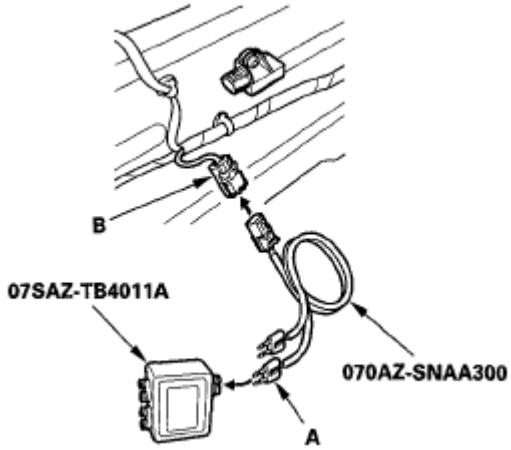



**Fig. 183: Identifying Rear Safing Sensor 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Measure the resistance between the No. 1 and No. 2 terminals of left side impact sensor (second) 2P connector. There should be 0-1.0 ohms.

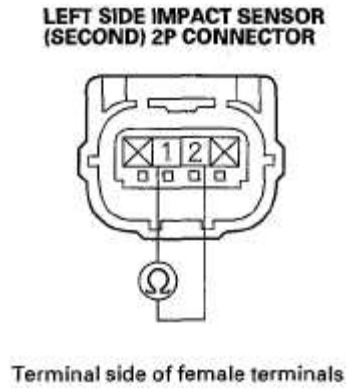



**Fig. 184: Measuring Resistance Between No. 1 And No. 2 Terminals Of Left Side Impact Sensor (Second) 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty left side impact sensor (second) or poor connection at left side impact sensor (second) 2P connector. Check the connection; If the connection is OK, replace the left side impact sensor (second) (see **SIDE IMPACT SENSOR (SECOND) REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 46-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE RIGHT SIDE IMPACT SENSOR (SECOND)**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNAA300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).

2. Turn the ignition switch ON (II), then wait for 10 seconds.
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 46-11 indicated?*

   **YES** -Go to step 5.

   **NO** -Go to step 4.

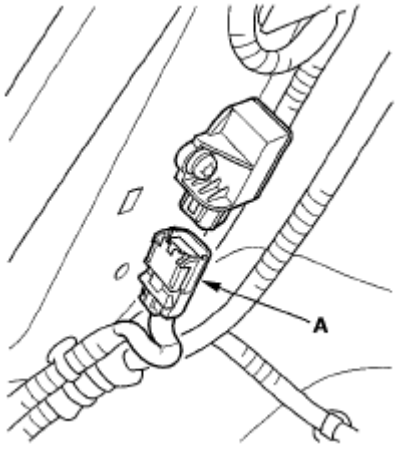
4. Read the DTC.

   *Is DTC 46-12 also indicated?*

   **YES** -Faulty right side impact sensor (second); replace the right side impact sensor (second) (see **SIDE IMPACT SENSOR (SECOND) REPLACEMENT**).

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

5. Turn the ignition switch OFF.
6. Disconnect the negative cable from the battery, then wait for 3 minutes.
7. Disconnect the floor wire harness 2P connector (A) from the right side impact sensor (second).



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**Fig. 185: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Disconnect the floor wire harness 4P connector (A) from the right side impact sensor (first).

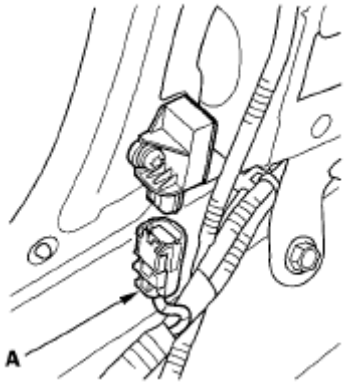



**Fig. 186: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Measure the resistance between the No. 1 and No. 2 terminals of right side impact sensor (second) 2P connector. There should be an open circuit or at least 1 M ohms.

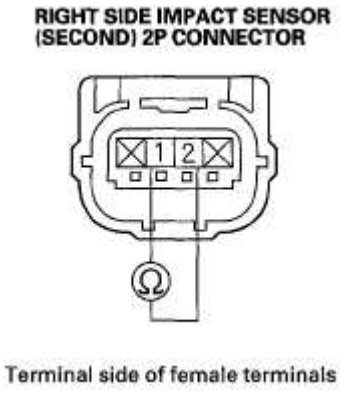



**Fig. 187: Measuring Resistance Between No. 1 And No. 2 Terminals Of Right Side Impact Sensor (Second) 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

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**YES** -Go to step 10.

**NO** -Short in the floor wire harness; replace the floor wire harness.

10. Measure the resistance between the No. 1 terminal of right side impact sensor (second) 2P connector and body ground, and between the No. 2 terminal and body ground. There should be an open circuit or at least 1 M ohms.

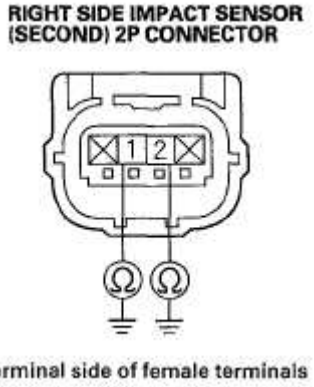



**Fig. 188: Measuring Resistance Between No. 1 Terminal Of Right Side Impact Sensor (Second) 2P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 11.

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

11. Reconnect the negative cable to the battery.
12. Turn the ignition switch ON (II).
13. Measure the voltage between the No. 1 terminal of right side impact sensor (second) 2P connector and body ground, and between the No. 2 terminal and body ground. There should be 1 V or less.

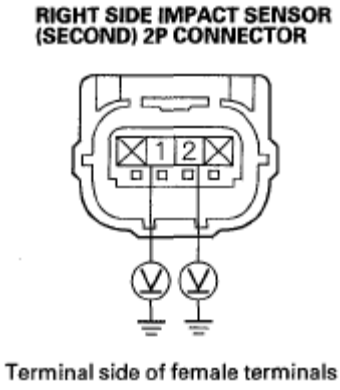



**Fig. 189: Measuring Voltage Between No. 1 Terminal Of Right Side Impact Sensor (Second) 2P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Go to step 14.

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

14. Turn the ignition switch OFF.
15. Connect the SRS inflator simulator (jumper connector) and the red lead (A) of simulator lead L to the right side impact sensor (first) 4P connector (B).

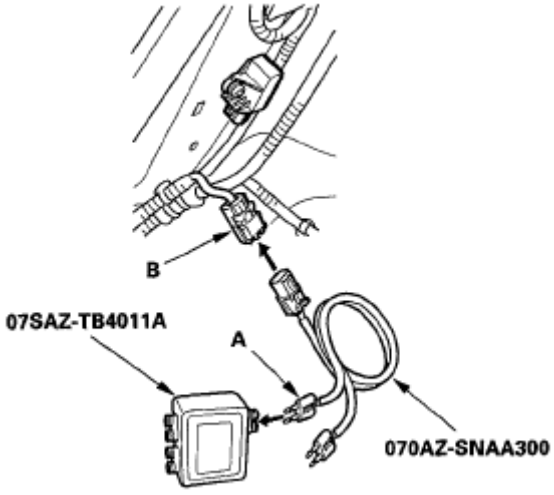



**Fig. 190: Identifying Right Side Impact Sensor (First) 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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16. Measure the resistance between the No. 1 and No. 2 terminals of right side impact sensor (second) 2P connector. There should be 0-1.0 ohms.

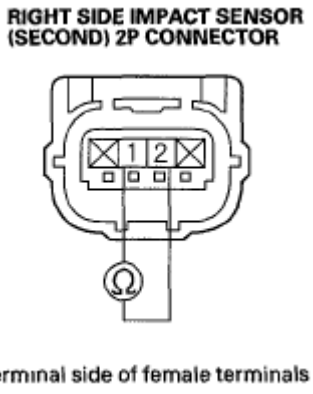



**Fig. 191: Measuring Resistance Between No. 1 And No. 2 Terminals Of Right Side Impact Sensor (Second) 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty right side impact sensor (second) or poor connection at right side impact sensor (second) 2P connector. Check the connection; If the connection is OK, replace the right side impact sensor (second) (see **SIDE IMPACT SENSOR (SECOND) REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC 45-2X, 45-3X, 45-BX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE LEFT SIDE IMPACT SENSOR (SECOND)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 45-2x, 45-3x, or 45-Bx indicated?*

**YES** -Replace the left side impact sensor (second) (see **SIDE IMPACT SENSOR (SECOND) REPLACEMENT**). If the DTC returns, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**DTC 46-2X, 46-3X, 46-BX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE RIGHT SIDE IMPACT SENSOR (SECOND)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 46-2x, 46-3x, or 46-Bx indicated?*

**YES** -Replace the right side impact sensor (second) (see **SIDE IMPACT SENSOR (SECOND) REPLACEMENT**). If the DTC returns, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**DTC 51-XX, 52-XX, 53-XX, 54-XX, 55-XX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE SRS UNIT**

**NOTE:**

- **Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS**

**AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

- **Before troubleshooting any of these DTCs, check the battery/system voltage. If the voltage is low, repair the charging system or replace the battery before troubleshooting the SRS. If the battery/system voltage is now OK, ask the customer if the battery ever went dead. A dead battery may trigger one of these DTCs.**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 51-xx, 52-xx, 53-xx, 54-xx, or 55-xx indicated?*

   **YES** -Replace the SRS unit (see **SRS UNIT REPLACEMENT**).

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**DTC EX-XX, ("X" CAN BE 0 THRU 9 OR A THRU F): CONTROL OPERATION RECORDED; DTC FX-XX, ("X" CAN BE 0 THRU 9 OR A THRU F): AIRBAGS AND/OR TENSIONER DEPLOYMENT RECORDED**

**NOTE:**

- **Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **DTC E2-11: Front passenger's airbag did not deploy by SWS operation.**
- **DTC E4-11: Front passenger's side airbag did not**

**deploy by OPDS operation.**

- **DTC F1-11: Driver's airbag and/or driver's seat belt tensioner and seat belt buckle tensioner deployed.**
- **DTC F2-11: Front passenger's airbag and/or front passenger's seat belt tensioner and seat belt buckle tensioner deployed.**
- **DTC F3-11: Driver's side airbag, left side curtain airbag, and/or driver's seat belt tensioner deployed.**
- **DTC F4-11: Front passenger's side airbag, right side curtain airbag, and/or front seat belt tensioner deployed.**

1. Erase the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch to ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC Ex-xx or Fx-xx indicated?*

   **YES** -Replace the SRS unit (see **COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT**).

   **NO** -Check the connectors for looseness, poor pin fit, and poor ground, and repair if needed. If there are no connector problems, the system is OK at this time.

**NOTE:**

- **DTC E2-11 is set if the system triggered airbag deployment but the front passenger's airbag was prevented from deploying because of the seat weight sensor.**
- **DTC E4-11 is set if the system triggered a passenger's side airbag deployment but the airbag was prevented from deploying by the ODS. Replace the right side impact sensor (first) (see SIDE**

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## IMPACT SENSOR (FIRST) REPLACEMENT).

**DTC 61-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN DRIVER'S SEAT BELT BUCKLE SWITCH**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Connect the HDS to the data link connector (DLC).
3. Turn the ignition switch ON (II), then buckle and unbuckle the driver's seat belt several times.
4. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. From the Main Menu on the HDS, select SRS, then PARAMETER INFORMATION. In the PARAMETER INFORMATION Menu, select "FRONT LEFT BUCKLE."

   *Is "OPEN" indicated?*

   **YES** -

   - If OPEN is indicated only when the driver's seat belt is buckled, go to step 6.
   - If OPEN is indicated only when the driver's seat belt is unbuckled, go to step 13.
   - If OPEN is indicated only when the driver's seat belt is buckled and unbuckled, go to step 21.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

6. Turn the ignition switch OFF.
7. Disconnect the floor wire harness 3P connector from the driver's seat belt buckle switch 3P connector (A).

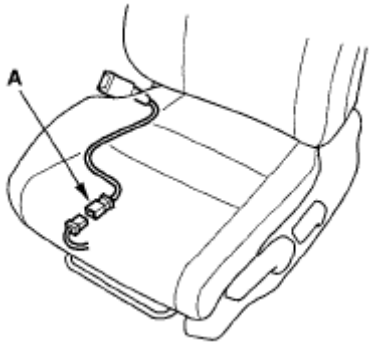



**Fig. 192: Identifying Driver's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Buckle the driver's seat belt. Measure the resistance between the No. 1 and No. 3 terminals of the driver's seat belt buckle switch 3P connector. There should be 0-1 ohms.

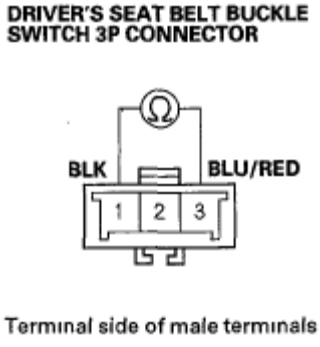



**Fig. 193: Measuring Resistance Between No. 1 And No. 3 Terminals Of Driver's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 9.

**NO** -Replace the driver's seat belt buckle assembly (see **FRONT SEAT BELT**

**BUCKLE** ), then clear the DTC.

9. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
11. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9**DISCONNECTING SYSTEM CONNECTORS**).
12. Measure the resistance between the No. 12 terminal of SRS unit connector B (28P) and the No. 1 terminal of the floor wire harness 3P connector. There should be 0-1 ohms.

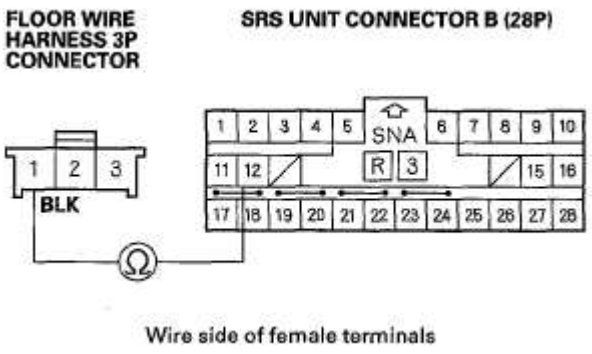



**Fig. 194: Measuring Resistance Between No. 12 Terminal Of SRS Unit And No. 1 Terminal Of Floor Wire Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

13. Turn the ignition switch OFF.
14. Disconnect the floor wire harness 3P connector from the driver's seat belt buckle switch 3P connector (A).

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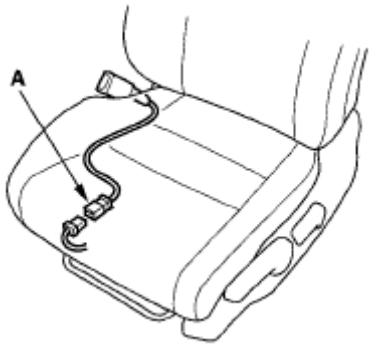



**Fig. 195: Identifying Driver's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Unbuckle the driver's seat belt.
16. Measure the resistance between the No. 1 and No. 2 terminals of the driver's seat belt buckle switch 3P connector. There should be 0-1 ohms.

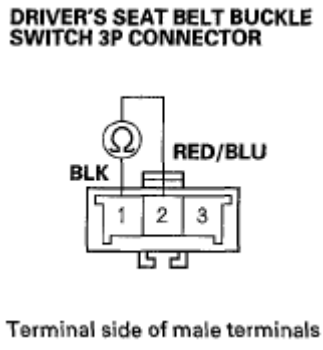



**Fig. 196: Measuring Resistance Between No. 1 And No. 2 Terminals Of Driver's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 17.

**NO** -Replace the driver's seat belt buckle assembly (see **FRONT SEAT BELT BUCKLE** ), then clear the DTC.

17. Disconnect the negative cable from the battery, then wait for 3 minutes.
18. Disconnect the seat belt tensioner 4P connectors (see step 7

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**DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).

19. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
20. Measure the resistance between the No. 11 terminal of SRS unit connector B (28P) and the No. 2 terminal of the floor wire harness 3P connector. There should be 0-1 ohms.

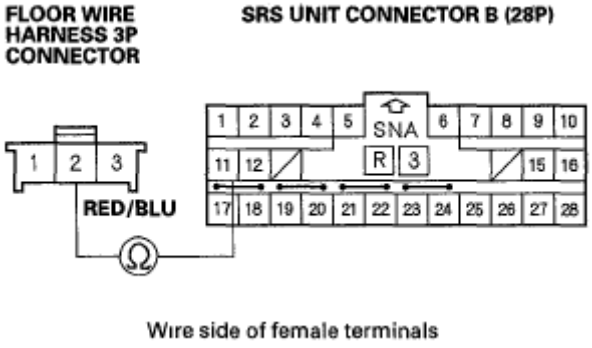



**Fig. 197: Measuring Resistance Between No. 11 Terminal Of SRS Unit And No. 2 Terminal Of Floor Wire Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

21. Turn the ignition switch OFF.
22. Disconnect the floor wire harness 3P connector from the driver's seat belt buckle switch 3P connector (A).

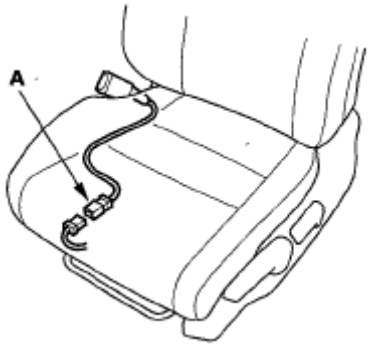



**Fig. 198: Identifying Driver's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Unbuckle the driver's seat belt.
24. Measure the resistance between the No. 1 terminal of the floor wire harness 3P connector and body ground. There should be 0-1 ohms.

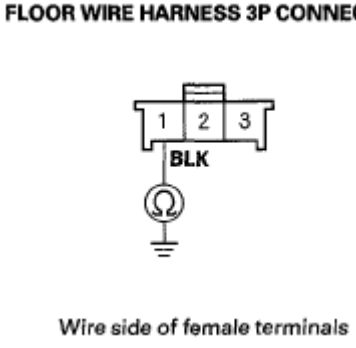



**Fig. 199: Measuring Resistance Between No. 1 Terminal Of Floor Wire Harness 3P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Replace the driver's seat belt buckle assembly (see **FRONT SEAT BELT BUCKLE** ), then clear the DTC.

**NO** -Open in the floor wire harness or poor ground connection at G602:

- 2-door (see **CONNECTOR TO HARNESS INDEX** )
- 4-door (see **CONNECTOR TO HARNESS INDEX** )

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If G602 is OK, replace the floor wire harness.

**DTC 61-2X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT IN DRIVER'S SEAT BELT BUCKLE SWITCH**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), then buckle and unbuckle the driver's seat belt several times.
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 61-2x indicated?*

   **YES** -Go to step 4.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

4. Turn the ignition switch OFF.
5. Disconnect the floor wire harness 3P connector from the driver's seat belt buckle switch 3P connector (A).

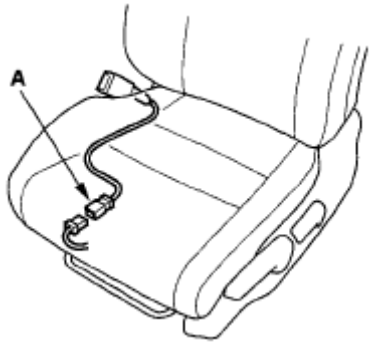



**Fig. 200: Identifying Driver's Seat Belt Buckle Switch 3P Connector**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Turn the ignition switch ON (II).
7. From the SRS menu, select PARAMETER INFORMATION menu, select "FRONT LEFT BUCKLE."

   *Is OPEN indicated on the HDS?*

   **YES** -Replace the driver's seat belt buckle assembly (see **FRONT SEAT BELT BUCKLE** ), then clear the DTC.

   **NO** -Go to step 8.

8. Turn the ignition switch OFF.
9. Measure the resistance between the No. 1 terminal of the floor wire harness 3P connector and body ground. There should be 0-1 ohms.

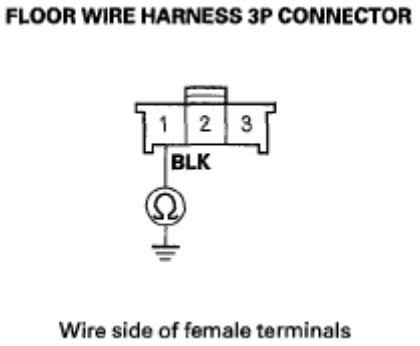



**Fig. 201: Measuring Resistance Between No. 1 Terminal Of Floor Wire Harness 3P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Short to ground in the floor wire harness; replace the floor wire harness.

**NO** -Go to step 10.

10. Disconnect the negative cable from the battery, then wait for 3 minutes.
11. Disconnect the seat belt tensioner 4P connectors (see step 7

**DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).

12. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
13. Measure the resistance between the No. 2 terminals of the floor wire harness 3P connector and body ground. There should be an open circuit or at least 1 M ohms.

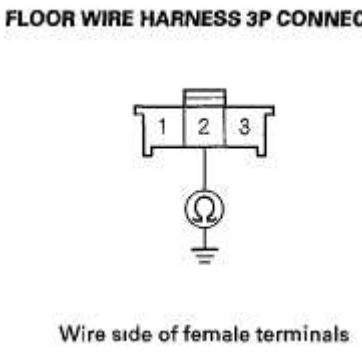



**Fig. 202: Measuring Resistance Between No. 2 Terminals Of Floor Wire Harness 3P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Short to ground in the floor wire harness; replace the floor wire harness.

**NO** -Faulty SRS unit; replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**DTC 62-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN FRONT PASSENGER'S SEAT BELT BUCKLE SWITCH**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE**

**HDS**).

2. Connect the HDS to the data link connector (DLC).
3. Turn the ignition switch ON (II), then buckle and unbuckle the front passenger's seat belt several times.
4. Make sure the HDS communicates with the vehicle and the SRS unit, If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. From the Main Menu on the HDS, select SRS, then PARAMETER INFORMATION. In the PARAMETER INFORMATION Menu, select "FRONT RIGHT BUCKLE."

   *Is "OPEN" indicated?*

   **YES** -

   - If OPEN is indicated only when the front passenger's seat belt is buckled, go to step 6.
   - If OPEN is indicated only when the front passenger's seat belt is unbuckled, go to step 13.
   - If OPEN is indicated only when the front passenger's seat belt is buckled and unbuckled, go to step 21.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

6. Turn the ignition switch OFF.
7. Disconnect the floor wire harness 3P connector from the front passenger's seat belt buckle switch 3P connector (A).

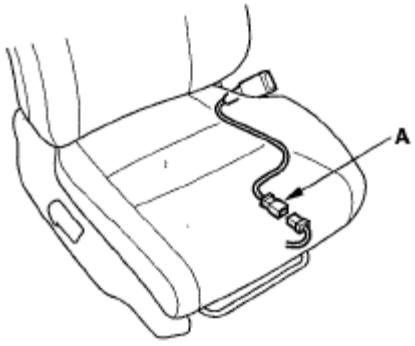



**Fig. 203: Identifying Front Passenger's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Buckle the front passenger's seat belt. Check resistance between the No. 1 and No. 3 terminals of the front passenger's seat belt buckle switch 3P connector. There should be 0-1 ohms.

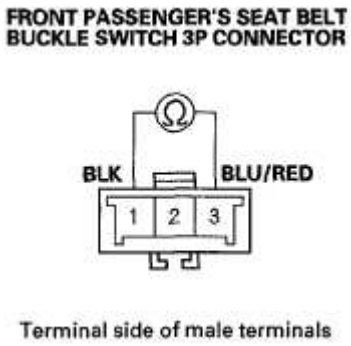



**Fig. 204: Checking Resistance Between No. 1 And No. 3 Terminals Of Front Passenger's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistances specified?*

**YES** -Go to step 9.

**NO** -Replace the front passenger's seat belt buckle assembly (see **FRONT SEAT BELT BUCKLE** ), then clear the DTC.

9. Disconnect the negative cable from the battery, then wait for 3 minutes.
10. Disconnect both seat belt tensioner connectors (see step 7 **DISCONNECTING**

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**SYSTEM CONNECTORS**) and both seat belt buckle tensioner connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).

11. Disconnect SRS unit connector B (28P) from the SRS unit (see step9 **DISCONNECTING SYSTEM CONNECTORS**).
12. Measure the resistance between the No. 16 terminal of SRS unit connector B (28P) and the No. 1 terminal of the passenger's seat wire harness 3P connector. There should be 0-1 ohms.

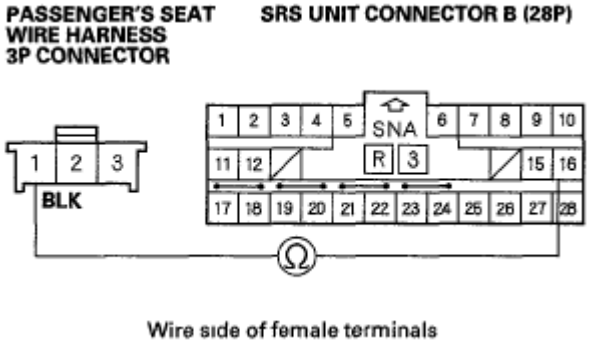



**Fig. 205: Measuring Resistance Between No. 16 Terminal Of SRS Unit And No. 1 Terminal Of Passenger's Seat Wire Harness**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

13. Turn the ignition switch OFF.
14. Disconnect the floor wire harness 3P connector from the front passenger's seat belt buckle switch 3P connector (A).

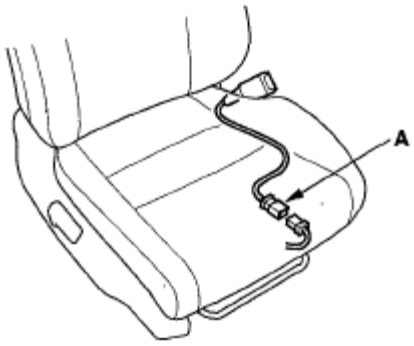



**Fig. 206: Identifying Front Passenger's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Unbuckle the front passenger's seat belt.
16. Measure the resistance between the No. 1 and No. 2 terminals of the front passenger's seat belt buckle switch 3P connector. There should be 0-1 ohms.

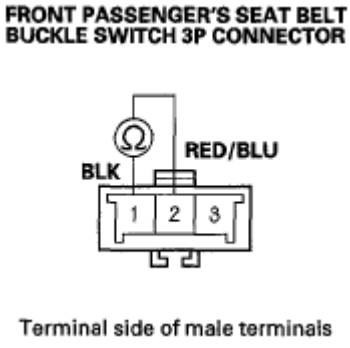



**Fig. 207: Measuring Resistance Between No. 1 And No. 2 Terminals Of Front Passenger's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 17.

**NO** -Replace the front passenger's seat belt buckle assembly (see **FRONT SEAT BELT BUCKLE** ), then clear the DTC.

17. Disconnect the negative cable from the battery, then wait for 3 minutes,

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18. Disconnect both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
19. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
20. Measure the resistance between the No. 15 terminal of SRS unit connector B (28P) and the No. 2 terminal of the floor wire harness 3P connector. There should be 0-1 ohms.

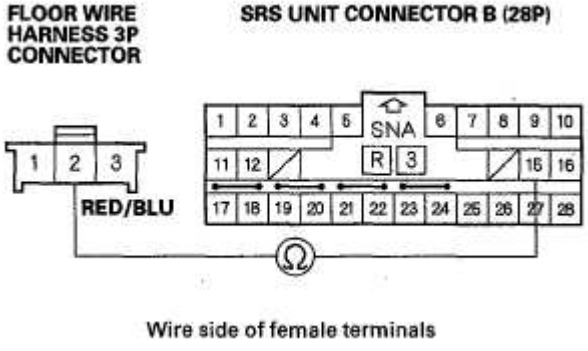



**Fig. 208: Measuring Resistance Between No. 15 Terminal Of SRS Unit And No. 2 Terminal Of Floor Wire Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector B (28P) and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

21. Turn the ignition switch OFF.
22. Disconnect the floor wire harness 3P connector from the front passenger's seat belt buckle switch 3P connector (A).

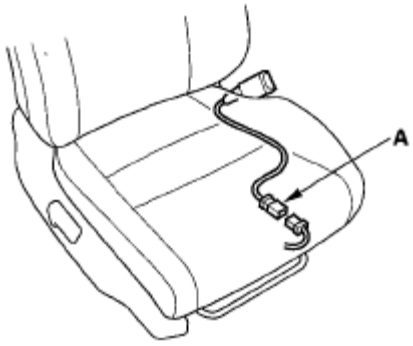



**Fig. 209: Identifying Front Passenger's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Unbuckle the front passenger's seat belt.
24. Measure the resistance between the No. 1 terminal of the floor wire harness 3P connector and body ground. There should be 0-1 ohms.

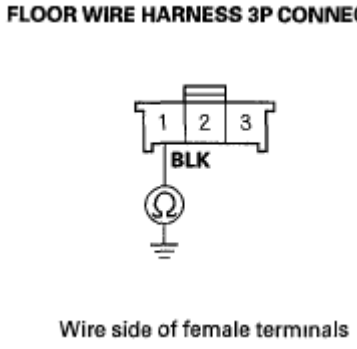



**Fig. 210: Measuring Resistance Between No. 1 Terminal Of Floor Wire Harness 3P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Replace the front passenger's seat belt buckle assembly (see **FRONT SEAT BELT REPLACEMENT** ), then clear the DTC.

**NO** -Open in the floor wire harness or poor ground connection at G602:

- 2-door (see **CONNECTOR TO HARNESS INDEX** )

- 4-door (see **CONNECTOR TO HARNESS INDEX** )

If G602 is OK, replace the floor wire harness.

**DTC 62-2X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT IN FRONT PASSENGER'S SEAT BELT BUCKLE SWITCH**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), then buckle and unbuckle the front passenger's seat belt several times.
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 62-2x indicated?*

   **YES** -Go to step 4.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

4. Turn the ignition switch OFF.
5. Disconnect the floor wire harness 3P connector from the front passenger's seat belt buckle switch 3P connector (A).

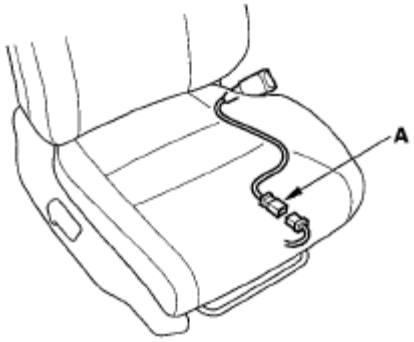



**Fig. 211: Identifying Front Passenger's Seat Belt Buckle Switch 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Turn the ignition switch ON (II).
7. From the SRS menu, select PARAMETER INFORMATION menu, select "FRONT RIGHT BUCKLE."

   *Is OPEN indicated on the HDS?*

   **YES** -Replace the front passenger's seat belt buckle assembly (see **FRONT SEAT BELT BUCKLE** ), then clear the DTC.

   **NO** -Go to step 8.

8. Turn the ignition switch OFF.
9. Measure the resistance between the No. 1 terminal of the floor wire harness 3P connector and body ground. There should be 0-1 ohms.

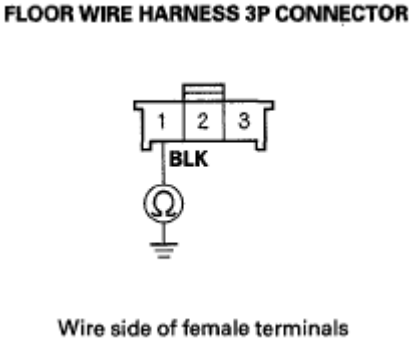



**Fig. 212: Measuring Resistance Between No. 1 Terminal Of Floor Wire**

**Harness 3P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Short to ground in the floor wire harness; replace the floor wire harness.

**NO** -Go to step 10.

10. Disconnect the negative cable from the battery, then wait for 3 minutes.
11. Disconnect both seat belt tensioner 4P connectors (see step7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
12. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
13. Measure the resistance between the No. 2 terminal of the floor wire harness 3P connector and body ground. There should be an open circuit or at least 1 M ohms.

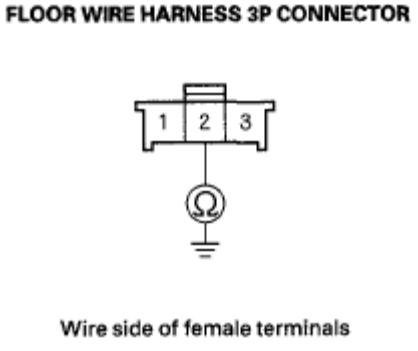



**Fig. 213: Measuring Resistance Between No. 2 Terminal Of Floor Wire Harness 3P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Short to ground in the floor wire harness; replace the floor wire harness.

**NO** -Faulty SRS unit; Replace the SRS unit (see **SRS UNIT**

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**REPLACEMENT**).

**DTC 71-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN DRIVER'S SEAT POSITION SENSOR**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 71-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Check the connection between the seat position sensor harness 2P connector and the driver's seat position sensor (see **COMPONENT LOCATION INDEX**).
4. Clear the DTC memory.
5. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 71-1x indicated?*

   **YES** -Go to step 6.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

6. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
7. Disconnect the driver's seat wire harness 2P connector from the driver's seat position sensor (A).

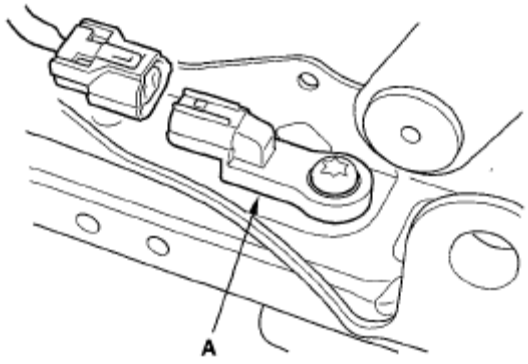



**Fig. 214: Identifying Driver's Seat Position Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Connect the No. 1 and No. 2 terminals of the driver's seat wire harness 2P connector with a jumper wire.
9. Disconnect both seat belt tensioner connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
10. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
11. Measure the resistance between the No. 5 and No. 6 terminals of SRS unit connector B (28P). There should be 0-1.0 ohms.

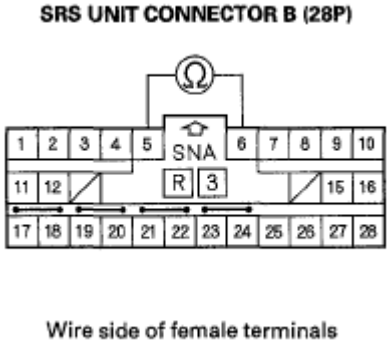



**Fig. 215: Measuring Resistance Between No. 5 And No. 6 Terminals Of Srs**

**Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty driver's seat position sensor or SRS unit; replace the driver's seat position sensor (see **DRIVER'S SEAT POSITION SENSOR REPLACEMENT**). If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the floor wire harness, driver's seat wire harness (with seat heater) or the seat position sensor harness; replace the faulty harness.

**DTC 71-2X ("X" CAN BE 0 THRU 9 OR A THRU F): SHORT IN DRIVER'S SEAT POSITION SENSOR**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 71-2x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
4. Disconnect the driver's seat wire harness 2P connector from the driver's seat

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position sensor (A) (see **COMPONENT LOCATION INDEX**).

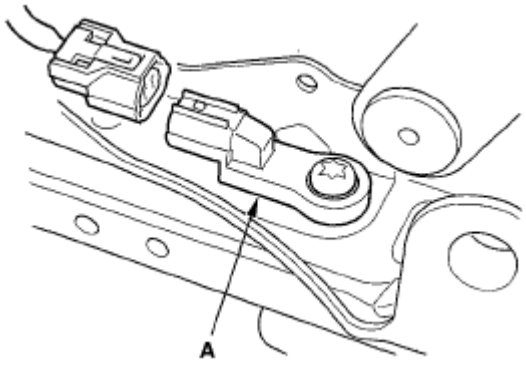



**Fig. 216: Identifying Driver's Seat Position Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Reconnect the negative cable to the battery.
6. Clear the DTC memory.
7. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 71-2x indicated?*

   **YES** -Go to step 8.

   **NO** -Faulty driver's seat position sensor; replace the driver's seat position sensor (see **DRIVER'S SEAT POSITION SENSOR REPLACEMENT**).

8. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
9. Disconnect both seat belt tensioner connectors (see step **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
10. Disconnect SRS unit connector B (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
11. Measure the resistance between the No. 5 and No. 6 terminals of SRS unit connector B (28P). There should be an open circuit or at least 1 M ohms.

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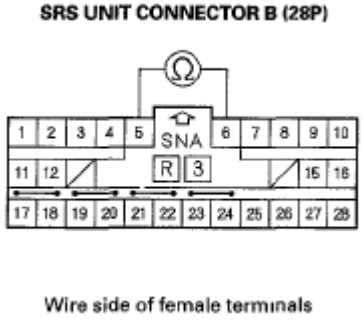



**Fig. 217: Measuring Resistance Between No. 5 And No. 6 Terminals Of SRS Unit Connector B (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 12.

**NO** -Short in the floor wire harness, driver's seat wire harness (with seat heater) or the seat position sensor harness; replace the faulty harness.

12. Measure the resistance between the No. 5 terminal of SRS unit connector B (28P) and body ground, and between the No. 6 terminal and body ground. There should be an open circuit or at least 1 M ohms.

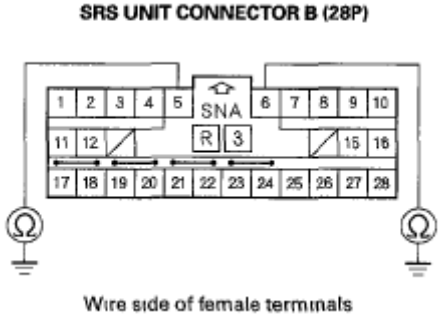



**Fig. 218: Measuring Resistance Between No. 5 Terminal Of SRS Unit Connector B (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty driver's seat position sensor or the SRS unit; replace the driver's

seat position sensor (see **DRIVER'S SEAT POSITION SENSOR REPLACEMENT**). If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short in the floor wire harness, driver's seat wire harness (with heated seat) or the seat position sensor harness; replace the faulty harness.

**DTC 81-61, 85-61: NO SIGNAL FROM THE ODS UNIT; DTC 81-62, 85-62: RESPONSE DATA ERROR FROM THE ODS UNIT**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Make sure nothing is on the front passenger's seat.
2. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 81-61, 85-61, 81-62, or 85-62 indicated?*

   **YES** -Go to step 4.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

4. Check the connection between the ODS unit harness 18P connector and the ODS unit.

   *Is the connection OK?*

   **YES** -Go to step 6.

   **NO** -Repair the poor connection and retest. If DTC 85-61 or 85-62 is still present, go to step 5.

5. Turn the ignition switch OFF.
6. Check the No. 9 (7.5 A) fuse in the under-dash fuse/ relay box.

   *Is the fuse OK?*

   **YES** -Go to step 7.

   **NO** -Replace the fuse, then turn the ignition switch ON (II). If the fuse blows again, check for a short in the No. 9 (7.5 A) fuse circuit (floor wire harness, or ODS unit harness).

7. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.




**Fig. 219: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Turn the ignition switch ON (II).
9. Measure the voltage between the No. 1 terminal of the ODS unit harness 18P connector and body ground. There should be battery voltage.

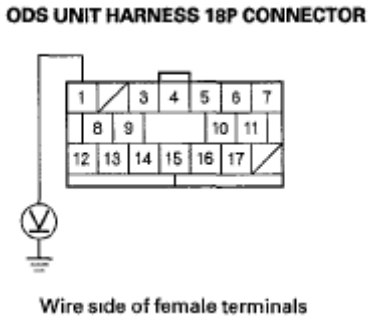



**Fig. 220: Measuring Voltage Between No. 1 Terminal Of ODS Unit**

**Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 10.

**NO** -Open in the floor wire harness, front passenger's seat wire harness (with seat heater), or ODS unit harness; replace the faulty harness.

10. Turn the ignition switch OFF.
11. Measure the resistance between the No. 12 terminal of the ODS unit harness 18P connector and body ground. There should be 0-1.0 ohms.

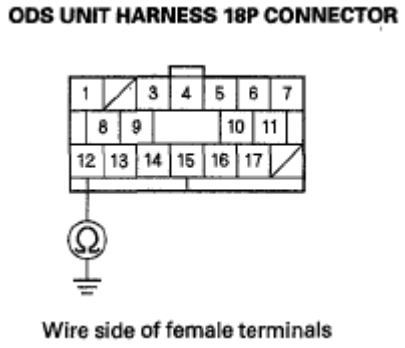



**Fig. 221: Measuring Resistance Between No. 12 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 12.

**NO** -Open in the ODS unit harness, front passenger's seat wire harness (with seat heater), floor wire harness, or poor ground connection at G602:

- 2-door (see **CONNECTOR TO HARNESS INDEX** )
- 4-door (see **CONNECTOR TO HARNESS INDEX** )

If G602 is OK, replace the faulty harness.

12. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
13. Disconnect SRS unit connector A (28P) from the SRS unit (see step 9 **DISCONNECTING SYSTEM CONNECTORS**).
14. Measure the resistance between the No. 14 terminal of SRS unit connector A (28P) and body ground. There should be an open circuit or at least 1 M ohms.

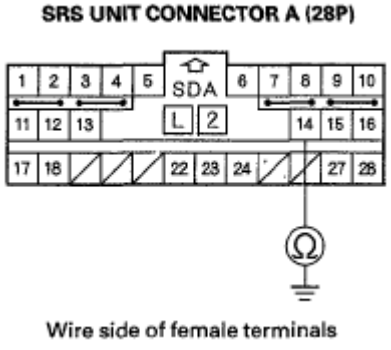



**Fig. 222: Measuring Resistance Between No. 14 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 15.

**NO** -Short to ground in the dashboard wire harness, front passenger's seat wire harness (with seat heater) or floor wire harness; replace the faulty harness.

15. Measure the resistance between the No. 14 terminal of SRS unit connector A (28P) and the No. 7 terminal of the ODS unit harness 18P connector. There should be 0-1.0 ohms.

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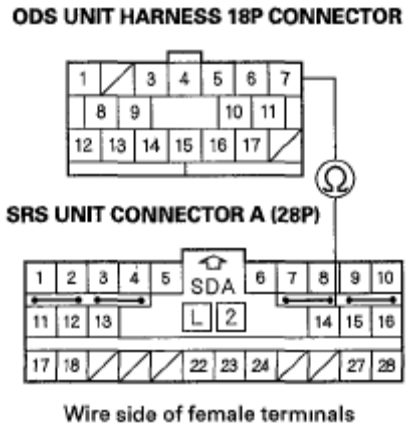



**Fig. 223: Measuring Resistance Between No. 14 Terminal Of SRS Unit And No. 7 Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit or SRS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**). If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Open in the dashboard wire harness, floor wire harness, or front passenger's seat wire harness (with seat heater); replace the faulty harness.

**DTC 81-71, 81-78: ODS UNIT DOES NOT CALIBRATE**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is 81-71 or 81-78 indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Calibrate the ODS unit (see **ODS UNIT CALIBRATION**).
4. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator go off?*

   **YES** -The system is OK.

   **NO** -Go to step 5.

5. Replace the ODS unit (see **ODS UNIT REPLACEMENT**).
6. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator go off?*

   **YES** -The system is OK.

   **NO** -Replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**DTC 85-71, 85-78: ODS UNIT NOT INITIALIZED**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is 85-71 or 85-78 indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Initialize the ODS unit (see **ODS UNIT INITIALIZATION**).
4. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator go off?*

   **YES** -The system is OK.

   **NO** -Go to step 5.

5. Replace the ODS unit (see **ODS UNIT REPLACEMENT**).
6. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator go off?*

   **YES** -The system is OK.

   **NO** -Replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**DTC 81-4X, 81-5X, 81-63, 81-64, 85-4X, 85-5X, 85-63, 85-64 ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE ODS UNIT**

**NOTE:**

- **Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**
- **An incorrect ODS unit can cause DTC 85-63.**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 81-4x, 81-5x, 81-63, 81-64, 85-4x, 85-5x, 85-63, or 85-64 indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Initialize the ODS unit (see **ODS UNIT INITIALIZATION**).
4. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator go off?*

   **YES** -The system is OK.

   **NO** -Replace the ODS unit (see **ODS UNIT REPLACEMENT**) and retest. If the DTC is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**DTC 81-79: FRONT PASSENGER'S WEIGHT SENSORS INITIAL CHECK FAILURE**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS** ).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 81-79 indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Turn the ignition switch OFF.
4. Make sure nothing is on the front passenger's seat.
5. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator go off?*

**YES** -The system is OK.

**NO** -Remove the front passenger's seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ) and the front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**), then reinstall them. Calibrate the ODS unit (see **ODS UNIT CALIBRATION**). If DTC 81-79 is indicated repeatedly, replace the front passenger's weight sensors. If the DTC is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**DTC 82-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE INNER SIDE FRONT PASSENGER'S WEIGHT SENSOR (2-DOOR)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS** ).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 82-1x indicated?*

**YES** -Faulty front passenger's weight sensor; replace the inner side front passenger's weight sensor (see **REMOVAL**).

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**DTC 83-2X: ("X" CAN BE 0 THRU 9 OR A THRU F) NO SIGNAL FROM THE OUTER SIDE FRONT PASSENGER'S WEIGHT SENSOR (2-DOOR)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 83-2x indicated?*

**YES** -Faulty front passenger's weight sensor; replace the outer side front passenger's weight sensor (see **REMOVAL**).

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**DTC 82-14: NO SIGNAL FROM THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT INNER SIDE) (4-DOOR)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 82-14 indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**.

3. From INSPECTION menu on the HDS, select SWS DTC CHECK.

   *Is another DTC also indicated?*

   **YES** -

   - DTC 14-11: Open in the ODS unit harness; replace the ODS unit harness.
   - DTC 14-12: Go to step 4.
   - DTC 14-13: Go to step 11.
   - DTC 14-14: Go to step 19.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**.

4. Turn the ignition switch OFF.
5. Disconnect the ODS unit harness 3P connector (A) from the front passenger's weight sensor (front inner side).

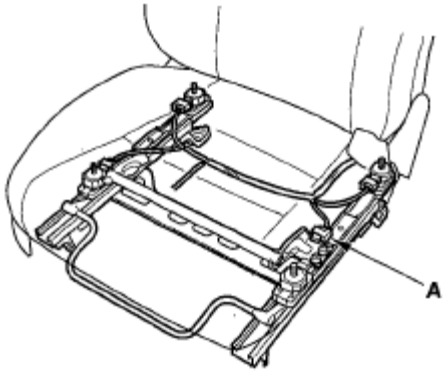



**Fig. 224: Identifying ODS Unit Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Read the DTC.

   *Is DTC 14-12 indicated?*

   **YES** -Go to step 7.

   **NO** -Faulty front passenger's weight sensor (front inner side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

7. Turn the ignition switch OFF.
8. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

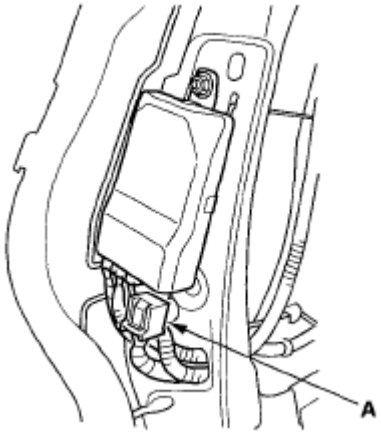



**Fig. 225: Identifying ODS Unit Harness 18P Connector**

http://ReadManuals.com



**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Measure the resistance between the No. 3 terminal of the ODS unit harness 18P connector and body ground. There should be an open circuit or at least 1 M ohms.

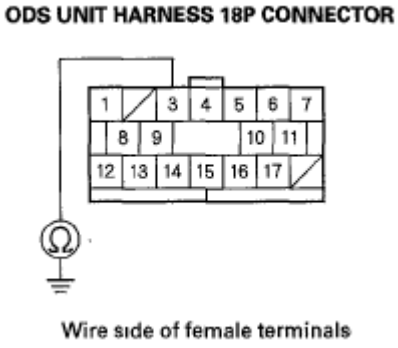



**Fig. 226: Measuring Resistance Between No. 3 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 10.

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

10. Measure the resistance between the No. 3 terminal and No. 13 terminal of the ODS unit harness 18P connector. There should be an open circuit or at least 1 M ohms.

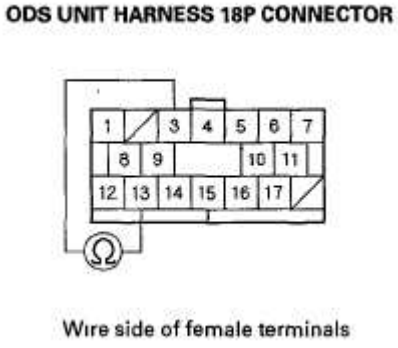



**Fig. 227: Measuring Resistance Between No. 3 Terminal And No. 13**

http://ReadManuals.com



**Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

11. Turn the ignition switch OFF.
12. Swap the connections between the front passenger's weight sensor (front inner side) and the front passenger's weight sensor (rear inner side).
13. Read the DTC.

*Is DTC 14-13 indicated?*

**YES** -Go to step 14.

**NO** -Faulty front weight sensor (front inner side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

14. Turn the ignition switch OFF.
15. Disconnect the front passenger's weight sensor (front inner side) connector (A) and front passenger's weight sensor (rear inner side) connector (B).

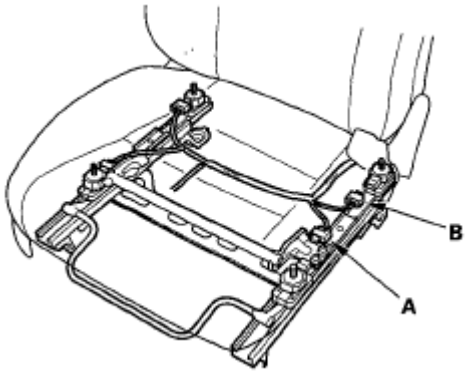



**Fig. 228: Identifying Front Passenger's Weight Sensor (Front Inner Side)**

http://ReadManuals.com



**Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

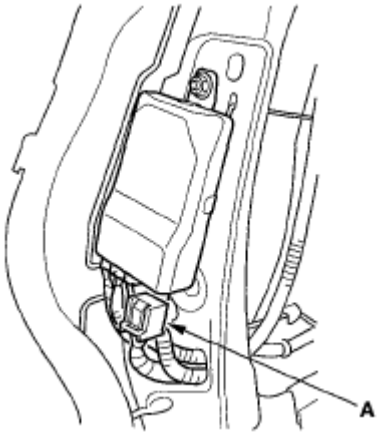



**Fig. 229: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Turn the ignition switch ON (II).
18. Measure the voltage between the No. 8 terminal of the ODS unit harness 18P connector D and body ground. There should be 1 V or less.

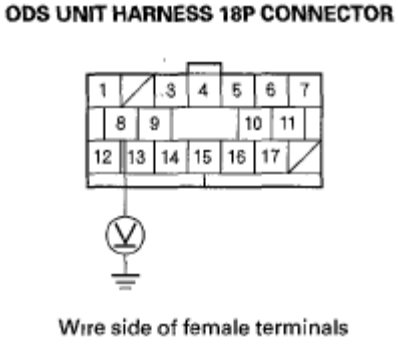



**Fig. 230: Measuring Voltage Between No. 8 Terminal Of ODS Unit Harness 18P Connector D And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT**

**REPLACEMENT**).

**NO** -Short to power in the ODS unit harness; replace the ODS unit harness.

19. Turn the ignition switch OFF.
20. Disconnect the ODS unit harness 3P connector (A) from the front passenger's weight sensor (front inner side).

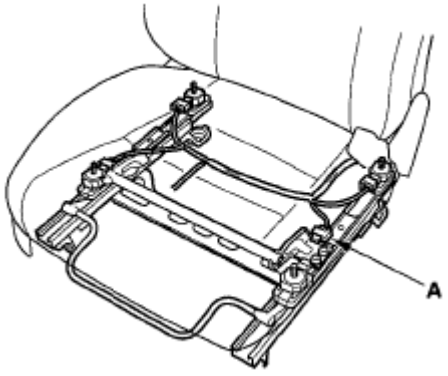



**Fig. 231: Identifying ODS Unit Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Read the DTC.

    *Is DTC 14-14 indicated?*

    **YES** -Go to step 22.

    **NO** -Faulty front passenger's weight sensor (front inner side); replace the seat slide assembly including all four front passenger's weight sensors.

22. Turn the ignition switch OFF.
23. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

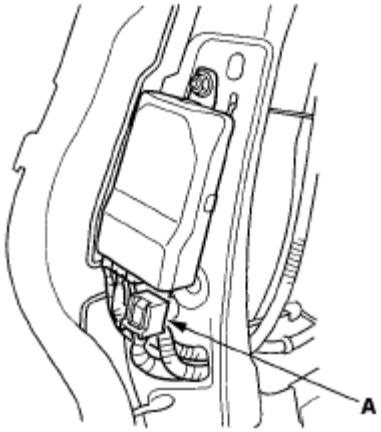



**Fig. 232: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Measure the resistance between the No. 8 terminal of the ODS unit harness 18P connector and body ground. There should be an open circuit or at least 1 M ohms.

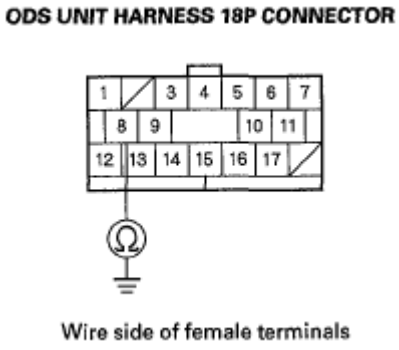



**Fig. 233: Measuring Resistance Between No. 8 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 25.

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

25. Measure the resistance between the No. 8 terminal and No. 13 terminal of the ODS unit harness 18P connector. There should be an open circuit or at least 1

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M ohms.

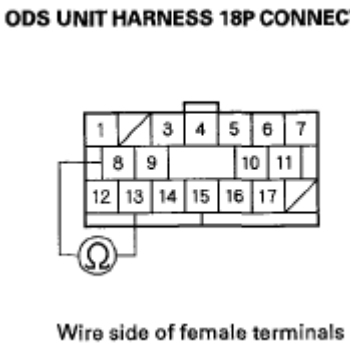



**Fig. 234: Measuring Resistance Between No. 8 Terminal And No. 13 Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Short in the ODS unit harness; replace the ODS unit harness.

**DTC 82-15, 82-17, 83-25, 83-27: INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSORS (4-DOOR)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 82-15, 82-17, 83-25, or 83-27 indicated?*

**YES** -Faulty front passenger's weight sensors; replace the seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**). If the DTC is still present, replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**.

**DTC 82-16: NO SIGNAL FROM THE FRONT PASSENGER'S WEIGHT SENSOR (REAR INNER SIDE) (4-DOOR)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 82-16 indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**.

3. From INSPECTION menu on the HDS, select SWS DTC CHECK.

   *Is another DTC also indicated?*

   **YES** -

   - DTC 16-11: Open in the ODS unit harness; replace the ODS unit harness.
   - DTC 16-12: Go to step 4.
   - DTC 16-13: Go to step 11.
   - DTC 16-14: Go to step 19.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**.

4. Turn the ignition switch OFF.
5. Disconnect the ODS unit harness 3P connector (A) from the front passenger's weight sensor (rear inner side).

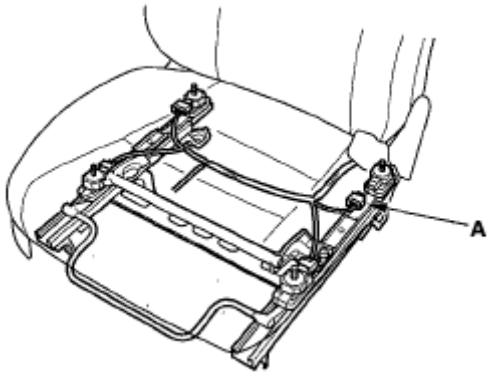



**Fig. 235: Identifying ODS Unit Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Read the DTC.

   *Is DTC 16-12 indicated?*

   **YES** -Go to step 7.

   **NO** -Faulty front passenger's weight sensor (rear inner side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

7. Turn the ignition switch OFF.
8. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

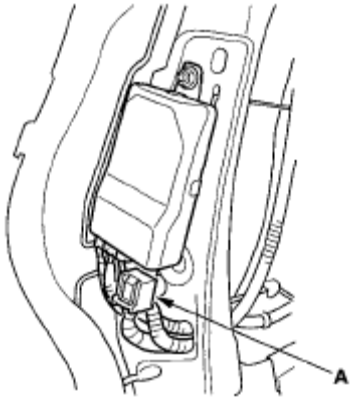



**Fig. 236: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Measure the resistance between the No. 4 terminal of the ODS unit harness 18P connector and body ground. There should be an open circuit or at least 1 M ohms.

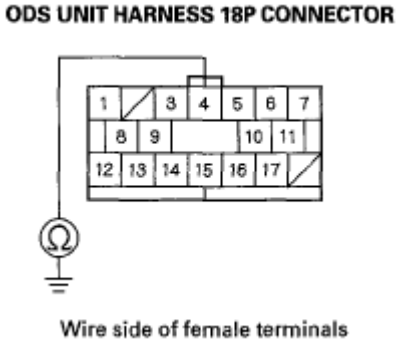



**Fig. 237: Measuring Resistance Between No. 4 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 10.

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

10. Measure the resistance between the No. 4 terminal and No. 14 terminal of the ODS unit harness 18P connector. There should be an open circuit or at least 1 M ohms.

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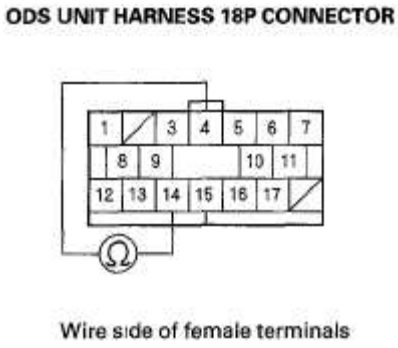



**Fig. 238: Measuring Resistance Between No. 4 Terminal And No. 14 Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

11. Turn the ignition switch OFF.
12. Swap the connections between the front passenger's weight sensor (front inner side) and the front passenger's weight sensor (front inner side).
13. Read the DTC.

    *Is DTC 16-13 indicated?*

    **YES** -Go to step 14.

    **NO** -Faulty front passenger's weight sensor (rear inner side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

14. Turn the ignition switch OFF.
15. Disconnect the front passenger's weight sensor (front inner side) connector (A) and front passenger's weight sensor (rear inner side) connector (B).

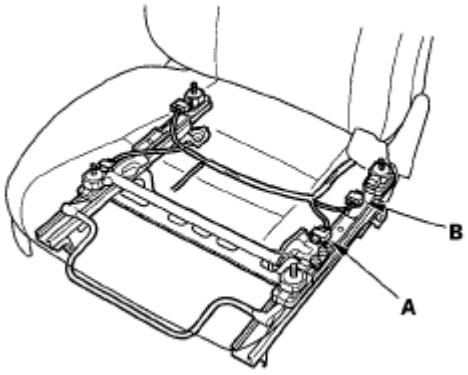



**Fig. 239: Identifying Front Passenger's Weight Sensor (Front Inner Side) Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

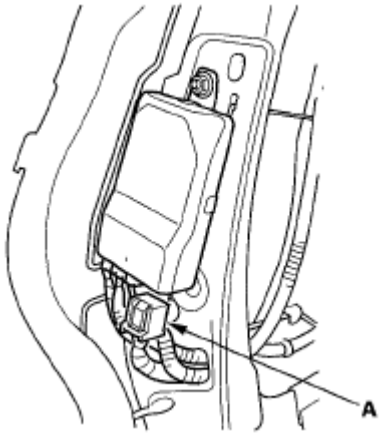



**Fig. 240: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Turn the ignition switch ON (II).
18. Measure the voltage between the No. 9 terminal of the ODS unit harness 18P connector and body ground. There should be 1 V or less.

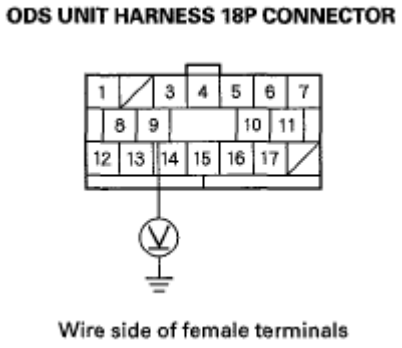



**Fig. 241: Measuring Voltage Between No. 9 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Short to power in the ODS unit harness; replace the ODS unit harness.

19. Turn the ignition switch OFF.
20. Disconnect the ODS unit harness 3P connector (A) from the front passenger's weight sensor (rear inner side).

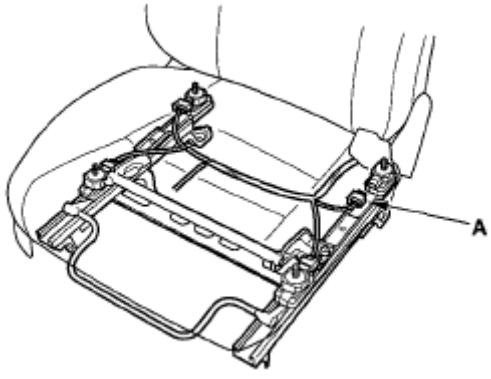



**Fig. 242: Identifying ODS Unit Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Read the DTC.

*Is DTC 16-14 indicated?*

**YES** -Go to step 22.

**NO** -Faulty front passenger's weight sensor (rear inner side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

22. Turn the ignition switch OFF.
23. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

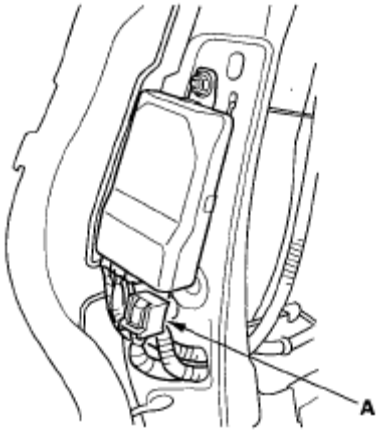



**Fig. 243: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Measure the resistance between the No. 9 terminal of the ODS unit harness 18P connector and body ground. There should be an open circuit or at least 1 M ohms.

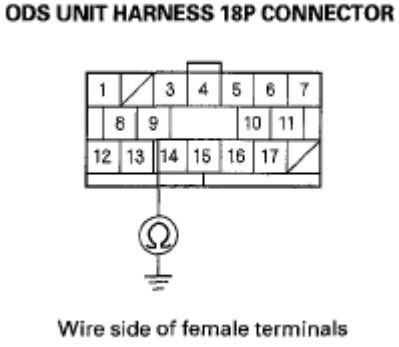


**Fig. 244: Measuring Resistance Between No. 9 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 25.

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

25. Measure the resistance between the No. 9 terminal and No. 14 terminal of the ODS unit harness 18P connector. There should be an open circuit or at least 1 M ohms.

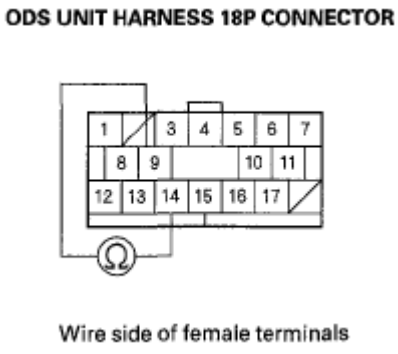



**Fig. 245: Measuring Resistance Between No. 9 Terminal And No. 14 Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Short in the ODS unit harness; replace the ODS unit harness.

**DTC 83-24: NO SIGNAL FROM THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT OUTER SIDE) (4-DOOR)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND**

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**PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 83-24 indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**.

3. From INSPECTION menu on the HDS, select SWS DTC CHECK.

   *Is another DTC also indicated?*

   **YES** -

   - DTC 24-11: Open in the ODS unit harness; replace the ODS unit harness.
   - DTC 24-12: Go to step 4.
   - DTC 24-13: Go to step 11.
   - DTC 24-14: Go to step 19.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**.

4. Turn the ignition switch OFF.
5. Disconnect the ODS unit harness 3P connector (A) from the front passenger's weight sensor (front outer side).

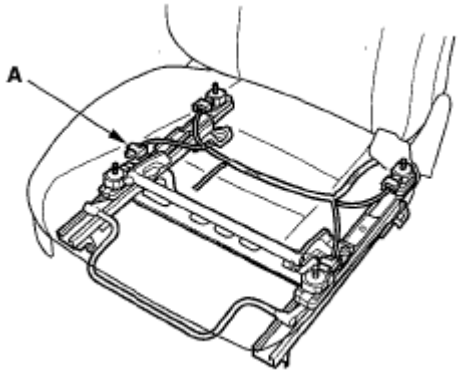



**Fig. 246: Identifying ODS Unit Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Read the DTC.

   *Is DTC 24-12 indicated?*

   **YES** -Go to step 7.

   **NO** -Faulty front passenger's weight sensor (front outer side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

7. Turn the ignition switch OFF.
8. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

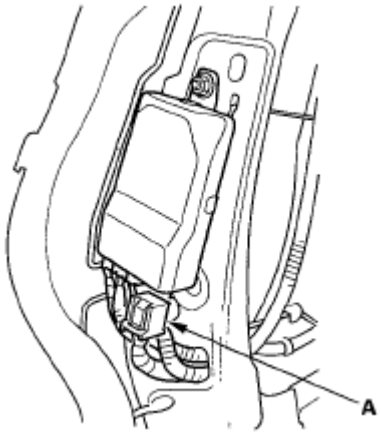



**Fig. 247: Identifying ODS Unit Harness 18P Connector**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Measure the resistance between the No. 5 terminal of the ODS unit harness 18P connector and body ground. There should be an open circuit or at least 1 M ohms.

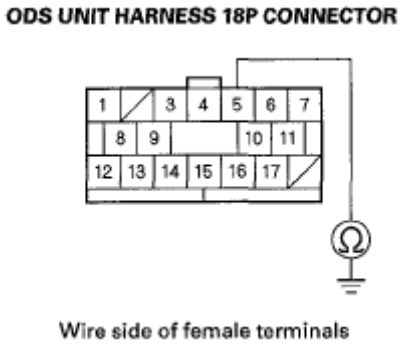



**Fig. 248: Measuring Resistance Between No. 5 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 10.

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

10. Measure the resistance between the No. 5 terminal and No. 15 terminal of the ODS unit harness 18P connector. There should be an open circuit or at least 1 M ohms.

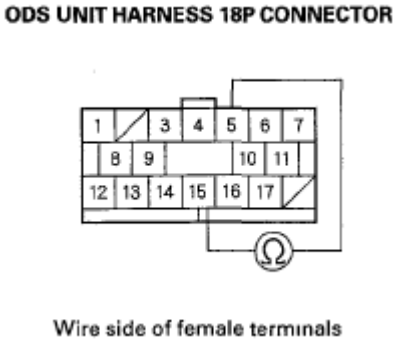



**Fig. 249: Measuring Resistance Between No. 5 Terminal And No. 15**

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**Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

11. Turn the ignition switch OFF.
12. Swap the connections between the front passenger's weight sensor (front outer side) and the front passenger's weight sensor (rear outer side).
13. Read the DTC.

*Is DTC 24-13 indicated?*

**YES** -Go to step 14.

**NO** -Faulty front passenger's weight sensor (front outer side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

14. Turn the ignition switch OFF.
15. Disconnect the front passenger's weight sensor (front outer side) connector (A) and front passenger's weight sensor (rear outer side) connector (B).

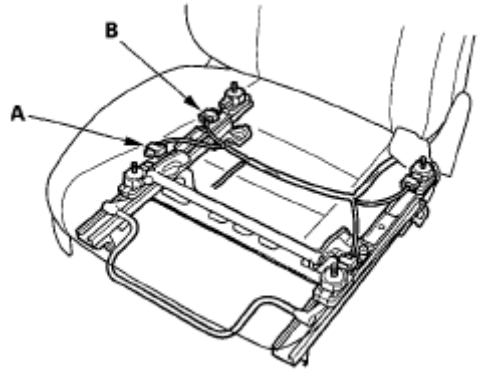


**Fig. 250: Identifying Front Passenger's Weight Sensor (Front Outer Side) Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

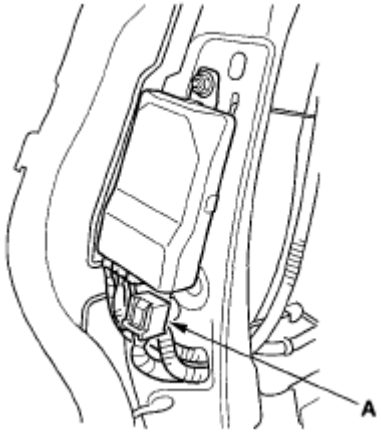



**Fig. 251: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Turn the ignition switch ON (II).
18. Measure the voltage between the No. 10 terminal of the ODS unit harness 18P connector and body ground. There should be 1 V or less.

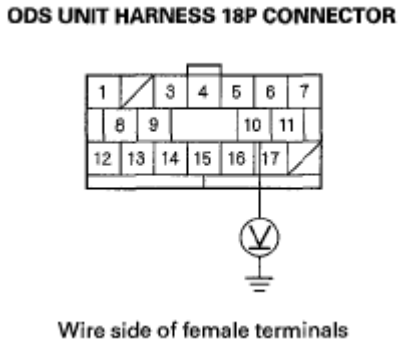



**Fig. 252: Measuring Voltage Between No. 10 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Short to power in the ODS unit harness; replace the ODS unit harness.

19. Turn the ignition switch OFF.
20. Disconnect the ODS unit harness 3P connector (A) from the front passenger's weight sensor (front outer side).

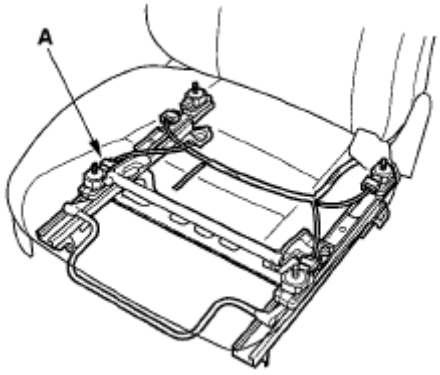



**Fig. 253: Identifying ODS Unit Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Read the DTC.

    *Is DTC 24-14 indicated?*

    **YES** -Go to step 22.

    **NO** -Faulty front passenger's weight sensor (front outer side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

22. Turn the ignition switch OFF.
23. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

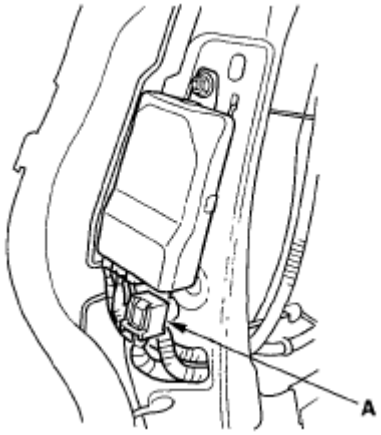



**Fig. 254: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Measure the resistance between the No. 10 terminal of the ODS unit harness 18P connector and body ground. There should be an open circuit or at least 1 M ohms.

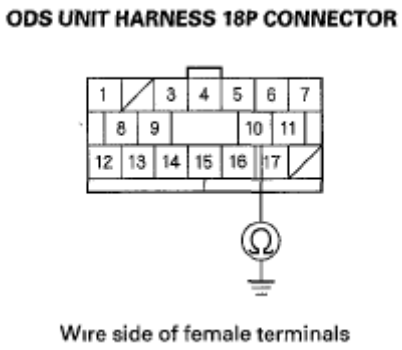



**Fig. 255: Measuring Resistance Between No. 10 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 25.

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

25. Measure the resistance between the No. 10 terminal and No. 15 terminal of the ODS unit harness 18P connector. There should be an open circuit or at least 1

M ohms.

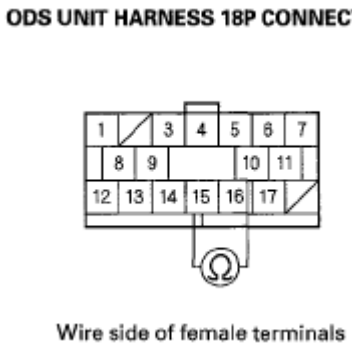



**Fig. 256: Measuring Resistance Between No. 10 Terminal And No. 15 Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Short in the ODS unit harness; replace the ODS unit harness.

**DTC 83-26: NO SIGNAL FROM THE FRONT PASSENGER'S WEIGHT SENSOR (REAR OUTER SIDE) (4-DOOR)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC 83-26 indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to

**TROUBLESHOOTING INTERMITTENT FAILURES**.

3. From INSPECTION menu on the HDS, select SWS DTC CHECK.

   *Is another DTC also indicated?*

   **YES** -

   - DTC 26-11: Open in the ODS unit harness; replace the ODS unit harness.
   - DTC 26-12: Go to step 4.
   - DTC 26-13: Go to step 11.
   - DTC 26-14: Go to step 19.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**.

4. Turn the ignition switch OFF.
5. Disconnect the ODS unit harness 3P connector (A) from the front passenger's weight sensor (rear outer side).

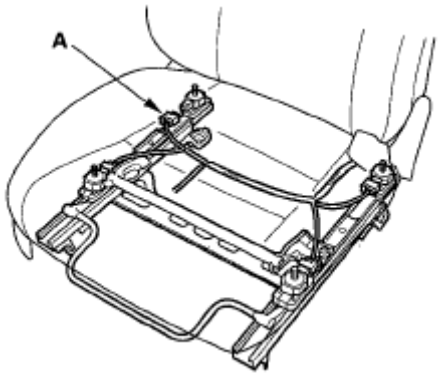



**Fig. 257: Identifying ODS Unit Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Read the DTC.

   *Is DTC 26-12 indicated?*

   **YES** -Go to step 7.

**NO** -Faulty front passenger's weight sensor (rear outer side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

7. Turn the ignition switch OFF.
8. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

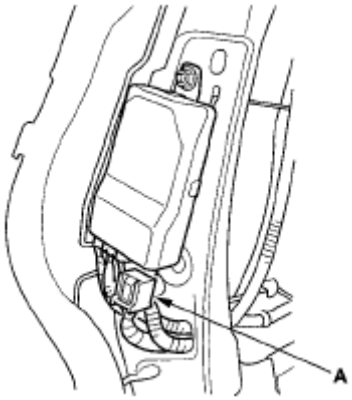



**Fig. 258: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Measure the resistance between the No. 6 terminal of the ODS unit harness 18P connector and body ground. There should be an open circuit or at least 1 M ohms.

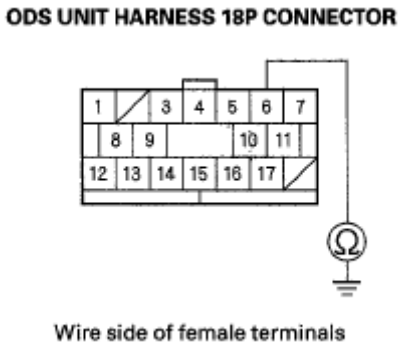



**Fig. 259: Measuring Resistance Between No. 6 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 10.

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

10. Measure the resistance between the No. 6 terminal and No. 16 terminal of the ODS unit harness 18P connector. There should be an open circuit or at least 1 M ohms.

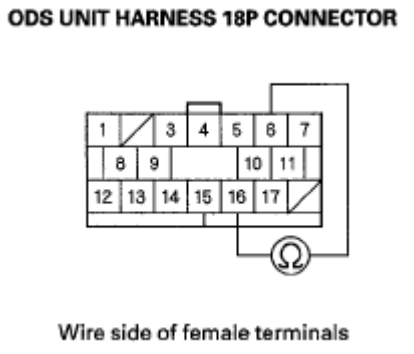



**Fig. 260: Measuring Resistance Between No. 6 Terminal And No. 16 Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT** ).

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

11. Turn the ignition switch OFF.
12. Swap the connections between the front passenger's weight sensor (rear outer side) and the front passenger's weight sensor (front outer side).
13. Read the DTC.

*Is DTC 26-13 indicated?*

**YES** -Go to step 14.

**NO** -Faulty front passenger's weight sensor (rear outer side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

14. Turn the ignition switch OFF.
15. Disconnect the front passenger's weight sensor (front outer side) connector (A) and front passenger's weight sensor (rear outer side) connector (B).

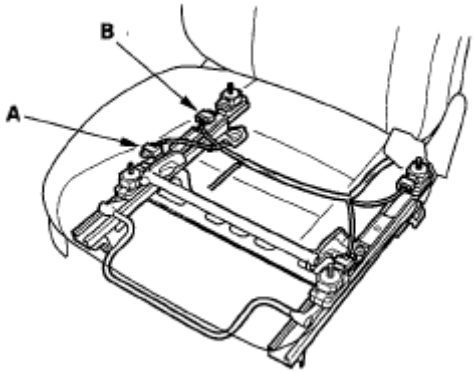



**Fig. 261: Identifying Front Passenger's Weight Sensor (Front Outer Side) Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

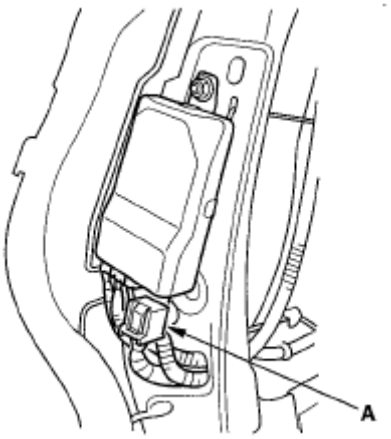



**Fig. 262: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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17. Turn the ignition switch ON (II).
18. Measure the voltage between the No. 11 terminal of the ODS unit harness 18P connector and body ground. There should be 1 V or less.

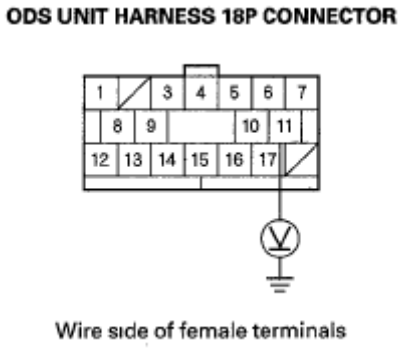



**Fig. 263: Measuring Voltage Between No. 11 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -Short to power in the ODS unit harness; replace the ODS unit harness.

19. Turn the ignition switch OFF.
20. Disconnect the ODS unit harness 3P connector (A) from the front passenger's weight sensor (rear outer side).

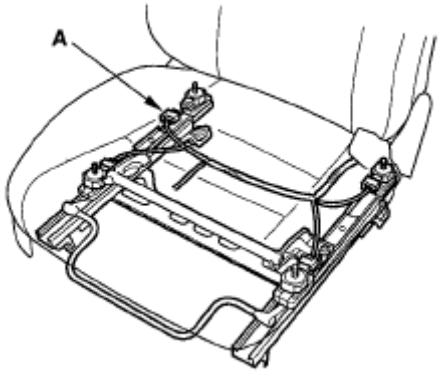


**Fig. 264: Identifying ODS Unit Harness 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Read the DTC.

    *Is DTC 26-14 indicated?*

    **YES** -Go to step 22.

    **NO** -Faulty front passenger's weight sensor (rear outer side); replace the front passenger's seat slide assembly including all four front passenger's weight sensors (see **FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT**).

22. Turn the ignition switch OFF.
23. Disconnect the ODS unit harness 18P connector (A) from the ODS unit.

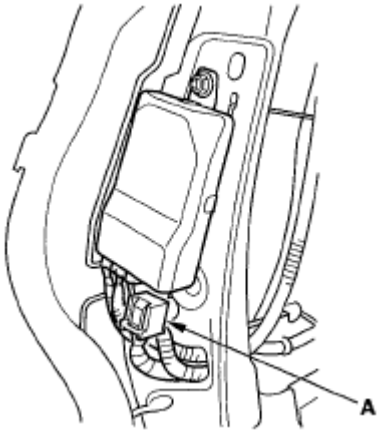



**Fig. 265: Identifying ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Measure the resistance between the No. 11 terminal of the ODS unit harness 18P connector and body ground. There should be an open circuit or at least 1 M ohms.

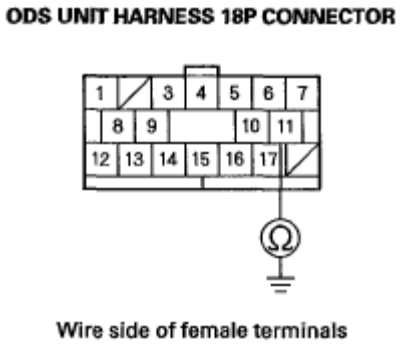



**Fig. 266: Measuring Resistance Between No. 11 Terminal Of ODS Unit Harness 18P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 25.

**NO** -Short to ground in the ODS unit harness; replace the ODS unit harness.

25. Measure the resistance between the No. 11 terminal and No. 16 terminal of the ODS unit harness 18P connector. There should be an open circuit or at least 1 M ohms.

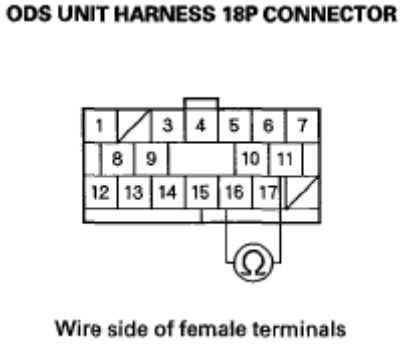



**Fig. 267: Measuring Resistance Between No. 11 Terminal And No. 16 Terminal Of ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty ODS unit; replace the ODS unit (see **ODS UNIT**

**REPLACEMENT**).

**NO** -Short in the ODS unit harness; replace the ODS unit harness.

**DTC 85-79: OPDS SENSOR INITIAL CHECK FAILURE**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 85-79 indicated?*

   **YES** -Turn the ignition switch OFF, and go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Make sure nothing is on the front passenger's seat.
4. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator go off?*

   **YES** -The system is OK.

   **NO** -Go to step 5.

5. Initialize the ODS unit (see **ODS UNIT INITIALIZATION**).
6. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator go off?*

**YES** -The system is OK.

**NO** -Replace the ODS unit (see **ODS UNIT REPLACEMENT**) and retest. If the problem is still present, replace the OPDS sensor/seat-back (see **FRONT SEAT-BACK COVER REPLACEMENT** ).

**DTC 86-1X, 86-2X ("X" CAN BE 0 THRU 9 OR A THRU F): FAULTY OPDS SENSOR**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

*Does the SRS indicator stay on, and is DTC 86-1x or 86-2x indicated?*

**YES** -Go to step 3.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

**NOTE: After market devices (fluorescent lights, laptop computers, etc.) used near the front passenger's seat-back can interfere with the seat-back sensors and cause a false DTC 86-1x or 86-2x. If one of these devices was used, clear the DTC, operate the device near the seat-back, and recheck for DTCs. If DTC 86-1x or 86-2x is set, clear it, and do not use the device near the seat-back.**

3. Check the connection at the OPDS sensor harness connectors (A) and the ODS unit harness 18P connector (B).

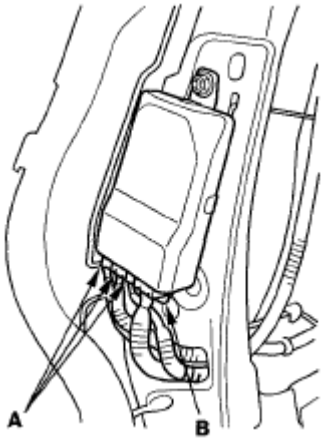



**Fig. 268: Identifying OPDS Sensor And ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the connection OK?*

**YES** -Go to step 4.

**NO** -Repair the poor connection, and clear the DTC.

4. Replace the OPDS sensor/seat-back foam (see **FRONT SEAT-BACK COVER REPLACEMENT** ), and initialize the ODS unit (see **ODS UNIT INITIALIZATION**).
5. Clear the DTC memory, then check for DTC 86-1x or 86-2x.

*Is DTC 86-1x or 86-2x indicated?*

**YES** -Replace the ODS unit (see **ODS UNIT REPLACEMENT**).

**NO** -The system is OK.

**DTC 92-1X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN IN THE PASSENGER'S AIRBAG CUTOFF INDICATOR**

**NOTE: Before doing this troubleshooting procedure, review SRS**

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## Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is DTC 92-1x indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Disconnect the passenger's airbag cutoff indicator 4P connector (see **PASSENGER'S AIRBAG CUTOFF INDICATOR ILLUMINATION BULB TEST**).
4. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
5. Disconnect SRS unit connector A (28P) from the SRS unit (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
6. Reconnect the negative cable to the battery.
7. Turn the ignition switch ON (II).
8. Measure the voltage between the No. 13 terminal of SRS unit connector A (28P) and body ground. There should be 0.5 V or less.

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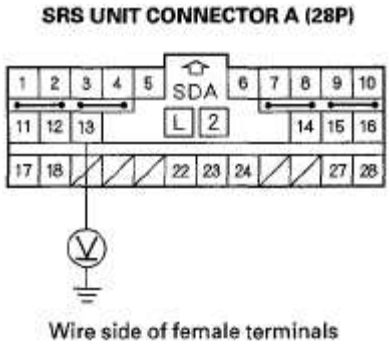



**Fig. 269: Measuring Voltage Between No. 13 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Faulty SRS unit or passenger's airbag cutoff indicator; replace the passenger's airbag cutoff indicator. If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to power in the dashboard wire harness; replace the dashboard wire harness.

**DTC 92-2X ("X" CAN BE 0 THRU 9 OR A THRU F): OPEN OR SHORT TO GROUND IN THE PASSENGER'S AIRBAG CUTOFF INDICATOR**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and DTC 92-2x indicated?*

   **YES** -Go to step 3.

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**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

3. Disconnect the passenger's airbag cutoff indicator 4P connector (see **PASSENGER'S AIRBAG CUTOFF INDICATOR ILLUMINATION BULB TEST**).
4. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
5. Disconnect SRS unit connector A (28P) from the SRS unit (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
6. Measure the resistance between the No. 4 terminal of the passenger's airbag cutoff indicator 4P connector and the No. 13 terminal of SRS unit connector A (28P). There should be 0-1.0 ohms.

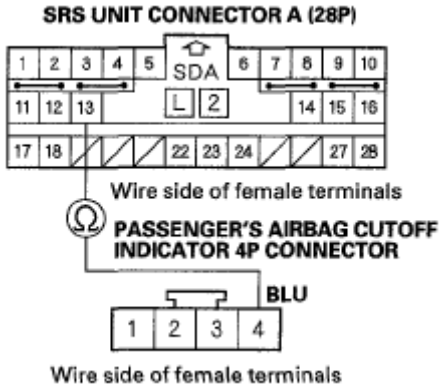



**Fig. 270: Measuring Resistance Between No. 4 Terminal And No. 13 Terminal Of SRS Unit Connector A (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 7.

**NO** -Open in the dashboard wire harness; replace the dashboard wire harness.

7. Measure the resistance between the No. 13 terminal of the SRS unit connector A (28P) and body ground. There should be an open circuit or at least 1 M

ohms.

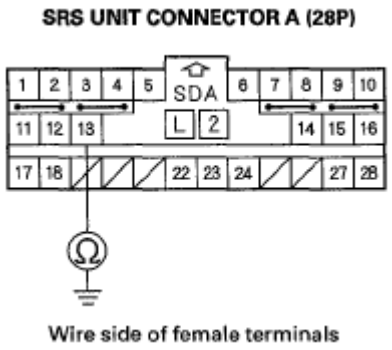



**Fig. 271: Measuring Resistance Between No. 13 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Replace the passenger's airbag cutoff indicator. If the problem is still present, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Short to ground in the dashboard wire harness; replace the dashboard wire harness.

**DTC A1-1X ("X" CAN BE 0 THRU 9 OR A THRU F): FAULTY POWER SUPPLY (VA LINE)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

*Is DTC A1-1x indicated?*

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**YES** -Go to step 4.

**NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES**. If another DTC is indicated, troubleshoot the DTC.

4. Turn the ignition switch OFF.
5. Check the No. 9 (7.5 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

   **YES** -Go to step 6.

   **NO** -Replace the fuse, then turn the ignition switch ON (II). If the fuse blows again, check for a short in the No. 9 (7.5 A) fuse circuit (dashboard wire harness, floor wire harness, or ODS unit harness).

6. Disconnect the negative cable from the battery, then wait for 3 minutes.
7. Disconnect the SRS unit connector A (28P) from the SRS unit (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
8. Turn the ignition switch ON (II).
9. Connect a voltmeter between the No. 17 terminal of SRS unit connector A (28P) and body ground. Turn the ignition switch ON (II), and measure the voltage. There should be battery voltage when the ignition is on.

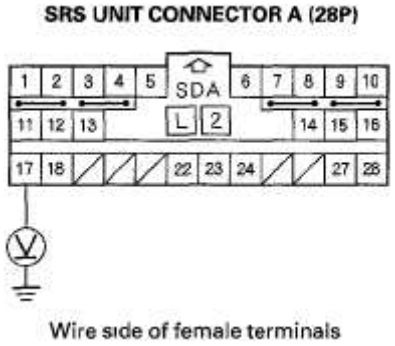



**Fig. 272: Connecting Voltmeter Between No. 17 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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*Is there battery voltage?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector (A) 28P and the SRS unit. Check the connection between the connector and the SRS unit. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Go to step 10.

10. Turn the ignition switch OFF.
11. Disconnect under-dash fuse/relay box connector J (4P).

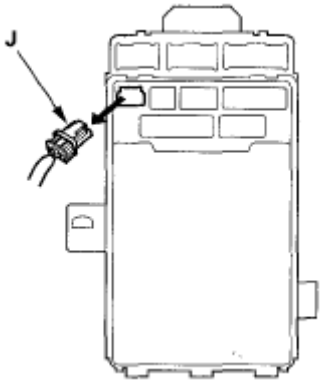



**Fig. 273: Identifying Under-Dash Fuse/Relay Box Connector J (4P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Measure the resistance between the No. 4 terminal of under-dash fuse/relay box connector J (4P) and the No. 17 terminal of SRS unit connector A (28P). There should be 0-1.0 ohms.

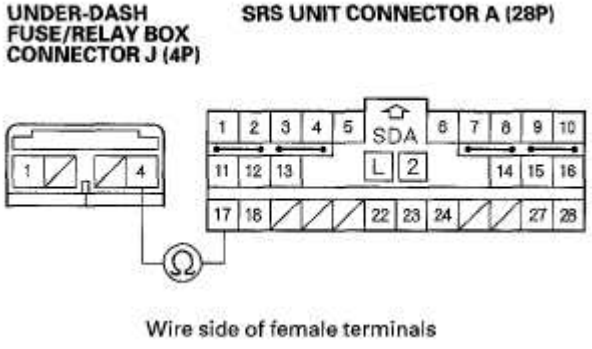



**Fig. 274: Measuring Resistance Between No. 4 Terminal And No. 17**

**Terminal Of SRS Unit Connector A (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Open in the under-dash fuse/relay box or poor contact between connector J (4P) and the under-dash fuse/relay box; check the connection. If the connection is OK, replace the under-dash fuse/relay box (see **REMOVAL AND INSTALLATION** ).

**NO** -Open in the dashboard wire harness; replace the dashboard wire harness.

**DTC A2-1X ("X" CAN BE 0 THRU 9 OR A THRU F): FAULTY POWER SUPPLY (VB LINE)**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Check the No. 11 (10 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

   **YES** -Go to step 2.

   **NO** -Replace the fuse, then turn the ignition switch ON (II). If the fuse blows again, check for a short to ground in the under-dash fuse/relay box No. 11 (10 A) fuse line, in the dashboard wire harness; replace the under-dash fuse/relay box.

2. Turn the ignition switch OFF. Disconnect the negative cable from the battery, then wait for 3 minutes.
3. Disconnect SRS unit connector A (28P) from the SRS unit (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
4. Reconnect the negative cable to the battery.
5. Connect a voltmeter between the No. 18 terminal of SRS unit connector A (28P) and body ground. Turn the ignition switch ON (II), and measure the

voltage. There should be battery voltage when the ignition on.

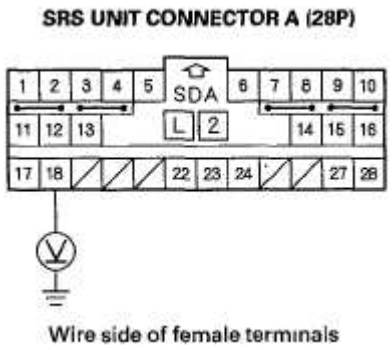



**Fig. 275: Measuring Voltage Between No. 18 Terminal Of SRS Unit Connector A (28P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Faulty SRS unit or poor connection at SRS unit connector A (28P) and the SRS unit; check the connection. If the connection is OK, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

**NO** -Go to step 6.

6. Turn the ignition switch OFF.
7. Disconnect under-dash fuse/relay box connector J (4P).

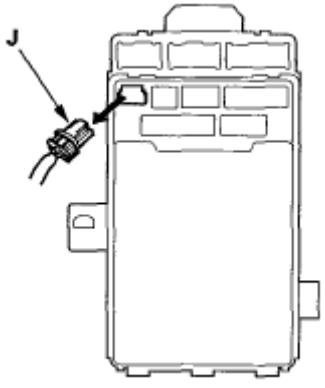



**Fig. 276: Identifying Under-Dash Fuse/Relay Box Connector J (4P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the resistance between the No. 1 terminal of the under-dash fuse/relay box connector J (4P) and the No. 18 terminal of SRS unit connector A (28P). There should be 0-1.0 ohms.

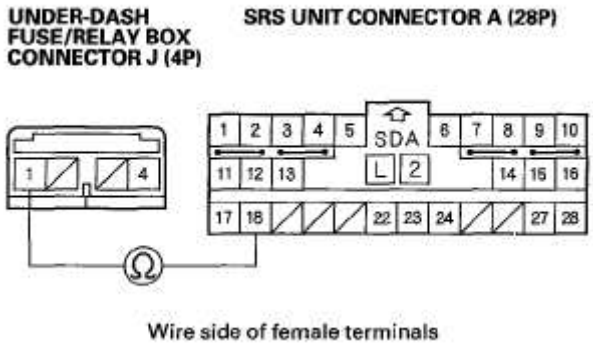



**Fig. 277: Measuring Resistance Between No. 1 Terminal And No. 18 Terminal Of SRS Unit Connector A (28P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Open in the under-dash fuse/relay box or poor connection between connector S (4P) and the under-dash fuse/relay box; check the connection. If the connection is OK, replace the under-dash fuse/relay box (see **REMOVAL AND INSTALLATION** ).

**NO** -Open in the dashboard wire harness; replace the dashboard wire harness.

**DTC B2-1X ("X" CAN BE 0 THRU 9 OR A THRU F): NO SIGNAL FROM THE REAR SAFING SENSOR**

## Special Tools Required

- SRS inflator simulator 07SAZ-TB4011A
- SRS simulator lead L 070AZ-SNA0300

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.
3. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Does the SRS indicator stays on, and is DTC B2-11 indicated?*

   **YES** -Go to step 4.

   **NO** -Go to step 5.

4. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 45-11 also indicated?*

   **YES** -Faulty rear safing sensor; replace the rear safing sensor (see **REAR SAFING SENSOR REPLACEMENT**).

   **NO** -Go to step 7.

5. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC B2-1x (except B2-11) also indicated?*

   **YES** -Go to step 6.

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES** . If another DTC is indicated, troubleshoot the DTC.

6. Read the DTC (see **CLEAR THE DTC MEMORY WITH THE HDS**).

   *Is DTC 45-11 also indicated?*

   **YES** -Go to the Troubleshooting, for **DTC 45-1X** .

   **NO** -Faulty rear safing sensor; replace the rear sating sensor (see **REAR**

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**SAFING SENSOR REPLACEMENT**).

7. Turn the ignition switch OFF.
8. Disconnect the floor wire harness 4P connector (A) from the rear safing sensor.

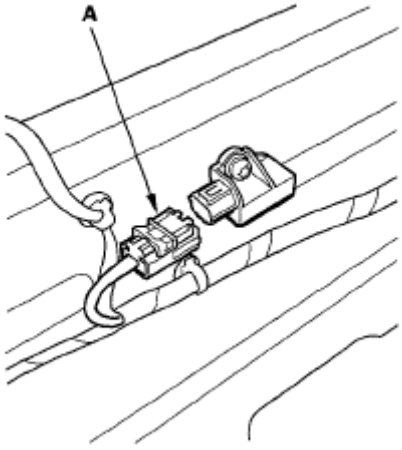



**Fig. 278: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Disconnect the floor wire harness 4P connector (A) from the left side impact sensor (first).

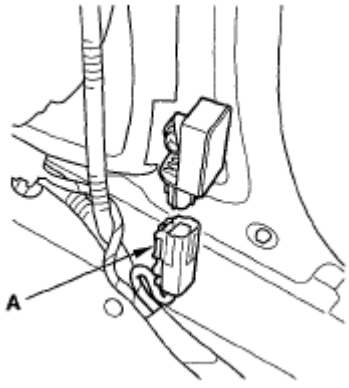



**Fig. 279: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Measure the resistance between the No. 2 and No. 3 terminal of the rear safing sensor 4P connector. There should be an open circuit or at least 1 M ohms.

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**Fig. 280: Measuring Resistance Between No. 2 And No. 3 Terminal Of Rear Safing Sensor 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 11.

**NO** -Short in the floor wire harness; replace the floor wire harness.

11. Measure the resistance between the No. 2 terminal of the rear safing sensor 4P connector and body ground. There should be an open circuit or at least 1 M ohms.




**Fig. 281: Measuring Resistance Between No. 2 Terminal Of Rear Safing Sensor 4P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 12.

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

12. Measure the resistance between the No. 3 terminal of the rear safing sensor 4P connector and body ground. There should be an open circuit or at least 1 M ohms.




**Fig. 282: Measuring Resistance Between No. 3 Terminal Of Rear Safing Sensor 4P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Go to step 13.

**NO** -Short to ground in the floor wire harness; replace the floor wire harness.

13. Turn the ignition switch ON (II).
14. Measure the voltage between the No. 2 terminal of the rear safing sensor 4P connector and body ground. There should be 1 V or less.

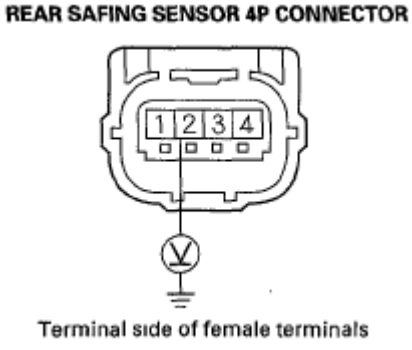



**Fig. 283: Measuring Voltage Between No. 2 Terminal Of Rear Safing**

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**Sensor 4P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Go to step 15.

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

15. Measure the voltage between the No. 3 terminal of the rear safing sensor 4P connector and body ground. There should be 1 V or less.




**Fig. 284: Measuring Voltage Between No. 3 Terminal Of Rear Safing Sensor 4P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the voltage as specified?*

**YES** -Go to step 16.

**NO** -Short to power in the floor wire harness; replace the floor wire harness.

16. Turn the ignition switch OFF.
17. Connect the SRS inflator simulator (jumper connector) and the red lead (A) of simulator lead L to the floor wire harness 4P connector (B) at the left side impact sensor (first).

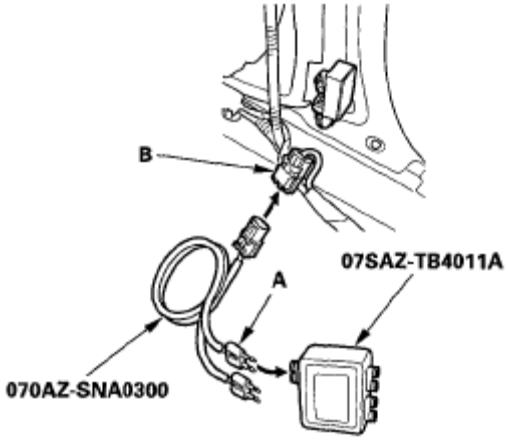



**Fig. 285: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Measure the resistance between the No. 2 and No. 3 terminals of the rear safing sensor 4P connector. There should be 0-1 ohms.




**Fig. 286: Measuring Resistance Between No. 2 And No. 3 Terminals Of Rear Safing Sensor 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the resistance as specified?*

**YES** -Faulty rear safing sensor or poor connection at the floor wire harness 4P connector and the rear safing sensor. Check the connection between the connector and the rear safing sensor. If the connection is OK, replace the rear safing sensor (see **REAR SAFING SENSOR REPLACEMENT**).

**NO** -Open in the floor wire harness; replace the floor wire harness.

**DTC B2-17, B2-8X, B2-9X, B2-AX, B2-BX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE REAR SAFING SENSOR**

**NOTE: Before doing this troubleshooting procedure, review SRS Precautions and Procedures (see PRECAUTIONS AND PROCEDURES) and General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION).**

1. Clear the DTC memory (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch ON (II), and check that the SRS indicator comes on for about 6 seconds and then goes off.

   *Does the SRS indicator stay on, and is B2-17, B2-8x, B2-9x, B2-Ax, or B2-Bx indicated?*

   **YES** -Replace the rear safing sensor (see **REAR SAFING SENSOR REPLACEMENT**). If the DTC returns, replace the SRS unit (see **SRS UNIT REPLACEMENT**).

   **NO** -Intermittent failure, system is OK at this time. Go to **TROUBLESHOOTING INTERMITTENT FAILURES** . If another DTC is indicated, troubleshoot the DTC.

**DTC 41-XX, 42-XX, 43-XX ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE ODS UNIT**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 81-4x (see **DTC 85-71, 85-78: ODS UNIT NOT INITIALIZED**).

**DTC 14-11: OPEN IN THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT INNER SIDE) POWER CIRCUIT; DTC 14-12: SHORT TO GROUND IN THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT INNER SIDE) POWER CIRCUIT; DTC 14-13: OPEN IN THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT INNER SIDE) OUTPUT CIRCUIT; DTC 14-14: SHORT TO GROUND IN THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT INNER SIDE) OUTPUT**

**CIRCUIT**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 82-14 (see **DTC 83-2X: ("X" CAN BE 0 THRU 9 OR A THRU F) NO SIGNAL FROM THE OUTER SIDE FRONT PASSENGER'S WEIGHT SENSOR (2-DOOR)**).

**DTC 15-3X ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT INNER SIDE)**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 82-15 (see **DTC 82-15, 82-17, 83-25, 83-27: INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSORS (4-DOOR)**).

**DTC 16-11: OPEN IN THE FRONT PASSENGER'S WEIGHT SENSOR (REAR INNER SIDE) POWER CIRCUIT; DTC 16-12: SHORT TO GROUND IN THE FRONT PASSENGER'S WEIGHT SENSOR (REAR INNER SIDE) POWER CIRCUIT; DTC 16-13: OPEN IN THE FRONT PASSENGER'S WEIGHT SENSOR (REAR INNER SIDE) OUTPUT CIRCUIT; DTC 16-14: SHORT TO GROUND IN THE FRONT PASSENGER'S WEIGHT SENSOR (REAR INNER SIDE) OUTPUT CIRCUIT**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 82-16 (see **DTC 82-15, 82-17, 83-25, 83-27: INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSORS (4-DOOR)**).

**DTC 17-3X ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSOR (REAR INNER SIDE)**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 82-17 (see **DTC 82-15, 82-17, 83-25, 83-27: INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSORS (4-DOOR)**).

**DTC 24-11: OPEN IN THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT OUTER SIDE) POWER CIRCUIT; DTC 24-12: SHORT TO GROUND IN THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT OUTER SIDE) POWER CIRCUIT; DTC 24-13: OPEN IN THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT OUTER SIDE) OUTPUT CIRCUIT; DTC 24-14: SHORT TO GROUND IN THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT OUTER SIDE) OUTPUT CIRCUIT**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 83-24 (see **DTC 83-24: NO SIGNAL FROM THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT OUTER SIDE) (4-DOOR)**).

**DTC 25-3X ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSOR (FRONT OUTER SIDE)**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 83-25 (see **DTC 82-15, 82-17, 83-25, 83-27: INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSORS (4-DOOR)**).

**DTC 26-11: OPEN IN THE FRONT PASSENGER'S WEIGHT SENSOR (REAR OUTER SIDE) POWER CIRCUIT; DTC 26-12: SHORT TO GROUND IN THE FRONT PASSENGER'S WEIGHT SENSOR (REAR OUTER SIDE) POWER CIRCUIT; DTC 26-13: OPEN IN THE FRONT PASSENGER'S WEIGHT SENSOR (REAR OUTER SIDE) OUTPUT CIRCUIT; DTC 26-14: SHORT TO GROUND IN THE FRONT PASSENGER'S WEIGHT SENSOR (REAR OUTER SIDE) OUTPUT CIRCUIT**

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**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 83-26 (see **DTC 83-26: NO SIGNAL FROM THE FRONT PASSENGER'S WEIGHT SENSOR (REAR OUTER SIDE) (4-DOOR)**).

**DTC 27-3X ("X" CAN BE 0 THRU 9 OR A THRU F): INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSOR (REAR OUTER SIDE)**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 83-27 (see **DTC 82-15, 82-17, 83-25, 83-27: INTERNAL FAILURE OF THE FRONT PASSENGER'S WEIGHT SENSORS (4-DOOR)**).

**DTC 71-XX ("X" CAN BE 0 THRU 9 OR A THRU F): ODS UNIT DOES NOT CALIBRATE**

**NOTE: Only read DTCs from the SRS menu, not from the SWS menu. SWS (ODS unit) DTCs are subcode of SRS unit DTCs. Only troubleshoot the corresponding SRS DTCs.**

Do the troubleshooting for SRS unit DTC 81-71 (see **DTC 81-71, 81-78: ODS UNIT DOES NOT CALIBRATE**).

## SYMPTOM TROUBLESHOOTING

**SRS INDICATOR DOES NOT COME ON**

1. Connect the HDS to the data link connector (DLC) (see **CLEAR THE DTC MEMORY WITH THE HDS**).
2. Turn the ignition switch to. ON (II).
3. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT**

**TROUBLESHOOTING** ).

4. Check for PGM-FI, Body Electrical, and SRS DTCs with the HDS.

   *Are there any PGM-FI Body Electrical, or SRS DTCs?*

   **YES** -Go to the indicated DTC's troubleshooting.

   **NO** -Go to step 5.

5. Do the gauge control module self-diagnostic function (see **CIRCUIT DIAGRAM - DASH LIGHTS BRIGHTNESS CONTROLLER** ).

   *Does the SRS indicator come on?*

   **YES** -Faulty SRS unit; replace the SRS unit (see **SELF-DIAGNOSTIC FUNCTION** ).

   **NO** -Faulty gauge control module (tach); replace the gauge control module (tach) (see **TACHOMETER** ).

**SRS INDICATOR STAYS ON, BUT NO DTCS ARE STORED**

**NOTE: Before doing this troubleshooting procedure, check the battery condition (see BATTERY TEST ). If the battery voltage is high or low, SRS indicator stays on.**

1. Turn the ignition switch ON (II), and see if the malfunction indicator lamp (MIL) come on.

   *Does the MIL come on?*

   **YES** -Check for a PGM-FI System DTC troubleshoot as necessary:

   - R18A1 engine (see **GENERAL TROUBLESHOOTING INFORMATION** )
   - K20Z3 engine (see **GENERAL TROUBLESHOOTING INFORMATION** )

**NO** -Go to step 2.

2. Connect the HDS to the data link connector (DLC) (see **CLEAR THE DTC MEMORY WITH THE HDS**).
3. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Select Body Electrical Status with the HDS.
5. Check for DTCs in the Gauge Menu with the HDS.

*Is DTC B1187 indicated?*

**YES** -Go to the DTC B1187 troubleshooting (see **DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH ECM/PCM (ENGINE MESSAGES); DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGES); DTC B1170: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE ABS/VSA MODULATOR-CONTROL UNIT (** ).

**NO** -Faulty gauge control module (tach); replace the gauge control module (tach) (see **TACHOMETER** ).

**SIDE AIRBAG CUTOFF INDICATOR STAYS ON**

1. Make sure nothing is on the front passenger's seat.
2. Make sure the seat-back is dry.
3. Turn the ignition switch ON (II), and see if the SRS indicator comes on.

*Does the SRS indicator come on?*

**YES** -Go to the Symptom Troubleshooting "**SRS INDICATOR STAYS ON**."

**NO** -Go to step 2.

4. Connect the HDS to the data link connector (DLC) (see **CLEAR THE DTC MEMORY WITH THE HDS**).
5. Make sure the HDS communicates with the vehicle and the SRS unit. If it does

not troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).

6. Select Body Electrical Status with the HDS.
7. Check for DTCs in the Gauge Menu with the HDS.

   *Is DTC B1187 indicated?*

   **YES** -Go to the DTC B1187 troubleshooting (see **DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH ECM/PCM (ENGINE MESSAGES); DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGES); DTC B1170: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE ABS/VSA MODULATOR-CONTROL UNIT (** ).

   **NO** -Go to step 8.

8. Do the gauge control module self-diagnostic function (see **SELF-DIAGNOSTIC FUNCTION** ).

   *Does the side airbag cutoff indicator flashing?*

   **YES** -Initialize the ODS unit (see **ODS UNIT INITIALIZATION**). If problem is still present, replace the OPDS sensor/seat-back (see **FRONT SEAT-BACK COVER REPLACEMENT** ).

   **NO** -Faulty gauge control module (tach); replace the gauge control module (tach) (see **GAUGE CONTROL MODULE (TACH) INPUT TEST** ).

**SIDE AIRBAG CUTOFF INDICATOR DOES NOT COME ON**

**NOTE: If the SRS indicator also stays on, go to SRS indicator stays on, but no DTCs are stored (see SRS INDICATOR DOES NOT COME ON).**

1. Turn the ignition switch OFF, then wait for 10 seconds.
2. Turn the ignition switch ON (II), and check that the side airbag cutoff indicator comes on for about 6 seconds.

*Does the side airbag cutoff indicator come on?*

**YES** -Intermittent failure, the system is OK at this time.

**NO** -Go to step 3.

3. Connect the HDS to the data link connector (DLC) (see **CLEAR THE DTC MEMORY WITH THE HDS**).
4. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Do the gauge control module self-diagnostic function (see **SELF-DIAGNOSTIC FUNCTION** ).

   *Does the side airbag cutoff indicator come on?*

   **YES** -Faulty SRS unit; replace the SRS unit (see **SRS UNIT REPLACEMENT**).

   **NO** -Faulty gauge control module (tach); replace the gauge control module (tach) (see **TACHOMETER** ).

**PASSENGER'S AIRBAG CUTOFF INDICATOR STAYS ON OR COMES ON SUDDENLY**

**NOTE: Under the following conditions, the passenger's airbag cutoff indicator stays on or comes on suddenly.**

- No one is sitting the front passenger's seat, but there is an object on the seat more than 5 kg (11 lbs).
- The seat belt is buckled, but no one is sitting on the front passenger's seat.
- Someone who is less than 30 kg (66 lbs) is sitting on the front passenger's seat.
- Someone who is more than 30 kg (66 lbs) but is supporting some of their body weight on their legs, feet, arms, or hands.

1. Check for these items, then recheck the passenger's airbag cutoff indicator.
   - The front passenger's seat is/was installed correctly.

- Nothing is/was on the front passenger's seat.
- Nothing is/was under the front passenger's seat.
- Nothing is/was in the front passenger's seat-back pocket.
- Whoever was sitting on the passenger's seat was sitting in the proper sitting position.

*Does the passenger's airbag cutoff indicator stay on?*

**YES** -Go to step 2.

**NO** -Troubleshooting is complete.

2. Connect the HDS to the data link connector (DLC) (see **CLEAR THE DTC MEMORY WITH THE HDS**).
3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the SRS unit. If it does not communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Select the INSPECTION menu on the HDS, then select AFTER REPLACING FRONT PASSENGER'S SEAT COMPONENT(S), and follow the prompts.

   *Does the passenger's airbag cutoff indicator stay on?*

   **YES** -Go to step 6.

   **NO** -Troubleshooting is complete.

6. Select the INSPECTION menu on the HDS, then select AFTER A VEHICLE COLISION, and follow the prompts.

   *Does the passenger's airbag cutoff indicator stay on?*

   **YES** -Replace the SRS unit (see **SRS UNIT REPLACEMENT**).

   **NO** -Troubleshooting is complete.

## COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT

**NOTE: Before doing any SRS repairs, check the SRS DTCs (see CLEAR THE DTC MEMORY WITH THE HDS) for the less obvious deployed parts (seat belt tensioners, front impact sensors, side airbag sensors, etc.)**

After a collision where the seat belt tensioners deployed, replace these items:

- SRS unit
- Seat belt tensioners
- Seat belt buckle tensioners
- Front impact sensors

After a collision where the front airbag(s) deployed, replace these items:

- SRS unit
- Deployed airbag(s)
- Seat belt tensioners
- Seat belt buckle tensioners
- Front impact sensors

After a collision where the side airbag(s) deployed, replace these items:

- SRS unit
- Deployed side airbag(s)
- Side impact sensor(s) (first) for the side(s) that deployed
- Side impact sensor(s) (second) for the side(s) that deployed
- B-pillar lower trim
- Complete seat frame

After a collision where a side curtain airbag deployed, replace the items for the side (s) that deployed:

- SRS unit
- Deployed side curtain airbag(s)

- Seat belt tensioner(s)
- Side impact sensor(s) (first)
- Side impact sensor(s) (second)
- Rear safing sensor
- Roof trim
- A-pillar trim
- B-pillar lower trim
- C-pillar trim
- Front grab handle
- Rear grab handle (4-door)
- All related trim clips
- Sunvisor

After a moderate to severe side or rear collision, inspect for any damage on the side curtain airbag or other related components. Replace the components as needed.

## A-Pillar trim (4-door)

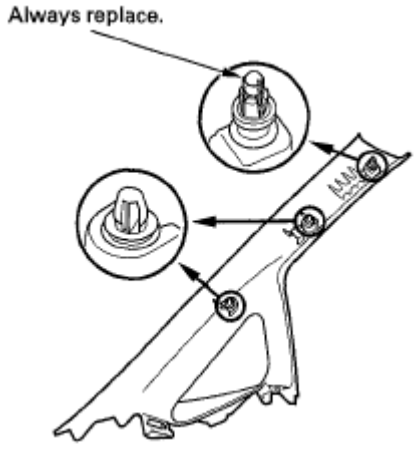



**Fig. 287: Identifying A-Pillar Trim (4-Door) And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## B-Pillar trim (4-door)

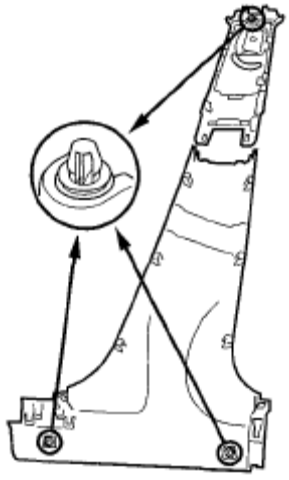


**Fig. 288: Identifying B-Pillar Trim (4-Door) And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## C-Pillar trim (4-door)

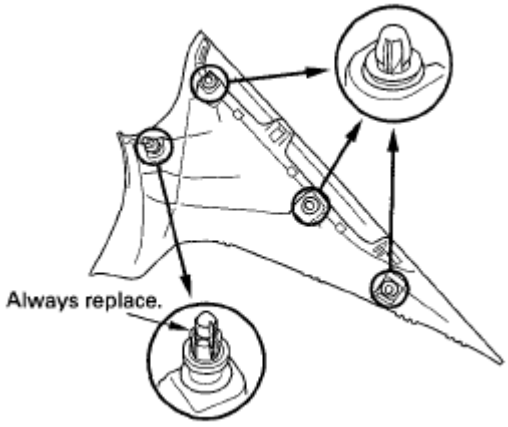



**Fig. 289: Identifying C-Pillar Trim (4-Door) And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## A-Pillar trim (2-door)

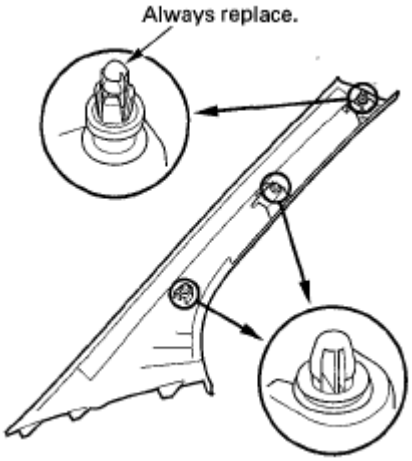



**Fig. 290: Identifying A-Pillar Trim (2-Door) And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## C-Pillar Trim (2-door)

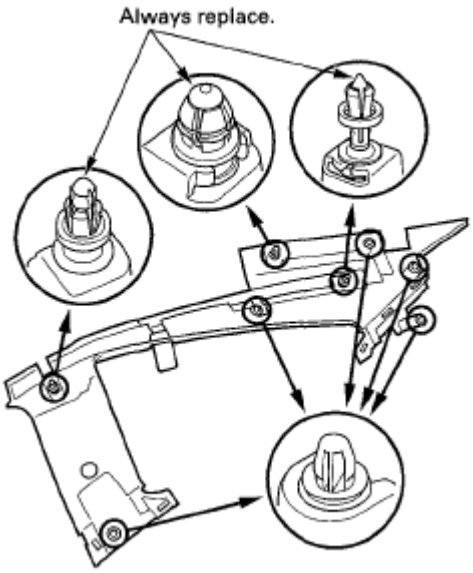



**Fig. 291: Identifying C-Pillar Trim (2-Door) And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

During the repair process, inspect these areas:

- Inspect all the SRS wire harnesses. Replace, do not repair, any damaged harnesses.
- Inspect the cable reel for heat damage. If there is any damage, replace the cable

reel.

After the vehicle is completely repaired, turn the ignition switch ON (II). If the SRS indicator comes on for about 6 seconds and then goes off, the SRS is OK. If the indicator does not function properly, use the HDS SRS Menu Method to read the DTC (see **GENERAL TROUBLESHOOTING INFORMATION**). If you cannot retrieve a code, do the SRS Symptom Troubleshooting.

**CHECKING AND ADJUSTING THE HEADLINER/PILLAR TRIM OVERLAP**

To prevent the side curtain airbag from deploying and damaging the pillar trim, the overlap between the headliner and pillar trim must be less then 15 mm (0.6 in.). To check the overlap, do this:

1. Install the headliner (A) and the pillar trims (B).

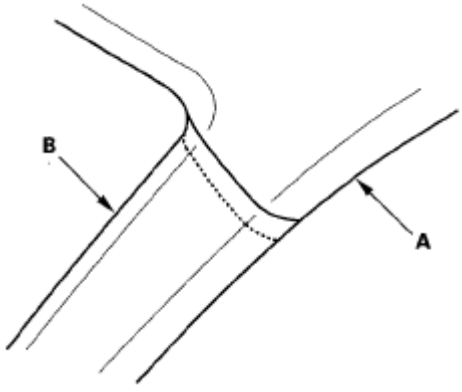



**Fig. 292: Identifying Headliner And Pillar Trims**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Using masking tape on the headliner, mark the upper edge of each pillar trim.

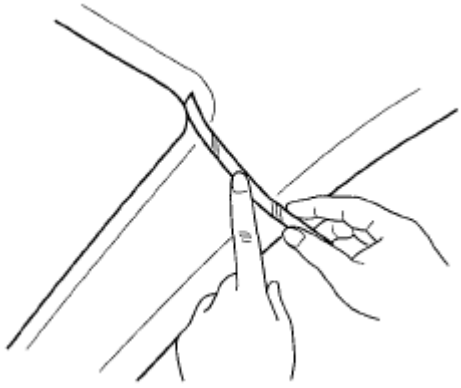


**Fig. 293: Marking Upper Edge Of Pillar Trim Using Masking Tape**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the pillar trim, and measure the headliner overlap.
   - If the overlap is less than 15 mm (0.6 in.), remove the tape, and install the pillar trim.
   - If the overlap is more than 15 mm (0.6 in.), go to step 4.

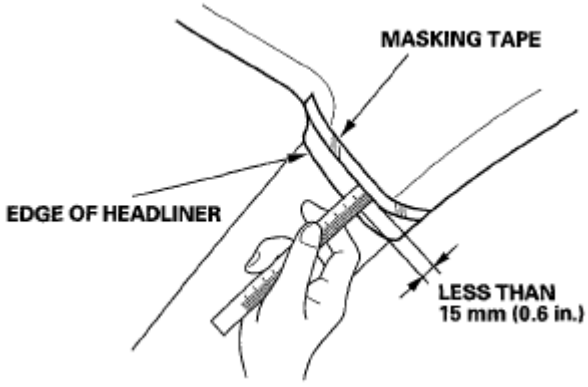



**Fig. 294: Measuring Headliner Overlap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Carefully trim the headliner with a utility knife, reducing the overlap to less than 15 mm (0.6 in.).

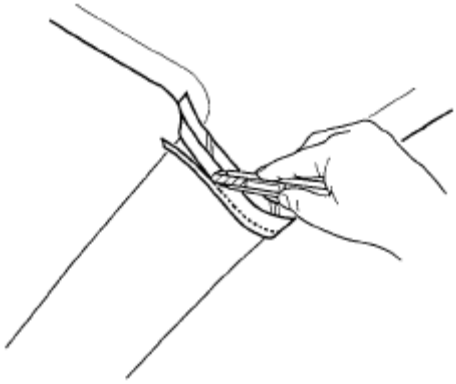


**Fig. 295: Cutting Overlap Trim Headliner With Knife**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the tape, and install the pillar trim.

## DRIVER'S AIRBAG REPLACEMENT

### REMOVAL

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Remove the access panel (A) from the steering wheel, then disconnect the driver's airbag 4P connector (B) from the cable reel.

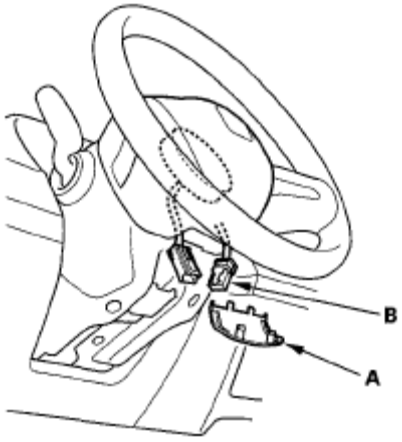



**Fig. 296: Identifying Access Panel And Driver's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Using a TORX T30 bit, remove the two TORX bolts (A) and discard them.

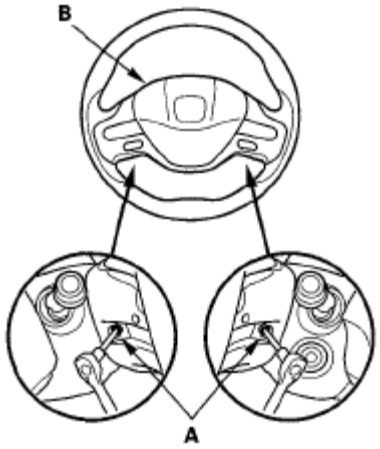



**Fig. 297: Identifying Torx Bolts And Driver's Airbag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Disconnect the horn switch connector (1P), then remove the driver's airbag (B).

**INSTALLATION**

1. Connect the horn switch connector (1P) (A) to the driver's airbag.

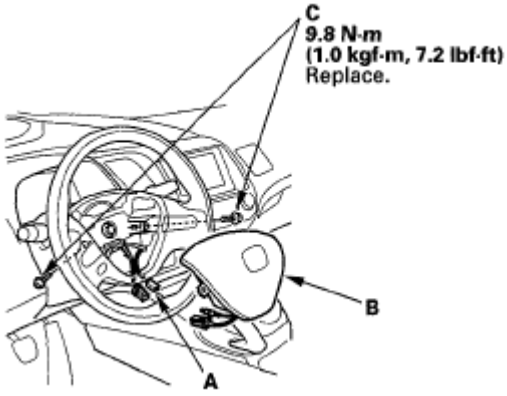



**Fig. 298: Identifying Horn Switch Connector (1P), Driver's Airbag, Bolts With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Place the driver's airbag (B) in the steering wheel, and secure it with new TORX bolts (C).
3. Connect the cable reel 4P connector (A) to the driver's airbag 4P connector, then install the access panel (B) on the steering wheel.

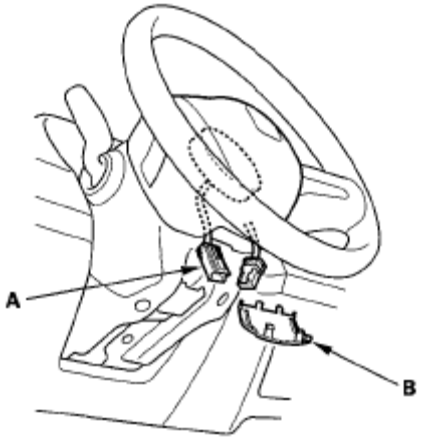



**Fig. 299: Identifying Cable Reel 4P Connector And Access Panel**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Reconnect the negative cable from the battery.
5. After installing the airbag, confirm proper system operation:
   - Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
   - Make sure the horn works.

## FRONT PASSENGER'S AIRBAG REPLACEMENT

### REMOVAL

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Remove the glove box (see **GLOVE BOX REMOVAL/INSTALLATION** ).
3. Disconnect the front passenger's airbag 4P connector (A) from the dashboard wire harness.

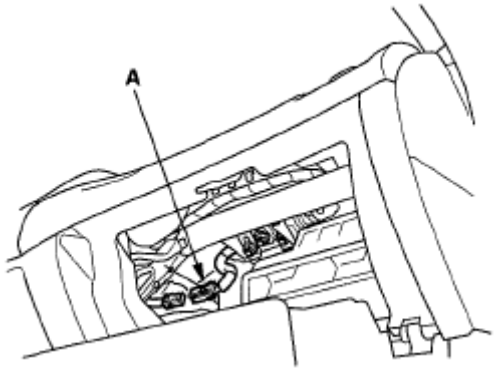



**Fig. 300: Identifying Front Passenger's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the center panel:
   - With navigation (see **NAVIGATION UNIT REMOVAL/INSTALLATION** )
   - Without navigation (see **WITHOUT NAVIGATION** )
5. Remove the three mounting nuts (A) from the bracket. Cover the front passenger's lid and dashboard with a cloth, and pry carefully with a screwdriver to lift the front passenger's airbag assembly (B) out of the dashboard.

   If you are replacing only the front passenger's lid, go to step 6.

   **NOTE: The front passenger's lid has pawls (C) on each side which attach it to the dashboard.**

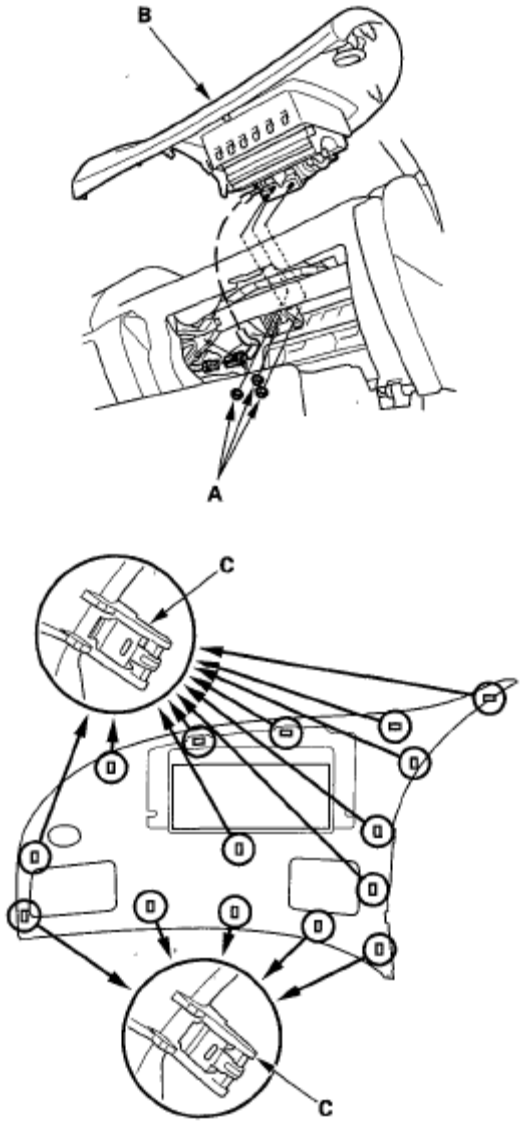



**Fig. 301: Identifying Front Passenger's Airbag Assembly, Mounting Nuts And Front Passenger's Lid Pawls**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Cut the four parts (A) of the front passenger's lid (B) as shown, and remove the front passenger's airbag.

**NOTE:**

- **Always replace the front passenger's lid whenever you remove the front passenger's airbag from the lid.**
- **Replace the front passenger's airbag if the airbag**

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**mounting hooks or its housing is damaged.**

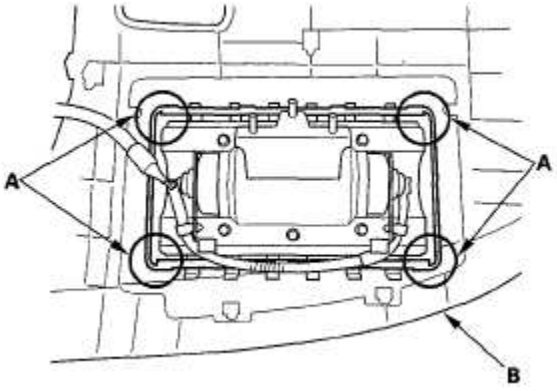
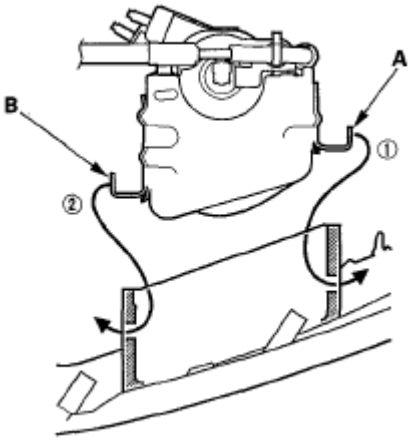



**Fig. 302: Identifying Front Passenger's Lid**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Insert the hooks (A) of the front passenger's airbag housing into the new passenger's lid, then insert the other hooks (B) into the lid.

**NOTE:**

- **Make sure there are no objects between the airbag and the front passenger's lid.**
- **Make sure the airbag is fully seated, and make sure the front passenger's lid is not deformed or damaged after the airbag is in place.**
- **Do not use tools when detaching the front passenger's airbag in order to protect it.**



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**Fig. 303: Identifying Front Passenger's Airbag Housing Hooks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Place the front passenger's airbag assembly (A) into the dashboard. Tighten the front passenger's airbag mounting nuts (B).

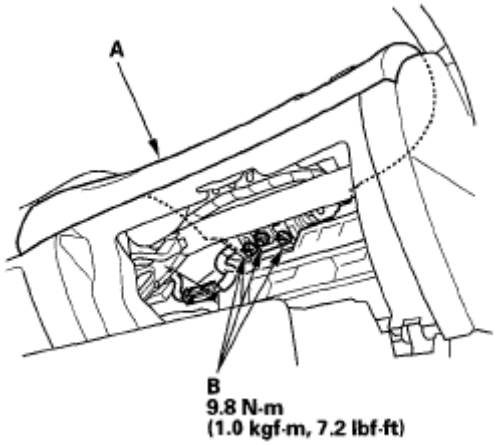



**Fig. 304: Identifying Front Passenger's Airbag Assembly, Mounting Nuts With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the front passenger's airbag 4P connector (A) to dashboard wire harness, then reinstall the glove box and center panel.

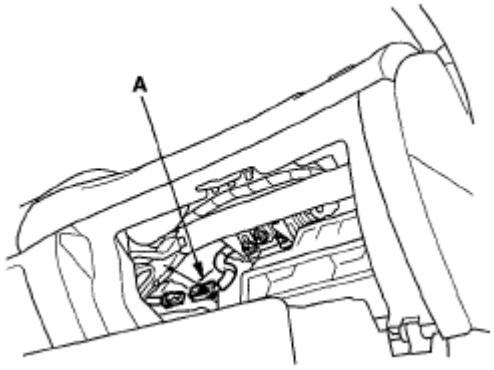



**Fig. 305: Identifying Front Passenger's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Reconnect the negative cable to the battery.
4. After installing the airbag, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.

## SIDE AIRBAG REPLACEMENT

**REMOVAL**

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Disconnect the side airbag harness 2P connector (A).




**Fig. 306: Identifying Side Airbag Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ) and seat-back cover (see **FRONT SEAT-BACK COVER REPLACEMENT** ).
4. Remove the mounting screws (A) and the side airbag (B).

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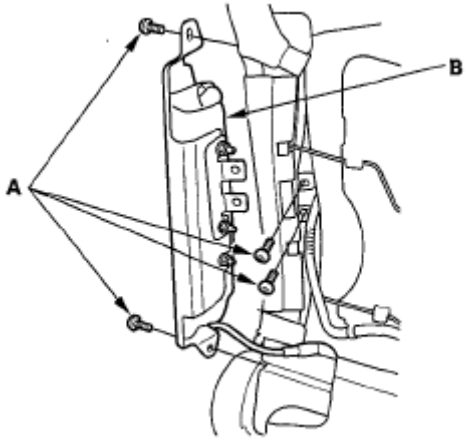



**Fig. 307: Identifying Side Airbag And Mounting Screws**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

**NOTE:**

- **If the side airbag lid is secured by tape, remove the tape.**
- **Do not open the lid of the side airbag cover.**
- **Use new mounting screws tightened to the specified torque. When you replace a side airbag, make sure that the seat-back cover is installed properly. Improper installation may prevent proper deployment.**
- **Be sure to install the harness wires so that they are not pinched or interfering with other parts.**

1. Place the side airbag on the seat-back frame (A). Install new side airbag mounting screws (B).

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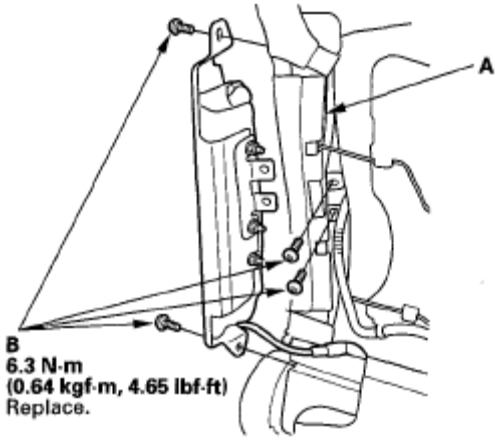



**Fig. 308: Identifying Side Airbag, Mounting Screws With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the seat-back cover in the reverse order of removal (see **FRONT SEAT-BACK COVER REPLACEMENT** ).
3. Install the seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ), then connect the side airbag harness 2P connector.
4. Move the front seat and the seat-back through their full ranges of movement, making sure the harness wires are not pinched or interfering with other parts.
5. Reconnect the negative cable to the battery.
6. After installing the side airbag, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.

## SIDE CURTAIN AIRBAG REPLACEMENT

**REMOVAL**

**NOTE:**

- **Review the interior trim replacement procedure before doing repair or service (see TRIM REMOVAL/INSTALLATION - DOOR AREAS ).**
- **Removal of the side curtain airbag must be done according to the Precautions and Procedures (see**

**PRECAUTIONS AND PROCEDURES).**

- **The side curtain airbag system consists of the side curtain airbag module, including the roof trim, front grab handle, all grab handle brackets and shielding protector. After the side curtain airbag has been deployed, replace these parts (see COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT).**

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION** ).
3. Disconnect the side curtain airbag 2P connector (A) from the floor wire harness.

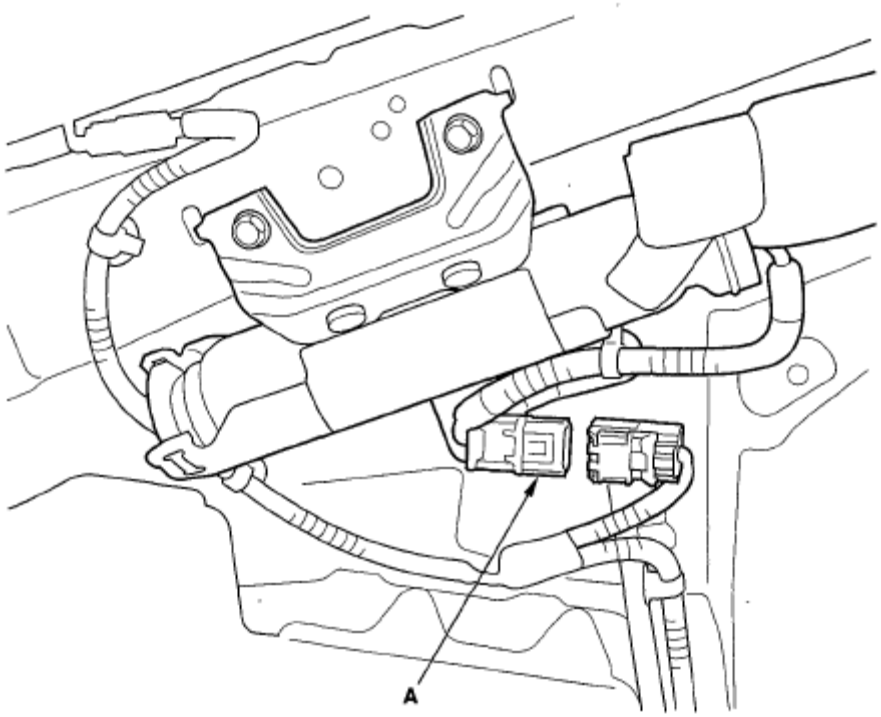


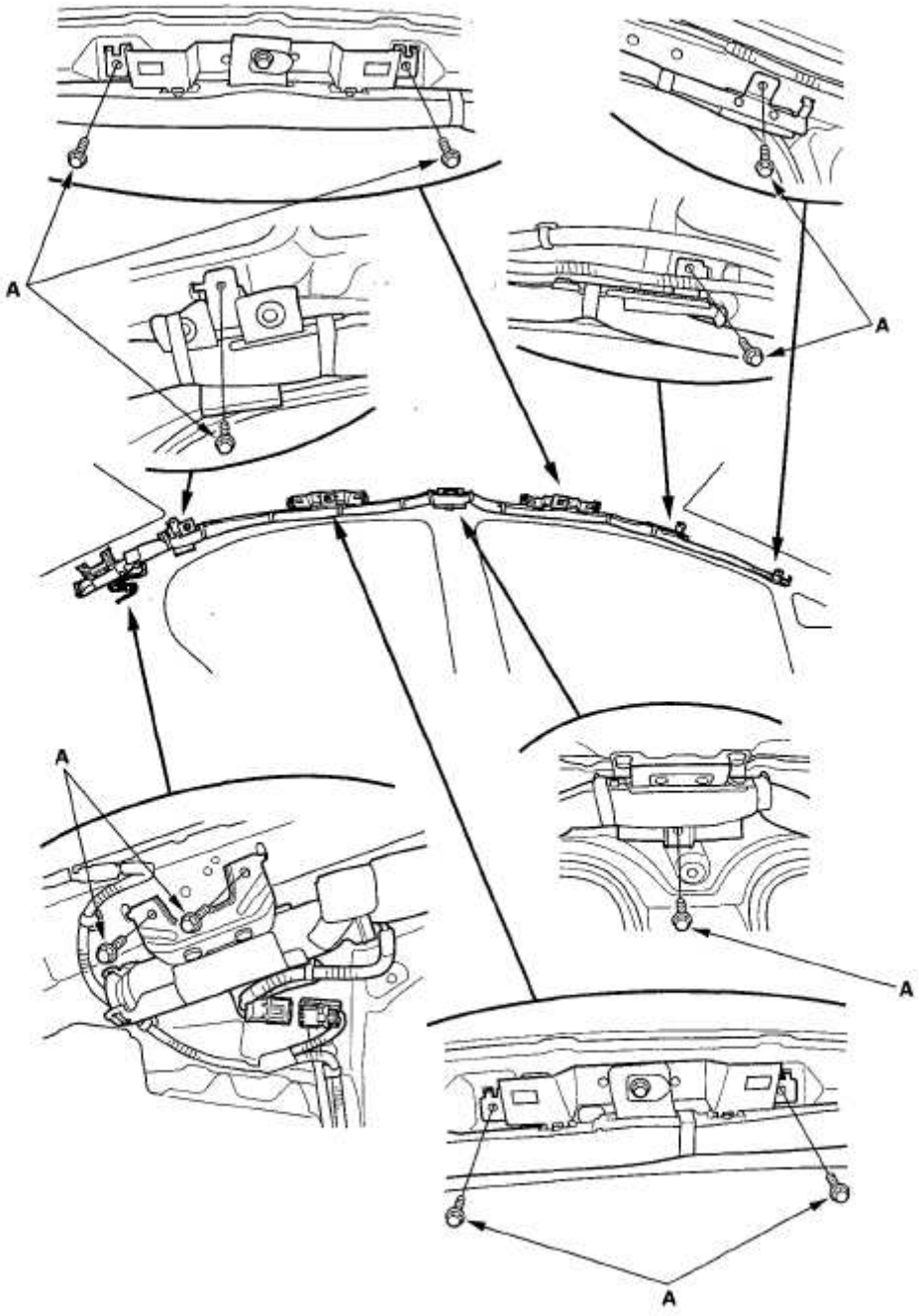

**Fig. 309: Identifying Side Curtain Airbag 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the mounting bolts (A) from the bracket.

**4-door**

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Left side shown; right side is similar

**Fig. 310: Identifying Side Curtain Airbag Mounting Bolts (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 2-door

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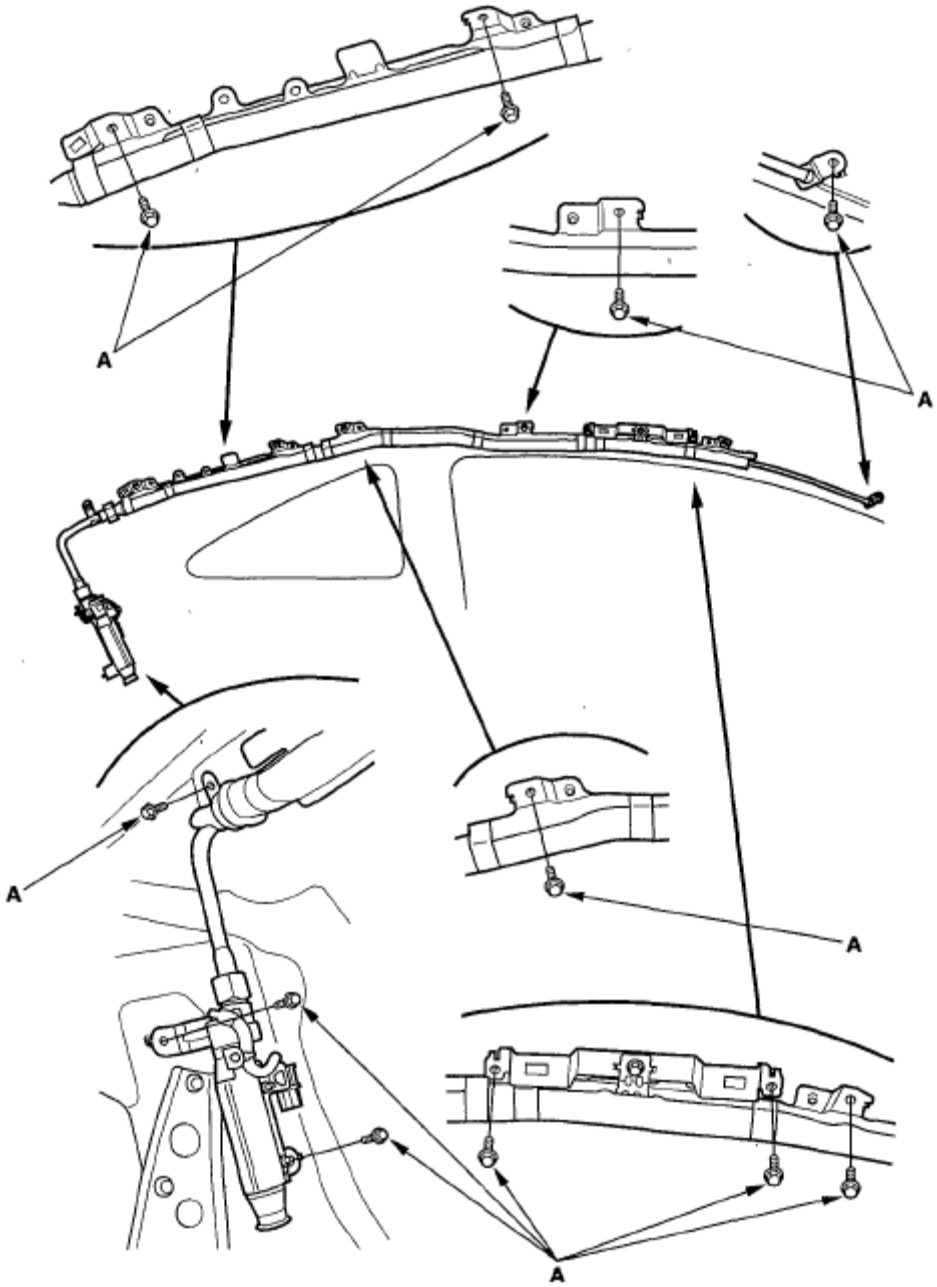



**Fig. 311: Identifying Side Curtain Airbag Mounting Bolts (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the side curtain airbag assembly.

**INSTALLATION**

**NOTE:**

- **Installation of the side curtain airbag must be doing**

**according to the Precautions and Procedures (see PRECAUTIONS AND PROCEDURES).**

- **If the airbag is frayed, or has only other visible damage, replace it. Do not attempt to repair an airbag.**
- **When you install the airbag, make sure it is not twisted, and that it is not caught between the inflator bracket by the bracket bolts.**
- **Make sure that the side curtain airbag inflator retainer is installed properly. Otherwise the airbag could accidentally deploy and cause damage or injuries.**

1. Place the side curtain airbag assembly on the side of the roof. Tighten the side curtain airbag mounting bolts (A).

**4-door**

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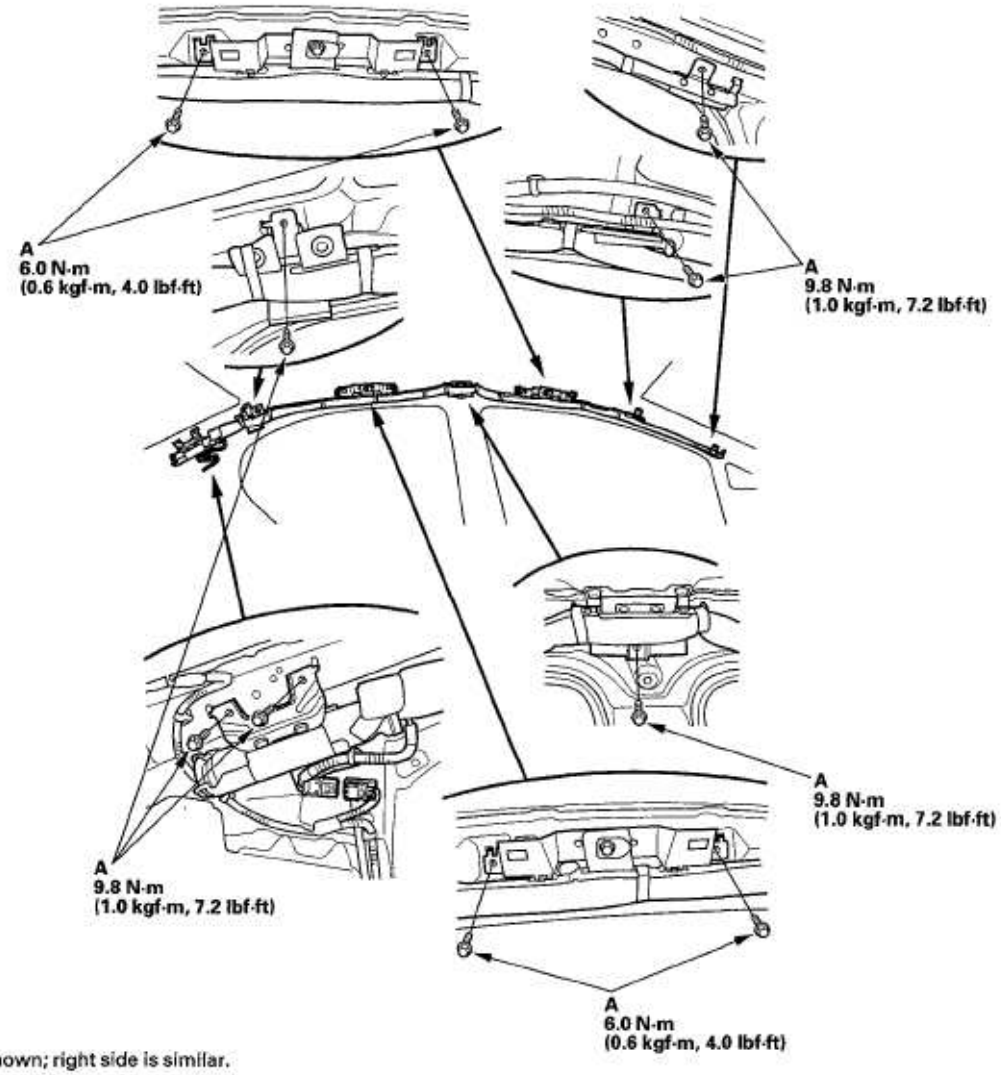



**Fig. 312: Identifying Side Curtain Airbag Mounting Bolts (4-Door) With Torque Specifications**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2-door**

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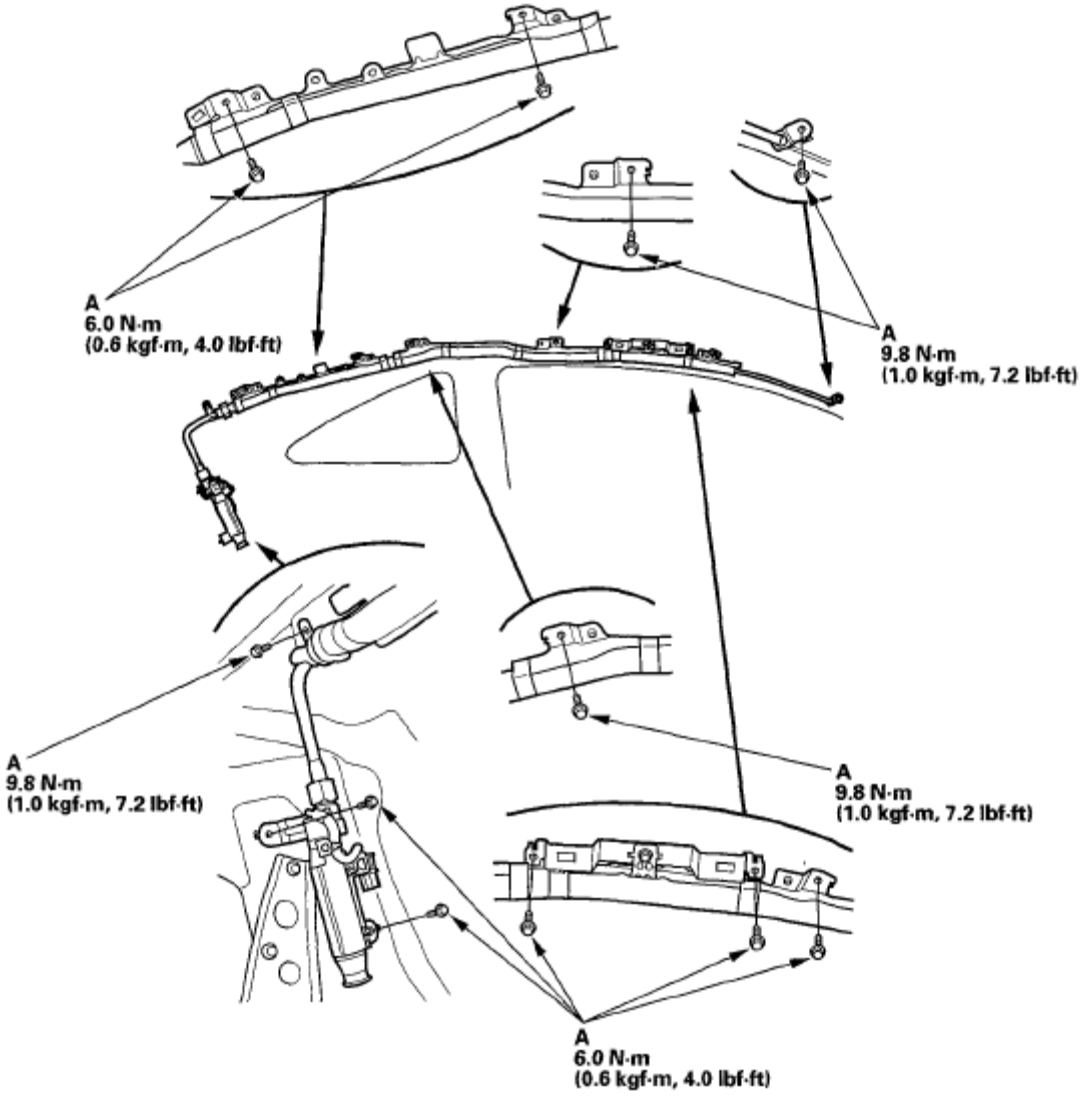
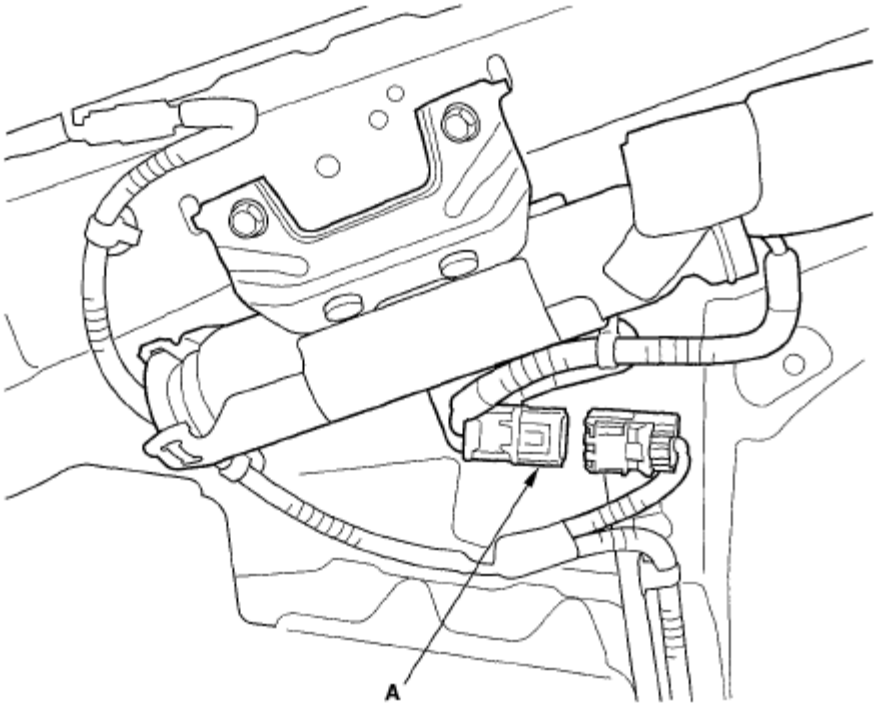



**Fig. 313: Identifying Side Curtain Airbag Mounting Bolts (2-Door) With Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the side curtain airbag 2P connector (A) to the floor wire harness.




Left side shown; right side is similar.

**Fig. 314: Identifying Side Curtain Airbag 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Reconnect the negative cable to the battery.
4. Connect the HDS, and clear the DTCs (see **CLEAR THE DTC MEMORY WITH THE HDS**).
5. After installing the side curtain airbag, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
6. Install all removed parts.
7. Confirm proper headliner/pillar trim overlap (see **CHECKING AND ADJUSTING THE HEADLINER/PILLAR TRIM OVERLAP**).

## AIRBAG AND TENSIONER DISPOSAL

### Special Tools Required

Deployment tool 07HAZ-SG00500

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Before scrapping any airbags, side airbags, side curtain airbags, seat belt tensioners, or seat belt buckle tensioner (including those in a whole vehicle to be scrapped), the part(s) must be deployed. If the vehicle is still within the warranty period, the Honda District Parts and Service Manager must give approval and/or special instruction before deploying the part(s). Only after the part(s) have been deployed (as the result of vehicle collision, for example), can they be scrapped. If the parts appear intact (not deployed), treat them with extreme caution. Follow this procedure.

**DEPLOYING AIRBAGS IN THE VEHICLE**

If an SRS equipped vehicle is to be entirely scrapped, its airbags, side airbags, side curtain airbags, seat belt tensioners, and seat belt buckle tensioner should be deployed while still in the vehicle. These parts should not be considered as salvageable parts and should never be installed in another vehicle.

1. Turn the ignition switch OFF, then disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Confirm that each airbag, side airbag, side curtain airbag, seat belt tensioner, or seat belt buckle tensioner is securely mounted.
3. Confirm that the deployment tool is functioning properly by following the check procedure on the tool label.

**Driver's Airbag**

4. Remove the access panel (A) from the steering wheel then disconnect the driver's airbag 4P connector (B) from the cable reel.

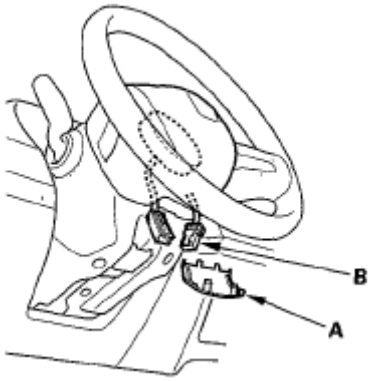


**Fig. 315: Identifying Access Panel And Driver's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Front Passenger's Airbag**

5. Remove the glove box, then disconnect the front passenger's airbag 4P connector (A) from the dashboard wire harness.

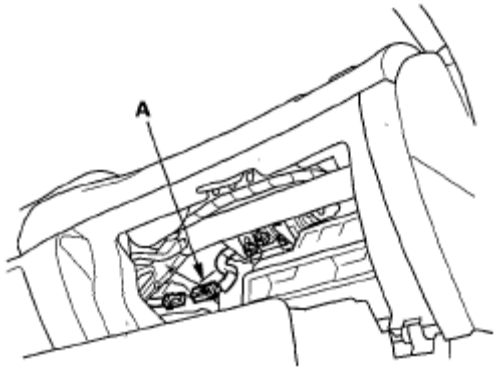



**Fig. 316: Identifying Front Passenger's Airbag 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Side Airbag**

6. Disconnect the side airbag 2P connector (A) from the floor wire harness.




**Fig. 317: Identifying Side Airbag 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Side Curtain Airbag**

7. Disconnect the floor wire harness 2P connector (A) from the side curtain airbag.

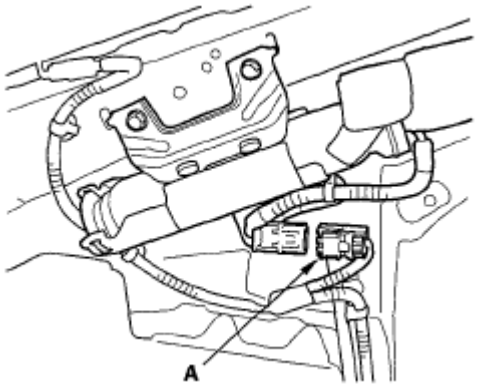



**Fig. 318: Identifying Floor Wire Harness 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Seat Belt Tensioner**

8. Disconnect the floor wire harness 4P connector (A) from the seat belt tensioner. Pull the seat belt out all the way and cut it.

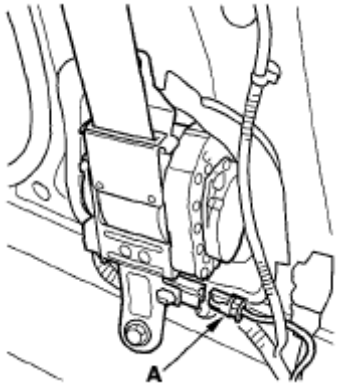



**Fig. 319: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Seat Belt Buckle Tensioner**

9. Disconnect the floor wire harness 4P connector (A) from the seat belt buckle tensioner.




**Fig. 320: Identifying Floor Wire Harness 4P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Cut off each connector, and strip the ends of the wires. Twist each pair of unlike colored wires together, and clip an alligator clips (A) from the deployment tool to each pair. Place the deployment tool at least 30 feet (10 meters) away from the vehicle.

**NOTE: The driver's and front passenger's airbags have dual inflators. Twist each pair of unlike colored wires together, and clip an alligator clip to each pair.**

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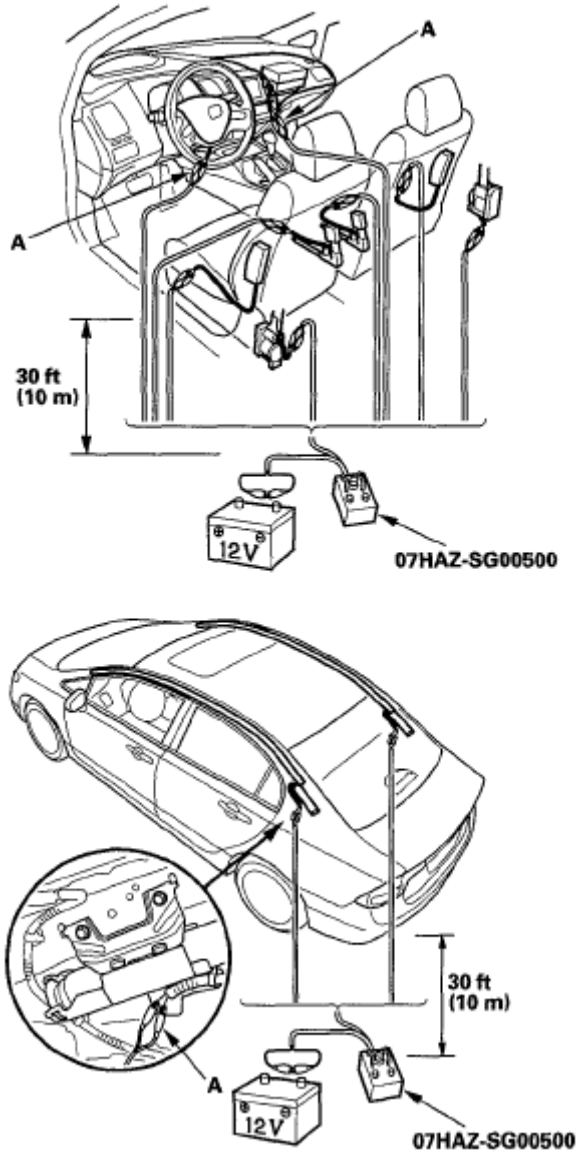



**Fig. 321: Placing Deployment Tool At Least 30 Feet (10 Meters) Away From Vehicle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Connect a 12 volt battery to the tool.
    - If the green light on the tool comes on, the igniter circuit is defective and cannot deploy the component. Go to **DISPOSAL OF DAMAGED COMPONENTS**.
    - If the red light on the tool comes on, the component is ready to be deployed.

12. Push the tool's deployment switch. The airbags and tensioners should deploy (deployment is both highly audible and visible: A loud noise and rapid inflation of the bag, followed by slow deflation).

- If the components deploy and the green light on the tool comes on, continue with this procedure.
- If a component does not deploy, and the green light comes ON, its igniter is defective. Go to **DISPOSAL OF DAMAGED COMPONENTS**.
- During deployment, the airbags can become hot enough to burn you. Wait 30 minutes after deployment before touching the airbags.

13. Dispose of the complete airbag. No part of it can be reused. Place it in a sturdy plastic bag (A), and seal it securely. Dispose of the deployed airbag according to your local regulations.




**Fig. 322: Placing Airbag In Plastic Bag**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**DEPLOYING COMPONENTS OUT OF THE VEHICLE**

If an intact airbag or tensioner has been removed from a scrapped vehicle, or has been found defective or damaged during transit, storage, or service, it should be deployed as follows:

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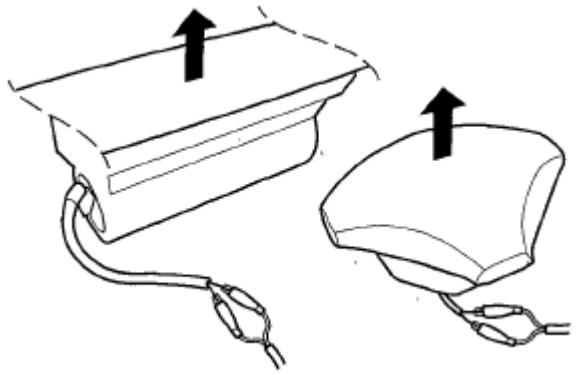


**Fig. 323: Precaution For - Airbag Storage And Service**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

1. Confirm that the deployment tool is functioning properly by following the check procedure Deploying Airbags in the Vehicle on the tool label.
2. Position the airbag face up, outdoors, on flat ground, at least 30 feet (10 meters) from any obstacles or people.
3. Follow steps 9 through 12 of the in-vehicle deployment procedure.

**NOTE: The driver's and front passenger's airbags have dual inflators. Twist each pair of unlike colored wires together, and clip an alligator clip to each pair.**

**DISPOSAL OF DAMAGED COMPONENTS**

1. If installed in a vehicle, follow the removal procedure for the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT**), front passenger's airbag (see **FRONT PASSENGER'S AIRBAG REPLACEMENT**), side airbag (see **SIDE AIRBAG REPLACEMENT**), side curtain airbag (see **SIDE CURTAIN AIRBAG REPLACEMENT**), and seat belt tensioner (see **FRONT SEAT BELT REPLACEMENT** ), and seat belt buckle tensioner (see **FRONT SEAT BELT BUCKLE** ).
2. In all cases, make a short circuit by cutting, stripping, and twisting together the two inflator wires.

**NOTE: The driver's and front passenger's airbags have dual inflators. The like color wires go to the individual**

**inflators.**

3. Package the component in exactly the same packaging that the new replacement part came in.
4. Mark the outside of the box "DAMAGED AIRBAG NOT DEPLOYED," "DAMAGED SIDE AIRBAG NOT DEPLOYED," "DAMAGED SIDE CURTAIN AIRBAG NOT DEPLOYED," "DAMAGED SEAT BELT TENSIONER NOT DEPLOYED" so it does not get confused with your parts stock.
5. Contact your Honda District Parts and Service Manager for instructions on how and where to return it for disposal.

**DEPLOYMENT TOOL CHECK**

1. Connect the yellow clips to both switch protector handles on the tool.
2. Then connect the red lead to the positive battery post and the black lead to the negative battery post.
3. Push the operation switch: The green light should come on, indicating that the tool is operating properly and is ready for use. If the red light stays on, the tool is faulty, and another one must be used for the procedure.
4. Disconnect the tool clips and connectors from the protector handles and the battery.

## CABLE REEL REPLACEMENT

**REMOVAL**

1. Make sure the front wheels are aligned straight ahead.
2. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
3. Remove the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT**).
4. Disconnect the connector (A) from the cable reel, then remove the steering wheel bolt (B).

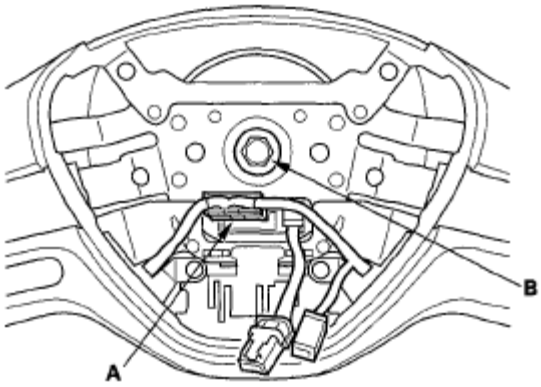



**Fig. 324: Identifying Steering Wheel Bolt And Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Confirm that the front wheels point straight ahead, then remove the steering wheel with a steering wheel puller (see step 6 on **STEERING WHEEL REMOVAL** ). Do not tap on the steering wheel or steering column shaft when removing the steering wheel.
6. Remove the driver's under cover (see **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
7. Remove the column cover screws (A), then remove the column covers (B, C).

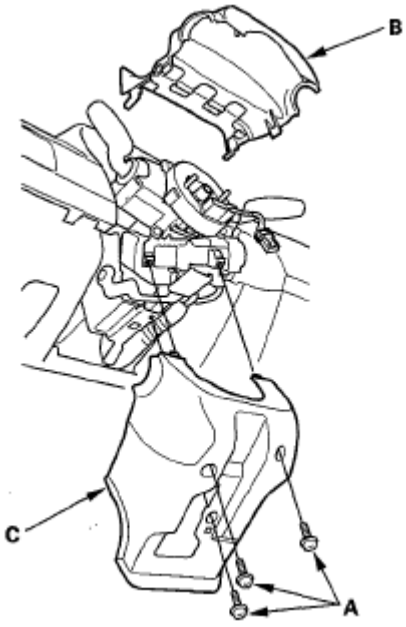



**Fig. 325: Identifying Column Covers And Screws**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Disconnect the dashboard wire harness 4P connector (A) from the cable reel 4P connector (B), then disconnect the dashboard wire harness 20P connector (C) from the cable reel (D).

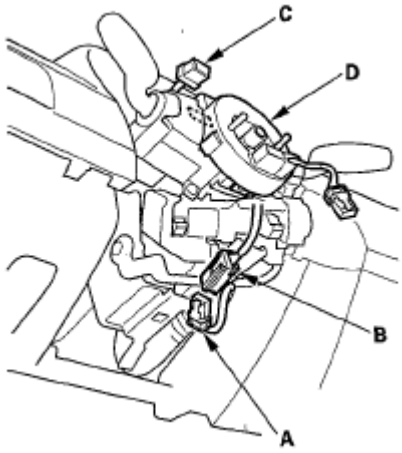



**Fig. 326: Identifying Dashboard Wire Harness 4P And Cable Reel 4P Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Release the lock tab (A) under the cable reel connector with a 90 ° hook shaped tool (B). Slide the tool below the cable reel connector just above the lock tab. Release the lower lock tab (C), and slide the cable reel off the column.

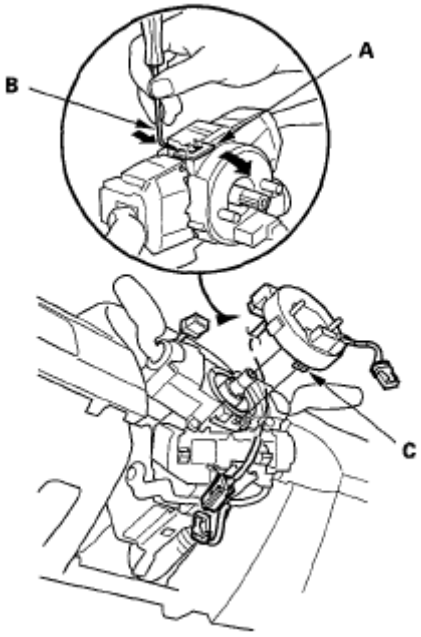


**Fig. 327: Releasing Lock Tab Under Cable Reel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Before installing the steering wheel, align the front wheels straight ahead.
2. If not already done, disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
3. Set the turn signal canceling sleeve (A) so that the projections (B) are aligned vertically.

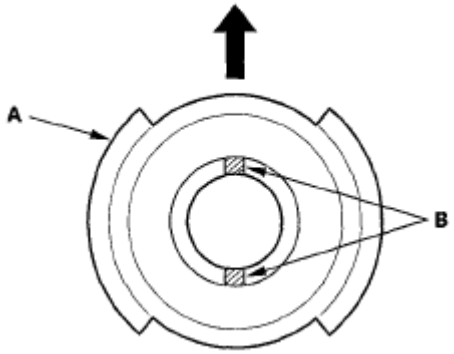



**Fig. 328: Setting Turn Signal Canceling Sleeve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Carefully install the cable reel (A) on the steering column shaft. Then connect 20P connector (B) to the cable reel, and connect the 4P connector (C) to the dashboard wire harness 4P connector (D).

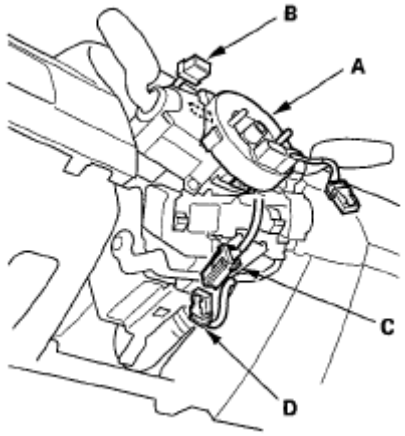


**Fig. 329: Identifying Cable Reel And Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the steering column covers.
6. If necessary, center the cable reel (New replacement cable reels come centered). Do this by first rotating the cable reel clockwise until it stops. Then rotate it counterclockwise (about three turns) until the arrow mark (A) on the cable reel label points straight up.

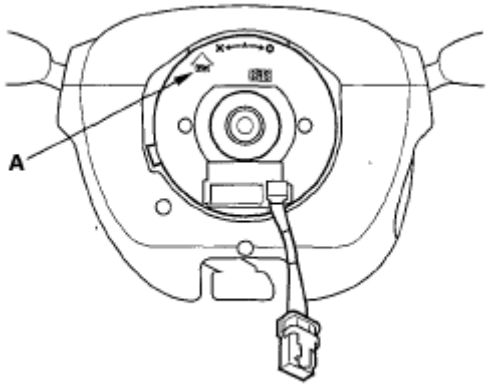



**Fig. 330: Identifying Arrow Mark On Cable Reel Label**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Position the two tabs (A) of the turn signal canceling sleeve (B) as shown, and install the steering wheel on to the steering column shaft, making sure the steering wheel hub (C) engages the pins (D) of the cable reel and tabs of the turn signal canceling sleeve. Do not tap on the steering wheel or steering column shaft when installing the steering wheel.

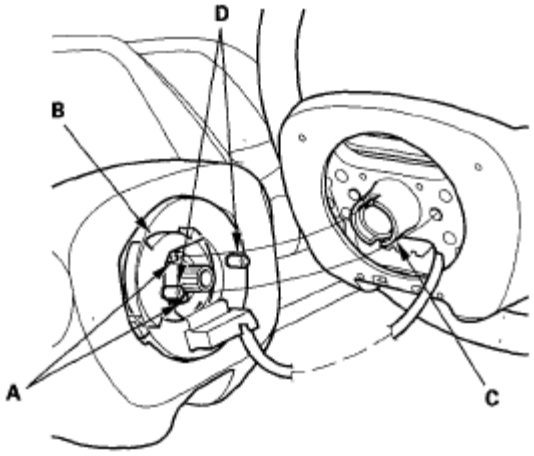



**Fig. 331: Identifying Turn Signal Canceling Sleeve And Steering Wheel Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install a new steering wheel bolt (A), then reconnect the connectors.

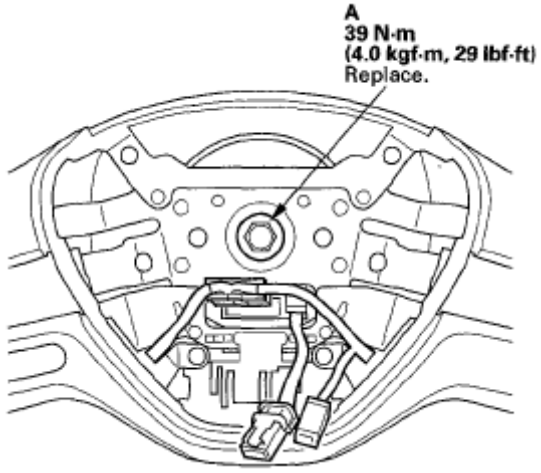



**Fig. 332: Identifying Steering Wheel Bolt With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT**).
10. Reconnect the negative cable to the battery.
11. After installing the cable reel, confirm proper system operation:
    - Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.

- After the SRS indicator has turned off, turn the steering wheel fully left and right to confirm the SRS indicator does not come on.
- Make sure the horn and turn signal switches work properly.
- Make sure the cruise control buttons work.
- Make sure the steering wheel audio controls (if equipped) work.
- Make sure the voice control buttons (if equipped) work.
- Make sure there are no DTCs.

## SRS UNIT REPLACEMENT

**REMOVAL**

**NOTE: If you are disconnecting only SRS unit connector A, skip step 2.**

1. Disconnect the battery negative cable, then wait for 3 minutes before starting work.
2. Disconnect both seat belt tensioner connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and both seat belt buckle tensioner connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
3. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
4. Disconnect SRS unit connector A (28P), connector B (28P) and remove the TORX bolts (C), then pull out the SRS unit.

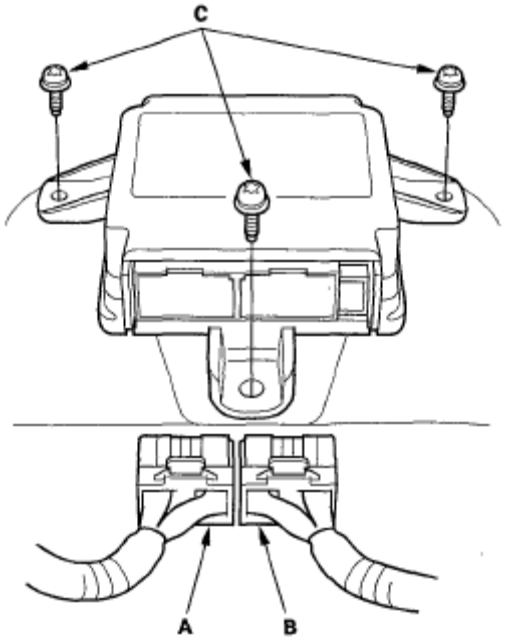



**Fig. 333: Identifying SRS Unit Connector A (28P) And Torx Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Install the SRS unit (A) with new TORX bolts (B), then connect the connectors (C) to the SRS unit; push them into position until they click.

**NOTE: Be sure the SRS unit is sitting squarely against it's bracket before torquing the TORX bolt.**

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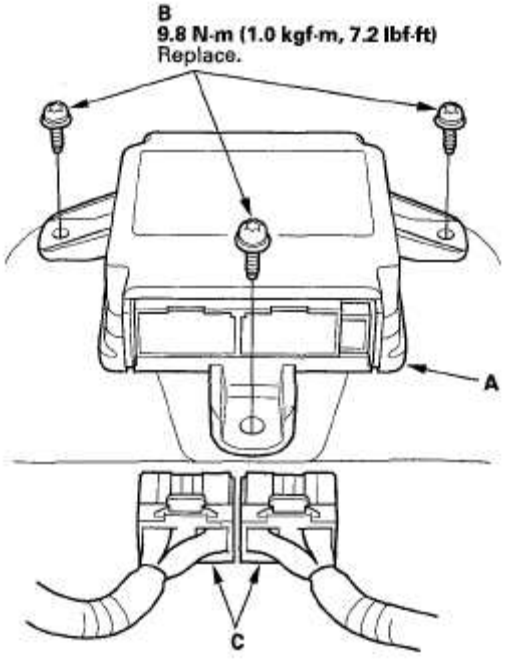



**Fig. 334: Identifying SRS Unit With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Reconnect both seat belt tensioner connectors (see step 7 **DISCONNECTING SYSTEM CONNECTORS**) and seat belt buckle tensioner connector (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).
3. Reconnect the negative cable to the battery.
4. Calibrate the ODS unit (see **ODS UNIT CALIBRATION**).
5. Do the ODS unit operation check (see **ODS UNIT OPERATION CHECK**).
6. After installing the SRS unit, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
7. Reinstall all removed parts.

## SIDE IMPACT SENSOR (FIRST) REPLACEMENT

**NOTE: Review the seat replacement procedure (see FRONT SEAT REMOVAL/INSTALLATION ) before doing repairs or service.**

**REMOVAL**

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Disconnect the appropriate side airbag 2P connector (see step 4 **DISCONNECTING SYSTEM CONNECTORS**).
3. Remove the front seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ).
4. Remove the front door sill inner trim:
   - 2-door (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS** )
   - 4-door (see **FRONT DOOR SILL AREA - 4-DOOR** )
5. Remove the lower B-pillar lower trim panel (see **B-PILLAR UPPER/LOWER TRIM - 4-DOOR** ).
6. Disconnect the floor wire harness 4P connector from the side impact sensor (first).
7. Using a TORX T30 bit, remove the TORX bolt (A), then remove the side impact sensor (first) (B).

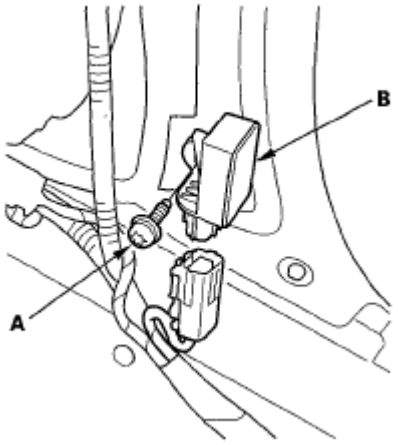



**Fig. 335: Identifying Side Impact Sensor And Torx Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Install the side impact sensor (first) with a new TORX bolt (A), then connect the floor wire harness 4P connector (B) to the side impact sensor (first).

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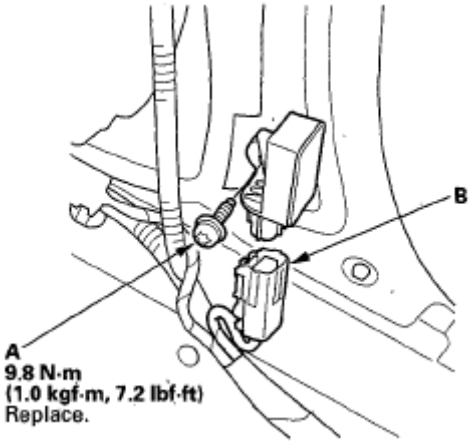



**Fig. 336: Identifying Floor Wire Harness 4P Connecto With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Reconnect the negative cable to the battery.
3. Reinstall all removed parts.
4. After installing the side impact sensor (first) confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.

## SIDE IMPACT SENSOR (SECOND) REPLACEMENT

### REMOVAL

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Disconnect the appropriate side curtain airbag 2P connector (see step 6 **DISCONNECTING SYSTEM CONNECTORS**).
3. For 2-door models: Remove the door sill trim (see **DOOR SILL AREA - 2-DOOR** ), and the rear side trim panel (see **TRIM REMOVAL/INSTALLATION - REAR SIDE AREA** ).

   For 4-door models: Remove the rear seat cushion and seat side bolster (see **SEAT CUSHION** , ).

4. Disconnect the floor wire harness 2P connector from the side impact sensor

(second).

5. Remove the TORX bolt (A) using a TORX T30 bit, then remove the side impact sensor (second) (B).

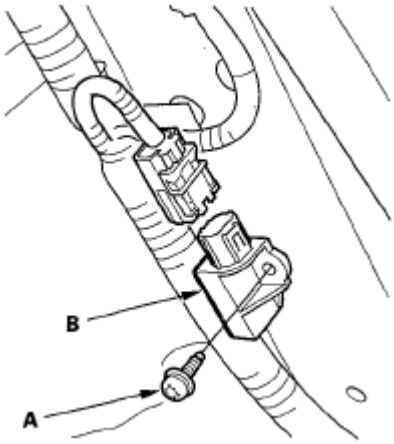



**Fig. 337: Identifying Side Impact Sensor And Torx Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Install the side impact sensor (second) with a new TORX bolt (A) then connect floor wire harness 2P connector (B) to the side impact sensor (second).

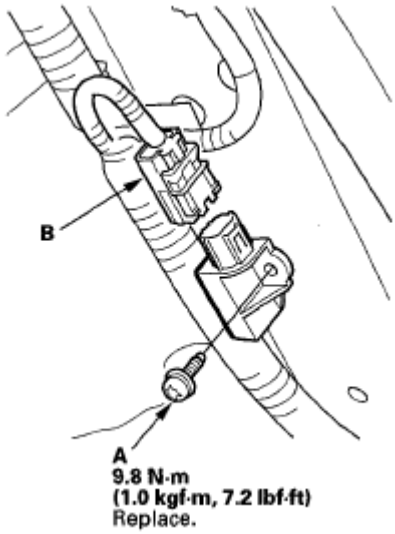



**Fig. 338: Identifying Floor Wire Harness 2P Connector With Torque Specification**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Reconnect the negative cable to the battery.
3. After installing the side impact sensor (second), confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
4. Reinstall all removed parts.

## REAR SAFING SENSOR REPLACEMENT

**REMOVAL**

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Disconnect both side curtain airbag 2P connectors (see step 6 **DISCONNECTING SYSTEM CONNECTORS**).
3. Remove the rear seat (see **REAR SEAT REMOVAL/INSTALLATION** ).
4. Disconnect the floor wire harness 4P connector from the rear safing sensor.
5. Using a TORX T30 bit, remove the TORX bolt (A), then remove the rear safing sensor (B).

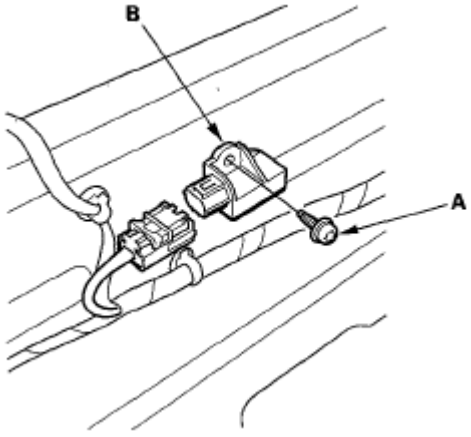



**Fig. 339: Identifying Rear Safing Sensor And Torx Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

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1. Install the rear safing sensor (A) with a new TORX bolt (B) then connect the floor wire harness 4P connector (C) to the rear safing sensor.

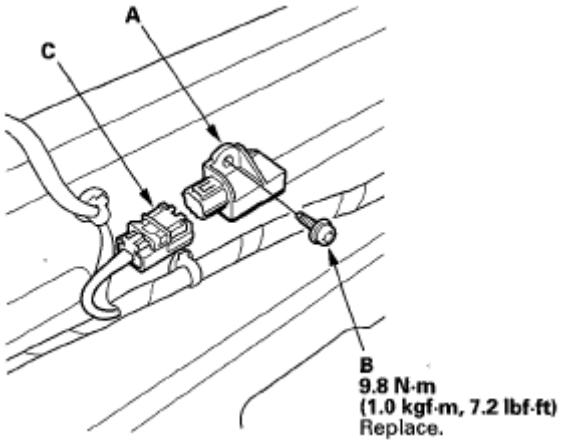



**Fig. 340: Identifying Rear Safing Sensor And Floor Wire Harness 4P Connector With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Reconnect the negative cable to the battery.
3. Reinstall all removed parts.
4. After installing the rear safing sensor, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.

## FRONT PASSENGER'S WEIGHT SENSOR REPLACEMENT

### Special Tools Required

Pin driver, 3.5 mm 07744-0010300

**4-DOOR**

**Removal**

**NOTE: Removal of the front passenger's weight sensors must be done according to Precautions and Procedures (see PRECAUTIONS AND PROCEDURES).**

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1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Remove the front passenger's seat assembly section (see **FRONT SEAT REMOVAL/INSTALLATION** ).
3. Remove the cushion cover/pad from the seat cushion frame (see **FRONT SEAT CUSHION COVER REPLACEMENT** ).
4. Using a TORX E18 socket, remove the TORX nuts (A) attaching the seat track (B) to the front passenger's seat slide assembly including all four front passenger's weight sensors (C).

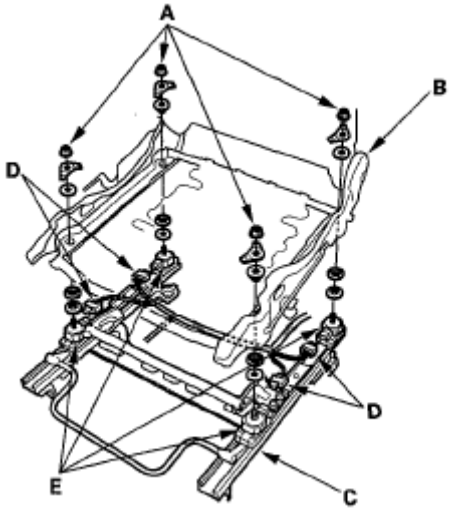



**Fig. 341: Identifying Front Passenger's Weight Sensors, Connectors, Seat Track And Torx Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Disconnect the sensor connectors (D) from the front passenger's weight sensors (E), then remove the front passenger's weight sensors.

**Installation**

**NOTE: Be sure to install the harness wires so they are not pinched or interfering with other parts.**

1. Install the new front passenger's seat slide assembly including all four front passenger's weight sensors under the seat track.

2. Apply multipurpose grease to the spring washer and bushing.

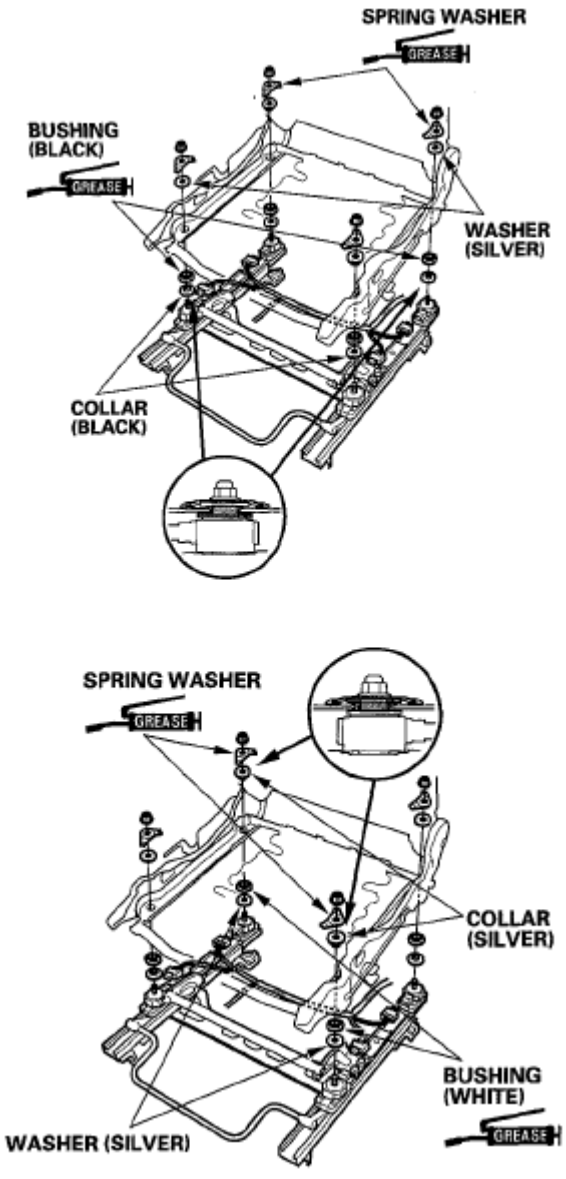



**Fig. 342: Identifying Multipurpose Grease Apply Area To Spring Washer And Bushing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Insert a 3.5 mm center punch into the hole in the cushion frame to position the spring washers, when tightening the TORX nuts (A). Begin with the (1) and tighten them in crisscross pattern in two or more steps.

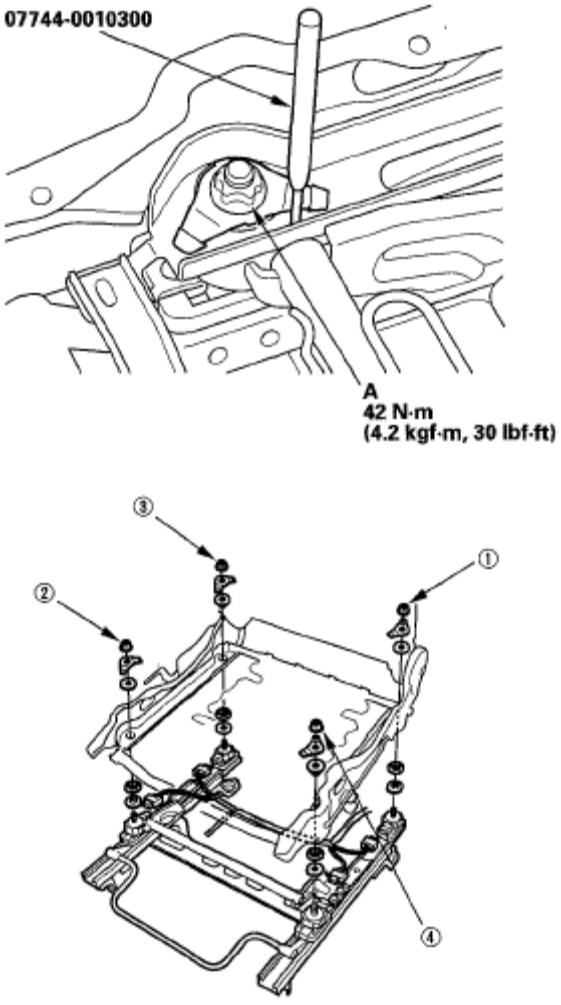



**Fig. 343: Identifying Special Tool With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Using the pin driver to position the spring washers, torque the TORX nuts in the sequence shown in two or more steps.
5. Make sure the gap between the spring washer (A) and the seat track (B) is more than 4 mm, as shown.

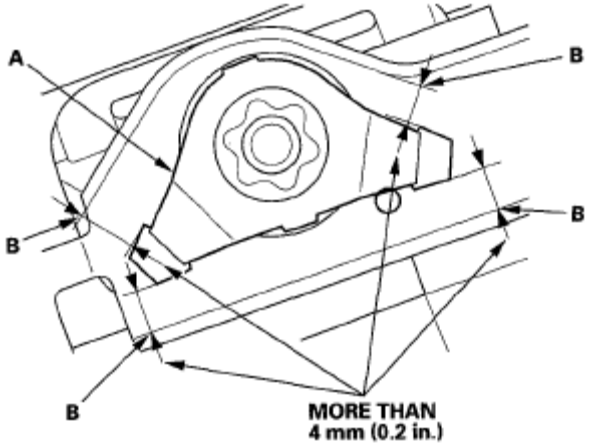



**Fig. 344: Identifying Gap Between Spring Washer And Seat Track**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Reassemble the front passenger's seat cushion cover/pad (see **FRONT SEAT CUSHION COVER REPLACEMENT** ).
7. Reinstall the front passenger's seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
8. Reconnect the negative cable to the battery.
9. Calibrate the ODS unit (see **ODS UNIT CALIBRATION**).
10. After installing the front passenger's weight sensors, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come for about 6 seconds and then go off.

## Special Tools Required

Pin driver, 3.5 mm 07744-0010300

**2-DOOR**

**Removal**

**NOTE: Removal of the front passenger's weight sensors must be done according to Precautions and Procedures (see PRECAUTIONS AND PROCEDURES).**

1. Disconnect the negative cable from the battery, then wait for 3 minutes before

starting work.

2. Remove the front passenger's seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ).
3. Remove the cushion cover/pad from the seat cushion frame (see **FRONT SEAT CUSHION COVER REPLACEMENT** ).
4. Using a TORX T27 bit, remove the tamper-resistant TORX bolts (A) that attach the seat track (B) to the weight sensors (C).

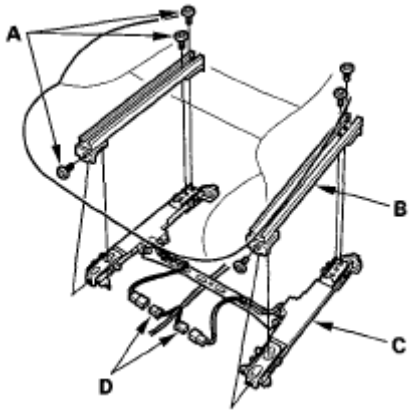



**Fig. 345: Identifying Front Passenger's Weight Sensor, Seat Track And Torx Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Disconnect the sensor connectors (D) from the ODS unit harness, then remove the front passenger's weight sensors.

**Installation**

**NOTE:**

- **Be sure to install the harness wires so they are not pinched or interfere with other parts.**
- **Make sure both of the hooks (A) on the seat track are properly secured to the front bracket (B). If the hooks are not properly secured, the seat weight sensors will not function properly.**

1. Install the new front passenger's weight sensors with tamper-resistant TORX bolts (C) under the seat track.

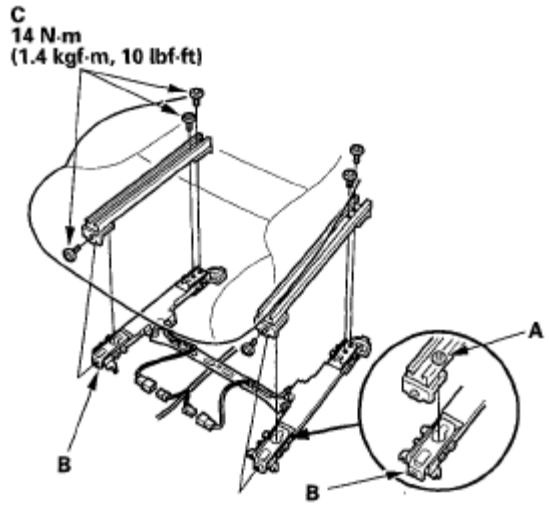



**Fig. 346: Identifying Front Bracket, Hooks And Tamper-Resistant With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Reassemble the front passenger's seat cushion cover/pad (see **FRONT SEAT CUSHION COVER REPLACEMENT** ).
3. Reinstall the front passenger's seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
4. Reconnect the negative cable to the battery.
5. Calibrate the ODS unit (see **ODS UNIT CALIBRATION**).
6. After installing the front passenger's weight sensors, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come ON for about 6 seconds and then go off.

## ODS UNIT REPLACEMENT

**NOTE: Review the seat replacement procedure (see FRONT SEAT REMOVAL/INSTALLATION ) before doing repairs or service.**

### REMOVAL

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Disconnect the passenger's side airbag 2P connector (see step 3

**DISCONNECTING SYSTEM CONNECTORS**).

3. Remove the passenger's seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ) and seat-back cover (see **FRONT SEAT-BACK COVER REPLACEMENT** ).
4. Disconnect the ODS unit 18P connector (A) and sensor connectors (B) from the ODS unit (C).

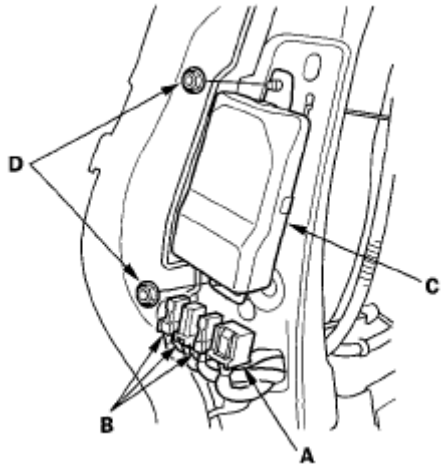



**Fig. 347: Identifying ODS Unit, 18P Connector And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the two nuts (D) and the ODS unit.

**INSTALLATION**

1. Place the ODS unit (A) on the seat-back frame. Tighten the two nuts (B), and connect the ODS unit harness 18P connector (C) and sensor connectors (D) to the ODS unit.

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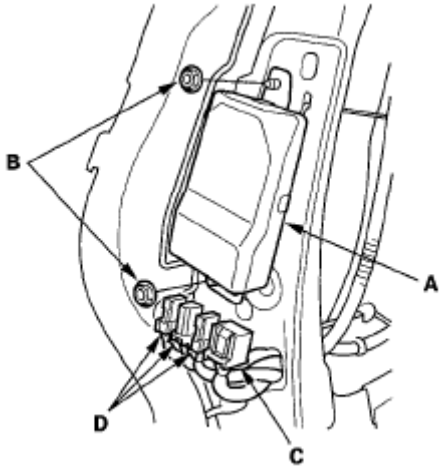



**Fig. 348: Identifying ODS Unit, Nuts And ODS Unit Harness 18P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the seat-back cover in the reverse order of removal.
3. Install the seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ), then connect the side airbag 2P connector.
4. Reconnect the negative cable to the battery.
5. Set the seat-back in the normal position, and make sure there is nothing on the front passenger's seat.
6. Initialize the ODS unit (see **ODS UNIT INITIALIZATION**).
7. After installing the ODS unit, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.

## FRONT IMPACT SENSOR REPLACEMENT

### REMOVAL

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Disconnect the driver's airbag 4P connector (see step 2 **DISCONNECTING SYSTEM CONNECTORS**),the front passenger's airbag 4P connector (see step 3 **DISCONNECTING SYSTEM CONNECTORS**), both seat belt tensioner 4P connectors (see step 7 **DISCONNECTING SYSTEM**

**CONNECTORS**), and both seat belt buckle tensioner 4P connectors (see step 8 **DISCONNECTING SYSTEM CONNECTORS**).

3. Remove the front inner fender:
   - 2-door (see **FRONT INNER FENDER REPLACEMENT** )
   - 4-door (see **4-DOOR** )
4. Disconnect the engine compartment wire harness 2P connector (A). Using a TORX T30 bit, remove the TORX bolt (B), then remove the front impact sensor (C). Replace the bolt.

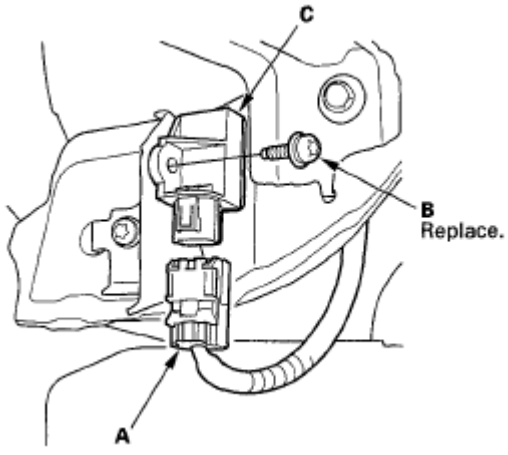



**Fig. 349: Identifying Engine Compartment Wire Harness 2P Connector, Torx Bolt And Front Impact Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Install the front impact sensor with a new TORX bolt (A), then connect the engine compartment wire harness 2P connector (B) to the front impact sensor (C).

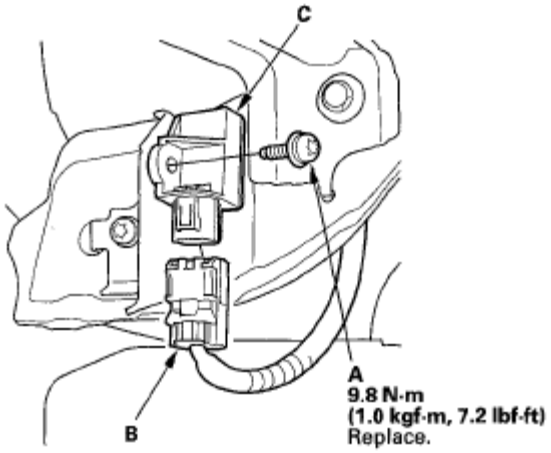



**Fig. 350: Identifying Front Impact Sensor And Engine Compartment Wire Harness 2P Connector With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Reconnect the negative cable to the battery.
3. After installing the front impact sensor, confirm proper system operation: Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
4. Reinstall all removed parts.

## DRIVER'S SEAT POSITION SENSOR REPLACEMENT

### REMOVAL

**NOTE:**

- **Removal of the driver's seat position sensor must be done according to Precautions and Procedures (see PRECAUTIONS AND PROCEDURES).**
- **Do not turn the ignition switch ON (II), and do not connect the battery cable while removing the driver's seat position sensor.**

1. Disconnect the negative cable from the battery, then wait for 3 minutes before starting work.
2. Disconnect the driver's airbag 4P connector (see step 2 **DISCONNECTING SYSTEM CONNECTORS**).

3. Remove the driver's seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ).
4. Disconnect the seat position sensor harness 2P connector (A) from the driver's seat position sensor.

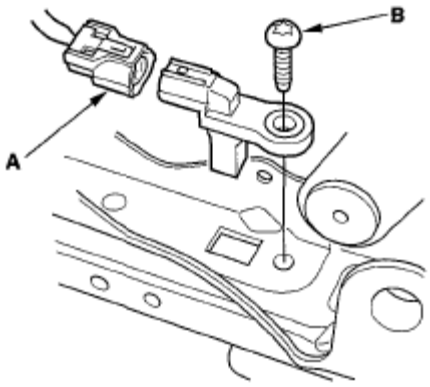



**Fig. 351: Identifying Seat Position Sensor Harness 2P Connector And Torx Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Using a TORX T30 bit, remove the TORX bolt (B), then remove the driver's seat position sensor.

**INSTALLATION**

**NOTE:**

- **Be sure to install the harness so it does not pinched or interfere with other parts.**
- **Do not turn the ignition switch ON (II), and do not connect the battery cable while installing the driver's seat position sensor.**
- **After installing the driver's seat position sensor, make sure it is clean. Keep it away from dust.**

1. Install the driver's seat position sensor with a TORX bolt (A), then connect the seat position sensor harness 2P connector to the driver's seat position sensor (B).

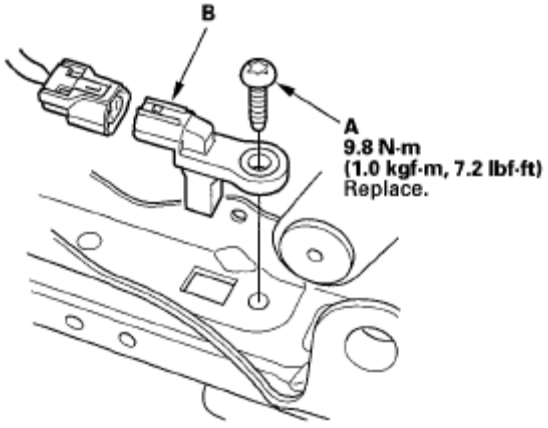



**Fig. 352: Identifying Driver's Seat Position Sensor With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the driver's seat assembly (see **FRONT SEAT REMOVAL/INSTALLATION** ).
3. Reconnect the negative cable to the battery.
4. Check the operation of the driver's seat position sensor with the HDS (see **DRIVER'S SEAT POSITION SENSOR OPERATION CHECK**).

## PASSENGER'S AIRBAG CUTOFF INDICATOR ILLUMINATION BULB TEST

1. Remove the center panel:
   - With navigation (see **NAVIGATION UNIT REMOVAL/INSTALLATION** )
   - Without navigation (see **WITHOUT NAVIGATION** )
2. Remove the screws (A) and the passenger's airbag cutoff indicator (B) from center panel.

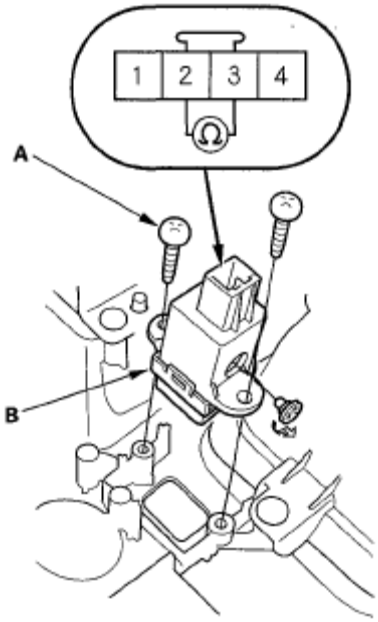



**Fig. 353: Identifying Passenger's Airbag Cutoff Indicator And Screw**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between the No. 2 and No. 3 terminals of the indicator. If there is no continuity, replace the bulb.
4. Reinstall the parts in the reverse order of removal.

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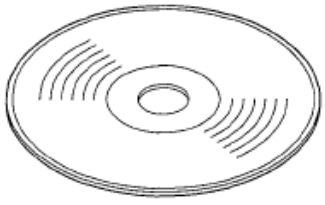


# 2006-08 ACCESSORIES & EQUIPMENT

## Audio System - Civic (Except Hybrid)

## SPECIAL TOOLS

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAZ-SDBA100 | Diagnostics CD | 1 |
| ② | 07AAZ-SDBA200 (ABEX-TCD-725B) | Skip Test CD | 1 |
| ③ | 07AAZ-SDBA300 (ABEX-TCD-721) | Skip Test CD | 1 |



①, ②, ③

**Fig. 1: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## COMPONENT LOCATION INDEX

### 4-door

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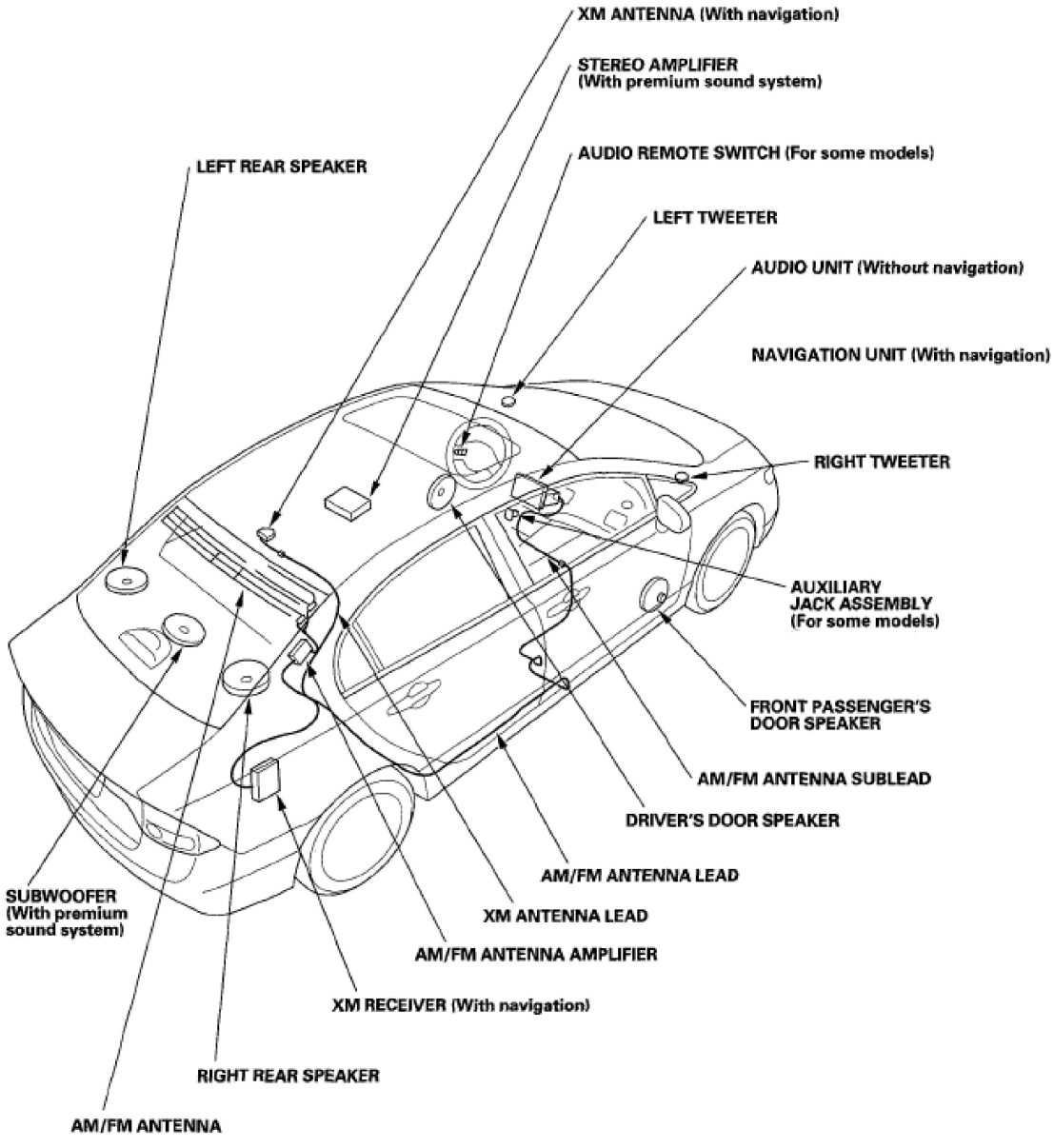



**Fig. 2: Audio System Component Location Index (1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 2-door

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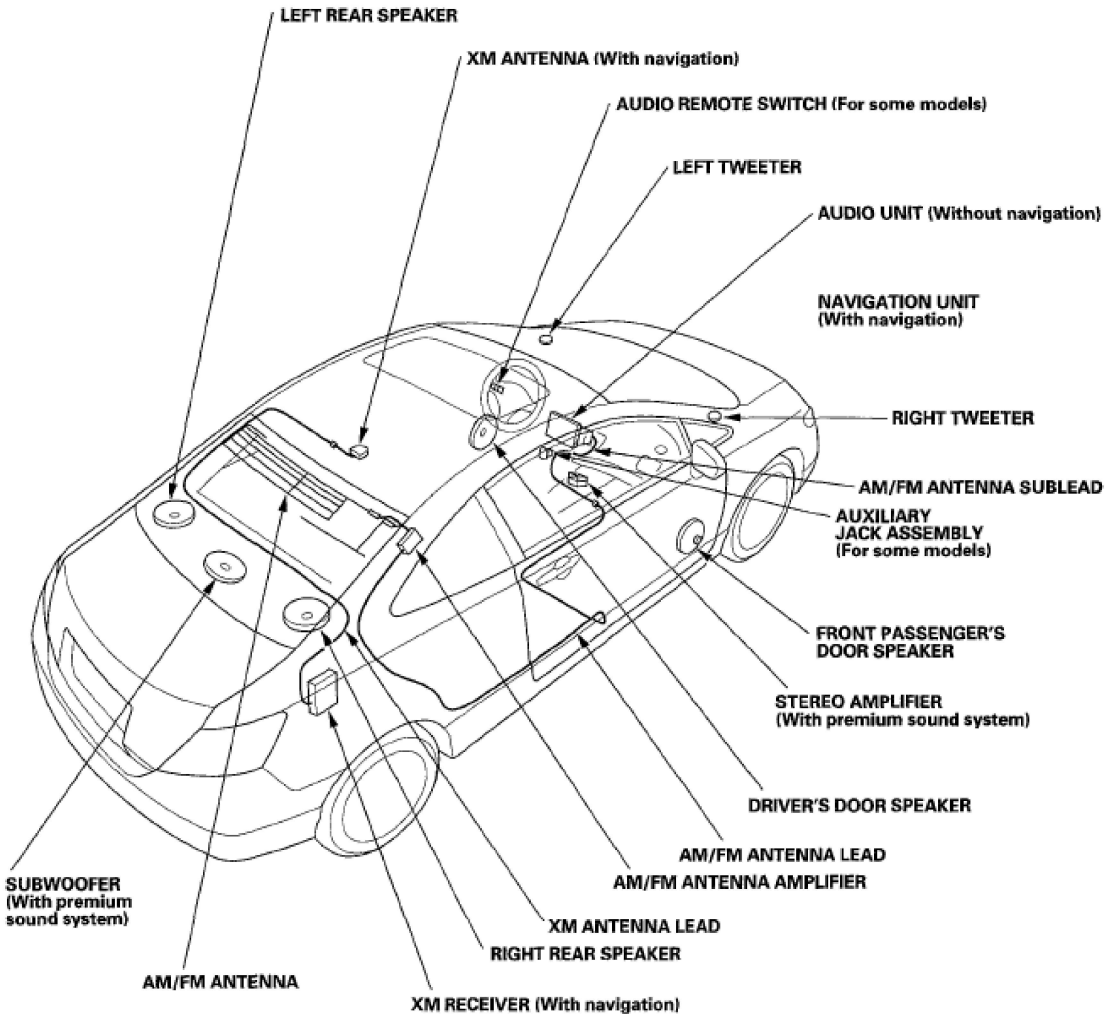



**Fig. 3: Audio System Component Location Index (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Poor AM or FM radio reception or interference (with | Symptom Troubleshooting (see **POOR AM OR FM RADIO RECEPTION OR INTERFERENCE (WITH** | AM/FM antenna lead and/or sublead short |

| | | |
|---|---|---|
| navigation) | **NAVIGATION)**) | or open in the wire |
| Poor AM or FM radio reception or interference (without navigation) | Symptom Troubleshooting (see **POOR AM OR FM RADIO RECEPTION OR INTERFERENCE (WITHOUT NAVIGATION)**) | AM/FM antenna lead and/or sublead short or open in the wire |
| Audio unit power switch will not turn on (No information display and no sound) (with navigation) | Symptom Troubleshooting (see **AUDIO UNIT POWER SWITCH WILL NOT TURN ON (NO INFORMATION DISPLAY AND NO SOUND) (WITH NAVIGATION)**) | |
| Audio unit power switch will not turn on (No information display and no sound) (without navigation) | Symptom Troubleshooting (see **AUDIO UNIT POWER SWITCH WILL NOT TURN ON (NO INFORMATION DISPLAY AND NO SOUND) (WITHOUT NAVIGATION)**) | |
| Audio unit power will not turn off (with navigation) | Symptom Troubleshooting (see **AUDIO UNIT POWER SWITCH WILL NOT TURN OFF (WITH NAVIGATION)**) | |
| Audio unit power will not turn off (without navigation) | Symptom Troubleshooting (see **AUDIO UNIT POWER SWITCH WILL NOT TURN OFF (WITHOUT NAVIGATION)**) | |
| No sound is heard from speaker(s) (display is normal) (with navigation) | Symptom Troubleshooting (see **AUDIO UNIT POWER SWITCH WILL NOT TURN OFF (WITHOUT NAVIGATION)**) | |
| No sound is heard | Symptom Troubleshooting (see **NO SOUND** | |

| | | |
|---|---|---|
| from speaker(s) (display is normal) (without navigation) | **IS HEARD FROM SPEAKER(S) (DISPLAY IS NORMAL) (WITHOUT NAVIGATION)**) | |
| Auxiliary input sound is low or cannot be heard | Symptom Troubleshooting (see **AUXILIARY INPUT SOUND IS LOW OR CANNOT BE HEARD**) | |
| Poor or no sound with XM radio (Navigation unit does display XM channels) (with navigation) | Symptom Troubleshooting (see **POOR OR NO SOUND WITH XM RADIO (NAVIGATION UNIT CAN DISPLAY XM CHANNELS) (WITH NAVIGATION)**) | |
| XM radio display is blank and no station information is displayed (with navigation) | Symptom Troubleshooting (see **XM RADIO DISPLAY IS BLANK AND NO STATION INFORMATION IS DISPLAYED (WITH NAVIGATION)**) | |
| Audio system sound is weak or distorted (display is normal) | Symptom Troubleshooting (see **AUDIO SYSTEM SOUND IS WEAK OR DISTORTED (DISPLAY IS NORMAL)**) | |
| Navigation unit button illumination does not work (with navigation) | Symptom Troubleshooting (see **AUDIO SYSTEM SOUND IS WEAK OR DISTORTED (DISPLAY IS NORMAL)**) | |
| Audio unit button illumination does not work (without navigation) | Symptom Troubleshooting (see **AUDIO UNIT BUTTON ILLUMINATION DOES NOT WORK (WITHOUT NAVIGATION)**) | |
| Radio preset memory is lost | Symptom Troubleshooting (see **RADIO PRESET MEMORY IS LOST**) | Internal error |
| XM radio preset | Symptom Troubleshooting (see **XM RADIO** | |

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| | | |
|---|---|---|
| memory is lost (with navigation) | **PRESET MEMORY IS LOST (WITH NAVIGATION)**) | |
| Error code: XM NO SIGNAL or XM ANTENNA is displayed | Symptom Troubleshooting (see **ERROR CODE: XM NO SIGNAL OR XM ANTENNA IS DISPLAYED**) | |
| Audio disc does not eject | Symptom Troubleshooting (see **AUDIO DISC DOES NOT EJECT**) | |
| Audio disc does not load | Symptom Troubleshooting (see **AUDIO DISC DOES NOT LOAD**) | |
| Radio tuner does not change stations | Symptom Troubleshooting (see **AUDIO DISC DOES NOT LOAD**) | |
| Volume does not change | Symptom Troubleshooting (see **VOLUME DOES NOT CHANGE**) | |
| Volume does not increase with speed | Symptom Troubleshooting (see **VOLUME DOES NOT CHANGE**) | |
| Volume is too high or too low when driving at freeway speeds | Symptom Troubleshooting (see **VOLUME IS TOO HIGH OR TOO LOW WHEN DRIVING AT FREEWAY SPEEDS**) | |
| Display does not dim or brighten with dimmer (without navigation) | Symptom Troubleshooting (see **DISPLAY DOES NOT DIM OR BRIGHTEN WITH DIMMER (WITHOUT NAVIGATION)**) | |
| Audio disc does not play | Symptom Troubleshooting (see **AUDIO DISC DOES NOT PLAY**) | |
| Audio disc skips | Symptom Troubleshooting (see **AUDIO DISC DOES NOT PLAY**) | Tire pressure (over-inflated), disc smudged, dirty, or |

| | | |
|---|---|---|
| | | scratched |
| Audio remote switch does not work properly | Symptom Troubleshooting (see **AUDIO REMOTE SWITCH DOES NOT WORK PROPERLY**) | |
| Audio disc cannot be inserted and/or ejected (with navigation) | Symptom Troubleshooting (see **AUDIO DISC CANNOT BE INSERTED AND/OR EJECTED (WITH NAVIGATION)**) | |
| Display can be opened and/or closed even when an audio disc is being inserted or ejected | Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ) | |
| PC card will not play/card icon on audio screen cannot be selected (with navigation) | Symptom Troubleshooting (see **AUDIO DISC CANNOT BE INSERTED AND/OR EJECTED (WITH NAVIGATION)**) | |

## SYSTEM DESCRIPTION

### OVERVIEW

The audio unit acts as the processor for all audio functions. Select audio functions from the audio unit, the audio remote,(on the steering wheel), or by using the navigation voice control system. The audio display provides the current audio status. For vehicles with navigation, additional audio information is available by touching the audio button on the navigation audio screen. (See the owner's manual and the navigation system manual for more details.)

The XM receiver passes its signal to the audio unit. In addition, it communicates with the audio unit via the GA-Net bus. Any open connections in the GA-Net bus circuit causes audio and navigation functions to appear inoperative.

For vehicles with navigation, pressing the open/close switch on the navigation

display panel allows access to the CD slot and PC card.

A security signal is daisy-chained between the audio and vehicle components for integration into the vehicle's security system.

**Speed-sensitive volume compensation (SVC)**

Some audio systems are equipped with speed-sensitive volume compensation (SVC). The navigation or audio unit receives the vehicle speed pulse (VSP) from the ECM/PCM. The system processes the speed input and increases the navigation or audio system volume level as the vehicle speed increases to compensate for the various interior noises that occur at higher speeds. When the vehicle slows down, the volume returns to its normal level. The SVC has four settings: SVC OFF, LOW, MID and HIGH that can be adjusted using the navigation or audio unit. The SVC comes from the factory with the MID setting as the default.

To change the audio unit SVC setting, press the tune folder sound knob repeatedly until the SVC is displayed, rotate the knob to adjust the SVC to the desired setting (SVC OFF, LOW, MID, or HIGH).

To change the navigation unit SVC setting, press the AUDIO button, and then select the SOUND icon on the navigation display. Press the navigation display to select the desired setting (OFF, LOW, MID, HI).

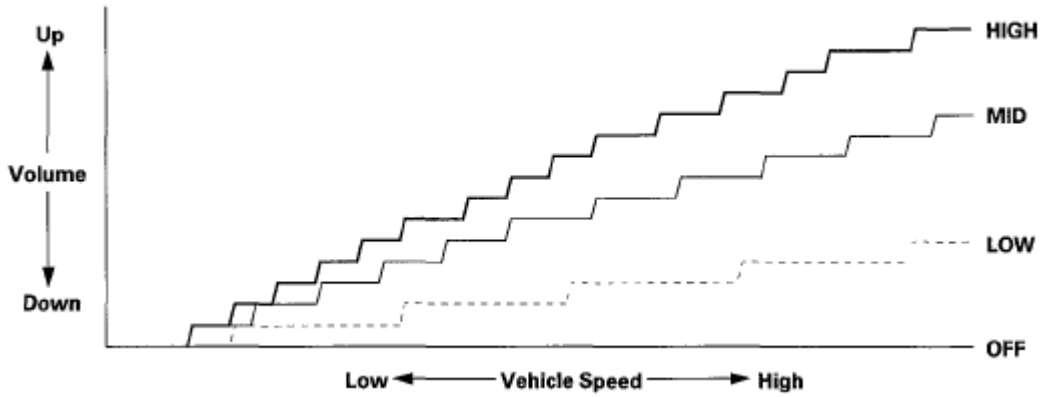



**Fig. 4: Speed-Sensitive Volume Compensation (SVC) Graph**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

The navigation system allows voice control of the audio, XM, PC card, and CD

player. Voice control commands are communicated on the GA-Net (audio unit). When using the TALK/BACK button, the audio is muted on all speakers and you get navigation sound on the front channels. When using the navigation or route guidance (RG), the front speakers give the navigation sound and the rear speakers continue to play. For more information, see the **NAVIGATION SYSTEM (EXCEPT HYBRID)** article. The outline of the interruption function is shown in this table.

## AUDIO OUTPUT AND CONTENTS REFERENCE

| Contents | Audio output | | | | |
|---|---|---|---|---|---|
| | Left front CH | Right front CH | Right rear CH | Left rear CH | Subwoofer CH |
| TALK/BACK Buttons | Navigation voice output | Navigation voice output | Muted | Muted | Muted |
| Route guidance | Navigation voice output | Navigation voice output | Audio | Audio | Audio |

### GA-NET BUS CONFIGURATION

The GA-Net bus passes audio and navigation commands throughout the navigation and audio components. These commands include navigation touch screen and hard button signals, audio/XM selections by voice, and XM station and music title names. Because the entire bus is daisy chained between components (see diagram), any open or short in the GA-Net bus harness will cause any or all of these functions to become inoperative. Naturally the addition of any audio accessory must maintain the continuity of the GA-Net bus by installing the Y cable included with the accessory kit.

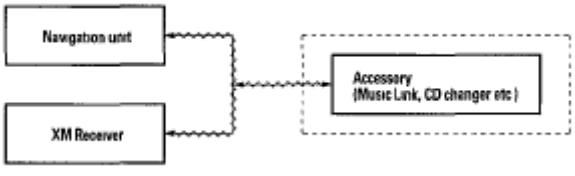



**Fig. 5: Audio System - Circuit Diagram (Navigation Unit, XM Receiver And Music Link, CD Changer)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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## With navigation

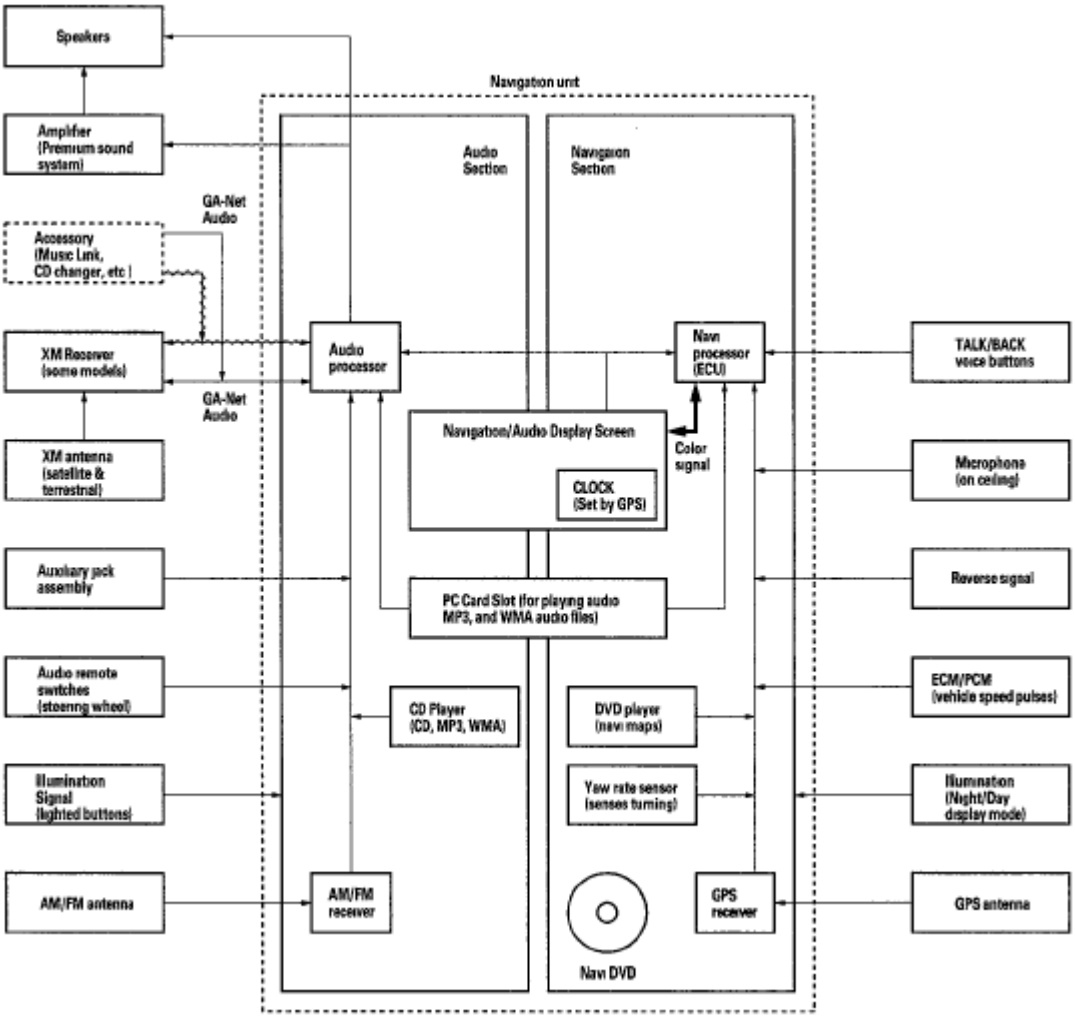



**Fig. 6: Audio System - Circuit Diagram (With Navigation)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**NOTE: All items may not apply to this vehicle. See the Owner's Manual for more information.**

## Audio Glossary

## ITEM DEFINITION

| Item | Definition |
|---|---|
| Active Noise | The active noise control system cancels some of the vehicle noise. This occurs in the 1,500-2,400 rpm range. |

| | |
|---|---|
| Control | Microphones detect the low frequency sound, and the system outputs a canceling sound from the audio speaker. |
| AM (Amplitude Modulation) | The type of transmission used in the standard radio broadcast band from 530 to 1705 kHz. |
| Amplifier | A device that increases the level of a signal by increasing the current or voltage. |
| Antenna | A device used to send or receive electromagnetic waves through the air. |
| ATA (PC Card) | A type of card that has been tested for use in playing WMA, and MP3 music files in the PC card slot. Sizes of up to 1 GB have been tested. |
| Auxiliary jack | Allows the customer to use a portable audio device to input music recordings. |
| Balance | A control that changes the relative volume of the left and right channels. |
| Band | A range of frequencies between two definite limits. Bands are assigned by the Federal Communications Commission for specific uses. |
| Bass | An adjustment for the low frequency sounds of around 160 Hz and below. |
| Byte | A unit of storage for computer files and memory. A CD holds approximately 700 million bytes. |
| Cassette | Audio or video magnetic tape container having two reels. Customers can insert it for recording or play back. |
| Compact Flash | A standard for small-size (3x4 cm), memory cards used in mobile computers, PDAs, digital cameras. Compact flash memory cards are available in size of 32 MB up to 4 GB or more and can be played in the audio PC slot. Sizes above 1 GB has not been tested. |
| CD (Compact Disc) | A 4.5-inch plastic disc containing digital audio recording that is played optically on a laser equipped player. Never use discs with a paper label. In a hot car, labels can curl up and jam the unit. |
| | CD player that can store and play more than one CD. Two |

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| | |
|---|---|
| CD Changer | types are available. Some units accept CDs fed into the changer one at a time, and others accept a magazine (with CD's stacked in a container). |
| CD player | A component designed to play compact disc CD recording using a laser optical pickup. The signal from a CD player usually requires amplification. |
| Distortion | Inexact reproduction of an audio signal caused by playing music at levels the audio system cannot handle. |
| Dolby (noise reduction) | A processing system developed by Dolby Laboratories that reduces the background noise on recording media. The result is a clearer playback from the audio system. |
| DVD (Digital Versatile Disc) | A 4.5-inch CD-like format used for storing movies with digital audio and video features. The DVD-A format is a DVD format designed for DVD audio systems. Some vehicles can play DVD and DVD-A formats. |
| Equalizer | A device that changes the relative volume of individual frequency bands to suit personal tastes of the listener. |
| Fader | The control that adjusts the relative volume levels of front and rear speakers in a four-speaker system. |
| Format | To prepare a PC card to receive files, this function is performed on a PC. Always choose either FAT or FAT32 as the NTFS format is not accepted by the system. Pick the default sectors for the format method selected. |
| FM (Frequency Modulation) | The modulation used for radio and television sound transmission in most of the world. Less prone to interference than AM. The FM broadcast band covers roughly 87 to 108 MHz. |
| GA-NET | A data connection between the display panel, the navigation unit, and the audio system. The information passed on this bus are touch screen button commands, and audio and climate control settings directed by the navigation unit. |
| GB (Gigabyte) | A unit of memory or disk storage equal to billion bytes (1000 million bytes). |

| | |
|---|---|
| HDD | Abbreviation for hard disc drive. They are sensitive to heat and it is not recommended that they be used in the PC card slot for playing audio files. |
| Hertz (HZ) | The unit of frequency equal to one cycle per second (cps). One kilohertz (kHz) equals 1,000 cps; one megahertz (MHz) equals 1 million cps. |
| Integrated Amplifier | A component that combines a pre amp and a power amp into a single unit. A receiver combines an integrated amp and a tuner into a single unit. |
| Jewel Case | The hard plastic case that contains a compact disc or DVD. Always use a jewel case to prevent scratches on the underside of a CD or DVD. |
| LCD (Liquid Crystal Display) | A type of digital display that changes reflectance or transmittance when an electrical field is applied to it. |
| Memory | Circuitry or devices that hold information in electrical or magnetic form such as the AM/FM radio presets. |
| MB (Megabyte) | One million bytes. Written as 1 MB. Megabytes are used s a measure of digital storage space. For example, a CD can hold 650 MB. |
| Mic | An abbreviation for microphone. For vehicles with navigation, the microphone accepts navigation voice commands to control audio and navigation functions. |
| MP3 music files | MP3 is an audio coding format. MP3 is a poplar audio compression format on the Internet and computers. CDs, and PC card with these files can be played on some vehicle's audio system. |
| Mute | When the navigation gives guidance, the front speakers are muted (no music). When you use the voice control system, all of the speakers are muted. |
| Noise | Unwanted random sounds like buzzing, hiss, pops, static, whine, etc. |
| PC Card | The slot used for playing MP3 and WMA music files. The PC card is usually a combination of a small flash card in a PCMCIA adaptor that slides into the slot. The ATA, SD, |

| | |
|---|---|
| | and compact flash types of cards have been tested up to 1 GB. |
| PCMCIA | A computer standard for the slot that the PC card slides into. Another term for the PC card slot. |
| Processor | The part of an audio device that performs task/calculations. In the audio unit, the processor handles muting to allow the navi to speak voice commands, and the decoding/playback of the sound files etc. |
| Radio | A head unit that combines a tuner, a preamplifier, and often a power-amplifier. |
| Audio Remote switch | The switches on the steering wheel that control the audio system. |
| SCF (Cold Start Fix) screens | These screens are displayed if the system requires a GPS initialization. The vehicle should be moved outside into an open area away from buildings/power lines. |
| Stereo | A recording of at least two channels where you can hear sound or music from the left or right side. |
| SD (Secure Digital) card | This compact type of memory card allows for fast data transfer and has built-in security functions. SD cards have a small write-protection switch on the side. |
| Shield | A metallic foil or braided wire layer surrounding conductors which are designed to prevent electrostatic or electromagnetic interference (noise) from external sources such as buzzing, or popping sounds heard on the speakers. |
| Speaker (Loudspeaker) | A device that converts electrical energy into acoustical energy (sound). |
| Speed-sensitive volume compensation (SVC) | The SVC increases the audio volume to compensate for increased interior noise when the vehicle drives at freeway speeds. |
| Subwoofer | A loudspeaker made to reproduce the lowest audio frequencies, approx 25 Hz to 125 Hz. |
| Track | A sound recording on a CD, tape, or PC card. |
| | An adjustment to control the volume of the high frequency |

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| | |
|---|---|
| Treble | sounds. |
| Tuner | A component (or part of a component) that receives radio signals and selects one broadcast from many. |
| Tweeter | A speaker designed to reproduce the higher frequencies (treble) only. |
| Voice Coil | A coil of wire wrapped around a tube and then attached to the speaker cone or diaphragm. When an audio signal is applied, the coil becomes an electromagnet and interacts with the permanent magnet causing the cone or diaphragm to vibrate. We interpret this vibration as sound. |
| Volume Control | Allows you to control the loudness of the music. |
| WMA music file | Windows Media Audio File. This is an accepted format for music files to be played on either a CD or a PC card. |
| Woofer | A speaker that is designed to reproduce bass frequencies only. |
| XM Radio | Satellite based radio transmission, which also uses a ground based repeater network to ensure seamless reception. The channels originate from XM's broadcast center, in Washington, DC, and uplink to two satellites. These satellites transmit the signal across the entire continental United States. |
| XM Receiver | The external component that receives and processes the XM signals from the XM satellites, and terrestrial (land) stations. The audio unit communicates to the XM receiver over the GA-Net bus. |

**AUDIO UNIT CONNECTOR FOR INPUTS AND OUTPUTS**

## With navigation (Navigation unit)

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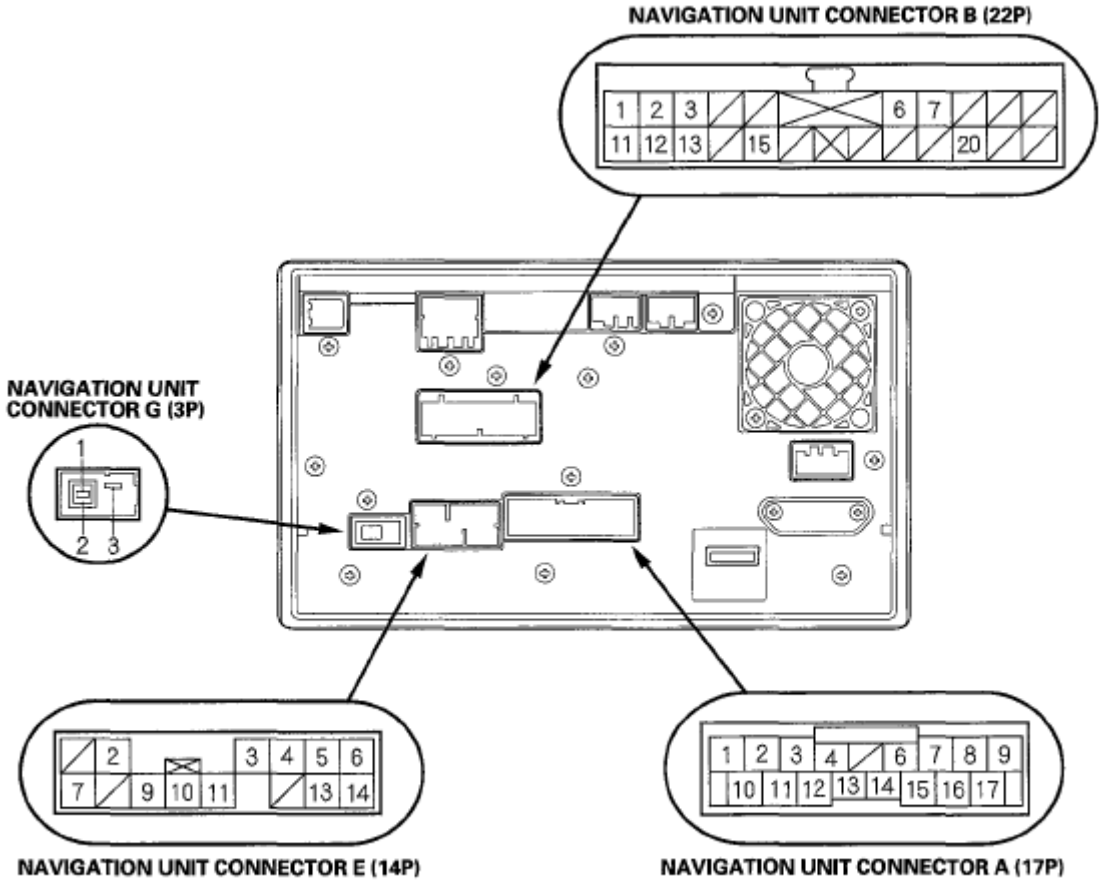



**Fig. 7: Identifying Audio Unit For Inputs And Outputs Connector Terminals (With Navigation)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Without navigation/Without premium sound system**

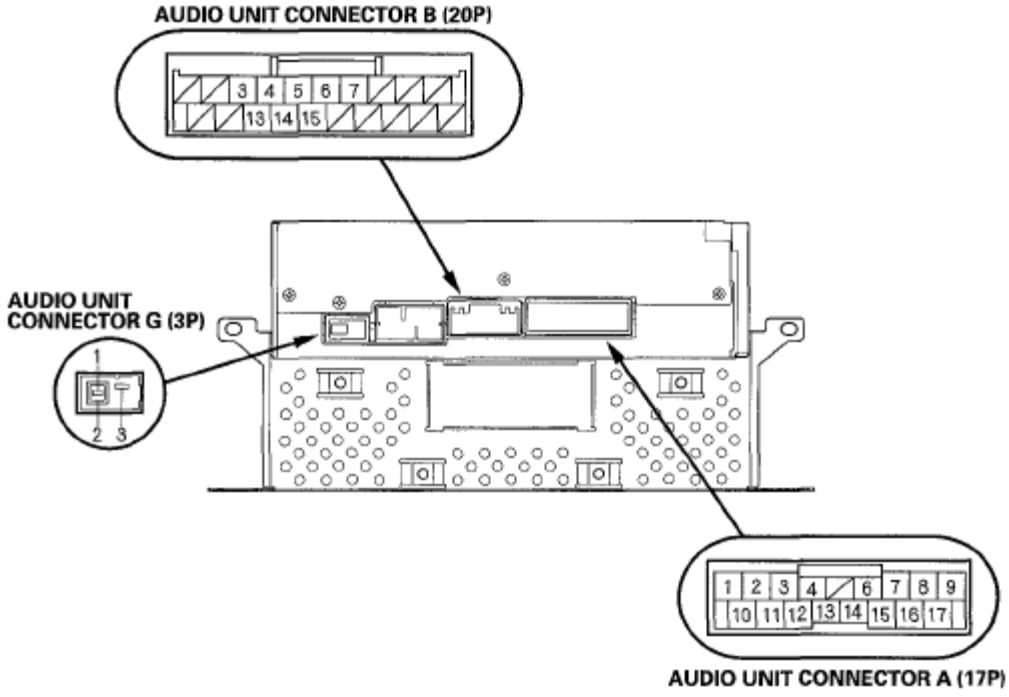



**Fig. 8: Identifying Audio Unit For Inputs And Outputs Connector Terminals (Without Navigation/Without Premium Sound System)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Without navigation/With premium sound system**

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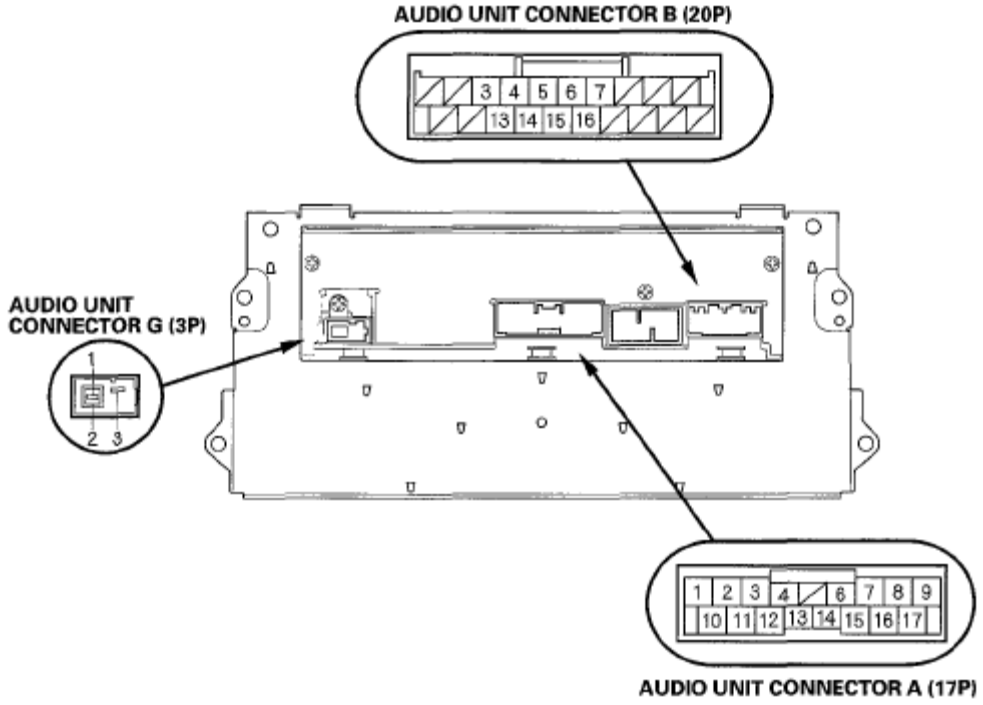



**Fig. 9: Identifying Audio Unit For Inputs And Outputs Connector Terminals (Without Navigation/With Premium Sound System)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Navigation Unit/Audio Unit Connector A (17P)**

**(2-door with premium audio system)**

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| A1 | RED | Dash lights brightness controller |
| A2 | WHT | Stereo amplifier (RL SIG-) |
| A3 | ORN | Stereo amplifier (FL SIG-) |
| A4 | GRN | Multiplex integrated control unit (MICU) (SCTY RADIO) |
| A6 | LT BLU | Multiplex integrated control unit (MICU) (K-LINE) |
| A7 | RED | Stereo amplifier (FR SIG-) |
| A8 | YEL | Stereo amplifier (RR SIG-) |
| A9 | BLK | Ground (G505) |
| A10 | GRY | Lights-on signal |

| | | |
|---|---|---|
| A11 | BLK | Stereo amplifier (RL SIG+) |
| A12 | BLU | Stereo amplifier (FL SIG+) |
| A13 | BLU | ECM/PCM (VSP) |
| A14 | PUR | Multiplex integrated control unit (MICU) (ACC RADIO) |
| A15 | GRN | Stereo amplifier (FR SIG+) |
| A16 | BRN | Stereo amplifier (FR SIG+) |
| A17 | WHT | Multiplex integrated control unit (MICU) (+B BACK UP) |

## Navigation Unit/Audio Unit Connector A (17P)

## ('07-08 4-door with premium audio system)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| A1 | RED | Dash lights brightness controller |
| A2 | WHT | Stereo amplifier (RL SIG-) |
| A3 | RED | Stereo amplifier (FL SIG-) |
| A4 | GRN | Multiplex integrated control unit (MICU) (SCTY RADIO) |
| A6 | LT BLU | Multiplex integrated control unit (MICU) (K-LINE) |
| A7 | PNK | Stereo amplifier (FR SIG-) |
| A8 | PUR | Stereo amplifier (RR SIG-) |
| A9 | BLK | Ground (G505) |
| A10 | GRY | Lights-on signal |
| A11 | BLK | Stereo amplifier (RL SIG+) |
| A12 | BLU | Stereo amplifier (FL SIG+) |
| A13 | BLU | ECM/PCM (VSP) |
| A14 | PUR | Multiplex integrated control unit (MICU) (ACC RADIO) |
| A15 | BLU | Stereo amplifier (FR SIG+) |
| A16 | LT GRN | Stereo amplifier (FR SIG+) |
| A17 | WHT | Multiplex integrated control unit (MICU) (+B BACK UP) |

## Audio Unit Connector A (17P)

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## (Without premium sound system)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| A1 | RED | Dash lights brightness controller |
| A2 | BRN | Left rear speaker (-) |
| A3 | PNK | Driver's door speaker (-), Left tweeter (-) |
| A4 | GRN | Multiplex integrated control unit (MICU) (SCTY RADIO) |
| A6 | LT BLU | Multiplex integrated control unit (MICU) (K-LINE) |
| A7 | BRN | Front passenger's door speaker (-), Right tweeter (-) |
| A8 | ORN | Right rear speaker (-) |
| A9 | BLK | Ground (G505) |
| A10 | GRY | Lights-on signal |
| A11 | YEL | Left rear speaker (+) |
| A12> | LT GRN | Driver's door speaker (+), Left tweeter (+) |
| A13 | BLU | ECM/PCM (VSP) |
| A14 | PUR | Multiplex integrated control unit (MICU) (ACC RADIO) |
| A15 | GRY | Front passenger's door speaker (+), Right tweeter (+) |
| A16 | BLU | Right rear speaker (+) |
| A17 | WHT | Multiplex integrated control unit (MICU) (+B BACK UP) |

## Audio Unit Connector A (20P)

## (Without Audio)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| A2 | PUR | Multiplex integrated control unit (MICU) (ACC RADIO) |
| A5 | BLU | Right rear speaker (+) |
| A6 | YEL | Left rear speaker (+) |
| A7 | GRY | Front passenger's door speaker (+) |
| A8 | LT GRN | Driver's door speaker (+), Left tweeter (+) |
| A9 | GRY | Lights-on signal |

| | | |
|---|---|---|
| A10 | WHT | Multiplex integrated control unit (MICU) (+B BACK UP) |
| A15 | ORN | Right rear speaker (-) |
| A16 | BRN | Left rear speaker (-) |
| A17 | BRN | Front passenger's door speaker (-) |
| A18 | PNK | Driver's door speaker (-), Left tweeter (-) |
| A19 | RED | Dash lights brightness controller |
| A20 | BLK | Ground (G505) |

## Navigation Unit Connector B (22P)

## (With navigation)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| B1 | BRN | Auxiliary jack assembly (AUX SGND) |
| B2 | GRY(1) | Shield for terminals No. 1, No. 3, No. 11, No. 12, and No. 13 (AUX SHIELD GND) |
| B3 | BLU | Auxiliary jack assembly (AUX GND) |
| B6 | BRN | Audio remote switch (AUDIO REMOTE GND) |
| B7 | PNK | Audio remote switch (AUDIO REMOTE SW) |
| B11 | YEL | Auxiliary jack assembly (AUX L) |
| B12 | GRN | Auxiliary jack assembly (AUX R) |
| B13 | WHT | Auxiliary jack assembly (AUX DET) |
| B15 | BLK | Ground (G501) |
| B20(2) | LT BLU | Stereo amplifier (AMP ON) |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire listed on the schematic.

(2) With premium sound system

## Audio Unit Connector B (20P)

## (Without navigation)

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## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| B3 | BRN | Auxiliary jack assembly (AUX SGND) |
| B4 | GRY(1) | Shield for terminals No. 3, No. 5, No. 13, No. 14, and No. 15 (AUX SHILD GND) |
| B5 | BLU | Auxiliary jack assembly (AUX GND) |
| B6 | BRN | Audio remote switch (AUDIO REMOTE GND) |
| B7 | PNK | Audio remote switch (AUDIO REMOTE SW) |
| B13 | YEL | Auxiliary jack assembly (AUX L) |
| B14 | GRN | Auxiliary jack assembly (AUX R) |
| B15 | WHT | Auxiliary jack assembly (AUX DET) |
| B16(2) | LT BLU | Stereo amplifier (AMP ON) |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire listed on the schematic.

(2) With premium sound system

### Navigation Unit Connector E (14P)

### (Navigation with XM)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| E2 | LT BLU | XM receiver (SAT SYS ACC) |
| E3 | BRN(1) | Shield for terminals No. 9 and No. 10 (BUS SHIELD GND) |
| E4 | GRY(1) | Shield for terminals No. 5, No. 6, No. 13, and No. 14 (SAT SHIELD GND) |
| E5 | WHT | XM receiver (SAT R+) |
| E6 | RED | XM receiver (SAT L+) |
| E7 | BLU | XM receiver (+B) |
| E9 | BLU | XM receiver (SAT BUS+ (GA-NET)) |

| | | |
|---|---|---|
| E10 | PNK | XM receiver (SAT BUS- (GA-NET)) |
| E11 | BLK | XM receiver (GND) |
| E13 | BLK | XM receiver (SAT R-) |
| E14 | GRN | XM receiver (SAT L-) |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire listed on the schematic.

## Audio Unit/Navigation Unit Connector G (3P)

## (All models)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| G1 | - | AM/FM antenna amplifier (SIG) |
| G2 | - | AM/FM antenna amplifier (SH (AM/FM)) |
| G3 | - | AM/FM antenna amplifier (ANT + B) |

**STEREO AMPLIFIER CONNECTOR FOR INPUTS AND OUTPUTS (2-DOOR WITH PREMIUM SOUND SYSTEM)**

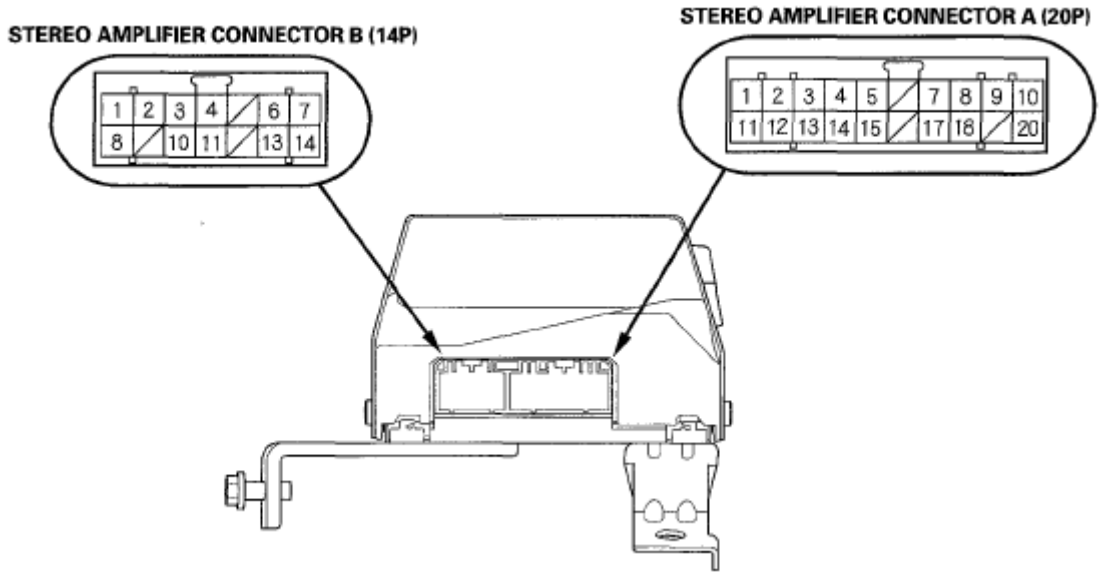



**Fig. 10: Identifying Stereo Amplifier For Inputs And Outputs Connector Terminals (2-Door With Premium Sound System)**

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## Courtesy of AMERICAN HONDA MOTOR CO., INC.

## Stereo Amplifier Connector A (20P)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| A1 | PNK | Right tweeter (+) |
| A2 | GRY | Front passenger's door speaker (+) |
| A3 | LT GRN | Driver's door speaker (+) |
| A4 | RED | Left tweeter (+) |
| A5 | GRN | Subwoofer (+) |
| A7 | BLU | Right rear speaker (+) |
| A8 | YEL | Left rear speaker (+) |
| A9 | PUR | Multiplex integrated control unit (MICU) (ACC RADIO) |
| A10 | LT GRN | +B (Main stereo power supply) |
| A11 | BLU | Right tweeter (-) |
| A12 | BRN | Front passenger's door speaker (-) |
| A13 | PNK | Driver's door speaker (-) |
| A14 | GRN | Left tweeter (-) |
| A15 | RED | Subwoofer (-) |
| A17 | ORN | Right rear speaker (-) |
| A18 | BRN | Left rear speaker (-) |
| A20 | BLK | Ground (G505) |

## Stereo Amplifier Connector B (14P)

## (With navigation)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| B1 | BLU | Navigation unit (FL SIG+) |
| B2 | GRY(1) | Shield for terminals No. 1, No. 3, No. 4, No. 6, No. 8, No. 10, and No. 13 (SIG SHIELD) |
| B3 | BLK | Navigation unit (RL SIG+) |

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| | | |
|---|---|---|
| B4 | GRN | Navigation unit (FR SIG+) |
| B6 | BRN | Navigation unit (RR SIG+) |
| B7 | LT BLU | Navigation unit (AMP ON) |
| B8 | ORN | Navigation unit (FL SIG-) |
| B10 | WHT | Navigation unit (RL SIG-) |
| B11 | RED | Navigation unit (FR SIG-) |
| B13 | YEL | Navigation unit (RR SIG-) |
| B14(2) | BLK | Ground (G505) |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire listed on the schematic.

(2) '06 model

**Stereo Amplifier Connector B (14P)**

**(Without navigation)**

**CAVITY AND WIRE SPECIFICATION**

| Cavity | Wire | Connect to |
|---|---|---|
| B1 | BLU | Audio unit (FL SIG+) |
| B2 | GRY(1) | Shield for terminals No. 1, No. 3, No. 4, No. 6, No. 8, No. 10, and No. 13 (SIG SHIELD) |
| B3 | BLK | Audio unit (RL SIG+) |
| B4 | GRN | Audio unit (FR SIG+) |
| B6 | BRN | Audio unit (RR SIG+) |
| B7 | LT BLU | Audio unit (AMP ON) |
| B8 | ORN | Audio unit (FL SIG-) |
| BIO | WHT | Audio unit (RL SIG-) |
| B11 | RED | Audio unit (FR SIG-) |
| B13 | YEL | Audio unit (RR SIG-) |
| B14(2) | BLK | Ground (G505) |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire listed on the schematic.

(2) '06 model

**STEREO AMPLIFIER CONNECTOR FOR INPUTS AND OUTPUTS ('07-08 4-DOOR WITH PREMIUM SOUND SYSTEM)**

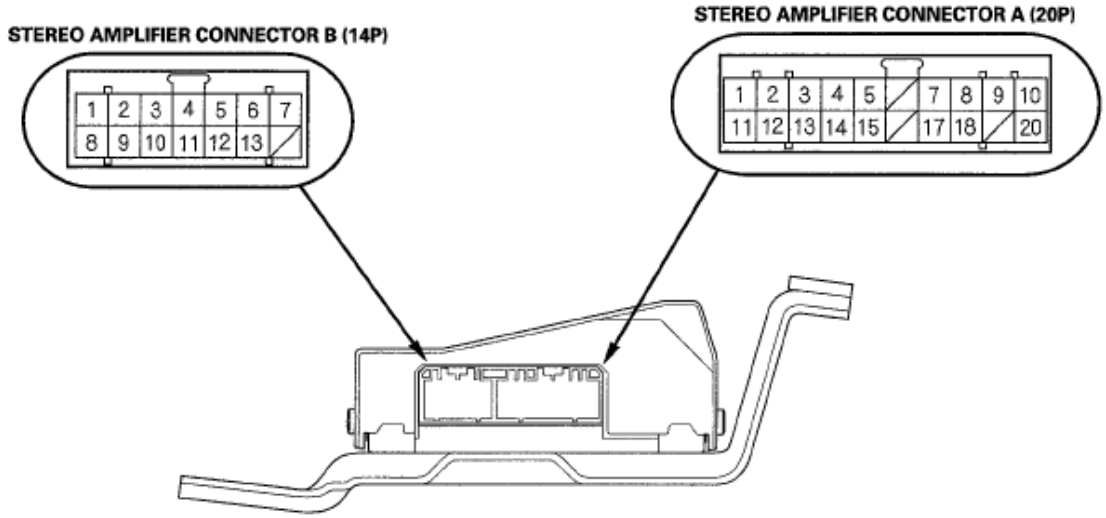



**Fig. 11: Identifying Stereo Amplifier For Inputs And Outputs Connector Terminals ('07-08 4-Door With Premium Sound System)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Stereo Amplifier Connector A (20P)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| A1 | PNK | Right tweeter (+) |
| A2 | GRY | Front passenger's door speaker (+) |
| A3 | LT GRN | Driver's door speaker (+) |
| A4 | RED | Left tweeter (+) |
| A5 | GRN | Subwoofer (+) |
| A7 | BLU | Right rear speaker (+) |
| A8 | GRY | Left rear speaker (+) |

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| | | |
|---|---|---|
| A9 | PUR | Multiplex integrated control unit (MICU) (ACC RADIO) |
| A10 | LT GRN | +B (Main stereo power supply) |
| A11 | BLU | Right tweeter (-) |
| A12 | BRN | Front passenger's door speaker (-) |
| A13 | PNK | Driver's door speaker (-) |
| A14 | GRN | Left tweeter (-) |
| A15 | RED | Subwoofer (-) |
| A17 | ORN | Right rear speaker (-) |
| A18 | BRN | Left rear speaker (-) |
| A20 | BLK | Ground (G601) |

## Stereo Amplifier Connector B (14P)

## (With navigation)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| B1 | BLU | Navigation unit (FL SIG+) |
| B2 | BRN(1) | Shield for terminals No. 1 and No. 8 (FL SHIELD GND) |
| B3 | BLK | Navigation unit (RL SIG+) |
| B4 | BLU | Navigation unit (FR SIG+) |
| B5 | GRY(1) | Shield for terminals No. 4 and No. 11 (FR SHIELD GND) |
| B6 | LT GRN | Navigation unit (RR SIG+) |
| B7 | LT BLU | Navigation unit (AMP ON) |
| B8 | RED | Navigation unit (FL SIG-) |
| B9 | GRN(1) | Shield for terminals No. 3 and No. 10 (RL SHIELD GND) |
| B10 | WHT | Navigation unit (RL SIG-) |
| B11 | PNK | Navigation unit (FR SIG-) |
| B12 | YEL(1) | Shield for terminals No. 6 and No. 13 (RR SHIELD GND) |

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| | | |
|---|---|---|
| B13 | PUR | Navigation unit (RR SIG-) |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire listed on the schematic.

## Stereo Amplifier Connector B (14P)

## (Without navigation)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| B1 | BLU | Audio unit (FL SIG+) |
| B2 | BRN(1) | Shield for terminals No. 1 and No. 8 (FL SHIELD GND) |
| B3 | BLK | Audio unit (RL SIG+) |
| B4 | BLU | Audio unit (FR SIG+) |
| B5 | GRY(1) | Shield for terminals No. 4 and No. 11 (FR SHIELD GND) |
| B6 | LT GRN | Audio unit (RR SIG+) |
| B7 | LT BLU | Audio unit (AMP ON) |
| B8 | RED | Audio unit (FL SIG-) |
| B9 | GRN(1) | Shield for terminals No. 3 and No. 10 (RL SHIELD GND) |
| B10 | WHT | Audio unit (RL SIG-) |
| B11 | PNK | Audio unit (FR SIG-) |
| B12 | YEL(1) | Shield for terminals No. 6 and No. 13 (RR SHIELD GND) |
| B13 | PUR | Audio unit (RR SIG-) |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire listed on the schematic.

**XM RECEIVER CONNECTOR FOR INPUTS AND OUTPUTS ('06-08 2-DOOR WITH NAVIGATION AND '07-08 4-DOOR WITH NAVIGATION)**

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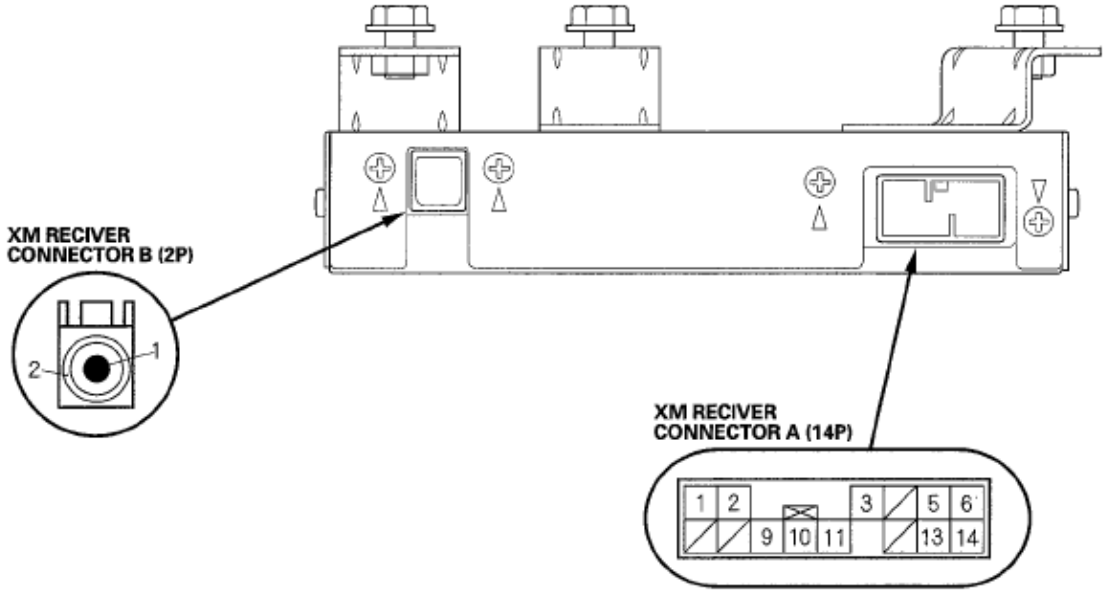



**Fig. 12: Identifying XM Receiver For Inputs And Outputs Connector Terminals ('06-08 2-Door With Navigation)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**XM Receiver Connector A (14P)**

**CAVITY AND WIRE SPECIFICATION**

| Cavity | Wire | Connect to |
|---|---|---|
| A1 | BLU | Navigation unit (+B) |
| A2 | LT BLU | Navigation unit (SAT SYS ACC) |
| A3(2) | BRN(1) | Shield for terminals No. 9 and No. 10 (BUS SHIELD GND) |
| A5 | WHT | Navigation unit (SAT R+) |
| A6 | RED | Navigation unit (SAT L+) |
| A9 | BLU | Navigation unit (SAT BUS+ (GA-NET)) |
| A10 | PNK | Navigation unit (SAT BUS- (GA-NET)) |
| A11 | BLK | Navigation unit (GND) |
| A13 | BLK | Navigation unit (SAT R-) |
| A14 | GRN | Navigation unit (SAT L-) |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not

match the color of the wire listed on the schematic.

(2) '07-08 models

## XM Receiver Connector B (2P)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| B1 | - | Satellite signal antenna (SIG) |
| B2 | - | Satellite signal antenna (SIELD (XM)) |

**AUXILIARY JACK ASSEMBLY CONNECTOR FOR INPUTS AND OUTPUTS**

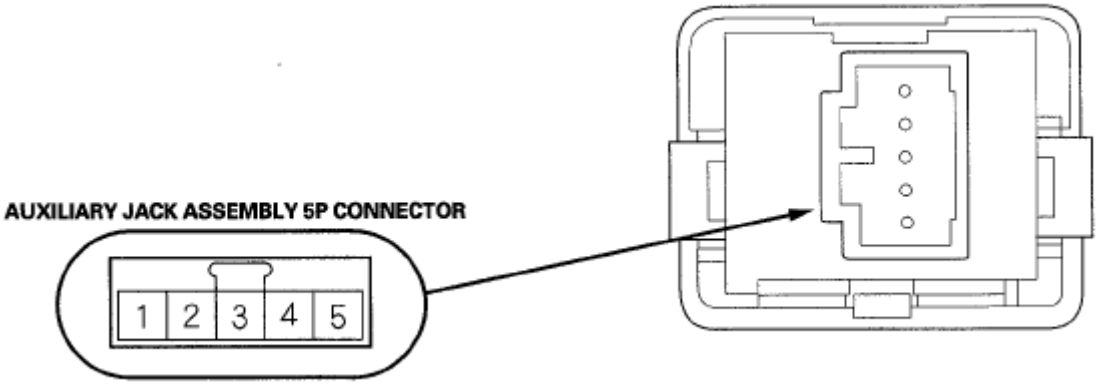



**Fig. 13: Identifying Auxiliary Jack Assembly For Inputs And Outputs Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Auxiliary Jack Assembly 5P Connector

## (With navigation)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| 1 | WHT | Navigation unit (AUX DET) |
| 2 | BLU | Navigation unit (AUX GND) |
| 3 | BRN | Navigation unit (AUX SGND) |
| 4 | YEL | Navigation unit (AUX L) |

| | | |
|---|---|---|
| 5 | GRN | Navigation unit (AUX R) |

## Auxiliary Jack Assembly 5P Connector

## (Without navigation)

## CAVITY AND WIRE SPECIFICATION

| Cavity | Wire | Connect to |
|---|---|---|
| 1 | WHT | Audio Unit (AUX DET) |
| 2 | BLU | Audio Unit (AUX GND) |
| 3 | BRN | Audio Unit (AUX SGND) |
| 4 | YEL | Audio Unit (AUX L) |
| 5 | GRN | Audio Unit (AUX R) |

## CIRCUIT DIAGRAM

## With Navigation

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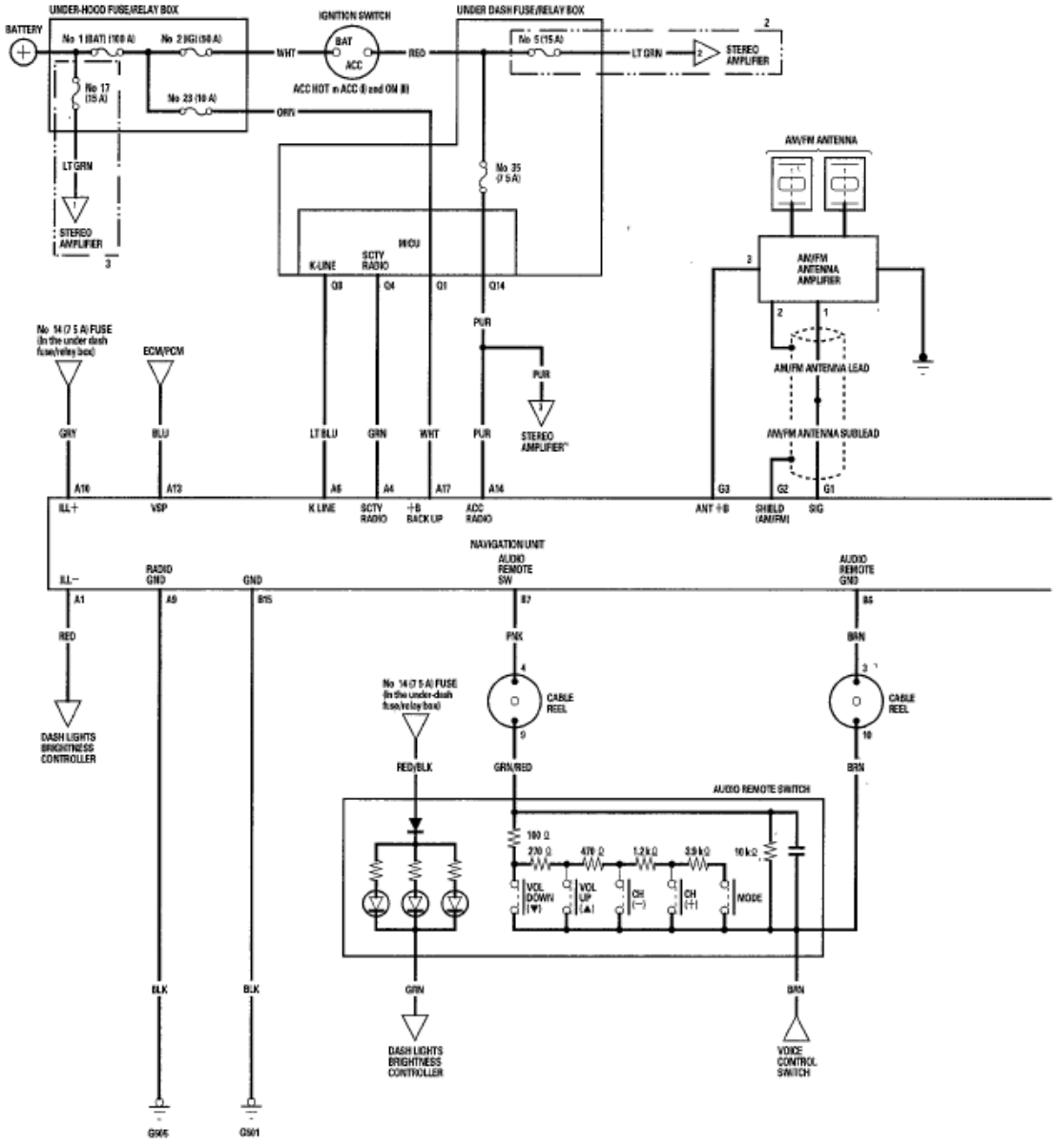



**Fig. 14: Audio System Circuit Diagram - With Navigation (1 Of 3)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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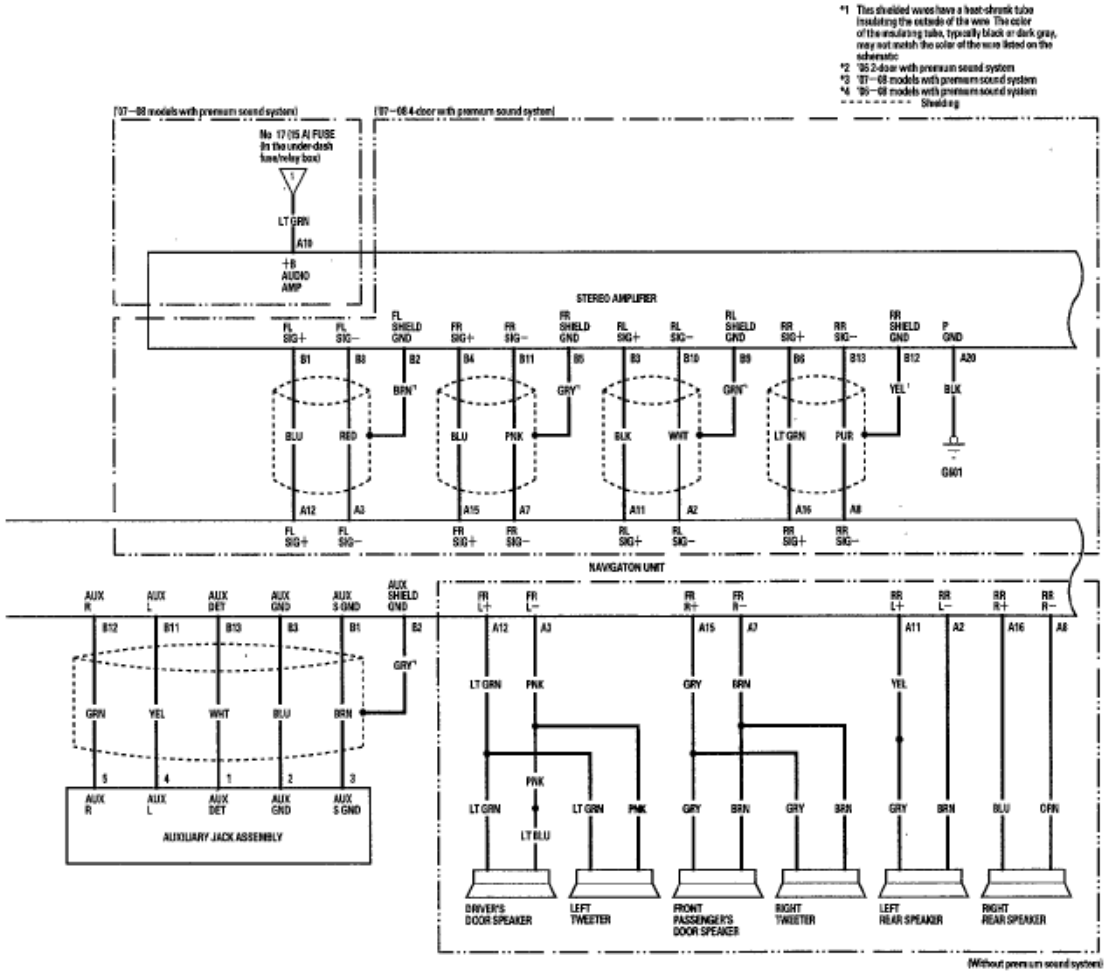



**Fig. 15: Audio System Circuit Diagram - With Navigation (2 Of 3)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## With Navigation

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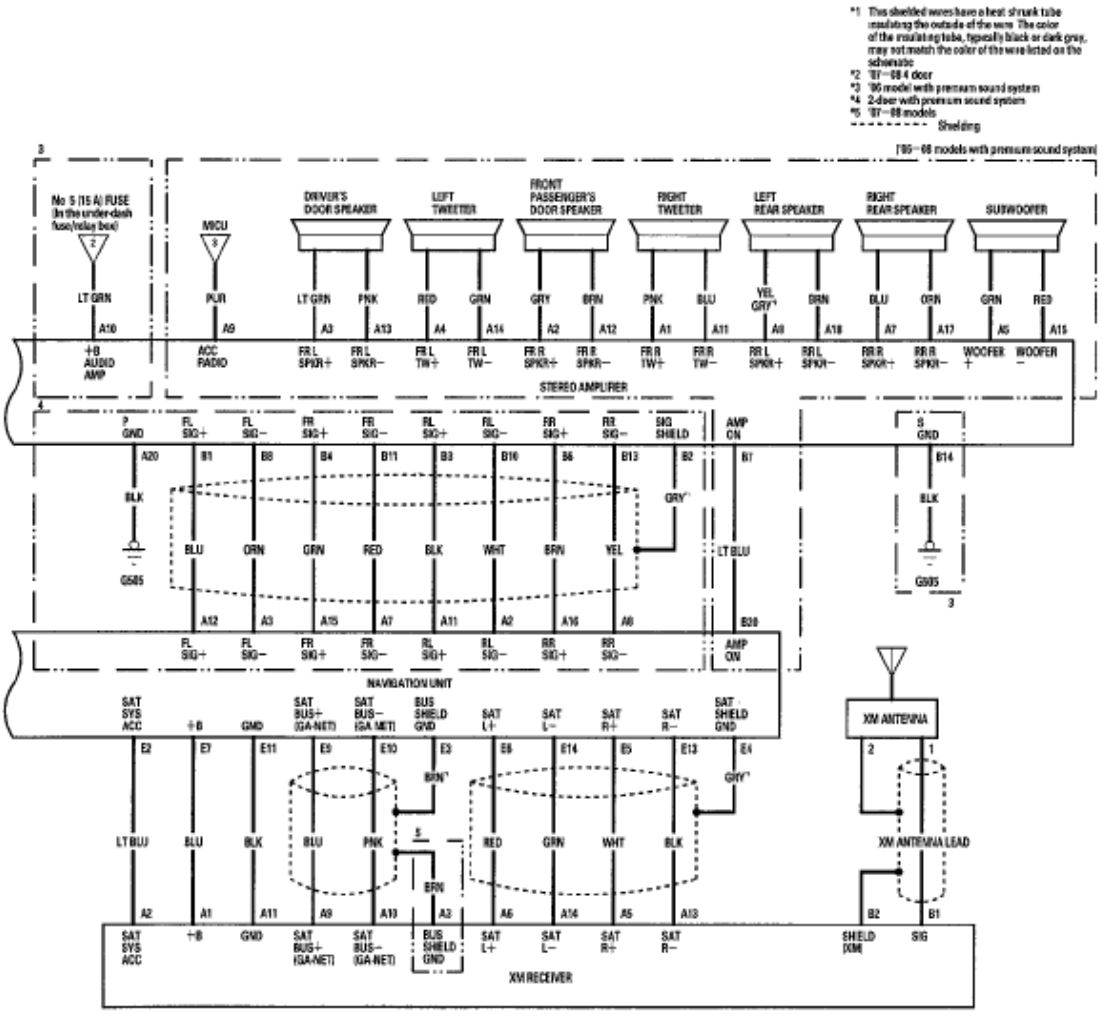



**Fig. 16: Audio System Circuit Diagram - With Navigation (3 Of 3)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Audio without Navigation

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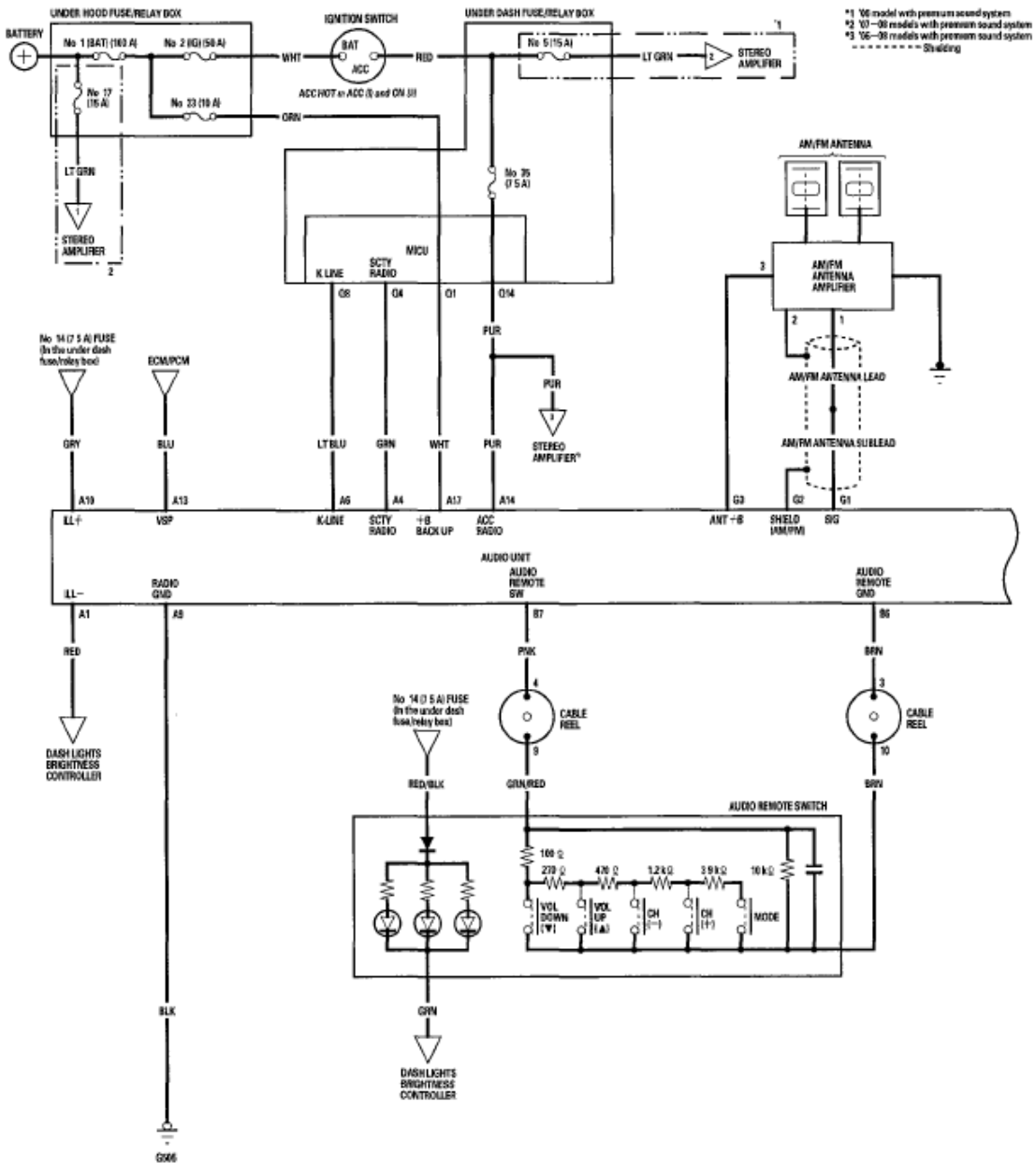



**Fig. 17: Audio System Circuit Diagram - Without Navigation (1 Of 3)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Audio without Navigation

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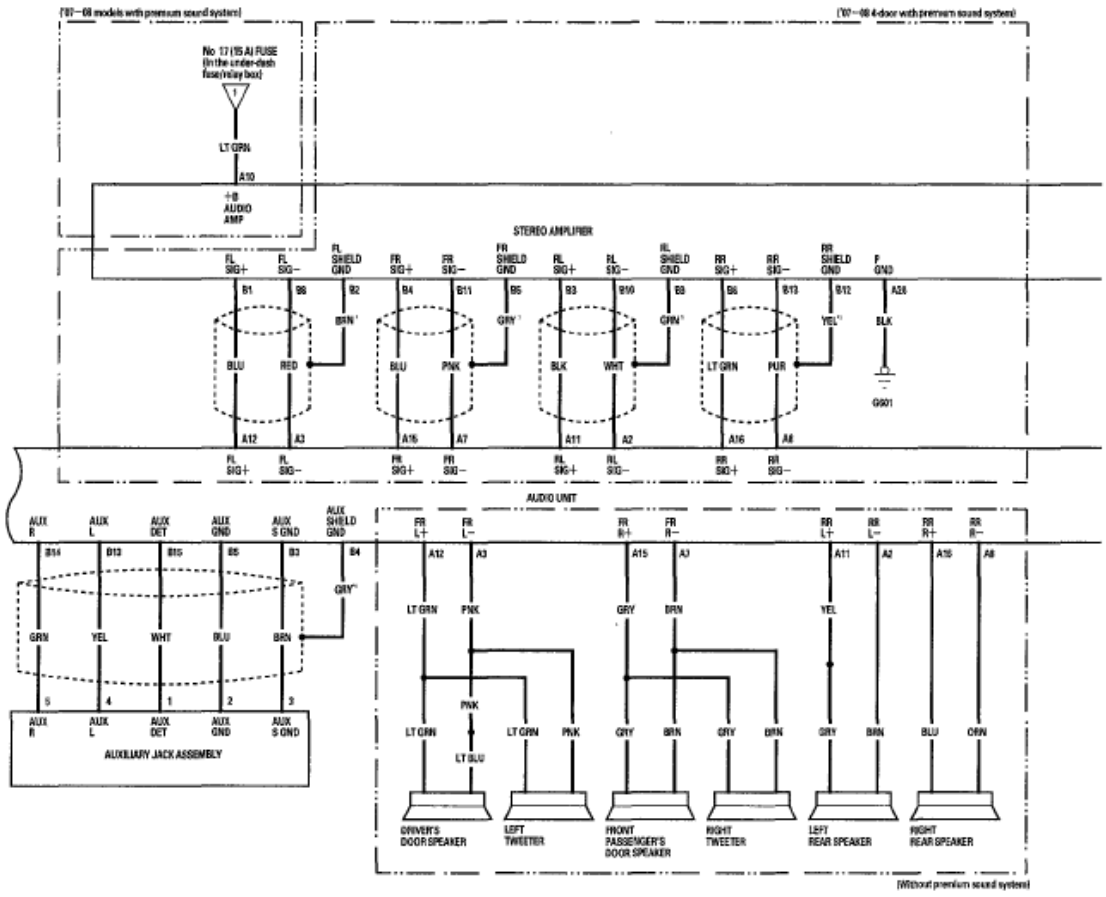



**Fig. 18: Audio System Circuit Diagram - Without Navigation (2 Of 3)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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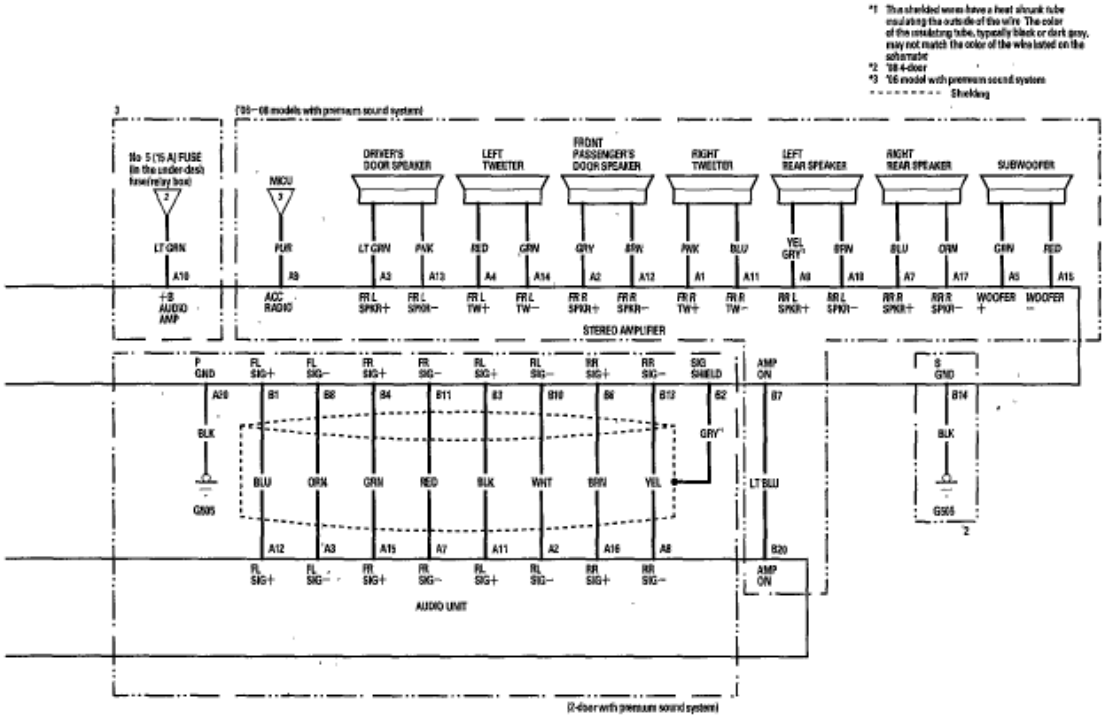



**Fig. 19: Audio System Circuit Diagram - Without Navigation (3 Of 3)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Without Audio

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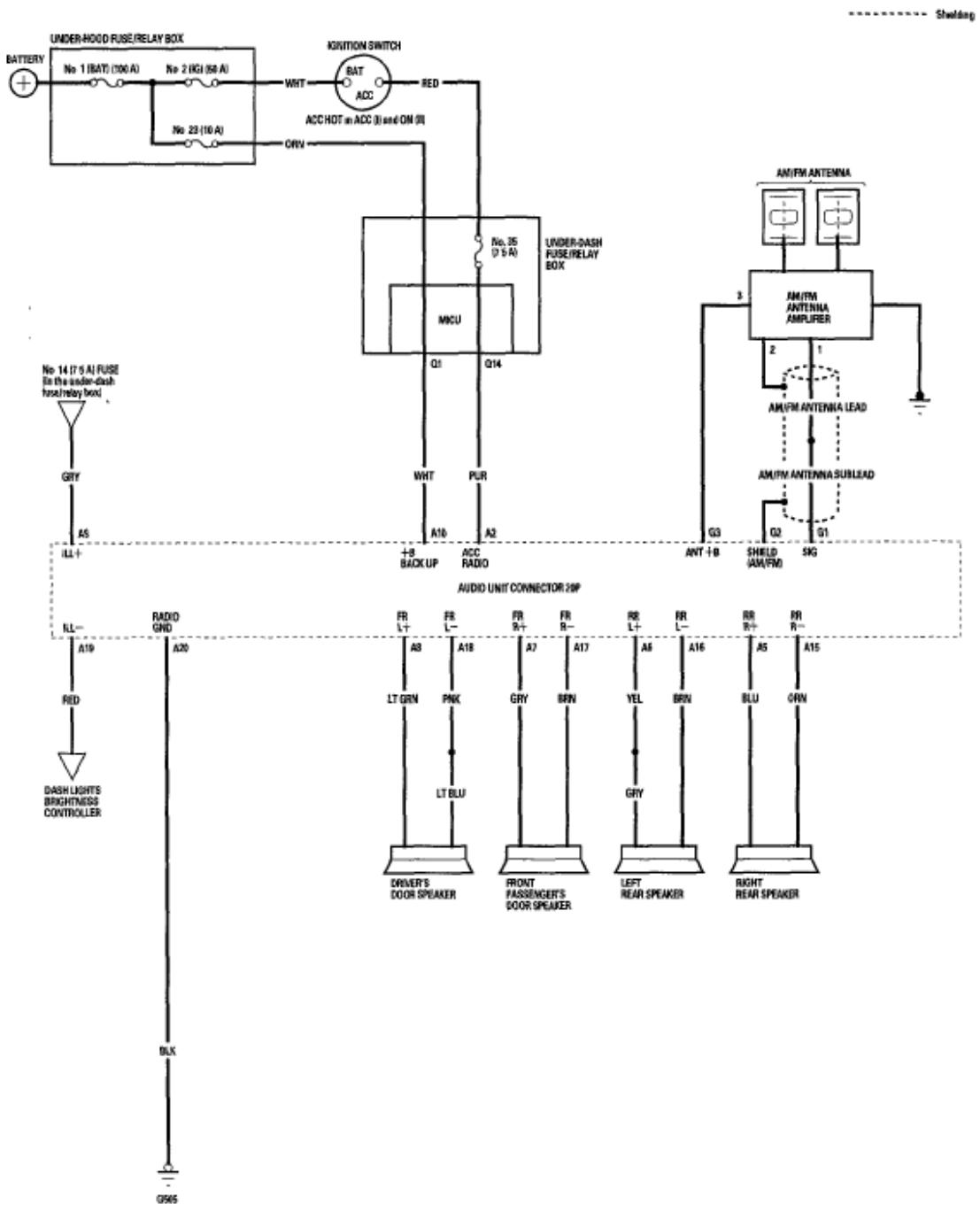



**Fig. 20: Audio System Circuit Diagram - (Without Audio)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SELF-DIAGNOSTIC FUNCTION

### WITHOUT NAVIGATION

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The audio system has a self-diagnostic function.

**SERIAL NUMBER DISPLAY MODE**

To obtain the audio unit serial number on a vehicle, do the following:

**NOTE:**

- **This procedure can only be performed when the battery power is disconnected from the audio unit and the audio unit displays CODE.**
- **To obtain the navigation unit serial number, refer to NAVI ECU in the navigation system diagnostic mode .**

1. Turn the ignition switch to ON (II).
2. With the audio unit turned off, push and hold the No. 1 and No. 6 buttons. While holding the buttons, push the VOL push PWR knob (A) to ON.

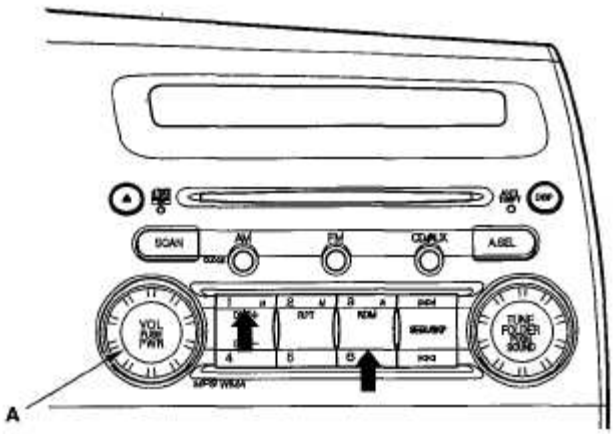



**Fig. 21: Identifying Buttons And Self-Diagnostic Function**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. The display will show a 8 digit serial number.

**Eight digits of the serial number (example 12345678)**

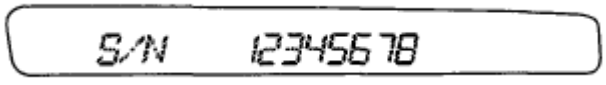



**Fig. 22: Identifying Eight Digits Of Serial Number**

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**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Use all 8 numbers as the serial number when using the Interactive Network (*i* N) to retrieve the 5 digit anti-theft code.
5. The serial number display mode ends when you turn the audio unit off, or turn the ignition switch to LOCK (0).

**HOW TO CHECK FOR AUDIO SYSTEM CONDITION**

**NOTE: The audio unit must be in the code enter screen before performing the self-diagnostic function.**

1. Turn the ignition switch to ON (II).
2. Push and hold the No. 1 and No. 6 buttons. While holding the buttons, push the VOL push PWR knob (A) to ON. Release the buttons and the self-diagnostic function begins.

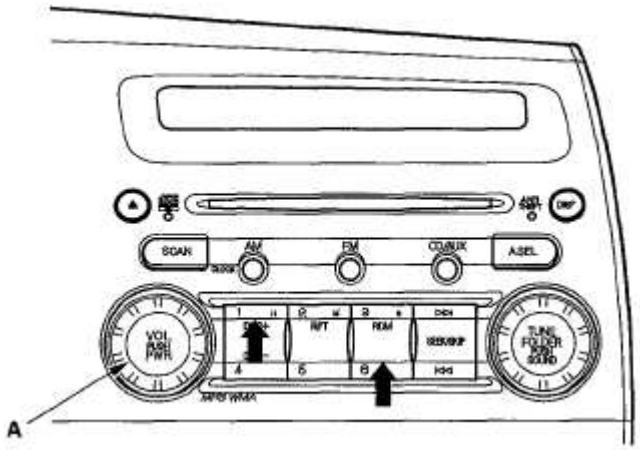



**Fig. 23: Identifying Buttons And Self-Diagnostic Function**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. By pressing a preset button, the input will trigger the diagnostic mode that is assigned to that preset switch.

**NO. 3 button**

Entire LCD lighting/light-out mode: Turns on/off the entire LCD to show the presence or absence of an LCD failure.

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**NO. 4 button**

Duty (for the Illumination dim) indication mode: Indicates the duty for the Illumination dim.

**NO. 5 button**

Vehicle speed pulse indication mode: Indicates the vehicle speed pulse.

**FM button (Push and hold 5 sec.)**

Reception level check mode: Indicates the reception level. When entering the reception level check mode, the AM/FM button is used to change the main/sub antenna.

**CD button (Push and hold 5 sec.)**

DRAM residual quantity indication mode: Indicates the DRAM residual quantity.

4. The self-diagnostic function will end when the audio unit is turned off, or the ignition switch to LOCK (0).

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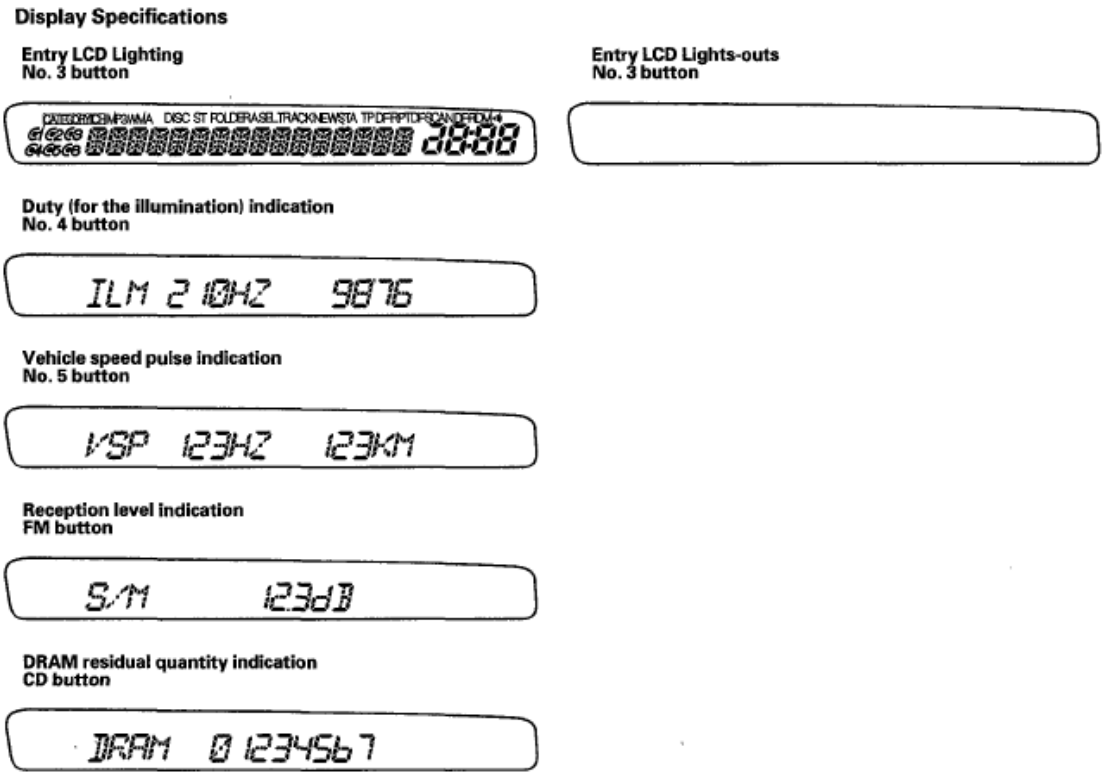



**Fig. 24: CD Buttons Self-Diagnostic Function -: Display**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Speaker check mode**

5. Turn off the audio unit.
6. Push and hold the No. 1 and No. 3 buttons. While holding the buttons, push the VOL push PWR knob to ON. Release the buttons and the speaker check mode will begin. A low-frequency hum should sound for about one minute. Change the test speaker by push the SKIP button. If you find a speaker(s) with no sound, check the speaker and harness connections. If the connections are good, replace the speaker and retest.
7. The self-diagnostic function ends when the audio unit is turned off, or the ignition switch to LOCK (0).

## ERROR CODES

The audio system displays error codes when a problem is detected with the disc changer, the disc, the tape player, the XM radio, or the anti-theft code.

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## CD Error Codes ('06-07 models and '08 model with navigation)

## CD ERROR CODES ('06-07 MODELS AND '08 MODEL WITH NAVIGATION)

| Error Code Displayed | Possible Cause | Solution |
|---|---|---|
| DISC ERROR | The system cannot read the disc because an audio or video DVD is inserted into the unit. The CD may be inserted upside down. | Make sure the unit functions with a known-good CD. |
| MECH ERROR | There is a problem with the mechanism. A CD label may be jammed in the mechanism. | Replace the navigation unit. |

## CD Error Codes ('08 model without navigation)

## CD ERROR CODES ('08 MODEL WITHOUT NAVIGATION)

| Error Code Displayed | Possible Cause | Solution |
|---|---|---|
| BAD DISC-PLEASE CHECK OWNERS MANUAL PUSH EJECT | • CD label jammed in the mechanism.<br>• CD eject mechanism or motor is inoperative.<br>• CD spindle motor won't spin up the CD.<br>• The wrong type disc is inserted. | Press the EJECT button and hold it for 5 seconds. If the disc does not eject, try again. If the disc still won't eject, replace the unit. |

## CD Error Codes ('06-08 models)

## CD ERROR CODES ('06-08 MODELS)

| Error Code | | |
|---|---|---|

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| Displayed | Possible Cause | Solution |
|---|---|---|
| HEAT ERROR | CD player is too hot. This can happen if the vehicle is parked in the sunlight all day and is warmer than 104 °F (40 °C). | The unit should function normally when it cools off, and internal temperature is less than 104 °F (40 °C). |
| FORMAT | Audio unit cannot read the files on the CD or CD-R. | Current track will skipped. The next supported track or file plays automatically.<br>• Verify that CD, CD-R, or CD-RW file names end in CD-A or WMA.<br>• Verify that CD, CD-R, or CD-RW with compressed music formats end in MP3 or WMA.<br>• Other file formats like iTunes or Ogg are not recognized.<br>• WMA files may have (DRM) copy protection and cannot be read. |

## XM Error Codes

## XM ERROR CODES

| Error Code Displayed | Possible Cause | Solution |
|---|---|---|
| LOADING | XM radio is acquiring audio or program information. | Wait until the radio receives the information. |
| (XM) OFF AIR | XM channel not in service. | Try another XM channel. |
| (XM) NO | | Both terrestrial and satellite antennas have |

| | | |
|---|---|---|
| SIGNAL | Loss of signal. | lost signal. Park the vehicle outside with a clear view of the southern horizon. |
| (XM) UPDATING | XM radio is receiving information update from the network. | This message will disappear once the update finishes. |
| (XM) CHECK ANTENNA | XM antenna error. | Repair open or short in the satellite antenna. Substitute the XM antenna with a known-good one, and recheck. If the error is gone, replace the original XM antenna. If the error is still present, replace the antenna lead. |
| (XM) ANTENNA ERROR | | |
| - | No signal from XM. | Check a known-good vehicle with XM radio. If the known-good vehicle has the same symptoms, contact XM Satellite Radio at (800) 852-9696. |

## Audio Unit Error Codes

## AUDIO UNIT ERROR CODES

| Error Code Displayed | Possible Cause | Solution |
|---|---|---|
| CODE ERROR 1 | Anti-theft code mismatch (1st try). | Enter the correct anti-theft code. |
| CODE ERROR E | Anti-theft code mismatch (10th try). | Remove No. 23 (10 A) fuse in the under-hood fuse/relay box, then reinsert it. You will have 10 more tries to enter the correct anti-theft code. |

## SYMPTOM TROUBLESHOOTING

### POOR AM OR FM RADIO RECEPTION OR INTERFERENCE (WITH NAVIGATION)

**NOTE:**

- **Check the vehicle battery condition first.**

- **Check for aftermarket accessories plugged into the vehicle accessory power sockets.**
- **Check the connectors for poor connections or loose terminals.**
- **Check the radio reception in an open area. Compare it to a known-good vehicle whenever possible. Poor reception/interference can be caused by the following:**
  - **The radio station is far away.**
  - **Atmospheric conditions are unfavorable.**
  - **Tall buildings, mountains, or high-voltage power lines are nearby.**
  - **Aftermarket metallic window tint.**

1. Turn the ignition switch to ON (II).
2. Do the seek stop test (see **SEEK STOP TEST**).

   *Is the test vehicle within 10% of the known-good vehicle?*

   **YES** -Multipath interference or weak station. Operation is normal.

   **NO** -Go to step 3.

3. Check if the radio reception/interference is the same in several locations.

   *Is the reception/interference the same?*

   **YES** -Go to step 4.

   **NO** -Multi path interference or weak station. Operation is normal.

4. Start the engine.
5. Check the reception/interference.

   *Is there noise (static or whine) only with the engine running?*

   **YES** -Check the antenna and radio grounds. If OK, check the charging system

and the ignition system.

**NO** -Go to step 6.

6. Turn the ignition switch to LOCK (0).
7. Wrap aluminum foil (A) around the tip of a tester probe (B) as shown.

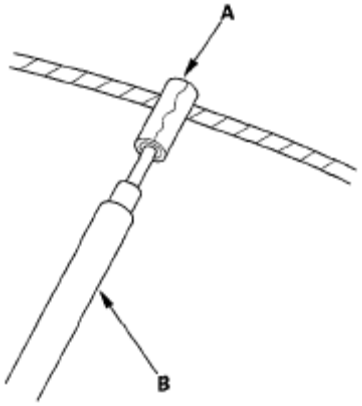



**Fig. 25: Identifying Wrap Aluminum Foil And Tip Of Tester Probe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Check for continuity by touching one tester probe to the window antenna terminal (A), and move the other tester probe along the antenna wires.

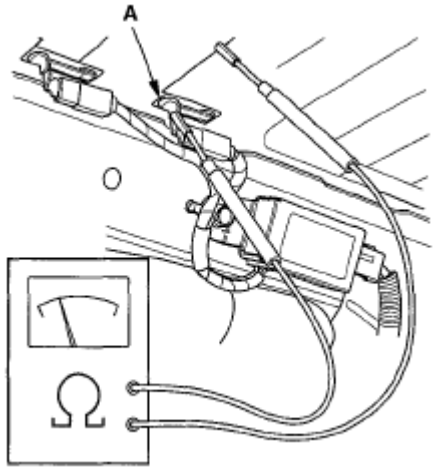



**Fig. 26: Checking Continuity By Touching Tester Probe To Window Antenna Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity in all sections of the antenna?*

**YES** -Go to step 9.

**NO** -Repair the window antenna wire. Go to **AM/FM ANTENNA REPAIR** .

9. Remove the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ). Check that the antenna lead is properly connected.

   *Is it connected properly?*

   **YES** -Go to step 10.

   **NO** -Reconnect the connector, and recheck the function.

10. Disconnect the AM/FM antenna lead 3P connector from the AM/FM antenna amplifier (see **AM/FM ANTENNA AMPLIFIER REPLACEMENT**).
11. Turn the ignition switch to ON (II).
12. Turn on the navigation unit.
13. Measure the voltage between the AM/FM antenna lead connector No. 3 terminal at the AM/FM antenna amplifier and body ground.

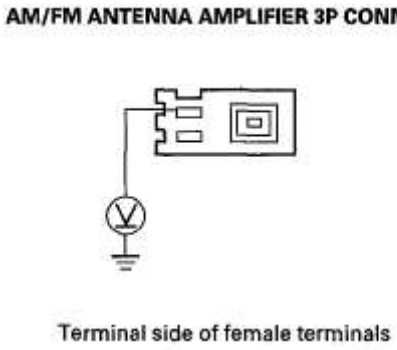



**Fig. 27: Measuring Voltage Between AM/FM Antenna Lead Connector Terminal At AM/FM Antenna Amplifier And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 18.

**NO** -Go to step 14.

14. Turn the ignition switch to LOCK (0).
15. Disconnect navigation unit connector G (3P).
16. Check for continuity between the AM/FM antenna amplifier connector (3P) No. 3 terminal and body ground.

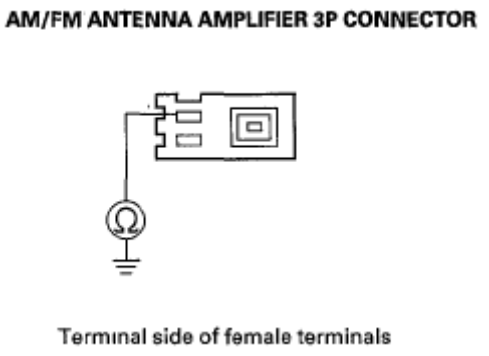



**Fig. 28: Checking Continuity Between AM/FM Antenna Amplifier Connector Terminal 3P And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the navigation unit and the AM/FM antenna amplifier.

**NO** -Go to step 17.

17. Check for continuity between navigation unit connector G (3P) No. 3 terminal and the AM/FM antenna amplifier 3P connector No. 3 terminal.

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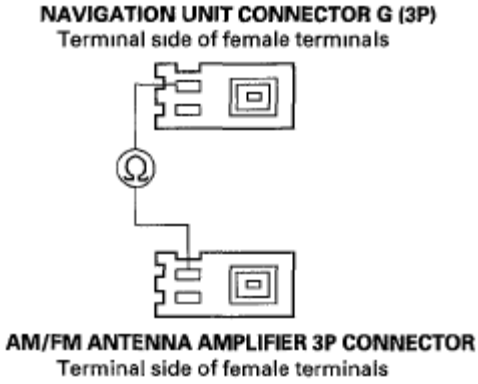



**Fig. 29: Checking Continuity Between Navigation Unit Connector Terminal And AM/FM Antenna Amplifier 3P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good navigation unit, and recheck.

**NO** -Repair open in the wire between the navigation unit and the AM/FM antenna amplifier.

18. Turn the ignition switch to LOCK (0).
19. Disconnect navigation unit connector G (3P).
20. Check for continuity between navigation unit connector G (3P) No. 1 terminal and body ground.

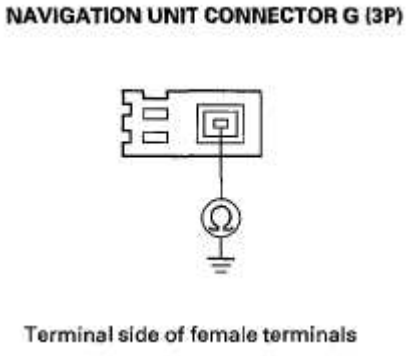



**Fig. 30: Checking Continuity Between Navigation Unit G (3P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the AM/FM antenna lead and/or sublead.

**NO** -Go to step 21.

21. Check for continuity between navigation unit connector G (3P) No. 1 and No. 2 terminals.

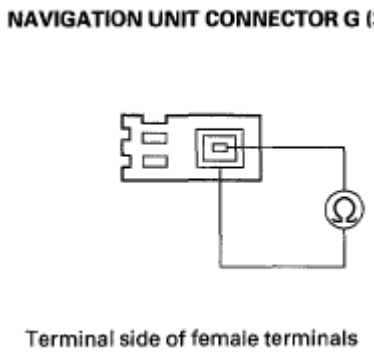



**Fig. 31: Checking Continuity Between Navigation Unit G (3P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the antenna lead and/or sublead.

**NO** -Go to step 22.

22. Check for continuity between navigation unit connector G (3P) No. 2 terminal and the AM/FM antenna amplifier 3P connector No. 2 terminal.

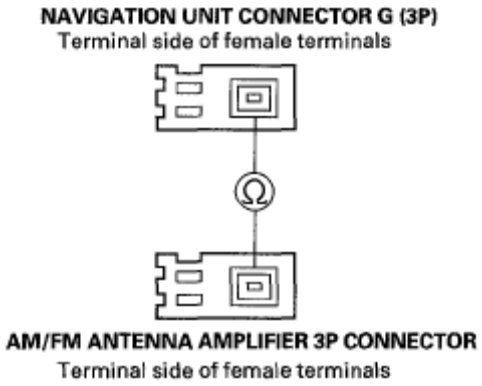



**Fig. 32: Checking Continuity Between Navigation Unit G (3P) Connector Terminal And AM/FM Antenna Amplifier 3P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the antenna lead and/or sublead.

**NO** -Go to step 23.

23. Check for continuity between navigation unit connector G (3P) No. 1 terminal and the AM/FM antenna amplifier 3P connector No. 1 terminal.

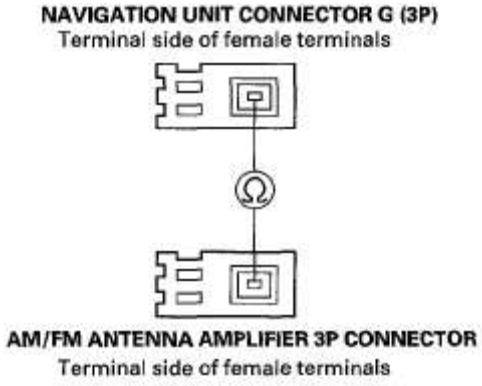



**Fig. 33: Checking Continuity Between Navigation Unit G (3P) Connector Terminal And AM/FM Antenna Amplifier 3P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the AM/FM antenna amplifier, and recheck. If the reception is still poor, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

**NO** -Replace the AM/FM antenna lead and/or sublead.

**POOR AM OR FM RADIO RECEPTION OR INTERFERENCE (WITHOUT NAVIGATION)**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check for aftermarket accessories plugged into the vehicle accessory power sockets.**
- **Check the connectors for poor connections or loose terminals.**
- **Check the radio reception in an open area. Compare it to a known-good vehicle whenever possible. Poor reception/interference can be caused by the following:**
  - **The radio station is far away.**
  - **Atmospheric conditions are unfavorable.**
  - **Tall buildings, mountains, or high-voltage power lines are nearby.**
  - **Aftermarket metallic window tint.**

1. Turn the ignition switch to ON (II).
2. Do the seek stop test (see **SEEK STOP TEST**).

   *Is the test vehicle within 10 % of the known-good vehicle?*

   **YES** -Multipath interference or weak station. Operation is normal.

   **NO** -Go to step 3.

3. Check if the radio reception/interference is the same in several locations.

   *Is the reception/interference the same?*

   **YES** -Go to step 4.

**NO** -Multipath interference or weak station. Operation is normal.

4. Start the engine.
5. Check the reception/interference.

   *Is there noise (static or whine) only with the engine running?*

   **YES** -Check the antenna and radio grounds. If OK, check the charging system and the ignition system.

   **NO** -Go to step 6.

6. Turn the ignition switch to LOCK (0).
7. Wrap aluminum foil (A) around the tip of a tester probe (B) as shown.

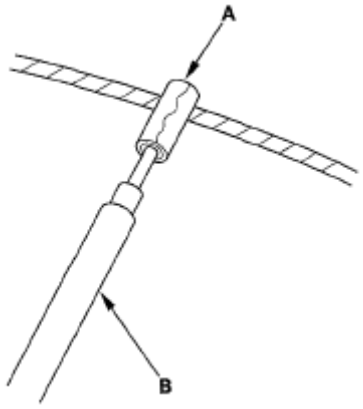



**Fig. 34: Identifying Wrap Aluminum Foil And Tip Of Tester Probe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Check for continuity by touching one tester probe to the window antenna terminal (A), and move the other tester probe along the antenna wires.

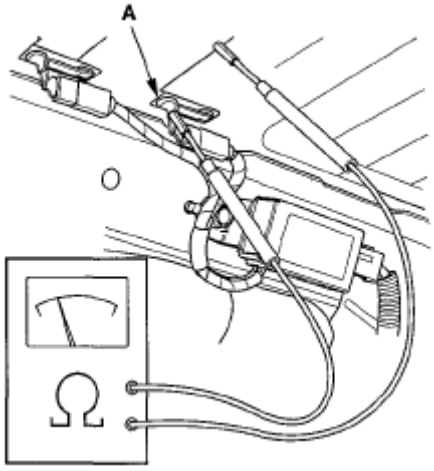



**Fig. 35: Checking Continuity By Touching Tester Probe To Window Antenna Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity in all sections of the antenna?*

**YES** -Go to step 9.

**NO** -Repair the window antenna wire. Go to **AM/FM ANTENNA REPAIR** .

9. Remove the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**). Check that the antenna lead is properly connected.

   *Is it connected properly?*

   **YES** -Go to step 10.

   **NO** -Reconnect the connector, and recheck the function.

10. Disconnect the antenna cable 3P connector from the AM/FM antenna amplifier (see **AM/FM ANTENNA AMPLIFIER REPLACEMENT**).
11. Turn the ignition switch to ON (II).
12. Turn on the audio unit.
13. Measure the voltage between the AM/FM antenna lead connector No. 3 terminal at the AM/FM antenna amplifier and body ground.

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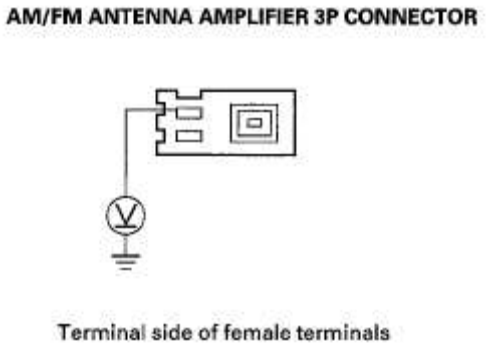



**Fig. 36: Measuring Voltage Between AM/FM Antenna Lead Connector Terminal At AM/FM Antenna Amplifier And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 18.

**NO** -Go to step 14.

14. Turn the ignition switch to LOCK (0).
15. Disconnect audio unit connector G (3P).
16. Check for continuity between the AM/FM antenna amplifier connector (3P) No. 3 terminal and body ground.

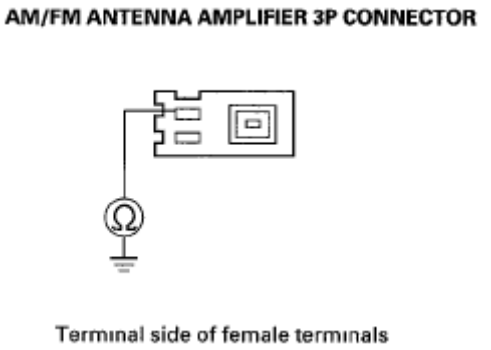



**Fig. 37: Checking Continuity Between AM/FM Antenna Amplifier (3P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the audio unit and the AM/FM antenna amplifier.

**NO** -Go to step 17.

17. Check for continuity between audio unit connector G (3P) No. 3 terminal and the AM/FM antenna amplifier 3P connector No. 3 terminal.

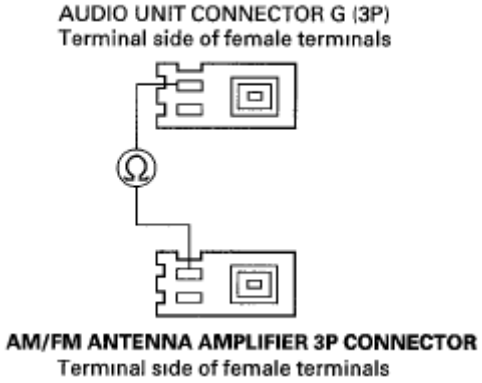



**Fig. 38: Checking Continuity Between Audio Unit G (3P) Connector Terminal And AM/FM Antenna Amplifier 3P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good audio unit, and recheck.

**NO** -Repair open in the wire between the audio unit and the AM/FM antenna amplifier.

18. Turn the ignition switch to LOCK (0).
19. Disconnect audio connector G (3P).
20. Check for continuity between audio unit connector G (3P) No. 1 terminal and body ground.

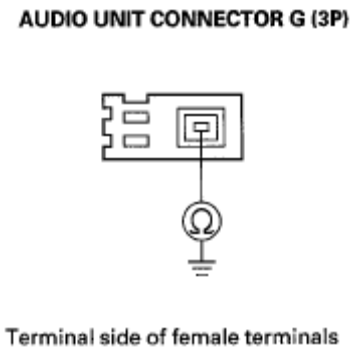



**Fig. 39: Checking Continuity Between Audio Unit G (3P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the antenna lead and/or sublead.

**NO** -Go to step 21.

21. Check for continuity between audio unit connector G (3P) No. 1 and No. 2 terminals.

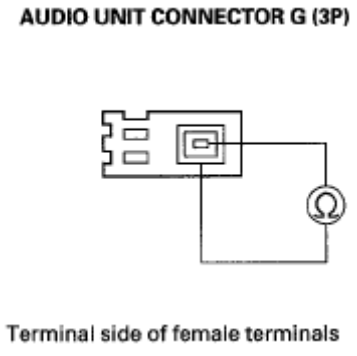



**Fig. 40: Checking Continuity Between Audio Unit G (3P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the antenna lead and/or sublead.

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**NO** -Go to step 22.

22. Check for continuity between audio unit connector G (3P) No. 2 terminal and the AM/FM antenna amplifier 3P connector No. 2 terminal.

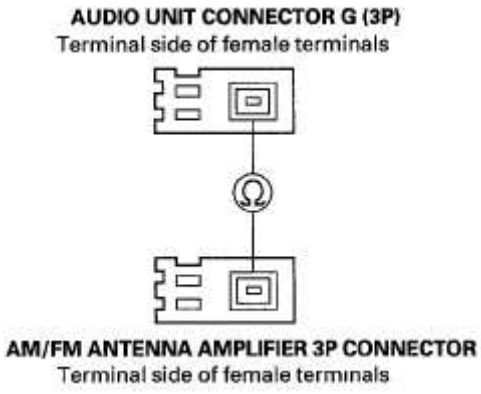



**Fig. 41: Checking Continuity Between Audio Unit G (3P) Connector Terminal And AM/FM Antenna Amplifier 3P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the antenna lead and/or sublead.

**NO** -Go to step 23.

23. Check for continuity between audio unit connector G (3P) No. 1 terminal and the AM/FM antenna amplifier 3P connector No. 1 terminal.

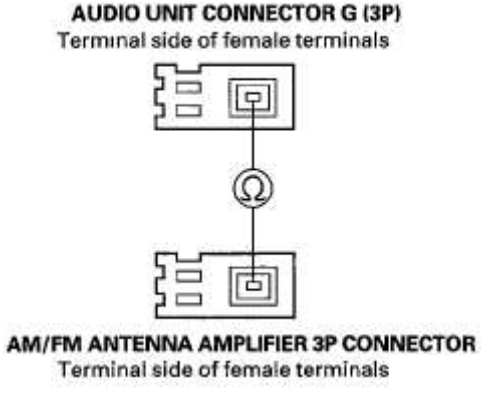



**Fig. 42: Checking Continuity Between Audio Unit G (3P) Connector**

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**Terminal And AM/FM Antenna Amplifier 3P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the AM/FM antenna amplifier, and recheck. If the reception is still poor, replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**NO** -Replace the antenna lead and/or sublead.

**AUDIO UNIT POWER SWITCH WILL NOT TURN ON (NO INFORMATION DISPLAY AND NO SOUND) (WITH NAVIGATION)**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Turn the ignition switch to ON (II).
2. Push the power switch ON to see if the navigation unit turns ON.

   *Does the navigation unit display operate properly, and does the audio sound normal?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check the No. 23 (10 A) fuse in the under-hood fuse/relay box and No. 35 (7.5 A) fuse in the under-dash fuse/relay box.

   *Are the fuses OK?*

   **YES** -Go to step 5.

   **NO** -Replace the fuse(s), and recheck.

5. Remove the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ). Check that the navigation unit is properly connected.

   **NOTE: Eject all the discs before removing the navigation unit to prevent damaging the CD player's load mechanism.**

   *Is it connected properly?*

   **YES** -Go to step 6.

   **NO** -Reconnect the connector, and recheck the function.

6. Turn the ignition switch to ON (II).
7. Measure the voltage between body ground and navigation unit connector A (17P) terminals No. 14 and No. 17 individually.

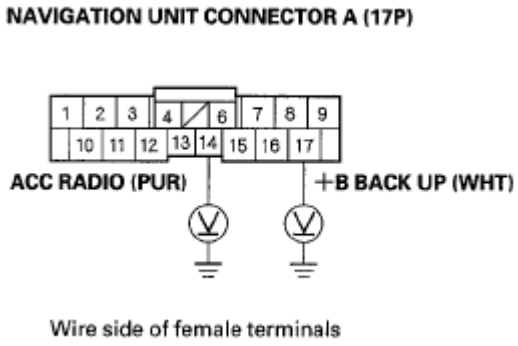



**Fig. 43: Measuring Voltage Between Navigation Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage on both terminals?*

**YES** -Go to step 8.

**NO** -Repair open in the wire(s) between the No. 23 (10 A) fuse in the under-hood fuse/relay box and No. 35 (7.5 A) in the under-dash fuse/relay box and the audio unit.

8. Turn the ignition switch to LOCK (0).
9. Turn the ignition switch to ON (II).
10. Measure the voltage between navigation unit connector A (17P) No. 9 terminal and body ground, and navigation unit connector B (22P) No. 15 terminal and body ground.

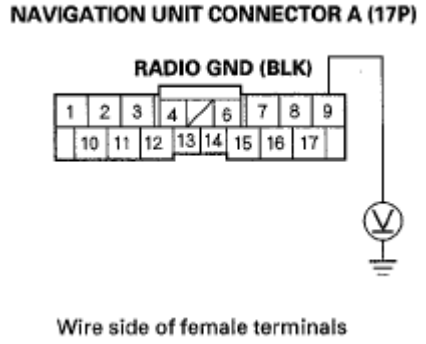



**Fig. 44: Measuring Voltage Between Navigation Unit A (17P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

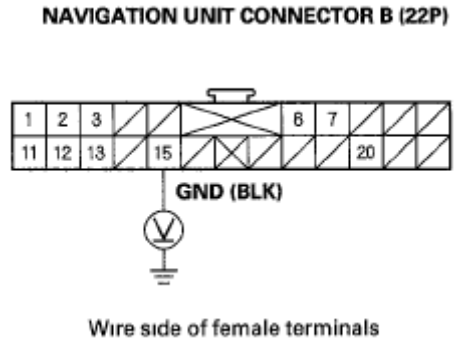



**Fig. 45: Measuring Voltage Between Navigation Unit B (22P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V on both terminals?*

**YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

**NO** -Repair open in the wire between navigation unit connector A (17P) No.

19 terminal or navigation unit connector B (22P) No. 15 terminal and body ground (G505) (see **CONNECTOR TO HARNESS INDEX** ).

**AUDIO UNIT POWER SWITCH WILL NOT TURN ON (NO INFORMATION DISPLAY AND NO SOUND) (WITHOUT NAVIGATION)**

**NOTE:**
- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Turn the ignition switch to ON (II).
2. Push the power switch ON to see if audio unit turns ON.

   *Does the audio unit operate properly, and does the audio sound normal?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check the No. 23 (10 A) fuse in the under-hood fuse/relay box and No. 35 (7.5 A) fuse in the under-dash fuse/relay box.

   *Are the fuses OK?*

   **YES** -Go to step 5.

   **NO** -Replace the fuse(s), and recheck.

5. Remove the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**). Check that the audio unit is properly connected.

   **NOTE: Eject all the discs before removing the audio unit to prevent damaging the CD player's load mechanism.**

   *Is it connected properly?*

**YES** -Go to step 6.

**NO** -Reconnect the connector, and recheck the function.

6. Turn the ignition switch to ON (II).
7. Measure the voltage between audio unit connector A (17P) terminal No. 14 and body ground, and between terminal No. 17 and body ground.

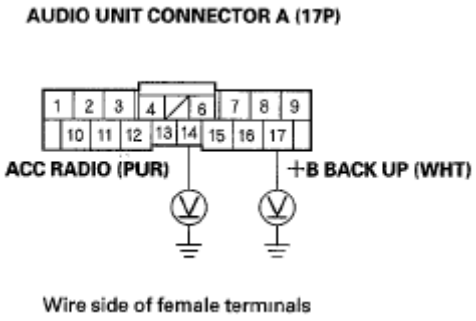



**Fig. 46: Measuring Voltage Between Audio Unit A (17P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage on the both terminals?*

**YES** -Go to step 8.

**NO** -Repair open in the wire(s) between the No. 23 (10 A) fuse in the under-hood fuse/relay box and No. 35 (7.5 A) in the under-dash fuse/relay box and the audio unit.

8. Turn the ignition switch to LOCK (0).
9. Turn the ignition switch to ON (II).
10. Measure the voltage between audio unit connector A (17P) No. 9 terminal and body ground.

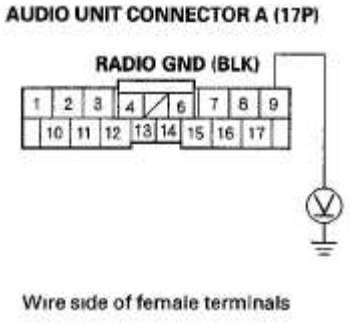



**Fig. 47: Measuring Voltage Between Audio Unit A (17P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V?*

**YES** -Replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between audio unit connector A (17P) No. 9 terminal and body ground (G505) (see **CONNECTOR TO HARNESS INDEX** ).

**AUDIO UNIT POWER SWITCH WILL NOT TURN OFF (WITH NAVIGATION)**

**NOTE:**

- **Check for aftermarket accessories plugged into the vehicle's accessory power sockets.**
- **Check the connectors for poor connections or loose terminals.**

1. Turn the ignition switch to ON (II).
2. Push the power switch OFF or turn the ignition switch OFF to see if the navigation unit turns OFF.

*Is the navigation unit OFF?*

**YES** -Operation is normal.

**NO** -Go to step 2.

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3. Turn the ignition switch to LOCK (0).
4. Remove the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
5. Measure the voltage between navigation unit connector A (17P) terminal No. 14 and body ground.

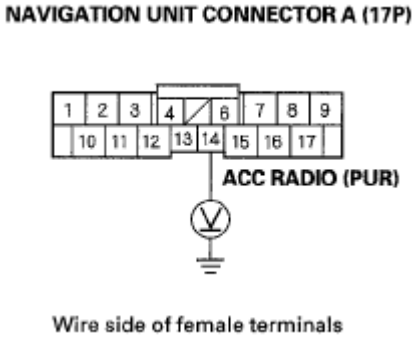



**Fig. 48: Measuring Voltage Between Navigation Unit A (17P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Check for short to power on PUR wire.

**NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

**AUDIO UNIT POWER SWITCH WILL NOT TURN OFF (WITHOUT NAVIGATION)**

**NOTE:**

- **Check for aftermarket accessories plugged into the vehicle's accessory power sockets.**
- **Check the connectors for poor connections or loose terminals.**

1. Turn the ignition switch to ON (II).
2. Push the power switch OFF or turn the ignition switch OFF to see if the audio unit turns OFF.

*Is the audio unit OFF?*

**YES** -Operation is normal.

**NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Remove the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).
5. Measure the voltage between audio unit connector A (17P) terminal No. 14 and body ground.

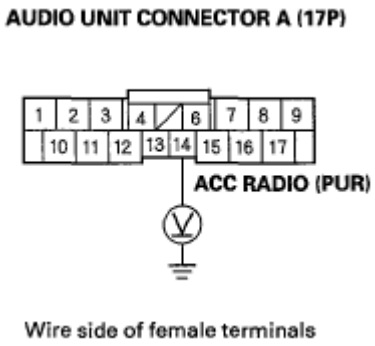



**Fig. 49: Measuring Voltage Between Audio Unit A (17P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there voltage?*

**YES** -Check for short to power on PUR wire.

**NO** -Replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**NO SOUND IS HEARD FROM SPEAKER(S) (DISPLAY IS NORMAL) (WITH NAVIGATION)**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Set the fader and balance positions to the center.**

1. Turn the ignition switch to ON (II).
2. Check for sound in each mode (AM, FM, XM, and CD).

   *Is the sound OK in each mode?*

   **YES** -Intermittent failure. The system is OK at this time. Check for loose connections at the navigation unit and speaker(s).

   **NO** -Go to step 3.

3. Check that the volume button is not set to the MIN level.

   *Is it at the MIN level?*

   **YES** -Raise the volume level, and recheck the function.

   **NO** -Go to step 4.

4. On the steering wheel, check the navigation TALK command.

   *Is the navigation TALK command function set?*

   **YES** -Cancel the navigation TALK command by pressing the navigation BACK button, then recheck the function.

   **NO** -Go to step 5.

5. Check to see if there is a specific speaker that has no sound.

   *Do any or all of the speakers fail to sound?*

   **YES** -Speaker(s) failed the test:

   - If at least one speaker is OK, go to step 6.
   - If all speakers fail to sound:
     - With premium sound system: Go to step 14.
     - Without premium sound system: Go to step 9.

**NO** -Speakers all work, but sound quality is poor in step 1.

- If sound is poor only with XM radio, or the XM radio does not function, go to **POOR OR NO SOUND WITH XM RADIO** .
- If the sound is poor only with AM or FM, go to **POOR AM OR FM RADIO RECEPTION OR INTERFERENCE** .
- If the sound is poor only with disc.
  - Try several known- good tapes/disc in the navigation unit.
  - If the sound quality is normal, the original disc is faulty.
  - If the sound quality is still poor, replace the navigation unit.
- If the sound is poor in all modes, go to **SOUND QUALITY DIAGNOSIS** .

6. Turn the ignition switch to LOCK (0).
7. Remove the speaker(s) with no sound (see **SPEAKER REPLACEMENT**), and disconnect its connector.
8. Check the speaker 2P connector for a loose or poor connection.

   *Reconnect the speaker 2P connector and recheck the symptom; does it still fail?*

   **YES** -Go to step 9.

   **NO** -Operation is normal.

9. Make sure the ignition switch is in LOCK (0).
10. Measure the resistance between the (+) and (-) terminals of the speaker connector.

    *Is there about 4 ohms?*

    **YES** -

    - With premium sound system: Go to step 20.
    - Without premium sound system: Go to step 11.

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**NO** -Faulty speaker(s).

11. Remove the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ). Disconnect navigation unit connector A (17P).

**NOTE: Eject all the discs before removing the navigation unit to prevent damaging the CD player's load mechanism.**

12. Measure the resistance between the following terminals of navigation unit connector A (17P) according to the table.

**SPEAKER TERMINALS REFERENCE**

| Speaker | Terminal | Wire color |
|---|---|---|
| Driver's door speaker, Left tweeter | A12 (+) | LT GRN |
| | A3 (-) | PNK |
| Front passenger's door speaker, Right tweeter | A15 (+) | GRY |
| | A7 (-) | BRN |
| Left rear speaker | A11 (+) | YEL |
| | A2 (-) | BRN |
| Right rear speaker | A16 (+) | BLU |
| | A8 (-) | ORN |

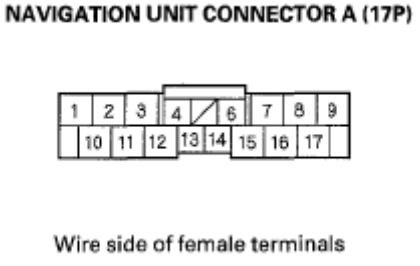



**Fig. 50: Measuring Resistance Between Navigation Unit A (17P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 4 ohms?*

**YES** -Go to step 13.

**NO** -Repair open or short in the wires between navigation unit and speaker(s).

13. Check for continuity between body ground and the following terminals of navigation unit connector A (17P).

**SPEAKER TERMINALS REFERENCE**

| Speaker | Terminal | Wire color |
|---|---|---|
| Driver's door speaker, Left tweeter | A12 (+) | LT GRN |
| | A3 (-) | PNK |
| Front passenger's door speaker, Right tweeter | A15 (+) | GRY |
| | A7 (-) | BRN |
| Left rear speaker | A11 (+) | YEL |
| | A2 (-) | BRN |
| Right rear speaker | A16 (+) | BLU |
| | A8 (-) | ORN |

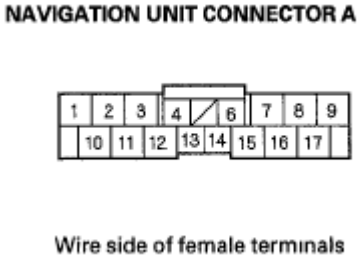



**Fig. 51: Checking Continuity Between Navigation Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire(s) between the navigation unit and speaker(s).

**NO** -Substitute a known-good navigation unit and recheck. If the symptom/indication goes away, replace the original navigation unit.

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14. Measure the voltage between stereo amplifier connector A (20P) No. 10 terminal and body ground.

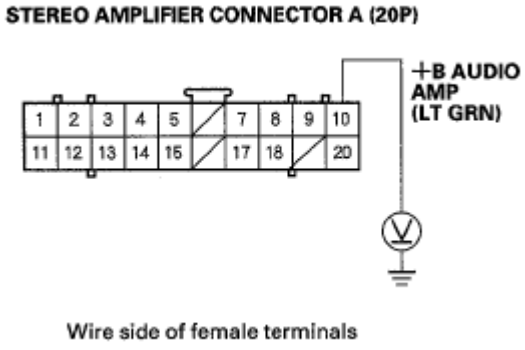



**Fig. 52: Measuring Voltage Between Stereo Amplifier A (20P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 15.

**NO** -

- '06 model: Repair open in the wire between No. 5 (15 A) fuse in the under-dash fuse/relay box and stereo amplifier connector A (20P) No. 10 terminal.
- '07-08 models: Repair open in the wire between No. 17 (15 A) fuse in the under-hood fuse/relay box and stereo amplifier connector A (20P) No. 10 terminal.

15. Turn the ignition switch to ON (II).
16. Measure the voltage between stereo amplifier connector A (20P) No. 9 terminal and body ground.

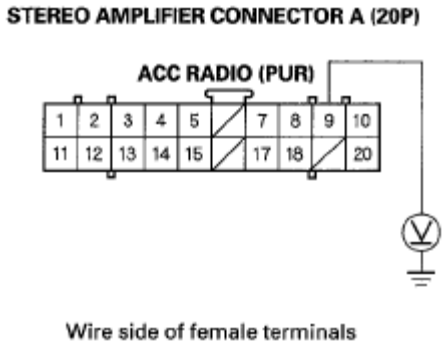



**Fig. 53: Measuring Voltage Between Stereo Amplifier A (20P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 17.

**NO** -Repair open in the wire between No. 35 (7.5 A) fuse in the under-dash fuse/relay box and stereo amplifier connector A (20P) No. 9 terminal.

17. Measure the voltage between stereo amplifier connector B (14P) No. 7 terminal and body ground.

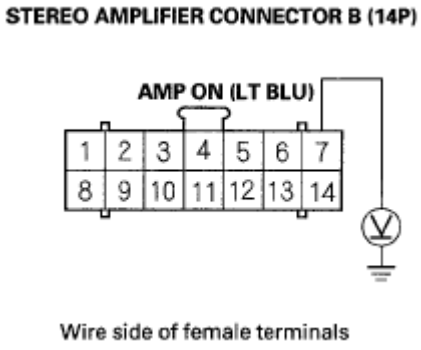



**Fig. 54: Measuring Voltage Between Stereo Amplifier B (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 18.

**NO** -Repair open in the wire between the stereo amplifier connector B (14P) No. 7 terminal and navigation unit connector B (22P) No. 20 terminal.

18. Measure the voltage between stereo amplifier connector A (20P) No. 20 terminal and body ground, and between stereo amplifier connector B (14P) No. 14 terminal and body ground.

**'06-08 models**

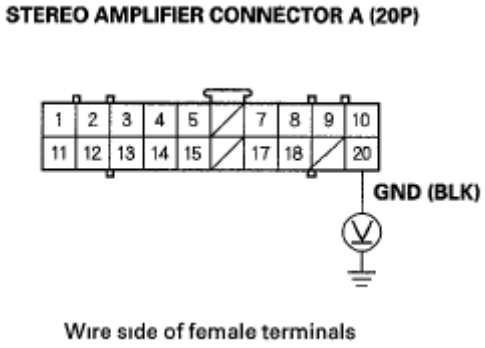



**Fig. 55: Measuring Voltage Between Stereo Amplifier A (20P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**'06 model**

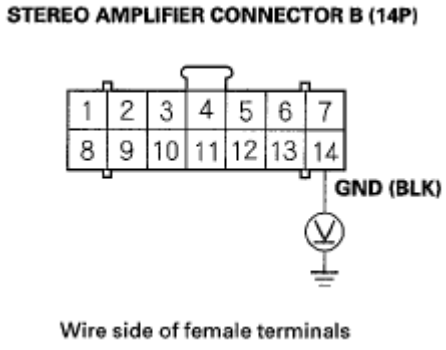



**Fig. 56: Measuring Voltage Between Stereo Amplifier B (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V on both terminals?*

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**YES** -Go to step 19.

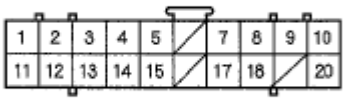
**NO** -Repair open in the wire between stereo amplifier connector A (20P) No. 20 terminal or connector B (14P) No. 14 terminal and body ground, 2-door model (G505), 4-door model (G601).

19. Turn the ignition switch to LOCK (0).
20. Disconnect stereo amplifier connector A (20P).
21. Measure the resistance between the following terminals of stereo amplifier connector A (20P) according to the table.

**SPEAKER TERMINALS REFERENCE**

| Speaker | Terminal | Wire color |
|---|---|---|
| Driver's door speaker | A3 (+) | LT GRN |
| | A13 (-) | PNK |
| Left tweeter | A4 (+) | RED |
| | A14 (-) | GRN |
| Front passenger's door speaker | A2 (+) | GRY |
| | A12 (-) | BRN |
| Right tweeter | A1 (+) | PNK |
| | A11 (-) | BLU |
| Left rear speaker | A8 (+) | YEL |
| | A18 (-) | BRN |
| Right rear speaker | A7 (+) | BLU |
| | A17 (-) | ORN |
| Subwoofer | A5 (+) | GRN |
| | A15 (-) | RED |

**STEREO AMPLIFIER CONNECTOR A (20P)**




Wire side of female terminals

**Fig. 57: Measuring Resistance Between Stereo Amplifier A (20P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 4 ohms?*

**YES** -Go to step 22.

**NO** -Repair oper or short in the wires between stereo amplifier and speaker(s).

22. Check for continuity between body ground and the following terminals of stereo amplifier connector A (20P).

**SPEAKER TERMINALS REFERENCE**

| Speaker | Terminal | Wire color |
|---|---|---|
| Driver's door speaker | A3 (+) | LT GRN |
| | A13 (-) | PNK |
| Left tweeter | A4 (+) | RED |
| | A14 (-) | GRN |
| Front passenger's door speaker | A2 (+) | GRY |
| | A12 (-) | BRN |
| Right tweeter | A1 (+) | PNK |
| | A11 (-) | BLU |
| Left rear speaker | A8 (+) | YEL |
| | A18 (-) | BRN |
| Right rear speaker | A7 (+) | BLU |
| | A17 (-) | ORN |
| Subwoofer | A5 (+) | GRN |
| | A15 (-) | RED |

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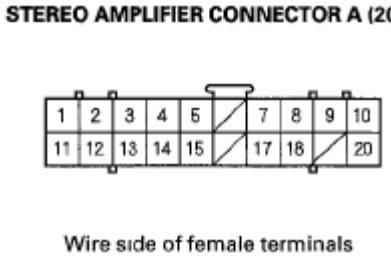



**Fig. 58: Checking Continuity Between Stereo Amplifier A (20P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire(s) between stereo amplifier and speaker(s).

**NO** -

- 2-door: Go to step 23.
- '08 4-door: Go to step 27.

23. Disconnect stereo amplifier connector B (14P).
24. Disconnect navigation unit connector A (17P).
25. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 2 terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B1 | BLU |
| B3 | BLK |
| B4 | GRN |
| B6 | BRN |
| B8 | ORN |
| B10 | WHT |
| | |

| | |
|---|---|
| B11 | RED |
| B13 | YEL |

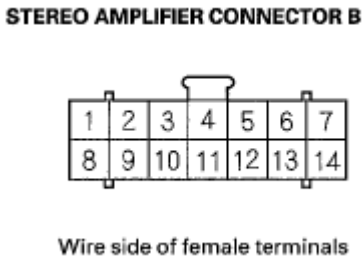



**Fig. 59: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the navigation unit. Replace the appropriate shielded harness.

**NO** -Go to step 26.

26. Check for continuity between navigation unit connector A and stereo amplifier connector B according to the table.

**NAVIGATION UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Navigation unit connector | Amplifier connector | Wire color |
|---|---|---|
| A2 | B10 | WHT |
| A3 | B8 | ORN |
| A7 | B11 | RED |
| A8 | B13 | YEL |
| A11 | B3 | BLK |
| A12 | B1 | BLU |
| A15 | B4 | GRN |
| A16 | B6 | BRN |

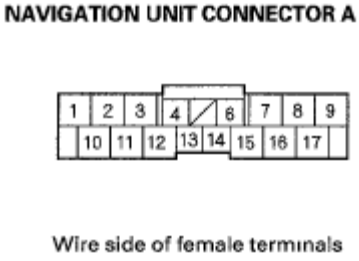



**Fig. 60: Checking Continuity Between Navigation Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

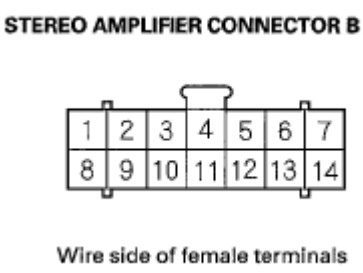



**Fig. 61: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good navigation unit and recheck. If the symptom/indication goes away, replace the original navigation unit. If the symptom is still present, substitute a known-good stereo amplifier and recheck. If the symptom/indication goes away, replace the original stereo amplifier (see **STEREO AMPLIFIER REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire(s) between the navigation unit and stereo amplifier.

27. Disconnect stereo amplifier connector B (14P).
28. Disconnect navigation unit connector A (17P).
29. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 2

terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B1 | BLU |
| B8 | RED |

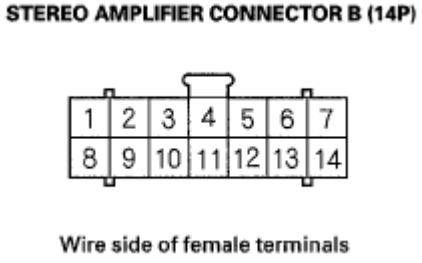



**Fig. 62: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the navigation unit. Replace the appropriate shielded harness.

**NO** -Go to step 30.

30. Check for continuity between navigation unit connector A and stereo amplifier connector B according to the table.

**NAVIGATION UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Navigation unit connector | Amplifier connector | Wire color |
|---|---|---|
| A3 | B8 | RED |
| A12 | B1 | BLU |

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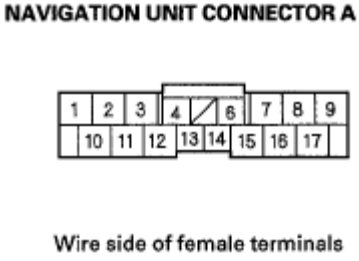



**Fig. 63: Checking Continuity Between Navigation Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

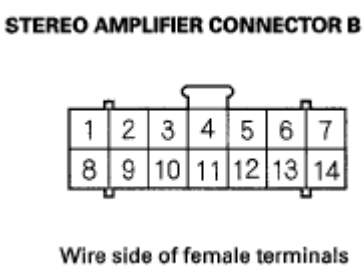



**Fig. 64: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 31.

**NO** -Repair open in the wire between the navigation unit and stereo amplifier.

31. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 5 terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B4 | BLU |
| B11 | PNK |

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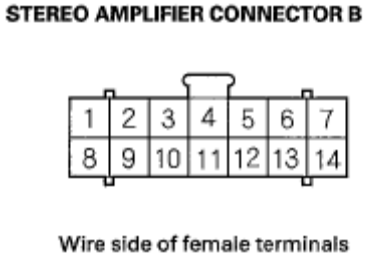



**Fig. 65: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the navigation unit. Replace the appropriate shielded harness.

**NO** -Go to step 32.

32. Check for continuity between navigation unit connector A and stereo amplifier connector B according to the table.

**NAVIGATION UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Navigation unit connector | Amplifier connector | Wire color |
|---|---|---|
| A7 | B11 | PNK |
| A15 | B4 | BLU |

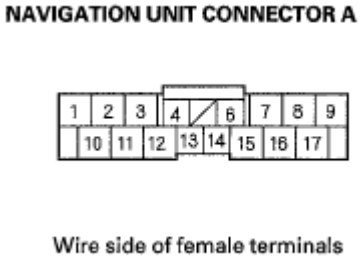



**Fig. 66: Checking Continuity Between Navigation Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

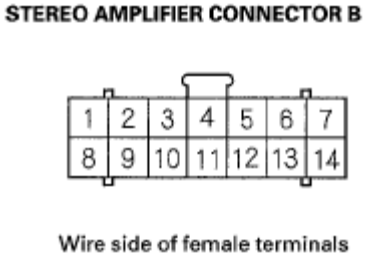



**Fig. 67: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 33.

**NO** -Repair open in the wire between the navigation unit and stereo amplifier.

33. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 9 terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B3 | BLK |
| B10 | WHT |

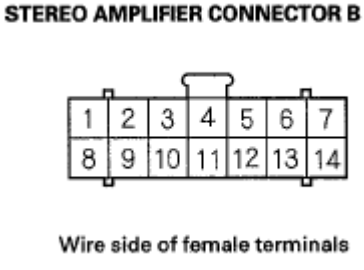



**Fig. 68: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the navigation unit. Replace the appropriate shielded harness.

**NO** -Go to step 34.

34. Check for continuity between navigation unit connector A and stereo amplifier connector B according to the table.

**NAVIGATION UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Navigation unit connector | Amplifier connector | Wire color |
|---|---|---|
| A2 | B10 | WHT |
| A11 | B3 | BLK |

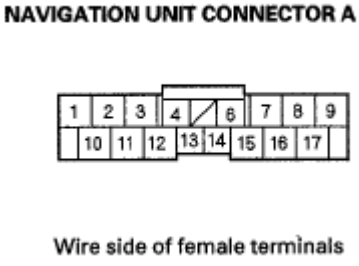



**Fig. 69: Checking Continuity Between Navigation Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

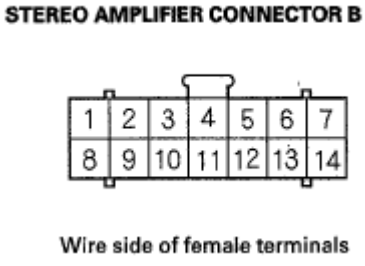



**Fig. 70: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 35.

**NO** -Repair open in the wire between the navigation unit and stereo amplifier.

35. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 12 terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B6 | LT GRN |
| B13 | PUR |

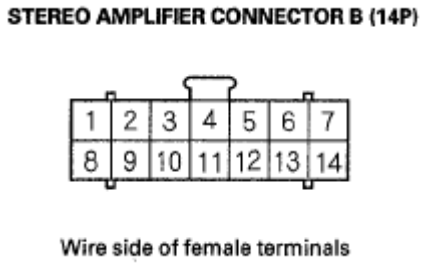



**Fig. 71: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the navigation unit. Replace the appropriate shielded harness.

**NO** -Go to step 36.

36. Check for continuity between navigation unit connector A and stereo amplifier connector B according to the table.

**NAVIGATION UNIT CONNECTOR AND AMPLIFIER CONNECTOR**

## REFERENCE

| Navigation unit connector | Amplifier connector | Wire color |
|---|---|---|
| A8 | B13 | PUR |
| A16 | B6 | LT GRN |

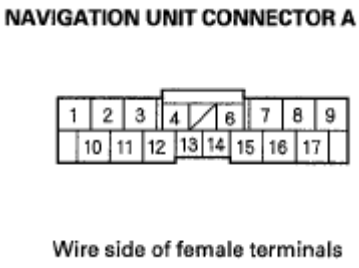



**Fig. 72: Checking Continuity Between Navigation Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

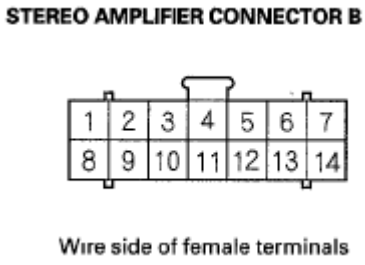



**Fig. 73: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good navigation unit and recheck. If the symptom/indication goes away, replace the original navigation unit. If the symptom is still present, substitute a known-good stereo amplifier and recheck. If the symptom/indication goes away, replace the original stereo amplifier (see **STEREO AMPLIFIER REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between the navigation unit and stereo amplifier.

**NO SOUND IS HEARD FROM SPEAKER(S) (DISPLAY IS NORMAL) (WITHOUT NAVIGATION)**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Set the fader and balance positions to the center.**
- **Before performing symptom troubleshooting, do the power switch will not turn ON troubleshooting (see AUDIO UNIT POWER SWITCH WILL NOT TURN ON (NO INFORMATION DISPLAY AND NO SOUND) (WITHOUT NAVIGATION)).**

1. Turn the ignition switch to ON (II).
2. Check that the volume button is not set to min level.

   *Is it at MIN level?*

   **YES** -Raise the volume level, and recheck the function.

   **NO** -Go to step 3.

3. Do the speaker check mode in the self-diagnostic function (see **SELF-DIAGNOSTIC FUNCTION**).

   *Do any or all of the speakers fail to sound?*

   **YES** -Speaker(s) failed the test:

   - If at least one speaker is OK, go to step 4.
   - If all speakers fail to sound;
     - With premium sound system: Go to step 12.
     - Without premium sound system: Go to step 7.

   **NO** -Speakers all work, but sound quality is poor:

   - If the sound is poor only with AM or FM, go to **POOR AM OR FM RADIO RECEPTION OR INTERFERENCE** (see **POOR AM OR FM RADIO RECEPTION OR INTERFERENCE (WITHOUT**

**NAVIGATION)**).

- If the sound is poor only with disc.
  - Try several known- good disc in the audio unit.
  - If the sound quality is normal, the original disc is faulty.
  - If the sound quality is still poor, replace the audio unit.
- If the sound is poor in all modes, go to **SOUND QUALITY DIAGNOSIS** .

4. Turn the ignition switch to LOCK (0).
5. Remove the speaker(s) with no sound (see **SPEAKER REPLACEMENT**), and disconnect its connector.
6. Check the speaker 2P connector for a loose or poor connection.

   *Reconnect the speaker 2P connector and recheck the symptom; does it still fail?*

   **YES** -Go to step 7.

   **NO** -Operation is normal.

7. Make sure turn the ignition switch is in LOCK (0).
8. Measure the resistance between the (+) and (-) terminal of the speaker connector.

   *Is there about 4 ohms?*

   **YES** -

   - With premium sound system: Go to step 18.
   - Without premium sound system: Go to step 9.

   **NO** -Faulty speaker(s).

9. Remove the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**). Disconnect audio unit connector A (17P).

**NOTE: Eject all the discs before removing the audio unit to prevent damaging the CD player's load mechanism.**

10. Measure the resistance between the following terminals of audio unit connector A (17P).

**SPEAKER TERMINALS REFERENCE**

| Speaker | Terminal | Wire color |
|---|---|---|
| Driver's door speaker, Left tweeter | A12 (+) | LT GRN |
| | A3 (-) | PNK |
| Front passenger's door speaker, Right tweeter | A15 (+) | GRY |
| | A7 (-) | BRN |
| Left rear speaker | A11 (+) | YEL |
| | A2 (-) | BRN |
| Right rear speaker | A16 (+) | BLU |
| | A8 (-) | ORN |

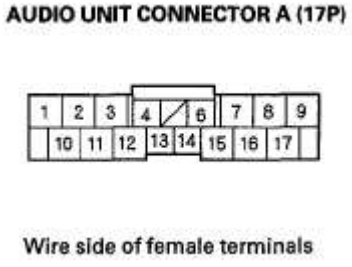



**Fig. 74: Measuring Resistance Between Audio Unit A (17P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 4 ohms?*

**YES** -Go to step 11.

**NO** -Repair open or short in the wires between audio unit and speaker(s).

11. Check for continuity between body ground and following terminals of audio unit connector A (17P).

## SPEAKER TERMINALS REFERENCE

| Speaker | Terminal | Wire color |
|---|---|---|
| Driver's door speaker, Left tweeter | A12 (+) | LT GRN |
| | A3 (-) | PNK |
| Front passenger's door speaker. Right tweeter | A15 (+) | GRY |
| | A7 (-) | BRN |
| Left rear speaker | A11 (+) | YEL |
| | A2 (-) | BRN |
| Right rear speaker | A16 (+) | BLU |
| | A8 (-) | ORN |

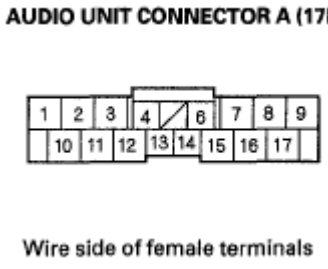



**Fig. 75: Checking Continuity Between Audio Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire(s) between the audio unit and speaker(s).

**NO** -Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit.

12. Measure the voltage between stereo amplifier connector A (20P) No. 10 terminal and body ground.

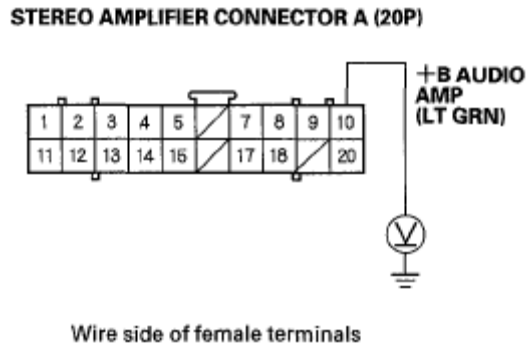



**Fig. 76: Measuring Voltage Between Stereo Amplifier A (20P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 13.

**NO** -

- '06 model: Repair open in the wire between No. 5 (15 A) fuse in the under-dash fuse/relay box and stereo amplifier connector A (20P) No. 10 terminal.
- '07-08 models: Repair open in the wire between No. 17 (15 A) fuse in the under-hood fuse/relay box and stereo amplifier connector A (20P) No. 10 terminal.

13. Turn the ignition switch to ON (II).
14. Measure the voltage between stereo amplifier connector A (20P) No. 9 terminal and body ground.

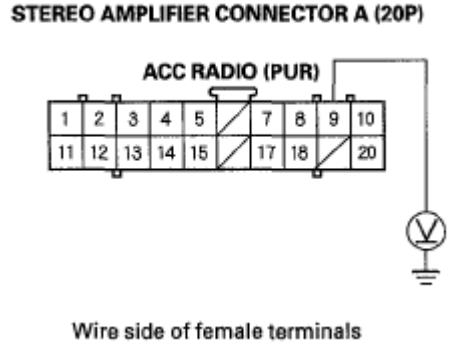


**Fig. 77: Measuring Voltage Between Stereo Amplifier A (20P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 15.

**NO** -Repair open in the wire between No. 35 (7.5 A) fuse in the under-dash fuse/relay box and stereo amplifier connector A (20P) No. 9 terminal.

15. Measure the voltage between stereo amplifier connector B (14P) No. 7 terminal and body ground.

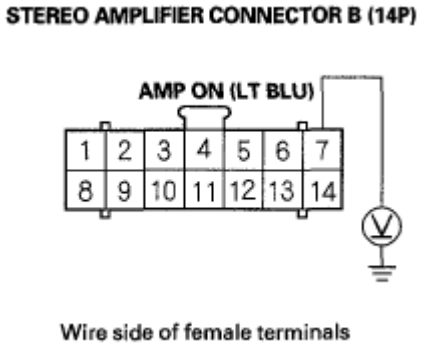



**Fig. 78: Measuring Voltage Between Stereo Amplifier B (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 16.

**NO** -Repair open in the wire between the stereo amplifier connector B (14P) No. 7 terminal and audio unit connector B (20P) No. 16 terminal.

16. Measure the voltage between stereo amplifier connector A (20P) No. 20 terminal and body ground, and between stereo amplifier connector B (14P) No. 14 terminal and body ground.

**'06-08 models**

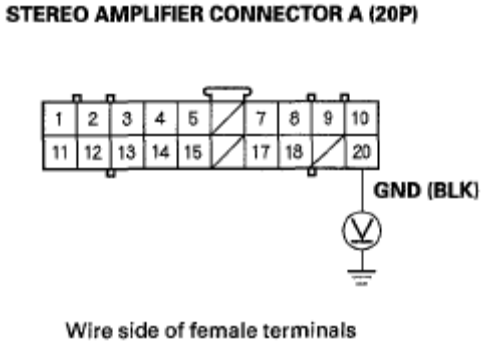



**Fig. 79: Measuring Voltage Between Stereo Amplifier A (20P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**'06 model**

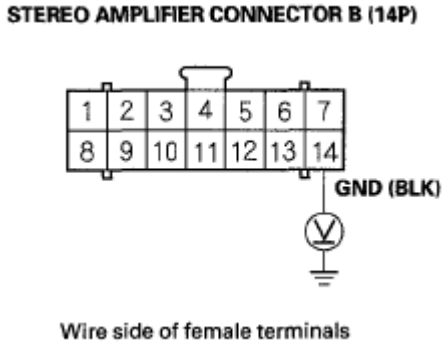



**Fig. 80: Measuring Voltage Between Stereo Amplifier B (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V on both terminals?*

**YES** -Go to step 17.

**NO** -Repair open in the wire between stereo amplifier connector A (20P) No. 20 terminal or connector B (14P) No. 14 terminal and body ground, 2-door model (G505), 4-door model (G601).

17. Turn the ignition switch to LOCK (0).
18. Disconnect stereo amplifier connector A (20P).

19. Measure the resistance between the following terminals of stereo amplifier connector A (20P) according to the table.

**SPEAKER TERMINALS REFERENCE**

| Speaker | Terminal | Wire color |
|---|---|---|
| Driver's door speaker | A3 (+) | LT GRN |
| | A13 (-) | PNK |
| Left tweeter | A4 (+) | RED |
| | A14 (-) | GRIM |
| Front passenger's door speaker | A2 (+) | GRY |
| | A12 (-) | BRN |
| Right tweeter | A1 (+) | PNK |
| | A11 (-) | BLU |
| Left rear speaker | A8 (+) | YEL |
| | A18 (-) | BRN |
| Right rear speaker | A7 (+) | BLU |
| | A17 (-) | ORN |
| Subwoofer | A5 (+) | GRN |
| | A15 (-) | RED |

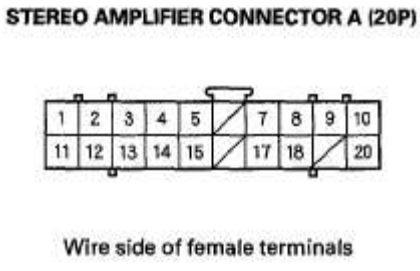



**Fig. 81: Measuring Voltage Between Stereo Amplifier A (20P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 4 ohms?*

**YES** -Go to step 20.

**NO** -Repair open or short in the wires between stereo amplifier and speaker(s).

20. Check for continuity between body ground and the following terminals of stereo amplifier connector A (20P).

**SPEAKER TERMINALS REFERENCE**

| Speaker | Terminal | Wire color |
|---|---|---|
| Driver's door speaker | A3 (+) | LT GRN |
| | A13 (-) | PNK |
| Left tweeter | A4 (+) | RED |
| | AH (-) | GRN |
| Front passenger's door speaker | A2 (+) | GRY |
| | A12 (-) | BRN |
| Right tweeter | A1 (+) | PNK |
| | A11 (-) | BLU |
| Left rear speaker | A8 (+) | YEL |
| | A18 (-) | BRN |
| Right rear speaker | A7 (+) | BLU |
| | A17 (-) | ORN |
| Subwoofer | A5 (+) | GRN |
| | A15 (-) | RED |

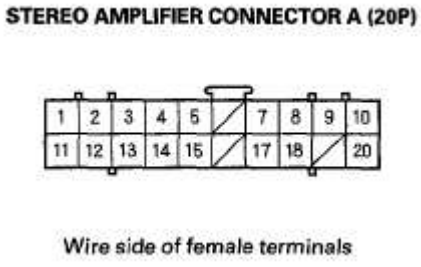



**Fig. 82: Measuring Voltage Between Stereo Amplifier A (20P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire(s) between stereo amplifier and speaker(s).

**NO** -

- 2-door: Go to step 21.
- '08 4-door: Go to step 25.

21. Disconnect stereo amplifier connector B (14P).
22. Disconnect audio unit connector A (17P).
23. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 2 terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B1 | BLU |
| B3 | BLK |
| B4 | GRN |
| B6 | BRN |
| B8 | ORN |
| B10 | WHT |
| B11 | RED |
| B13 | YEL |

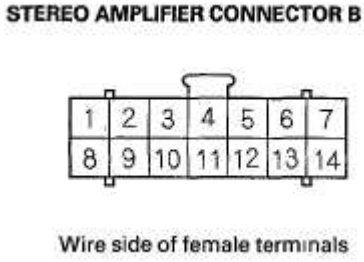



**Fig. 83: Measuring Voltage Between Stereo Amplifier B (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the audio unit. Replace the appropriate shielded harness.

**NO** -Go to step 24.

24. Check for continuity between audio unit connector A and stereo amplifier connector B according to the table.

**AUDIO UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Audio unit connector | Amplifier connector | Wire color |
|---|---|---|
| A2 | B10 | WHT |
| A3 | B8 | ORN |
| A7 | B11 | RED |
| A8 | B13 | YEL |
| A11 | B3 | BLK |
| A12 | B1 | BLU |
| A15 | B4 | GRN |
| A16 | B6 | BRN |

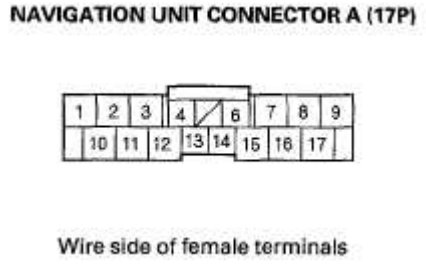



**Fig. 84: Checking Continuity Between Navigation Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

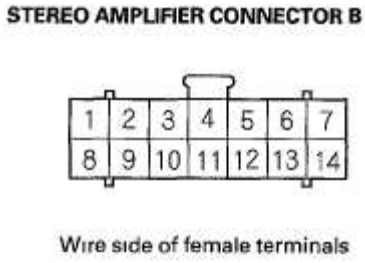



**Fig. 85: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit. If symptom is still present, substitute a known-good stereo amplifier and recheck. If the symptom/indication goes away, replace the original stereo amplifier (see **STEREO AMPLIFIER REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between the audio unit and stereo amplifier.

25. Disconnect audio unit connector A (17P).
26. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 2 terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B1 | BLU |
| B8 | RED |

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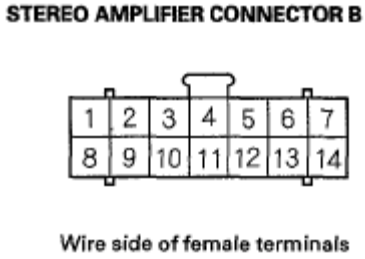



**Fig. 86: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the audio unit. Replace the appropriate shielded harness.

**NO** -Go to step 27.

27. Check for continuity between audio unit connector A and stereo amplifier connector B according to the table.

**AUDIO UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Audio unit connector | Amplifier connector | Wire color |
|---|---|---|
| A3 | B8 | RED |
| A12 | B1 | BLU |

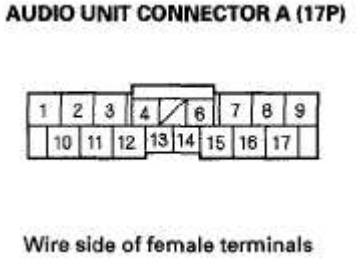



**Fig. 87: Checking Continuity Between Audio Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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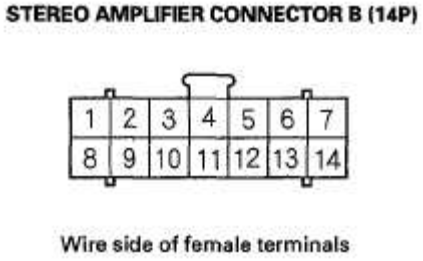



**Fig. 88: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 28.

**NO** -Repair open in the wire between the audio unit and stereo amplifier.

28. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 5 terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B4 | BLU |
| B11 | PNK |

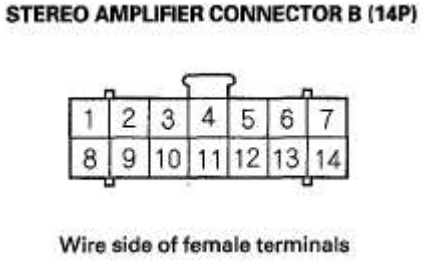



**Fig. 89: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the audio unit. Replace the appropriate shielded harness.

**NO** -Go to step 29.

29. Check for continuity between audio unit connector A and stereo amplifier connector B according to the table.

**AUDIO UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Audio unit connector | Amplifier connector | Wire color |
|---|---|---|
| A7 | B11 | PNK |
| A15 | B4 | BLU |

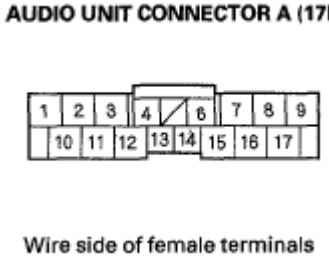



**Fig. 90: Checking Continuity Between Audio Unit A (17P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

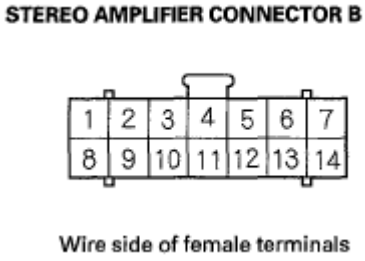



**Fig. 91: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 30.

**NO** -Repair open in the wire between the audio unit and stereo amplifier.

30. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 9 terminal (the harness shield).

**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B3 | BLK |
| B10 | WHT |

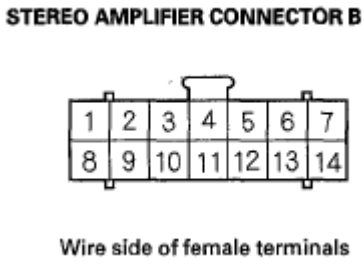



**Fig. 92: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the audio unit. Replace the appropriate shielded harness.

**NO** -Go to step 31.

31. Check for continuity between audio unit connector A and stereo amplifier connector B according to the table.

**AUDIO UNIT CONNECTOR AND AMPLIFIER CONNECTOR**

## REFERENCE

| Audio unit connector | Amplifier connector | Wire color |
|---|---|---|
| A2 | B10 | WHT |
| A11 | B3 | BLK |

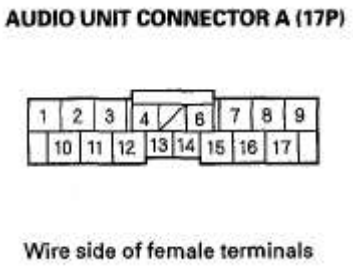



**Fig. 93: Checking Continuity Between Audio Unit A (17P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

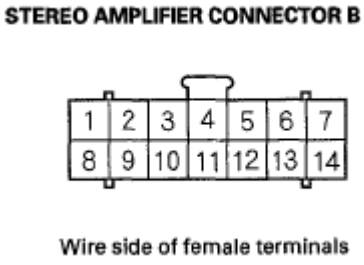



**Fig. 94: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 32.

**NO** -Repair open in the wire between the audio unit and stereo amplifier.

32. Check for continuity between stereo amplifier connector B (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and stereo amplifier connector B (14P) No. 12 terminal (the harness shield).

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**AMPLIFIER CONNECTOR REFERENCE**

| Amplifier connector | Wire color |
|---|---|
| B6 | LT GRN |
| B13 | PUR |

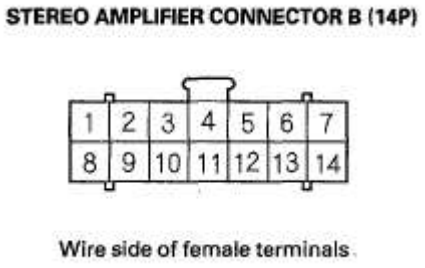



**Fig. 95: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the stereo amplifier and the audio unit. Replace the appropriate shielded harness.

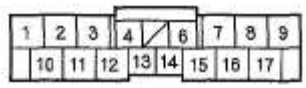
**NO** -Go to step 33.

33. Check for continuity between audio unit connector A and stereo amplifier connector B according to the table.

**AUDIO UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Audio unit connector | Amplifier connector | Wire color |
|---|---|---|
| A8 | B13 | PUR |
| A16 | B6 | LT GRN |

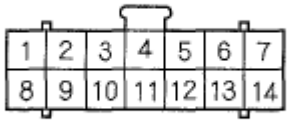
AUDIO UNIT CONNECTOR A (17P)




Wire side of female terminals

**Fig. 96: Checking Continuity Between Audio Unit A (17P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

STEREO AMPLIFIER CONNECTOR B (14P)




Wire side of female terminals

**Fig. 97: Checking Continuity Between Stereo Amplifier B (14P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit. If symptom is still present, substitute a known-good stereo amplifier and recheck. If the symptom/indication goes away, replace the original stereo amplifier (see **STEREO AMPLIFIER REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between the audio unit and stereo amplifier.

**AUXILIARY INPUT SOUND IS LOW OR CANNOT BE HEARD**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Use auxiliary stereo cables with 3.5 mm ends only.**

- **Auxiliary accessories may be played on the audio unit using the auxiliary input.**

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit or navigation unit and connect an auxiliary accessory to the auxiliary input jack.
3. Check the volume operation.

   *Is the sound normal?*

   **YES** -Operation is normal at this time.

   **NO** -Go to step 4.

4. Make sure the auxiliary accessory volume is set to high.

   *Is the volume set to high?*

   **YES** -Go to step 5.

   **NO** -Raise the auxiliary accessory volume is set to high. Make sure the audio unit volume is turned down before retesting.

5. Substitute a known-good auxiliary audio accessory and/or auxiliary stereo cable and recheck.

   *Does the auxiliary audio accessory operate properly?*

   **YES** -Original auxiliary audio accessory or auxiliary stereo cable is faulty.

   **NO** -Go to step 6.

6. Turn the ignition switch to LOCK (0).
7. Remove the auxiliary jack assembly (see **AUXILIARY JACK ASSEMBLY REPLACEMENT**), and check that the auxiliary jack assembly is properly connected.

*Is the auxiliary jack assembly connected properly?*

**YES** -

- With navigation: go to step 8.
- Without navigation: go to step 13.

**NO** -Reconnect the connector, and recheck the function.

8. Disconnect auxiliary jack assembly 5P connector.
9. Disconnect navigation unit connector B (22P).
10. Check for continuity between body ground and navigation unit connector B (22P) according to the table.

**NAVIGATION UNIT CONNECTOR AND AMPLIFIER CONNECTOR REFERENCE**

| Navigation unit connector | Wire color |
|---|---|
| B1 | BRN |
| B3 | BLU |
| B11 | YEL |
| B12 | GRN |
| B13 | WHT |

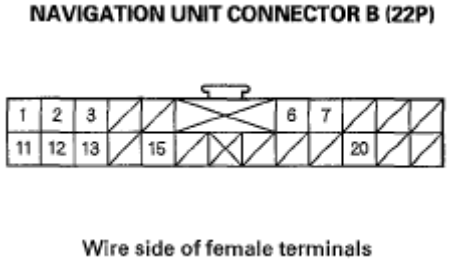



**Fig. 98: Checking Continuity Between Navigation Unit B (22P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Short to body ground in the wire(s) between navigation unit and auxiliary jack assembly. Replace the affected shielded harness.

**NO** -Go to step 11.

11. Check for continuity between navigation unit connector B (22P) according to the table.

**TERMINALS REFERENCE**

| From terminal | To terminals |
|---|---|
| B1 | B2(1), B3, B11, B12, B13 |
| B2(1) | B3, B11, B12, B13 |
| B3 | B11, B12, B13 |
| B11 | B12, B13 |
| B12 | B13 |
| (1) Shielded wire | |

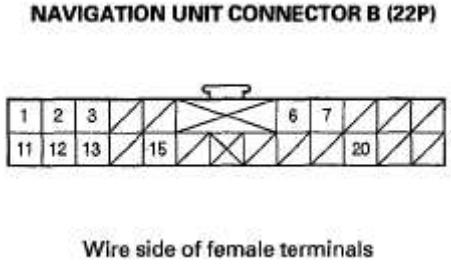



**Fig. 99: Checking Continuity Between Navigation Unit B (22P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Short in the wire(s) between navigation unit and auxiliary jack assembly. Replace the affected shielded harness.

**NO** -Go to step 12.

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12. Check for continuity between navigation unit connector B (22P) and auxiliary jack assembly 5P connector according to the table.

**NAVIGATION UNIT CONNECTOR AND AUXILIARY JACK ASSEMBLY CONNECTOR REFERENCE**

| Navigation unit connector | Auxiliary jack assembly connector | Wire color |
|---|---|---|
| B1 | 3 | BRN |
| B3 | 2 | BLU |
| B11 | 4 | YEL |
| B12 | 5 | GRN |
| B13 | 1 | WHT |

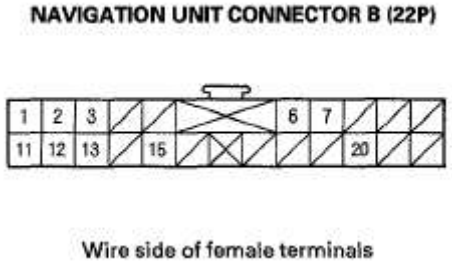



**Fig. 100: Checking Continuity Between Navigation Unit B (22P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

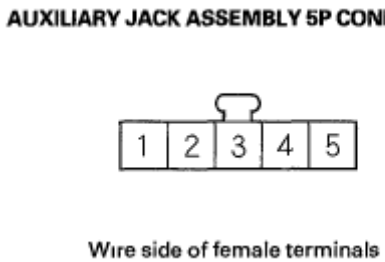



**Fig. 101: Checking Continuity Between Auxiliary Jack Assembly 5P Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good auxiliary jack assembly and recheck. If the

symptom/indication goes away, replace the original auxiliary jack assembly. If the symptom/indication is still present, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

**NO** -Open in the wire(s) between navigation unit and auxiliary jack assembly. Replace affected shielded harness.

13. Disconnect auxiliary jack assembly 5P connector.
14. Disconnect audio unit connector B (22P).
15. Check for continuity between body ground and audio unit connector B (20P) according to the table.

**AUDIO UNIT CONNECTOR REFERENCE**

| Audio unit connector | Wire color |
|---|---|
| B3 | BRN |
| B5 | BLU |
| B13 | YEL |
| B14 | GRN |
| B15 | WHT |

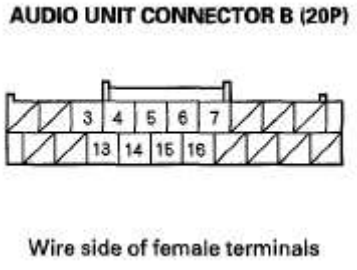



**Fig. 102: Checking Continuity Between Audio Unit B (20P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Short to body ground in the wire(s) between audio unit and auxiliary jack assembly. Replace the affected shielded harness.

**NO** -Go to step 16.

16. Check for continuity between audio unit connector B (20P) according to the table.

**TERMINALS REFERENCE**

| From terminal | To terminals |
|---|---|
| B3 | B4(1), B5, B13, B14, B15 |
| B4(1) | B5, B13, B14, B15 |
| B5 | B13, B14, B15 |
| B13 | B14, B15 |
| B14 | B15 |
| (1) Shielded wire | |

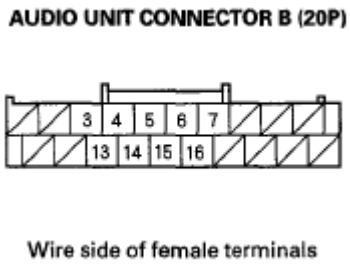



**Fig. 103: Checking Continuity Between Audio Unit B (20P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Short in the wire(s) between navigation unit and auxiliary jack assembly. Replace the affected shielded harness.

**NO** -Go to step 17.

17. Check for continuity between audio unit connector B (20P) and auxiliary jack assembly 5P connector according to the table.

## AUDIO UNIT CONNECTOR AND AUXILIARY JACK ASSEMBLY CONNECTOR REFERENCE

| Audio unit connector | Auxiliary jack assembly connector | Wire color |
|---|---|---|
| B3 | 3 | BRN |
| B5 | 2 | BLU |
| B13 | 4 | YEL |
| B14 | 5 | GRN |
| B15 | 1 | WHT |

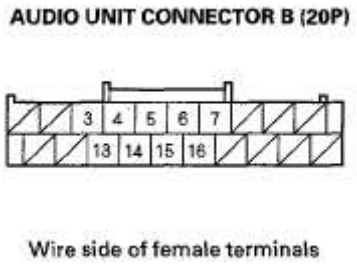



**Fig. 104: Checking Continuity Between Audio Unit B (20P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

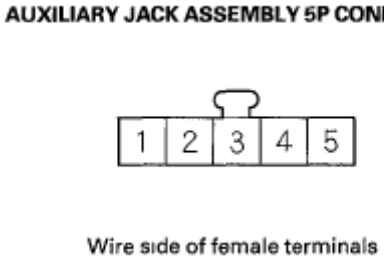



**Fig. 105: Checking Continuity Between Auxiliary Jack Assembly 5P Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good auxiliary jack assembly and recheck. If the symptom/indication goes away, replace the original auxiliary jack assembly. If the symptom/indication is still present, replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

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**NO** -Open in the wire(s) between navigation unit and auxiliary jack assembly. Replace affected shielded harness.

**POOR OR NO SOUND WITH XM RADIO (NAVIGATION UNIT CAN DISPLAY XM CHANNELS) (WITH NAVIGATION)**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Check the radio reception in an open area. Compare it to a known-good vehicle whenever possible. Poor reception/interference can be caused by tall buildings, mountains, or high-voltage power lines that are nearby.**
- **If you can only tune to channels 000, 001, 174, and 247, make sure the audio unit is set to the channel mode (see owner's manual), if it is set to channel mode, call XM satellite radio customer support and check the account activation status.**

1. Turn the ignition switch to ON (II).
2. Turn on the navigation unit and select XM radio.
3. Check for an error message on the display.

   *Are there any messages displayed?*

   **YES** -Go to **ERROR CODE LIST** .

   **NO** -Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Disconnect navigation unit connector E (14P) and XM receiver connector A (14P).
6. Check for continuity between navigation connector E (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and navigation unit connector E (14P) No. 4 terminal (the

harness shield).

**NAVIGATION UNIT CONNECTOR REFERENCE**

| Navigation unit connector | Wire color |
|---|---|
| E6 | RED |
| E14 | GRN |
| E5 | WHT |
| E13 | BLK |

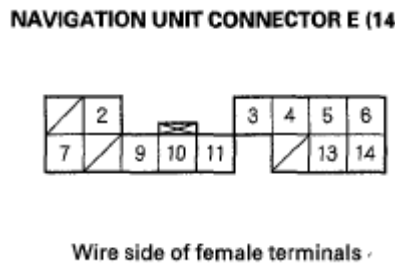



**Fig. 106: Checking Continuity Between Navigation E (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Short in the wire(s) between navigation unit and XM receiver. Replace the affected shielded harness.

**NO** -Go to step 7.

7. Check for continuity between navigation unit connector E (14P) and XM receiver connector A (14P) according to the table.

**NAVIGATION UNIT CONNECTOR AND XM RECEIVER CONNECTOR REFERENCE**

| Navigation unit connector | XM receiver connector | Wire color |
|---|---|---|
| E5 | A5 | WHT |
| E6 | A6 | RED |
| E13 | A13 | BLK |
| | | |

| | | |
|---|---|---|
| E14 | A14 | GRN |

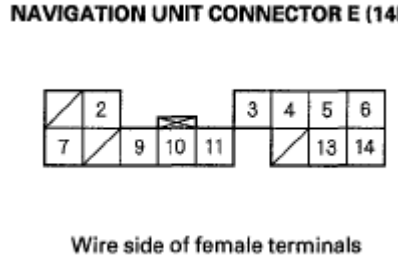



**Fig. 107: Checking Continuity Between Navigation Unit E (14P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

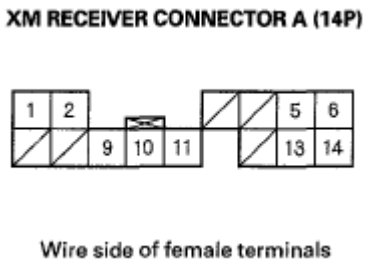



**Fig. 108: Checking Continuity Between XM Receiver A (14P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good XM receiver, then reconnect the all connectors and recheck. If the symptom/indication goes away, replace the original XM receiver. If the symptom/indication is still present, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

**NO** -Repair open in the wire between the navigation unit and the XM receiver.

**XM RADIO DISPLAY IS BLANK AND NO STATION INFORMATION IS DISPLAYED (WITH NAVIGATION)**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose**

**terminals.**

1. Measure the voltage between XM receiver connector A (14P) No. 1 terminal and body ground.

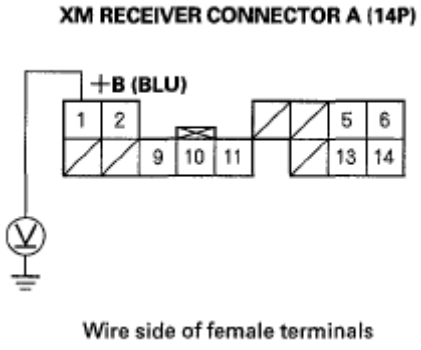



**Fig. 109: Measuring Voltage Between XM Receiver A (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 2.

**NO** -Repair open in the wire between No. 23 (10 A) fuse in the under-hood fuse/relay box and XM receiver connector A (14P) No. 1 terminal.

2. Turn the ignition switch to ON (II).
3. Measure the voltage between XM receiver connector A (14P) No. 11 terminal and body ground.

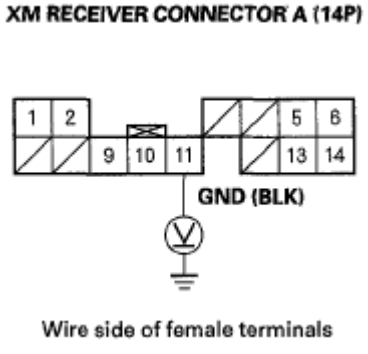



**Fig. 110: Measuring Voltage Between XM Receiver A (14P) Connector**

**Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V?*

**YES** -Go to step 4.

**NO** -Repair open in the wire between the XM receiver connector A (14P) No. 1 terminal and navigation unit connector E (14P) No. 11 terminal.

4. Turn the ignition switch to LOCK (0).
5. Measure the voltage between XM receiver connector A (14P) No. 2 terminal and body ground.

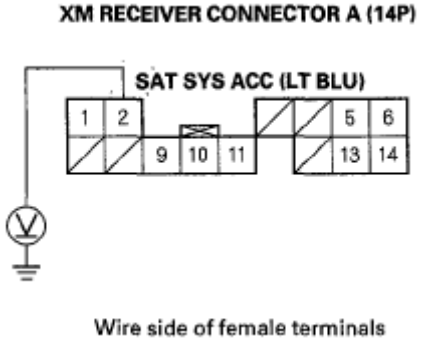



**Fig. 111: Measuring Voltage Between XM Receiver A (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 10 V or more present?*

**YES** -Go to step 7.

**NO** -Go to step 6.

6. Measure the voltage between navigation unit connector E (14P) No. 2 terminal and body ground.

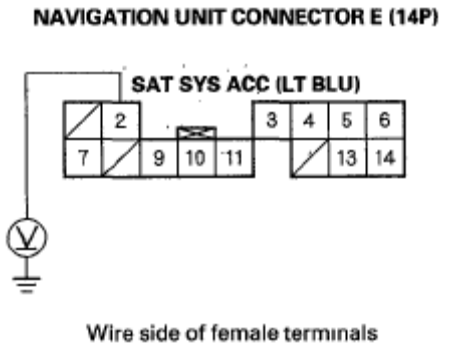



**Fig. 112: Measuring Voltage Between Navigation Unit E (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 10 V or more present?*

**YES** -Repair open or short to body ground in the wire between the navigation unit and XM receiver.

**NO** -Substitute a known-good navigation unit and recheck. If 10 V or more are present, replace the original navigation unit.

7. Turn the ignition switch to ON (II).
8. Measure voltage between the navigation unit connector E (14P) No. 2 terminal and body ground.

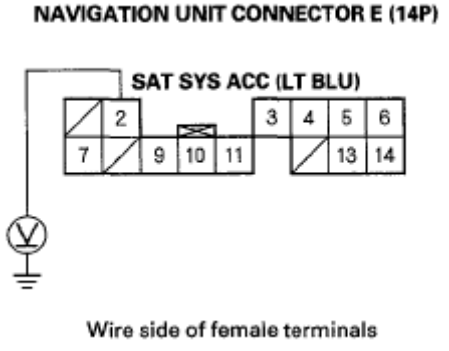



**Fig. 113: Measuring Voltage Between Navigation Unit E (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.5 V?*

**YES** -Go to step 9.

**NO** -# Substitute a known-good navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ) and recheck. If 0.5 V or less are present, replace the original navigation unit.

9. Turn the ignition switch to LOCK (0).
10. Disconnect navigation unit connector E (14P) and XM receiver connector A (14P).
11. Check for continuity between navigation unit connector E (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and navigation unit connector E (14P) No. 3 terminal (the harness shield).

**NAVIGATION UNIT CONNECTOR REFERENCE**

| Navigation unit connector | Wire ester |
|---|---|
| E9 | BLU |
| E10 | PNK |

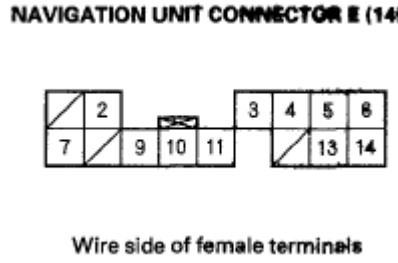



**Fig. 114: Checking Continuity Between Navigation Unit E (14P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Short to body ground in the wire(s) between navigation unit and XM receiver. Replace the affected shielded harness.

**NO** -Go to step 12.

12. Check for continuity between navigation unit connector E (14P) and XM receiver connector A (14P) according to the table.

**NAVIGATION UNIT CONNECTOR AND XM RECEIVER CONNECTOR REFERENCE**

| Navigation unit connector | XM receiver connector | Wire color |
|---|---|---|
| E9 | A9 | BLU |
| E10 | A10 | PNK |

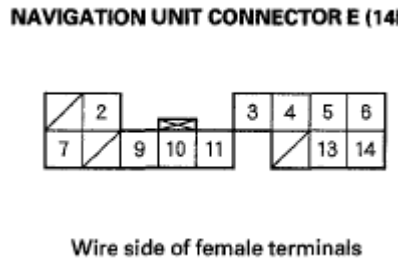



**Fig. 115: Checking Continuity Between Navigation Unit E (14P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

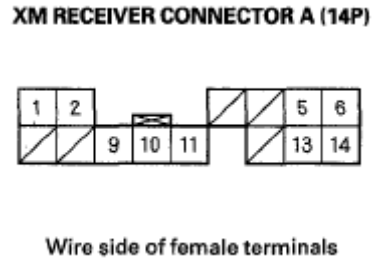



**Fig. 116: Checking Continuity Between XM Receiver Connector A (14P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good XM receiver, then reconnect all connectors and recheck. If the symptom/indication goes away, replace the original XM receiver. If symptom/indication is still present, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

**NO** -Open in the wire(s) between navigation unit and XM receiver. Replace the affected shielded harness.

**AUDIO SYSTEM SOUND IS WEAK OR DISTORTED (DISPLAY IS NORMAL)**

**NOTE:**
- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Check for sound in each mode (AM, FM, XM, and CD).

   *Is there sound from the speakers, and is the sound quality normal in each mode?*

   **YES** -Intermittent failure. The system is OK at this time. Check for loose connections at the navigation unit, audio unit, amplifier, and each speaker.

   **NO** -Speakers all work, sound quality is poor.

   - If the sound quality is poor only with the XM radio, or the XM radio does not function, go to **POOR OR NO SOUND WITH XM RADIO** .
   - If the sound quality is poor only with AM or FM radio, go to **POOR AM OR FM RADIO RECEPTION OR INTERFERENCE** .
   - If sound is poor in all modes, go to **SOUND QUALITY DIAGNOSIS** .

**NAVIGATION UNIT BUTTON ILLUMINATION DOES NOT WORK (WITH NAVIGATION)**

**NOTE:**
- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Turn the ignition switch to ON (II).
2. Turn the combination lighting switch to the parking light position.
3. Check the illumination of the navigation unit buttons.

   *Are the buttons illuminated?*

**YES** -Intermittent problem: the navigation unit is OK at this time. Check for loose or poor connections at the navigation unit connector A (17P).

**NO** -Go to step 4.

4. Check the illumination of several other buttons not related to the navigation system.

   *Are the buttons illuminated?*

   **YES** -Go to step 5.

   **NO** -Troubleshoot the interior lights. Start by checking the No. 14 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is OK, check for an open in the wire between the under-dash fuse/relay box and the navigation unit.

5. Turn the ignition switch to LOCK (0).
6. Disconnect navigation unit connector A (17P).

**NOTE: Eject all the discs before removing the navigation unit to prevent damaging the CD player's load mechanism.**

7. Disconnect gauge control module (tach) 36P connector.
8. Check for continuity between navigation unit connector A (17P) No. 1 terminal and gauge control module (tach) 36P connector No. 14 terminal.

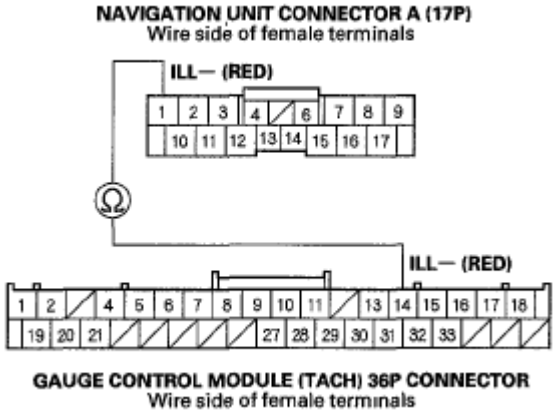



**Fig. 117: Checking Continuity Between Navigation Unit A (17P)**

**Connector Terminal And Gauge Control Module (Tach) 36P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 9.

**NO** -Repair open in the wire between the gauge control module and the navigation unit.

9. Turn the ignition switch to ON (II).
10. With the headlight switch still on, measure the voltage between navigation unit connector A (17P) No. 10 terminal and body ground.

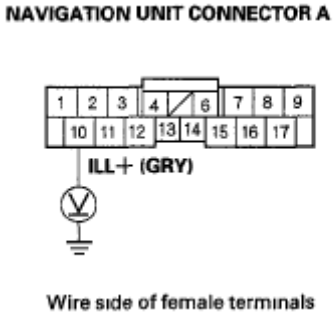



**Fig. 118: Measuring Voltage Between Navigation Unit A (17P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Check the connections at navigation unit connector A (17P). If all connections are OK, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

**NO** -Repair open in the wire between the under-dash fuse/relay box and the navigation unit.

**AUDIO UNIT BUTTON ILLUMINATION DOES NOT WORK (WITHOUT NAVIGATION)**

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**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Turn the ignition switch to ON (II).
2. Turn the combination lighting switch to the parking light position.
3. Check the illumination of the audio unit buttons.

   *Are the buttons illuminated?*

   **YES** -Intermittent problem: the audio unit is OK at this time. Check for loose or poor connections at the audio unit connector A (17P).

   **NO** -Go to step 4.

4. Check the illumination of several other buttons not related to the audio system.

   *Are the buttons illuminated?*

   **YES** -Go to step 5.

   **NO** -Troubleshoot the interior lights. Start by checking the No. 14 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is OK, check for an open in the wire between the under-dash fuse/relay box and the audio unit.

5. Turn the ignition switch to LOCK (0).
6. Disconnect audio unit connector A (17P).

   **NOTE: Eject all the discs before removing the audio unit to prevent the CD player's load mechanism.**

7. Disconnect gauge control module (tach) 36P connector.
8. Check for continuity between audio unit connector A (17P) No. 1 terminal and gauge control module (tach) 36P connector No. 14 terminal.

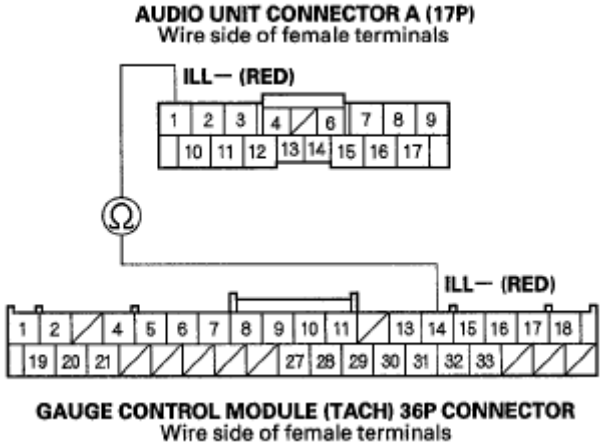



**Fig. 119: Checking Continuity Between Audio Unit A (17P) Connector Terminal And Gauge Control Module (Tach) 36P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 9.

**NO** -Repair open in the wire between the gauge control module and the audio unit.

9. Turn the ignition switch to ON (II).
10. With the headlight switch still on, measure the voltage between audio unit connector A (17P) No. 10 terminal and body ground.

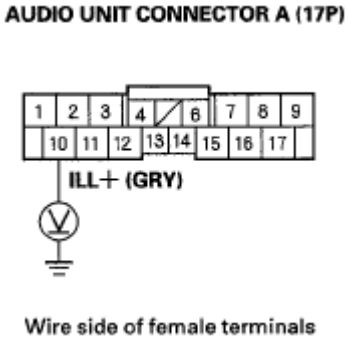



**Fig. 120: Measuring Voltage Between Audio Unit A (17P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Check the connections at audio unit connector A (17P). If all the connections are OK, replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between the under-dash fuse/relay box and the audio unit.

**RADIO PRESET MEMORY IS LOST**

**NOTE: If only the XM stations are lost, go to XM RADIO PRESET MEMORY IS LOST .**

1. Set each of the radio station preset buttons.

   *Do each of the buttons set properly?*

   **YES** -Go to step 2.

   **NO** -

   - With navigation: Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
   - Without navigation: Replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).
2. Turn the ignition switch to LOCK (0) for 1 minute, then turn it back to ON (II).
3. Test the preset buttons for proper recall operation.

   *Do the preset buttons recall the set radio stations?*

   **YES** -System is normal at this time. Check the connections at the navigation unit or audio unit.

   **NO** -

   - With navigation: Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

- Without navigation: Replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**XM RADIO PRESET MEMORY IS LOST (WITH NAVIGATION)**

**NOTE: If you can only tune to channels 000,001,174, and 247, make sure the audio unit is set to the channel mode (see owner's manual), if it is set to channel mode, call XM satellite radio customer support and check the account activation status.**

1. Turn the ignition switch to ON (II).
2. Set each of the XM radio channel preset buttons.

   *Do each of the XM radio channel preset buttons set properly?*

   **YES** -Go to step 3.

   **NO** -Replace the navigation unit.

3. Turn the ignition switch to LOCK (0) for 1 minute, then turn it back to ON (II).
4. Test all of the XM radio channel preset buttons for proper recall operation.

   *Do the preset buttons recall the set radio stations?*

   **YES** -System is normal at this time. Check the connections at the navigation unit.

   **NO** -Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Measure the voltage between XM receiver connector A (14P) No. 1 terminal and body ground.

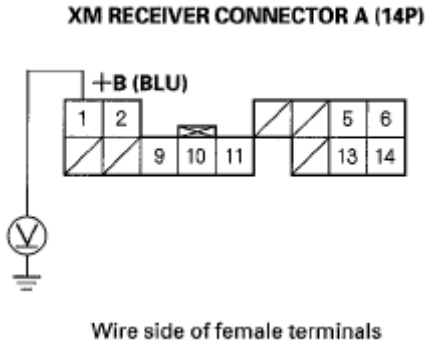



**Fig. 121: Measuring Voltage Between XM Receiver A (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 7.

**NO** -Repair open in the wire between the under-dash fuse/relay box and XM receiver connector A (14P) No. 1 terminal.

7. Turn the ignition switch to ON (II).
8. Measure the voltage between XM receiver connector A (14P) No. 11 terminal and body ground.

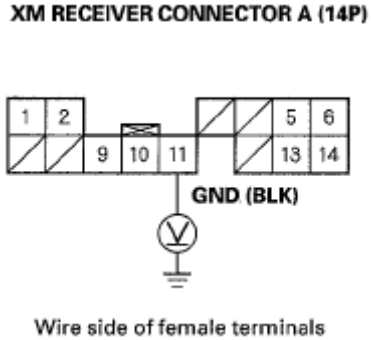



**Fig. 122: Measuring Voltage Between XM Receiver A (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V?*

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**YES** -Replace the XM receiver (see **SPEAKER REPLACEMENT**).

**NO** -Repair open in the wire between XM receiver connector A (14P) No. 11 terminal and body ground (G505) .

**ERROR CODE: XM NO SIGNAL OR XM ANTENNA IS DISPLAYED**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Check XM radio reception in an open area. Poor reception/interference can be caused by tall buildings, mountains, or high-voltage power lines.**

1. Park vehicle outside with a clear view of the southern horizon.

   *Does XM radio receive a signal?*

   **YES** -Reception interference operation is normal.

   **NO** -Go to step 2.

2. Check XM antenna connector B (2P) at XM receiver.

   *Is XM antenna connector B connected?*

   **YES** -Go to step 3.

   **NO** -Reconnect XM connector B, recheck XM radio operation. If the signal restored, operation is normal. If signal not restored go to step 3.

3. Measure the voltage between XM receiver connector A (14P) No. 1 terminal and body ground.

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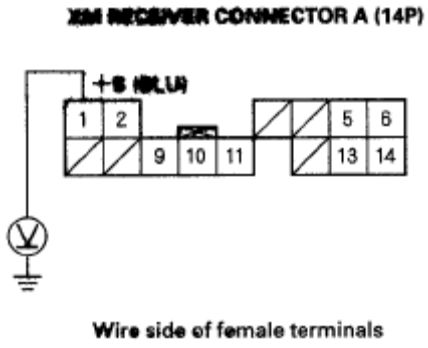



**Fig. 123: Measuring Voltage Between XM Receiver A (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 4.

**NO** -Repair open in the wire between navigation unit and XM receiver connector A (14P) No. 1 terminal.

4. Turn the ignition switch to ON (II).
5. Measure the voltage between XM receiver connector A (14P) No. 11 terminal and body ground.

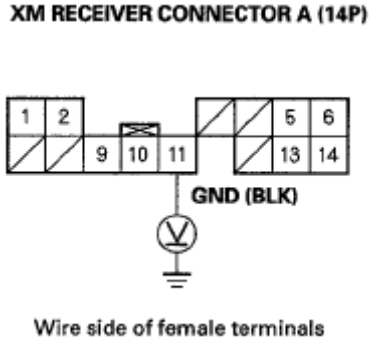



**Fig. 124: Measuring Voltage Between XM Receiver A (14P) Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V?*

**YES** -Go to step 6.

**NO** -Repair open in the wire between XM receiver connector A (14P) No. 11 terminal and body ground (G505) .

6. Substitute known-good XM antenna.

   *Does the XM radio receiver a signal?*

   **YES** -Replace XM antenna (see **XM ANTENNA REPLACEMENT**).

   **NO** -Substitute known-good XM antenna subharness. If XM radio receives signal, replace original XM antenna subharness. If the XM radio does not receive a signal, substitute a known-good XM receiver.

**AUDIO DISC DOES NOT EJECT**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Disc labels should not be used in the navigation unit or audio unit. They may damage the player mechanism.**

1. Turn on the audio system.

   *Does the system turn on?*

   **YES** -Go to step 2.

   **NO** -Go to **POWER SWITCH WILL NOT TURN ON** .

2. Check to see if the disc ejects correctly with no binding by pushing the EJECT button.

   *Does the disc eject normally?*

   **YES** -Operation is normal.

**NO** -

- With navigation: Replace navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
- Without navigation: Replace audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**AUDIO DISC DOES NOT LOAD**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Disc labels should not be used in the navigation unit or audio unit. They may damage the player mechanism.**
- **Make sure the disc is compatible with the system (see the owner's manual for more information).**

1. Insert a known-good disc to see if the symptom can be duplicated.

   *Does the disc load?*

   **YES** -Operation is normal. If the disc loads normally, lower case but will not play, go to **AUDIO DISC DOES NOT PLAY** .

   **NO** -Go to step 2.

2. Insert another disc-Does the disc load?

   **YES** -The original disc is faulty.

   **NO** -

   - With navigation: Replace navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
   - Without navigation: Replace audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

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**RADIO TUNER DOES NOT CHANGE STATIONS**

1. Check the audio information on the display panel.

   *Does the audio information display properly?*

   **YES** -Go to step 2.

   **NO** -Go to **POWER SWITCH WILL NOT TURN ON** .

2. Operate the tuning knob to see if the radio station changes.

   *Does the radio station change?*

   **YES** -Intermittent failure: the tuning knob is OK at this time.

   **NO** -

   - With navigation: Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
   - Without navigation: Replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**VOLUME DOES NOT CHANGE**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Set the fader and balance positions to the center.**

1. Listen for sound from the speakers.

   *Is the sound normal?*

   **YES** -Go to step 2.

   **NO** -Go to **AUDIO SYSTEM SOUND IS WEAK OR DISTORTED**, or **NO SOUND IS HEARD FROM SPEAKER(S)** .

2. Operate the volume knob to see if the volume changes.

   *Does the volume change?*

   **YES** -Operation is normal.

   **NO** -

   - With navigation: Replace navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
   - Without navigation: Replace audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**VOLUME DOES NOT INCREASE WITH SPEED**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Verify the SVC mode setting in the navigation or audio unit sound set-up.

   *Is the SVC set to off?*

   **YES** -Change the setting to Mid and retest (see **SYSTEM DESCRIPTION**).

   **NO** -Go to step 2.

2. Do the self-diagnostic function for the vehicle speed pulse indication (see **SELF-DIAGNOSTIC FUNCTION**).

   *Does the self-diagnostic function indicate a VSP signal?*

   **YES** -Substitute a known-good navigation or audio unit and retest. If the symptom/indication goes away, replace the original navigation or audio unit.

   **NO** -Go to step 3.

3. Test-drive the vehicle at highway speeds, and monitor if the volume increases.

*Do the volume increase?*

**YES** -Intermittent failure, the system is OK at this time.

**NO** -Go to step 4.

4. Remove the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ), or audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**), and disconnect the navigation, or audio unit connector A (17P).

**NOTE: Eject all the discs before removing the audio unit or navigation unit to prevent damaging the CD player's load mechanism.**

5. Drive the vehicle, and have an assistant measure voltage at navigation or audio unit connector A (17P) terminal No. 13.

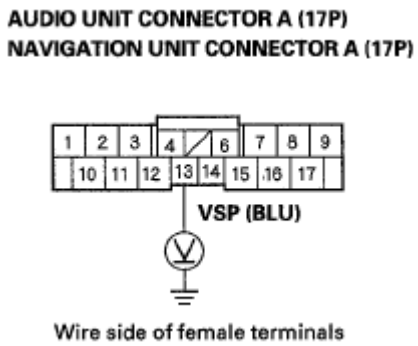



**Fig. 125: Measuring Voltage At Navigation Or Audio Unit A (17P) Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there a 0- 5 V Pulse?*

**YES** -

- With navigation: Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
- Without navigation: Replace the audio unit (see **AUDIO UNIT**

**REMOVAL/INSTALLATION**).

**NO** -Repair open or shorts in the wire between the navigation, or audio unit connector A (17P) No. 13 terminal and the ECM/PCM connector A (44P) No. 29 terminal. If no opens or shorts are found, substitute a known-good ECM/PCM and recheck. If the symptom/indication goes away, replace the original ECM/PCM . See **ECM/PCM REPLACEMENT** .

**VOLUME IS TOO HIGH OR TOO LOW WHEN DRIVING AT FREEWAY SPEEDS**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Test-drive the vehicle at highway speeds and monitor volume level.

   *Is the volume level too high, or too low?*

   **YES** -Go to step 2.

   **NO** -Intermittent failure, the system is OK at this time.

2. Change the SVC mode setting in sound set-up to Mid (see **SYSTEM DESCRIPTION**).

   *Is the volume level still too high, or too low?*

   **YES** -

   - With navigation: Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
   - Without navigation: Replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

   **NO** -Improper SVC setting for customers sound taste.

**DISPLAY DOES NOT DIM OR BRIGHTEN WITH DIMMER (WITHOUT NAVIGATION)**

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**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **If the vehicle is equipped with navigation, refer to DISPLAY DAY/NIGHT MODE DOES NOT WORK .**

1. Turn the ignition switch to ON (II).
2. Turn the combination light switch ON and LOCK (0) to see if the symptom can be duplicated.

   *Is it duplicated?*

   **YES** -Go to step 3.

   **NO** -Operation is normal.

3. Turn the combination light switch OFF.
4. Operated the illumination control dial.

   *Is it normal?*

   **YES** -Operation is normal.

   **NO** -Go to step 5.

5. Disconnect and check audio unit connector A (17P) for loose or a poor connection.

   **NOTE: Eject all the discs before removing the audio unit to prevent the CD player's load mechanism.**

   *Reconnect audio unit connector A (20P) and recheck the symptom; does it still appear?*

   **YES** -Go to step 6.

   **NO** -Operation is normal.

6. Turn the ignition switch to LOCK (0).
7. Remove the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).
8. Turn the ignition switch to ON (II).
9. Measure the voltage between audio unit connector A (17P) No. 1 and No. 10 terminals. Operate the dash brightness controller buttons to see if the voltage changes.

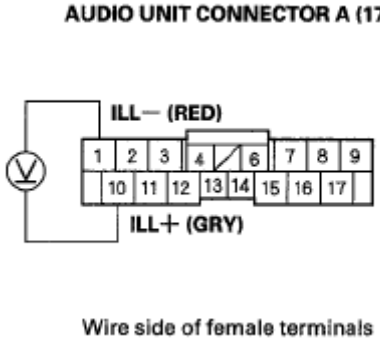



**Fig. 126: Measuring Voltage Between Audio Unit A (17P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Does the voltage change?*

**YES** -Substitute a known-good audio unit, and recheck. If the symptom/indication goes away, replace the original audio unit. If symptom is still present, substitute a known-good center panel display and recheck. If the symptom/indication goes away, replace the original center panel display (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between the under-dash fuse/relay box and the gauge control module.

**Special Tools Required**

Diagnostics CD 07AAZ-SDBA100

**AUDIO DISC DOES NOT PLAY**

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**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Try loading a known-good disc.

   *Does the disc load?*

   **YES** -Go to step 2.

   **NO** -Go to **AUDIO DISC DOES NOT LOAD** .

2. Insert another known-good disc to see if the symptom can be duplicated.

   *Does the disc play?*

   **YES** -Operation is normal.

   **NO** -Go to step 3.

3. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) in the navigation unit or audio unit.

   *Does the disc play?*

   **YES** -The original disc is faulty, or has an unreadable format.

   **NO** -

   - With navigation: Replace navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
   - Without navigation: Replace audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

   **Special Tools Required**

   Diagnostics CD 07AAZ-SDBA100

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**AUDIO DISC SKIPS**

1. Confirm the vehicles tires are properly inflated.
2. Check the customers CD for scratches, fingerprints, and marks.

**NOTE: The following test should be performed with audio unit bass and treble set to customers listening performance. When comparing to known-good vehicles, comparison should be performed on same model and trim level.**

3. Test drive to identify when the CD skips. The audio diagnostic CD (T/N: 07AAZ-SDBA100) can be used if customers CD is not available. Use tracks 10 to 12.

   *Does the CD skip?*

   **YES** -Go to step 4.

   **NO** -Operation is normal.

4. Compare the customers CD that is skips in a known-good vehicle under the same conditions.

   *Does the CD skip in the known-good vehicle under the same conditions?*

   **YES** -Operation is normal.

   **NO** -Go to step 5.

**NOTE: The following test should be performed with vehicle parked and engine running.**

5. Insert the diagnostic skip test CD (T/N: 07AAZ-SDBA300) (ABEX TCD 721). Play tracks 2 to 11 and note the track number(s) where the CD starts skipping. Do the same test on a known-good vehicle.

   *Does the CD skip on the same track number(s) as the known-good vehicle?*

**YES** -Operation is normal.

**NO** -Go to step 6.

6. Insert the diagnostic skip test CD (T/N: 07AAZ-SDBA200) (ABEX TCD 725B) play tracks 7 to 11 and tracks 13 to 15 and note the track number(s) where the CD starts skipping. Perform the same test on a known-good vehicle.

   *Does the CD skip on same track number (s) as the known-good vehicle?*

   **YES** -Operation is normal.

   **NO** -

   - With navigation: Replace navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
   - Without navigation: Replace audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**AUDIO REMOTE SWITCH DOES NOT WORK PROPERLY**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**

1. Check the audio unit operation.

   *Is the audio unit operation OK?*

   **YES** -Go to step 2.

   **NO** -

   - With navigation: Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
   - Without navigation: Replace the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

2. Test the audio remote switch (see **AUXILIARY JACK ASSEMBLY REPLACEMENT**).

   *Is the audio remote switch OK?*

   **YES -**

   - With navigation: Go to step 3.
   - Without navigation: Go to step 6.

   **NO** -Replace the audio remote switch.

3. Remove the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).
4. Measure the resistance between navigation unit connector B (22P) No. 6 and No. 7 terminals as specified in the table.

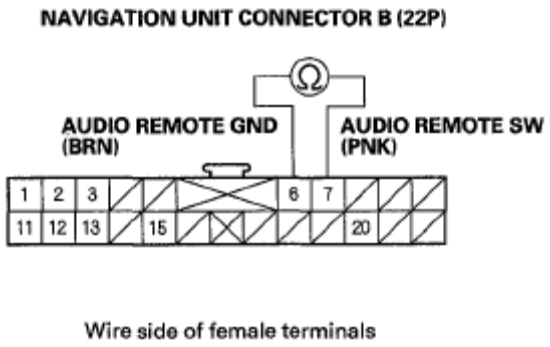



**Fig. 127: Measuring Resistance Between Navigation Unit B (22P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**AUDIO REMOTE SWITCH TABLE**

**AUDIO REMOTE SWITCH REFERENCE**

| Button held down | VOL DOWN | VOL UP | CH (-) | CH (+) | MODE | No button pressed |
|---|---|---|---|---|---|---|
| Resistance | about 100 ohms | about 370 | about 840 | about 2.0 K ohms | about 6.0 K ohms | about 10 k ohms |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | ohms | ohms | | | |

*Is the resistance OK?*

**YES** -Go to step 5.

**NO** -Repair open or high resistance in the circuit between the navigation unit and the audio remote switch. If the wires are OK, replace the cable reel (see **CABLE REEL REPLACEMENT** ).

5. Check for continuity between the No. 6 and No. 7 terminals of navigation unit connector B (22P) and body ground.

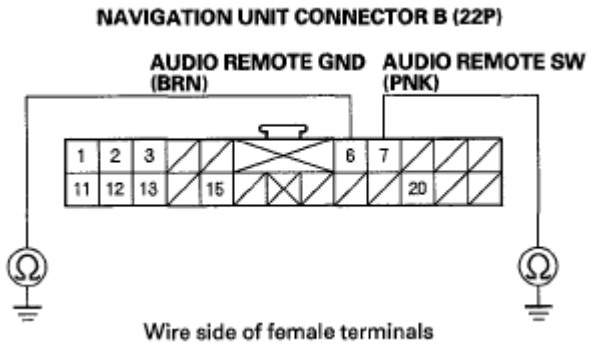



**Fig. 128: Checking Continuity Between Navigation Unit B (22P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the circuit between the navigation unit and the audio remote switch. If the wires are OK, replace the cable reel (see **CABLE REEL REPLACEMENT** ).

**NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

6. Remove the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).
7. Measure the resistance between audio unit connector B (20P) No. 6 and No. 7 terminals as specified in/the table.

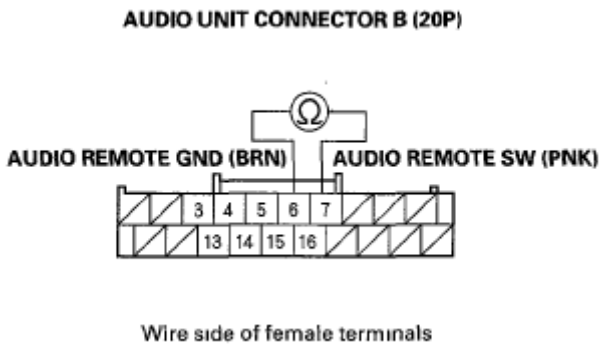



**Fig. 129: Measuring Resistance Between Audio Unit B (20P) Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**AUDIO REMOTE SWITCH TABLE**

**AUDIO REMOTE SWITCH REFERENCE**

| Button held down | VOL DOWN | VOL UP | CH (-) | CH (+) | MODE | No button pressed |
|---|---|---|---|---|---|---|
| Resistance | about 100 ohms | about 370 ohms | about 840 ohms | about 2.0 K ohms | about 6.0 K ohms | about 10 k ohms |

*Is the resistance OK?*

**YES** -Go to step 8.

**NO** -Repair open or high resistance in the circuit between the audio unit and the audio remote switch. If the wires are OK, replace the cable reel (see **CABLE REEL REPLACEMENT** ).

8. Check for continuity between the No. 6 and No. 7 terminals of the audio unit connector B (20P) and body ground.

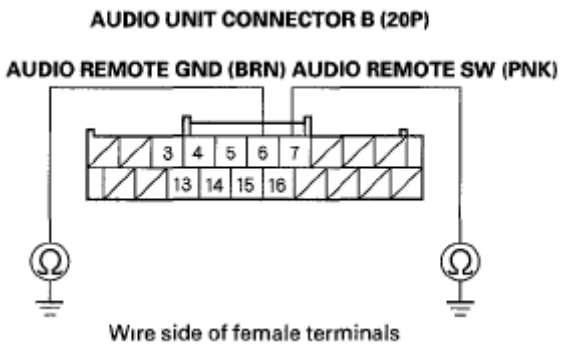



**Fig. 130: Checking Continuity Between Audio Unit B (20P) Connector Terminals And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the circuit between audio unit and the audio remote switch. If the wires are OK, replace the cable reel (see **CABLE REEL REPLACEMENT** ).

**NO** -Remove the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

**AUDIO DISC CANNOT BE INSERTED AND/OR EJECTED (WITH NAVIGATION)**

**NOTE:**

- **Check the vehicle battery condition first.**
- **Check the connectors for poor connections or loose terminals.**
- **Disc labels should not be used in the navigation unit or audio unit. They may damage the player mechanism.**
- **Make sure the disc is compatible with the system (see the owner's manual for more information).**

1. Press the OPEN/CLOSE button to open the navigation display.
2. Try inserting an audio CD.

*Does the player accept the CD?*

**YES** -The system is OK at this time.

**NO** -Go to step 3.

3. Press the CD eject button.

   *Does the player eject the CD?*

   **YES** -The system is OK at this time.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

**PC CARD WILL NOT PLAY/CARD ICON ON AUDIO SCREEN CANNOT BE SELECTED (WITH NAVIGATION)**

Unfortunately, there are no error messages and no diagnostics for the PC card. There are many reasons why a card won't play audio files in the audio unit.

- The card may not be fully inserted into the slot. Eject the card, and inspect for warping or damage to the edge connector. Never use excessive force to insert a card. This can result in damage to the pins in the rear of the slot.
- The customer's card may contain audio files that are not recognized by the system. Only MP3 and WMA music files are played.
- The flash card type may not be accepted by the system. Only Compact Flash and ATA cards have been tested.
- The card's PCMCIA adapter may be preventing a known-good card from playing. New PCMCIA adapters are constantly being released and have not been tested.
- The card's capacity may exceed 1 GB. Only cards with capacities of up to 1 GB (1000 MB) have been tested.
- There may not be any files on the card. Some cards have write protection. Make sure it is turned off before putting files on the card.
- Although flash memory chips are reliable, occasionally they develop bad sectors or other formatting errors that prevent them from playing. The customer should reformat the card using the FAT or FAT32 format.

- The card may have been damaged by heat. Suggest that the customer remove the card when exiting the vehicle.
- The customer may have formatted the card using the format NTFS. Only the formats FAT and FAT32 are accepted by the system.
- Hard Disc Drive (HDD) cards may not work properly in the system and can overheat and quit functioning, particularly in a hot vehicle. They are not recommended.
- The filing structure of the card may exceed the specification of 8 folder levels deep, 99 folders maximum, and 999 total tracks maximum. If any of these limitations are exceeded, the system may not properly display or play the tracks.

**NOTE: A delay when first inserting a card is normal. The system is reading the File Tag information for album names, artists, and song titles, and there is no hourglass. The delay length depends on the number of tracks and the complexity of the folder structure. See the audio article for an explanation of the terms used above.**

## SOUND QUALITY DIAGNOSIS

### Special Tools Required

Diagnostics CD 07AAZ-SDBA100

Use the following tests to check sound quality.

**NOTE: Before beginning the following tests, write down the customer's bass, treble, fader and balance settings, and then set them to their center positions for testing.**

#### LEFT/RIGHT CHANNEL ID

Do this test to confirm proper channel routing.

1. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation

unit or audio unit.

2. Play track No. 1 (left, both, right channel ID) at a normal, or slightly higher than normal, volume level.
3. The voice should be audible only from the channel or channels when indicated.
   - If the channel ID is correct for each side, go to the **PHASE TEST**.
   - If the channel ID is not correct, check for;
     - Shorted speaker wire
     - Faulty amplifier (with premium sound system)
     - Faulty navigation unit
     - Faulty audio unit

### Special Tools Required

Diagnostics CD 07AAZ-SDBA100

**PHASE TEST**

Do this test to confirm proper speaker phasing.

1. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation unit or audio unit.
2. Play track No. 2 (phase) at a normal, or slightly higher than normal, volume level.
3. The voice should sound centered and focused when it is in-phase.
4. The voice should sound diffused, and have less bass when it is out of phase.
   - If the voice changes from in-phase to out of phase as indicated by the prompt, the phasing is correct. Go to **ELECTRICAL NOISE TEST**.
   - If the voice always sounds out of phase, phasing is not correct. Check for;
     - Crossed speaker wires
     - Faulty amplifier (with premium sound system)
     - Faulty navigation unit - Faulty audio unit

### Special Tools Required

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Diagnostics CD 07AAZ-SDBA100

**ELECTRICAL NOISE TEST**

Do this test to check for electrical noise being induced into the audio system.

**NOTE: Electrical noise may be caused by outside sources that cannot be handled by the audio system. Make sure you remove any cell phones and/or turn off any aftermarket device before beginning this test.**

1. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation unit or audio unit.
2. Play track No. 4 (digital zero) at a normal, or slightly higher than normal, volume level.
3. Operate any electrical device that may create electrical noise in the audio system, including starting the engine.
4. Play track No. 5 (near digital zero) at a normal, or slightly higher than normal, volume level.
5. Operate any electrical device that may create electrical noise in the audio system, including starting the engine.
6. Play track No. 6 (SNR) at a normal, or slightly higher than normal, volume level.
7. Operate any electrical device that may create electrical noise in the audio system, including starting the engine.
   - If no abnormal noise is heard, go to **INDIVIDUAL SPEAKER TEST**.
   - If the noise is present only during the SNR track, replace the navigation unit or audio unit.
   - If the noise is heard during the digital zero or near digital zero track, check for;
     - Poor ground for the audio unit, amplifier, engine or battery cable
     - Pinched or shorted speaker or amplifier wire
     - Faulty amplifier (with premium sound system)
     - Faulty navigation unit

- Faulty audio unit
- Other faulty components causing excessive electrical noise (ignition coils, alternator, door lock actuators, etc.). Disconnect any suspect components, and then replay the tracks that were originally noisy. If the noise is gone, check the component's circuit and the component.

### Special Tools Required

Diagnostics CD 07AAZ-SDBA100

#### INDIVIDUAL SPEAKER TEST

Do this test to identify a faulty speaker.

1. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation unit or audio unit.
2. Play track No. 30 (steady 300 Hz tone) at a normal, or slightly higher than normal, volume level.
3. Listen to each speaker for poor sound compared to the other speakers. Use the audio unit's fader and balance settings to help isolate the channel with the problem.
   - If the sound quality produced by a specific speaker is poor, substitute it with a known-good speaker. If the poor sound quality continues, go to the **SOUND BALANCE TEST**.
   - If the sound quality is OK, go to the **SOUND BALANCE TEST**.

### Special Tools Required

Diagnostics CD 07AAZ-SDBA100

#### SOUND BALANCE TEST

Perform this test to identify a faulty channel or speaker.

1. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation unit or audio unit.
2. Confirm the bass and treble are set to the center positions.

3. Play track No. 3 (pink noise) at a normal, or slightly higher then normal, volume level.
4. A static type sound should be heard through all speakers.
5. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation unit or audio unit of a known-good vehicle.
6. Set the bass and treble to the center position.
7. Play track No. 3 (pink noise) all the same level as was played in step 3.
8. Compare the sounds made by the two vehicles.
    - If the noise sounds made by the two vehicles are very similar, go to the **FREQUENCY SWEEP TEST** .
    - If the sound does not have as much bass, check the subwoofer and circuit.
    - If the sound does not have enough hiss, check the tweeters and their circuits.

**Special Tools Required**

Diagnostics CD 07AAZ-SDBA100

**FREQUENCY SWEEP**

Do this test to find rattles or reverberation that may cause a perception of poor sound quality.

1. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation unit or audio unit.
2. Play track No. 13 (sweep from 500 Hz to 35 Hz) at a normal, or slightly higher than normal, volume level.
3. Listen to each speaker for poor sound quality or reverberations caused by specific frequencies. Use the voice-over to estimate the frequency that causes the vibration. Use the audio unit's fader and balance settings to help isolate the channel with the problem.
    - If vibrations or poor sound quality are heard, go to step 4.
    - If no vibrations or poor sound quality are heard, go to sound judging.
4. Choose the appropriate track from No. 14 to 25 (small range frequency sweep)

or 26 to 53 (single frequencies) to recreate the frequency that caused the poor sound quality or vibration located in step 3: this aids in diagnosis of the cause.

**NOTE: When you get to the track that recreates the problem, select the repeat function on the navigation unit or audio unit, this will help you isolate the cause.**

5. Replace or insulate the source of the vibrations or, if the speaker is the source of the poor sound quality, replace it.

**Special Tools Required**

Diagnostics CD 07AAZ-SDBA100

**SOUND JUDGING**

- Do this test to compare overall sound quality, imaging, and dynamics between the customer's vehicle and a known-good vehicle. Only use a vehicle of the same model and trim level for this test.
- Make sure the vehicle is using only OEM speakers.

1. In the customer's vehicle, set the bass, treble, fader, and balance settings to the customer's normal settings that were written down before beginning testing.
2. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation unit or audio unit.
3. Play tracks No. 7 to 12 (sound quality, midland, dynamics, and imaging demonstration tracks) at a normal, or slightly higher than normal, volume level. Write down the volume setting being used.
4. Listen to areas of the track that stand out as being either very clear, or poorer than other areas of the track.
5. Insert the audio diagnostic CD (T/N: 07AAZ-SDBA100) into the navigation unit or audio unit of a known-good vehicle.
6. Play the tracks at the same volume level and the same bass, treble, balance, and fader settings as used in step 3 in the customer's vehicle.
7. Listen to the same area of the track that stood out as being either very clear or

poorer than other areas of the track.

8. Compare the customer's vehicle's sound quality results to the known-good vehicle's results.
   - If the sound quality in the customer's vehicle is comparable to the sound quality in the known-good vehicle, then the customer's vehicle is operating as designed.
   - If the sound quality is not comparable, check these items in order.
     - Loose or improperly installed speakers or other hardware that may become excited by the vibrations generated by the speakers
     - Poor power or ground to the stereo amplifier (with premium sound system)
     - Damaged speaker(s)
     - Faulty amplifier (with premium sound system)
     - Faulty navigation unit - Faulty audio unit

**SEEK STOP TEST**

Do this test to check the performance of the audio unit's AM and FM reception. Refer to **AUDIO UNIT POWER SWITCH WILL NOT TURN OFF (WITHOUT NAVIGATION)** symptom troubleshooting: audio sound weak or distorted, or no sound is heard from speakers (display is normal) before continuing with this test.

**NOTE:**

- **Window tint, aftermarket theft-recovery devices and other aftermarket accessories may reduce radio reception.**
- **Changes in cloud cover and other atmosphere conditions will affect the ability of the navigation unit or audio unit to receive radio signals.**

1. Park the customer's vehicle in an open area away from buildings or other obstructions.
2. Park a known-good vehicle (same year, model, and trim level) next to the customer's vehicle, facing the same direction.

3. Start the engine in the customer's vehicle, and turn on the radio.
4. Set the FM receiver to 87.7 MHz.
5. Press the Seek + button and record the first station that the navigation unit or audio unit locks onto.
6. Press the Seek + button repeatedly, and write down each station that the navigation unit or audio unit locks onto until the station recorded in step 5 is reached again.
7. Set the AM receiver to 530 kHz.
8. Press the Seek + button, and record the first station that the navigation unit or audio unit locks onto.
9. Press the Seek + button repeatedly, and write down each station that the navigation unit or audio unit locks onto until the station recorded in step 8 is reached again.
10. Turn the ignition switch to LOCK (0).
11. Start the engine in the known-good vehicle, and then perform steps 4 thru 10 on the known-good vehicle.
12. Compare the number of stations received in steps 6 and 9 in the customer's vehicle with the number of stations received in the known-good vehicle.
    - If the number of stations received is the same, or within 10%, the audio unit's tuner performance is OK. The problem may be atmospheric conditions, multi path interference, or other obstructions to the radio signal.
    - If the customer's vehicle receives fewer stations by at least 10%, go to step 2 of poor AM or FM radio reception of interference (see **POOR AM OR FM RADIO RECEPTION OR INTERFERENCE (WITH NAVIGATION)**).

## AUDIO UNIT REMOVAL/INSTALLATION

### WITHOUT NAVIGATION

SRS components are located in this area. Review the SRS component location, 4-door (see **COMPONENT LOCATION INDEX** ), 2-door (see **COMPONENT LOCATION INDEX** ).

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Also review the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS article before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the dashboard and related parts.**
- **Lay a workshop towel under the parts when working on them to protect the face panel from scratches or other damage.**
- **Do not work in a dusty or dirty place.**
- **Discharge static electricity from your body before and during the work.**
- **Do not touch the circuit board(s) with your bare hands.**
- **Do not work with dirty hands.**
- **Be careful not to fold the flat plate cable.**
- **Do not touch the terminal connector of the flat plate cable with your bare hands. (If you have touched it, wipe it off thoroughly.)**
- **Eject all the discs before removing the audio unit to prevent damaging the CD player's load mechanism.**
- **If you are replacing the audio unit, write down the audio presets (if possible), and enter them into the new audio unit.**

1. Make sure you have the anti-theft code for the audio system, then write down the audio presets.
2. Remove the subdisplay visor (see **SUBDISPLAY VISOR REMOVAL/INSTALLATION** ).
3. Remove the center pocket hole lid and bolts, then pull out the center panel (A).

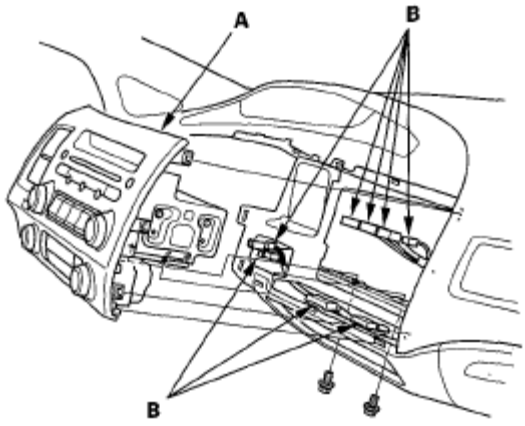



**Fig. 131: Identifying Center Pocket Hole Lid And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Disconnect the connectors (B), then remove the center panel.
5. Remove the bolts, screws and the brackets (A).

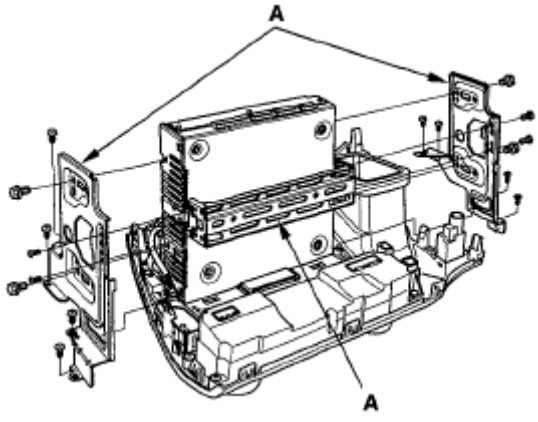



**Fig. 132: Identifying Brackets And Bolts, Screws**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the screws, rear covers (A) and the audio unit (B) from the center panel display (C).

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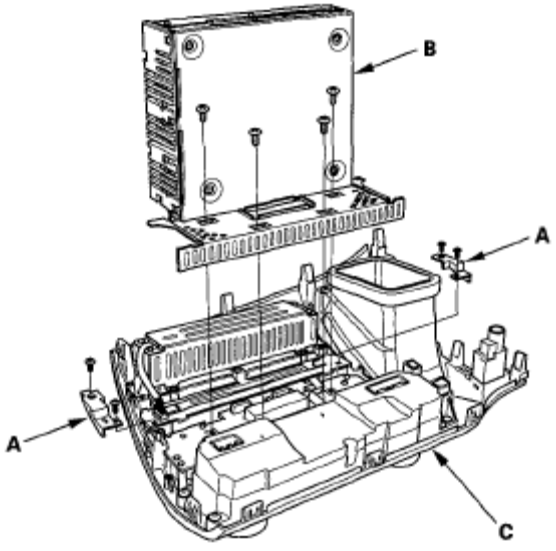



**Fig. 133: Identifying Rear Covers And Audio Unit From Center Panel Display**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the audio unit in the reverse order of removal, and note these items:
   - Make sure all connectors and antenna lead are secure.
   - Enter the anti-theft code for the audio system, then enter the audio presets. Set the clock.

## STEREO AMPLIFIER REMOVAL/INSTALLATION

**2-DOOR**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Remove the stereo amplifier connectors (A) from the stereo amplifier (B).

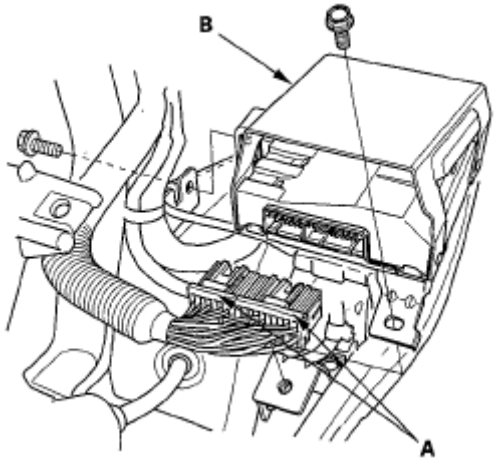



**Fig. 134: Identifying Stereo Amplifier Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Loosen the mounting bolt, and remove the mounting bolt, then remove the stereo amplifier.
4. Install the stereo amplifier in the reverse order of removal.

**4-DOOR**

1. Slide the driver's front seat forward fully.
2. Remove the amplifier cover (A), and connectors (B).

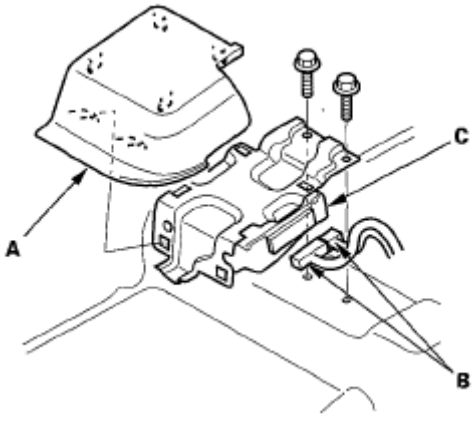



**Fig. 135: Identifying Amplifier Cover And Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the bolts and stereo amplifier (C).

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4. Install the stereo amplifier in the reverse order of removal.

## XM RECEIVER REMOVAL/INSTALLATION

1. Open the trunk lid and remove the right trunk side trim panel (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA** ).
2. Disconnect the antenna 1P connector (A) and 14P connector (B) from the XM receiver (C).

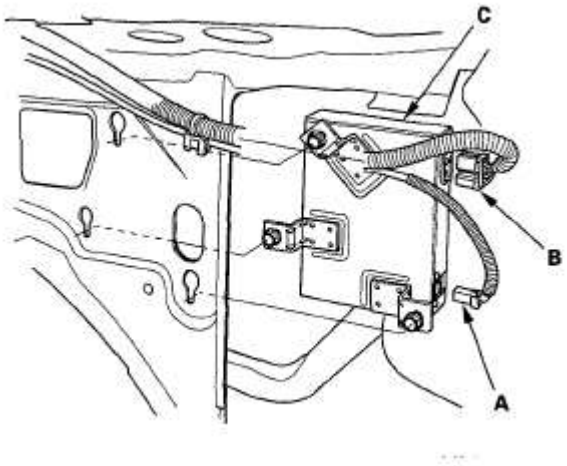



**Fig. 136: Identifying Antenna 1P Connector And 14P Connector From XM Receiver**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Loosen the three bolts, and remove the XM receiver.
4. Install in the reverse order of removal.

## SPEAKER REPLACEMENT

### FRONT DOOR SPEAKER

1. Remove the front door panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
2. Remove the screw. Then lift the speaker (A) straight up to release the lower clips (B).

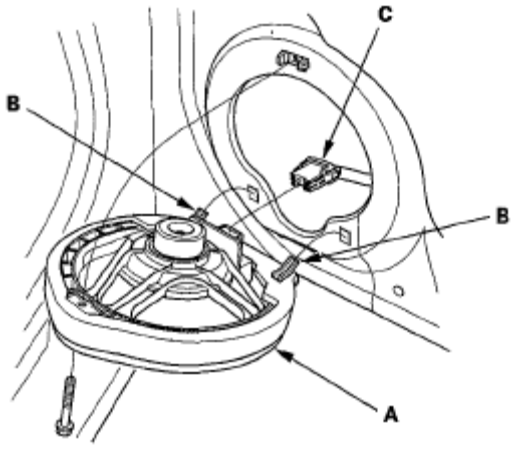



**Fig. 137: Identifying Speaker And Lower Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the 2P connector (C), and remove the speaker.
4. Install the speaker in the reverse order of removal.

**TWEETER**

1. Carefully pry the tweeter grille (A) out of the dashboard. Be careful not to damage the tweeter grille and the dashboard.

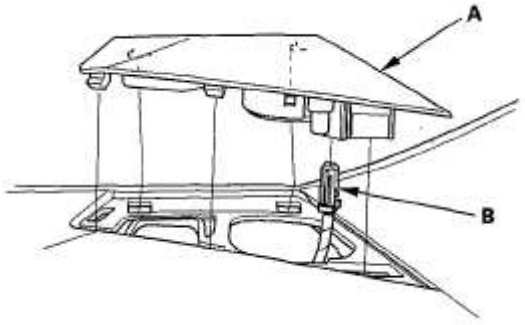



**Fig. 138: Identifying Tweeter Grille And Dashboard**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Disconnect the 2P connector (B) from the tweeter.
3. Remove the tweeter speaker from the speaker grille.

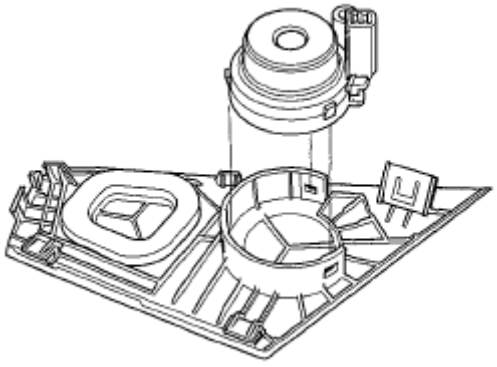


**Fig. 139: Identifying Tweeter Speaker From Speaker Grille**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the speaker in the reverse order of removal.

**REAR SPEAKER (4-DOOR)**

1. Remove the rear speaker grille (A).

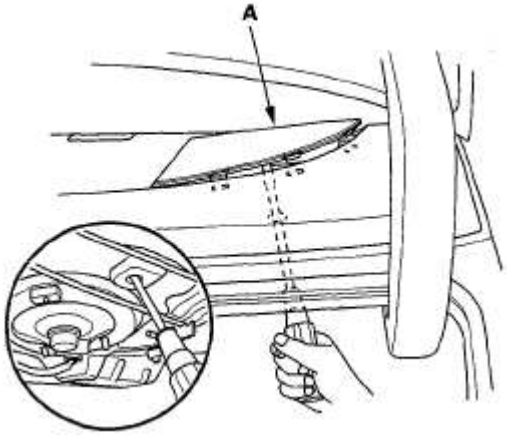



**Fig. 140: Identifying Rear Speaker Grille**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the screw. Then lift the speaker (A) straight up to release the clips (B).

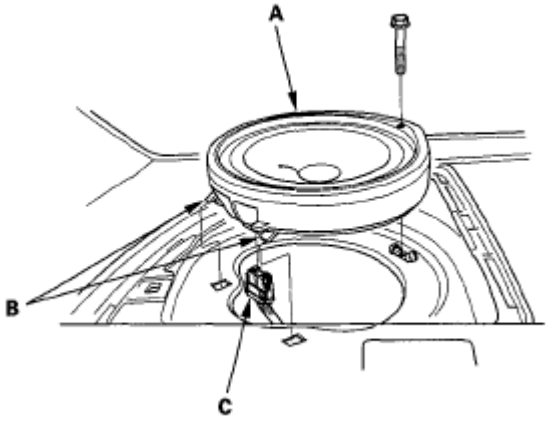



**Fig. 141: Identifying Speaker And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the 2P connector (C), and remove the speaker.
4. Install in the reverse order of removal.

**REAR SPEAKER (2-DOOR)**

1. Remove the rear shelf (see **TRIM REMOVAL/INSTALLATION - REAR SHELF AREA** ).
2. Remove the screw. Then lift the speaker (A) straight up to release the clips (B).

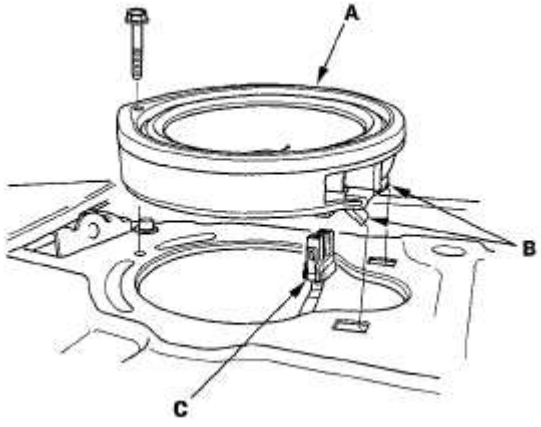



**Fig. 142: Identifying Speaker And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the 2P connector (C), and remove the speaker.
4. Install in the reverse order of removal.

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**SUBWOOFER**

1. Remove the rear shelf (see **TRIM REMOVAL/INSTALLATION - REAR SHELF AREA** ).
2. Remove the four mounting bolts from the subwoofer (A).

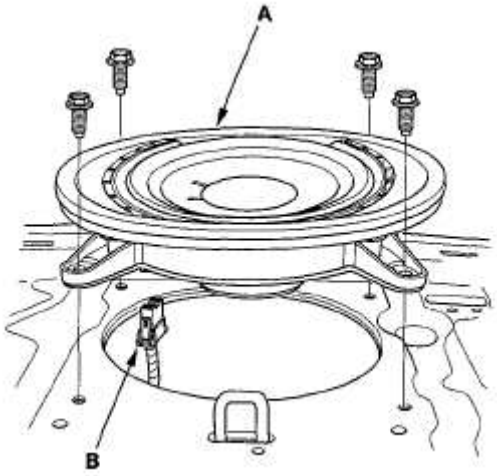



**Fig. 143: Identifying Four Mounting Bolts From Subwoofer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the 2P connector (B), and remove the subwoofer.
4. Install in the reverse order of removal.

## AUXILIARY JACK ASSEMBLY REPLACEMENT

1. With navigation: Remove the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION** ).

   Without navigation: Remove the audio unit (see **AUDIO UNIT REMOVAL/INSTALLATION**).

2. Carefully pull out the auxiliary jack assembly (A), then disconnect the 5P connector (B).

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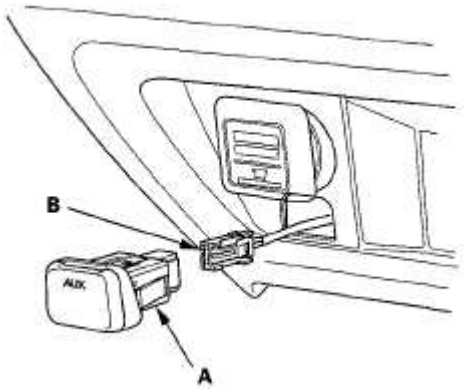



**Fig. 144: Identifying Auxiliary Jack Assembly And 5P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install in the reverse order of removal.

## AUDIO REMOTE SWITCH TEST

1. Remove the driver's airbag assembly (see **DRIVER'S AIRBAG REPLACEMENT** ).
2. Remove the 20P connector (A) from the cable reel (B).

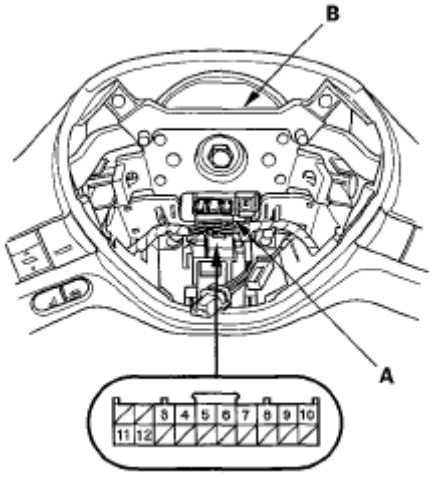



**Fig. 145: Identifying 20P Connector From Cable Reel**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Measure the resistance between the No. 9 and No. 10 terminals in each switch position according to the table.

**RESISTANCE SPECIFICATION**

| Position | Resistance |
|---|---|
| No button pressed | About 10 k ohms |
| MODE | About 6.0 k ohms |
| CH (+) | About 2.0 k ohms |
| CH (-) | About 840 ohms |
| <!-- [utrif] --> (VOL.UP) | About 370 ohms |
| <!-- [dtrif] --> (VOL.DOWN) | About 100 ohms |

4. If the resistance is not as specified, replace the audio remote switch (see **AM/FM ANTENNA AMPLIFIER REPLACEMENT**).

## AUDIO REMOTE SWITCH REPLACEMENT

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL** ).
2. Remove the audio remote switch (see **STEERING WHEEL DISASSEMBLY/REASSEMBLY** ).
3. Install the audio remote switch in the reverse order of removal.

## AM/FM ANTENNA AMPLIFIER REPLACEMENT

1. Remove the right side C-pillar trim (see **C-PILLAR TRIM - 4-DOOR** ).
2. 2-door: Remove the terminal cover (A).

**2-door**

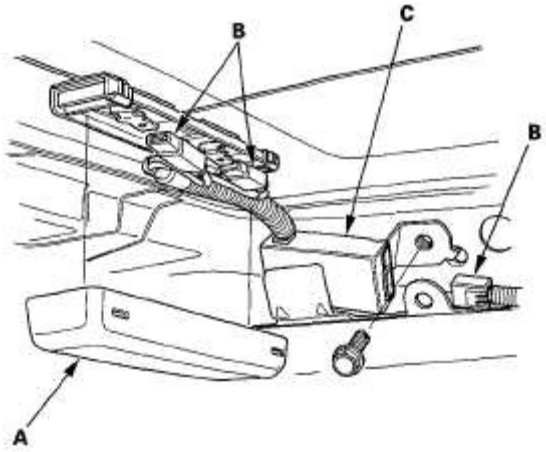



**Fig. 146: Identifying AM/FM Antenna Amplifier And Terminal Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the connectors (B) from the AM/FM antenna amplifier (C).

**4-door**

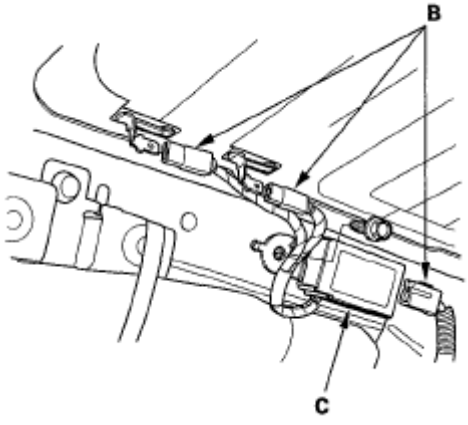



**Fig. 147: Identifying AM/FM Antenna Amplifier And Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the bolt and AM/FM antenna amplifier.
5. Install the unit in the reverse order of removal.

## XM ANTENNA REPLACEMENT

1. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION** ).
2. Remove the nut (A) from the XM antenna (B).

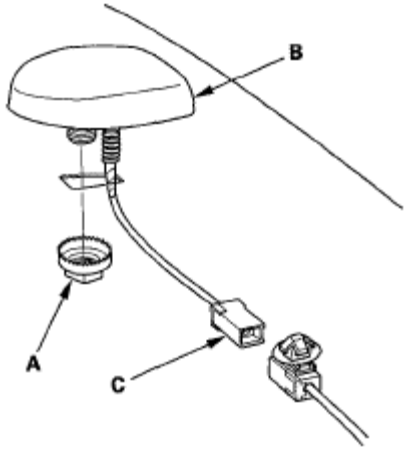



**Fig. 148: Identifying XM Antenna And Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the connector (C) and remove the XM antenna.
4. Install in the reverse order of removal.

## AM/FM ANTENNA REPAIR

**NOTE: To make an effective repair, the broken section must not be longer than one inch.**

1. Lightly rub the area around the broken section (A) with fine steel wool, then clean it with alcohol.

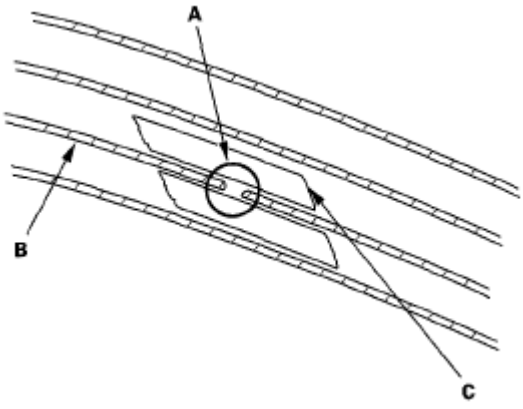



**Fig. 149: Identifying Broken Section Around Area**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Carefully mask above and below the broken portion of the window antenna wire (B) with cellophane tape (C).
3. Mix the silver conductive paint thoroughly. Using a small brush, apply a heavy coat of paint (A) extending about 1/8" on both sides of the break. Allow 30 minutes to dry.

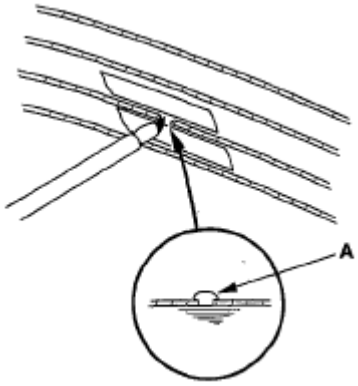



**Fig. 150: Applying Heavy Coat Of Paint On Both Sides**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check for continuity in the repaired wire.
5. Apply a second coat of paint in the same way. Let it dry 3 hours before removing the tape.

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## 2006-08 TRANSMISSION

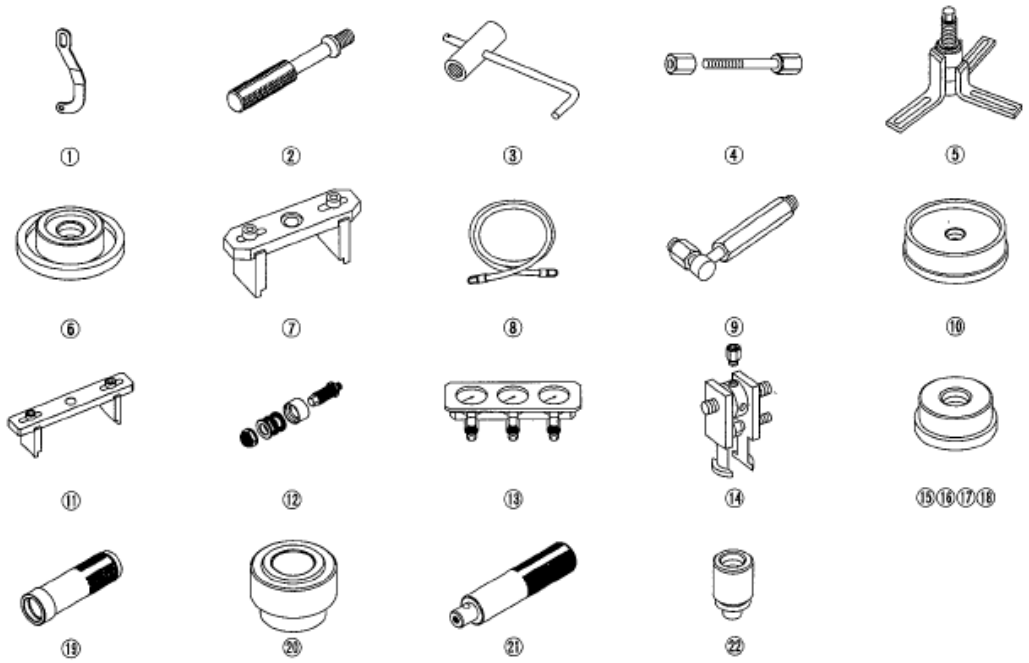
## Automatic Transmission - Civic (Except Hybrid)

# AUTOMATIC TRANSMISSION

### SPECIAL TOOLS

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAK-SNAA400 | 1.8 Support Eyelet | 1 |
| ② | 07AAK-SNAA500 | 1.8 Support Bolt | 1 |
| ③ | 07GAB-PF50101 or 07GAB-PF50100 | Mainshaft Holder | 1 |
| ④ | 07GAE-PG40200 or 07GAE-PG4020A | Clutch Spring Compressor Bolt Assembly | 1 |
| ⑤ | 07HAC-PK40102 | Housing Puller | 1 |
| ⑥ | 07JAD-PH80101 | Oil Seal Driver Attachment | 1 |
| ⑦ | 07LAE-PX40100 | Clutch Spring Compressor Attachment | 1 |
| ⑧ | 07MAJ-PY4011A | A/T Pressure Hose, 2,210 mm | 3 |
| ⑨ | 07MAJ-PY40120 | A/T Pressure Hose Adapter | 3 |
| ⑩ | 07NAD-PX40100 | Attachment, 78 x 80 mm | 1 |
| ⑪ | 07ZAE-PRP0100 | Clutch Compressor Attachment | 1 |
| ⑫ | 070AC-XFD0100 | Gear Installer Set | 1 |
| ⑬ | 07406-0020400 or 07406-0020401 | A/T Oil Pressure Gauge Set W/Panel | 1 |
| ⑭ | 07736-A01000B or 07736-A01000A | Adjustable Bearing Puller, 25—40 mm | 1 |
| ⑮ | 07746-0010400 | Attachment, 52 x 55 mm | 1 |
| ⑯ | 07746-0010500 | Attachment, 62 x 68 mm | 1 |
| ⑰ | 07746-0010600 | Attachment, 72 x 75 mm | 1 |
| ⑱ | 07746-0010800 | Attachment, 22 x 24 mm | 1 |
| ⑲ | 07746-0030100 | Driver, 40 mm I.D. | 1 |
| ⑳ | 07746-0030300 | Attachment, 30 mm I.D. | 1 |
| ㉑ | 07749-0010000 | Driver | 1 |
| ㉒ | 07947-ZV00100 | Oil Seal Driver Attachment | 1 |

⑤: If the top arm is too short, replace it with 07SAC-P0Z0101.
⑦: 07HAE-PL50101 may also be used to substitute one of these tools.
⑭: Must be used with commercially available 3/8 ″-16 slide hammer.



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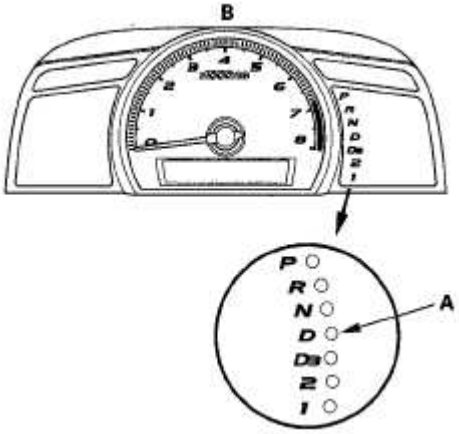


## Fig. 1: Identifying Special Tools
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

### GENERAL TROUBLESHOOTING INFORMATION

#### How to Check for DTCs with the Honda Diagnostic System (HDS)

When the powertrain control module (PCM) senses an abnormality in the input or output system, the D indicator (A) in the gauge control module (tach) (B) will usually blink.




## Fig. 2: Identifying D Indicator
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

When the Honda Diagnostic System (HDS) is connected to the data link connector (DLC) (A) located behind the driver's dashboard lower cover and the SCS mode is selected, it will indicate the diagnostic trouble code (DTC) when the ignition switch is turned to ON (II) and the appropriate menu is selected.

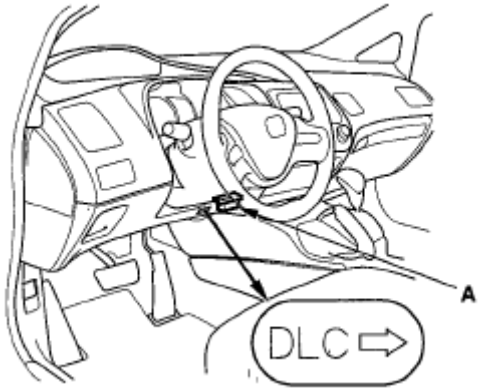


**Fig. 3: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

If the D indicator or the malfunction indicator lamp (MIL) has been reported on, or if a driveability problem is suspected, do this:

1. Connect the HDS to the DLC. (See the HDS user's manual for specific instructions.)
2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select A/T system, and observe the DTC in the DTCs MENU on the HDS screen.
4. Record the freeze data and on-board snapshots for all fuel and emissions DTCs and A/T DTCs.
5. If there is a fuel and emissions DTC, first check the fuel and emissions system as indicated by the DTC.
6. Clear the DTC and data.
7. Drive the vehicle for several minutes under the same conditions as those indicated by the freeze data, and then recheck for a DTC. If the A/T DTC returns, go to the **INDICATED DTC'S TROUBLESHOOTING**. If the DTC does not return, there was an intermittent problem within the circuit. Make sure all pins and terminals in the circuit are tight.

**Symptom Troubleshooting Versus DTC Troubleshooting**

Some symptoms will not trigger diagnostic trouble codes (DTCs) or cause the D indicator to blink. If the malfunction indicator lamp (MIL) was reported on or the D indicator has been blinking, check for DTCs. If the vehicle has an abnormal symptom, and there are no DTCs stored, do the symptom troubleshooting. Check the list of probable cause(s) for the symptom, in the sequence listed, until you find the problem.

**How to Check for DTCs with the SCS Mode (retrieving the flash codes)**

**NOTE: The preferred method is to use the HDS to retrieve the P-**

**code.**

When the PCM senses an abnormality in the input or output system, the D indicator (A) in the gauge control module (tach) (B) will usually blink.

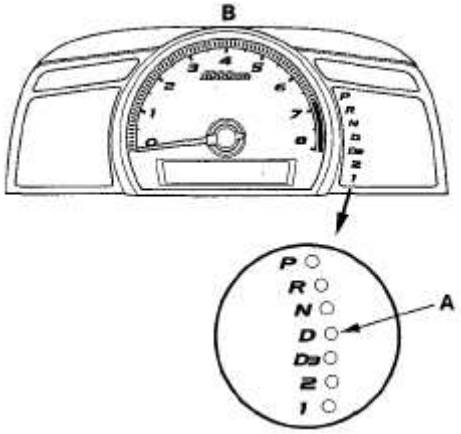



**Fig. 4: Identifying D Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

When the D indicator has been reported on, connect the HDS to the DLC (A) located behind the driver's dashboard lower cover. Turn the ignition switch to ON (II), select SCS mode, then the D indicator will indicate flash the DTC.

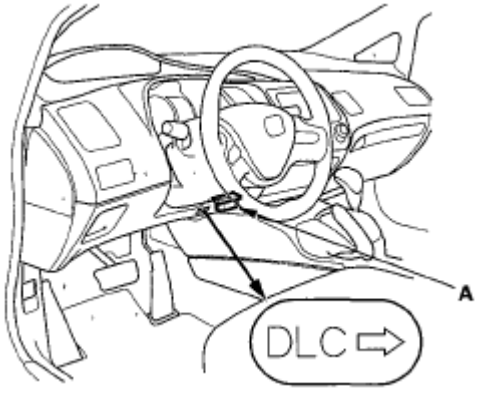



**Fig. 5: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

If the D indicator and the MIL come on at the same time, or if a driveability problem is suspected, do this:

1. Connect the HDS to the DLC. (See the HDS user's manual for specific instructions.)
2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to **DLC CIRCUIT TROUBLESHOOTING** . .
3. Select SCS mode, then observe the D indicator in the gauge control module. Codes 1 through 9 are indicated by individual short blinks. Code 10 and above are indicated by a series of long and short blinks. One long blink equals 10 short blinks. Add the long and short blinks together to determine the code.

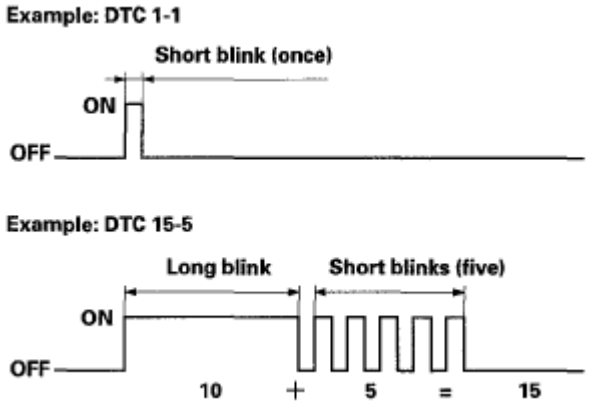



**Fig. 6: D Indicator - Blinking Pattern**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Record all fuel and emissions DTCs and A/T DTCs.
5. If there is a fuel and emissions DTC, first check the fuel and emissions system as indicated by the DTC.
6. Clear the DTC and data.
7. Drive the vehicle for several minutes under the same conditions as those indicated by the freeze data, and then recheck for DTCs. If the A/T DTC returns, go to the **INDICATED DTC'S TROUBLESHOOTING**. If the DTC does not return, there was an intermittent problem within the circuit. Make sure all pins and terminals in the circuit are tight.

**How to Troubleshoot Circuits at the PCM Connectors**

**NOTE: The PCM overwrites data and monitors the EVAP system for up to 15 minutes after the ignition switch is turned to**

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**LOCK (0). Jumping the SCS line after turning the ignition switch to LOCK (0) cancels this function. Disconnecting the PCM during this function, without jumping the SCS line first, can damage the PCM.**

1. Jump the SCS line with the HDS.
2. Remove the PCM cover (A).

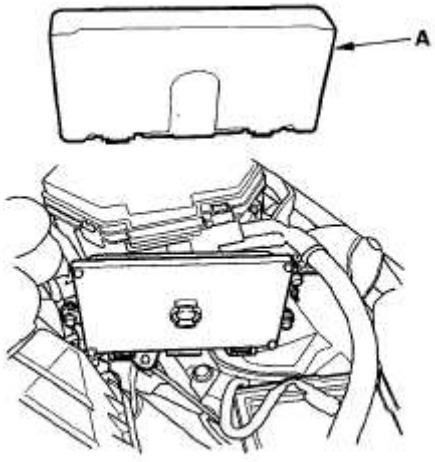



**Fig. 7: Identifying PCM Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the mounting bolts, disconnect the PCM connectors, and probe the terminals in the inspection port on the terminal side of the connectors.

**NOTE: PCM connectors A, B, and C have symbols (A=[], B= triangle symbol , C=o) embossed on them for identification.**

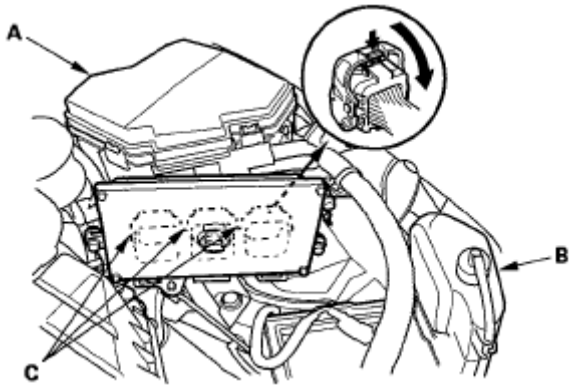



**Fig. 8: Disconnecting PCM Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check the connector inspection port (A) size, and select a suitable pin probe.

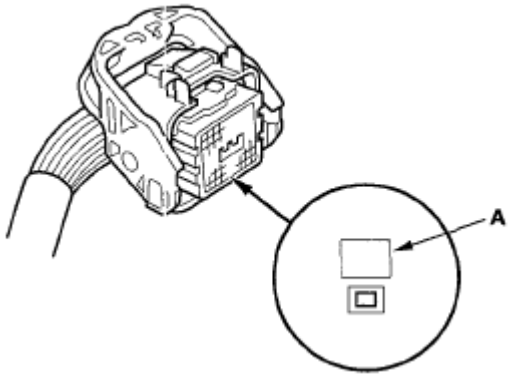



**Fig. 9: Identifying Connector Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Connect one end of the patch cords (A) terminal to a digital multimeter (B), and connect the other side of the patch cord terminal to a commercially available banana jack (Pomona Electronics Tool No. 3563 or equivalent) (C).

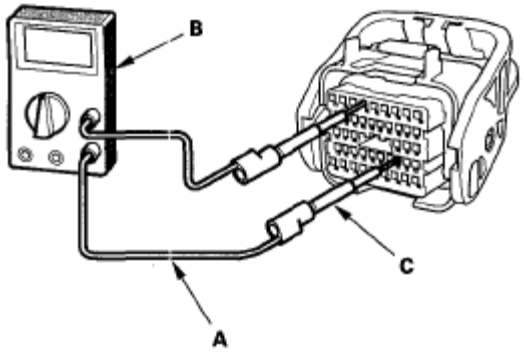



**Fig. 10: Checking Connector Terminal Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Gently slide the pin probe into the inspection port at the connector terminal side. Always use the inspection port. Do not slide the probe into the connector terminals.

**NOTE:**

- **For accurate result, always use the pin probe (male)**
- **To prevent damage to the connector terminals, do not insert test equipment probes, paper clips, or other substitutes as they can damage the terminals. Damaged terminals cause a poor connection and an incorrect measurement.**
- **Do not puncture the insulation on a wire. Punctures can cause poor or intermittent electrical connections.**

**Clear A/T DTCs Procedures**

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

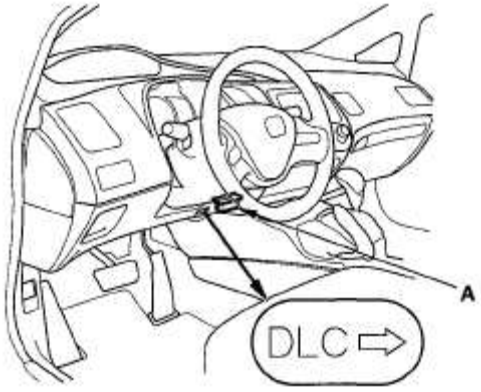



**Fig. 11: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II).
3. Make sure the HDS communicates with the PCM. If it does not, go to **DLC CIRCUIT TROUBLESHOOTING** .
4. Clear the DTC(s) on the HDS screen.

**OBD Status**

The OBD status shows the current system status of each DTC and all of the parameters. This function is used to see if the technician's repair was successfully completed. The results of diagnostic tests for the DTC are displayed as:

- PASSED: The On-board diagnosis is successfully completed.
- FAILED: The On-board diagnosis has finished but failed.
- NOT COMPLETED: The On-board diagnosis was running but is out of the enable conditions of the DTC.

**How to End a Troubleshooting Session**

This procedure must be done after any troubleshooting.

**NOTE: Reset the PCM with the HDS while the engine is stopped.**

1. Turn the ignition switch to LOCK (0).
2. Turn the ignition switch to ON (II), and wait for 30 seconds.

3. Turn the ignition switch to LOCK (0), and disconnect the HDS from the DLC.
4. Do the PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
5. Start the engine with the shift lever in P or N, and warm it up to normal operating temperature (the radiator fan comes on).
6. To verify that the problem is repaired, test-drive the vehicle for several minutes at speeds over 31 mph (50 km/h) or under the same conditions as those indicated by the freeze data.

**Updating the PCM**

## Special Tools Required

- Honda diagnostic system (HDS) tablet tester
- Honda interface module (HIM) and an iN workstation with HDS and CM update software
- HDS pocket tester
- GNA600 and an iN workstation with HDS and CM update software

**NOTE:**

- **Use this procedure when you need to update the PCM during troubleshooting procedures.**
- **Make sure HDS/HIM has the latest software version downloaded from the iN (interactive network).**
- **To ensure the latest program is installed, do a PCM update whenever the PCM is substituted or replaced.**
- **You cannot update a PCM with the program it already has. It will only accept a new program.**
- **Before you update the PCM, make sure the battery is fully charged, and connect a jumper battery (not a battery charger) to maintain system voltage.**
- **Never turn the ignition switch to LOCK (0) while updating the PCM. If you turn the ignition switch to LOCK (0) before completion, the PCM can be damaged.**

- **To prevent PCM damage, do not operate anything electrical (audio system, brakes, A/C, power windows, moonroof (if equipped), door locks, etc.) during the update.**
- **If you need to diagnose the Honda interface module (HIM) because the HIM's red (#3) light came on or was flashing during the update, leave the ignition switch in the ON (II) position when you disconnect the HIM from the data link connector (DLC). This will prevent PCM damage.**
- **High temperature in the engine compartment might cause the PCM to become too hot to run the update. If the engine has been running before this procedure, open the hood and cool the engine compartment.**

1. Turn the ignition switch to ON (II), but do not start the engine.
2. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

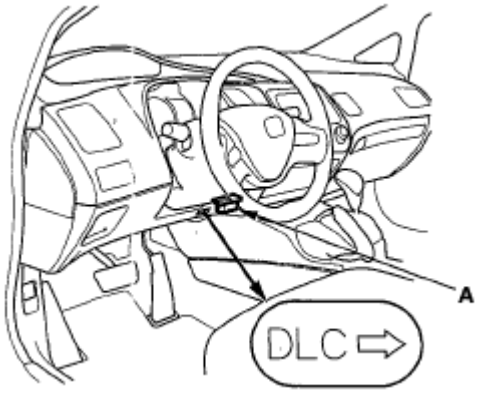



**Fig. 12: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Make sure the HDS communicates with the PCM. if it does not, go to **DLC CIRCUIT TROUBLESHOOTING** .
4. Select the INSPECTION MENU with the HDS.
5. Select the ETCS TEST, then select the TP POSITION CHECK, and follow the

HDS screen prompts.

**NOTE: If the TP POSITION CHECK indicates FAILED, continue this procedure.**

6. Exit the HDS, then select the CM update, and follow the screen prompts to update the PCM.
7. If the PCM has the latest software, disconnect the HDS/HIM from the DLC, and go back to the procedure that you were doing. If the software in the PCM is not the latest, follow the instructions on the screen. If prompted to choose the PGM-FI system or the A/T system, make sure you update both.

**NOTE: If the PCM update procedure requires you to cool the PCM, follow the screen prompts. If you run into a problem (programming takes over 15 minutes, status bar goes over 100%, D or immobilizer indicator flashes, HDS tablet freezes, etc.) during the update procedure, follow these steps to minimize the chance of damaging the PCM:**

- **Leave the ignition switch in the "ON (II)" position.**
- **Connect a jumper battery (do not connect a battery charger).**
- **Shut down the HDS.**
- **Disconnect the HDS from the DLC.**
- **Reboot the HDS.**
- **Reconnect the HDS to the DLC, and try the update procedure again.**

8. If the TP POSITION CHECK failed in step 5, clean the throttle body (see **THROTTLE BODY CLEANING** ).
9. Do the PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
10. Do the crank (CKP) learn procedure (see **CRANK (CKP) PATTERN**

**CLEAR/CRANK (CKP) PATTERN LEARN** ).

**Substituting the PCM**

## Special Tools Required

- Honda diagnostic system (HDS) tablet tester
- Honda interface module (HIM) and an iN workstation with HDS and CM update software
- HDS pocket tester
- GNA600 and an iN workstation with HDS and CM update software

Use this procedure when you need to substitute a known-good PCM during troubleshooting procedures.

1. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped), then write down the audio presets.
2. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

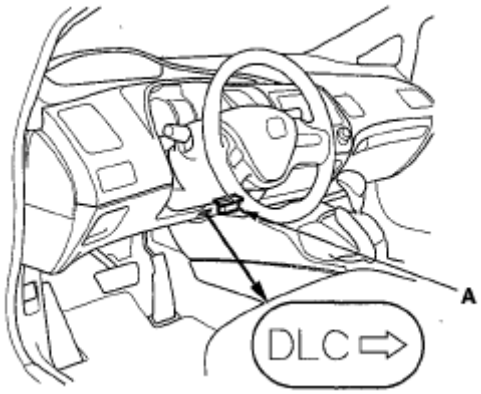



**Fig. 13: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the ignition switch to ON (II).
4. Make sure the HDS communicates with the PCM. If it does not, go to **DLC CIRCUIT TROUBLESHOOTING** . If you did the DLC circuit troubleshooting, skip steps 5 thru 9, then clean the throttle body (see

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**THROTTLE BODY CLEANING** ) after substituting the PCM.

5. Select the INSPECTION MENU with the HDS.
6. Select the TP POSITION CHECK in the ETCS TEST with the HDS.

**NOTE: If the TP POSITION CHECK indicates FAILED, continue this procedure.**

7. Turn the ignition switch to LOCK (0).
8. Remove the battery.
9. Remove the PCM cover (A).

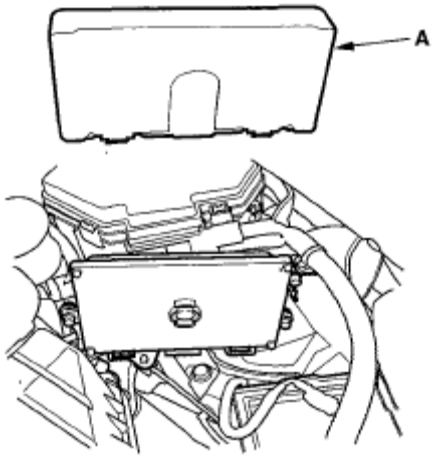



**Fig. 14: Identifying PCM Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the bolts (D), and remove the PCM (E).

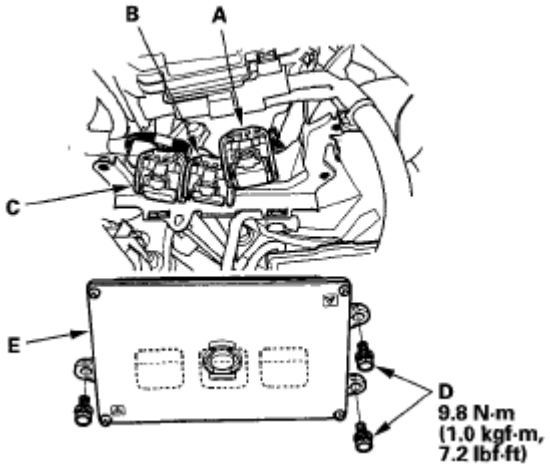



**Fig. 15: Identifying PCM Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Disconnect PCM connectors A, B, and C.

**NOTE: PCM connectors A, B, and C have symbols (A=[], B= triangle symbol , C=o) embossed on them for identification.**

12. Install the PCM and the battery in the reverse order of removal.
13. Turn the ignition switch to ON (II).

**NOTE: DTC P0630 "VIN not Programmed or Mismatch" will be stored because VIN has not been programmed into the PCM. Ignore it, and continue this procedure.**

14. Input the VIN to the PCM with the HDS.
15. Update the PCM if it does not have the latest software.
16. Select the IMMOBILIZER SYSTEM with the HDS.
17. Enter the immobilizer code with the PCM replacement procedure in the HDS; this allows you to start the engine.
18. Reset the PCM with the HDS.
19. If the TP POSITION CHECK indicates FAILED in step 6, clean the throttle body (see **THROTTLE BODY CLEANING** ).

20. Do the PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
21. Do the crank (CKP) learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN** ).
22. Enter the anti-theft code for the audio system or the navigation system (if equipped), enter the audio presets. Set the clock (on vehicles without navigation).

**DTC TROUBLESHOOTING INDEX**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

## DTC TROUBLESHOOTING CHART

| DTC(1) | D Indicator | MIL | Detection Item |
|---|---|---|---|
| **P0107** (12)(3) | Blinks | ON or OFF | Manifold Absolute Pressure (MAP) Sensor Circuit Low Voltage Input |
| **P0108** (12)(3) | Blinks | ON or OFF | Manifold Absolute Pressure (MAP) Sensor Circuit High Voltage Input |
| **P0335** (88)(3) | Blinks | ON or OFF | Crankshaft Position (CKP) Sensor No signal |
| **P0339** (88)(3) | Blinks | ON or OFF | Crankshaft Position (CKP) Sensor Intermittent Interruption |
| **P0365** (89)(3) | Blinks | ON or OFF | Camshaft Position (CMP) Sensor No |

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| | | | |
|---|---|---|---|
| | | | Signal |
| **P0369** (89)(3) | Blinks | ON or OFF | Camshaft Position (CMP) Sensor Intermittent Interruption |
| **P0603** (0)(3) | Blinks | ON or OFF | PCM Internal Control Module Keep Alive Memory (KAM) Error |
| **P0705** (5)(2) | Blinks | ON | Short in Transmission Range Switch Circuit (Multiple Shift-position Input) |
| **P0706** (6)(2) | OFF | ON | Open in Transmission Range Switch Circuit |
| **P0711** (28)(2) | Blinks | OFF | Problem in ATF Temperature Sensor Circuit |
| **P0712** (28)(2) | Blinks | OFF | Short in ATF Temperature Sensor Circuit |
| **P0713** (28)(2) | Blinks | OFF | Open in ATF Temperature Sensor Circuit |
| **P0716** (15)(2) | Blinks | ON | Problem in Input Shaft (Mainshaft) Speed Sensor Circuit |
| **P0717** (15)(2) | Blinks | ON | Problem in Input Shaft (Mainshaft) Speed Sensor Circuit (No Signal Input) |
| **P0718** (15)(2) | Blinks | ON | Input Shaft (Mainshaft) Speed Sensor Intermittent Failure |

| | | | |
|---|---|---|---|
| **P0721** (9)(2) | Blinks | ON | Problem in Output Shaft (Countershaft) Speed Sensor Circuit |
| **P0722** (9)(2) | Blinks | ON | Problem in Output Shaft (Countershaft) Speed Sensor Circuit (No Signal Input) |
| **P0723** (9)(2) | Blinks | ON | Output Shaft (Countershaft) Speed Sensor Intermittent Failure |
| **P0731** (64) | Blinks | OFF | Problem in 1st Clutch and 1st Clutch Hydraulic Circuit (1st Gear Incorrect Ratio) |
| **P0732** (64) | Blinks | OFF | Problem in 2nd Clutch and 2nd Clutch Hydraulic Circuit (2nd Gear Incorrect Ratio) |
| **P0733** (64) | Blinks | OFF | Problem in 3rd Clutch and 3rd Clutch Hydraulic Circuit (3rd Gear Incorrect Ratio) |
| **P0734** (64) | Blinks | OFF | Problem in 4th Clutch and 4th Clutch Hydraulic Circuit (4th Gear Incorrect Ratio) |
| **P0735** (64) | Blinks | OFF | Problem in 5th Clutch and 5th Clutch Hydraulic Circuit (5th Gear Incorrect Ratio) |
| **P0741** (40) | OFF | ON | Torque Converter Clutch Hydraulic Circuit Stuck OFF |

| | | | |
|---|---|---|---|
| **P0746** (76) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve A Stuck OFF |
| **P0747** (76) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve A Stuck ON |
| **P0751** (70) | Blinks | ON | Shift Solenoid Valve A Stuck OFF |
| **P0752** (70) | Blinks | ON | Shift Solenoid Valve A Stuck ON |
| **P0756** (71) | Blinks | ON | Shift Solenoid Valve B Stuck OFF |
| **P0757** (71) | Blinks | ON | Shift Solenoid Valve B Stuck ON |
| **P0761** (72) | Blinks | ON | Shift Solenoid Valve C Stuck OFF |
| **P0762** (72) | Blinks | ON | Shift Solenoid Valve C Stuck ON |
| **P0766** (73) | Blinks | ON | Shift Solenoid Valve D Stuck OFF |
| **P0767** (73) | Blinks | ON | Shift Solenoid Valve D Stuck ON |
| **P0776** (77) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve B Stuck OFF |
| **P0777** (77) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve B Stuck ON |
| **P0796** (78) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve C Stuck OFF |
| **P0797** (78) | Blinks | ON | A/T Clutch Pressure Control Solenoid Valve C Stuck ON |

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| | | | |
|---|---|---|---|
| **P0812** (65)(2) | Blinks | ON | Open in Transmission Range Switch ATP RVS Switch Circuit |
| **P0842** (25)(2) | Blinks | ON | Short in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck ON |
| **P0843** (25)(2) | Blinks | ON | Open in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck OFF |
| **P0847** (26)(2) | Blinks | ON | Short in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck ON |
| **P0848** (26)(2) | Blinks | ON | Open in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck OFF |
| **P0962** (16)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve A Circuit |

| | | | |
|---|---|---|---|
| **P0963** (16)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve A |
| **P0966** (23)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve B Circuit |
| **P0967** (23)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve B |
| **P0970** (29)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve C Circuit |
| **P0971** (29)(2) | Blinks | ON | Problem in A/T Clutch Pressure Control Solenoid Valve C |
| **P0973** (7)(2) | Blinks | ON | Short in Shift Solenoid Valve A Circuit |
| **P0974** (7)(2) | Blinks | ON | Open in Shift Solenoid Valve A Circuit |
| **P0976** (8)(2) | Blinks | ON | Short in Shift Solenoid Valve B Circuit |
| **P0977** (8)(2) | Blinks | ON | Open in Shift Solenoid Valve B Circuit |
| **P0979** (22)(2) | Blinks | ON | Short in Shift Solenoid Valve C Circuit |
| **P0980** (22)(2) | Blinks | ON | Open in Shift Solenoid Valve C Circuit |
| **P0982** (60)(2) | Blinks | ON | Short in Shift Solenoid Valve D Circuit |
| **P0983** (60)(2) | Blinks | ON | Open in Shift Solenoid Valve D Circuit |
| **P16C0** (99) | OFF | ON | PCM A/T Control |

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| | | | System Incomplete Update |
| **P1717** (62)(2) | Blinks | ON | Open in Transmission Range Switch ATP RVS Switch Circuit |
| **P1746** (45) | Blinks | OFF | Problem in Shift Control System; Cut Valve A Stuck OFF, or Cut Valve B Stuck ON |
| **P1747** (45) | Blinks | OFF | Problem in Shift Control System; Cut Valve A Stuck ON, or Cut Valve B Stuck OFF |
| **P1780** (49) | Blinks | ON | Problem in Shift Control System |
| **P2122** (20) | Blinks | ON | Accelerator Pedal Position (APP) Sensor A (Throttle Position Sensor D) Circuit Low Voltage Input |
| **P2123** (20) | Blinks | ON | Accelerator Pedal Position (APP) Sensor A (Throttle Position Sensor D) Circuit High Voltage Input |
| **U0028** (107) | Blinks | OFF | F-CAN Malfunction (BUS-OFF (PCM)) |
| **U0121** (107) | Blinks | OFF | F-CAN Malfunction (PCM-ABS) |
| **U0155** (107)(3) | Blinks | ON or OFF | F-CAN Malfunction (PCM-Gauge Control Module) |

(1) The DTC in parentheses is the flash code. The D indicator indicates when the data link connector (DLC) is connected to the HDS, and in the SCS mode.

(2) This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.

(3) The MIL comes on when the PGM-FI system detects the same failure.

**SYMPTOM TROUBLESHOOTING INDEX**

## TROUBLESHOOTING CHART

| Symptom | Probable cause(s) | Notes |
|---|---|---|
| When you turn the ignition switch to ON (II), the D indicator comes on and stays on in all shift lever positions, or it never comes on at all | • F-CAN communication line error<br>• Gauge control module defective<br>• PCM defective | • Check the F-CAN communication line for a DTC (see **DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH ECM/PCM (ENGINE MESSAGES); DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGES); DTC B1170: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE ABS/VSA MODULATOR-CONTROL UNIT ( )**).<br>• Check the indicator drive circuit in the gauge control module by using the gauge control module |

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| | | self-diagnostic function (see **THE INDICATOR DRIVE CIRCUIT CHECK** ). |
| A/T gear position indicator does not come on while the shift lever is in that position | • F-CAN communication line error<br>• Gauge control module defective<br>• PCM defective<br>• Transmission range switch defective | • Check the F-CAN communication line for a DTC (see **DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH ECM/PCM (ENGINE MESSAGES); DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGES); DTC B1170: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE ABS/VSA MODULATOR-CONTROL UNIT (** ).<br>• Check the indicator drive circuit in the gauge control module by using the gauge control module self-diagnostic function (see **THE INDICATOR DRIVE CIRCUIT CHECK** ).<br>• Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ). |
| Shift lever cannot be moved from P while you are pressing on the | • Accelerator pedal position sensor circuit<br>• Accelerator pedal | • Inspect the APP Sensor signal (see **APP SENSOR SIGNAL INSPECTION** ).<br>• Troubleshoot the shift lock |

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| brake pedal | position sensor defective<br>• Brake switch circuit<br>• Brake switch defective<br>• Shift lock solenoid defective<br>• Shift lock solenoid control circuit<br>• Shift lock mechanism defective<br>• Throttle body defective<br>• Transmission range switch ATP P switch stuck OFF<br>• Transmission range switch ATP P switch line opened | system circuit (see **SHIFT LOCK SYSTEM CIRCUIT TROUBLESHOOTING** ).<br>• Test the shift lock solenoid (see **SHIFT LOCK SOLENOID TEST** ).<br>• Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ). |
| Ignition switch cannot be moved from ACCESSORY (1) to LOCK (0) (key is pushed in, the shift lever in P) | • Interlock control system circuit<br>• Key interlock solenoid stuck ON<br>• Park pin switch stuck OFF<br>• Transmission range switch | • Troubleshoot the key interlock system circuit (see **KEY INTERLOCK SYSTEM CIRCUIT TROUBLESHOOTING** ).<br>• Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ). |
| HDS does not | DLC circuit error | Troubleshoot the DLC circuit (see |

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| communicate with the PCM or the vehicle | | **DLC CIRCUIT TROUBLESHOOTING** ). |
| Engine runs, but vehicle does not move in any gear | 1. Low ATF level<br>2. Shift cable broken or out of adjustment<br>3. Connection between shift cable and transmission or body is worn<br>4. ATF pump worn or binding<br>5. Regulator valve stuck or spring worn<br>6. ATF strainer clogged<br>7. Mainshaft worn or damaged<br>8. Final gears worn or damaged<br>9. Transmission-to-engine assembly error<br>10. Axle disengaged | • Check the ATF level, and check the ATF cooler lines for leakage and loose connections. If necessary, clean the ATF cooler lines.<br>• Check for a loose shift cable at the shift lever and the transmission control lever.<br>• Check for a stored DTC, and check for loose connections.<br>• Check the line pressure.<br>• Improper alignment of ATF pump and torque converter housing may cause the ATF pump to seize. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.<br>• Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will cause the ATF pump seize.<br>• Install the main seal flush with the torque converter housing when replacing the main seal. If you push it into the torque converter housing until it bottoms out, it will block the |

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| | | fluid return passage and result in damage.<br>• Check the ATF strainer for debris. If the strainer is clogged, find the damaged components that caused the debris.<br>• Inspect the differential pinion gears for wear. If the differential pinion gears are worn, replace the differential assembly, replace the ATF strainer, thoroughly clean the transmission, and clean the ATF cooler and the cooler lines.<br>• Replace the torque converter.<br>• Inspect the countershaft and the secondary shaft for wear and damage. |
| Vehicle moves in 2 and R, but not in D, D3, or 1 | 1. 1st accumulator defective<br>2. 1st gears worn or damaged<br>3. 1st clutch defective | • Inspect the 1st accumulator piston, the O-ring, and the spring for wear and damage in the servo body.<br>• Inspect the countershaft, the secondary shaft, and the 1st clutch for wear and damage.<br>• Check the 1st clutch pressure.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch |

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| | | discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |
| Vehicle moves in D, 1, and R, but not in 2 | 1. 2nd accumulator defective<br>2. 2nd gears worn or damaged<br>3. 2nd clutch defective | • Inspect the 2nd accumulator piston, the O-ring, and the spring for wear and damaged in the servo body.<br>• Check the 2nd clutch pressure.<br>• Inspect the countershaft, the secondary shaft, and the 2nd clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the |

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| | | clearance with the clutch end-plate.<br>• Inspect the 2nd clutch feed pipe. If the 2nd clutch feed pipe is scored, replace the end cover.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe is loose or damaged. |
| Vehicle moves in D, D3, 2, and 1, but not in R | 1. Shift solenoid valve D defective<br>2. Shift fork shaft stuck<br>3. Shift valve D defective<br>4. 5th/reverse accumulator defective<br>5. 5th clutch defective<br>6. Reverse gears worn or damaged | • Check for a stored DTC, and check for loose connections.<br>• Test the shift solenoid valve function with the HDS.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check for a missing shift fork bolt on the shift fork shaft.<br>• Inspect the servo valve O-ring.<br>• Check the shift fork shaft detent for wear and damage.<br>• Inspect the 5th accumulator piston, the O-ring, and the spring for wear and damage in the servo body.<br>• Check the 5th clutch pressure.<br>• Inspect the mainshaft and the 5th clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top |

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| | | disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the reverse selector gear teeth chamfers, and inspect the engagement teeth chamfers of the countershaft 5th gear and the reverse gear. Replace the reverse gears and the reverse selector if they are worn or damaged. If the transmission makes clicking, grinding, whirring noise, also replace the mainshaft 5th gear, the reverse idler gear, and the countershaft 5th gear. |
| Poor acceleration | 1. Shift solenoid valve A defective<br>2. Shift solenoid valve B defective<br>3. Shift solenoid valve C defective | • Check for a stored DTC, and check for loose connections.<br>• Test the shift solenoid valve function with the HDS. |
| Poor acceleration; flares when | 1. Low ATF level<br>2. Shift cable broken or out of | • Check the ATF level and check the ATF lines for leakage and loose connections. If necessary, |

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| starting off in D, D3, and R; stall speed high in 2 and 1, and in D and D3 in 1st and 2nd | adjustment<br>3. ATF pump worn or binding<br>4. Regulator valve stuck or spring worn<br>5. ATF strainer clogged<br>6. Torque converter check valve defective | clean the ATF lines.<br>• Check for a loose shift cable at the shift lever and the transmission control lever.<br>• Check the line pressure.<br>• Improper alignment of the ATF pump and the torque converter housing may cause the ATF pump to seize. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.<br>• Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will cause the ATF pump to seize.<br>• Install the main seal flush with the torque converter housing when replacing the main seal. If you push it into the torque converter housing until it bottoms out, it will block the fluid return passage and result in damage.<br>• Check the ATF strainer for debris. If the strainer is clogged, find the damaged components that caused the debris.<br>• Inspect the differential pinion gears for wear. If the differential pinion gears are worn, replace |

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| | | the differential assembly, replace the ATF strainer, thoroughly clean the transmission, and clean the ATF warmer and the ATF lines.<br>• Replace the torque converter. |
| Poor acceleration; flares when starting off in D, D3, and R; stall speed high when starting off in 2 | 2nd clutch defective | • Check the 2nd clutch pressure.<br>• Inspect the secondary shaft and the 2nd clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 2nd clutch feed pipe. If the 2nd clutch feed pipe is scored, replace the end cover.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe is loose or damaged. |

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| Poor acceleration; flares when starting off in D, D3, and R; stall speed high in R | 1. Shift cable broken or out of adjustment<br>2. 5th clutch defective | • Check for a loose shift cable at the shift lever and the transmission control lever.<br>• Check the 5th clutch pressure.<br>• Inspect the mainshaft and the 5th clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings: Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |
| Poor acceleration; stall speed low in 2 and 1, and in D and D3 in 1st and 2nd | 1. Shift solenoid valve D defective<br>2. Torque converter one-way clutch defective<br>3. Engine output low<br>4. Torque converter clutch piston defective | • Check for a stored DTC, and check for loose connections.<br>• Test the shift solenoid valve function with the HDS.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Replace the torque converter assembly. |

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| | 5. Lock-up shift valve defective | • Check the lock-up shift valve in the regulator valve body.<br>• Check the engine control system. |
| Poor acceleration; stall speed low in R | 1. Engine output low<br>2. Torque converter clutch piston defective<br>3. Lock-up shift valve defective | • Check the engine control system.<br>• Replace the torque converter assembly.<br>• Check the lock-up shift valve in the regulator valve body. |
| Engine idle vibration | 1. Low ATF level<br>2. Shift solenoid valve D defective<br>3. Drive plate defective or transmission misassembled<br>4. Engine output low<br>5. Torque converter clutch piston defective<br>6. ATF pump worn or damaged<br>7. Lock-up shift valve defective<br>8. Misassembled engine and transmission mount | • Check the ATF level and check the ATF lines for leakage and loose connections. If necessary, clean the ATF lines.<br>• Check for a stored DTC, and check for loose connections.<br>• Test the shift solenoid valve function with the HDS.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check the transmission and the drive plate installation.<br>• Check the drive plate for wear and damage, if the drive plate is worn or damaged, replace the drive plate.<br>• Check the engine control system.<br>• Replace the torque converter assembly.<br>• Check the line pressure. |

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| | | • Improper alignment of the ATF pump and the torque converter housing may cause the ATF pump to seize. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.<br>• Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will cause ATF pump to seize.<br>• Install the main seal flush with the torque converter housing when replacing the main seal. If you push it into the torque converter housing until it bottoms out, it will block the fluid return passage and result in damage.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Adjust the transmission and engine mounts by loosening and retightening the mount bolts. |
| Vehicle moves in N | 1. Excessive ATF<br>2. Foreign material in separator plate orifice<br>3. Relief valve defective | • Check the ATF level, and drain the ATF if it is overfilled.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for |

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4. 1st clutch defective
5. 2nd clutch defective
6. 3rd clutch defective
7. 4th clutch defective
8. 5th clutch defective
9. Clearance between clutch end-plate and top disc incorrect
10. Needle bearing seized, worn, or damaged
11. Thrust washer seized, worn, or damaged

debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.

- Check the relief valve in the main valve body.
- Check the 1st, 2nd, 3rd, 4th, and 5th clutch pressures.
- Inspect the mainshaft, the secondary shaft, the 1st, 2nd, 3rd, 4th, and 5th clutches for wear and damage.
- Inspect the clutch piston, the clutch piston check valve, and the 0-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.

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| | | • Inspect the 2nd, 3rd, and 4th clutch feed pipes.<br>• If the 2nd clutch feed pipe is scored, replace the end cover.<br>• If the 3rd or 4th clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe or the 4th clutch feed pipe is loose or damaged.<br>• Replace the mainshaft if the bushing for the 3rd clutch feed pipe is loose or damaged. |
| Late shift after shifting from N to D, or excessive shock when shifted into D | 1. A/T clutch pressure control solenoid valve A defective<br>2. A/T clutch pressure control solenoid valve B defective<br>3. A/T clutch pressure control solenoid valve C defective<br>4. Shift cable broken or out of adjustment<br>5. Connection between shift cable and transmission or | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings, for wear and damage.<br>• Check for a loose shift cable at the shift lever and the transmission control lever.<br>• Check the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor installation.<br>• Inspect the sensor O-ring for wear and damage.<br>• Check for a clogged orifice in |

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| | body is worn<br>6. Input shaft (mainshaft) speed sensor defective<br>7. Output shaft (countershaft) speed sensor defective<br>8. ATF temperature sensor defective<br>9. Foreign material in separator plate orifice<br>10. Servo control valve defective<br>11. 1st accumulator defective<br>12. 1st check ball stuck<br>13. Lock-up shift valve defective<br>14. 1st clutch defective | the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Check the servo control valve in the main valve body.<br>• Inspect the 1st accumulator piston, the O-ring, and the spring for wear and damage in the regulator valve body.<br>• Check that the 1st check ball is not stuck in the main valve body.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the 1st clutch pressure.<br>• Inspect the secondary shaft and the 1st clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top |

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| | | disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |
| Late shift after shifting from N to R, or excessive shock when shifted into R | 1. Shift solenoid valve D defective<br>2. A/T clutch pressure control solenoid valve A defective<br>3. Shift cable broken or out of adjustment<br>4. Connection between shift cable and transmission or body is worn<br>5. Input shaft (mainshaft) speed sensor defective<br>6. Output shaft (countershaft) speed sensor defective<br>7. ATF temperature | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings, for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check for a loose shift cable at the shift lever and the transmission control lever.<br>• Check the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor installation.<br>• Inspect the sensor O-ring for wear and damage.<br>• Check for a missing shift fork |

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| | sensor defective<br>8. Shift fork shaft stuck<br>9. Foreign material in separator plate orifice<br>10. Shift valve E defective<br>11. 5th/reverse accumulator defective<br>12. Lock-up shift valve defective<br>13. 5th clutch defective | bolt on the shift fork shaft.<br>• Inspect the servo valve O-ring.<br>• Check the shift fork shaft detent for wear and damage.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with panicles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Check shift valve D in the main valve body.<br>• Inspect the 5th accumulator piston, the O-ring, and the spring for wear and damage in the servo body.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the 5th clutch pressure.<br>• Inspect the mainshaft and the 5th clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. |

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| | | Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate. |
| Late shift after shifting from D3 to 2, or 2 to 1 | 1. A/T clutch pressure control solenoid valve A defective<br>2. A/T clutch pressure control solenoid valve B defective<br>3. A/T clutch pressure control solenoid valve C defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage. |
| Transmission does not shift | 1. Input shaft (mainshaft) speed sensor defective<br>2. Output shaft (countershaft) speed sensor defective | • Check for a stored DTC, and check for loose connections.<br>• Check the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor installation.<br>• Inspect the sensor O-ring for wear and damage. |

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| Excessive shock or flares on all upshifts and downshifts | 1. A/T clutch pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. Input shaft (mainshaft) speed sensor defective<br>4. Output shaft (countershaft) speed sensor defective<br>5. ATF temperature sensor defective<br>6. Foreign material in separator plate orifice | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Check the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor installation.<br>• Inspect the sensor O-ring for wear and damage.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter. |
| Excessive shock or flares on 1-2 upshift or 2-1 downshift | 1. Shift solenoid valve D defective<br>2. A/T clutch pressure control | • Check for a stored DTC, and check, for loose connections.<br>• Test the solenoid valve function with the HDS. |

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| | solenoid valve A defective<br>3. A/T clutch pressure control solenoid valve B defective<br>4. A/T clutch pressure control solenoid valve C defective<br>5. 2nd clutch transmission fluid pressure switch defective<br>6. Foreign material in separator plate orifice<br>7. 1st accumulator defective<br>8. 2nd accumulator defective<br>9. 1st check ball stuck<br>10. 2nd check ball stuck<br>11. 1st clutch defective<br>12. 2nd clutch defective<br>13. Look up shift valve defective | • Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check for a clogged orifice in the transmission fluid pressure switch connector. If the orifice is clogged, remove it and clean the connector.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Inspect the 1st accumulator piston, the O-ring, and the spring for wear and damage in the servo body.<br>• Inspect the 2nd accumulator piston, the O-ring, and the spring for wear and damage in |

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| | | the servo body.<br>• Check that the 1st check ball and the 2nd check ball are not stuck in the main valve body.<br>• Check the 1st and 2nd clutch pressures.<br>• Inspect the secondary shaft, the 1st clutch, and the 2nd clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 2nd clutch feed pipe. If the 2nd clutch feed pipe is scored, replace the end cover.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe is loose or damaged. |
| Excessive shock | 1. A/T clutch | • Check for a stored DTC, and |

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| or flares on 2-3 upshift or 3-2 downshift | pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. 3rd clutch transmission fluid pressure switch defective<br>4. Foreign material in separator plate orifice<br>5. 2nd accumulator defective<br>6. 3rd accumulator defective<br>7. 2nd check ball stuck<br>8. 2nd clutch defective<br>9. 3rd clutch defective | check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Check for a clogged orifice in the transmission fluid pressure switch connector. If the orifice is clogged, remove it and clean the connector.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Inspect the 2nd and 3rd accumulator pistons, the O-rings, and springs for wear and damage in the servo body.<br>• Check that the 2nd check ball is not stuck in the main valve body. |

| | | |
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| | | • Check the 2nd and 3rd clutch pressures.<br>• Inspect the secondary shaft, the mainshaft, the 2nd clutch, and the 3rd clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 2nd and 3rd clutch feed pipes.<br>• If the 2nd clutch feed pipe is scored, replace the end cover.<br>• If the 3rd clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• Replace the secondary shaft if the bushing for the 2nd clutch feed pipe is loose or damaged. |

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| | | |
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| | | • Replace the mainshaft if the bushing for the 3rd clutch feed pipe is loose or damaged. |
| Excessive shock or flares on 3-4 upshift or 4-3 downshift | 1. A/T clutch pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. Foreign material in separator plate orifice<br>4. 3rd accumulator defective<br>5. 4th accumulator defective<br>6. 3rd clutch defective<br>7. 4th clutch defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Inspect the 3rd and 4th accumulator pistons, the O-rings, and the springs for wear and damage in the servo body.<br>• Check the 3rd and 4th clutch pressures.<br>• Inspect the mainshaft, the |

| | | |
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| | | secondary shaft, the 3rd clutch, and the 4th clutch for wear and damage.<br>• Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 3rd and 4th clutch feed pipes.<br>• If the 3rd clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• If the 4th clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• Replace the secondary shaft if the bushing for the 4th clutch feed pipe is loose or damaged.<br>• Replace the mainshaft if the bushing for the 3rd clutch feed |

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| | | |
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| | | pipe is loose or damaged. |
| Excessive shock or flares on 4-5 upshift or 5-4 downshift | 1. A/T clutch pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. Foreign material in separator plate orifice<br>4. 4th accumulator defective<br>5. 5th accumulator defective<br>6. 4th clutch defective<br>7. 5th clutch defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Check for a clogged orifice in the separator plate. If the orifice is clogged, remove it and clean the separator plate orifice.<br>• Check the ATF strainer for debris. If the strainer is clogged with particles of steel or aluminum, inspect the ATF pump. If the ATF pump is OK, find the damaged components that caused the debris. If no cause for contamination is found, replace the torque converter.<br>• Inspect the 4th and 5th accumulator pistons, the O-rings, and the springs for wear and damage in the servo body.<br>• Check the 4th and 5th clutch pressures.<br>• Inspect the mainshaft, the secondary shaft, the 4th clutch, and the 5th clutch for wear and damage. |

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| | | |
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| | | • Inspect the clutch piston, the clutch piston check valve, and the O-rings. Check the spring retainer for wear and damage. Inspect the clearance between the clutch end-plate and the top disc. If the clearance is out of tolerance, inspect the clutch discs and the plates for wear and damage, and inspect the clutch wave-plate height. If the discs and the plates are worn or damaged, replace them as a set. If the wave-plate height is out of tolerance, replace the wave-plate. If they are OK, adjust the clearance with the clutch end-plate.<br>• Inspect the 4th clutch feed pipes. If the 4th clutch feed pipe is scored, replace it and the O-rings under the feed pipe flange.<br>• Replace the secondary shaft if the bushing for the 4th clutch feed pipe is loose or damaged. |
| Engine flares while driving | 1. A/T clutch pressure control solenoid valve B defective<br>2. A/T clutch pressure control solenoid valve C defective<br>3. Shift solenoid | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage. |

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| | valve A defective<br>4. Shift solenoid valve B defective<br>5. Shift solenoid valve C defective | • Inspect the O-rings, and check the shift solenoid valve for seizure. |
| Noise from transmission in all shift lever positions | 1. ATF pump worn or damaged<br>2. Mainshaft bearing, countershaft bearing, or secondary shaft bearing defective | • Check the line pressure.<br>• Improper alignment of the ATF pump and the torque converter housing may cause the ATF pump to seize. The symptoms are mostly an rpm-related ticking noise or a high pitched squeak.<br>• Be careful not to damage the torque converter housing when replacing the main ball bearing. You may also damage the ATF pump when you torque down the main valve body. This will cause the ATF pump seize.<br>• Install the main seal flush with the torque converter housing when replacing the main seal. If you push it into the torque converter housing until it bottoms out, it will block the fluid return passage and result in damage.<br>• Inspect the mainshaft, the countershaft, and the secondary shaft bearing for wear and damage. |
| Vehicle does not accelerate above | Torque converter one-way clutch defective | Replace the torque converter assembly. |

| | | |
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| 31 mph (50 km/h) | | |
| Vibration in all shift lever positions | Drive plate defective or transmission misassembled | • Check the transmission and the drive plate installation.<br>• Check the drive plate for wear and damage, if the drive plate is worn or damaged, replace the drive plate.<br>• Check the engine control system. |
| Shock just before stopping the engine, or at the instant after the engine stopped | 1. A/T clutch pressure control solenoid valve A defective<br>2. A/T clutch pressure control solenoid valve B defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage. |
| Shift lever does not operate smoothly | 1. Transmission range switch defective or out of adjustment<br>2. Shift cable broken or out of adjustment<br>3. Connection between shift cable and transmission or body is worn | • Check for a stored DTC, and check for loose connections.<br>• Inspect the transmission range switch. If the transmission range switch is faulty, replace it. If the transmission range switch is out of adjustment, adjust it and shift cable.<br>• Check for a loose shift cable at the shift lever and the transmission control lever. |
| Transmission does not shift | 1. Shift cable broken or out of | • Check for a loose shift cable at the shift lever and the |

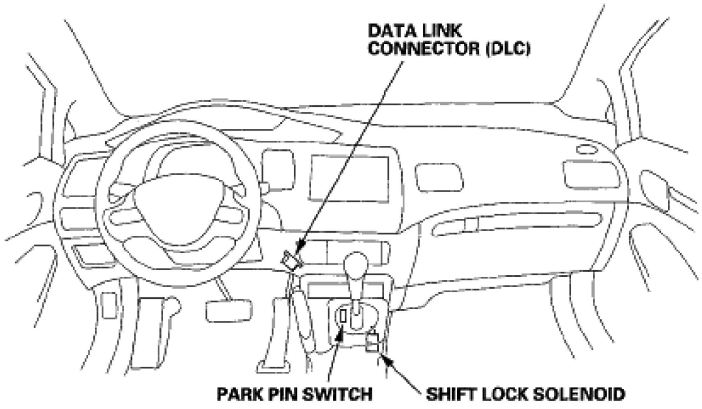
| | | |
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| into P | adjustment<br>2. Connection between shift cable and transmission or body is worn<br>3. Park mechanism defective | transmission control lever.<br>• Check the park pawl spring installation and the park lever spring installation. If installation is incorrect, install the spring correctly. Make sure that the park lever stop is not installed upside down. Check the distance between the park pawl shaft and the park lever pin. If the distance is out of tolerance, adjust the distance with the park lever stop. |
| Torque converter clutch does not disengage | 1. Shift solenoid valve D defective<br>2. A/T clutch pressure control solenoid valve A defective<br>3. Torque converter clutch piston defective<br>4. Lock-up shift valve defective<br>5. Lock-up control valve defective | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Replace the torque converter assembly.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the lock-up control valve in the main valve body. |
| Torque converter clutch does not | 1. Shift solenoid valve D defective | • Check for a stored DTC, and check for loose connections. |

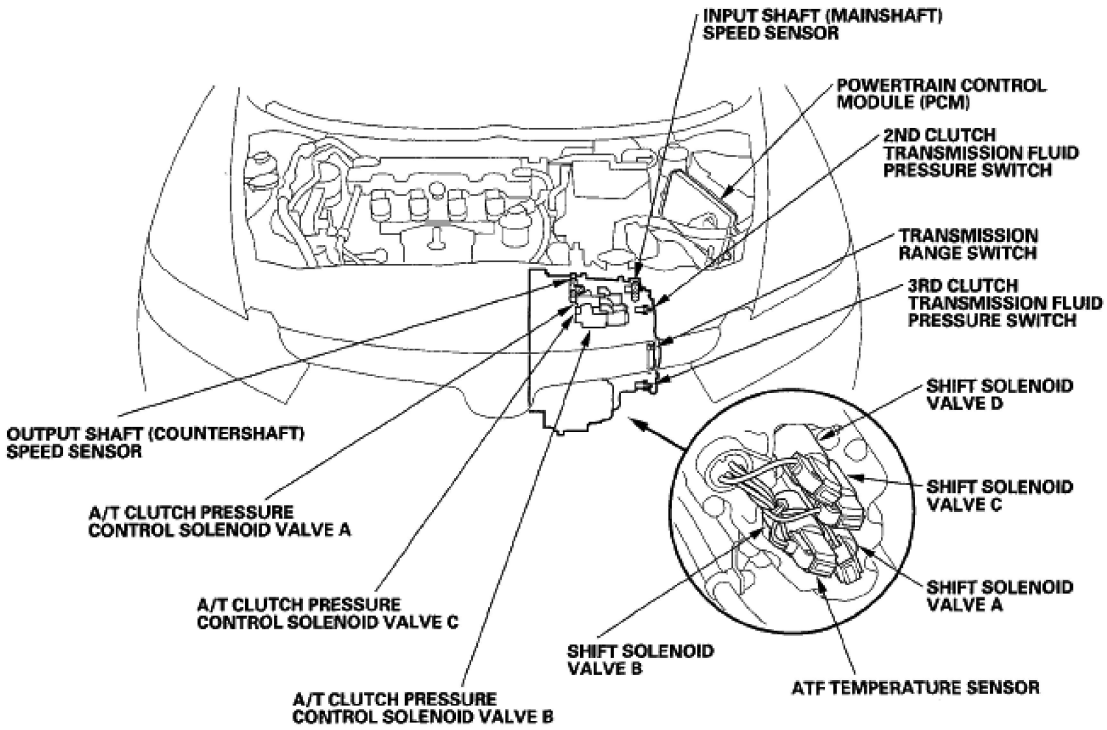
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| operate smoothly | 2. A/T clutch pressure control solenoid valve A defective<br>3. Torque converter clutch piston defective<br>4. Torque converter check valve defective<br>5. Lock-up shift valve defective<br>6. Lock-up control valve defective | • Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Replace the torque converter assembly.<br>• Check the torque converter check valve in the regulator valve body.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the lock-up control valve in the main valve body. |
| Torque converter clutch does not engage | 1. Shift solenoid valve D defective<br>2. A/T clutch pressure control solenoid valve A defective<br>3. Input shaft (mainshaft) speed sensor defective<br>4. Output shaft (countershaft) speed sensor defective<br>5. Torque converter | • Check for a stored DTC, and check for loose connections.<br>• Test the solenoid valve function with the HDS.<br>• Inspect the A/T clutch pressure control solenoid valve body gasket, the ATF feed pipes, and the O-rings for wear and damage.<br>• Inspect the O-rings, and check the shift solenoid valve for seizure.<br>• Check the input shaft (mainshaft) speed sensor and the |

| | | |
|---|---|---|
| | clutch piston defective<br>6. Torque converter check valve defective<br>7. Lock-up shift valve defective<br>8. Lock-up control valve defective | output shaft (countershaft) speed sensor installation.<br>• Inspect the sensor O-ring for wear and damage.<br>• Replace the torque converter assembly.<br>• Check the torque converter check valve in the regulator valve body.<br>• Check the lock-up shift valve in the regulator valve body.<br>• Check the lock-up control valve in the main valve body. |
| A/T gear position indicator does not indicate shift lever positions | 1. Transmission range switch defective or out of adjustment<br>2. Shift cable broken or out of adjustment<br>3. Connection between shift cable and transmission or body worn | • Check for a stored DTC, and check for loose connections.<br>• Inspect the transmission range switch. If the transmission range switch is faulty, replace it. If the transmission range switch is out of adjustment, adjust it and the shift cable.<br>• Check for a loose shift cable at the shift lever and the transmission control lever. |
| Speedometer and odometer do not work | Output shaft (countershaft) speed sensor defective | • Check for a stored DTC, and check for loose connections.<br>• Check the output shaft (countershaft) speed sensor installation.<br>• Inspect the sensor O-ring. |
| Engine does not rev to high rpm, | Engine rocker arm defective | Check the engine rocker arms. |

| | | |
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| and the transmission upshifts at low rpm (engine at normal operating temperature) | | |

**COMPONENT LOCATION INDEX**



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## Fig. 16: Identifying Automatic Transmission Component Location
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**SYSTEM DESCRIPTION**

**General Operation**

The automatic transmission is a combination of a three-element torque converter and triple-shaft electronically controlled unit which provides five speeds forward and one in reverse. The entire unit is positioned in line with the engine.

**Torque Converter, Shafts, Gears, and Clutches**

The torque converter consists of a pump, turbine, and stator assembly in a single unit. The converter housing (pump) is connected to the engine crankshaft and turns as the engine runs. Around the outside of the torque converter is a ring gear which meshes with the starter drive gear when the engine is being started. The entire torque converter assembly serves as a flywheel while transmitting power to the transmission mainshaft. The transmission has three parallel shafts; the mainshaft, the countershaft, and the secondary shaft. The mainshaft is in line with the engine crankshaft, and includes the 3rd and 5th clutches, and gears for 3rd, 5th, reverse, and idler. The mainshaft reverse gear is integral with the mainshaft 5th gear. The countershaft includes the gears for 1st, 2nd, 3rd, 4th-5th, reverse, park, and the final drive. The countershaft 4th-5th gear enables the shared use of the secondary shaft 4th gear and the mainshaft 5th gear. The countershaft 4th-5th gear and the countershaft reverse gear can be locked to the countershaft providing the 4th, 5th or reverse gear, depending on which way the selector is moved. The final drive gear is integral with the countershaft. The secondary shaft includes the 1st, 2nd, and 4th clutches, and gears for 1st, 2nd, 4th, and idler. The idler gear shaft is located between the mainshaft and the secondary shaft, and the idler gear transmits power between the mainshaft and the secondary shaft. The gears on the mainshaft and the secondary shaft are in constant mesh with those on the countershaft. When certain combinations of gears in the transmission are engaged by the clutches, power is transmitted through the mainshaft, then to the secondary shaft to the countershaft, or through the mainshaft to the countershaft to provide drive.

**Electronic Control**

The electronic control system consists of the powertrain control module (PCM), sensors, and seven solenoid valves. Shifting and lock-up are electronically controlled for comfortable driving under all conditions. The PCM is located in the engine compartment.

**Hydraulic Control**

The valve bodies include the main valve body, the regulator valve body, and the servo body. They are bolted to the torque converter housing. The main valve body contains the manual valve, cut valve B, shift valves A, C, and D, the relief valve, the lock-up control valve, the cooler check valve, the servo control valve, and the ATF pump gears. The regulator valve body contains the regulator valve, the torque converter check valve, the lock-up shift valve, the 1st accumulator, and the 3rd accumulator. The servo body contains the servo valve, shift valve B, cut valve A, the accumulators for 2nd, 4th, and 5th, and shift solenoid valves A, B, C, and D. Fluid from the regulator passes through the manual valve to the various control valves. The 2nd, 3rd, and 4th clutches receive fluid from their respective feed pipes, and the 1st and the 5th clutches receive fluid from the internal hydraulic circuit.

**Shift Control Mechanism**

To shift gears, the PCM controls shift solenoid valves A, B, C, and D, and A/T clutch pressure control solenoid valves A, B, and C, while receiving input signals from various sensors and switches located throughout the vehicle. The shift solenoid valves shift the positions of the shift valves to switch the port to send hydraulic pressure to the clutch. A/T clutch pressure control solenoid valves A, B, and C regulate their respective pressure, and pressurize the clutches to engage them and their corresponding gears.

**Lock-up Mechanism**

The lock-up mechanism operates in D (1st, 2nd, 3rd, 4th, and 5th gears), and D3 (1st, 2nd and 3rd gears). The pressurized fluid is drained from the back of the torque converter through a fluid passage, causing the torque converter clutch piston to be held against the torque converter cover. As this takes place, the mainshaft rotates at the same speed as the engine crankshaft. Together with the hydraulic control, the PCM optimizes the timing and the volume of the lock-up mechanism. When shift solenoid valve D is turned on by the PCM, shift solenoid valve D

pressure switches the lock-up shift valve lock-up on and off. A/T clutch pressure control solenoid valve A and the lock-up control valve control the volume of the lock-up conditions.

**Gear Selection**

The shift lever has seven positions; P: PARK, R: REVERSE, N: NEUTRAL, D: DRIVE 1st through 5th gear ranges, D3: DRIVE 1st through 3rd gear ranges, 2: 2nd gear, and 1: 1st gear.

## SHIFT LEVER GEAR POSITION

| Position | Description |
|---|---|
| P: PARK | Front wheels locked; park pawl engaged with park gear on countershaft. All clutches are released. |
| R: REVERSE | Reverse; reverse selector engaged with countershaft reverse gear and 5th clutch engaged. |
| N: NEUTRAL | All clutches are released. |
| D: DRIVE (1st through 5th) | General driving; starts off in 1st, shifts automatically to 2nd, 3rd, 4th, then 5th, depending on vehicle speed and throttle position. Downshifts through 4th, 3rd, 2nd, and 1st on deceleration to stop. The lock-up mechanism operates in 1st, 2nd, 3rd, 4th, and 5th gears. |
| D3: DRIVE (1st through 3rd) | Used for rapid acceleration at highway speeds and general driving, up-hill and down-hill driving; starts off in 1st, shifts automatically to 2nd, then 3rd, depending on vehicle speed and throttle position. Downshifts through 2nd to 1st on deceleration to stop. The lock-up mechanism operates in 1st, 2nd, and 3rd gears. |

| | |
|---|---|
| 2: SECOND | Used for engine braking or better traction starting off on loose or slippery surfaces; stays in 2nd gear; does not shift up and down. |
| 1: FIRST | Used for engine braking; stays in 1st gear; does not upshift. |

Starting the engine is possible only in P and N because of a slide-type neutral-safety switch.

**Automatic Transmission Gear Position Indicator**

The A/T gear position indicator in the gauge control module shows which shift lever position has been selected without having look down at the shift lever.

**Clutches and Gears**

The five-speed automatic transmission uses hydraulically-actuated clutches to engage or disengage the transmission gears. When hydraulic pressure is introduced into the clutch drum, the clutch piston moves. This presses the friction discs and the steel plates together, locking them so they do not slip. Power is then transmitted through the engaged clutch pack to its hub-mounted gear. Likewise, when the hydraulic pressure is bled from the clutch pack, the piston releases the friction discs and the steel plates, and they are free to slide past each other. This allows the gear to spin independently on its shaft, transmitting no power.

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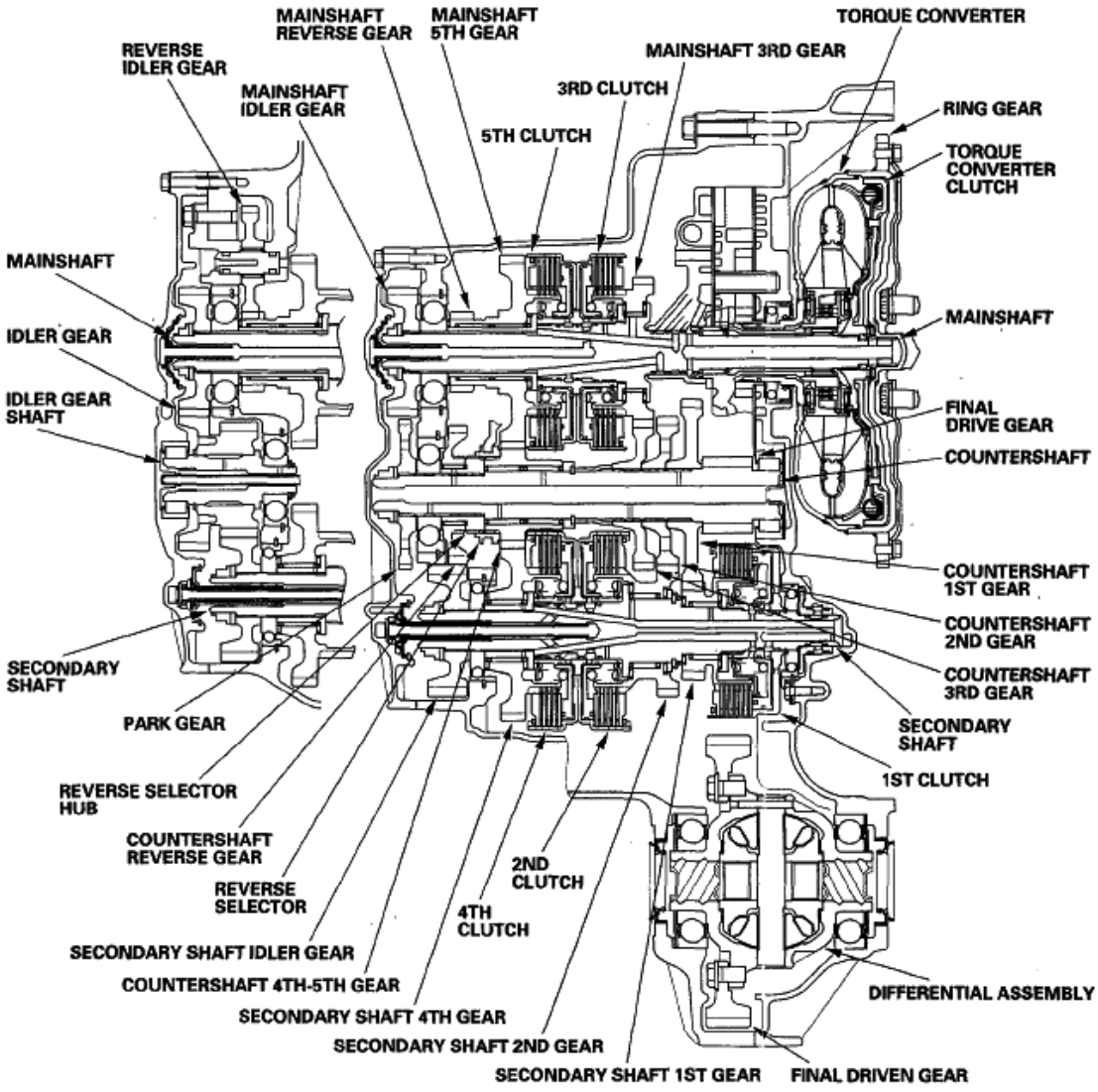



**Fig. 17: Section View Of Clutches And Gears**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**1st Clutch**

The 1st clutch engages/disengages 1st gear, and is located at the right end of the secondary shaft, opposite the end cover. The 1st clutch is supplied hydraulic pressure by a circuit connected to the internal hydraulic circuit.

**2nd Clutch**

The 2nd clutch engages/disengages 2nd gear, and is located at the middle of the secondary shaft. The 2nd clutch is joined back-to-back to the 4th clutch, and is

supplied hydraulic pressure by its ATF feed pipe within the secondary shaft.

**3rd Clutch**

The 3rd clutch engages/disengages 3rd gear, and is located at the middle of the mainshaft. The 3rd clutch is joined back-to-back to the 5th clutch, and is supplied hydraulic pressure by a circuit connected to the internal hydraulic circuit.

**4th Clutch**

The 4th clutch engages/disengages 4th gear, and is located at the middle of the secondary shaft. The 4th clutch is joined back-to-back to the 2nd clutch, and is supplied hydraulic pressure by its ATF feed pipe within the secondary shaft.

**5th Clutch**

The 5th clutch engages/disengages 5th gear, as well as reverse gear, and is located at the middle of the mainshaft. The 5th clutch is joined back-to-back to the 3rd clutch, and is supplied hydraulic pressure by a circuit connected to the internal hydraulic circuit.

**Gear Operation**

Gears on the mainshaft:

- 3rd gear is engages/disengages with the mainshaft by the 3rd clutch.
- 5th gear is engaged/disengages with the mainshaft by the 5th clutch.
- Reverse gear is engaged/disengaged with the mainshaft by the 5th clutch.
- Idler gear is splined with the mainshaft, and rotates with the mainshaft.

Gears on the countershaft:

- Final drive gear is integral with the countershaft.
- 1st, 2nd, 3rd, and park gears are splined with the countershaft, and rotate with the countershaft.
- 4th-5th gear and reverse gear rotate freely from the countershaft. The reverse selector engages 4th-5th gear and reverse gear with the reverse selector hub. The reverse selector hub is splined to the countershaft so 4th-5th gear and

reverse gear engage with the countershaft.

Gears on the secondary shaft:

- 1st gear is engaged/disengaged with the secondary shaft by the 1st clutch.
- 2nd gear is engaged/disengaged with the secondary shaft by the 2nd clutch.
- 4th gear is engages/disengages with the secondary shaft by the 4th clutch.
- Idler gear is splined with the secondary shaft, and rotates with the secondary shaft.

The idler gear on the idler gear shaft transmits power between the mainshaft and the secondary shaft.

The reverse idler gear transmits power from the mainshaft reverse gear to the countershaft reverse gear, and change rotational direction of the countershaft to reverse.

**Power Flow**

**P Position**

Hydraulic pressure is not applied to the clutches. Power is not transmitted to the countershaft. The countershaft is locked by the park pawl interlocking the park gear.

**N Position**

Engine power transmitted from the torque converter drives the mainshaft idler gear, the idler gear shaft idler gear, and the secondary shaft idler gear, but hydraulic pressure is not applied to the clutches. Power is not transmitted to the countershaft. In this position, the position of the reverse selector differs according to whether the shift lever shifted from D or R:

- When shifted from D, the reverse selector engages with the countershaft 4th-5th gear and the reverse selector hub, and the 4th-5th gear engages with the countershaft.
- When shifted from R, the reverse selector engages with the countershaft reverse gear and the reverse selector hub, and the reverse gear engages with the

countershaft.

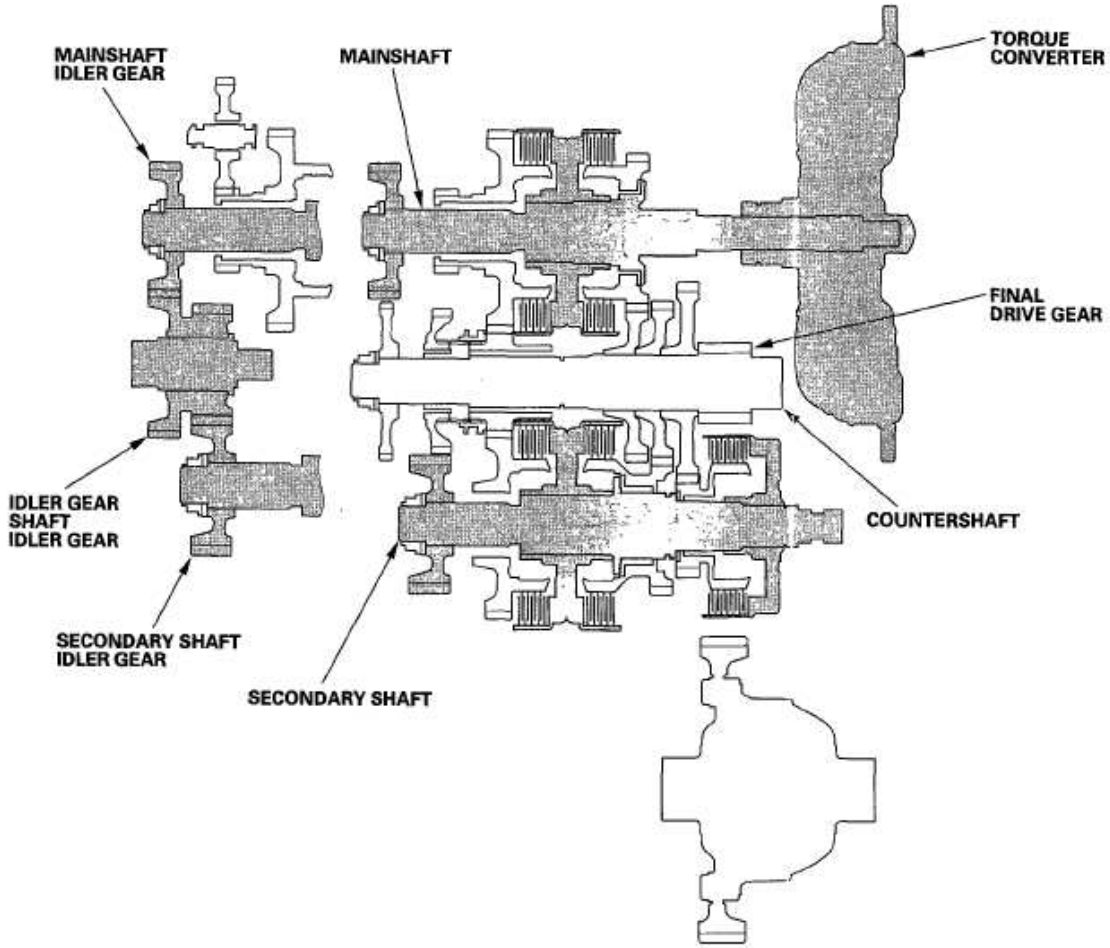



**Fig. 18: Automatic Transmission - Power Flow Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D, D3 Position**

In D and D3, the optimum gear is automatically selected from 1st, 2nd, 3rd, and 5th gears in D; 1st, 2nd, and 3rd gears in D3 according to conditions such as the balance between the throttle opening (engine loading) and the vehicle speed.

**In 1st Gear and 1 Position**

- Hydraulic pressure is applied to the 1st clutch, then the 1st clutch engages the secondary shaft 1st gear with the secondary shaft.
- The mainshaft idler gear drives the secondary shaft via the idler gear shaft idler

gear and the secondary shaft idler gear.

- The secondary shaft 1st gear drives the countershaft 1st gear and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

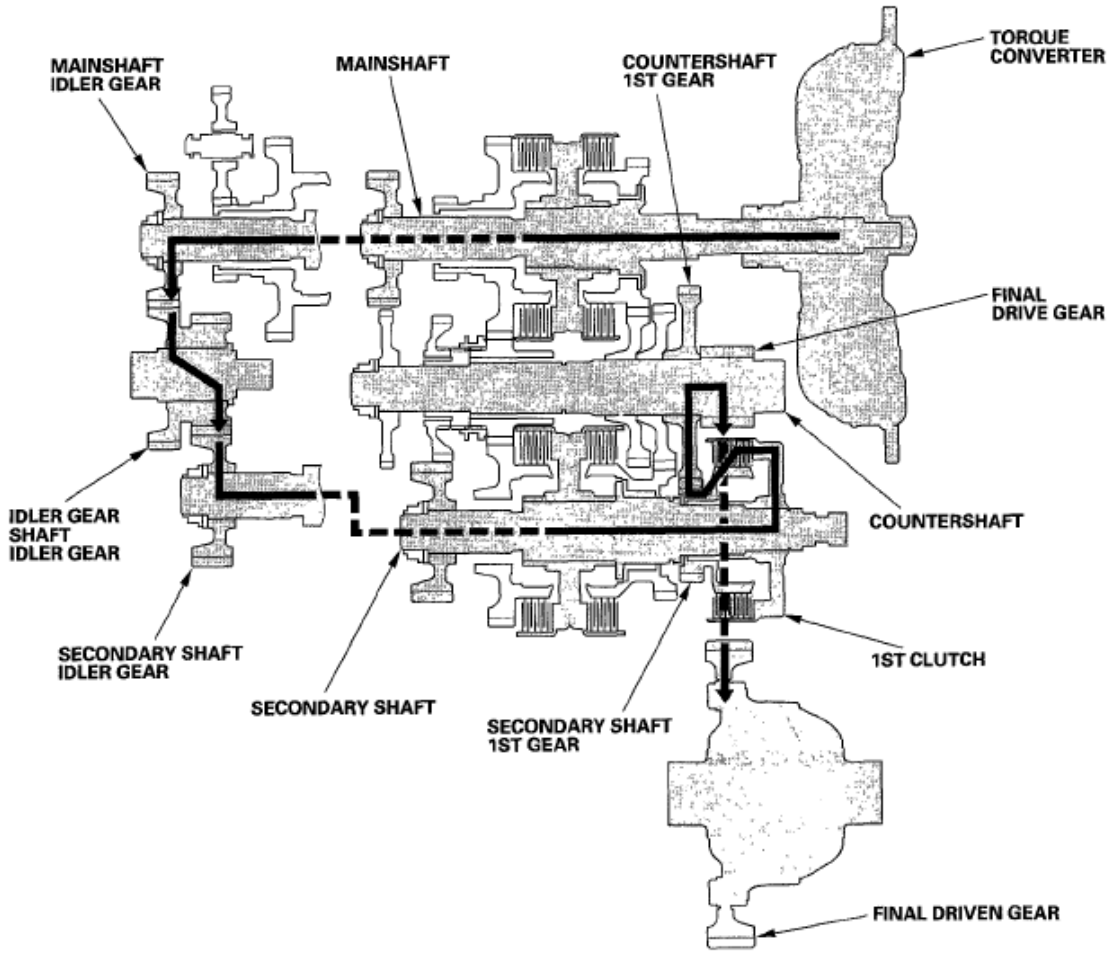



**Fig. 19: Automatic Transmission - Power Flow Diagram - 1st Gear And 1 Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**In 2nd Gear and 2 Position**

- Hydraulic pressure is applied to the 2nd clutch, then the 2nd clutch engages the secondary shaft 2nd gear with the secondary shaft.
- The mainshaft idler gear drives the secondary shaft via the idler gear shaft idler

gear and the secondary shaft idler gear.

- The secondary shaft 2nd gear drives the countershaft 2nd gear and the countershaft.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

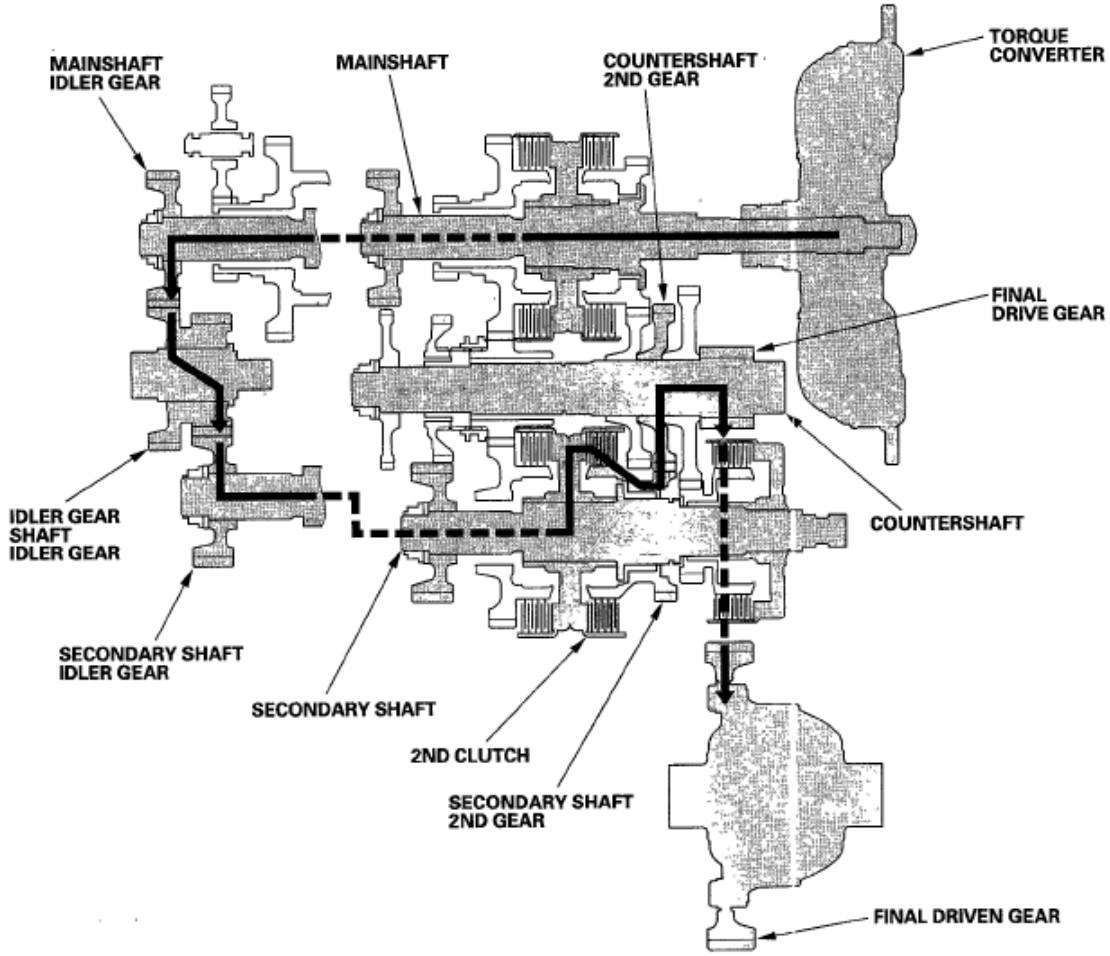



**Fig. 20: Automatic Transmission - Power Flow Diagram - 2nd Gear And 2 Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**In 3rd Gear**

- Hydraulic pressure is applied to the 3rd clutch, then the 3rd clutch engages the mainshaft 3rd gear with the mainshaft.
- The mainshaft 3rd gear drives the countershaft 3rd gear and the countershaft.

- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

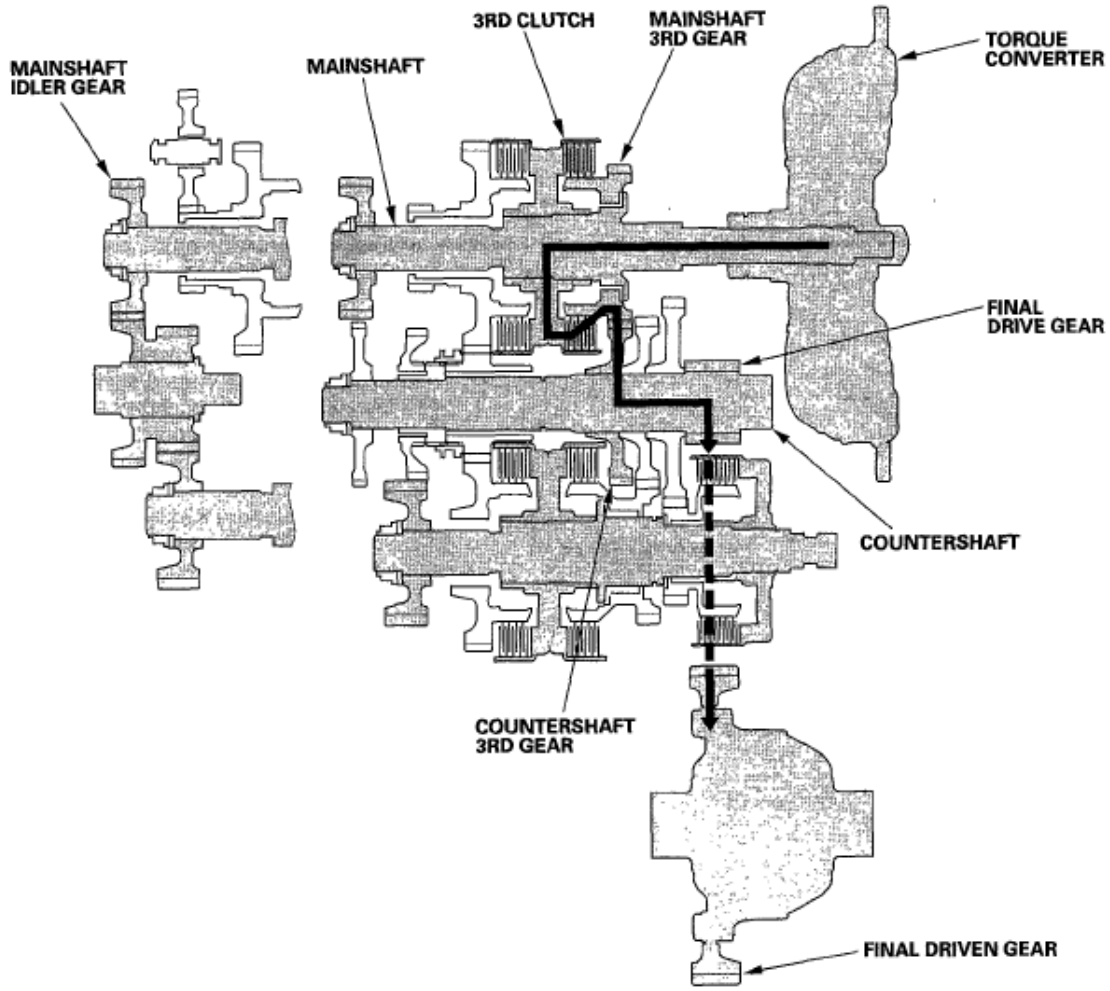



**Fig. 21: Automatic Transmission - Power Flow Diagram - 3rd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**In 4th Gear**

- Hydraulic pressure is applied to the 4th clutch, then the 4th clutch engages the secondary shaft 4th gear with the secondary shaft.
- The mainshaft idler gear drives the secondary shaft via the idler gear shaft idler gear and the secondary shaft idler gear.
- The secondary shaft 4th gear drives the countershaft 4th-5th gear.
- The countershaft 4th-5th gear drives the countershaft via the reverse selector,

which drives the reverse selector hub.

- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

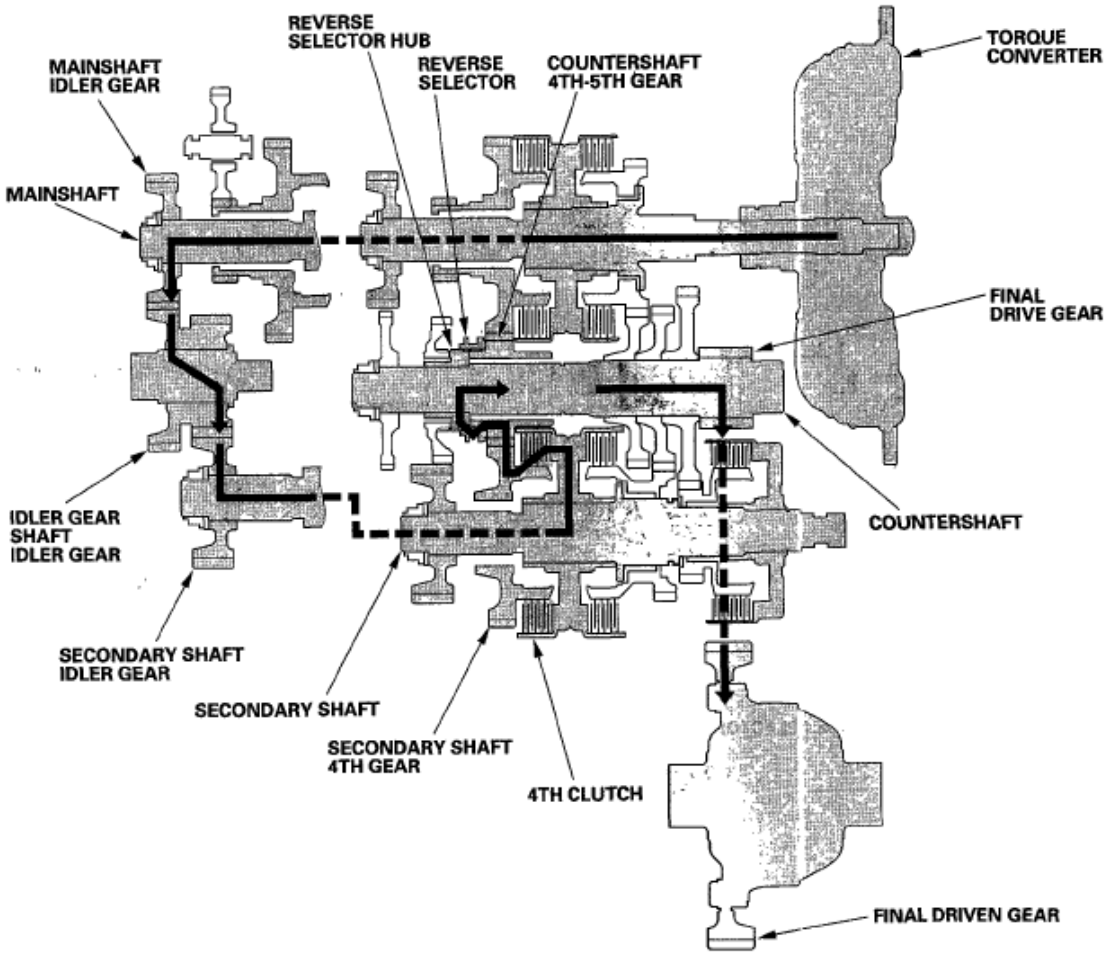



**Fig. 22: Automatic Transmission - Power Flow Diagram - 4th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**In 5th Gear**

- Hydraulic pressure is applied to the servo valve to engage the reverse selector with the countershaft 4th-5th gear and the reverse selector hub while the shift lever is in forward range; D, D3, 2, and 1.
- Hydraulic pressure is also applied to the 5th clutch, then the 5th clutch engages the mainshaft 5th gear with the mainshaft.
- The mainshaft 5th gear drives the countershaft 4th-5th gear.

- The countershaft 4th-5th gear drives the countershaft via the reverse selector, which drives the reverse selector hub.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

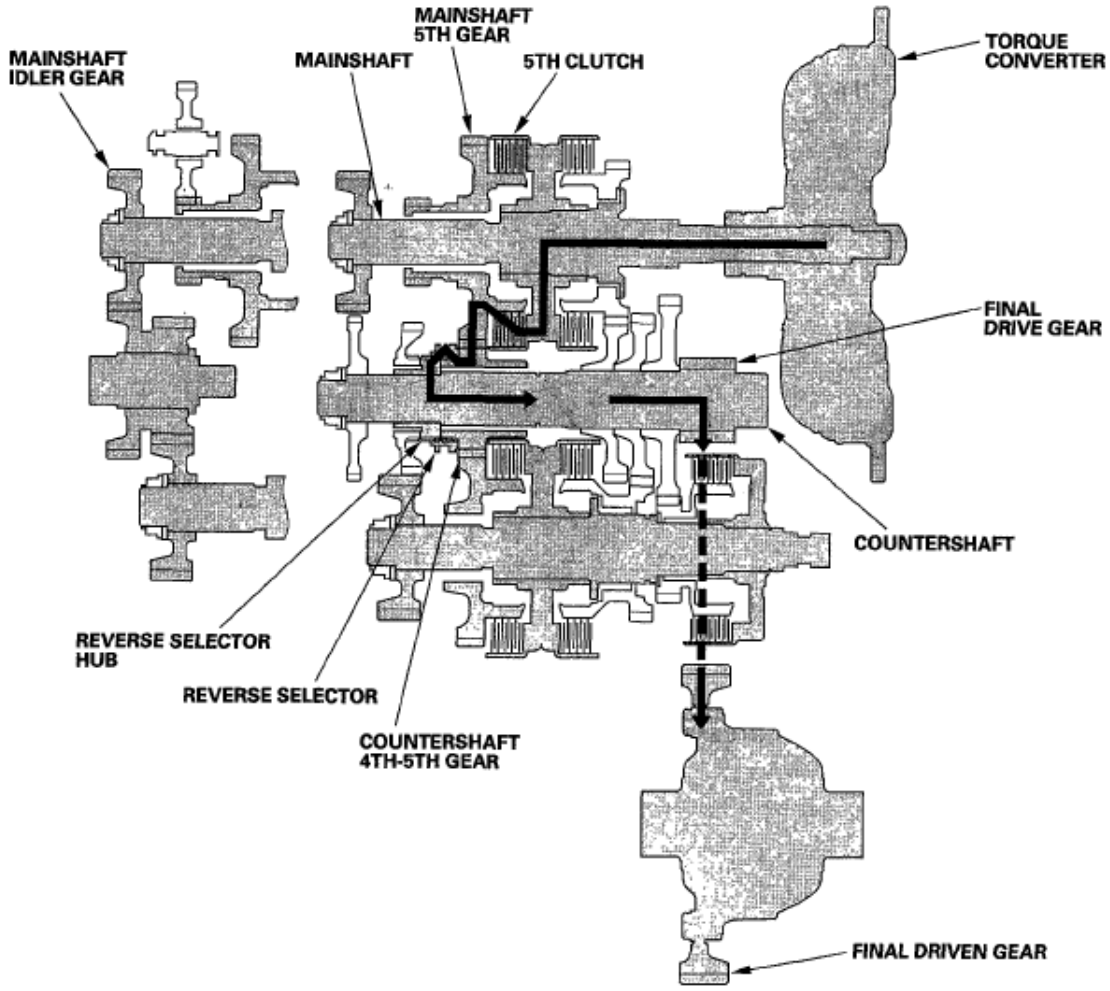



**Fig. 23: Automatic Transmission - Power Flow Diagram - 5th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**R Position**

- Hydraulic pressure is applied to the servo valve to engage the reverse selector with the countershaft reverse gear and the reverse selector hub while the shift lever is in R.
- Hydraulic pressure is also applied to the 5th clutch, then the 5th clutch engages

the mainshaft reverse gear with the mainshaft.

- The mainshaft reverse gear drives the countershaft reverse gear via the reverse idler gear.
- The rotational direction of the countershaft reverse gear is changed by the reverse idler gear.
- The countershaft reverse gear drives the countershaft via the reverse selector, which drives the reverse selector hub.
- Power is transmitted to the final drive gear, which in turn drives the final driven gear.

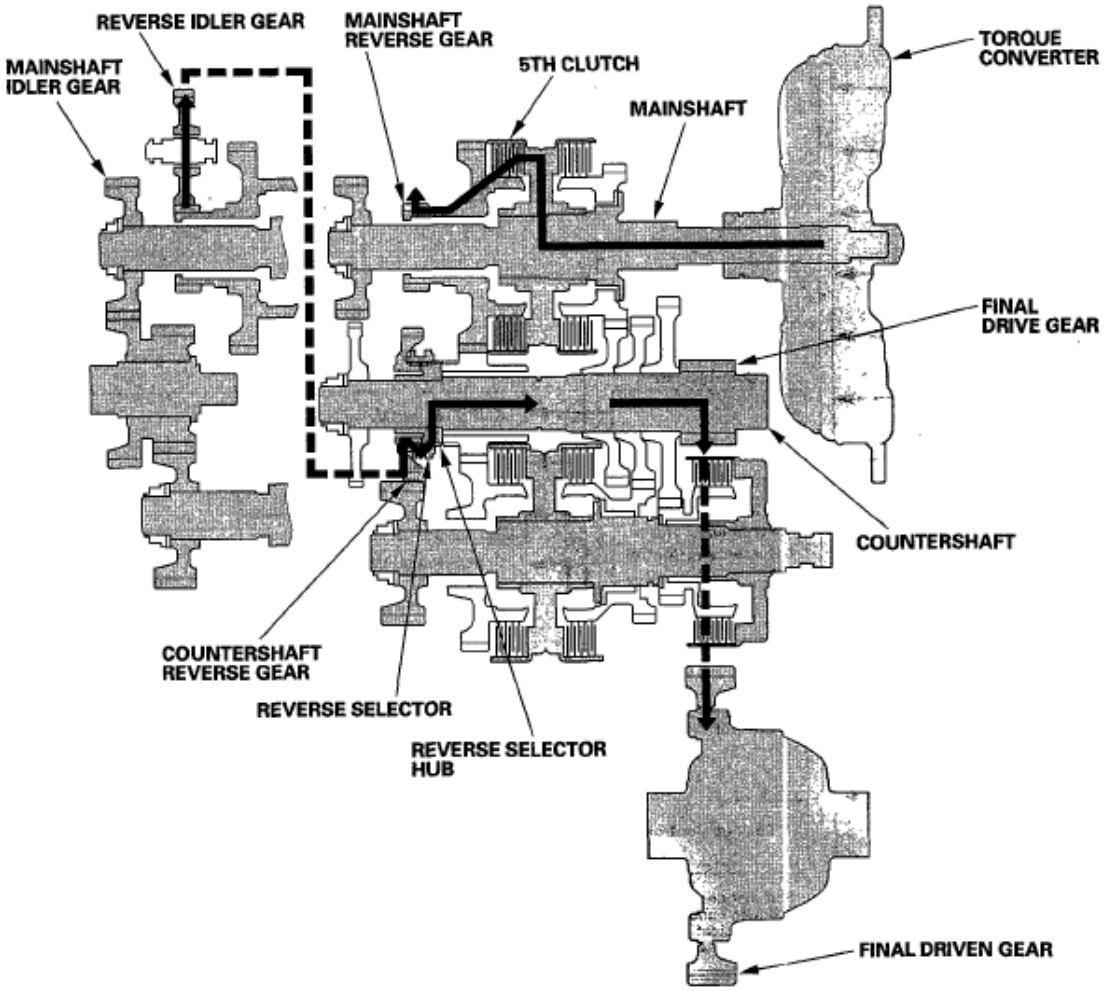



**Fig. 24: Automatic Transmission - Power Flow Diagram - R Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Electronic Control System**

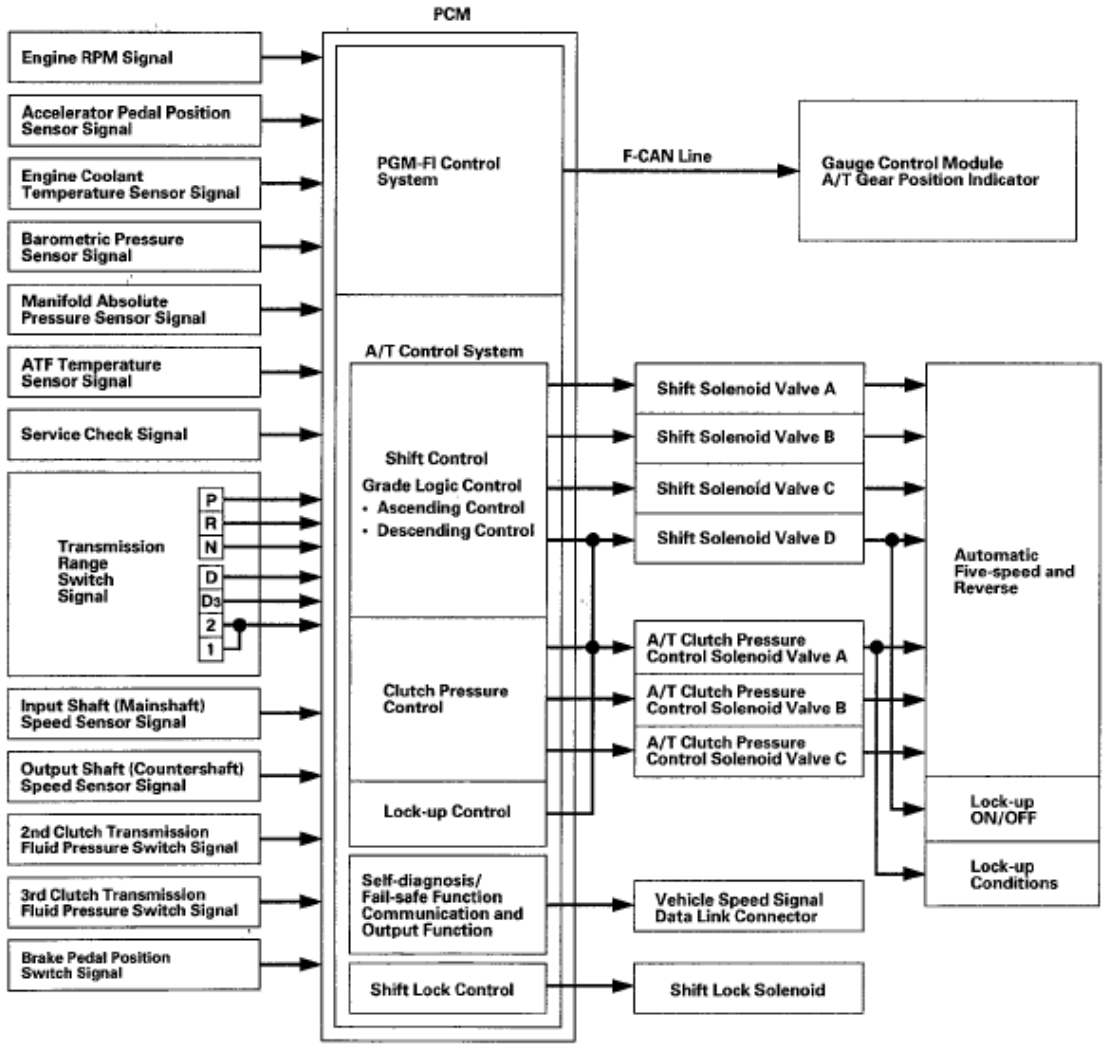
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**Electronic Control**

The electronic control system consists of the powertrain control module (PCM), sensors, and seven solenoid valves. Shifting and lock-up are electronically controlled for comfortable driving under all conditions.

The PCM receives input signals from the sensors, switches, and other control units, processes data, and outputs signals for the engine control system and A/T control system. The A/T control system includes shift control, grade logic control, clutch pressure control, and lock-up control. The PCM switches the shift solenoid valves and the A/T clutch pressure control solenoid valves to control shifting transmission gears and lock-up torque converter clutch.




## Fig. 25: Electronic Control System Diagram

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## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**Shift Control**

The PCM instantly determines which gear should be selected by various signals sent from the sensors and the switches, and actuates shift solenoid valves A, B, C, and D to control gear selection.

The shift solenoid valves are a normally closed type. When a shift solenoid valve is turned ON by the PCM, its port opens and the pressure from the shift solenoid valve (s) moves to the shift valves. When a shift solenoid valve is turned OFF by the PCM, its port closes, cutting off the pressure to the shift valves.

The combination of driving signals to shift solenoid valves A, B, C, and D and their respective gear position are shown in the table.

### SHIFT LEVER GEAR POSITION

| Shift lever Position | Gear Position | Shift Solenoid Valves | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| D, D3 | Shifting from N | OFF | OFF | OFF | OFF |
| | Stays in 1st | OFF | ON | OFF | ON or OFF |
| | Shifting gears between 1st and 2nd | ON | ON | OFF | ON or OFF |
| | Stays in 2nd | ON | OFF | OFF | ON or OFF |
| | Shifting gears between 2nd and 3rd | OFF | OFF | OFF | ON or OFF |
| | Stays in 3rd | OFF | OFF | ON | ON or OFF |
| D | Shifting gears between 3rd and 4th | ON | OFF | ON | ON or OFF |

| | | | | | |
|---|---|---|---|---|---|
| | Stays in 4th | ON | ON | ON | ON or OFF |
| | Shifting gears between 4th and 5th | OFF | ON | ON | ON or OFF |
| | Stays in 5th | OFF | ON | OFF | ON or OFF |
| 2 | 2nd | ON | OFF | OFF | ON or OFF |
| 1 | 1st | OFF | ON | OFF | ON or OFF |
| N | Neutral | OFF | OFF | OFF | OFF |
| R | Shifting from P and N | OFF | OFF | ON | ON |
| | Stays in reverse | OFF | ON | ON | ON |
| | Reverse inhibit control | ON | OFF | ON | OFF |
| P | Park | OFF | OFF | OFF | ON |

**Shift Control - Grade Logic Control**

The grade logic control system has been adopted to control shifting in D. To control shifting while the vehicle is ascending or descending a slope, the PCM compares actual driving conditions with programmed driving conditions, based on the input from the accelerator pedal position sensor, the throttle position sensor, the engine coolant temperature sensor, the barometric pressure sensor, the brake pedal position switch signal, and the shift lever position signal.

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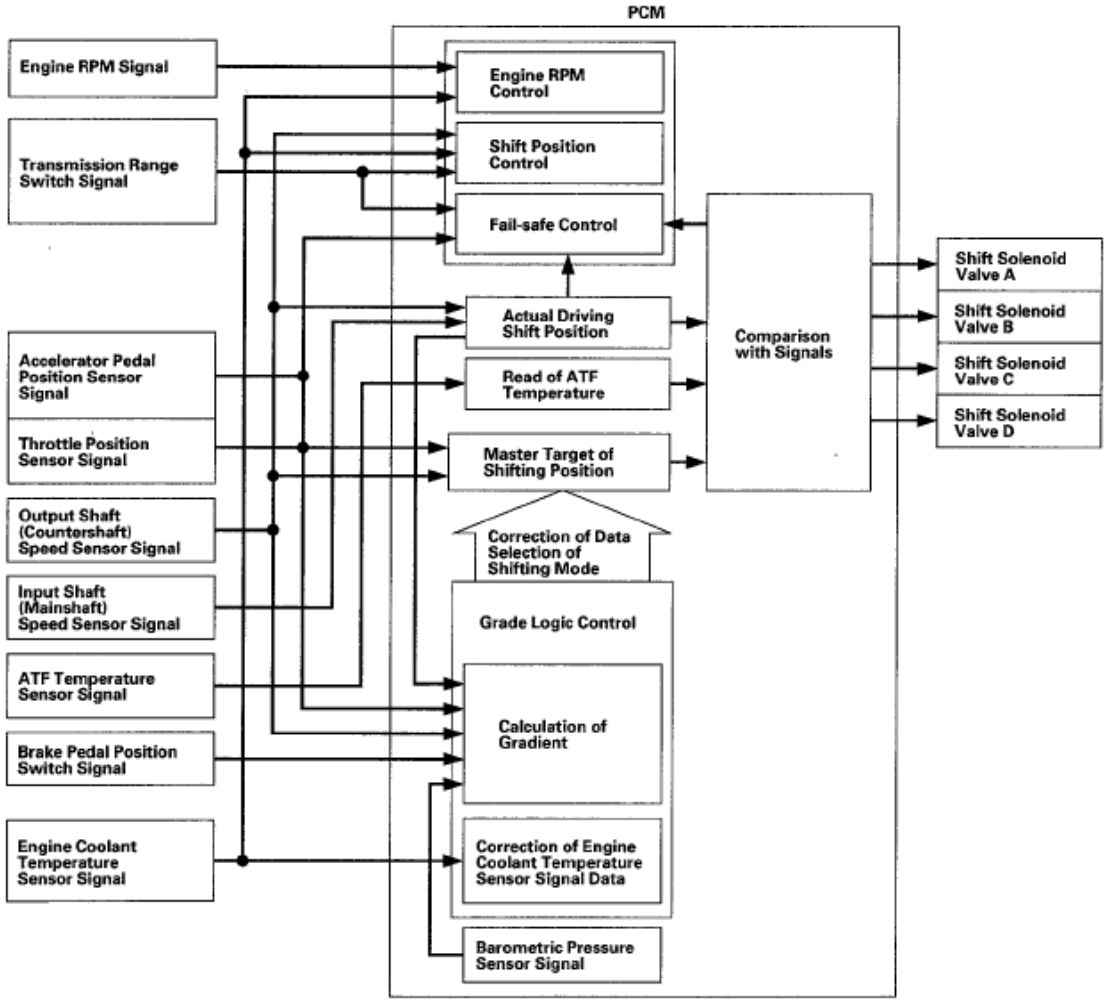



**Fig. 26: Shift Control - Grade Logic Control System Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Grade Logic Control: Ascending Control**

When the PCM determines that the vehicle is climbing a hill in D, the PCM extends the engagement area of 2nd gear, 3rd gear, and 4th gear to prevent the transmission from frequently shifting between 2nd and 3rd gears, between 3rd and 4th gears, and between 4th and 5th gears, so the vehicle can run smooth and have more power when needed.

**NOTE: Shift commands stored in the PCM between 2nd and 3rd gears, between 3rd and 4th gears, and between 4th and 5th gears, enable the PCM to automatically select the most suitable gear according to the magnitude of a gradient.**

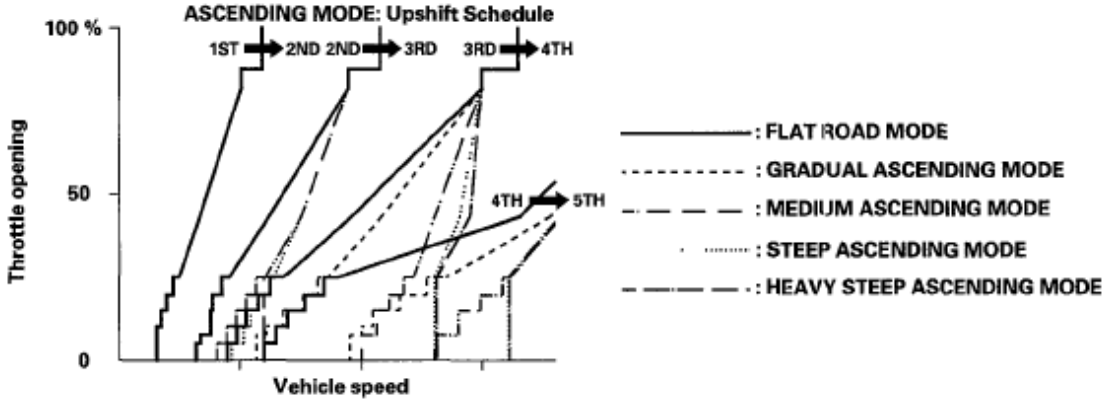



**Fig. 27: Grade Logic Control - Ascending Control Graph**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Grade Logic Control: Descending Control**

When the PCM determines that the vehicle is going down a hill in D, the shift-up speed from 4th to 5th gear, 3rd to 4th gear, and from 2nd to 3rd (when the throttle is closed) becomes faster than the set speed for flat road driving to extend the 4th gear, 3rd gear, and 2nd gear engagement areas. This, in combination with engine braking from the deceleration lock-up, achieves smooth driving when the vehicle is descending. There are three descending modes with different 4th gear driving areas, 3rd gear driving areas and 2nd gear driving areas according to the magnitude of a gradient stored in the PCM. When the vehicle is in 5th or 4th gear and you are decelerating while applying the brakes on a steep hill, the transmission will downshift to a lower gear. When you accelerate, the transmission will then return to a higher gear.

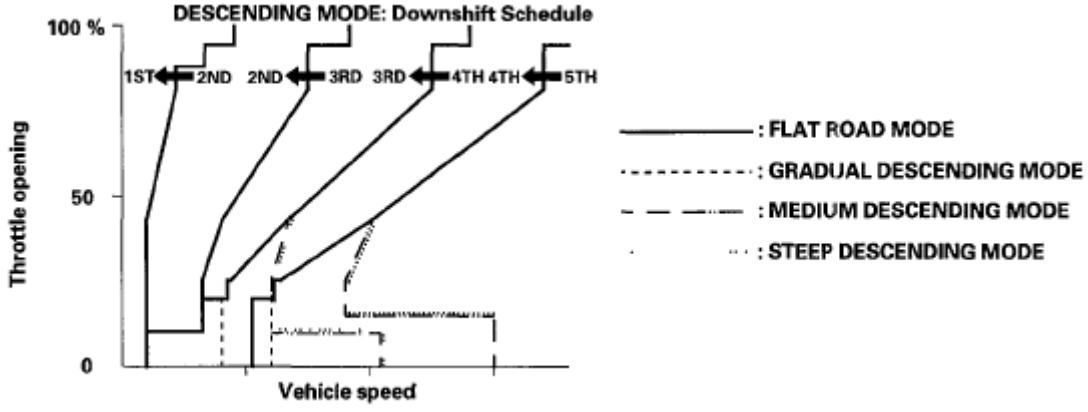



**Fig. 28: Grade Logic Control - Descending Control Graph**

## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**Clutch Pressure Control**

The PCM actuates A/T clutch pressure control solenoid valves A, B, and C to control the clutch pressure. When shifting between gears, the clutch pressure regulated by A/T clutch pressure control solenoid valves A, B, and C engages and disengages the clutch smoothly.

The PCM receives input signals from the various sensors and switches, processes data, and outputs current to A/T clutch pressure control solenoid valves A, B, and C.

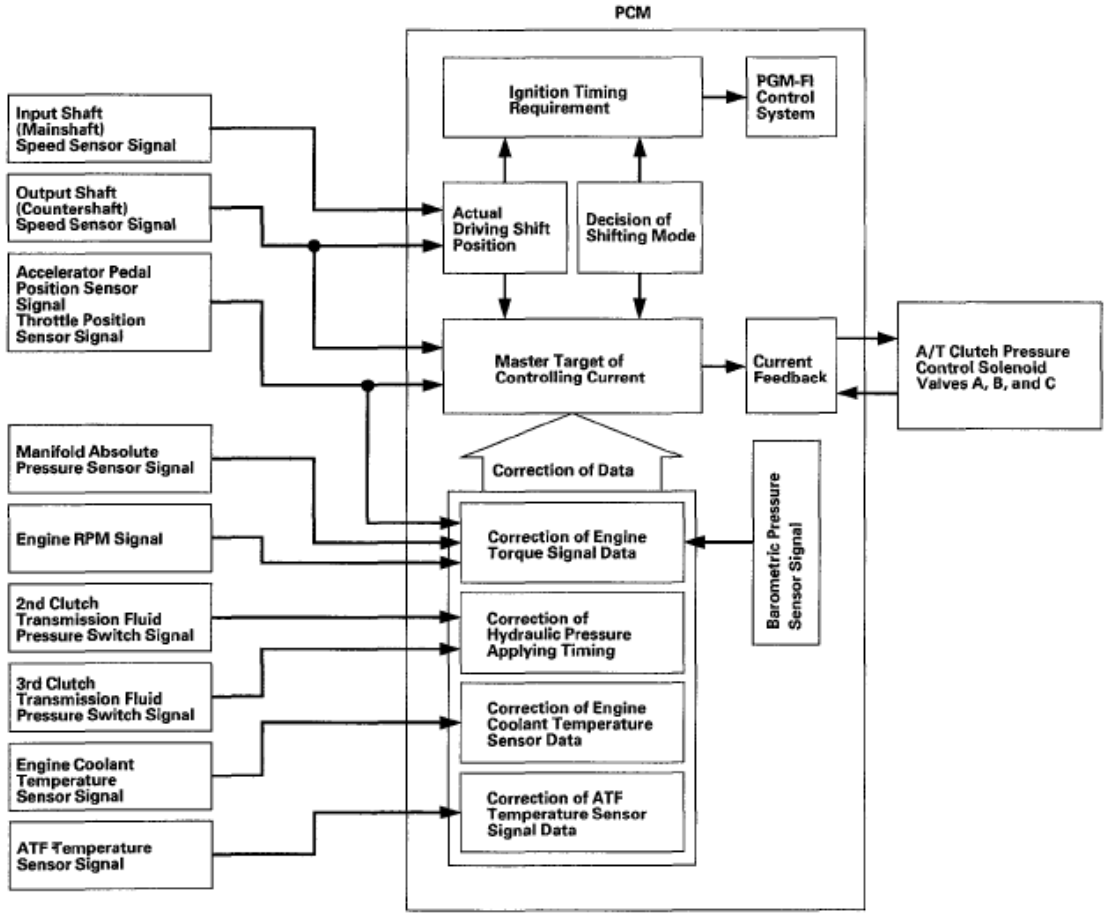



**Fig. 29: Clutch Pressure Control System Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Lock-up Control**

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Shift solenoid valve D controls the hydraulic pressure to switch the lock-up shift valve and lock-up ON and OFF. The PCM actuates shift solenoid valve D and A/T clutch pressure control solenoid valve A to start lock-up. A/T clutch pressure control solenoid valve A applies and regulates hydraulic pressure to the lock-up control valve to control the volume of the lock-up. The lock-up mechanism operates in D (1st, 2nd, 3rd, 4th, and 5th gears) and in D3 (1st, 2nd, and 3rd gears).

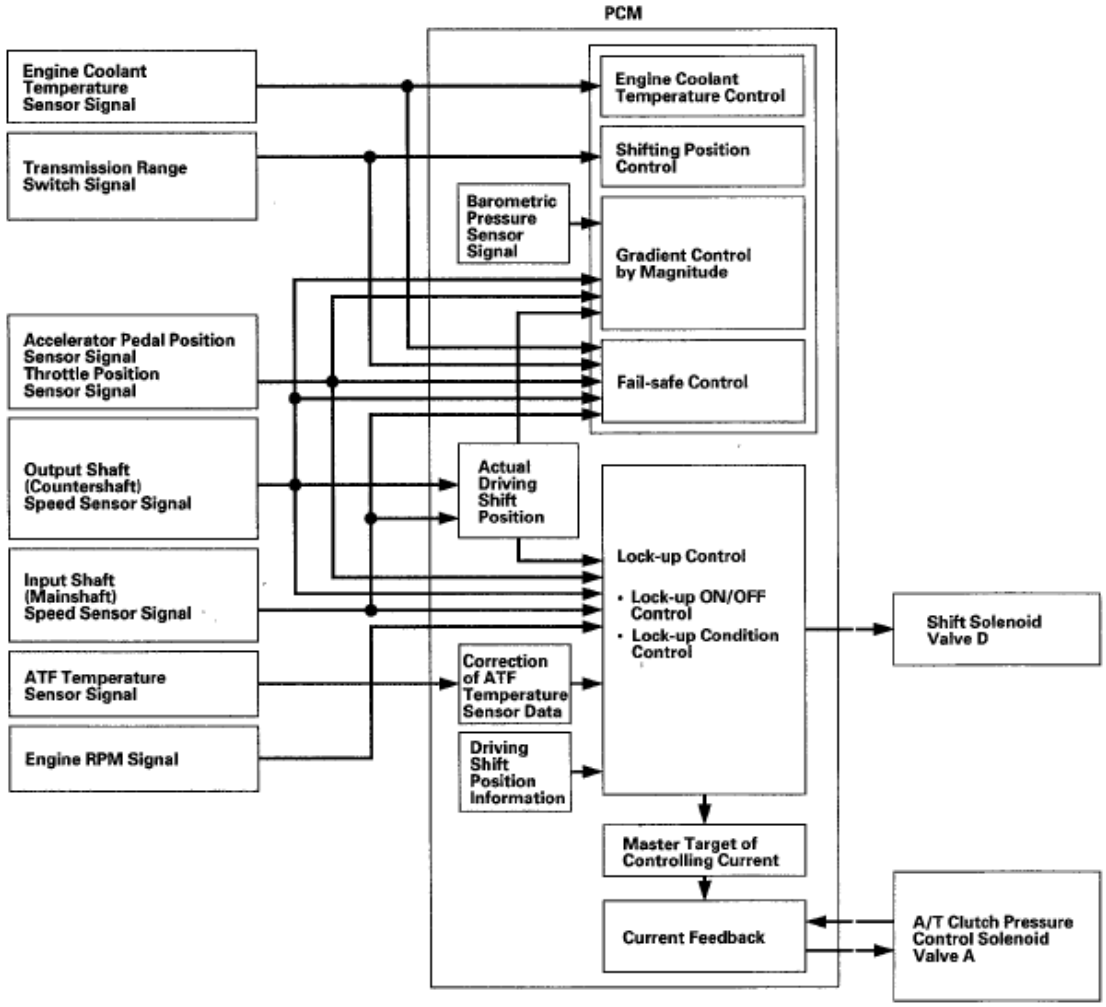
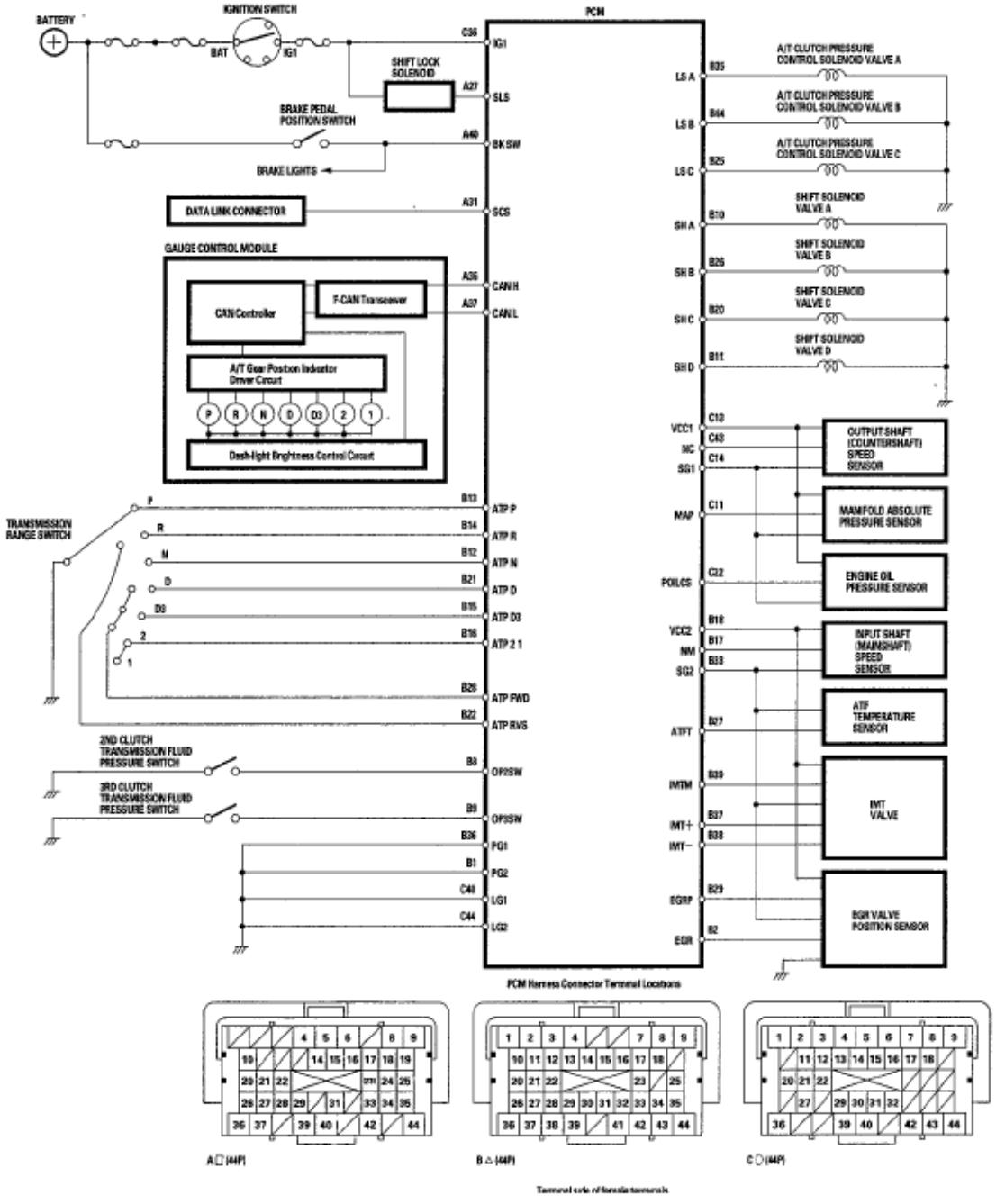



**Fig. 30: Lock-Up Control System Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**PCM A/T Control System Electrical Connections**

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# Fig. 31: PCM A/T Control System - Circuit Diagram
# Courtesy of AMERICAN HONDA MOTOR CO., INC.

**PCM A/T Control System Inputs and Outputs**

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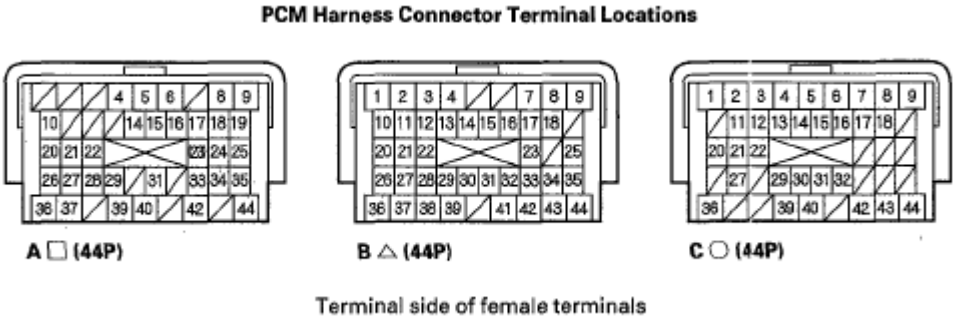



**Fig. 32: Identifying PCM Harness Connector Terminal Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## PCM CONNECTOR A [] (44P)

## CONNECTOR TERMINAL WIRE COLOR REFERENCE

| Terminal number | Wire color | Terminal name | Description | Signal |
|---|---|---|---|---|
| A27 | PNK | SLS (SHIFT LOCK SOLENOID) | Drives shift lock solenoid | With ignition switch ON (II), in P, brake pedal pressed, and accelerator released: Battery voltage |
| A31 | BRN | SCS (SERVICE CHECK SIGNAL) | Detects service check signal | With service check signal shorted using the HDS: About 0 V<br>With service check signal |

| | | | | |
|---|---|---|---|---|
| | | | | opened About 5.0 V |
| A36 | WHT | CAN H (CAN COMMUNICATION SIGNAL HIGH) | Sends and receives communication signal | With ignition switch ON (II): About 2.5 V (pulses) |
| A37 | RED | CAN L (CAN COMMUNICATION SIGNAL LOW) | Sends and receives communication signal | With ignition switch ON (II): About 2.5 V (pulses) |
| A40 | LT GRN | BK SW (BRAKE PEDAL POSITION SWITCH) | Detects brake pedal position switch signal | With brake pedal pressed: Battery voltage With Brake pedal released: About 0 V |
| **NOTE:** **Standard battery voltage is about 12 V.** | | | | |

## PCM CONNECTOR B (TRIANGLE SYMBOL) (44P)

## CONNECTOR TERMINAL WIRE COLOR REFERENCE

| Terminal number | Wire color | Terminal name | Description | Signal |
|---|---|---|---|---|
| B1 | BLK | PG2 (POWER GROUND) | Ground circuit for PCM circuit | Less than 1.0 V at all times |
| B2 | BLU/RED | EGR (EXHAUST | Drives EGR | With EGR |

| | | | | |
|---|---|---|---|---|
| | | GAS RECIRCULATION (EGR) VALVE) | valve | operating: Duty controlled With EGR not operating: About 0 V |
| B8 | BLU/YEL | OP2SW (2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH) | Detects 2nd clutch transmission fluid pressure switch signal | With ignition switch ON (II):<br>• Without 2nd clutch pressure: About 5.0 V<br>• With 2nd clutch pressure: About 0 V |
| B9 | BLK/RED | OP3SW (3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH) | Detects 3rd clutch transmission fluid pressure switch signal | With ignition switch ON (II):<br>• Without 3rd clutch pressure: About 5.0 V<br>• With 3rd clutch pressure: About 0 V |
| B10 | BLU | SH A (SHIFT SOLENOID VALVE A) | Drivers shift solenoid valve A | With engine running in 2, D (in 2nd and 4th gears), and D3 (in 2nd gear): |

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| | | | | |
|---|---|---|---|---|
| | | | | Battery voltage<br>With engine running in P, R, N, 1, and D (in 1st, 3rd, and 5th gears), and D3 (in 1st and 3rd gears)<br>About 0 V |
| B11 | GRN/RED | SH D (SHIFT SOLENOID VALVE D) | Drivers shift solenoid valve D | With engine running in P and R: Battery voltage<br>With engine running in N: About 0 V |
| B12 | RED/BLK | ATP N (TRANSMISSION RANGE SWITCH N) | Detects transmission range switch N position signal | In N: About 0 V<br>In any position other than N: About 5.0 V |
| B13 | BLU/BLK | ATP P (TRANSMISSION RANGE SWITCH P) | Detects transmission range switch P position signal | In P: About 0 V<br>In any position other than P: About 5.0 V |
| B14 | WHT/GRN | ATP R (TRANSMISSION RANGE SWITCH R) | Detects transmission range switch R position signal | In R: About 0 V<br>In any position other than R: About 5.0 V |
| B15 | RED | ATP D3 (TRANSMISSION RANGE SWITCH D3) | Detects transmission range switch D3 position | In D3: About 0 V<br>In any position other than D3: |

| | | | | |
|---|---|---|---|---|
| | | | signal | Battery voltage |
| B16 | BRN | ATP 2-1 (TRANSMISSION RANGE SWITCH 2-1) | Detects transmission range switch 2 position and 1 position signal | In 2 and 1: About 0 V<br>In any position other than 2 and 1: Battery voltage |
| B17 | WHT/RED | NM (INPUT SHAFT (MAINSHAFT) SPEED SENSOR) | Detects input shaft (mainshaft) speed sensor signal | With the ignition switch ON (II): About 0 V or about 5.0 V<br>With engine idling in N: About 2.5 V (pulses) |
| B18 | YEL/BLU | VCC2 (SENSOR VOLTAGE) | Provides sensor reference voltage | With the ignition switch ON (II): About 5.0 V |
| B20 | GRN | SH C (SHIFT SOLENOID VALVE C) | Drives shift solenoid valve C | With engine running in R, D3 (in 3rd gear), and D (in 3rd gear): Battery voltage<br>With engine running in P, N, 2, D3 (in 1st and 2nd gears), and D (in 1st, 2nd, 4th, and 5th gears): About 0 V |
| B21 | YEL/GRN | ATP D | Detects | In D: About 0 |

| | | | | |
|---|---|---|---|---|
| | | (TRANSMISSION RANGE SWITCH D) | transmission range switch D position signal | V<br>In any position other than D: Battery voltage |
| B22 | YEL | ATP RVS (TRANSMISSION RANGE SWITCH RVS) | Detects transmission range switch R position signal | In R: About 0 V<br>In any position other than R: Battery voltage |
| B25 | BLU/WHT | LS C (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C) | Drives A/T clutch pressure control solenoid valve C | With ignition switch ON (II) Current controlled |
| B26 | GRN/WHT | SH B (SHIFT SOLENOID VALVE B) | Drives shift solenoid valve B | With engine running in R, 1, D3 (in 1st gear), and D (in 1st gear) Battery voltage<br>With engine running in P, N, 2, D3 (in 2nd and 3rd gears), and D (in 2nd, 3rd, 4th, and 5th gears): About 0 V |
| B27 | BRN/RED | ATFT (ATF TEMPERATURE SENSOR) | Detects ATF temperature sensor signal | With igniting switch ON (II): 0.2-4.8 V (about 1.8 V at operating |

| | | | | |
|---|---|---|---|---|
| | | | | temperature) (depending on ATF temperature) |
| B28 | BLU/YEL | ATP FWD (TRANSMISSION RANGE SWITCH FWD) | Detects transmission range switch D, D3, and 2 positions signal | In D, D3, and 2: About 0 V In any position other than D, D3, and 2: Battery voltage |
| B29 | WHT/BLK | EGRP (EXHAUST GAS RECIRCULATION (EGR) VALVE POSITION SENSOR) | Detects EGR valve position sensor signal | With engine running. 1.2-3.0 V (depending on EGR valve lift) |
| B33 | GRN/YEL | SG2 (SENSOR GROUND) | Sensor ground | Less than 1.0 V at all times |
| B35 | WHT | LS A (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A) | Drives A/T clutch pressure control solenoid valve A | With ignition switch ON (II): Current controlled |
| B36 | BLK | PG1 (POWER GROUND) | Ground circuit for PCM circuit | Less than 1.0 V at all times |
| B37 | BRN | IMT + (INTAKE MANIFOLD TUNING (IMT) ACTUATOR + SIDE) | Drives IMT actuator | With ignition switch ON (II). Battery voltage |
| B38 | WHT/BLK | IMT - (INTAKE MANIFOLD TUNING (IMT) ACTUATOR - SIDE) | Ground for IMT actuator | With ignition switch ON (II): About 4.5 V (between IMT |

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| | | | | |
|---|---|---|---|---|
| | | | | + terminal and IMT - terminal) |
| B39 | WHT | IMTM (INTAKE MANIFOLD TUNING (IMT) VALVE MONITOR) | Detects IMT valve position | With ignition switch ON (II): About 0 V<br>With engine speed about 5,200 rpm: About 5.0 V |
| B44 | BRN/WHT | LS B (A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B) | Drives A/T clutch pressure control solenoid valve B | With ignition switch ON (II): Current controlled |
| **NOTE:**<br>**Standard battery voltage is about 12 V.** | | | | |

## PCM CONNECTOR C o (44P)

## CONNECTOR TERMINAL WIRE COLOR REFERENCE

| Terminal number | Wire color | Terminal name | Description | Signal |
|---|---|---|---|---|
| C11 | GRN/RED | MAP (MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR) | Detects MAP sensor signal | With ignition switch ON (II): About 3.0 V<br>At idle: About 1.0 V (depending on engine speed) |
| C13 | YEL/RED | VCC1 (SENSOR | Provides sensor | With |

| | | | | |
|---|---|---|---|---|
| | | VOLTAGE) | reference voltage | ignition switch ON (II): About 5 0 V |
| C14 | GRN/WHT | SG1 (SENSOR GROUND) | Sensor ground | Less than 1.0 V at all times |
| C22 | WHT/BLK | POILCS (ENGINE OIL PRESSURE (EOP) SENSOR) | Detects EOP sensor signal | With ignition switch ON (II). About 0.5 V<br>With engine running: About 0.7 V (depending on engine oil pressure) |
| C36 | BLK/YEL | IG1 (IGNITION SIGNAL) | Detects ignition switch signal | With ignition switch ON (II): Battery voltage |
| C40 | BRN/YEL | LG1 (LOGIC GROUND) | Ground circuit for PCM circuit | Less than 1.0 V at all times |
| C43 | BLK/BLU | NC (OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR) | Detects output shaft (countershaft) speed sensor signal | With ignition switch ON (II): About 0 V or about 5 0 V<br>With vehicle moving About 2.5 V |

| | | | | |
|---|---|---|---|---|
| | | | | (pulses) |
| C44 | BRN/YEL | LG2 (LOGIC GROUND) | Ground circuit for PCM circuit | Less than 1.0 V at all times |

**NOTE:**
**Standard battery voltage is about 12 V.**

**Hydraulic Controls**

The valve body includes the main valve body, the regulator valve body, and the servo body. The ATF pump is driven by splines on the end of the torque converter which is attached to the engine. Fluid flows through the regulator valve to maintain specified pressure through the main valve body to the manual valve, directing pressure to each of the clutches. Shift solenoid valves A, B, C, and D are mounted on the servo body. A/T clutch pressure control solenoid valves A, B, and C are mounted on the transmission housing.

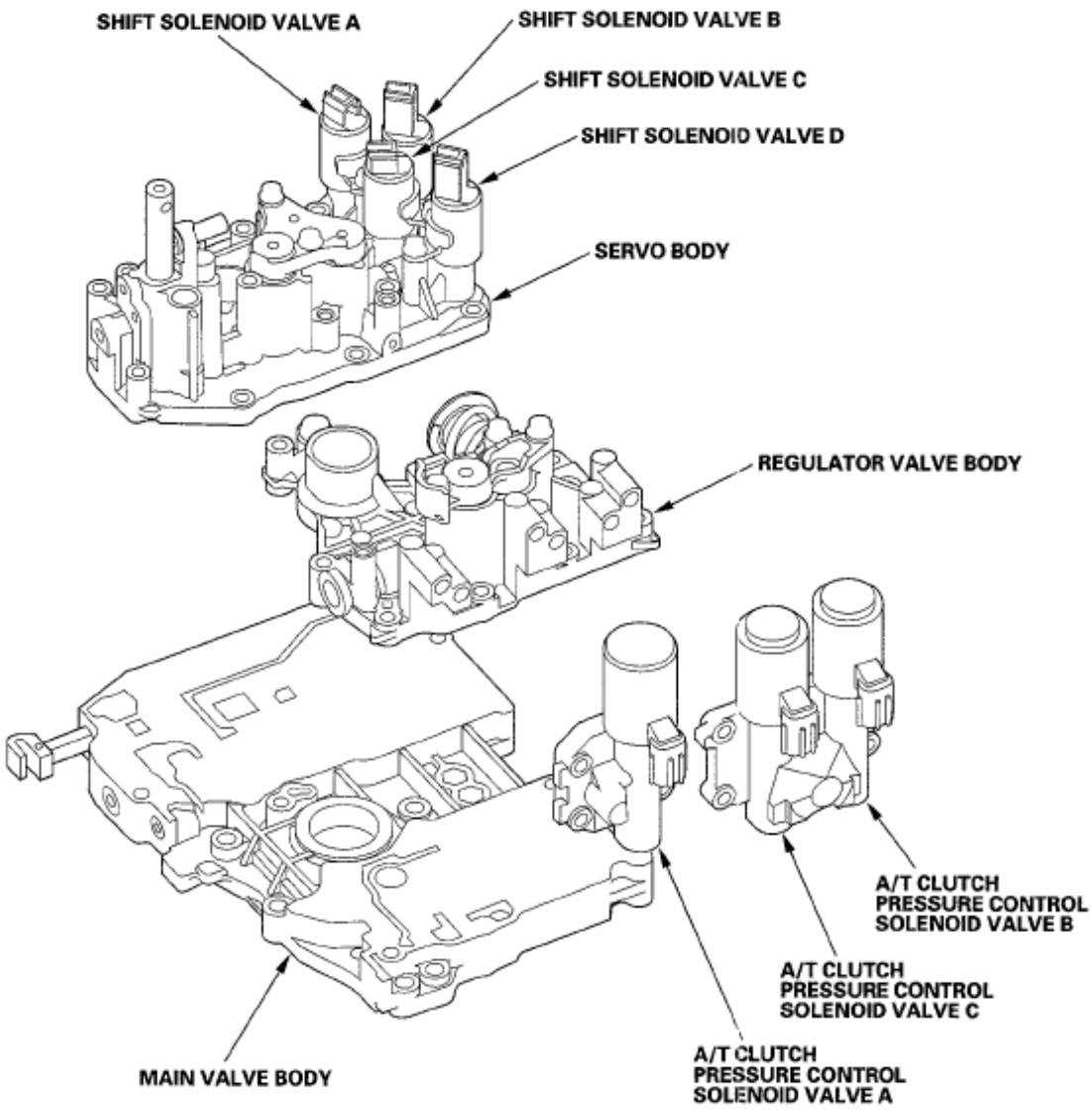



**Fig. 33: Identifying A/T Clutch Pressure Control Solenoid Valves Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Main Valve Body**

The main valve body contains the manual valve, cut valve B, shift valves A, C, and D, the relief valve, the lock-up control valve, the cooler check valve, the servo control valve, and the ATF pump gears. The primary function of the main valve body is to switch fluid pressure on and off to control hydraulic pressure going to the hydraulic control system.

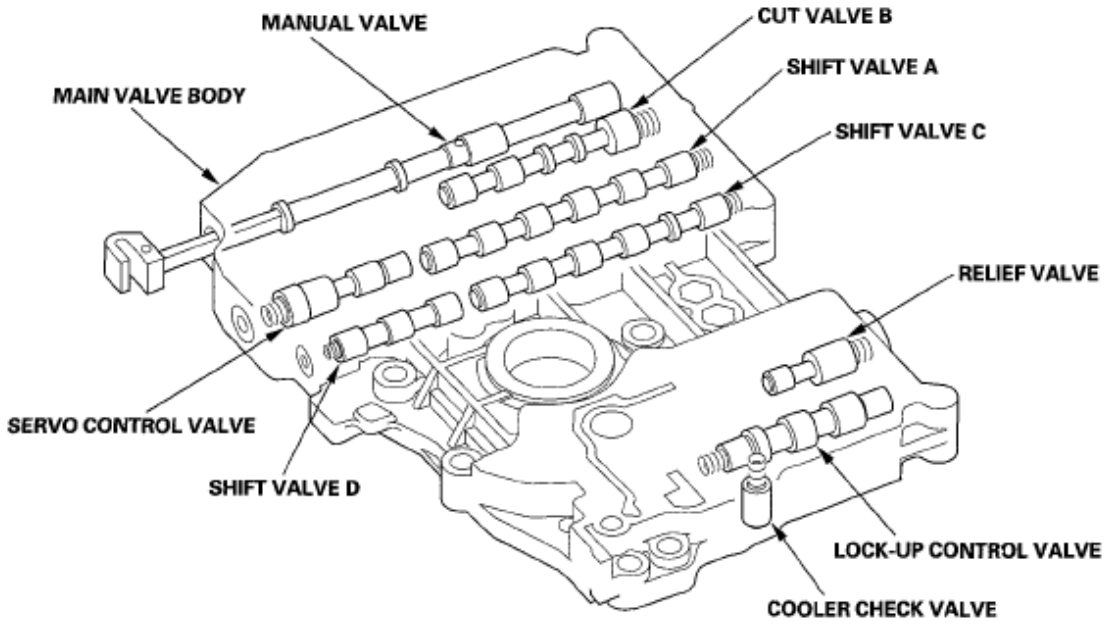



**Fig. 34: Identifying Main Valve Body Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Regulator Valve Body**

The regulator valve body is located on the main valve body. The regulator valve body contains the regulator valve, the torque converter check valve, the lock-up shift valve, the 1st accumulator, and the 3rd accumulator.

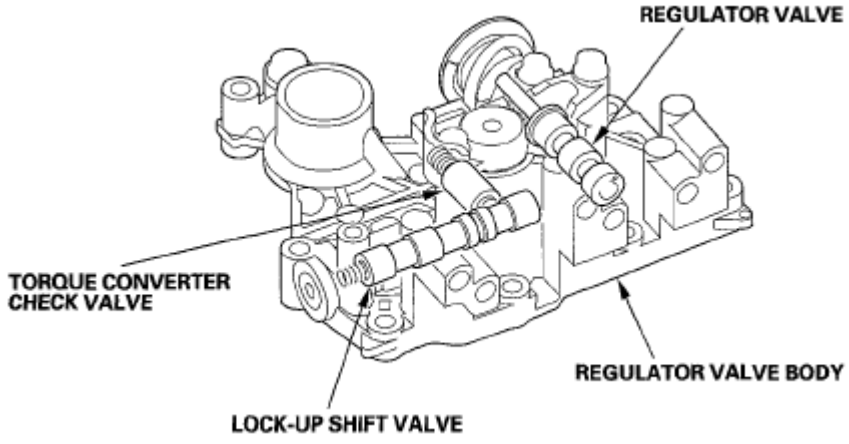



**Fig. 35: Identifying Regulator Valve Body Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Regulator Valve**

The regulator valve maintains constant hydraulic pressure from the ATF pump to the hydraulic control system. While also furnishing fluid to the lubrication system and the torque converter. Fluid from the ATF pump flows through B and B'. Fluid entering from B flows through the valve orifice to the A cavity. This pressure of the A cavity pushes the regulator valve toward the spring, and this movement of the regulator valve uncovers the fluid port to the torque converter and the relief valve. The fluid flows out to the torque converter and the relief valve, and the regulator valve returns under spring force. According to the level of the hydraulic pressure through B, the position of the regulator valve changes, and the amount of fluid from B' through the torque converter changes. This operation is continued, maintaining the line pressure.

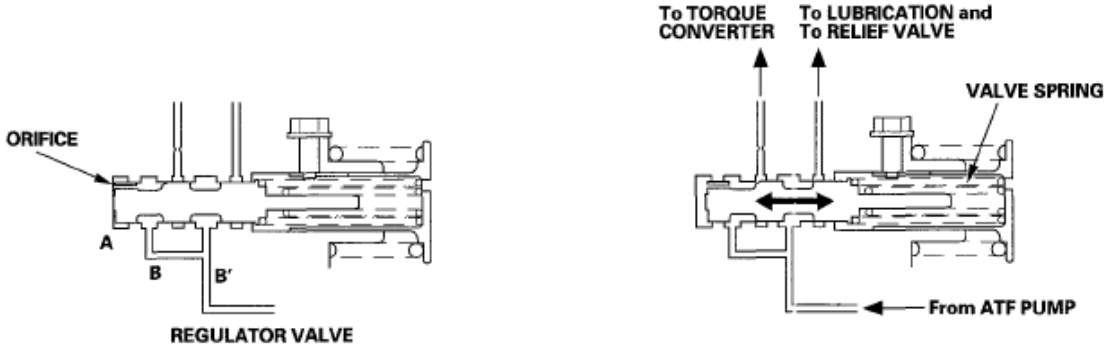



**Fig. 36: Regulator Valve Operation Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Increases in hydraulic pressure according to torque are regulated by the regulator valve using stator torque reaction. The stator shaft is splined to the stator in the torque converter, and its arm end contacts the regulator spring cap. When the vehicle is accelerating or climbing (torque converter range), stator torque reaction acts on the stator shaft, and the stator arm pushes the regulator spring cap in the direction of the arrow in proportion to the reaction. The stator reaction spring compresses, and the regulator valve moves to increase the line pressure which is regulated by the regulator valve. The line pressure reaches its maximum when the stator torque reaction reaches its maximum.

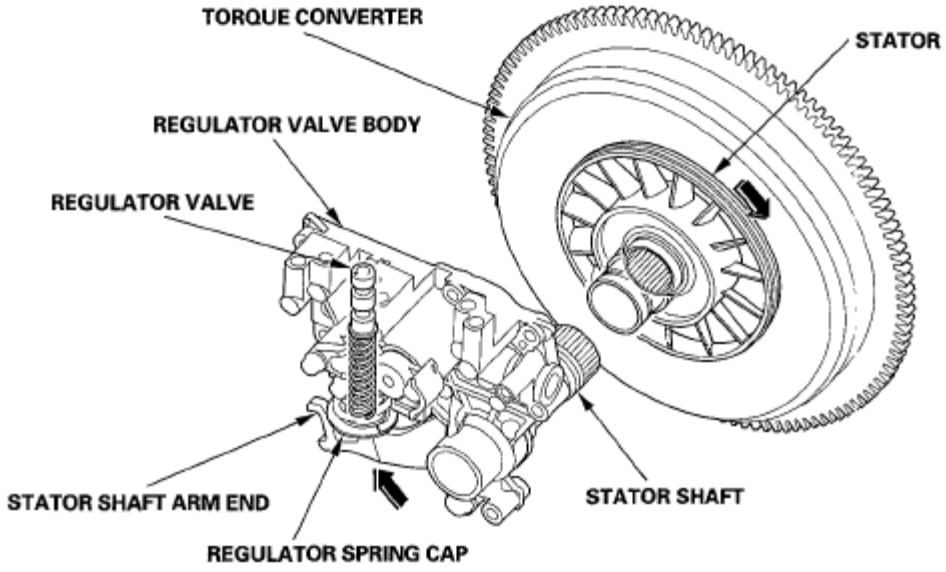



**Fig. 37: Identifying Regulator Spring Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Servo Body**

The servo body is on the main valve body. The servo body contains the servo valve, shift valve B, cut valve A, the accumulators for 2nd, 4th, and 5th, and shift solenoid valves A, B, C, and D.

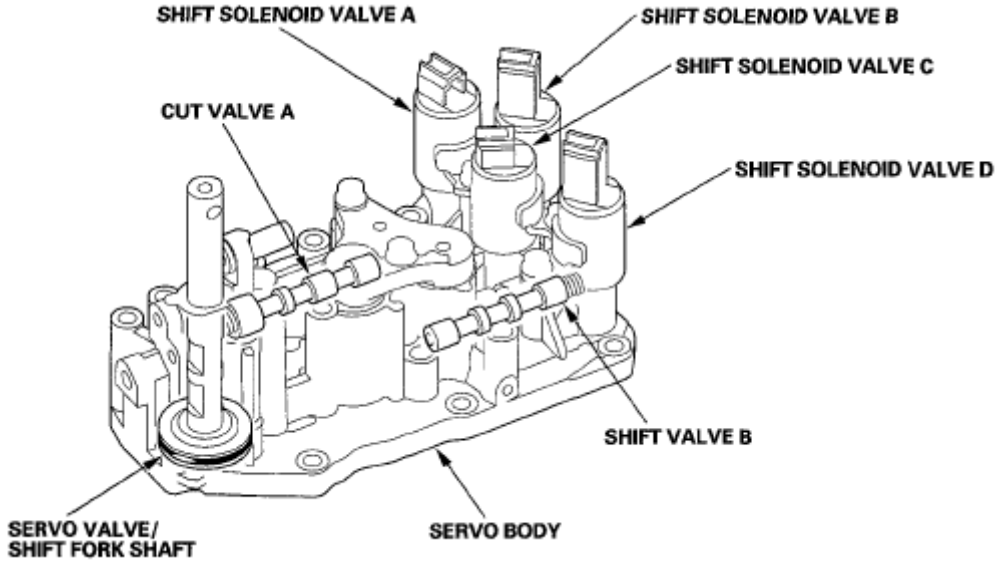



**Fig. 38: Identifying Servo Body Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Accumulator**

The accumulators are located in the regulator valve body and the servo body. The regulator valve body contains the 1st and 3rd accumulators, and the servo body contains the 2nd, 4th, and 5th accumulators.

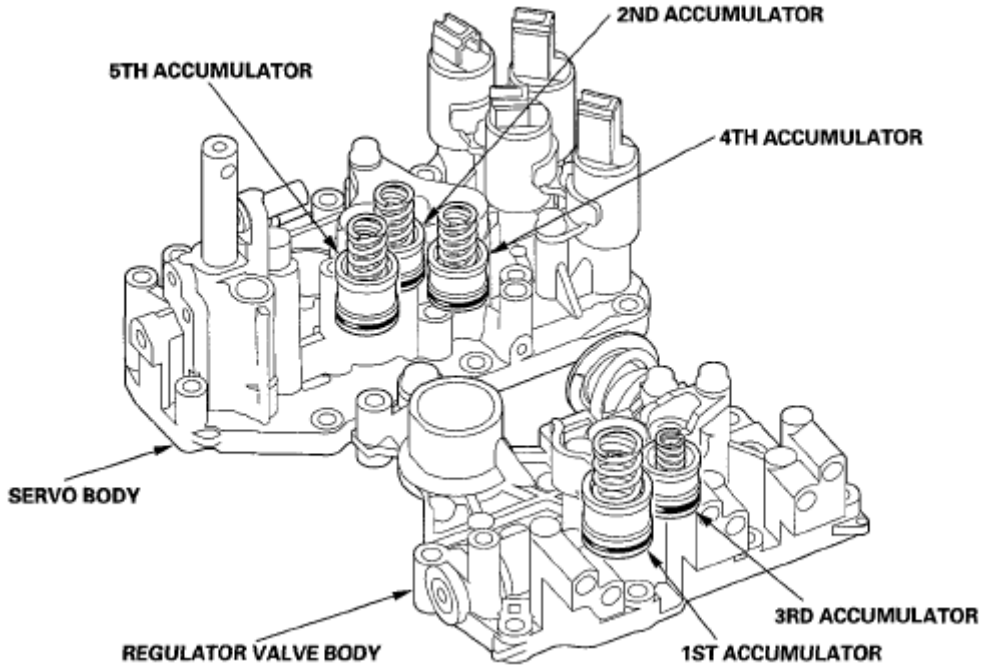



**Fig. 39: Identifying Accumulator Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Hydraulic Flow**

**Distribution of Hydraulic Pressure**

As the engine turns, the ATF pump starts to operate. Automatic transmission fluid (ATF) is drawn through the ATF strainer (filter) and discharged into the hydraulic circuit. Then, ATF flowing from the ATF pump becomes line pressure that is regulated by the regulator valve. Torque converter pressure from the regulator valve enters the torque converter through the lock-up shift valve, and it is discharged from the torque converter. The torque converter check valve prevents torque converter pressure from rising.

The PCM turns the shift solenoid valves ON and OFF. The shift solenoid valve controls line pressure from the ATF pump via the manual valve when the shift

solenoid valve is OFF. When the shift solenoid valve is turned ON by the PCM, line pressure changes to shift solenoid valve pressure at the shift solenoid valve, then the shift solenoid valve pressure flows to the shift valve. Applying shift solenoid pressure to the shift valve moves the position of the shift valve, and switches the port of the hydraulic circuit. The PCM also controls A/T clutch pressure control solenoid valves A, B, and C. The A/T clutch pressure control solenoid valves regulate hydraulic pressure, and apply the pressure to the clutches to engage smoothly. The clutches receive optimum clutch pressure which is regulated by the A/T clutch pressure control solenoid valves for comfortable driving and shifting under all conditions.

**Hydraulic Pressure at the Port for use in the hydraulic circuit**

**HYDRAULIC PRESSURE REFERENCE**

| Port No. | Hydraulic Pressure | Port No. | Hydraulic Pressure |
|---|---|---|---|
| 1 | Line | 5T | A/T clutch pressure control solenoid valve C |
| 3 | Line | SA | Shift solenoid valve A |
| 3' | Line | SB | Shift solenoid valve B |
| 4 | Line | SC | Shift solenoid valve C |
| 4' | Line | SD | Shift solenoid valve D |
| 4" | Line | 10 | 1st clutch |
| 7 | Line | 20 | 2nd clutch |
| 1A | Line | 30 | 3rd clutch |
| 1B | Line | 40 | 4th clutch |
| 1C | Line or A/T clutch pressure control solenoid valve A | 50 | 5th clutch |

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| | | | |
|---|---|---|---|
| 3A | Line or A/T clutch pressure control solenoid valve A | 55 | A/T clutch pressure control solenoid valve A |
| 3B | Line or A/T clutch pressure control solenoid valve A | 55' | A/T clutch pressure control solenoid valve A |
| 3C | Line or A/T clutch pressure control solenoid valve A | 56 | A/T clutch pressure control solenoid valve B |
| 5A | Line or A/T clutch pressure control solenoid valve A | 57 | A/T clutch pressure control solenoid valve C |
| 5B | Line, A/T clutch pressure control solenoid valve A, or C | 90 | Torque converter |
| 5C | A/T clutch pressure control solenoid valve C | 91 | Torque converter |
| 5D | Line or A/T clutch pressure control solenoid valve A | 92 | Torque converter |
| 5E | Line or A/T clutch pressure control solenoid valve B | 93 | ATF cooler |
| 5F | A/T clutch pressure control solenoid valve B | 94 | Torque converter |
| 5G | Line, A/T clutch pressure control solenoid valve A, or B | 95 | Lubrication |
| 5H | A/T clutch pressure control | 96 | Torque converter |

| | | | |
|---|---|---|---|
| | solenoid valve B | | |
| 5J | A/T clutch pressure control solenoid valve C | 97 | Torque converter |
| 5K | A/T clutch pressure control solenoid valve C | 99 | Suction |
| 5L | A/T clutch pressure control solenoid valve C | X | Drain |
| 5M | A/T clutch pressure control solenoid valve B | HX | High position drain |
| 5R | A/T clutch pressure control solenoid valve C | AX | Air drain |

**N Position**

The PCM controls the shift solenoid valves. The conditions of the shift solenoid valves and positions of the shift valve are as follows:

- Shift solenoid valve A is turned OFF, shift valve A remains on the right side, and cut valve A remains on the left side.
- Shift solenoid valve B is turned OFF, and shift valve B remains on the right side.
- Shift solenoid valve C is turned OFF, and shift valve C remains on the right side.

Line pressure (1) passes through the manual valve and stops at cut valve B. Line pressure (1) also flows to shift solenoid valves, and A/T clutch pressure control solenoid valve A. Under this condition, hydraulic pressure is not applied to the clutches.

**NOTE: When used, "left" or "right" indicates direction on the**

**hydraulic circuit.**

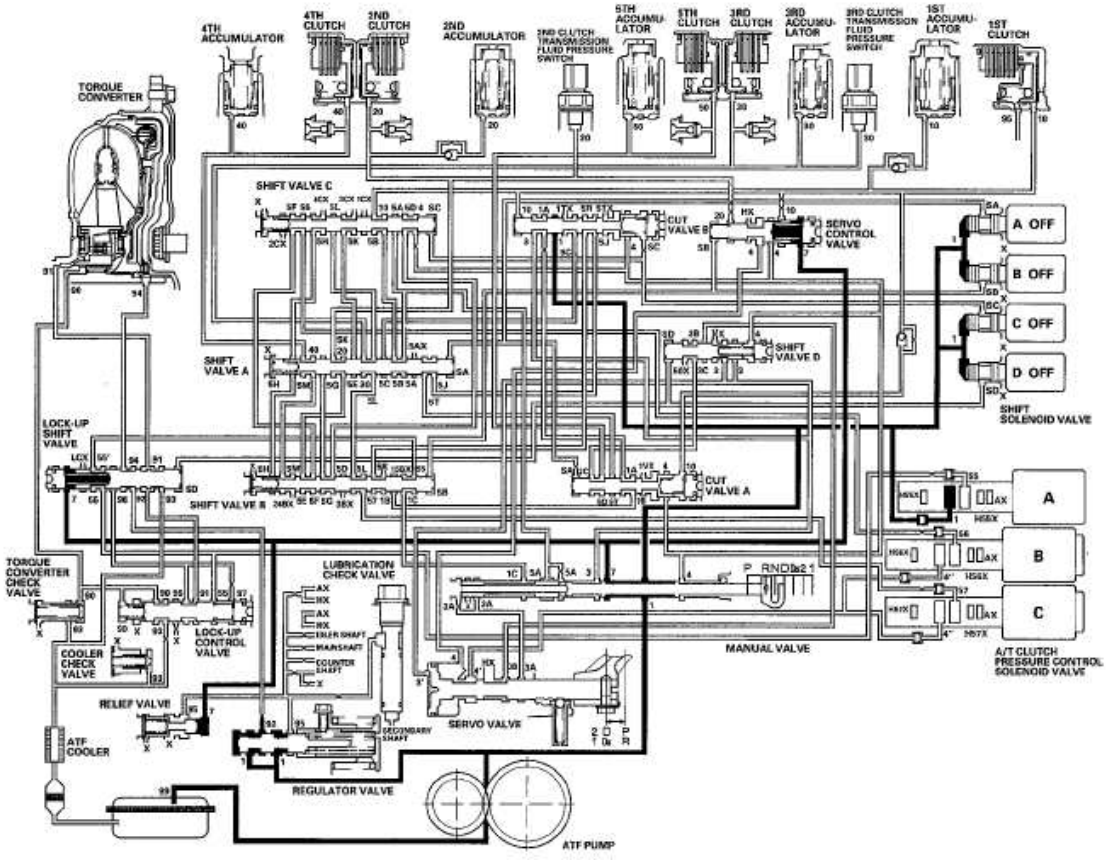



**Fig. 40: Hydraulic Fuel Pressure Flow Diagram (N Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: 1st gear shifting from the N position**

The shift solenoid valves and the shift valves remain the same position when shifting from D to N. The PCM actuates A/T clutch pressure control solenoid valve A to regulate the line pressure. Line pressure (1) becomes A/T clutch pressure control solenoid valve A pressure (55), and A/T clutch pressure control solenoid valve A pressure flows to the lock-up shift valve, shift valve B, the manual valve, and shift valve A. Also solenoid valve A pressure becomes 1st clutch pressure (10) at shift valve C, and 1st clutch pressure (10) flows to the 1st clutch. The 1st clutch is engaged by A/T clutch pressure control solenoid valve A pressure mode when shifting to D from N.

**NOTE: When used, "left" or "right" indicates direction on the**

**hydraulic circuit.**

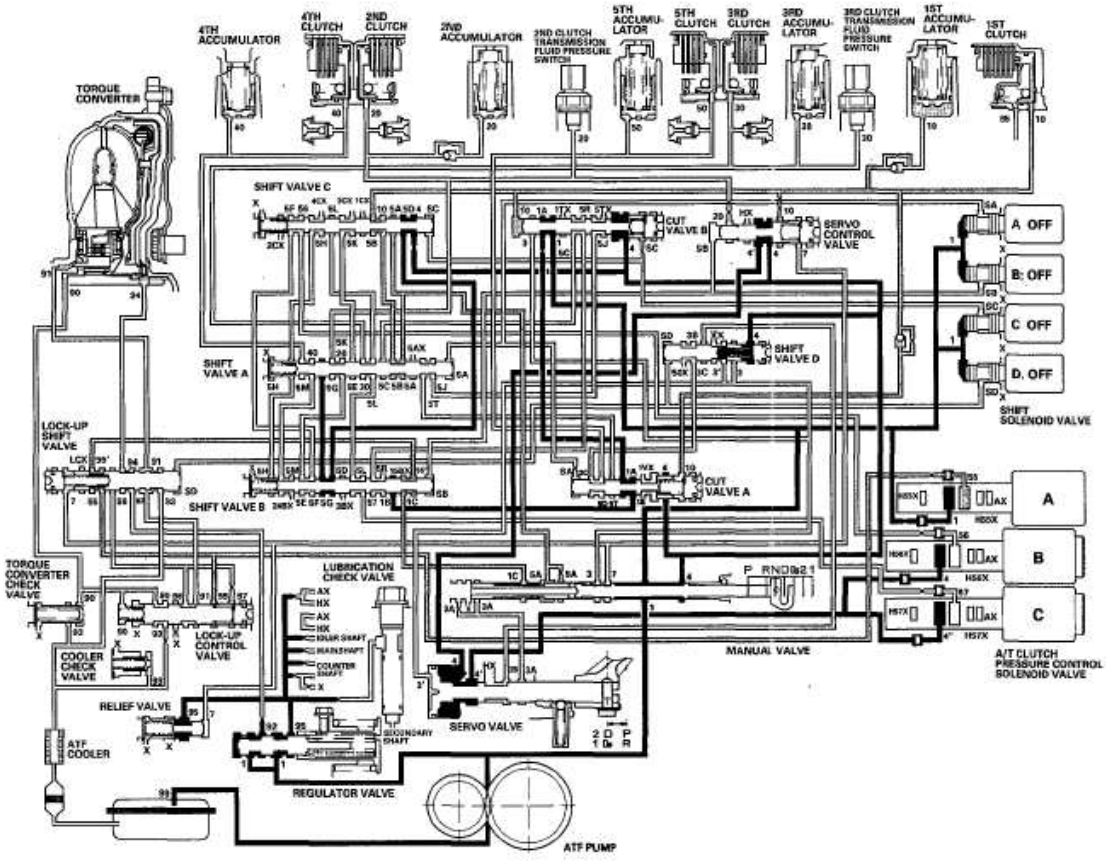



**Fig. 41: Hydraulic Fuel Pressure Flow Diagram (D Position - 1st Gear Shifting From N Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 1st gear**

The PCM turns shift solenoid valve B ON, and shift solenoid valves A and C remain OFF. Shift solenoid valve B pressure (SB) is applied to the right side of shift valve B. Shift valve B then moves to the left side, causing the line pressure port leading to the 1st clutch to be uncovered, and the A/T clutch pressure control solenoid valve A pressure port to be covered. Line pressure (1B) passed through shift valve B flows to the manual valve, shift valve A, and shift valve C, and becomes 1st clutch pressure (10). 1st clutch pressure is applied to the 1st clutch, and the 1st clutch is engaged by the line pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the**

**hydraulic circuit.**

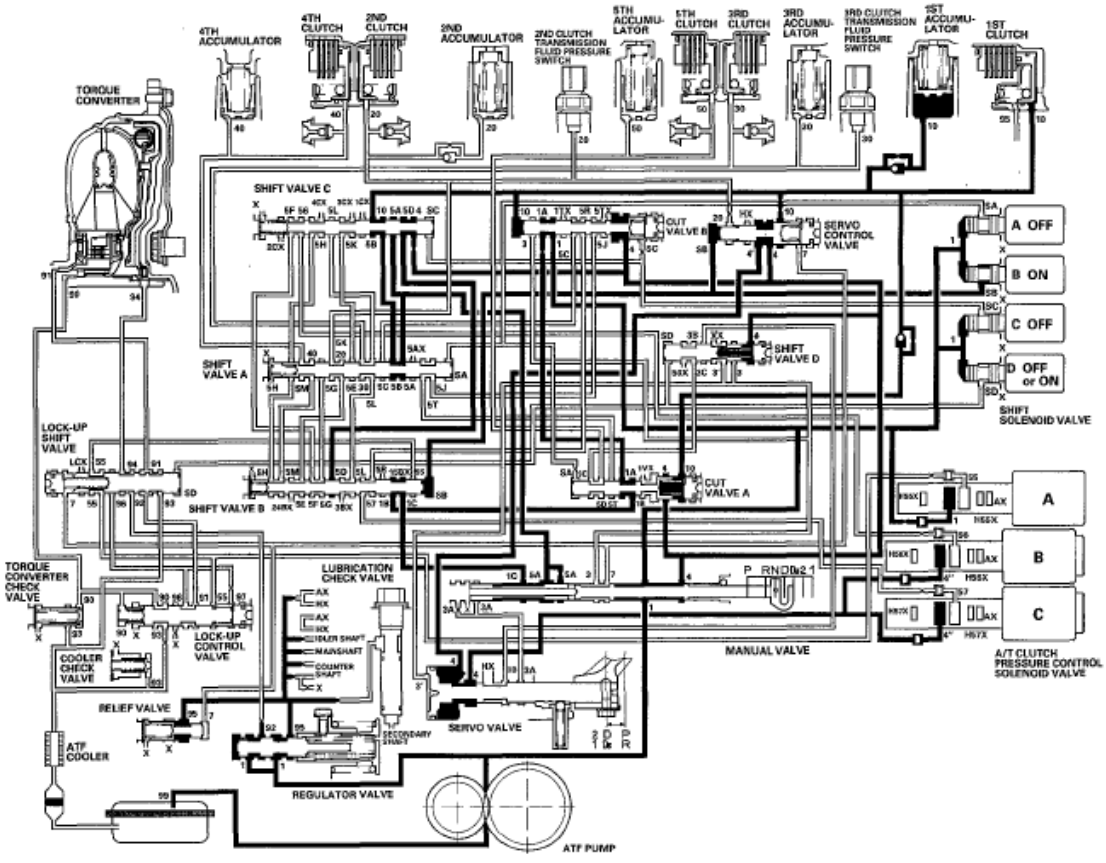



**Fig. 42: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 1st Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Shifting between 1st gear and 2nd gear**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A ON, shift solenoid valve B remains ON, and C remains OFF. Shift solenoid valve A pressure (SA) is applied to the right end of shift valve A and to the left side of cut valve A. Cut valve A is moved to the right side to release 1st clutch pressure in line pressure mode, and shift valve A is moved to the left side to switch line pressure (5A) port to A/T clutch pressure control solenoid valve C pressure (5C) port leading to the 1st clutch. Also shift valve A uncovers 2nd clutch pressure (20) port leading A/T clutch pressure control solenoid valve B pressure (56) to the 2nd clutch. The 1st clutch and the 2nd clutch are engaged by the A/T clutch pressure control solenoid valve pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

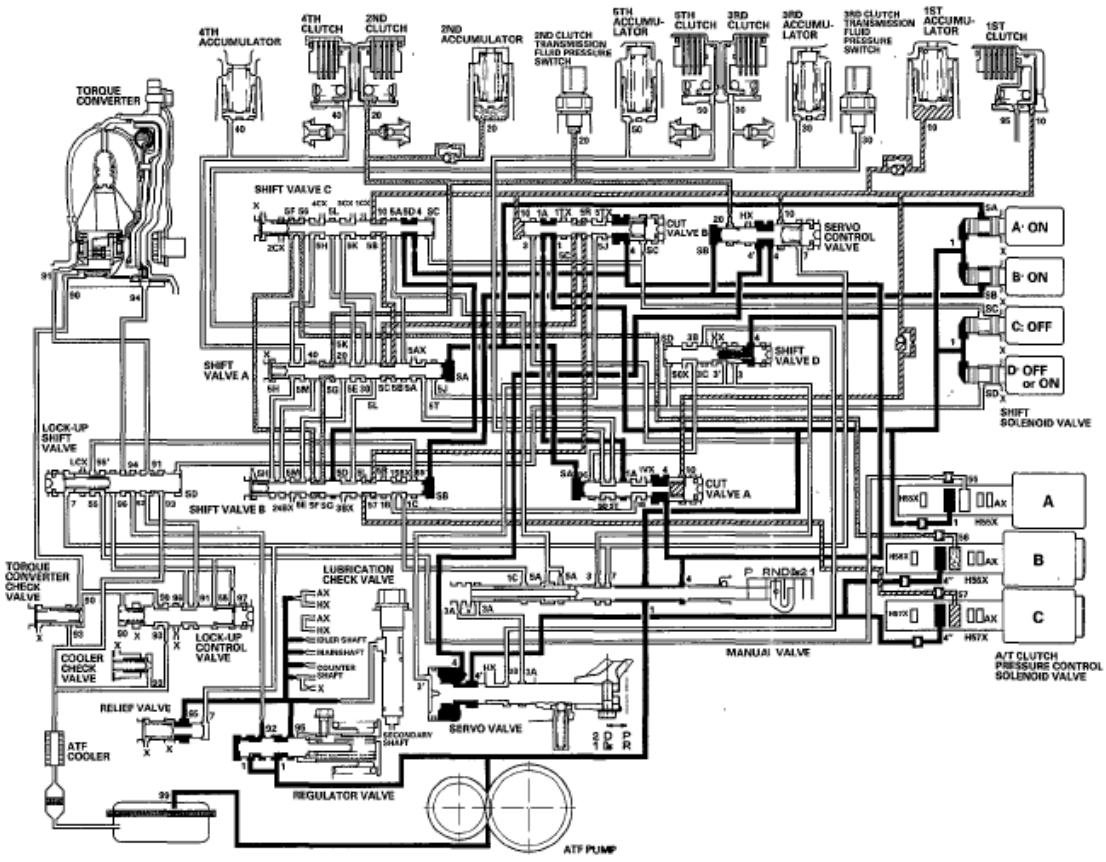



**Fig. 43: Hydraulic Fuel Pressure Flow Diagram (D Position - Shifting Between 1st Gear And 2nd Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 2nd gear**

The PCM turns shift solenoid valve B OFF, shift solenoid valve A remains ON, and C remains OFF. Shift solenoid valve B is turned OFF, and shift solenoid valve B pressure (SB) in the right end of shift valve B and in the left end of the servo control valve is released. Cut valve B and servo control valve are kept in the right side by line pressure (4) even though releasing hydraulic pressure in the left end. Shift valve B is moved to the right side to switch A/T clutch pressure control solenoid valve B pressure (5F) port to line pressure (5D) port leading to the 2nd clutch. 2nd clutch pressure (20) is applied to the 2nd clutch, and the 2nd clutch is engaged by the line pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

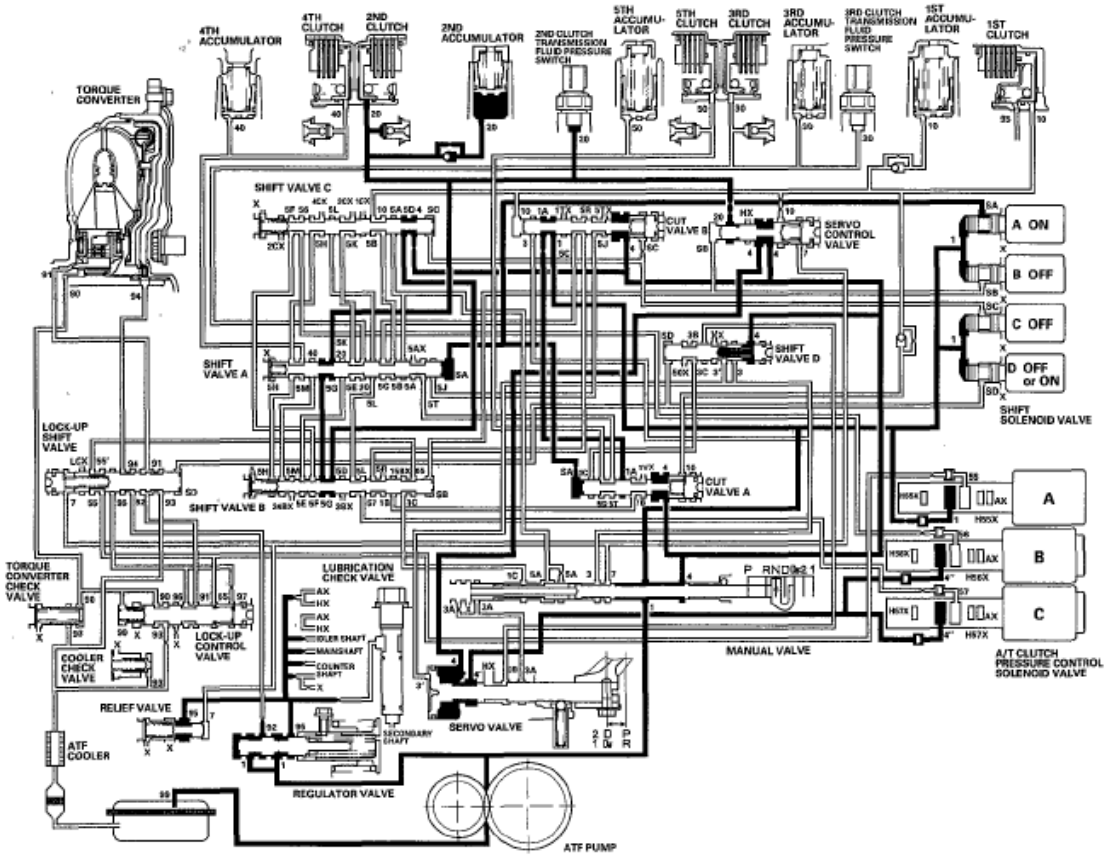



**Fig. 44: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 2nd Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Shifting between 2nd gear and 3rd gear**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A OFF, while shift solenoid valve B and C remain OFF. Shift solenoid valve A is turned OFF, and shift solenoid valve A pressure (SA) in the right end of shift valve A and in the left end of cut valve A is released. Even though shift solenoid valve A pressure is released, cut valve A is kept on the right side by line pressure (4). Shift valve A is moved to the right side to switch to the line pressure (5G) port to the A/T clutch pressure control solenoid valve B pressure (5E) port leading to the 2nd clutch. Also shift valve A uncovers 3rd clutch pressure (30) port leading A/T clutch pressure control solenoid valve C pressure (5L) to the 3rd

clutch. The 2nd and 3rd clutch are engaged by the A/T clutch pressure control solenoid valve pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

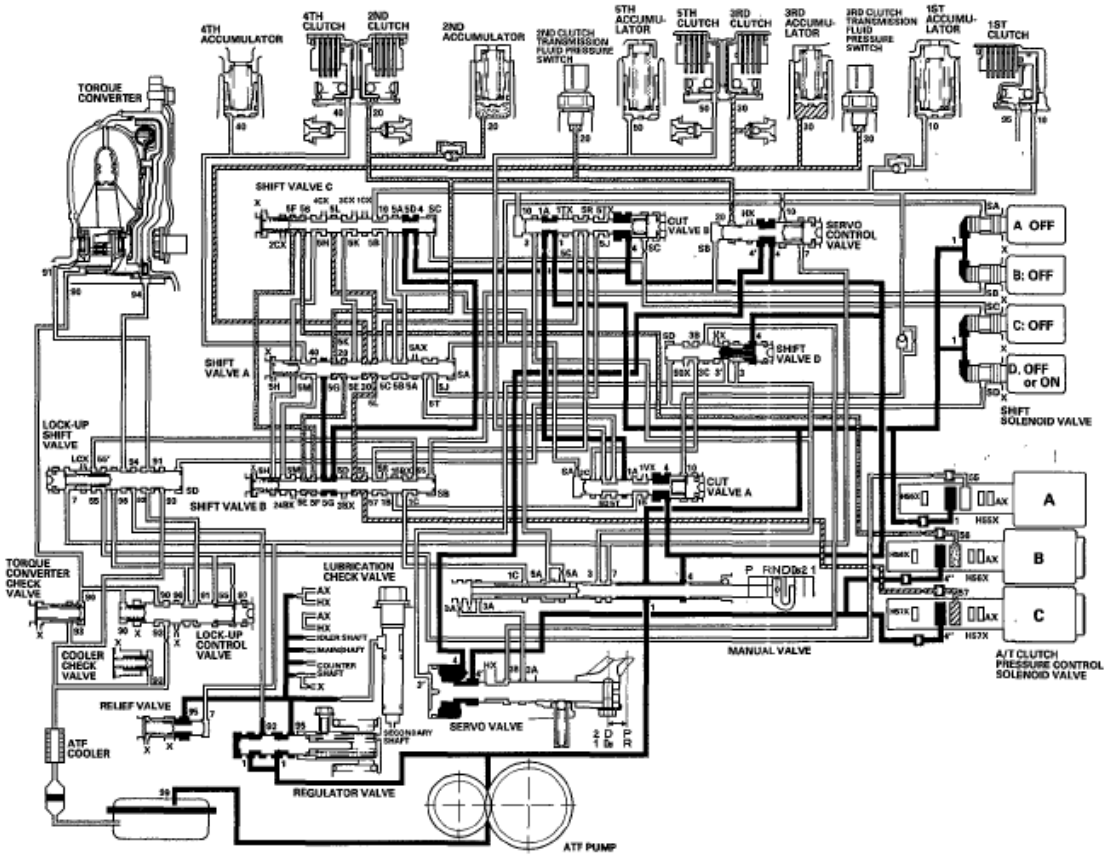



**Fig. 45: Hydraulic Fuel Pressure Flow Diagram (D Position - Shifting Between 2nd Gear And 3rd Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 3rd gear**

The PCM turns shift solenoid valve CON, and shift solenoid valve A and B remain OFF. Shift solenoid valve C pressure (SC) is applied to the right side of shift valve C and cut valve B. Shift valve C is then moved to the left side to releasing the 2nd clutch pressure. The 3rd clutch keeps on engaging with the A/T clutch pressure control solenoid valve C pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

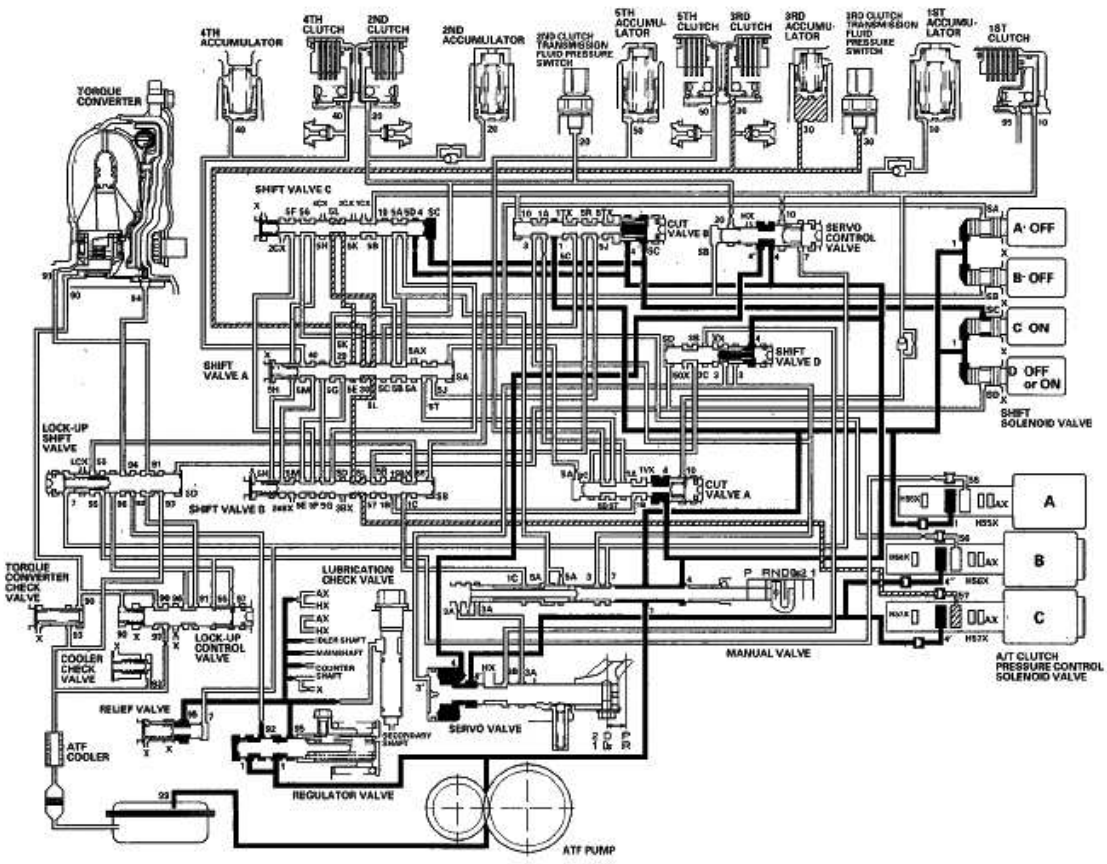



**Fig. 46: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 3rd Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Shifting between 3rd gear and 4th gear**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A ON. Shift solenoid valve B remains OFF, and C remains ON. Shift solenoid valve A pressure (SA) is applied to the right end of shift valve A and the left end of cut valve A. Shift valve A is moved to the left side, switching the line pressure (5L) port to the A/T clutch pressure control solenoid valve C pressure (5K) port leading to the 3rd clutch. Also shift valve A uncovers the 4th clutch pressure (40) port leading A/T clutch pressure control solenoid valve B pressure (5H) to the 4th clutch. The 3rd and 4th clutches are engaged by the A/T clutch pressure control solenoid valve pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

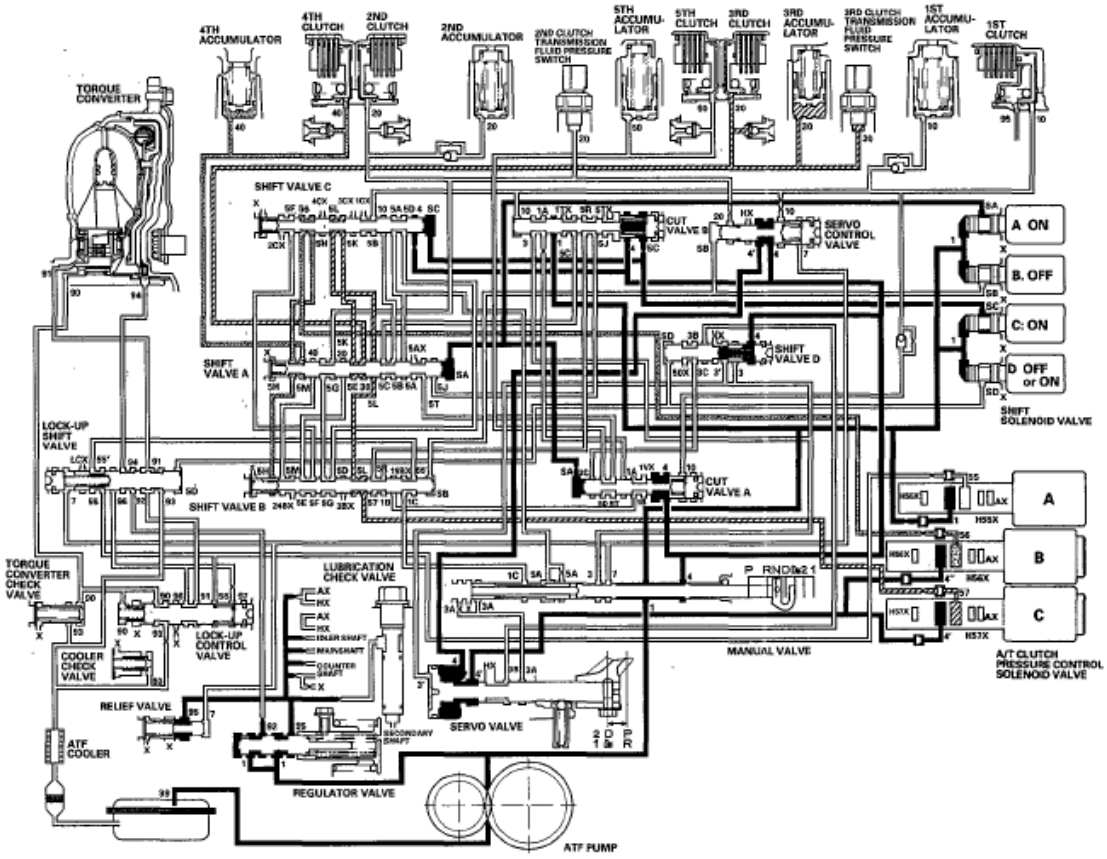
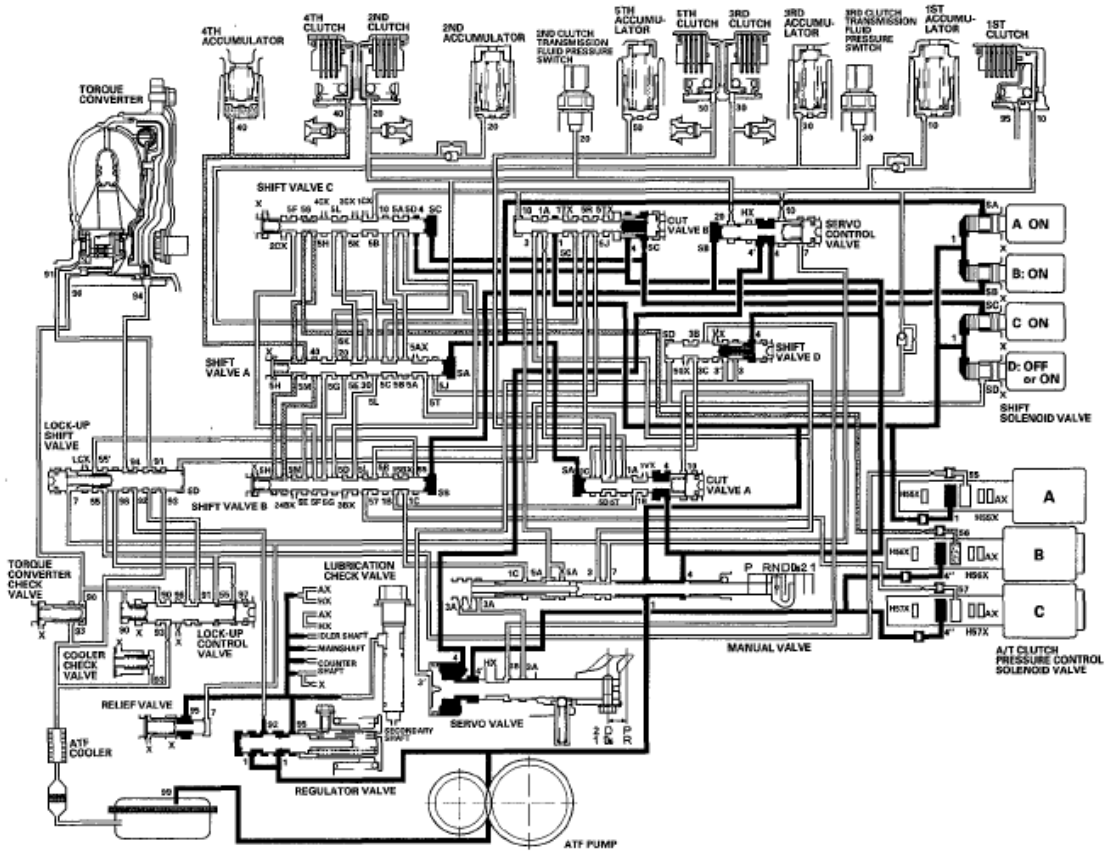



**Fig. 47: Hydraulic Fuel Pressure Flow Diagram (D Position - Shifting Between 3rd Gear And 4th Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 4th gear**

The PCM turns shift solenoid valve B ON, and shift solenoid valve A and B remain ON. Shift solenoid valve B pressure (SB) is applied to the right side of shift valve B and the left side of the servo control valve. Shift valve B then moves to the left side releasing the 3rd clutch pressure. The 4th clutch is engaged by the A/T clutch pressure control solenoid valve B pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**



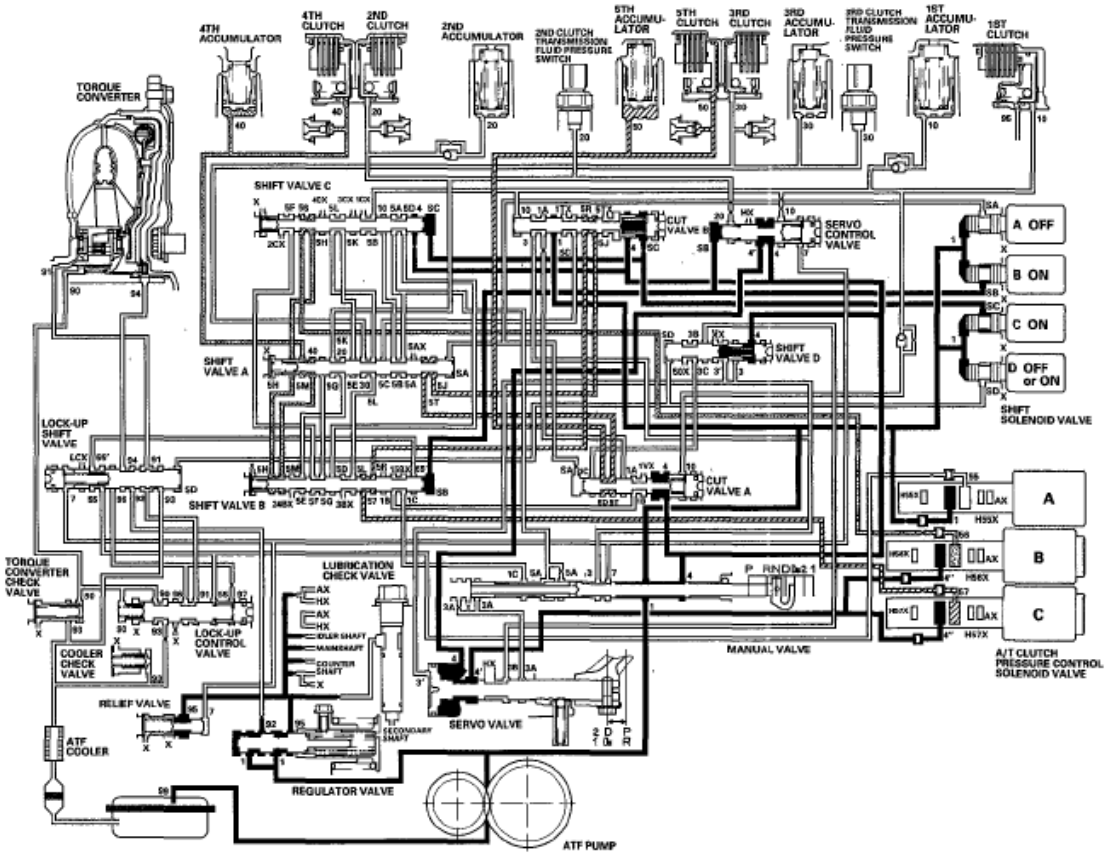

## Fig. 48: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 4th Gear)

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Shifting between 4th gear and 5th gear**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve A OFF while shift solenoid valve B and C remain ON. As a result, the pressure in the right end of shift valve A is released. Even though shift solenoid valve A pressure (SA) is released, cut valve A is kept on the right side by the line pressure (4). Shift valve A is moved to the right side to uncover A/T clutch pressure control solenoid valve C pressure (5T) (5J) port leading to the 4th clutch. The 4th and 5th clutches are engaged by the A/T clutch pressure control solenoid valve pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**



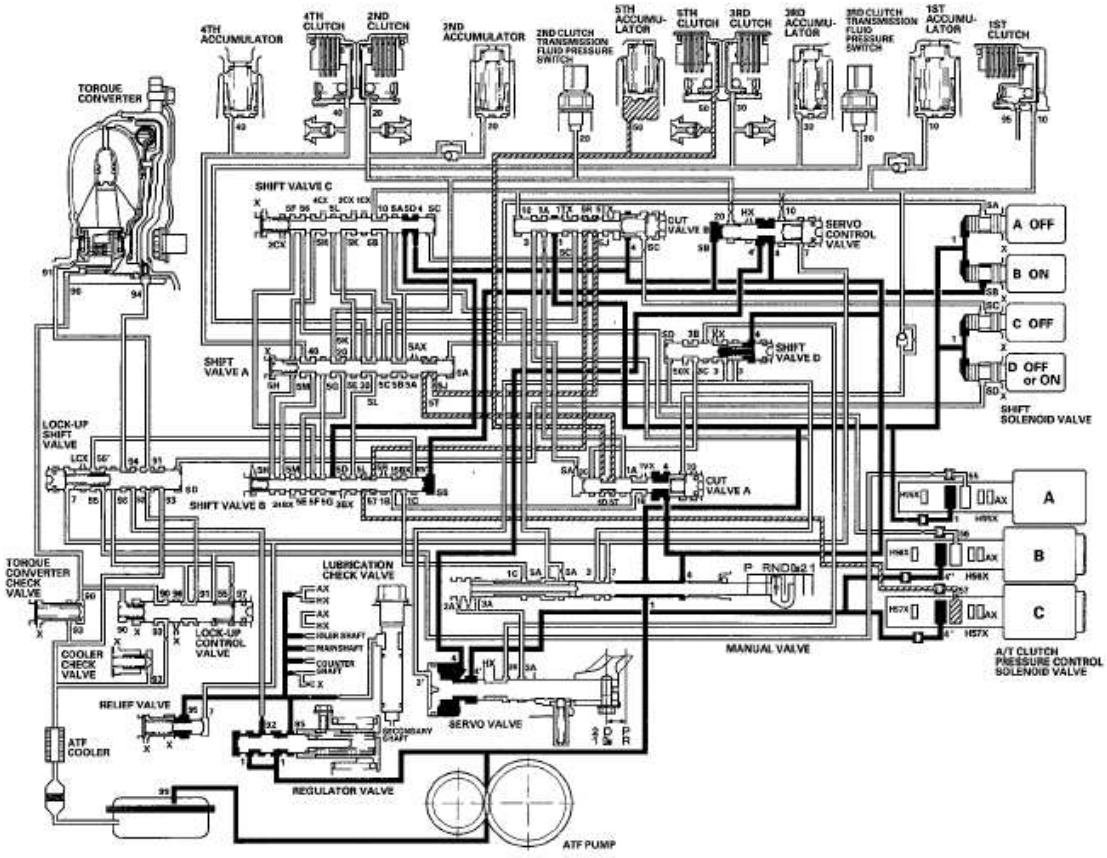

## Fig. 49: Hydraulic Fuel Pressure Flow Diagram (D Position - Shifting Between 4th Gear And 5th Gear)

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**D Position: Driving in 5th gear**

The PCM turns shift solenoid valve C OFF, shift solenoid valve A remains OFF, and B remains ON. Shift solenoid valve C pressure (SC) is then released to the right side of shift valve C. This causes shift valve C to move to the right side, releasing the 4th clutch pressure. The 5th clutch is engaged by the A/T clutch pressure control solenoid valve C pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**




## Fig. 50: Hydraulic Fuel Pressure Flow Diagram (D Position - Driving In 5th Gear)

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2 Position**

The PCM controls the shift solenoid valves and the A/T clutch pressure control solenoid valves. The conditions of the shift solenoid valves and the position of the shift valves are as follows:

- Shift solenoid valve A is turned ON, causing shift valve A to move to the left side.
- Shift solenoid valve B is turned OFF, keeping shift valve B on the right side.
- Shift solenoid valve C is turned OFF, keeping shift valve C on the left side.

Line pressure travels up and through shift valve C (5D), through shift valve B (5G), and then up to shift valve A (20) to become 2nd clutch pressure. The 2nd clutch is engages by the 2nd clutch pressure.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

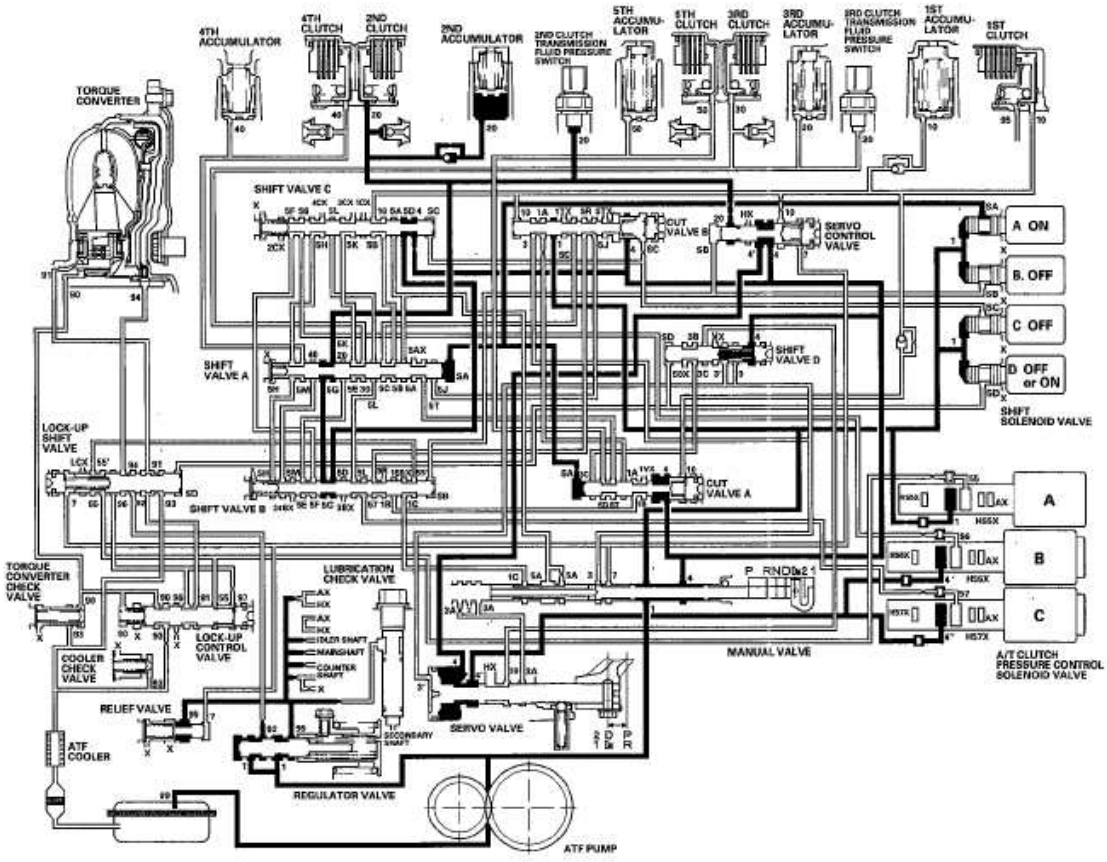



**Fig. 51: Hydraulic Fuel Pressure Flow Diagram (2 Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**1 Position**

The PCM controls the shift solenoid valves and the A/T clutch pressure control solenoid valves. The conditions of the shift solenoid valves and the position of the shift valves are as follows:

- Shift solenoid valve A is turned OFF, keeping shift valve A on the right side.
- Shift solenoid valve B is turned ON, causing shift valve B move to the left side.
- Shift solenoid valve C is turned OFF, keeping shift valve C on the right side.

Line pressure (1) from the manual valve flows to cut valve B, cut valve A, shift

valve B, and becomes line pressure (5A) at the manual valve. Line pressure (5A) passes through shift valve A, flows to shift valve C, and becomes 1st clutch pressure (10). 1st clutch pressure (10) is applied to the 1st clutch, and the 1st clutch is engaged.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

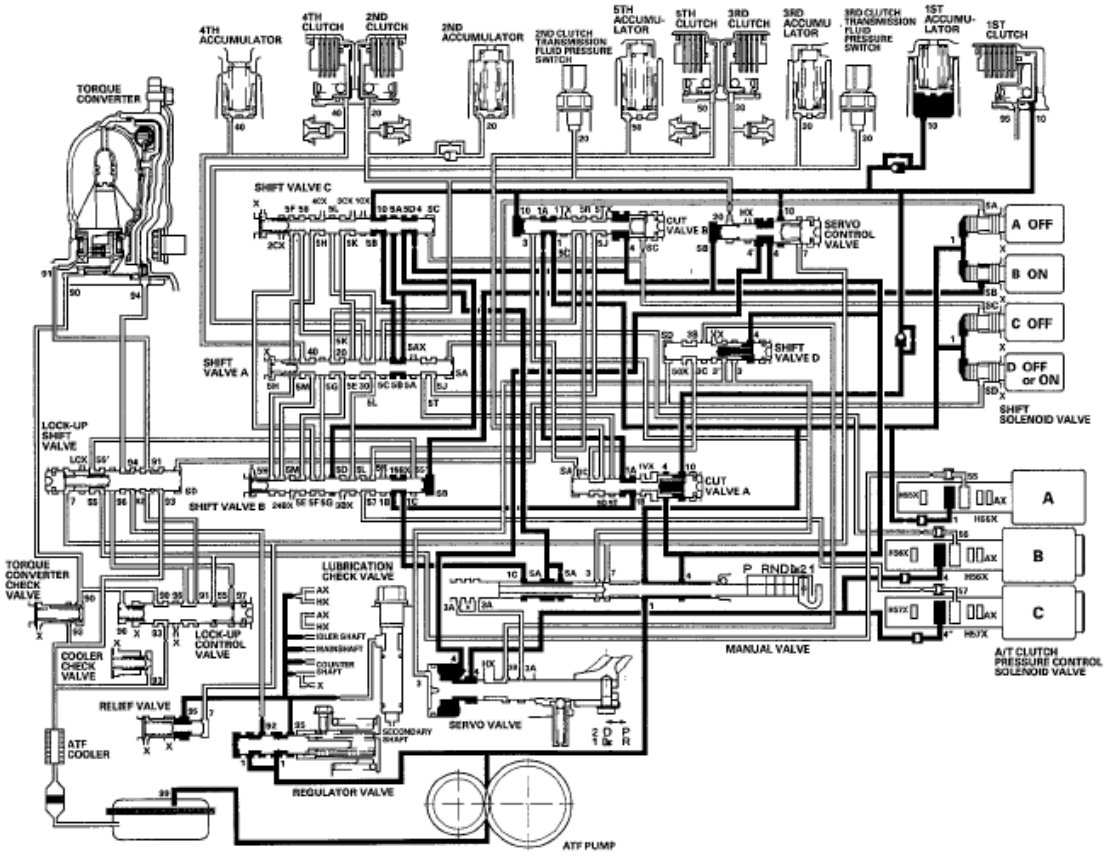



**Fig. 52: Hydraulic Fuel Pressure Flow Diagram (1 Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**R Position: Shifting to the R position from the P or N position**

The manual valve is moved into the R position. This causes line pressure (1) to become line pressure (1), (3), and (7) at the manual valve. The PCM turns shift solenoid valves C and D ON, and shift solenoid valves A and B remain OFF. Shift solenoid valve D pressure (SD) is applied to the left end of shift valve D, causing shift valve D to move to the right side, uncovering the line pressure (3) port leading

to the servo valve. Line pressure (3') from shift valve D flows to the servo valve, and pushes the servo valve to the reverse position. The PCM controls A/T clutch pressure control solenoid valve A to regulate A/T clutch pressure control solenoid valve A pressure (55), and A/T clutch pressure control solenoid valve A pressure (55) flows to the lock-up shift valve, shift valve B, the manual valve, the servo valve, shift valve D, and cut valve A. A/T clutch pressure control solenoid valve A pressure (3C) becomes 5th clutch pressure (50) at cut valve A. 5th clutch pressure (50) is applied to the 5th clutch, and the 5th clutch is engaged by the A/T clutch pressure control solenoid valve A pressure mode.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

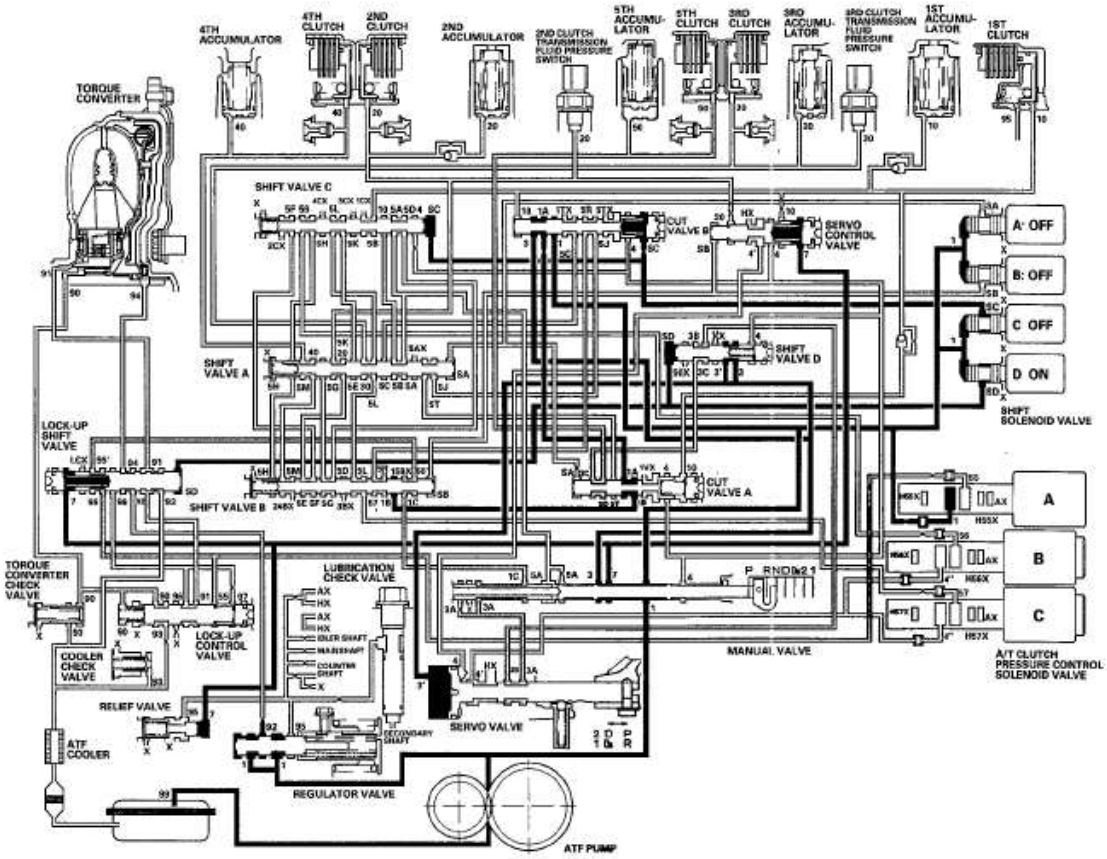



**Fig. 53: Hydraulic Fuel Pressure Flow Diagram (R Position - Shifting To R Position From P Or N Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**R Position: Driving in reverse gear**

When starting off in reverse gear, the PCM turns shift solenoid valves B and C ON. Shift solenoid valve A remains OFF, and D remains ON. Shift solenoid valve B is turned ON, and shift solenoid valve B pressure (SB) is applied to the right end of shift valve B. Shift valve B is moved to the right side to switch A/T clutch pressure control solenoid valve A pressure (55') port to line pressure (1B) port leading to the 5th clutch. The 5th clutch is engaged with the line pressure mode.

**Reverse Inhibitor Control**

When R is selected while the vehicle is moving forward at speeds over 6 mph (10 km/h), the PCM turns shift solenoid valves A and C ON, and shift solenoid valves B and D OFF. Shift solenoid valve D is kept OFF, and shift valve D is kept in the left side to cover line pressure (3) port leading to the servo valve. The servo valve is kept in the forward position. Shift solenoid valve A is turned ON, shift valve A is moved to the right side and covers the port to stop line pressure (1 A) leading to the 5th clutch. The servo valve is not applied line pressure, the 5th clutch is not applied 5th clutch pressure, as a result, power is not transmitted to the reverse direction.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

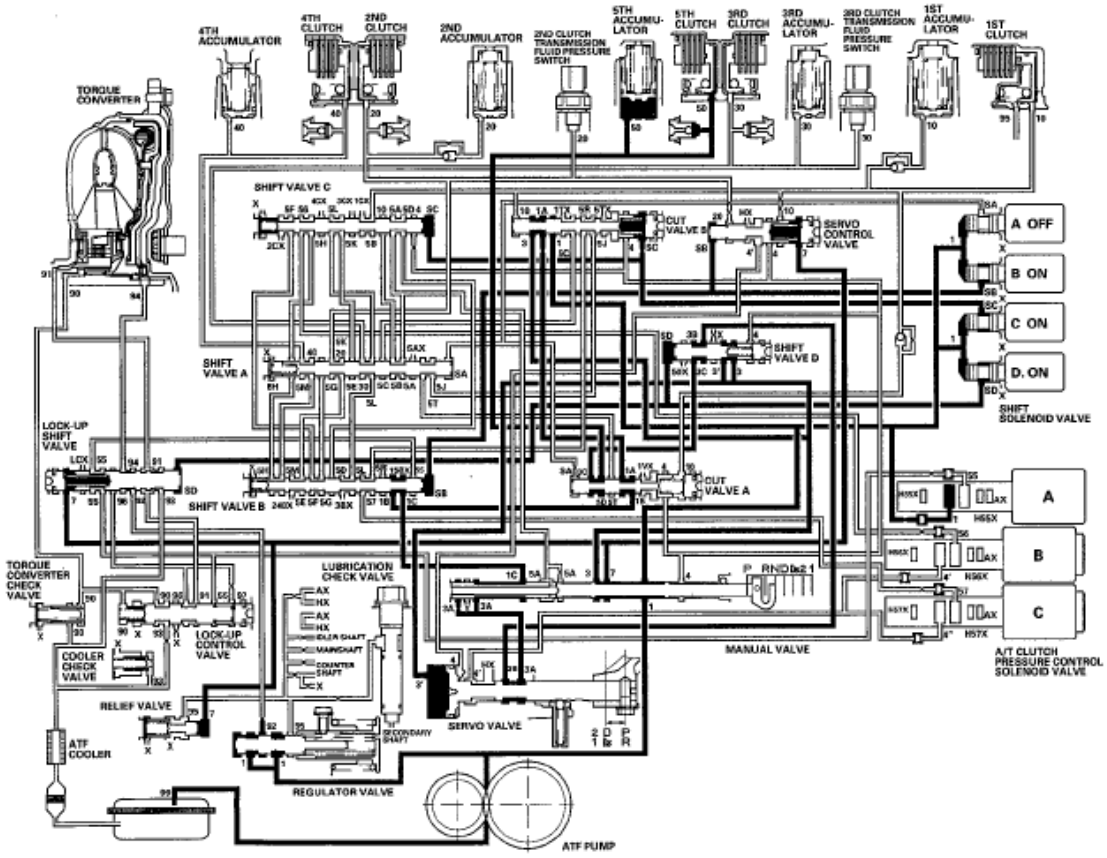



**Fig. 54: Hydraulic Fuel Pressure Flow Diagram (R Position - Driving In Reverse Gear)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**P Position**

The manual valve is moved into the P position, line pressure (1) becomes line pressure (1), (3), and (7) at the manual valve. The PCM turns shift solenoid valve D ON, and shift solenoid valves A, B, and C OFF. Shift solenoid valve D pressure (SD) is applied to the left end of shift valve D, and shift valve D is moved to the right side to uncover line pressure (3) port leading to the servo valve. Line pressure (3') from shift valve D flows to the servo valve, and pushes the servo valve to the reverse position. Line pressure (1) is intercepted at cut valve B, line pressure (1B) is intercepted at shift valve B, and hydraulic pressure is not applied to the clutches.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

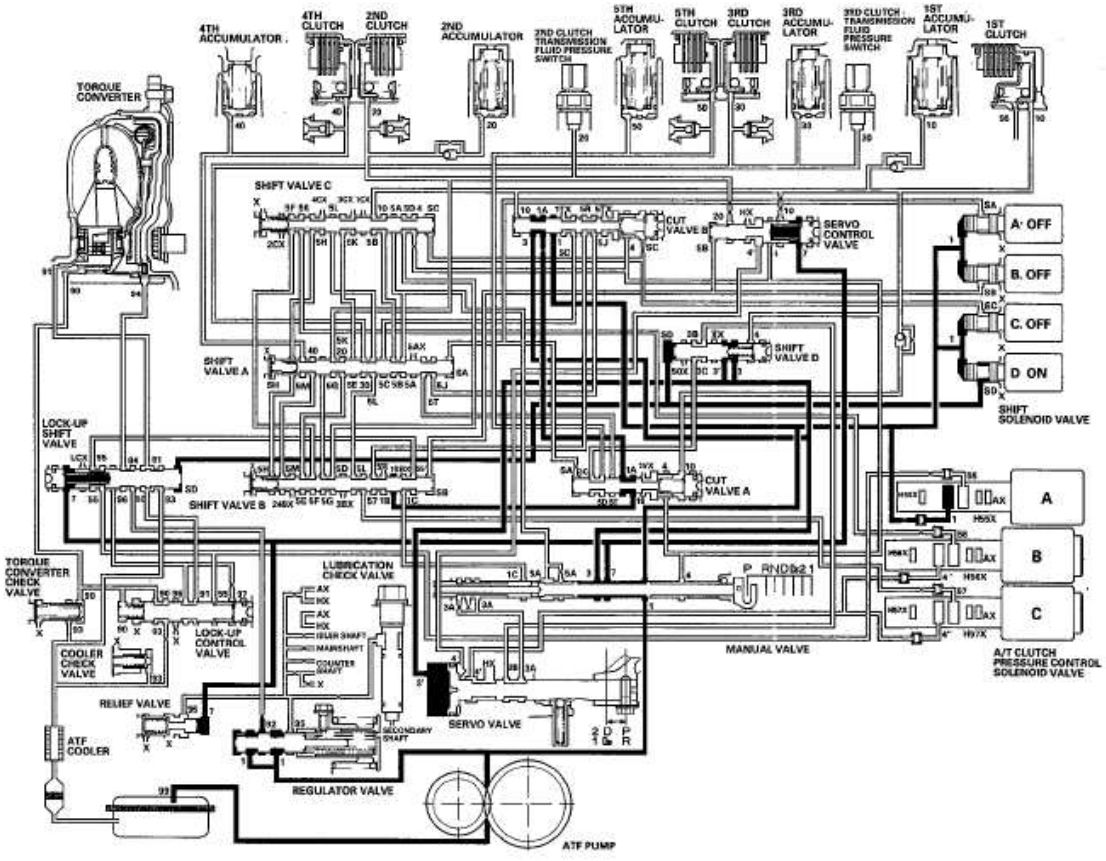



**Fig. 55: Hydraulic Fuel Pressure Flow Diagram (P Position)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Lock-up System**

The lock-up mechanism of the torque converter clutch operates in D (2nd, 3rd, 4th, and 5th gears) and D3 (2nd and 3rd gears). The pressurized fluid is drained from the back of the torque converter through a fluid passage, causing the torque converter clutch piston to be held against the torque converter cover. As this takes place, the mainshaft rotates at the same speed as the engine crankshaft. Together with the hydraulic control, the PCM optimizes the timing and the amount of ATF the lock-up mechanism receives. When shift solenoid valve D is turned on by the PCM, shift solenoid valve D pressure turns the lock-up shift valve lock-up on and off. A/T clutch pressure control solenoid valve A and the lock-up control valve control the volume of lock-up.

**Torque Converter Clutch Lock-up ON (Engaging Torque Converter Clutch)**

Fluid in the chamber between the torque converter cover and the torque converter clutch piston is drained off, and fluid entering from the chamber between the pump and the stator exerts pressure through the torque converter clutch piston against the torque converter cover. The torque converter clutch piston engages with the torque converter cover; the torque converter clutch locks-up, and the mainshaft rotates at the same as the engine.

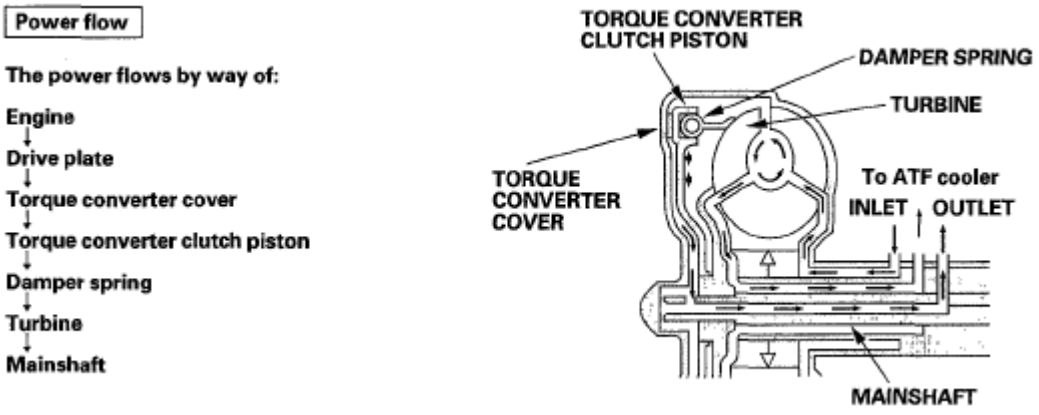



**Fig. 56: Torque Converter Clutch Lock-Up On Diagram (Engaging Torque Converter Clutch)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Torque Converter Clutch Lock-up OFF (Disengaging Torque Converter Clutch)**

Fluid entered from the chamber between the torque converter cover and the torque converter clutch piston passes through the torque converter and goes out from the chambers between the turbine and the stator, and the pump and the stator. As a result, the torque converter clutch piston moves away from the torque converter cover, and the torque converter clutch lock-up is released.

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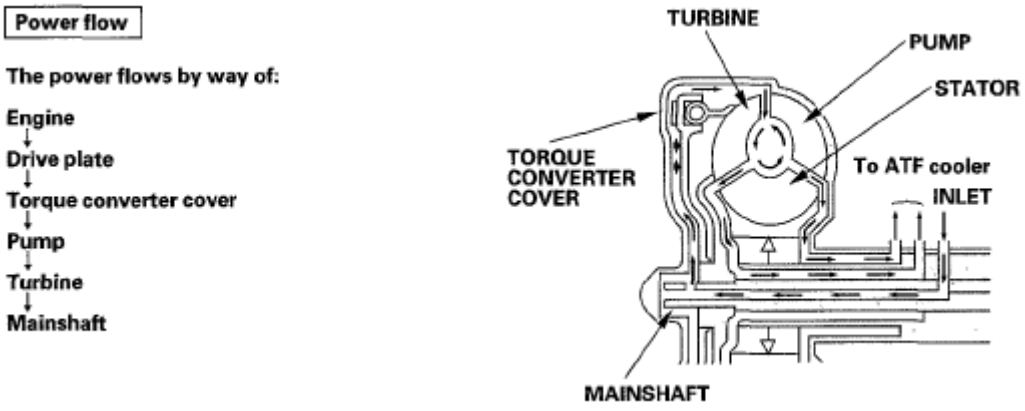



**Fig. 57: Torque Converter Clutch Lock-Up Off Diagram (Disengaging Torque Converter Clutch)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**No Lock-up**

The PCM turns shift solenoid valve D OFF. The lock-up shift valve is on the right side, and uncovers the torque converter pressure port leading to the back of the torque converter. Torque converter pressure (92) regulated by the regulator valve flows to the lock-up shift valve, and becomes torque converter pressure (94). Torque converter pressure (94) enters into the back of the torque converter, and discharges into the circuit from the front of the torque converter. When the hydraulic pressure flow enters the torque converter from the rear and discharges it from the front, the torque converter clutch piston and cover become disengaged. This is called the non lock-up condition.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

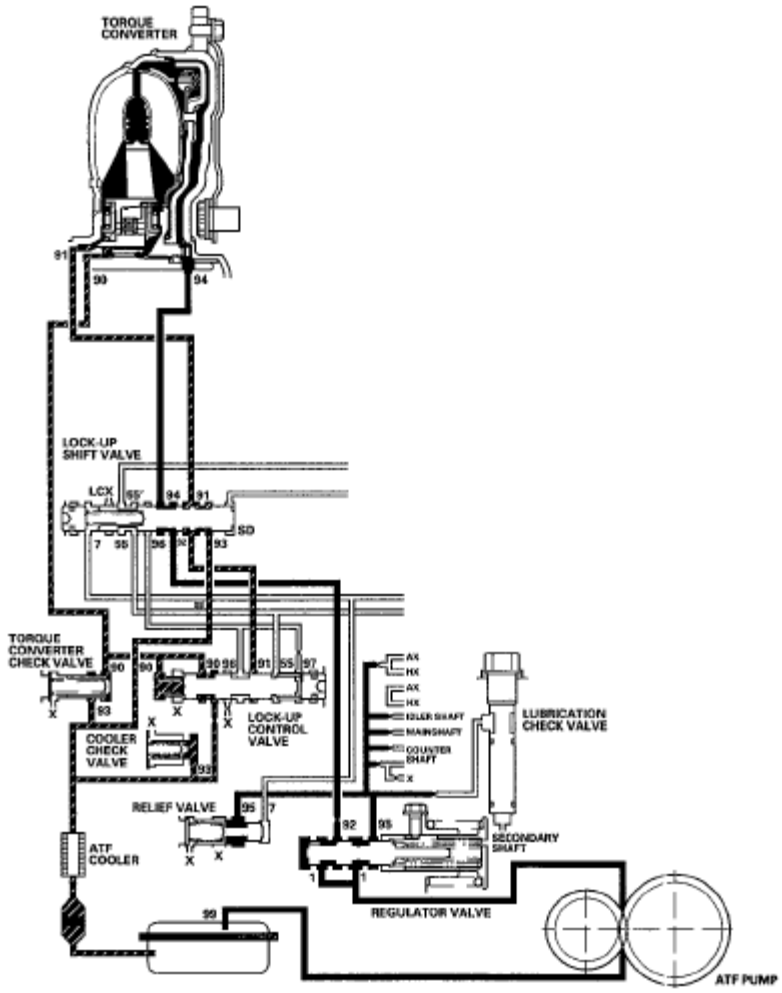



**Fig. 58: Hydraulic Fuel Pressure Flow Diagram (No Lock-Up)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Partial Lock-up**

As the speed of the vehicle reaches the programmed value, the PCM turns shift solenoid valve D ON. Shift solenoid valve D pressure (SD) is applied to the right end of the lock-up shift valve, which switches the pressure over to the torque converter pressure port leading to the front of the torque converter. Torque converter pressure (91) enters into the front of the torque converter to engage the torque converter clutch piston. The PCM also controls A/T clutch pressure control solenoid valve A to regulate A/T clutch pressure control solenoid valve A pressure (55), and A/T clutch pressure control solenoid valve A pressure (55) is applied to the lock-up control valve. Torque converter pressure (94) drained from the back of the torque converter is applied to the right side of the lock-up control valve, and

torque converter pressure (90) is applied to the left side of the lock-up control valve. The lock-up control valve controls the lock-up volume, by receiving these pressures. The torque converter clutch is engaged partially during torque converter pressure (90) in the left side of the lock-up control valve is higher, and the torque converter clutch is engaged securely according to the volume of pressure in the right side of the lock-up control valve. Under this condition, the torque converter clutch is engaged by pressure entering into the front side of the torque converter; this condition is partial lock-up.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

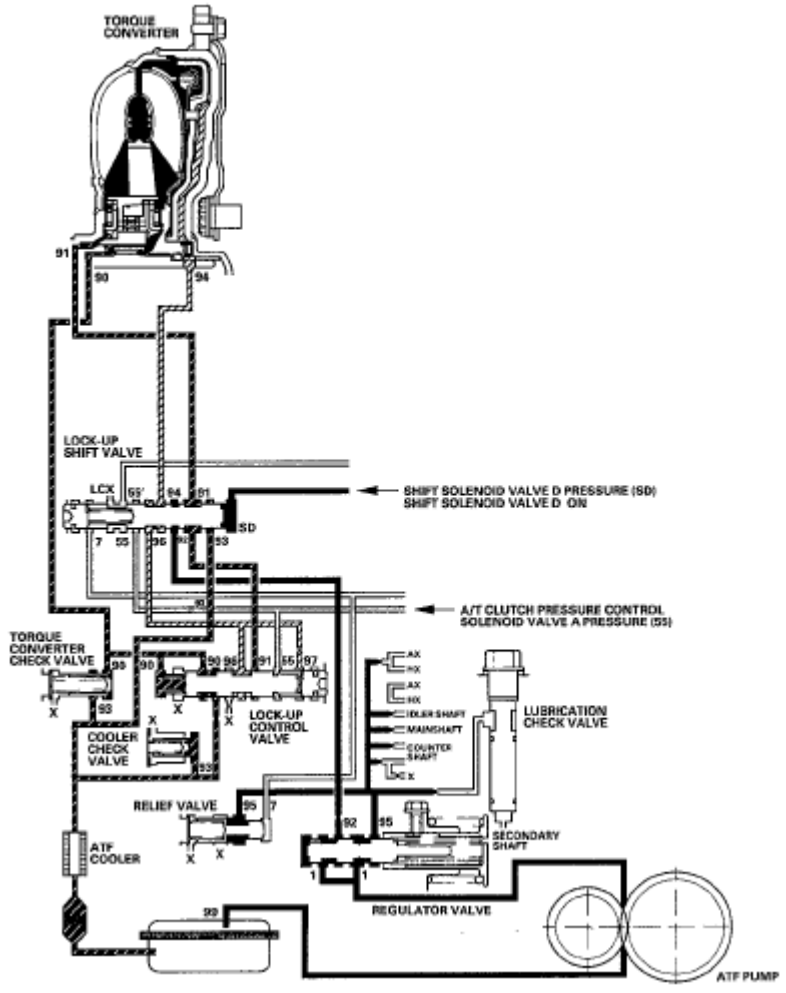



**Fig. 59: Hydraulic Fuel Pressure Flow Diagram (Partial Lock-Up)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

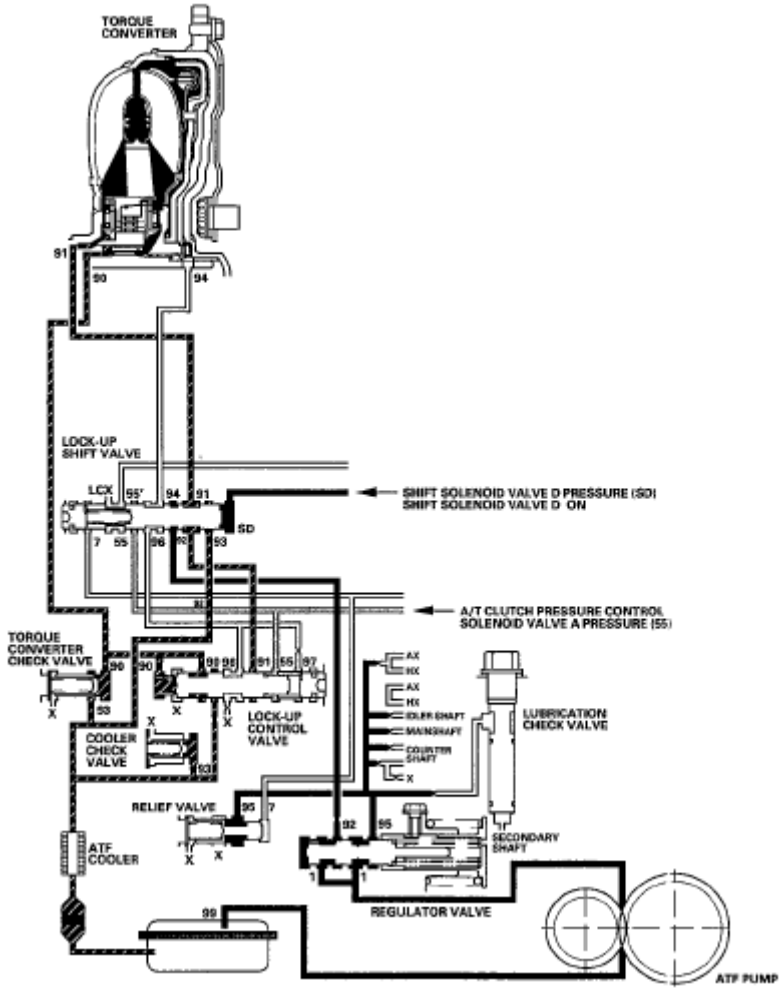
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**Full Lock-up**

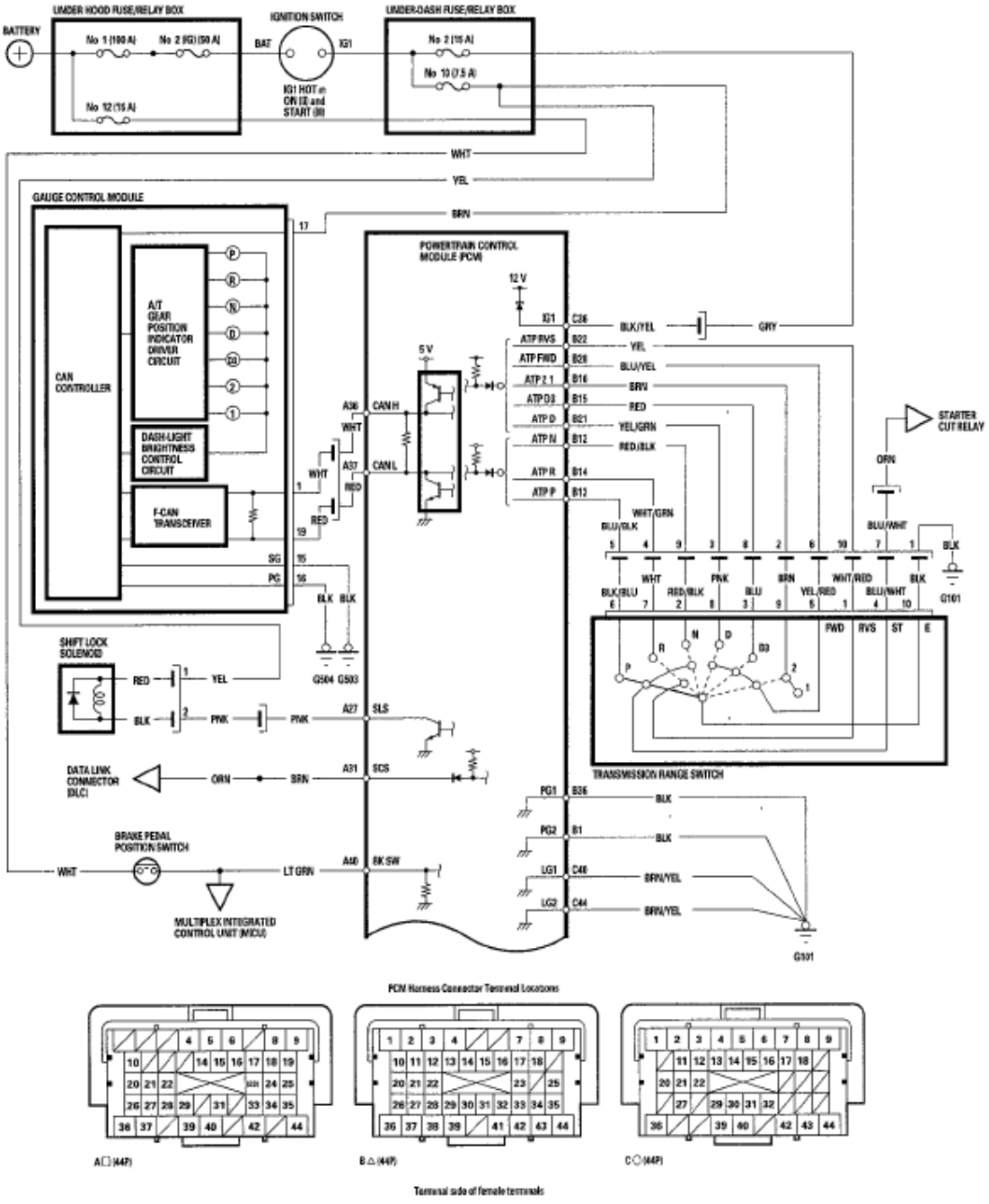
When the vehicle speed increases, the PCM controls A/T clutch pressure control solenoid valve A to increase A/T clutch pressure control solenoid valve A pressure (55). A/T clutch pressure control solenoid valve A pressure (55) is applied to the lock-up control valve, and the lock-up control valve is moved to the left side to release torque converter back pressure (94). Torque converter pressure (91) enters into the front of the torque converter, and the torque converter clutch piston is engaged with the torque converter cover securely by torque converter pressure. Under this condition, torque converter back pressure is released fully, causing the torque converter clutch to be fully engaged; this condition is full lock-up.

**NOTE: When used, "left" or "right" indicates direction on the hydraulic circuit.**

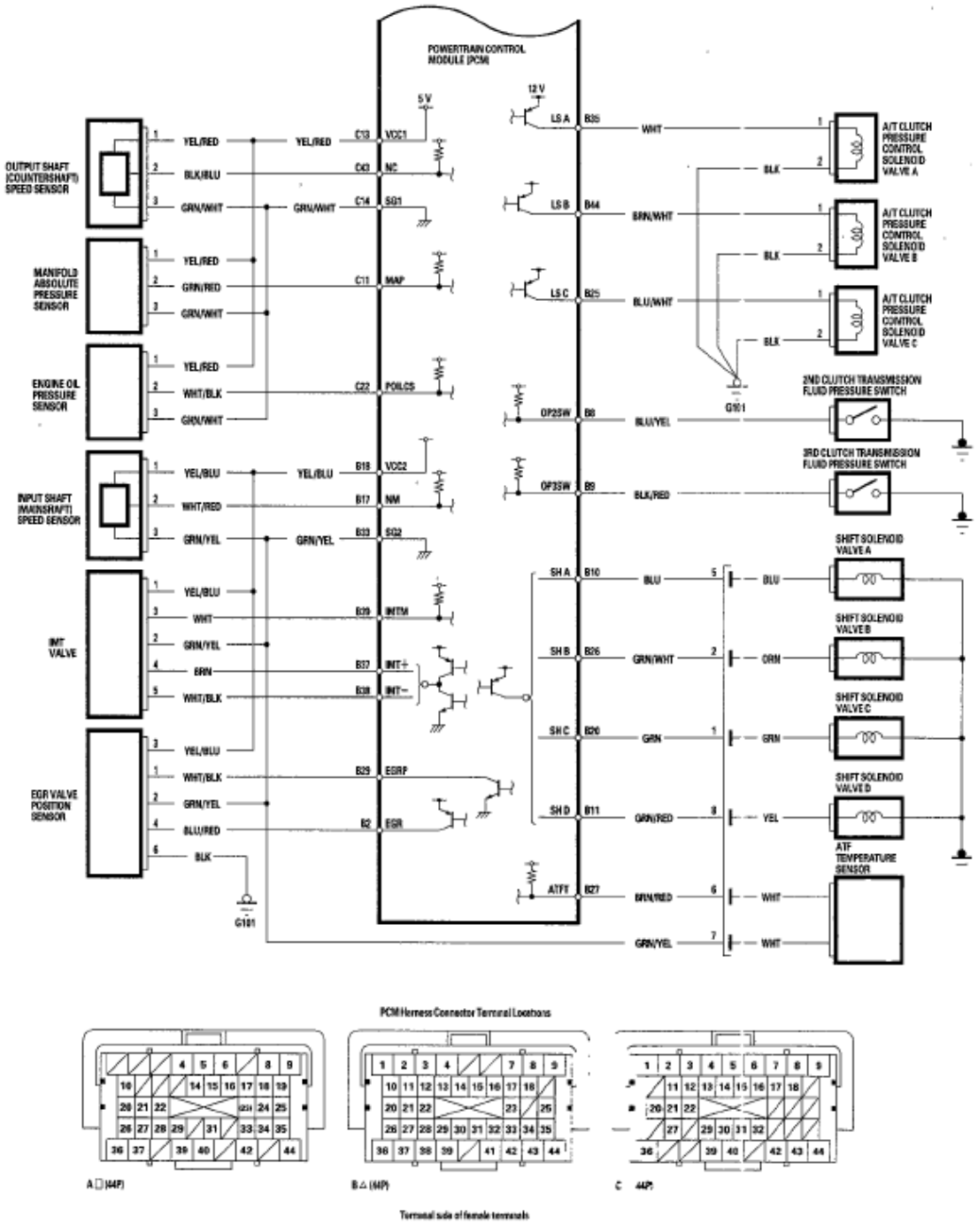


## Fig. 60: Hydraulic Fuel Pressure Flow Diagram (Full Lock-Up)
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**Circuit Diagram - PCM A/T Control System**




## Fig. 61: PCM A/T Control System - Circuit Diagram (1 Of 2)
## Courtesy of AMERICAN HONDA MOTOR CO., INC.




## Fig. 62: PCM A/T Control System - Circuit Diagram (2 Of 2)
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

### DTC TROUBLESHOOTING

**DTC P0107: Manifold Absolute Pressure (MAP) Sensor Circuit Low Voltage Input; DTC P0108: Manifold Absolute Pressure (MAP) Sensor Circuit High Voltage Input**

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it to ON (II) again.
4. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P0107 or P0108 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the **INDICATED DTC'S TROUBLESHOOTING** in the PGM-FI system:

   - P0107 (see **DTC P0107: MAP SENSOR CIRCUIT LOW VOLTAGE** )
   - P0108 (see **DTC P0108: MAP SENSOR CIRCUIT HIGH VOLTAGE** )

   **NO** -Go to step 5.

5. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0107 or P0108 indicated in the A/T SYSTEM?*

   **YES** -Go to step 6.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

6. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
7. Start the engine, and wait for at least 2 minutes.
8. Check for DTCs in the A/T SYSTEM with the HDS.

*Is DTC P0107 or P0108 indicated in the A/T SYSTEM?*

**YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1.

**NO** -Go to step 9.

9. Monitor the OBD STATUS for P0107 or P0108 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 8, go to the **INDICATED DTC'S TROUBLESHOOTING**.

   **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

**DTC P0335: Crankshaft Position (CKP) Sensor No Signal; DTC P0365: Camshaft Position (CMP) Sensor No Signal**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine.
4. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P0335 or P0365 indicated in the PGM-FI SYSTEM?*

**YES** -Go to the **INDICATED DTC'S TROUBLESHOOTING** in the PGM-FI system:

- P0335 (see **DTC P0335: CKP SENSOR NO SIGNAL** )
- P0365 (see **DTC P0365: CMP SENSOR NO SIGNAL** )

**NO** -Go to step 5.

5. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0335 or P0365 indicated in the A/T SYSTEM?*

   **YES** -Go to step 6.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

6. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
7. Start the engine, and wait for at least 2 minutes.
8. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0335 or P0365 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM, If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1.

   **NO** -Go to step 9.

9. Monitor the OBD STATUS for P0335 or P0365 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If

any other DTCs were indicated in step 8, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

**DTC P0339: Crankshaft Position (CKP) Sensor Intermittent Interruption; DTC P0369: Camshaft Position (CMP) Sensor Intermittent Interruption**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and raise the engine speed to at least 2,000 rpm.
4. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P0339 or P0369 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the **INDICATED DTC'S TROUBLESHOOTING** in the PGM-FI system:

   - P0339 (see **DTC P0339: CKP SENSOR INTERMITTENT INTERRUPTION** )
   - P0369 (see **DTC P0369: CMP SENSOR CIRCUIT INTERMITTENT INTERRUPTION** )

   **NO** -Go to step 5.

5. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0339 or P0369 indicated in the A/T SYSTEM?*

**YES** -Go to step 6.

**NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

6. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
7. Start the engine, and wait for at least 2 minutes.
8. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0339 or P0369 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1.

   **NO** -Go to step 9.

9. Monitor the OBD STATUS for P0339 or P0369 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 8, go to the **INDICATED DTC'S TROUBLESHOOTING**.

   **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

**DTC P0603: PCM Internal Control Module Keep Alive Memory (KAM) Error**

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P0603 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to **DTC P0603: ECM/PCM INTERNAL CONTROL MODULE KEEP ALIVE MEMORY (KAM) ERROR** in the PGM-FI system .

   **NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0603 indicated in the A/T SYSTEM?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Turn the ignition switch to ON (II).
7. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P0603 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1.

**NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**DTC P0705: Short in Transmission Range Switch Circuit (Multiple Shift-position Input)**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine.
4. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position.
5. Monitor the OBD STATUS for P0705 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 6.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wires between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 3.

6. Turn the ignition switch to LOCK (0).
7. Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ).

   *Is the switch OK?*

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**YES** -With the switch connector disconnected, go to step 8.

**NO** -Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), then go to step 50.

8. Turn the ignition switch to ON (II).
9. Measure the voltage between transmission range switch connector terminals No. 6 and No. 10.

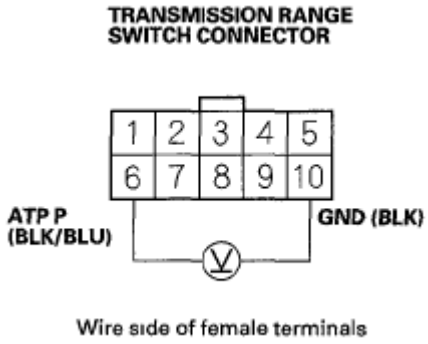



**Fig. 63: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 6 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 15.

**NO** -Go to step 10.

10. Turn the ignition switch to LOCK (0).
11. Jump the SCS line with the HDS.
12. Disconnect PCM connector B (44P).
13. Check for continuity between PCM connector terminal B13 and body ground.

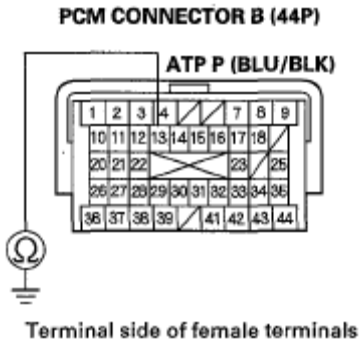



**Fig. 64: Checking Continuity Between PCM Connector Terminal B13 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B13 and the transmission range switch, then go to step 50.

**NO** -Go to step 14.

14. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

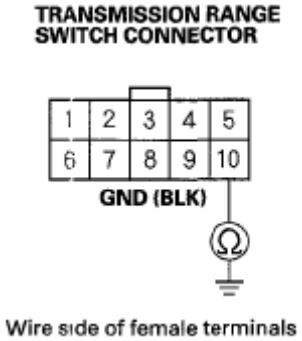



**Fig. 65: Checking Continuity Between Transmission Range Switch Connector Terminal No. 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 57.

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**NO** -Repair open in the wire between transmission range switch connector terminal No. 10 and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 50.

15. Measure the voltage between transmission range switch connector terminals No. 7 and No. 10.

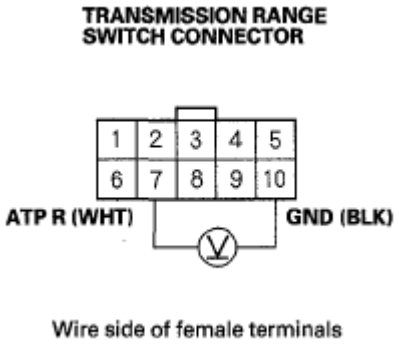



**Fig. 66: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 7 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 20.

**NO** -Go to step 16.

16. Turn the ignition switch to LOCK (0).
17. Jump the SCS line with the HDS.
18. Disconnect PCM connector B (44P).
19. Check for continuity between PCM connector terminal B14 and body ground.

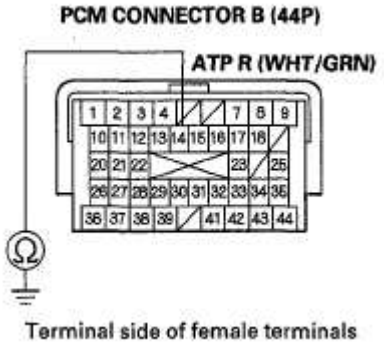



**Fig. 67: Checking Continuity Between PCM Connector Terminal B14 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B14 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

20. Measure the voltage between transmission range switch connector terminals No. 2 and No. 10.

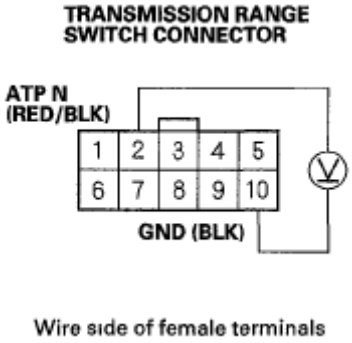



**Fig. 68: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 2 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 25.

**NO** -Go to step 21.

21. Turn the ignition switch to LOCK (0).
22. Jump the SCS line with the HDS.
23. Disconnect PCM connector B (44P).
24. Check for continuity between PCM connector terminal B12 and body ground.

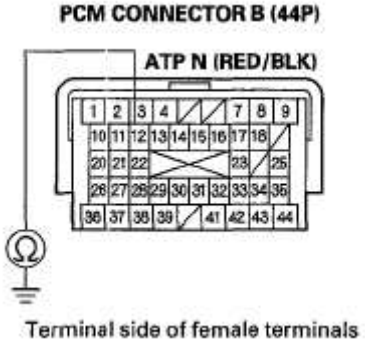



**Fig. 69: Checking Continuity Between PCM Connector Terminal B12 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B12 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

25. Measure the voltage between transmission range switch connector terminals No. 8 and No. 10.

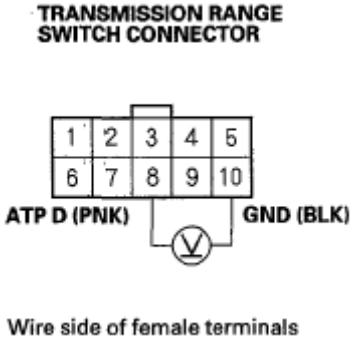


**Fig. 70: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 8 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 30.

**NO** -Go to step 26.

26. Turn the ignition switch to LOCK (0).
27. Jump the SCS line with the HDS.
28. Disconnect PCM connector B (44P).
29. Check for continuity between PCM connector terminal B21 and body ground.

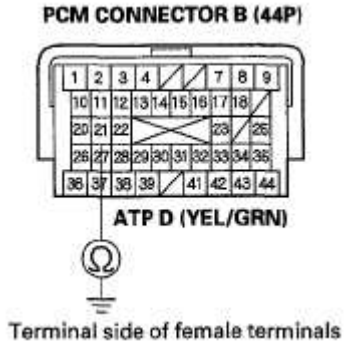



**Fig. 71: Checking Continuity Between PCM Connector Terminal B21 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B21 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

30. Measure the voltage between transmission range switch connector terminals No. 3 and No. 10.

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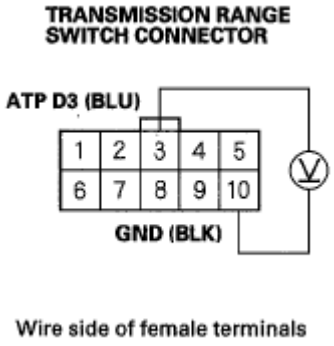



**Fig. 72: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 3 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 35.

**NO** -Go to step 31.

31. Turn the ignition switch to LOCK (0).
32. Jump the SCS line with the HDS.
33. Disconnect PCM connector B (44P).
34. Check for continuity between PCM connector terminal B15 and body ground.

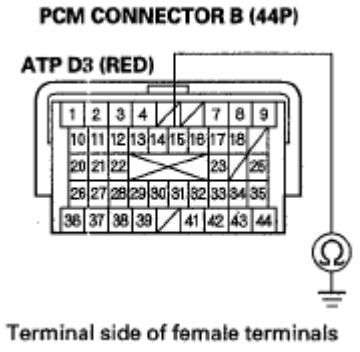



**Fig. 73: Checking Continuity Between PCM Connector Terminal B15 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B15 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

35. Measure the voltage between transmission range switch connector terminals No. 9 and No. 10.

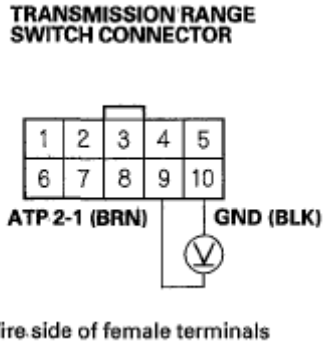



**Fig. 74: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 9 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 40.

**NO** -Go to step 36.

36. Turn the ignition switch to LOCK (0).
37. Jump the SCS line with the HDS.
38. Disconnect PCM connector B (44P).
39. Check for continuity between PCM connector terminal B16 and body ground.

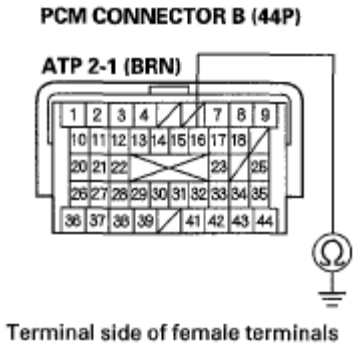



**Fig. 75: Checking Continuity Between PCM Connector Terminal B16 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B16 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

40. Measure the voltage between transmission range switch connector terminals No. 5 and No. 10.

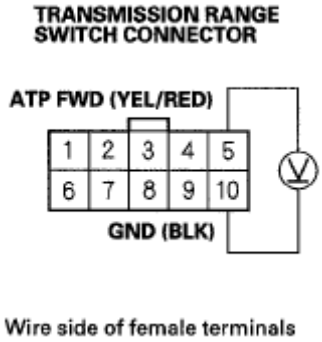



**Fig. 76: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 5 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 45.

**NO** -Go to step 41.

41. Turn the ignition switch to LOCK (0).
42. Jump the SCS line with the HDS.
43. Disconnect PCM connector B (44P).
44. Check for continuity between PCM connector terminal B28 and body ground.

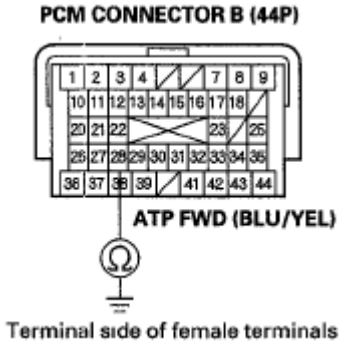


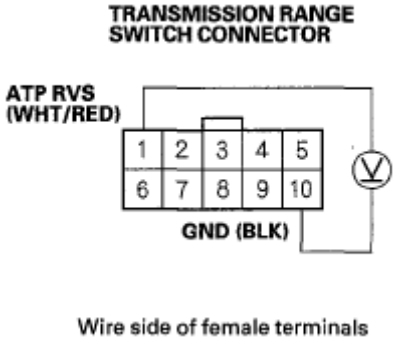

**Fig. 77: Checking Continuity Between PCM Connector Terminal B28 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B28 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

45. Measure the voltage between transmission range switch connector terminals No. 1 and No. 10.



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**Fig. 78: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 1 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 57.

**NO** -Go to step 46.

46. Turn the ignition switch to LOCK (0).
47. Jump the SCS line with the HDS.
48. Disconnect PCM connector B (44P).
49. Check for continuity between PCM connector terminal B22 and body ground.

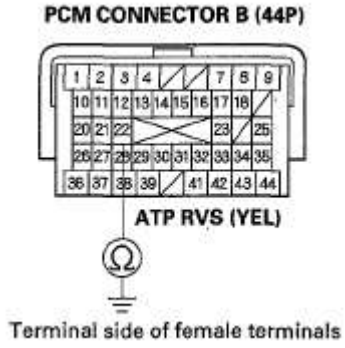



**Fig. 79: Checking Continuity Between PCM Connector Terminal B22 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B22 and the transmission range switch, then go to step 50.

**NO** -Go to step 57.

50. Reconnect all connectors.
51. Turn the ignition switch to ON (II).

52. Clear the DTC with the HDS.
53. Start the engine.
54. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position.
55. Check for DTCs with the HDS.

    *Is DTC P0705 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between the transmission range switch and the PCM, then go to step 1.

    **NO** -Go to step 56.

56. Monitor the OBD STATUS for P0705 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 55, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 53.

57. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
58. Start the engine.
59. With the brake pedal pressed, move the shift lever through all positions. Stop for at least 1 second in each position.
60. Check for DTCs with the HDS.

    *Is DTC P0705 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between the transmission range switch and the PCM. If the PCM was updated, substitute a

known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 58. If the PCM was substituted, go to step 1.

**NO** -Go to step 61.

61. Monitor the OBD STATUS for P0705 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 60, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 58. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 58.

**DTC P0706: Open in Transmission Range Switch Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Raise the front of the vehicle, make sure it is securely supported, and allow the front wheels to rotate freely. Or raise the vehicle on a lift.
4. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 25 mph (40 km/h), then slow down and stop the wheels.

5. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 4, then go to step 6.
6. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 7.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 4.

7. Turn the ignition switch to LOCK (0).
8. Inspect the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ).

   *Is the switch OK?*

   **YES** -Go to step 9.

   **NO** -Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), then go to step 30.

9. Adjust the shift cable (see **SHIFT CABLE ADJUSTMENT** ).
10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 25 mph (40 km/h), then slow down and stop the wheels.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

    *Does the HDS indicate FAILED?*

    **YES** -Go to step 15.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 12.

15. Shift to D, and check the ATP FWD and ATP D in the DATA LIST with the HDS.

    *Are ATP FWD and ATP D ON?*

    **YES** -Go to step 16.

    **NO** -Go to step 22.

16. Shift to D3, and check the ATP FWD and ATP D3 in the DATA LIST with the HDS.

    *Are ATP FWD and ATP D3 ON?*

    **YES** -Go to step 17.

    **NO** -Go to step 22.

17. Shift to 2, and check the ATP FWD and ATP 2-1 in the DATA LIST with the HDS.

    *Are ATP FWD and ATP 2-1 ON?*

    **YES** -Go to step 18.

    **NO** -Go to step 22.

18. Clear the DTC with the HDS.
19. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 25 mph (40 km/h), then slow down and stop the wheels.
20. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 19, then go to step 21.
21. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES** -Go to step 22.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the transmission range switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 19.

22. Turn the ignition switch to LOCK (0).
23. Disconnect the transmission range switch connector.
24. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

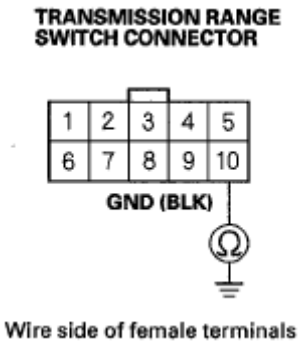



**Fig. 80: Checking Continuity Between Transmission Range Switch Connector Terminal No. 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 25.

**NO** -Repair open in the wire between the transmission range switch and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 30.

25. Turn the ignition switch to ON (II).
26. Measure the voltage between transmission range switch connector terminals No. 5 and No. 10.

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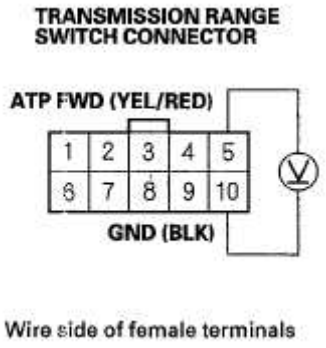



**Fig. 81: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 5 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 27.

**NO** -Repair open in the wire between the transmission range switch and PCM connector terminal B28, then go to step 30.

27. Measure the voltage between transmission range switch connector terminals No. 8 and No. 10.

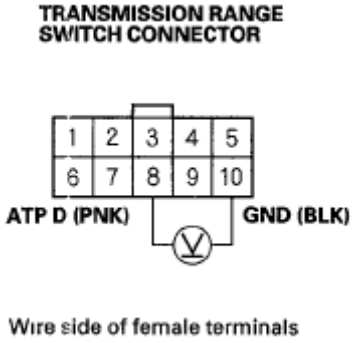



**Fig. 82: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 8 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 28.

**NO** -Repair open in the wire between the transmission range switch and PCM connector terminal B21, then go to step 30.

28. Measure the voltage between transmission range switch connector terminals No. 3 and No. 10.

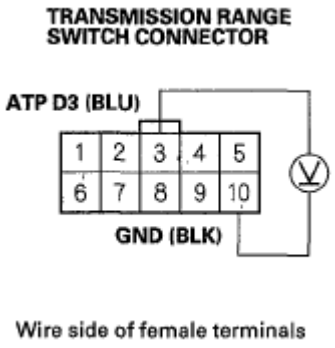



**Fig. 83: Measuring Voltage Between Transmission Range Switch Connector Terminals No. 3 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 29.

**NO** -Repair open in the wire between the transmission range switch and PCM connector terminal B15, then go to step 30.

29. Measure the voltage between transmission range switch connector terminals No. 9 and No. 10.

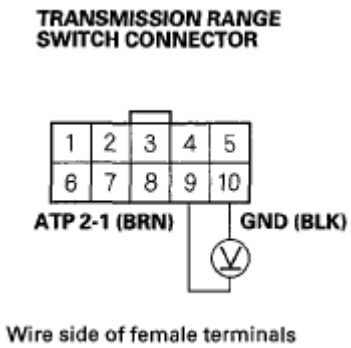



**Fig. 84: Measuring Voltage Between Transmission Range Switch**

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**Connector Terminals No. 9 And No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 37.

**NO** -Repair open in the wire between the transmission range switch and PCM connector terminal B16, then go to step 30.

30. Reconnect all connectors.
31. Turn the ignition switch to ON (II).
32. Clear the DTC with the HDS.
33. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 30 mph (48 km/h), then slow down and stop the wheels.
34. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 33, then go to step 35.
35. Check for DTCs with the HDS.

*Is DTC P0706 indicated?*

**YES** -Check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1.

**NO** -Go to step 36.

36. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 35, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 33.

37. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
38. Start the engine, run the vehicle with the shift lever in D until the vehicle speed reaches 30 mph (48 km/h), then slow down and stop the wheels.
39. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 38, then go to step 40.
40. Check for DTCs with the HDS.

    *Is DTC P0706 indicated?*

    **YES** -Check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 38. If the PCM was substituted, go to step 1.

    **NO** -Go to step 41.

41. Monitor the OBD STATUS for P0706 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 40, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 38. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 38.

**DTC P0711: Problem in ATF Temperature Sensor Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any**

**on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Check the ATF TEMP SENSOR in the DATA LIST with the HDS.

   *Does the ATF temperature exceed the ambient air temperature?*

   **YES** -Record the ATF temperature. Leave the engine off for at least 30 minutes, then go to step 3.

   **NO** -Record the ATF temperature. Test the stall speed RPM (see **STALL SPEED TEST** ) three times, then go to step 3.

3. Check the ATF TEMP SENSOR in the DATA LIST with the HDS.

   *Did the ATF temperature change?*

   **YES** -Leave the engine off for at least 30 minutes, then go to step 4.

   **NO** -Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 6.

4. Check the ECT SENSOR in the DATA LIST with the HDS.

   *Does the ECT SENSOR read about the same as the ambient air temperature?*

   **YES** -Go to step 5.

   **NO** -Leave the engine off until ECT SENSOR reads the same as the ambient air temperature, then go to step 5.

5. Check the ATF TEMP SENSOR in the DATA LIST with the HDS.

*Does the ATF temperature read about the same as ECT SENSOR?*

**YES** -Go to step 12.

**NO** -Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 6.

6. Clear the DTC with the HDS.
7. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
8. Allow the engine coolant temperature to cool to the ambient air temperature.
9. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on), and wait for at least 20 seconds, then drive the vehicle at speeds over 19 mph (31 km/h) for at least 5 minutes.
10. Check for DTCs with the HDS.

    *Is DTC P0711 indicated?*

    **YES** -Check for poor connections or loose terminals between the ATF temperature sensor and the PCM, then go to step 1.

    **NO** -Go to step 11.

11. Monitor the OBD STATUS for P0711 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 10, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

12. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).

13. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
14. Allow the engine coolant temperature to cool to the ambient air temperature.
15. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on), and wait for at least 20 seconds, then drive the vehicle at speeds over 19 mph (31 km/h) for at least 5 minutes.
16. Check for DTCs with the HDS.

    *Is DTC P0711 indicated?*

    **YES** -Check for poor connections or loose terminals between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 13. If the PCM was substituted, go to step 1.

    **NO** -Go to step 17.

17. Monitor the OBD STATUS for P0711 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 13. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 13.

**DTC P0712: Short in ATF Temperature Sensor Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

**Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Check the ATF TEMP SENSOR voltage in the DATA LIST with the HDS.

   *Is the ATF TEMP SENSOR voltage 0.07 V or less?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, the system is OK at this time. Check for an intermittent short to body ground in the ATFT wire between the ATF temperature sensor and the PCM.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the shift solenoid harness connector.
5. Turn the ignition switch to ON (II).
6. Check the ATF TEMP SENSOR voltage in the DATA LIST with the HDS.

   *Is the ATF TEMP SENSOR voltage 0.07 V or less?*

   **YES** -Go to step 7.

   **NO** -Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 12.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector B (44P).
10. Check for continuity between shift solenoid harness connector terminal No. 6 and body ground.

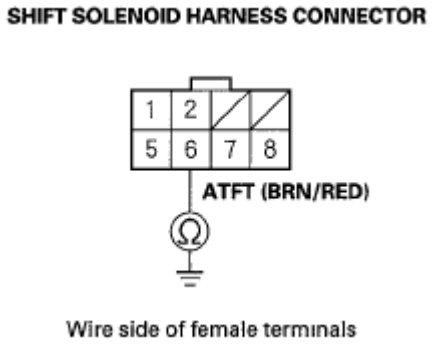



**Fig. 85: Checking Continuity Between Shift Solenoid Harness Connector Terminal No. 6 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B27 and shift solenoid harness connector terminal No. 6, then go to step 12.

**NO** -Go to step 11.

11. Check for continuity between shift solenoid harness connector terminal No. 6 and body ground.

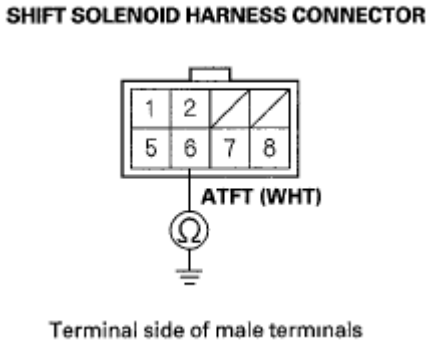



**Fig. 86: Checking Continuity Between Shift Solenoid Harness Connector Terminal No. 6 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 12.

**NO** -Go to step 18.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Start the engine with the shift lever in P, and wait for at least 20 seconds.
16. Check for DTCs with the HDS.

    *Is DTC P0712 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between the ATF temperature sensor and the PCM, then go to step 1.

    **NO** -Go to step 17.

17. Monitor the OBD STATUS for P0712 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 15.

18. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
19. Start the engine with the shift lever in P, and wait for at least 20 seconds.
20. Check for DTCs with the HDS.

    *Is DTC P0712 indicated?*

**YES** -Check for intermittent short to body ground in the wire between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1.

**NO** -Go to step 21.

21. Monitor the OBD STATUS for P0712 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

**DTC P0713: Open in ATF Temperature Sensor Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Check the ATF TEMP SENSOR voltage in the DATA LIST with the HDS.

   *Does the ATF TEMP SENSOR voltage exceed 4.93 V?*

**YES** -Go to step 3.

**NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the ATF temperature sensor and the PCM.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the shift solenoid harness connector.
5. Connect shift solenoid harness connector terminals No. 6 and No. 7 with a jumper wire.

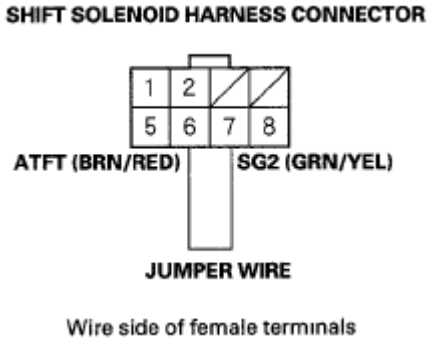



**Fig. 87: Connecting Shift Solenoid Harness Connector Terminals 6 And 7 With A Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Turn the ignition switch to ON (II).
7. Check the ATF TEMP SENSOR voltage in the DATA LIST with the HDS.

*Does the ATF TEMP SENSOR voltage exceed 4.93 V?*

**YES** -Go to step 8.

**NO** -Replace the ATF temperature sensor (see **ATF TEMPERATURE SENSOR TEST/REPLACEMENT** ), then go to step 21.

8. Turn the ignition switch to LOCK (0).
9. Remove the jumper wire from the shift solenoid harness connector.
10. Turn the ignition switch to ON (II).

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11. Measure the voltage between shift solenoid harness connector terminal No. 6 and body ground.

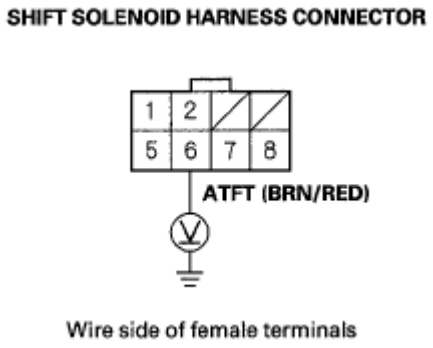



**Fig. 88: Measuring Voltage Between Shift Solenoid Harness Connector Terminal 6 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 12.

**NO** -Go to step 17.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector B (44P).
15. Connect shift solenoid harness connector terminal No. 7 and body ground with a jumper wire.

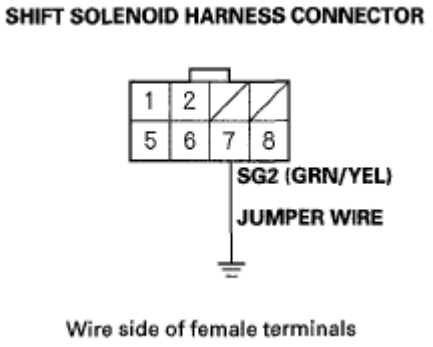



**Fig. 89: Connecting Shift Solenoid Harness Connector Terminal 7 And**

**Body Ground With A Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Check for continuity between PCM connector terminal B33 and body ground.

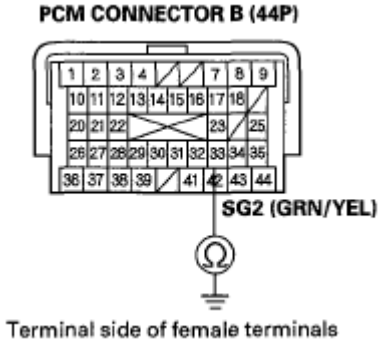



**Fig. 90: Checking Continuity Between PCM Connector Terminal B33 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 27.

**NO** -Repair open in the wire between PCM connector terminal B33 and the ATF temperature sensor, then go to step 21.

17. Turn the ignition switch to LOCK (0).
18. Jump the SCS line with the HDS.
19. Disconnect PCM connector B (44P).
20. Check for continuity between PCM connector terminal B27 and shift solenoid harness connector terminal No. 6.

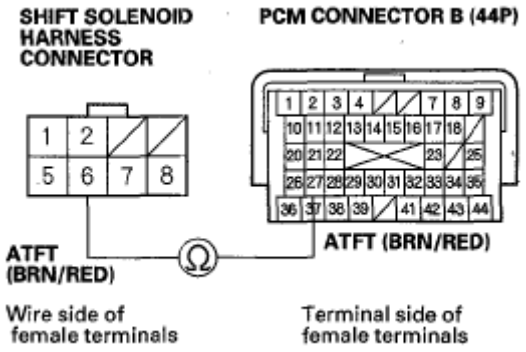



**Fig. 91: Checking Continuity Between PCM Connector Terminal B27 And Shift Solenoid Harness Connector Terminal No. 6**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 27.

**NO** -Repair open in the wire between PCM connector terminal B27 and the ATF temperature sensor, then go to step 21.

21. Reconnect all connectors.
22. Turn the ignition switch to ON (II).
23. Clear the DTC with the HDS.
24. Start the engine with the shift lever in P, and wait for at least 20 seconds.
25. Check for DTCs with the HDS.

*Is DTC P0713 indicated?*

**YES** -Check for poor connections or loose terminals between the ATF temperature sensor and the PCM, then go to step 1.

**NO** -Go to step 26.

26. Monitor the OBD STATUS for P0713 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step

25, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the ATF temperature sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 24.

27. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
28. Start the engine with the shift lever in P, and wait for at least 20 seconds.
29. Check for DTCs with the HDS.

    *Is DTC P0713 indicated?*

    **YES** -Check for poor connections or loose terminals between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 28. If the PCM was substituted, go to step 1.

    **NO** -Go to step 30.

30. Monitor the OBD STATUS for P0713 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 29, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the ATF temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 28. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 28.

**DTC P0716: Problem in Input Shaft (Mainshaft) Speed Sensor Circuit; DTC P0717: Problem in Input Shaft (Mainshaft) Speed Sensor Circuit (No Signal Input)**

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**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Check for proper input shaft (mainshaft) speed sensor installation (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT** ).
2. Turn the ignition switch to ON (II).
3. Clear the DTC with the HDS.
4. Raise the front of the vehicle, make sure it is securely supported, and allow the front wheels to rotate freely. Or raise the vehicle on a lift.
5. Test-drive the vehicle with the shift lever in D, and keep the vehicle at speeds over 12 mph (20 km/h) for at least 10 seconds. Slow down and stop the wheels.
6. Monitor the OBD STATUS for P0716 or P0717 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 7.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector C (44P).
10. Check for continuity between PCM connector terminal C40 and body ground, and between terminal C44 and body ground.

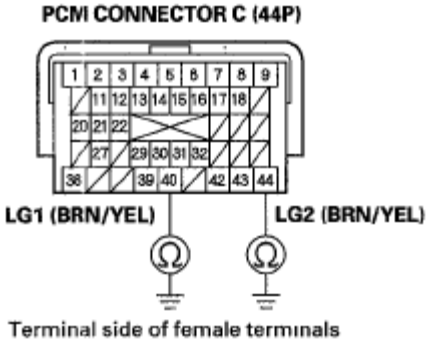



**Fig. 92: Checking Continuity Between PCM Connector Terminal C40 And C44 Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 11.

**NO** -Repair open in the wires between PCM connector terminals C40, C44, and ground (G101) (see**CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 32.

11. Connect PCM connector C (44P).
12. Disconnect the input shaft (mainshaft) speed sensor connector.
13. Turn the ignition switch to ON (II).
14. Measure the voltage between input shaft (mainshaft) speed sensor connector terminal No. 1 and body ground.

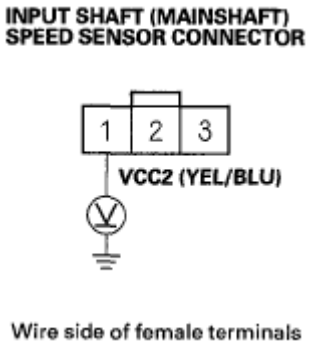



**Fig. 93: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal No. 1 And Body Ground**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 18.

**NO** -Go to step 15.

15. Turn the ignition switch to LOCK (0).
16. Disconnect PCM connector B (44P).
17. Check for continuity between PCM connector terminal B18 and input shaft (mainshaft) speed sensor connector terminal No. 1.

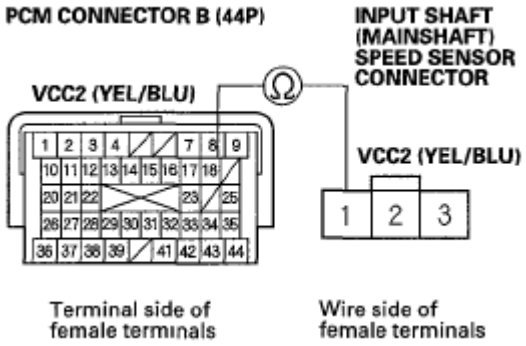



**Fig. 94: Checking Continuity Between PCM Connector Terminal B18 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 20.

**NO** -Repair open in the wire between PCM connector terminal B18 and the input shaft {mainshaft) speed sensor, then go to step 32.

18. Turn the ignition switch to LOCK (0).
19. Disconnect PCM connector B (44P).
20. Check for continuity between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

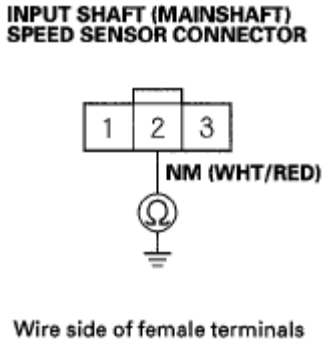



**Fig. 95: Checking Continuity Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B17 and the input shaft (mainshaft) speed sensor, then go to step 32.

**NO** -Go to step 21.

21. Check for continuity between PCM connector, terminal B33 and input shaft (mainshaft) speed sensor connector terminal No. 3.

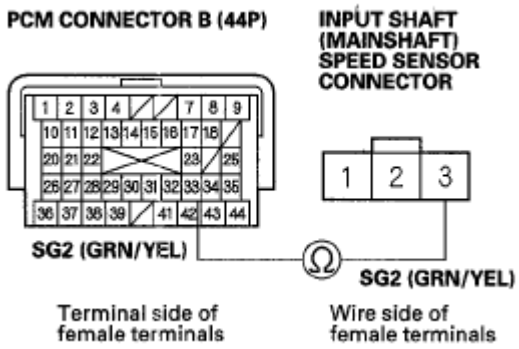



**Fig. 96: Checking Continuity Between PCM Connector, Terminal B33 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 22.

**NO** -Repair open in the wire between PCM connector terminal B33 and the input shaft (mainshaft) speed sensor, then go to step 32.

22. Connect PCM connector B (44P).
23. Turn the ignition switch to ON (II).
24. Measure the voltage between input shaft (mainshaft) speed sensor connector terminals No. 2 and No. 3.

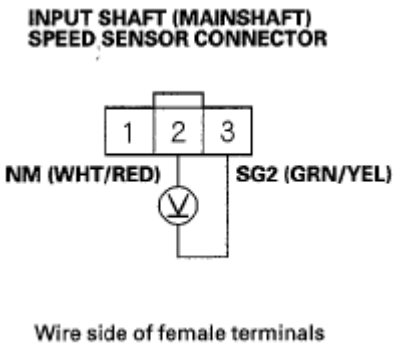



**Fig. 97: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminals 2 And 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 28.

**NO** -Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Disconnect PCM connector B (44P).
27. Check for continuity between PCM connector terminal B17 and input shaft (mainshaft) speed sensor connector terminal No. 2.

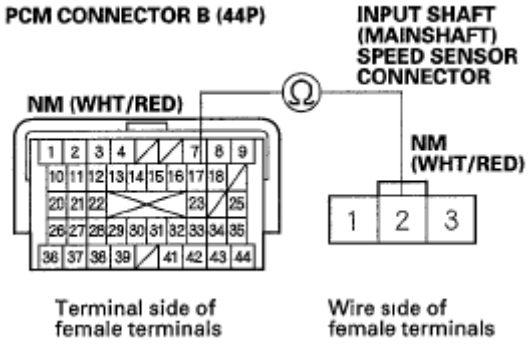



**Fig. 98: Checking Continuity Between PCM Connector Terminal B17 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 38.

**NO** -Repair open in the wire between PCM connector terminal B17 and the input shaft (mainshaft) speed sensor, then go to step 32.

28. Connect the input shaft (mainshaft) speed sensor connector.
29. Clear the DTC with the HDS.
30. Test-drive the vehicle with the shift lever in D, and keep the vehicle at speeds over 12 mph (20 km/h) for at least 10 seconds. Slow down and stop the wheels.
31. Monitor the OBD STATUS for P0716 or P0717 in the DTCs MENU with the HDS.

    *Does the HDS indicate FAILED?*

    **YES** -Replace the input shaft (mainshaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT** ), then go to step 32.

    **NO** -Go to step 38.

32. Reconnect all connectors.
33. Turn the ignition switch to ON (II).
34. Clear the DTC with the HDS.

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35. Test-drive the vehicle with the shift lever in D, and keep the vehicle at speeds over 12 mph (20 km/h) for at least 10 seconds. Slowdown and stop the wheels.
36. Check for DTCs with the HDS.

    *Is DTC P0716 or P0717 indicated?*

    **YES** -Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM, then go to step 1.

    **NO** -Go to step 37.

37. Monitor the OBD STATUS for P0716 or P0717 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 36, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 35.

38. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
39. Test-drive the vehicle with the shift lever in D, and keep the vehicle at speeds over 12 mph (20 km/h) for more than 10 seconds. Slow down and stop the wheels.
40. Check for DTCs with the HDS.

    *Is DTC P0716 or P0717 indicated?*

    **YES** -Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 39. If the PCM was substituted, go to step 1.

**NO** -Go to step 41.

41. Monitor the OBD STATUS for P0716 or P0717 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 40, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 39. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 39.

**DTC P0718: Input Shaft (Mainshaft) Speed Sensor Intermittent Failure**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
4. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 3, then go to step 5.
5. Monitor the OBD STATUS for P0718 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES** -Go to step 6.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, go to step 3.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the input shaft (mainshaft) speed sensor connector, and inspect the connector and connector terminals to be sure they are making good contact.

   *Are the connector terminals OK?*

   **YES** -Go to step 8.

   **NO** -Repair the connector terminals, then go to step 8.

8. Connect the input shaft (mainshaft) speed sensor connector.
9. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Monitor the OBD STATUS for P0718 in the DTCs MENU with the HDS.

    *Does the HDS indicate FAILED?*

    **YES** -Go to step 12.

    **NO** -If the HDS indicates PASSED, troubleshooting is complete. If the HDS indicates NOT COMPLETED, go to step 9.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector C (44P).

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15. Check for continuity between PCM connector terminal C40 and body ground, and between terminal C44 and body ground.

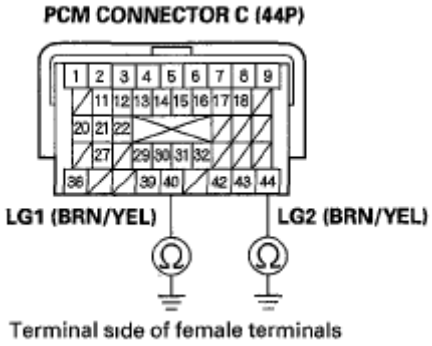



**Fig. 99: Checking Continuity Between PCM Connector Terminal C40 And C44 Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 16.

**NO** -Repair open in the wires between PCM connector terminals C40, C44, and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 32.

16. Connect PCM connector C (44P).
17. Disconnect the input shaft (mainshaft) speed sensor connector.
18. Turn the ignition switch to ON (II).
19. Measure the voltage between input shaft (mainshaft) speed sensor connector terminal No. 1 and body ground.

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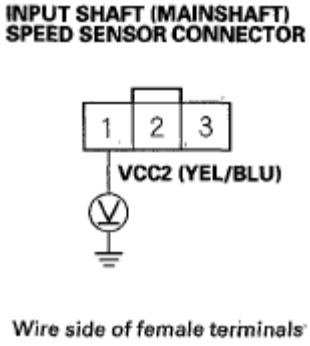



**Fig. 100: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 20.

**NO** -Go to step 29.

20. Turn the ignition switch to LOCK (0).
21. Disconnect PCM connector B (44P).
22. Check for continuity between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

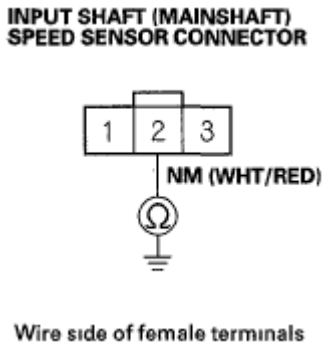



**Fig. 101: Checking Continuity Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B17 and the input shaft (mainshaft) speed sensor, then go to step 32.

**NO** -Go to step 23.

23. Connect PCM connector B (44P).
24. Turn the ignition switch to ON (II).
25. Measure the voltage between input shaft (mainshaft) speed sensor connector terminal No. 2 and body ground.

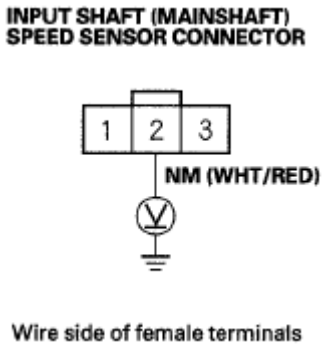



**Fig. 102: Measuring Voltage Between Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Replace the input shaft (mainshaft) speed sensor (see **INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT** ), then go to step 32.

**NO** -Go to step 26.

26. Turn the ignition switch to LOCK (0).
27. Disconnect PCM connector B (44P).
28. Check for continuity between PCM connector terminal B17 and input shaft (mainshaft) speed sensor connector terminal No. 2.

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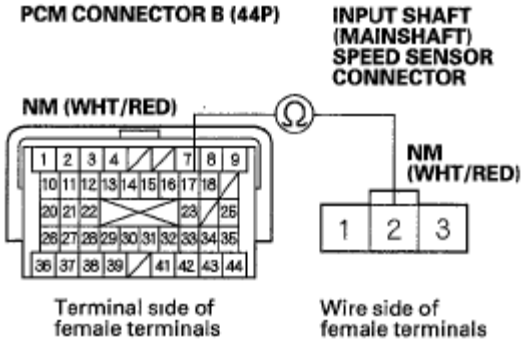



**Fig. 103: Checking Continuity Between PCM Connector Terminal B17 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 39.

**NO** -Repair open in the wire between PCM connector terminal B17 and the input shaft (mainshaft) speed sensor, then go to step 32.

29. Turn the ignition switch to LOCK (0).
30. Disconnect PCM connector B (44P).
31. Check for continuity between PCM connector terminal B18 and input shaft (mainshaft) speed sensor connector terminal No. 1.

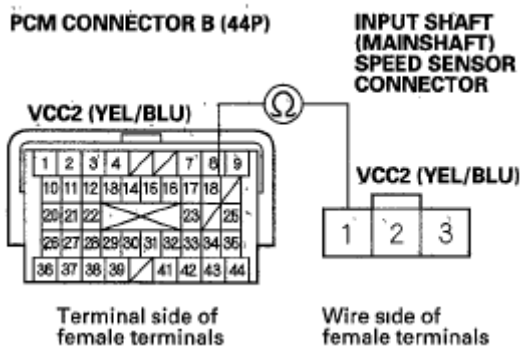



**Fig. 104: Checking Continuity Between PCM Connector Terminal B18 And Input Shaft (Mainshaft) Speed Sensor Connector Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 32.

**NO** -Repair open in the wire between PCM connector terminal B18 and the input shaft (mainshaft) speed sensor, then go to step 32.

32. Reconnect all connectors.
33. Turn the ignition switch to ON (II).
34. Clear the DTC with the HDS.
35. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
36. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 35, then go to step 37.
37. Check for DTCs with the HDS.

*Is DTC P0718 indicated?*

**YES** -Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM, then go to step 1.

**NO** -Go to step 38.

38. Monitor the OBD STATUS for P0718 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 37, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 35.

39. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).

40. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
41. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 40, then go to step 42.
42. Check for DTCs with the HDS.

    *Is DTC P0718 indicated?*

    **YES** -Check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 40. If the PCM was substituted, go to step 1.

    **NO** -Go to step 43.

43. Monitor the OBD STATUS for P0718 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 42, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the input shaft (mainshaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 40. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 40.

**DTC P0721: Problem in Output Shaft (Countershaft) Speed Sensor Circuit; DTC P0722: Problem in Output Shaft (Countershaft) Speed Sensor Circuit (No Signal Input)**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for proper output shaft (countershaft) speed sensor installation (see **OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT** ).
4. Raise the front of the vehicle, make sure it is securely supported, and allow the front wheels to rotate freely. Or raise the vehicle on a lift.
5. Test-drive the vehicle with the shift lever in D and the engine speed 2,000 rpm or higher, for at least 10 seconds. Slow down and stop the wheels.
6. Monitor the OBD STATUS for P0721 or P0722 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 7.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

7. Turn the ignition switch to LOCK (0).
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector C (44P).
10. Check for continuity between PCM connector terminal C40 and body ground, and between terminal C44 and body ground.

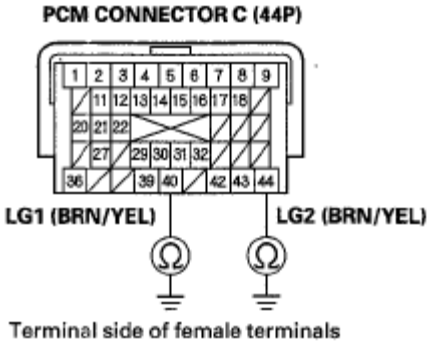



**Fig. 105: Checking Continuity Between PCM Connector Terminal C40 And C44 Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 11.

**NO** -Repair open in the wires between PCM connector terminals C40, C44, and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair a poor ground (G101), then go to step 32.

11. Connect PCM connector C (44P).
12. Disconnect the output shaft (countershaft) speed sensor connector.
13. Turn the ignition switch to ON (II).
14. Measure the voltage between output shaft (countershaft) speed sensor connector terminal No. 1 and body ground.

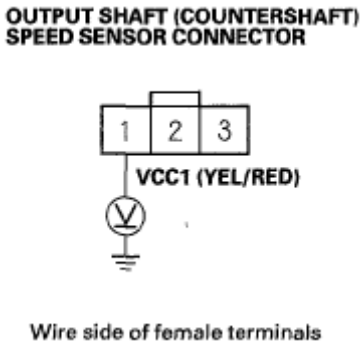



**Fig. 106: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 1 And Body Ground**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 18.

**NO** -Go to step 15.

15. Turn the ignition switch to LOCK (0).
16. Disconnect PCM connector C (44P).
17. Check for continuity between PCM connector terminal C13 and output shaft (countershaft) speed sensor connector terminal No. 1.

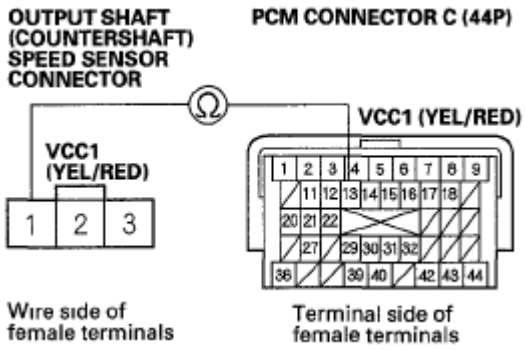



**Fig. 107: Checking Continuity Between PCM Connector Terminal C13 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 18.

**NO** -Repair open in the wire between PCM connector terminal C13 and the output shaft (countershaft) speed sensor, then go to step 32.

18. Turn the ignition switch to LOCK (0).
19. Disconnect PCM connector C (44P).
20. Check for continuity between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

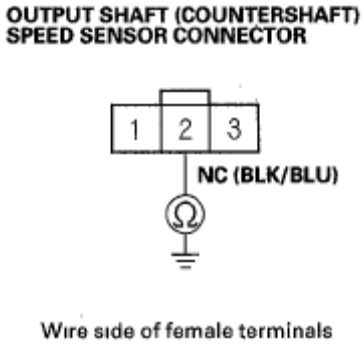



**Fig. 108: Checking Continuity Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal C43 and the output shaft (countershaft) speed sensor, then go to step 32.

**NO** -Go to step 21.

21. Check for continuity between PCM connector terminal C14 and output shaft (countershaft) speed sensor connector terminal No. 3.

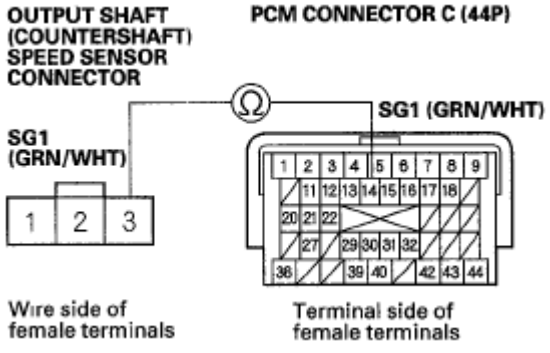



**Fig. 109: Checking Continuity Between PCM Connector Terminal C14 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 22.

**NO** -Repair open in the wire between the output shaft (countershaft) speed sensor connector and PCM connector terminal C14, then go to step 32.

22. Connect PCM connector C (44P).
23. Turn the ignition switch to ON (II).
24. Measure the voltage between output shaft (countershaft) speed sensor connector terminals No. 2 and No. 3.

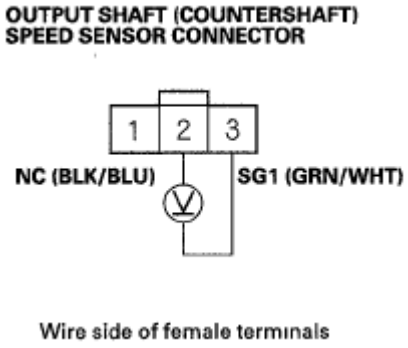



**Fig. 110: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminals 2 And 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 28.

**NO** -Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Disconnect PCM connector C (44P).
27. Check for continuity between PCM connector terminal C43 and output shaft (countershaft) speed sensor connector terminal No. 2.

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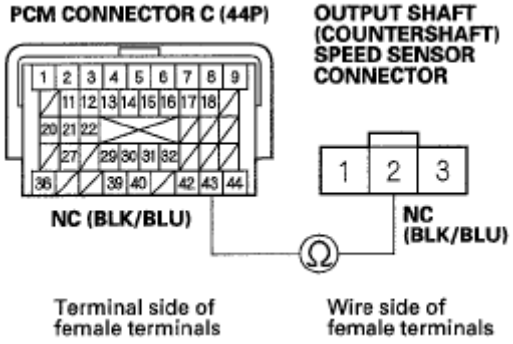



**Fig. 111: Checking Continuity Between PCM Connector Terminal C43 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 38.

**NO** -Repair open in the wire between PCM connector terminal C43 and the output shaft (countershaft) speed sensor, then go to step 32.

28. Connect the output shaft (countershaft) speed sensor connector.
29. Clear the DTC with the HDS.
30. Test-drive the vehicle with the shift lever in D and the engine speed 2,000 rpm or higher, for at least 10 seconds. Slow down and stop the wheels.
31. Monitor the OBD STATUS for P0721 or P0722 in the DTCs MENU with the HDS.

    *Does the HDS indicate FAILED?*

    **YES** -Replace the output shaft (countershaft) speed sensor (see **OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT** ), then go to step 32.

    **NO** -Go to step 38.

32. Reconnect all connectors.
33. Turn the ignition switch to ON (II).

34. Clear the DTC with the HDS.
35. Test-drive the vehicle with the shift lever in D at speeds over 12 mph (20 km/h), for at least 10 seconds. Slow down and stop the wheels.
36. Check for DTCs with the HDS.

    *Is DTC P0721 or P0722 indicated?*

    **YES** -Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM, then go to step 1.

    **NO** -Go to step 37.

37. Monitor the OBD STATUS for P0721 or P0722 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 36, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 35.

38. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
39. Test-drive the vehicle with the shift lever in D at speeds over 12 mph (20 km/h), for at least 10 seconds. Slow down and stop the wheels.
40. Check for DTCs with the HDS.

    *Is DTC P0721 or P0722 indicated?*

    **YES** -Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 39. If the PCM was substituted, go to step 1.

**NO** -Go to step 41.

41. Monitor the OBD STATUS for P0721 or P0722 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 40, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 39. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 39.

**DTC P0723: Output Shaft (Countershaft) Speed Sensor Intermittent Failure**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle with the shift lever in D with engine speed 2,000 rpm or higher, and let the transmission shift through all five gears.
4. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 3, then go to step 5.
5. Monitor the OBD STATUS for P0723 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES** -Go to step 6.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the HDS indicates NOT COMPLETED, go to step 3.

6. Turn the ignition switch to LOCK (0).
7. Disconnect the output shaft (countershaft) speed sensor connector, and inspect the connector and connector terminals to be sure they are making good contact.

   *Are the connector terminals OK?*

   **YES** -Go to step 8.

   **NO** -Repair the connector terminals, then go to step 8.

8. Connect the output shaft (countershaft) speed sensor connector.
9. Test-drive the vehicle with the shift lever in D with engine speed 2,000 rpm or higher, and let the transmission shift through all five gears.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Monitor the OBD STATUS for P0723 in the DTCs MENU with the HDS.

    *Does the HDS indicate FAILED?*

    **YES** -Go to step 12.

    **NO** -If the HDS indicates PASSED, troubleshooting is complete. If the HDS indicates NOT COMPLETED, go to step 9.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector C (44P).

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15. Check for continuity between PCM connector terminal C40 and body ground, and between terminal C44 and body ground.

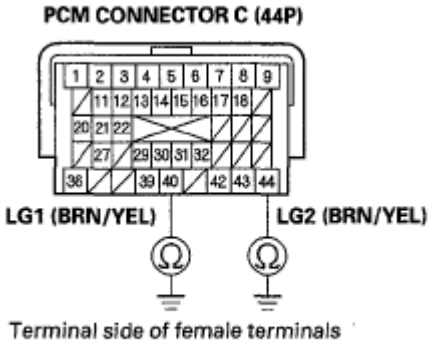



**Fig. 112: Checking Continuity Between PCM Connector Terminal C40 And C44 Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 16.

**NO** -Repair open in the wires between PCM connector terminals C40, C44, and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 32.

16. Connect PCM connector C (44P).
17. Disconnect the output shaft (countershaft) speed sensor connector.
18. Turn the ignition switch to ON (II).
19. Measure the voltage between output shaft (countershaft) speed sensor connector terminal No. 1 and body ground.

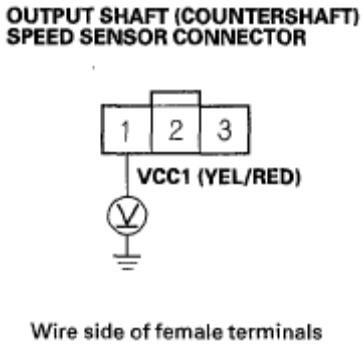



**Fig. 113: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 20.

**NO** -Go to step 29.

20. Turn the ignition switch to LOCK (0).
21. Disconnect PCM connector C (44P).
22. Check for continuity between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

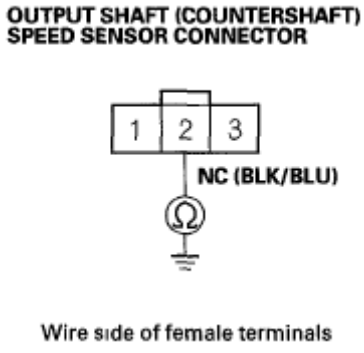



**Fig. 114: Checking Continuity Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal C43 and the output shaft (countershaft) speed sensor, then go to step 32.

**NO** -Go to step 23.

23. Connect PCM connector C (44P).
24. Turn the ignition switch to ON (II).
25. Measure the voltage between output shaft (countershaft) speed sensor connector terminal No. 2 and body ground.

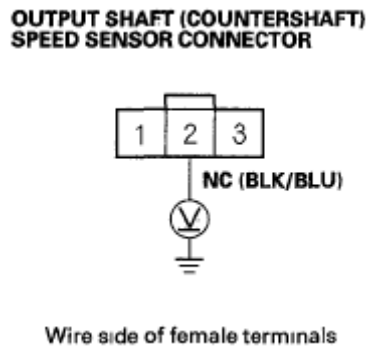



**Fig. 115: Measuring Voltage Between Output Shaft (Countershaft) Speed Sensor Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Replace the output shaft (countershaft) speed sensor (see **OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT** ), then go to step 32.

**NO** -Go to step 26.

26. Turn the ignition switch to LOCK (0).
27. Disconnect PCM connector C (44P).
28. Check for continuity between PCM connector terminal C43 and output shaft (countershaft) speed sensor connector terminal No. 2.

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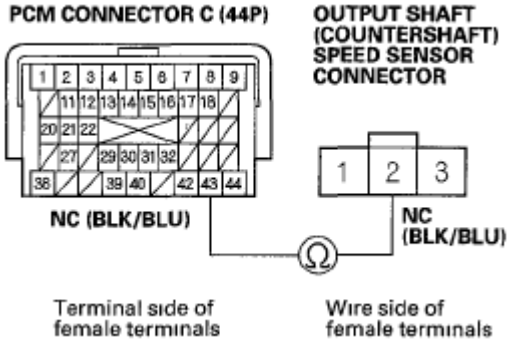



**Fig. 116: Checking Continuity Between PCM Connector Terminal C43 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 39.

**NO** -Repair open in the wire between PCM connector terminal C43 and the output shaft (countershaft) speed sensor, then go to step 32.

29. Turn the ignition switch to LOCK (0).
30. Disconnect PCM connector C (44P).
31. Check for continuity between PCM connector terminal C13 and output shaft (countershaft) speed sensor connector terminal No. 1.

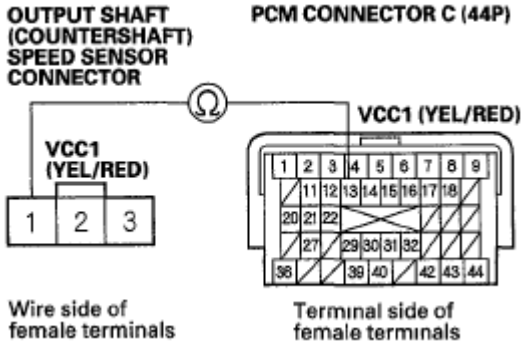



**Fig. 117: Checking Continuity Between PCM Connector Terminal C13 And Output Shaft (Countershaft) Speed Sensor Connector Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 32.

**NO** -Repair open in the wire between PCM connector terminal C13 and the output shaft (countershaft) speed sensor, then go to step 32.

32. Reconnect all connectors.
33. Turn the ignition switch to ON (II).
34. Clear the DTC with the HDS.
35. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
36. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 35, then go to step 37.
37. Check for DTCs with the HDS.

    *Is DTC P0723 indicated?*

    **YES** -Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM, then go to step 1.

    **NO** -Go to step 38.

38. Monitor the OBD STATUS for P0723 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 37, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 35.

39. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).

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40. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears at speeds over 12 mph (20 km/h).
41. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 40, then go to step 42.
42. Check for DTCs with the HDS.

    *Is DTC P0723 indicated?*

    **YES** -Check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 40. If the PCM was substituted, go to step 1.

    **NO** -Go to step 43.

43. Monitor the OBD STATUS for P0723 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 42, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the output shaft (countershaft) speed sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 40. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 40.

**DTC P0731: Problem in 1st Clutch and 1st Clutch Hydraulic Circuit (1st gear incorrect ratio)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 13.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limit?*

   **YES** -Go to step 5.

   **NO** -Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 13.

5. Measure the 1st clutch pressure (see **PRESSURE TEST** ).

   *Is the 1st clutch pressure within service limits?*

   **YES** -Go to step 6.

   **NO** -Shift valves B and C are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 13.

6. Test stall speed with the shift lever in 1 (see **STALL SPEED TEST** ).

   *Is the stall speed within service limits?*

   **YES** -Go to step 7.

   **NO** -Shift valves A and D are stuck. Repair these valves and the hydraulic

circuit, or replace the transmission, then go to step 13.

7. Turn the ignition switch to ON (II).
8. Clear the DTC with the HDS.
9. Test-drive the vehicle in 1st gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Check for DTCs with the HDS.

    *Is DTC P0731 indicated?*

    **YES** -Repair the 1st clutch, or replace the transmission, then go to step 13.

    **NO** -Go to step 12.

12. Monitor the OBD STATUS for P0731 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 11, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, repair the 1st clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 9.

13. Test-drive the vehicle in 1st gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
14. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 13, then go to step 15.
15. Check for DTCs with the HDS.

    *Is DTC P0731 indicated?*

    **YES** -Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

**NO** -Go to step 16.

16. Monitor the OBD STATUS for P0731 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 13.

**DTC P0732: Problem in 2nd Clutch and 2nd Clutch Hydraulic Circuit (2nd gear incorrect ratio)**

**NOTE: Before you troubleshoot, record all freeze data and Any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 13.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limit?*

**YES** -Go to step 5.

**NO** -Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 13.

5. Measure the 2nd clutch pressure (see **PRESSURE TEST** ).

   *Is the 2nd clutch pressure within service limits?*

   **YES** -Go to step 6.

   **NO** -Shift valves A and 6 are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 13.

6. Test stall speed with the shift lever in 2 (see **STALL SPEED TEST** ).

   *Is the stall speed within service limits?*

   **YES** -Go to step 7.

   **NO** -Shift valve C is stuck. Repair the shift valve C and the hydraulic circuit, or replace the transmission, then go to step 13.

7. Turn the ignition switch to ON (II).
8. Clear the DTC with the HDS.
9. Test-drive the vehicle in 2nd gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Check for DTCs with the HDS.

    *Is DTC P0732 indicated?*

    **YES** -Repair the 2nd clutch, or replace the transmission, then go to step 13.

    **NO** -Go to step 12.

12. Monitor the OBD STATUS for P0732 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 11, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, repair the 2nd clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 9.

13. Test-drive the vehicle in 2nd gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
14. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 13, then go to step 15.
15. Check for DTCs with the HDS.

*Is DTC P0732 indicated?*

**YES** -Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

**NO** -Go to step 16.

16. Monitor the OBD STATUS for P0732 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 13.

**DTC P0733: Problem in 3rd Clutch and 3rd Clutch Hydraulic Circuit (3rd gear incorrect ratio)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

## Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 12.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limits?*

   **YES** -Go to step 5.

   **NO** -Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 12.

5. Measure the 3rd clutch pressure (see **PRESSURE TEST** ).

   *Is the 3rd clutch pressure within service limits?*

   **YES** -Go to step 6.

   **NO** -Shift valves A and D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 12.

6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.
8. Test-drive the vehicle in 3rd gear with the shift lever in D at speeds over 7 mph

(12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.

9. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 8, then go to step 10.
10. Check for DTCs with the HDS.

    *Is DTC P0733 indicated?*

    **YES** -Repair the 3rd clutch, or replace the transmission, then go to step 12.

    **NO** -Go to step 11.

11. Monitor the OBD STATUS for P0733 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 10, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, repair the 3rd clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 8.

12. Test-drive the vehicle in 3rd gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0733 indicated?*

    **YES** -Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0733 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 15, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0734: Problem in 4th Clutch and 4th Clutch Hydraulic Circuit (4th gear incorrect ratio)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 12.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limits?*

   **YES** -Go to step 5.

   **NO** -Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 12.

5. Measure the 4th clutch pressure (see **PRESSURE TEST** ).

   *Is the 4th clutch pressure within service limits?*

   **YES** -Go to step 6.

   **NO** -Shift valves A, B, C, and/or D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 12.

6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.
8. Test-drive the vehicle in 4th gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
9. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 8, then go to step 10.
10. Check for DTCs with the HDS.

    *Is DTC P0734 indicated?*

    **YES** -Repair the 4th clutch, or replace the transmission, then go to step 12.

    **NO** -Go to step 11.

11. Monitor the OBD STATUS for P0734 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 10, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, repair the 4th clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 8.

12. Test-drive the vehicle in 4th gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.

14. Check for DTCs with the HDS.

    *Is DTC P0734 indicated?*

    **YES** -Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0734 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0735: Problem in 5th Clutch and 5th Clutch Hydraulic Circuit (5th gear incorrect ratio)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

**YES** -Replace the transmission, then go to step 12.

**NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Measure the line pressure (see **PRESSURE TEST** ).

   *Is the line pressure within service limits?*

   **YES** -Go to step 5.

   **NO** -Repair the ATF pump and the regulator valve, or replace the transmission, then go to step 12.

5. Measure the 5th clutch pressure (see **PRESSURE TEST** ).

   *Is the 5th clutch pressure within service limits?*

   **YES** -Go to step 6.

   **NO** -Shift valves A, B, C, and/or D are stuck. Repair these valves and the hydraulic circuit, or replace the transmission, then go to step 12.

6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.
8. Test-drive the vehicle in 5th gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
9. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 8, then go to step 10.
10. Check for DTCs with the HDS.

    *Is DTC P0735 indicated?*

    **YES** -Repair the 5th clutch, or replace the transmission, then go to step 12.

    **NO** -Go to step 11.

11. Monitor the OBD STATUS for P0735 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 10, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, repair the 5th clutch, or replace the transmission. If the HDS indicates NOT COMPLETED, go to step 8.

12. Test-drive the vehicle in 5th gear with the shift lever in D at speeds over 7 mph (12 km/h) and the engine speed above 1,000 rpm, for at least 12 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

*Is DTC P0735 indicated?*

**YES** -Check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4.

**NO** -Go to step 15.

15. Monitor the OBD STATUS for P0735 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor and the PCM, then go to step 4. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0741: Torque Converter Clutch Hydraulic Circuit Stuck OFF**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

http://ReadManuals.com



## Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 15.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and check that shift solenoid valve D operates with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 7.

   **NO** -Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 12.

7. Run the engine until the ECT SENSOR temperature reaches 176 °F (80 °C).
8. Select Clutch Pressure Control (Linear) Solenoid Valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

   *Does the HDS indicate NORMAL?*

**YES** -Go to step 9.

**NO** -Follow the instructions indicated on the HDS by the test result. Go to step 12 if any part is replaced.

9. Test-drive the vehicle on a level road with a steady throttle at 60 mph (96 km/h) for at least 20 seconds.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Monitor the OBD STATUS for P0741 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES** -Repair the faulty torque converter clutch mechanism, the torque converter clutch hydraulic circuit, the lock-up shift valve, or the lock-up control valve, or replace the transmission, then go to step 15.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 9.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Test-drive the vehicle on a level road with a steady throttle at 60 mph (96 km/h) for at least 20 seconds, or test-drive the vehicle for several minutes under the same condition as those indicated by the freeze data.
16. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 15, then go to step 17.
17. Check for DTCs with the HDS.

*Is DTC P0741 indicated?*

**YES** -Go to step 5.

**NO** -Go to step 18.

18. Monitor the OBD STATUS for P0741 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 17, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 15.

**DTC P0746: A/T Clutch Pressure Control Solenoid Valve A Stuck OFF**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 14.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop. Shift to R, and drive the vehicle for at least 2 seconds.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go

to step 8.

8. Monitor the OBD STATUS for P0746 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 9.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Clear the DTC with the HDS.
10. Select Clutch Pressure Control (Linear) Solenoid valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

    *Does the HDS indicate NORMAL?*

    **YES** -Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, retest A/T clutch pressure control solenoid valve A with the HDS.

    **NO** -Follow the instructions indicated on the HDS by the test result. If the HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

11. Inspect A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A TEST** ).

    *Does A/T clutch pressure control solenoid valve A operate properly?*

    **YES** -Repair the hydraulic system related with shift valve A, or replace the transmission, then go to step 14.

    **NO** -Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ), then go to step 12.

12. Turn the ignition switch to ON (II).

13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop. Shift to R, and drive the vehicle for at least 2 seconds.
15. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 14, then go to step 16.
16. Check for DTCs with the HDS.

    *Is DTC P0746 indicated?*

    **YES** -Go to step 9.

    **NO** -Go to step 17.

17. Monitor the OBD STATUS for P0746 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 9. If the HDS indicates NOT COMPLETED, go to step 14.

**DTC P0747: A/T Clutch Pressure Control Solenoid Valve A Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal

debris or excessive clutch material.

*Does the strainer have metal debris or excessive clutch material?*

**YES** -Replace the transmission, then go to step 14.

**NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go to step 8.
8. Monitor the OBD STATUS for P0747 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 9.

   **NO** -lf the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Clear the DTC with the HDS.
10. Select Clutch Pressure Control (Linear) Solenoid valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

    *Does the HDS indicate NORMAL?*

    **YES** -Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, retest A/T clutch pressure control solenoid valve A with the HDS.

    **NO** -Follow the instructions indicated on the HDS by the test result. If the HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

11. Inspect A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A TEST** ).

    *Does A/T clutch pressure control solenoid valve A operate properly?*

    **YES** -Repair the hydraulic system related with shift valve A, or replace the transmission, then go to step 14.

    **NO** -Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ), then go to step 12.

12. Turn the ignition switch to ON (II).
13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
15. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 14, then go to step 16.
16. Check for DTCs with the HDS.

    *Is DTC P0747 indicated?*

    **YES** -Go to step 9.

    **NO** -Go to step 17.

17. Monitor the OBD STATUS for P0747 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 9. If the HDS indicates NOT COMPLETED, go to step 14.

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 12.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve A in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 7.

   **NO** -Replace shift solenoid valve A (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0751 or P0752 in the DTCs MENU with the

HDS.

*Does the HDS indicate FAILED?*

**YES** -Repair shift valve A, or replace the transmission, then go to step 12.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0751 or P0752 indicated?*

    **YES** -Go to step 5.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0751 or P0752 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0756: Shift Solenoid Valve B Stuck OFF; DTC P0757: Shift Solenoid Valve B Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-**

**board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 12.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve B in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 7.

   **NO** -Replace shift solenoid valve B (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0756 or P0757 in the DTCs MENU with the HDS.

*Does the HDS indicate FAILED?*

**YES** -Repair shift valve B, or replace the transmission, then go to step 12.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

*Is DTC P0756 or P0757 indicated?*

**YES** -Go to step 5.

**NO** -Go to step 15.

15. Monitor the OBD STATUS for P0756 or P0757 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0761: Shift Solenoid Valve C Stuck OFF; DTC P0762: Shift Solenoid Valve C Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL**

## TROUBLESHOOTING INFORMATION ).

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 12.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve C in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 7.

   **NO** -Replace shift solenoid valve C (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0761 or P0762 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

**YES** -Repair shift valve C, or replace the transmission, then go to step 12.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0761 or P0762 indicated?*

    **YES** -Go to step 5.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0761 or P0762 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0766: Shift Solenoid Valve D Stuck OFF**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 12.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 7.

   **NO** -Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Start the engine, and shift to N. Then shift to R and drive the vehicle for at least 2 seconds. Slow the vehicle down to a stop. Then drive the vehicle in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0766 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Repair shift valve D, or replace the transmission, then go to step 12.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Start the engine, and shift to N. Then shift to R and drive the vehicle for at least 2 seconds. Slow the vehicle down to a stop. Then drive the vehicle in D, and let the transmission shift through all five gears.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0766 indicated?*

    **YES** -Go to step 5.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0766 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0767: Shift Solenoid Valve D Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).

2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 12.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and check it operates with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 7.

   **NO** -Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 10.

7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop. Shift to R, and drive the vehicle for at least 3 seconds.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Monitor the OBD STATUS for P0767 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Repair shift valve D, or replace the transmission, then go to step 12.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 7.

10. Turn the ignition switch to ON (II).
11. Clear the DTC with the HDS.
12. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears, then slow down to a stop. Shift to R, and drive the vehicle for at least 3 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0767 indicated?*

    **YES** -Go to step 5.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0767 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 5. If the HDS indicates NOT COMPLETED, go to step 12.

**DTC P0776: A/T Clutch Pressure Control Solenoid Valve B Stuck OFF; DTC P0777: A/T Clutch Pressure Control Solenoid Valve B Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.

3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 14.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go to step 8.
8. Monitor the OBD STATUS for P0776 or P0777 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 9.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Clear the DTC with the HDS.
10. Select Clutch Pressure Control (Linear) Solenoid Valve B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

    *Does the HDS indicate NORMAL?*

    **YES** -Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, retest A/T clutch pressure control solenoid valve B with the HDS.

    **NO** -Follow the instructions indicated on the HDS by the test result. If the

HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

11. Inspect A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B TEST** ).

    *Does A/T clutch pressure control solenoid valve B work properly?*

    **YES** -Repair the hydraulic system related with shift valve B, or replace the transmission, then go to step 14.

    **NO** -Replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 12.

12. Turn the ignition switch to ON (II).
13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
15. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 14, then go to step 16.
16. Check for DTCs with the HDS.

    *Is DTC P0776 or P0777 indicated?*

    **YES** -Go to step 9.

    **NO** -Go to step 17.

17. Monitor the OBD STATUS for P0776 or P0777 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, go to step 9. If the HDS indicates NOT COMPLETED, go to step 14.

**DTC P0796: A/T Clutch Pressure Control Solenoid Valve C Stuck OFF; DTC P0797: A/T Clutch Pressure Control Solenoid Valve C Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 14.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go to step 8.
8. Monitor the OBD STATUS for P0796 or P0797 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 9.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Clear the DTC with the HDS.
10. Select Clutch Pressure Control (Linear) Solenoid Valve C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

    *Does the HDS indicate NORMAL?*

    **YES** -Intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, retest A/T clutch pressure control solenoid valve C with the HDS.

    **NO** -Follow the instructions indicated on the HDS by the test result, If the HDS has not determined the cause of the failure, go to step 11. If any part is replaced, go to step 12.

11. Inspect A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C TEST** ).

    *Does A/T clutch pressure control solenoid valve C work properly?*

    **YES** -Repair the hydraulic system related with shift valve C, or replace the transmission, then go to step 14.

    **NO** -Replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 12.

12. Turn the ignition switch to ON (II).
13. Clear the DTC with the HDS.
14. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
15. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 14, then go to step 16.

16. Check for DTCs with the HDS.

    *Is DTC P0796 or P0797 indicated?*

    **YES** -Go to step 9.

    **NO** -Go to step 17.

17. Monitor the OBD STATUS for P0796 or P0797 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 9. If the HDS indicates NOT COMPLETED, go to step 14.

**DTC P0812: Open in Transmission Range Switch ATP R Switch Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Shift to R, and check the A/T R SWITCH in the DATA LIST with the HDS.

   *Is the A/T R SWITCH ON?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Go to step 3.

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3. Turn the ignition switch to LOCK (0).
4. Disconnect the transmission range switch connector.
5. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

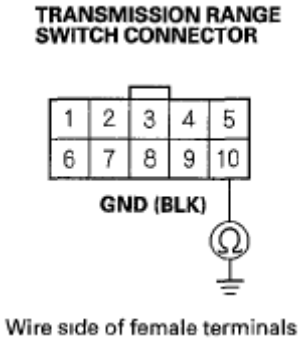



**Fig. 118: Checking Continuity Between Transmission Range Switch Connector Terminal 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 6.

**NO** -Repair open in the wire between transmission range switch connector terminal No. 10 and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 9.

6. Turn the ignition switch to ON (II).
7. Measure the voltage between transmission range switch connector terminals No. 7 and No. 10.

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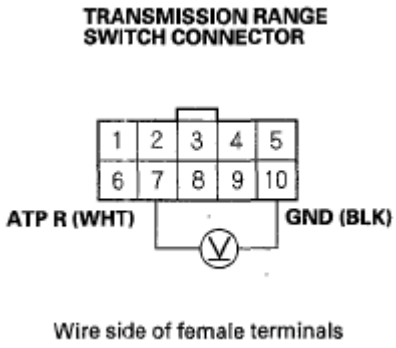



**Fig. 119: Measuring Voltage Between Transmission Range Switch Connector Terminals 7 And 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 8.

**NO** -Repair open in the wire between PCM connector terminal B14 and the transmission range switch, then go to step 9.

8. Check for continuity between transmission range switch connector terminals No. 7 and No. 10 while the shift lever is in R, and when the shift lever is shifted to any position other than R.

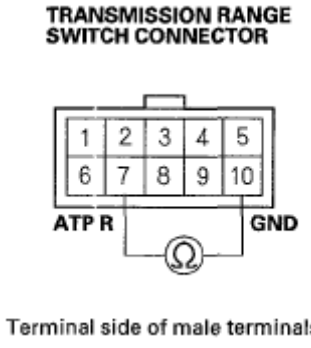



**Fig. 120: Checking Continuity Between Transmission Range Switch Connector Terminals 7 And 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity while the shift lever is in R, and no continuity when the shift lever is shifted to any position other than R?*

**YES** -Go to step 16.

**NO** -Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), then go to step 9.

9. Reconnect all connectors.
10. Turn the ignition switch to ON (II).
11. Clear the DTC with to the HDS.
12. Test-drive the vehicle with the shift lever in R at speeds below 3 mph (5 km/h) for at least 2 seconds. Then increase the speed and drive over 3 mph (5 km/h) for at least 2 seconds.
13. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 12, then go to step 14.
14. Check for DTCs with the HDS.

    *Is DTC P0812 indicated?*

    **YES** -Check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1.

    **NO** -Go to step 15.

15. Monitor the OBD STATUS for P0812 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 12.

16. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).

17. Test-drive the vehicle with the shift lever in R at speeds below 3 mph (5 km/h) for at least 2 seconds. Then increase the speed and drive over 3 mph (5 km/h) for at least 2 seconds.
18. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 17, then go to step 19.
19. Check for DTCs with the HDS.

    *Is DTC P0812 indicated?*

    **YES** -Check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 17. If the PCM was substituted, go to step 1.

    **NO** -Go to step 20.

20. Monitor the OBD STATUS for P0812 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 17. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 17.

**DTC P0842: Short in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck ON**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL**

**TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check the 2nd PRESSURE SWITCH in the DATA LIST with the HDS when not in 2nd gear.

   *Is the 2nd PRESSURE SWITCH OFF?*

   **YES** -Go to step 4.

   **NO** -Go to step 7.

4. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
5. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 2 seconds.
6. Monitor the OBD STATUS for P0842 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 7.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 4.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the 2nd clutch transmission fluid pressure switch connector.
9. Turn the ignition switch to ON (II).
10. Check the 2nd PRESSURE SWITCH in the DATA LIST with the HDS.

*Is the 2nd PRESSURE SWITCH OFF?*

**YES** -Replace the 2nd clutch transmission fluid pressure switch (see **2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT** ), then go to step 15.

**NO** -Go to step 11.

11. Turn the ignition switch to LOCK (0).
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between PCM connector terminal B8 and body ground.

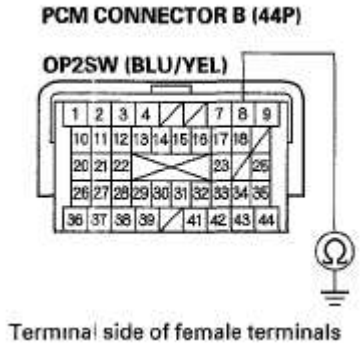



**Fig. 121: Checking Continuity Between PCM Connector Terminal B8 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B8 and the 2nd clutch transmission fluid pressure switch, then go to step 15.

**NO** -Go to step 22.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.

18. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
19. Test-drive the vehicle with the shift lever in 2 for at least 2 seconds, then shift to D, and drive in 3rd gear for at least 2 seconds. Then drive in 4th gear for at least 2 seconds.
20. Check for DTCs with the HDS.

    *Is DTC P0842 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1.

    **NO** -Go to step 21.

21. Monitor the OBD STATUS for P0842 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
24. Test-drive the vehicle with the shift lever in 2 for at least 2 seconds, then shift to D, and drive in 3rd gear for at least 2 seconds. Then drive in 4th gear for at least 2 seconds.
25. Check for DTCs with the HDS.

*Is DTC P0842 indicated?*

**YES** -Check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

**NO** -Go to step 26.

26. Monitor the OBD STATUS for P0842 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 25, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0843: Open in 2nd Clutch Transmission Fluid Pressure Switch Circuit, or 2nd Clutch Transmission Fluid Pressure Switch Stuck OFF**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).

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2. Clear the DTC with the HDS.
3. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
4. Shift the shift lever into 2.
5. Check the 2nd PRESSURE SWITCH in the DATA LIST with the HDS.

   *Is the 2nd PRESSURE SWITCH ON?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Test-drive the vehicle with the shift lever in 2 for at least 2 seconds.
7. Monitor the OBD STATUS for P0843 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 6.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the 2nd clutch transmission fluid pressure switch connector.
10. Turn the ignition switch to ON (II).
11. Measure the voltage between the 2nd clutch transmission fluid pressure switch connector terminal and body ground.

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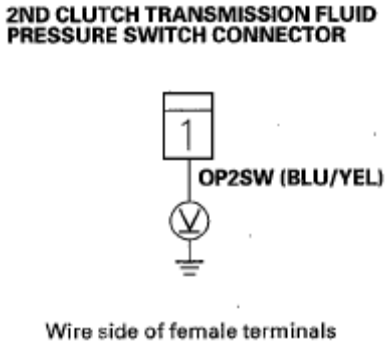



**Fig. 122: Measuring Voltage Between 2nd Clutch Transmission Fluid Pressure Switch Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Replace the 2nd clutch transmission fluid pressure switch (see **2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT** ), then go to step 16.

**NO** -Go to step 12.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector B (44P).
15. Check for continuity between PCM connector terminal B8 and the 2nd clutch transmission fluid pressure switch connector terminal.

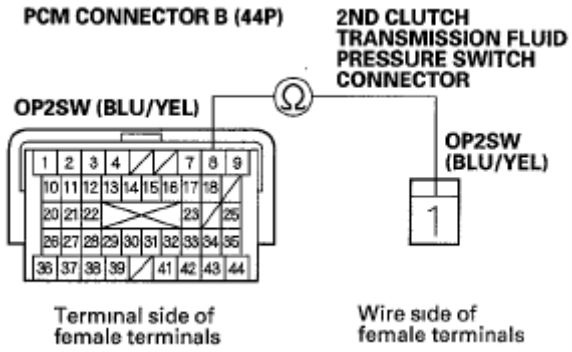



**Fig. 123: Checking Continuity Between PCM Terminal B8 And 2nd Clutch Transmission Fluid Pressure Switch Terminal**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 23.

**NO** -Repair open in the wire between PCM connector terminal B8 and the 2nd clutch transmission fluid pressure switch, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
20. Drive the vehicle with the shift lever in 2 for at least 2 seconds, then shift to D, and drive in 4th gear for at least 2 seconds.
21. Check for DTCs with the HDS.

    *Is DTC P0843 indicated?*

    **YES** -Check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1.

    **NO** -Go to step 22.

22. Monitor the OBD STATUS for P0843 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 21, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

23. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
24. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
25. Drive the vehicle with the shift lever in 2 for at least 2 seconds, then shift to D, and drive in 4th gear for at least 2 seconds.
26. Check for DTCs with the HDS.

    *Is DTC P0843 indicated?*

    **YES** -Check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 24. If the PCM was substituted, go to step 1.

    **NO** -Go to step 27.

27. Monitor the OBD STATUS for P0843 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 26, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the 2nd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 24. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 24.

**DTC P0847: Short in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck ON**

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**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check the 3rd PRESSURE SWITCH in the DATA LIST with the HDS when not in 3rd gear.

   *Is the 3rd PRESSURE SWITCH OFF?*

   **YES** -Go to step 4.

   **NO** -Go to step 7.

4. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
5. Drive the vehicle in 4th gear with the shift lever in D, for at least 2 seconds.
6. Monitor the OBD STATUS for P0847 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 7.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 4.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the 3rd clutch transmission fluid pressure switch connector.

9. Turn the ignition switch to ON (II).
10. Check the 3rd PRESSURE SWITCH in the DATA LIST with the HDS.

    *Is the 3rd PRESSURE SWITCH OFF?*

    **YES** -Replace the 3rd clutch transmission fluid pressure switch (see **3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT** ), then go to step 15.

    **NO** -Go to step 11.

11. Turn the ignition switch to LOCK (0).
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between PCM connector terminal B9 and body ground.

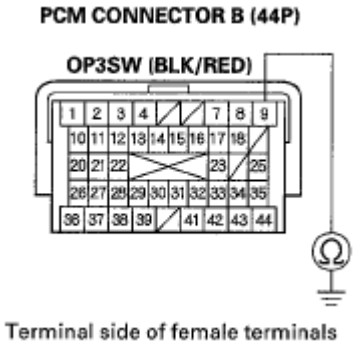



**Fig. 124: Checking Continuity Between PCM Connector Terminal B9 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B9 and the 3rd clutch transmission fluid pressure switch, then go to step 15.

**NO** -Go to step 22.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
19. Drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds. Then shift to D, and drive in 4th gear for at least 2 seconds.
20. Check for DTCs with the HDS.

    *Is DTC P0847 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1.

    **NO** -Go to step 21.

21. Monitor the OBD STATUS for P0847 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
24. Drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds. Then shift to D, and drive in 4th gear for at least 2 seconds.

25. Check for DTCs with the HDS.

    *Is DTC P0847 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO** -Go to step 26.

26. Monitor the OBD STATUS for P0847 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 25, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0848: Open in 3rd Clutch Transmission Fluid Pressure Switch Circuit, or 3rd Clutch Transmission Fluid Pressure Switch Stuck OFF**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
4. Drive the vehicle in 3rd gear with the shift lever in D3, and check that the SHIFT COMMAND indicates 3rd in the DATA LIST with the HDS.
5. Check the 3rd PRESSURE SWITCH in the DATA LIST with the HDS.

   *Is the 3rd PRESSURE SWITCH ON?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Test-drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds.
7. Monitor the OBD STATUS for P0848 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM. If the HDS indicates NOT COMPLETED, go to step 6.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the 3rd clutch transmission fluid pressure switch connector.
10. Turn the ignition switch to ON (II).
11. Measure the voltage between the 3rd clutch transmission fluid pressure switch connector terminal and body ground.

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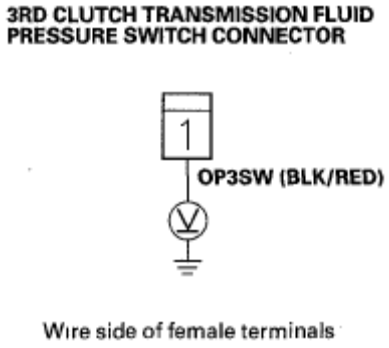



**Fig. 125: Checking Voltage Between 3rd Clutch Transmission Fluid Pressure Switch Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Replace the 3rd clutch transmission fluid pressure switch (see **3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT** ), then go to step 16.

**NO** -Go to step 12.

12. Turn the ignition switch to LOCK (0).
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector B (44P).
15. Check for continuity between PCM connector terminal B9 and 3rd clutch transmission fluid pressure switch connector terminal.

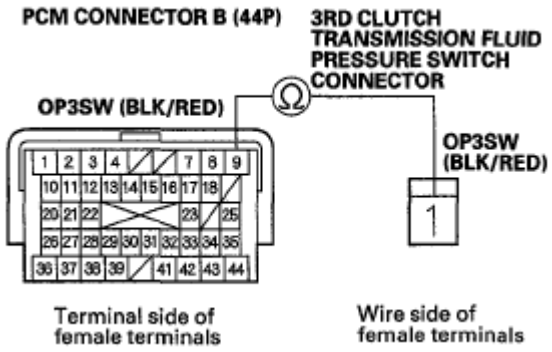



**Fig. 126: Checking Continuity Between PCM Terminal B9 And 3rd Clutch Transmission Fluid Pressure Switch Terminal**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 23.

**NO** -Repair open in the wire between PCM connector terminal B9 and the 3rd clutch transmission fluid pressure switch, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
20. Test-drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds. Then shift to D, and drive in 4th gear for at least 2 seconds.
21. Check for DTCs with the HDS.

*Is DTC P0848 indicated?*

**YES** -Check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1.

**NO** -Go to step 22.

22. Monitor the OBD STATUS for P0848 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 21, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

23. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
24. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
25. Test-drive the vehicle in 3rd gear with the shift lever in D3, for at least 2 seconds. Then shift to D, and drive in 4th gear for at least 2 seconds.
26. Check for DTCs with the HDS.

    *Is DTC P0848 indicated?*

    **YES** -Check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 24. If the PCM was substituted, go to step 1.

    **NO** -Go to step 27.

27. Monitor the OBD STATUS for P0848 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 26, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the 3rd clutch transmission fluid pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 24. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 24.

**DTC P0962: Problem in A/T Clutch Pressure Control Solenoid Valve A Circuit**

## NOTE:

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0962 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve A at 1.0 A.
7. Monitor the OBD STATUS for P0962 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/T clutch pressure control solenoid valve A connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve A connector terminals No. 1 and No. 2.

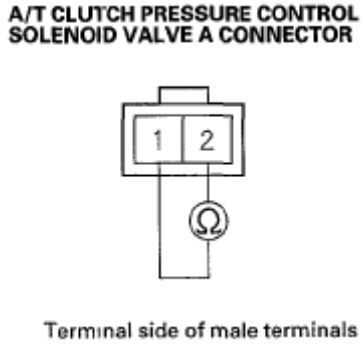



**Fig. 127: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve A Connector Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES** -Go to step 11.

**NO** -Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ), then go to step 16.

11. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 2 and body ground.

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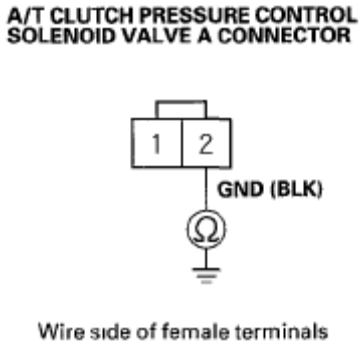



**Fig. 128: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve A Connector Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 12.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve A and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 16.

12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 1 and body ground.

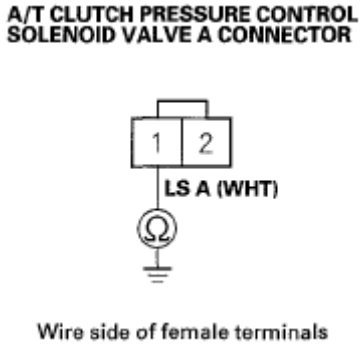



**Fig. 129: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve A Connector Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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*Is there continuity?*

**YES** -Repair short to body ground in the wire between A/T clutch pressure control solenoid valve A connector terminal No. 1 and body ground, then go to step 16.

**NO** -Go to step 15.

15. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 1 and PCM connector terminals B35.

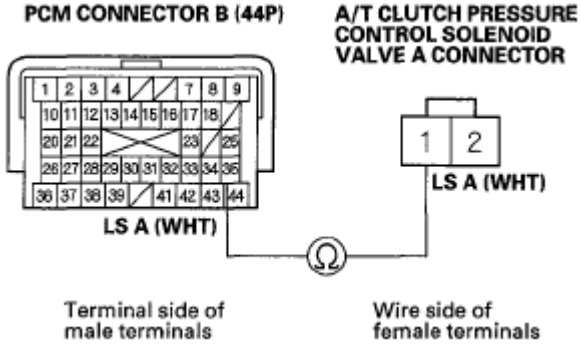



**Fig. 130: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve A Terminal 1 And PCM Terminals B35**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 22.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve A connector terminal No. 1 and PCM connector terminal B35, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0962 indicated?*

**YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM, then go to step 1.

**NO** -Go to step 21.

21. Monitor the OBD STATUS for P0962 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and wait for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0962 indicated?*

    **YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO** -Go to step 25.

25. Monitor the OBD STATUS for P0962 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was

substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0963: Problem in A/T Clutch Pressure Control Solenoid Valve A**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0963 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve A in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve A with the HDS.

   *Does the HDS indicate NORMAL?*

**YES** -Go to step 6.

**NO** -Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve A at 0.2 A.
7. Monitor the OBD STATUS for P0963 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/T clutch pressure control solenoid valve A connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve A connector terminals No. 1 and No. 2.

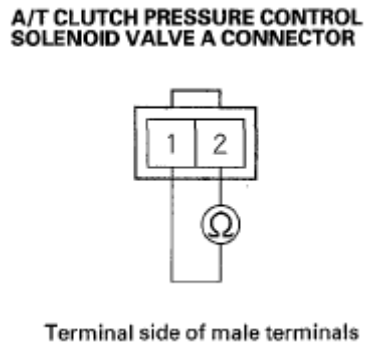



**Fig. 131: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve A Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES** -Go to step 11.

**NO** -Replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ), then go to step 12.

11. Check for continuity between A/T clutch pressure control solenoid valve A connector terminal No. 2 and body ground.

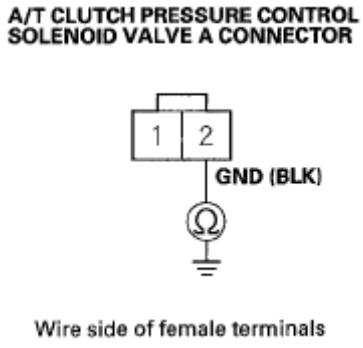



**Fig. 132: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve A Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 18.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve A and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 12.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Start the engine, and wait for at least 1 second.
16. Check for DTCs with the HDS.

*Is DTC P0963 indicated?*

**YES** -Check for poor connections or loose terminals between A/T clutch

pressure control solenoid valve A and the PCM, then go to step 1.

**NO** -Go to step 17.

17. Monitor the OBD STATUS for P0963 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 15.

18. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0963 indicated?*

    **YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1.

    **NO** -Go to step 21.

21. Monitor the OBD STATUS for P0963 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

**DTC P0966: Problem in A/T Clutch Pressure Control Solenoid Valve B Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0966 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve B at 1.0 A.
7. Monitor the OBD STATUS for P0966 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch OFF.
9. Disconnect the A/T clutch pressure control solenoid valve B connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve B connector terminals No. 1 and No. 2.

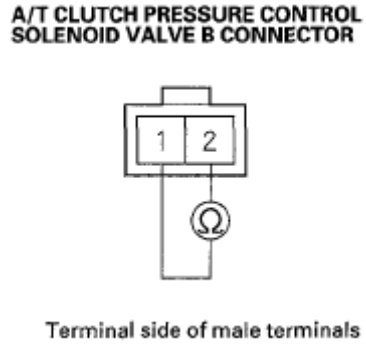



**Fig. 133: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve B Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES** -Go to step 11.

**NO** -Replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C**

**REPLACEMENT** ), then go to step 16.

11. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 2 and body ground.

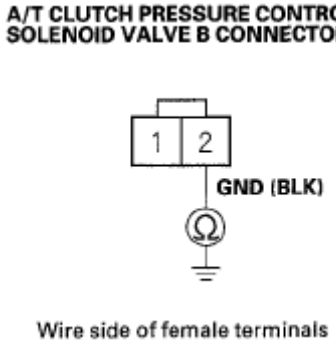



**Fig. 134: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve B Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 12.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve B and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 16.

12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 1 and body ground.

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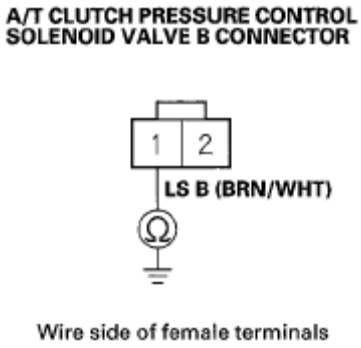



**Fig. 135: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve B Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between A/T clutch pressure control solenoid valve B connector terminal No. 1 and body ground, then go to step 16.

**NO** -Go to step 15.

15. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 1 and PCM connector terminals B44.

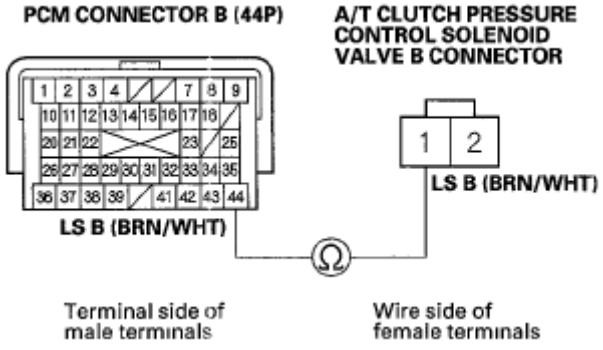



**Fig. 136: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve B Terminal 1 And PCM Terminals B44**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 22.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve B connector terminal No. 1 and PCM connector terminal B44, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0966 indicated?*

    **YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve Band the PCM, then go to step 1.

    **NO** -Go to step 21.

21. Monitor the OBD STATUS for P0966 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and wait for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0966 indicated?*

**YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

**NO** -Go to step 25.

25. Monitor the OBD STATUS for P0966 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0967: Problem in A/T Clutch Pressure Control Solenoid Valve B**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.

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4. Check for DTCs with the HDS.

   *Is DTC P0967 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve B in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve B with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve B at 0.2 A.
7. Monitor the OBD STATUS for P0967 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/T clutch pressure control solenoid valve B connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve B connector terminals No. 1 and No. 2.

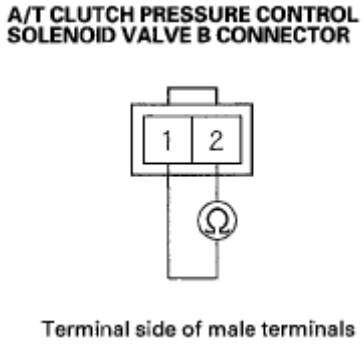



**Fig. 137: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve B Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES** -Go to step 11.

**NO** -Replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 12.

11. Check for continuity between A/T clutch pressure control solenoid valve B connector terminal No. 2 and body ground.

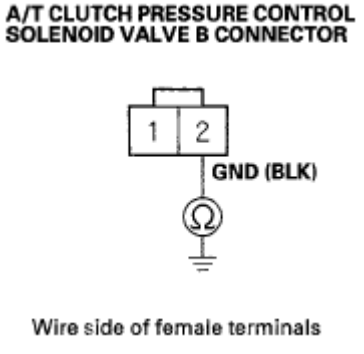



**Fig. 138: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve B Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 18.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve B and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 12.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Start the engine, and wait for at least 1 second.
16. Check for DTCs with the HDS.

    *Is DTC P0967 indicated?*

    **YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM, then go to step 1.

    **NO** -Go to step 17.

17. Monitor the OBD STATUS for P0967 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 15.

18. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0967 indicated?*

**YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1.

**NO** -Go to step 21.

21. Monitor the OBD STATUS for P0967 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

**DTC P0970: Problem in A/T Clutch Pressure Control Solenoid Valve C Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.

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4. Check for DTCs with the HDS.

   *Is DTC P0970 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve C at 1.0 A.
7. Monitor the OBD STATUS for P0970 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch OFF.
9. Disconnect the A/T clutch pressure control solenoid valve C connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve C connector terminals No. 1 and No. 2.

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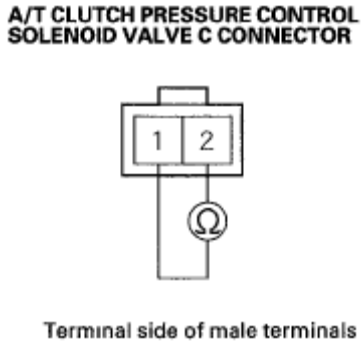



**Fig. 139: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve C Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES** -Go to step 11.

**NO** -Replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 16.

11. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 2 and body ground.

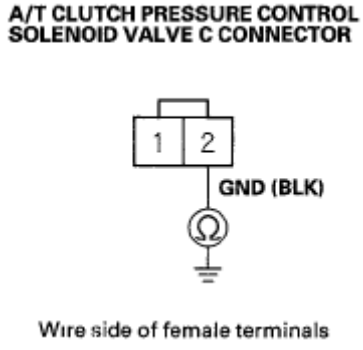



**Fig. 140: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve C Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

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**YES** -Go to step 12.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve C and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 16.

12. Jump the SCS line with the HDS.
13. Disconnect PCM connector B (44P).
14. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 1 and body ground.

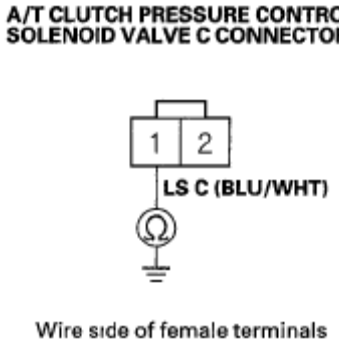



**Fig. 141: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve C Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between A/T clutch pressure control solenoid valve C connector terminal No. 1 and body ground, then go to step 16.

**NO** -Go to step 15.

15. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 1 and PCM connector terminal B25.

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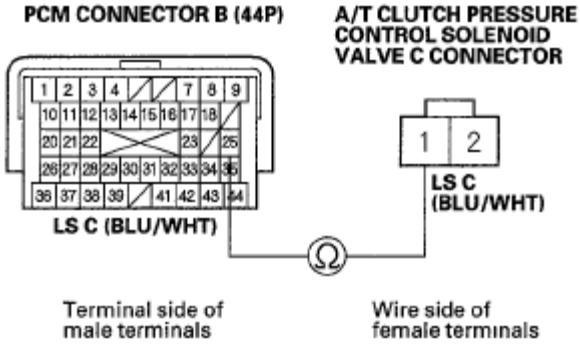



**Fig. 142: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve C Terminal 1 And PCM Connector Terminal B25**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 22.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve C connector terminal No. 1 and PCM connector terminal B25, then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0970 indicated?*

**YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM, then go to step 1.

**NO** -Go to step 21.

21. Monitor the OBD STATUS for P0970 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, and wait for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0970 indicated?*

    **YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO** -Go to step 25.

25. Monitor the OBD STATUS for P0970 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

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**DTC P0971: Problem in A/T Clutch Pressure Control Solenoid Valve C**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0971 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Clutch Pressure Control Solenoid Valve C in the Miscellaneous Test Menu, and test A/T clutch pressure control solenoid valve C with the HDS.

   *Does the HDS indicate NORMAL?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. In the Clutch Pressure Control Solenoid Valve Control menu, select A/T clutch pressure control solenoid valve C at 0.2 A.
7. Monitor the OBD STATUS for P0971 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the A/T clutch pressure control solenoid valve C connector.
10. Measure the resistance between A/T clutch pressure control solenoid valve C connector terminals No. 1 and No. 2.

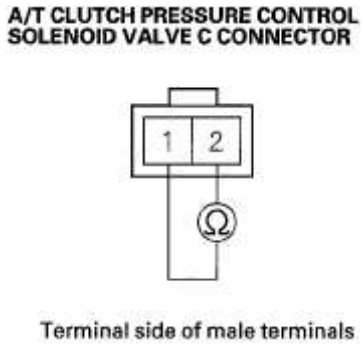



**Fig. 143: Measuring Resistance Between A/T Clutch Pressure Control Solenoid Valve C Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 3-10 ohms?*

**YES** -Go to step 11.

**NO** -Replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ), then go to step 12.

11. Check for continuity between A/T clutch pressure control solenoid valve C connector terminal No. 2 and body ground.

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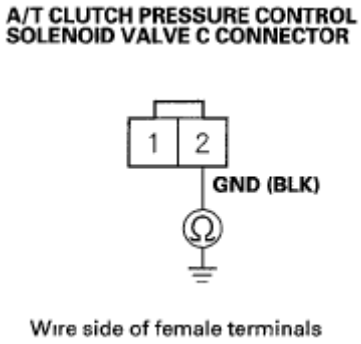



**Fig. 144: Checking Continuity Between A/T Clutch Pressure Control Solenoid Valve C Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 18.

**NO** -Repair open in the wire between A/T clutch pressure control solenoid valve C and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 12.

12. Reconnect all connectors.
13. Turn the ignition switch to ON (II).
14. Clear the DTC with the HDS.
15. Start the engine, and wait for at least 1 second.
16. Check for DTCs with the HDS.

*Is DTC P0971 indicated?*

**YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM, then go to step 1.

**NO** -Go to step 17.

17. Monitor the OBD STATUS for P0971 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 16, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 15.

18. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
19. Start the engine, and wait for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0971 indicated?*

    **YES** -Check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1.

    **NO** -Go to step 21.

21. Monitor the OBD STATUS for P0971 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between A/T clutch pressure control solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 19. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

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**DTC P0973: Short in Shift Solenoid Valve A Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle in 2nd gear with the shift lever in D, for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0973 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve A in the Miscellaneous Test Menu, and test shift solenoid valve A with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Test-drive the vehicle in 2nd gear with the shift lever in D, for at least 1 second.
7. Monitor the OBD STATUS for P0973 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

**YES** -Go to step 8.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B10 and C40.

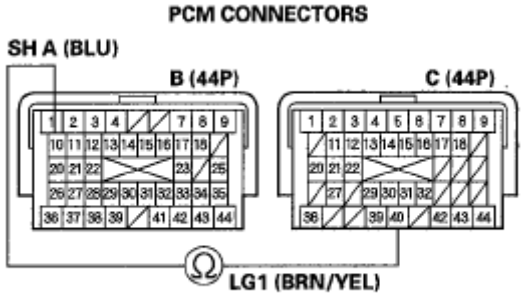



**Fig. 145: Measuring Resistance Between PCM Connector Terminals B10 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 12 ohms?*

**YES** -Go to step 12.

**NO** -Go to step 21.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminals B10 and C40.

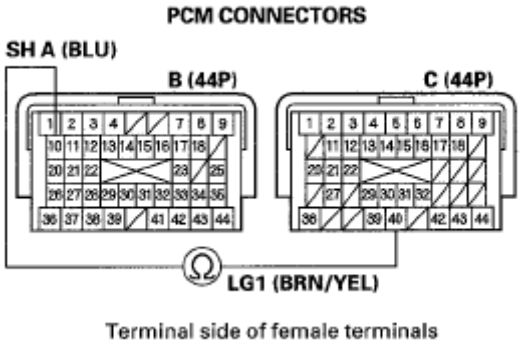



**Fig. 146: Checking Continuity Between PCM Connector Terminals B10 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B10 and the shift solenoid harness connector, then go to step 15.

**NO** -Go to step 14.

14. Inspect shift solenoid valve A and the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST** ).

    *Is shift solenoid valve A and the harness OK?*

    **YES** -Go to step 21.

    **NO** -Replace shift solenoid valve A or the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 15.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 2nd gear in D, for at least 1 second.
19. Check for DTCs with the HDS:

*Is DTC P0973 indicated?*

**YES** -Check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM, then go to step 1.

**NO** -Go to step 20.

20. Monitor the OBD STATUS for P0973 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

21. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
22. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 2nd gear in D, for at least 1 second.
23. Check for DTCs with the HDS.

    *Is DTC P0973 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1.

    **NO** -Go to step 24.

24. Monitor the OBD STATUS for P0973 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 23, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 22.

**DTC P0974: Open in Shift Solenoid Valve A Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine with the shift lever in P, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0974 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve A in the Miscellaneous Test Menu, and test shift solenoid valve A with the HDS.

   *Is a clicking sound heard?*

**YES** -Go to step 6.

**NO** -Go to step 8.

6. Start the engine with the shift lever in P, and wait for at least 1 second.
7. Monitor the OBD STATUS for P0974 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between shift solenoid valve A and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B10 and C40.

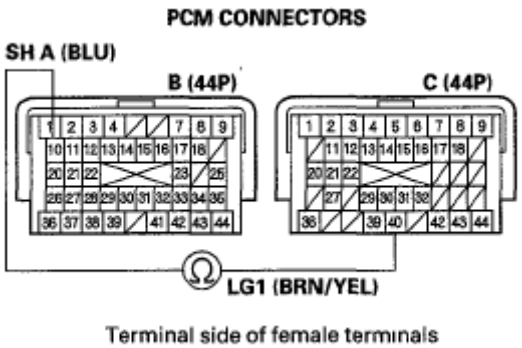



**Fig. 147: Measuring Resistance Between PCM Connector Terminals B10 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 12-25 ohms?*

**YES** -Go to step 22.

**NO** -Go to step 12.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminal B10 and shift solenoid harness connector terminal No. 5.

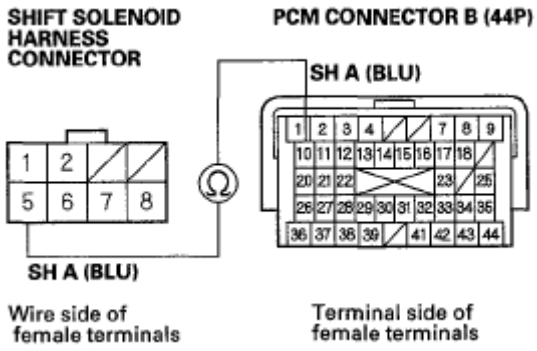



**Fig. 148: Checking Continuity Between PCM Connector Terminal B10 And Shift Solenoid Harness Connector Terminal 5**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 14.

**NO** -Repair open in the wire between PCM connector terminal B10 and the shift solenoid harness connector, then go to step 16.

14. Remove the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ).
15. Check for continuity between shift solenoid harness connector terminal No. 5 and the shift solenoid valve A connector terminal.

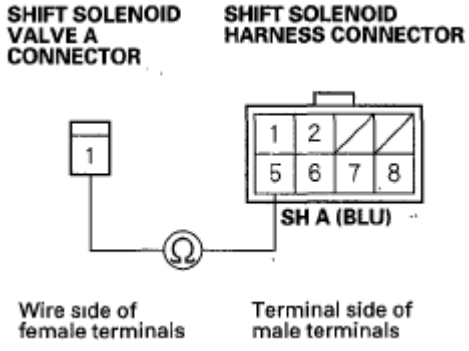


**Fig. 149: Checking Continuity Between Shift Solenoid Harness Terminal 5 And Shift Solenoid Valve A Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace shift solenoid valve A (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

**NO** -Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 2nd gear in D, for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0974 indicated?*

    **YES** -Check for poor connections or loose terminals between shift solenoid valve A and the PCM, then go to step 1.

    **NO** -Go to step 21.

21. Monitor the OBD STATUS for P0974 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve A and the PCM, then go to step 1. If the

HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 2nd gear in D, for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0974 indicated?*

    **YES** -Check for poor connections or loose terminals between shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO** -Go to step 25.

25. Monitor the OBD STATUS for P0974 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve A and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0976: Short in Shift Solenoid Valve B Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

**Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0976 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve B in the Miscellaneous Test Menu, and test shift solenoid valve B with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second.
7. Monitor the OBD STATUS for P0976 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B26 and C40.

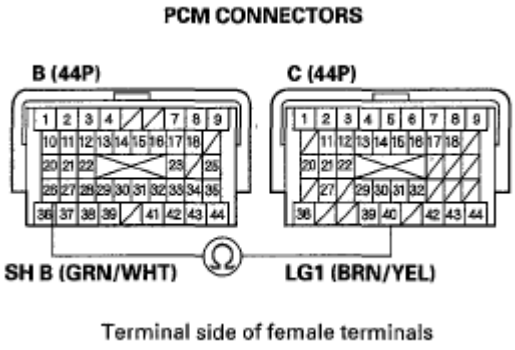



**Fig. 150: Measuring Resistance Between PCM Connector Terminals B26 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 12 ohms?*

**YES** -Go to step 12.

**NO** -Go to step 21.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminals B26 and C40.

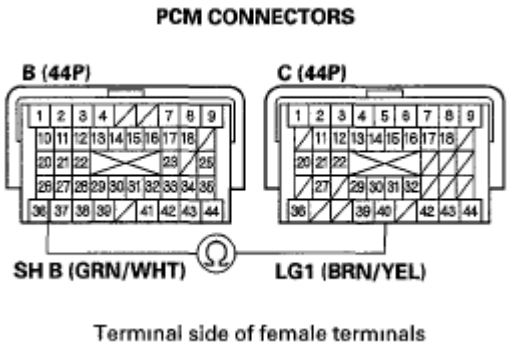



**Fig. 151: Checking Continuity Between PCM Connector Terminals B26 And C40**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B26 and the shift solenoid harness connector, then go to step 15.

**NO** -Go to step 14.

14. Inspect shift solenoid valve B and the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST** ).

    *Is shift solenoid valve B and the harness OK?*

    **YES** -Go to step 21.

    **NO** -Replace shift solenoid valve B or the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 15.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second. Then drive in 3rd gear for at least 1 second.
19. Check for DTCs with the HDS.

    *Is DTC P0976 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM, then go to step 1.

    **NO** -Go to step 20.

20. Monitor the OBD STATUS for P0976 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES** -Troubleshooting is complete. If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

21. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
22. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second. Then drive in 3rd gear for at least 1 second.
23. Check for DTCs with the HDS.

    *Is DTC P0976 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1.

    **NO** -Go to step 24.

24. Monitor the OBD STATUS for P0976 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 23, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 22.

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**DTC P0977: Open in Shift Solenoid Valve B Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0977 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve B in the Miscellaneous Test Menu, and test shift solenoid valve B with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 1 second.
7. Monitor the OBD STATUS for P0977 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

**NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between shift solenoid valve B and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B26 and C40.

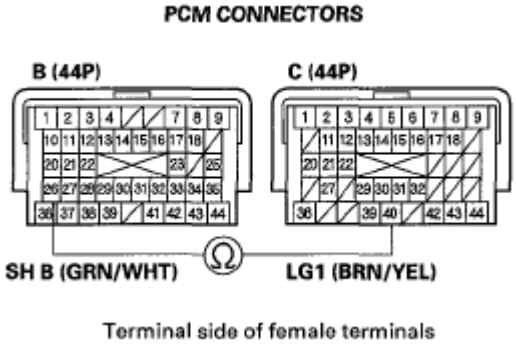



**Fig. 152: Measuring Resistance Between PCM Connector Terminals B26 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 12-25 ohms?*

**YES** -Go to step 22.

**NO** -Go to step 12.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminal B26 and shift solenoid harness connector terminal No. 2.

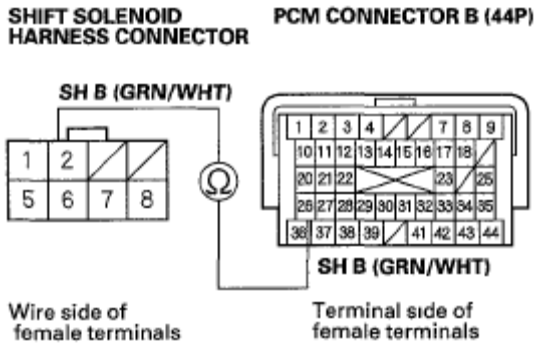



**Fig. 153: Checking Continuity Between PCM Terminal B26 And Shift Solenoid Harness Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 14.

**NO** -Repair open in the wire between PCM connector terminal B26 and the shift solenoid harness connector, then go to step 16.

14. Remove the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ).
15. Check for continuity between shift solenoid harness connector terminal No. 2 and the shift solenoid valve B connector terminal.

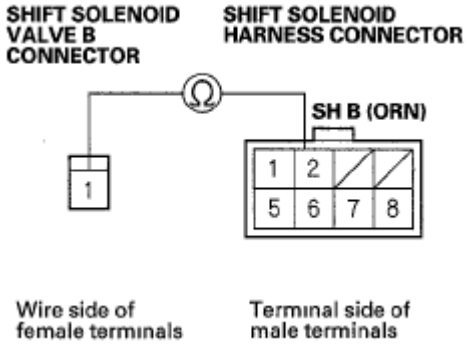



**Fig. 154: Checking Continuity Between Shift Solenoid Harness Terminal 2 And Shift Solenoid Valve B Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace shift solenoid valve B (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

**NO** -Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second. Then drive in 3rd gear for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0977 indicated?*

    **YES** -Check for poor connections or loose terminals between shift solenoid valve B and the PCM, then go to step 1.

    **NO** -Go to step 21.

21. Monitor the OBD STATUS for P0977 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve B and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Test-drive the vehicle in 1st gear with the shift lever in D, for at least 1 second.

Then drive in 3rd gear for at least 1 second.

24. Check for DTCs with the HDS.

    *Is DTC P0977 indicated?*

    **YES** -Check for poor connections or loose terminals between shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO** -Go to step 25.

25. Monitor the OBD STATUS for P0977 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve B and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0979: Short in Shift Solenoid Valve C Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0979 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve C in the Miscellaneous Test Menu, and test shift solenoid valve C with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Test-drive the vehicle in 3rd gear with the shift lever in D, for at least 1 second.
7. Monitor the OBD STATUS for P0979 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B20 and C40.

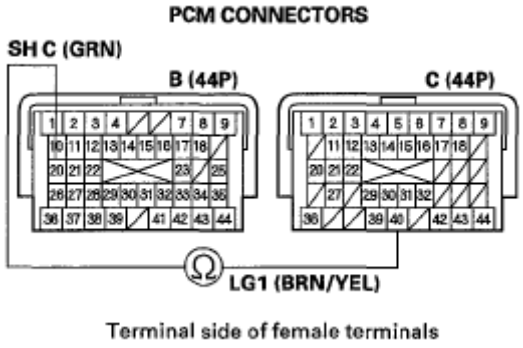



**Fig. 155: Measuring Resistance Between PCM Connector Terminals B20 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 12 ohms?*

**YES** -Go to step 12.

**NO** -Go to step 21.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminals B20 and C40.

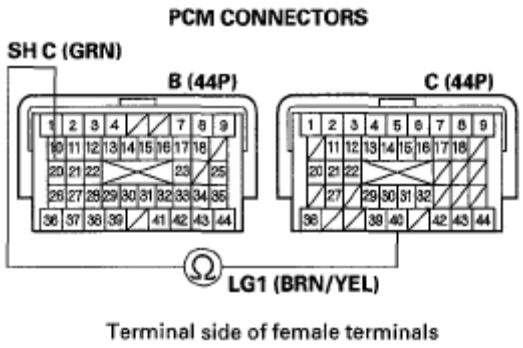



**Fig. 156: Checking Continuity Between PCM Connector Terminals B20 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B20 and the shift solenoid harness connector, then go to step 15.

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**NO** -Go to step 14.

14. Inspect shift solenoid valve C and the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST** ).

    *Is shift solenoid valve C and the harness OK?*

    **YES** -Go to step 21.

    **NO** -Replace shift solenoid valve C or the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 15.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 3rd gear in D, for at least 1 second.
19. Check for DTCs with the HDS.

    *Is DTC P0979 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM, then go to step 1.

    **NO** -Go to step 20.

20. Monitor the OBD STATUS for P0979 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

21. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
22. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive the vehicle in 3rd gear in D, for at least 1 second.
23. Check for DTCs with the HDS.

    *Is DTC P0979 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1.

    **NO** -Go to step 24.

24. Monitor the OBD STATUS for P0979 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 23, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 22.

**DTC P0980: Open in Shift Solenoid Valve C Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine with the shift lever in P, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0980 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve C in the Miscellaneous Test Menu, and test shift solenoid valve C with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Start the engine with the shift lever in P, and wait for at least 1 second.
7. Monitor the OBD STATUS for P0980 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between shift solenoid valve C and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.

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10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B20 and C40.

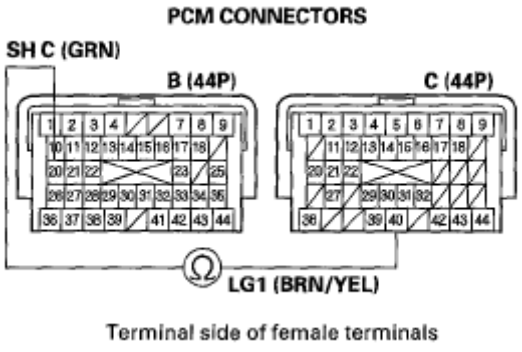



**Fig. 157: Measuring Resistance Between PCM Connector Terminals B20 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 12-25 ohms?*

**YES** -Go to step 22.

**NO** -Go to step 12.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminal B20 and shift solenoid harness connector terminal No. 1.

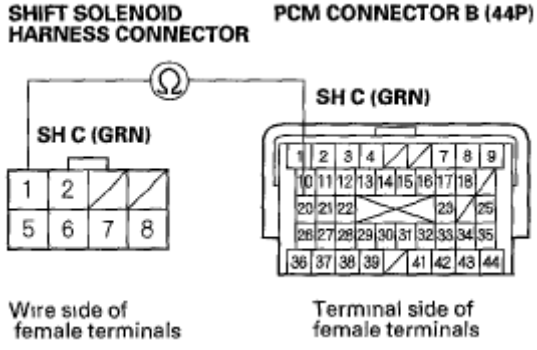



**Fig. 158: Checking Continuity Between PCM Terminal B20 And Shift Solenoid Harness Terminal 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 14.

**NO** -Repair open in the wire between PCM connector terminal B20 and the shift solenoid harness connector, then go to step 16.

14. Remove the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ).
15. Check for continuity between shift solenoid harness connector terminal No. 1 and the shift solenoid valve C connector terminal.

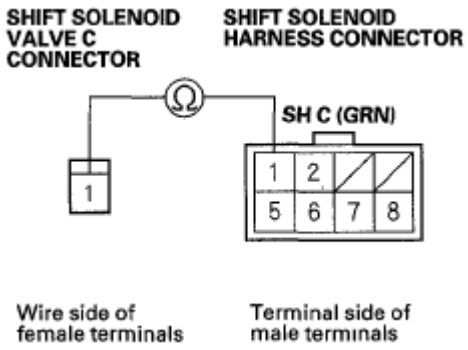



**Fig. 159: Checking Continuity Between Shift Solenoid Harness Terminal 1 And Shift Solenoid Valve C Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace shift solenoid valve C (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

**NO** -Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.

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19. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive in 3rd gear in D, for at least 1 second.
20. Check for DTCs with the HDS.

    *Is DTC P0980 indicated?*

    **YES** -Check for poor connections or loose terminals between shift solenoid valve C and the PCM, then go to step 1.

    **NO** -Go to step 21.

21. Monitor the OBD STATUS for P0980 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve C and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine with the shift lever in P, and wait for at least 1 second. Then drive in 3rd gear in D, for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0980 indicated?*

    **YES** -Check for poor connections or loose terminals between shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO** -Go to step 25.

25. Monitor the OBD STATUS for P0980 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve C and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P0982: Short in Shift Solenoid Valve D Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine with the shift lever in P, and wait for at least 1 second.
4. Check for DTCs with the HDS.

   *Is DTC P0982 indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 5.

5. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and test shift solenoid valve D with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Start the engine with the shift lever in P, and wait for at least 1 second.
7. Monitor the OBD STATUS for P0982 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B11 and C40.

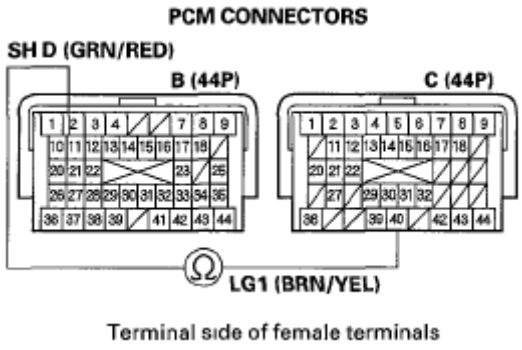



**Fig. 160: Measuring Resistance Between PCM Connector Terminals B11 And C40**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 12 ohms?*

**YES** -Go to step 12.

**NO** -Go to step 21.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminals B11 and C40.

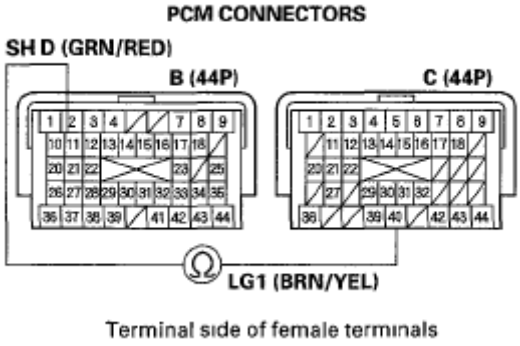



**Fig. 161: Checking Continuity Between PCM Connector Terminals B11 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B11 and the shift solenoid harness connector, then go to step 15.

**NO** -Go to step 14.

14. Inspect shift solenoid valve D and the shift solenoid harness (see **SHIFT SOLENOID VALVE TEST** ).

*Is shift solenoid valve D and the harness OK?*

**YES** -Go to step 21.

**NO** -Replace shift solenoid valve D or the shift solenoid harness (see **SHIFT**

**SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 15.

15. Reconnect all connectors.
16. Turn the ignition switch to ON (II).
17. Clear the DTC with the HDS.
18. Start the engine with the shift lever in P, and wait for at least 1 second.
19. Check for DTCs with the HDS.

    *Is DTC P0982 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM, then go to step 1.

    **NO** -Go to step 20.

20. Monitor the OBD STATUS for P0982 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 19, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 18.

21. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
22. Start the engine with the shift lever in P, and wait for at least 1 second.
23. Check for DTCs with the HDS.

    *Is DTC P0982 indicated?*

    **YES** -Check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-

good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1.

**NO** -Go to step 24.

24. Monitor the OBD STATUS for P0982 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 23, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for intermittent short to body ground in the wire between shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 22. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 22.

**DTC P0983: Open in Shift Solenoid Valve D Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, then shift to N while pressing the brake pedal, and wait for at least 1 second.
4. Check for DTCs with the HDS.

*Is DTC P0983 indicated?*

**YES** -Go to step 8.

**NO** -Go to step 5.

5. Select Shift Solenoid Valve D in the Miscellaneous Test Menu, and test shift solenoid valve D with the HDS.

   *Is a clicking sound heard?*

   **YES** -Go to step 6.

   **NO** -Go to step 8.

6. Start the engine, then shift to N while pressing the brake pedal, and wait for at least 1 second.
7. Monitor the OBD STATUS for P0983 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between shift solenoid valve D and the PCM. If the HDS indicates NOT COMPLETED, go to step 5.

8. Turn the ignition switch to LOCK (0).
9. Jump the SCS line with the HDS.
10. Disconnect PCM connectors B (44P) and C (44P).
11. Measure the resistance between PCM connector terminals B11 and C40.

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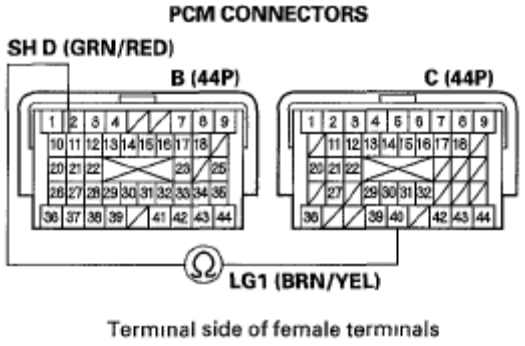



**Fig. 162: Measuring Resistance Between PCM Connector Terminals B11 And C40**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 12-25 ohms?*

**YES** -Go to step 22.

**NO** -Go to step 12.

12. Disconnect the shift solenoid harness connector.
13. Check for continuity between PCM connector terminal B11 and shift solenoid harness connector terminal No. 8.

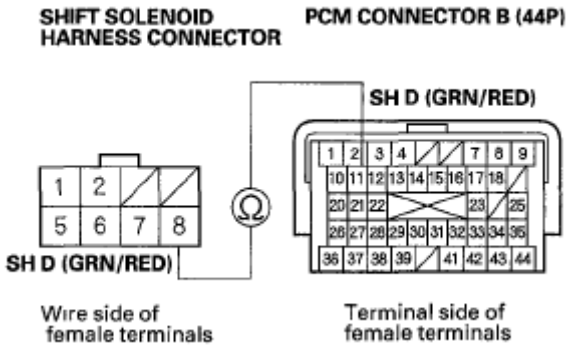



**Fig. 163: Checking Continuity Between PCM Terminal B11 And Shift Solenoid Harness Connector Terminal 8**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 14.

**NO** -Repair open in the wire between PCM connector terminal B11 and the shift solenoid harness connector, then go to step 16.

14. Remove the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ).
15. Check for continuity between shift solenoid harness connector terminal No. 8 and the shift solenoid valve D connector terminal.

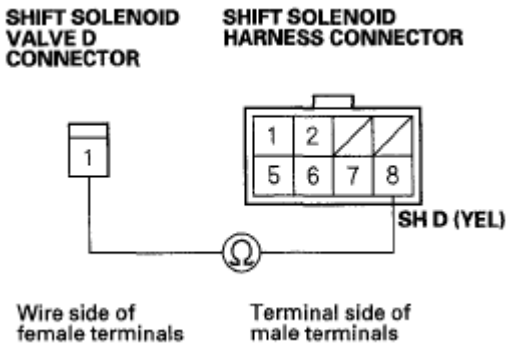



**Fig. 164: Checking Continuity Between Shift Solenoid Harness Connector Terminal 8 And Shift Solenoid Valve D Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace shift solenoid valve D (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

**NO** -Replace the shift solenoid harness (see **SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT** ), then go to step 16.

16. Reconnect all connectors.
17. Turn the ignition switch to ON (II).
18. Clear the DTC with the HDS.
19. Start the engine, then shift to N while pressing the brake pedal, and wait for at least 1 second.
20. Check for DTCs with the HDS.

*Is DTC P0983 indicated?*

**YES** -Check for poor connections or loose terminals between shift solenoid valve D and the PCM, then go to step 1.

**NO** -Go to step 21.

21. Monitor the OBD STATUS for P0983 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 20, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve D and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 19.

22. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
23. Start the engine, then shift to N while pressing the brake pedal, and wait for at least 1 second.
24. Check for DTCs with the HDS.

    *Is DTC P0983 indicated?*

    **YES** -Check for poor connections or loose terminals between shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1.

    **NO** -Go to step 25.

25. Monitor the OBD STATUS for P0983 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 24, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between shift solenoid valve D and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 23. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 23.

**DTC P16C0: PCM A/T Control System Incomplete Update**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **This code is indicated when PCM updating is incomplete.**
- **Do not turn the ignition switch to LOCK (0) while updating the PCM. If you turn the ignition switch to LOCK (0) before completion, the PCM can be damaged.**

1. Update the PCM (see **UPDATING THE PCM** ).
2. Check for DTCs with the HDS.

*Is DTC P16C0 indicated?*

**YES** -Replace the PCM (see **ECM/PCM REPLACEMENT** ).

**NO** -PCM updating is complete.

**DTC P1717: Open in Transmission Range Switch ATP RVS Switch Circuit**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General**

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**Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **This code is caused by an electrical circuit problem and cannot be caused by a mechanical problem in the transmission.**

1. Turn the ignition switch to ON (II).
2. Shift to R, and check the A/T R SWITCH in the DATA LIST with the HDS.

   *Is the A/T R SWITCH ON?*

   **YES** -Go to step 3.

   **NO** -Check for proper transmission range switch installation (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), adjust the shift cable (see **SHIFT CABLE ADJUSTMENT** ), then recheck.

3. Check the REVERSE SWITCH in the DATA LIST with the HDS.

   *Is the REVERSE SWITCH ON?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Disconnect the transmission range switch connector.
6. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

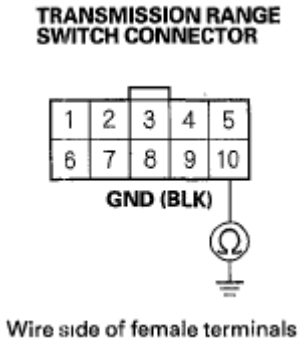



**Fig. 165: Checking Continuity Between Transmission Range Switch Connector Terminal 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 7.

**NO** -Repair open in the wire between transmission range switch connector terminal No. 10 and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101), then go to step 10.

7. Turn the ignition switch to ON (II).
8. Measure the voltage between transmission range switch connector terminals No. 1 and No. 10.

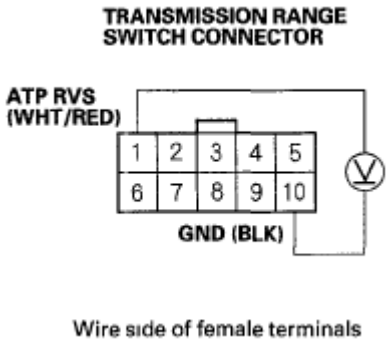



**Fig. 166: Measuring Voltage Between Transmission Range Switch Connector Terminals 1 And 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 9.

**NO** -Repair open in the wire between PCM connector terminal B22 and the transmission range switch, then go to step 10.

9. Check for continuity between transmission range switch connector terminals No. 1 and No. 10 while the shift lever is in R, and when the shift lever is shifted to any position other than R.

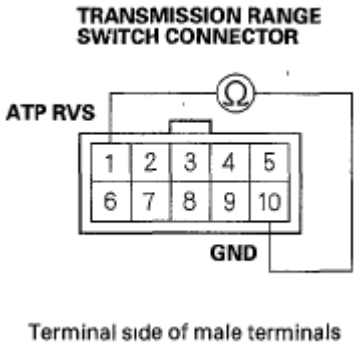



**Fig. 167: Checking Continuity Between Transmission Range Switch Connector Terminals 1 And 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity while the shift lever is in R, and no continuity when the shift lever is shifted to any position other than R?*

**YES** -Go to step 16.

**NO** -Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ), then go to step 10.

10. Reconnect all connectors.
11. Turn the ignition switch to ON (II).
12. Clear the DTC with the HDS.
13. Test-drive the vehicle with the shift lever in R at speeds below 3 mph (5 km/h) for at least 2 seconds. Then increase the speed and drive at speeds over 3 mph (5 km/h) for at least 2 seconds.
14. Check for DTCs with the HDS.

*Is DTC P1717 indicated?*

**YES** -Check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1.

**NO** -Go to step 15.

15. Monitor the OBD STATUS for P1717 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 14, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM, then go to step 1. If the HDS indicates NOT COMPLETED, go to step 13.

16. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
17. Test-drive the vehicle with the shift lever in R at speeds below 3 mph (5 km/h) for at least 2 seconds. Then increase the speed and drive at speeds over 3 mph (5 km/h) for at least 2 seconds.
18. Check for DTCs with the HDS.

    *Is DTC P1717 indicated?*

    **YES** -Check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 17. If the PCM was substituted, go to step 1.

    **NO** -Go to step 19.

19. Monitor the OBD STATUS for P1717 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 18, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals between the transmission range switch and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 17. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 17.

**DTC P1746: Problem in Shift Control System; Cut Valve A Stuck OFF, or Cut Valve B Stuck ON**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 9.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go

to step 8.

8. Monitor the OBD STATUS for P1746 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Repair cut valve A in the servo body (see **SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), cut valve B in the main valve body (see **MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), replace the main valve body or the servo body, or replace the transmission, then go to step 9.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Check for DTCs with the HDS.

    *Is DTC P1746 indicated?*

    **YES** -Go to step 4.

    **NO** -Go to step 12.

12. Monitor the OBD STATUS for P1746 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 11, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 4. If the HDS indicates NOT COMPLETED, go to step 9.

**DTC P1747: Problem in Shift Control System; Cut Valve A Stuck ON, or Cut Valve B Stuck OFF**

http://ReadManuals.com



**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Make sure that the transmission is filled to the proper level, and check for fluid leaks.
3. Drain the ATF (see step 3 ) through a strainer. Inspect the strainer for metal debris or excessive clutch material.

   *Does the strainer have metal debris or excessive clutch material?*

   **YES** -Replace the transmission, then go to step 9.

   **NO** -Replace the ATF (see step 5 ), then go to step 4.

4. Turn the ignition switch to ON (II).
5. Clear the DTC with the HDS.
6. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
7. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 6, then go to step 8.
8. Monitor the OBD STATUS for P1747 in the DTCs MENU with the HDS.

   *Does the HDS indicate FAILED?*

   **YES** -Repair cut valve A in the servo body (see **SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), cut valve B in the main valve body (see **MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), replace the main valve body or the servo body, or replace the transmission, then go to step 9.

   **NO** -If the HDS indicates PASSED, intermittent failure, the system is OK at this time. If the HDS indicates NOT COMPLETED, go to step 6.

9. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
10. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 9, then go to step 11.
11. Check for DTCs with the HDS.

    *Is DTC P1747 indicated?*

    **YES** -Go to step 4.

    **NO** -Go to step 12.

12. Monitor the OBD STATUS for P1747 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other DTCs were indicated in step 11, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, go to step 4. If the HDS indicates NOT COMPLETED, go to step 9.

**DTC P1780: Problem in Shift Control System**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
4. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 3, then go to step 5.
5. Check for other DTCs indicated along with DTC P1780 with the HDS.

**NOTE: DTC P1780 means there is one or more A/T DTCs regarding the shift control system.**

*Are there other DTCs?*

**YES** -Go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -Go to step 6.

6. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
7. Test-drive the vehicle with the shift lever in D, and let the transmission shift through all five gears.
8. Turn the ignition switch to LOCK (0). Repeat the test-drive in step 7, then go to step 9.
9. Check for DTCs with the HDS.

   *Is DTC P1780 indicated?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1.

   **NO** -Go to step 10.

10. Monitor the OBD STATUS for P1780 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 9, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM

(see **SUBSTITUTING THE PCM** ), then go to step 7. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 7.

**DTC P2122: Accelerator Pedal Position (APP) Sensor A (Throttle Position Sensor D) Circuit Low Voltage Input**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC P2122 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the DTC P2122 troubleshooting in the electronic throttle control system (ETCS) (see **DTC P2122: APP SENSOR A (THROTTLE POSITION SENSOR D) CIRCUIT LOW VOLTAGE** ).

   **NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P2122 indicated in the A/T SYSTEM?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.

8. Start the engine, and wait for at least 2 minutes.
9. Check for DTCs the A/T SYSTEM with the HDS.

   *Is DTC P2122 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 8. If the PCM was substituted, go to step 1.

   **NO** -Go to step 10.

10. Monitor the OBD STATUS for P2122 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

    **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 9, go to the **INDICATED DTC'S TROUBLESHOOTING**.

    **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 8. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 8.

**DTC P2123: Accelerator Pedal Position (APP) Sensor A (Throttle Position Sensor D) Circuit High Voltage Input**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snap shot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

*Is DTC P2123 indicated in the PGM-FI SYSTEM?*

**YES** -Go to the DTC P2123 troubleshooting in the electronic throttle control system (ETCS) (see **DTC P2123: APP SENSOR A (THROTTLE POSITION SENSOR D) CIRCUIT HIGH VOLTAGE** ).

**NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC P2123 indicated in the A/T SYSTEM?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Turn the ignition switch to ON (II).
7. Clear the DTC with the HDS.
8. Start the engine, and wait for at least 2 minutes.
9. Check for DTCs the A/T SYSTEM with the HDS.

   *Is DTC P2123 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 8. If the PCM was substituted, go to step 1.

   **NO** -Go to step 10.

10. Monitor the OBD STATUS for P2123 in the DTCs MENU with the HDS.

    *Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 9, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 8. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 8.

**DTC U0028: F-CAN Malfunction (BUS-OFF (PCM))**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC U0155 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the DTC U0155 troubleshooting in the PGM-FI system (see **DTC U0155: F-CAN MALFUNCTION (ECM/PCM-GAUGE CONTROL MODULE)** ).

   **NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0028 indicated in he A/T SYSTEM?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were

indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Start the engine, and wait for at least 2 minutes.
7. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0028 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1.

   **NO** -Go to step 8.

8. Monitor the OBD STATUS for U0028 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 7, go to the **INDICATED DTC'S TROUBLESHOOTING**.

   **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 6.

**DTC U0121: F-CAN Malfunction (PCM-ABS)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC U0155 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the DTC U0155 troubleshooting in the PGM-FI system (see **DTC U0155: F-CAN MALFUNCTION (ECM/PCM-GAUGE CONTROL MODULE)** ).

   **NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0121 indicated in the A/T SYSTEM?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Start the engine, and wait for at least 2 minutes.
7. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0121 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1.

   **NO** -Go to step 8.

8. Monitor the OBD STATUS for U0121 in the DTCs MENU with the HDS.

*Does the HDS indicate PASSED?*

**YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 7, go to the **INDICATED DTC'S TROUBLESHOOTING**.

**NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 6.

**DTC U0155: F-CAN Malfunction (PCM-Gauge Control Module)**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot with the HDS, and review General Troubleshooting Information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs in the PGM-FI SYSTEM with the HDS.

   *Is DTC U0155 indicated in the PGM-FI SYSTEM?*

   **YES** -Go to the DTC U0155 troubleshooting in the PGM-FI system (see **DTC U0155: F-CAN MALFUNCTION (ECM/PCM-GAUGE CONTROL MODULE)** ).

   **NO** -Go to step 4.

4. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0155 indicated in the A/T SYSTEM?*

   **YES** -Go to step 5.

**NO** -Intermittent failure, the system is OK at this time. If any other DTCs were indicated, go to the **INDICATED DTC'S TROUBLESHOOTING**.

5. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
6. Start the engine, and wait for at least 2 minutes.
7. Check for DTCs in the A/T SYSTEM with the HDS.

   *Is DTC U0155 indicated in the A/T SYSTEM?*

   **YES** -Check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1.

   **NO** -Go to step 8.

8. Monitor the OBD STATUS for U0151 in the DTCs MENU with the HDS.

   *Does the HDS indicate PASSED?*

   **YES** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see **ECM/PCM REPLACEMENT** ). If any other DTCs were indicated in step 7, go to the **INDICATED DTC'S TROUBLESHOOTING**.

   **NO** -If the HDS indicates FAILED, check for poor connections or loose terminals at the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then go to step 6. If the PCM was substituted, go to step 1. If the HDS indicates NOT COMPLETED, go to step 6.

**ROAD TEST**

1. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
2. Apply the parking brake, and block both rear wheels.

3. Shift to D while pressing the brake pedal. Press the accelerator pedal, and release it suddenly. The engine should not stall.
4. Repeat step 3 in all shift lever positions.
5. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover, and go to the A/T Mode Menu.

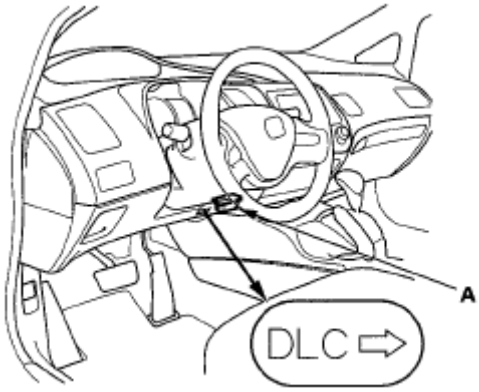



**Fig. 168: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
7. Prepare the HDS to take a HIGH SPEED SNAPSHOT (Refer to the HDS user's guide for more details if needed):
   - Select High Speed Snapshot.
   - Select these parameters:
     - Vehicle Speed
     - Output Shaft (Countershaft) Speed
     - Input Shaft (Mainshaft) Speed (rpm)
     - Engine Speed
     - Relative TP Sensor
     - APP Sensor A (V)
     - ATF Temp Sensor
     - Battery Voltage
     - Shift Control

    - Brake Switch
  - Set the Trigger Type to Parameter.
  - Adjust the Parameter setting to APP Sensor A (V) above 1.3 V.
  - Set the recording time to 60 seconds.
  - Set the Trigger point to -30 seconds.
8. Find a suitable level road. When you are ready to do the test, press OK on the HDS.
9. Monitor the HDS and accelerate quickly until the APP Sensor A reads 1.3 V. Maintain a steady throttle until the transmission shifts to 5th gear, then slow the vehicle and come to a stop.
10. Save the snapshot if the entire event was recorded or increase the recording time setting as necessary and repeat step 9.
11. Adjust the Parameter setting to 2.5 V. Retest-drive the vehicle. While monitoring the HDS accelerate quickly until the APP Sensor A reads 2.5 V.

    Maintain a steady throttle until the transmission shifts to 5th gear (or reasonable speed), then slow the vehicle and come to a stop.

12. Save the snapshot if the entire event was recorded or increase the recording time setting as necessary and repeat step 11.
13. Accelerate quickly until the accelerator pedal is to the floor. Maintain a steady pedal until the transmission shifts to 3rd gear, then slow to a stop, and save the snap shot.
14. Review each snapshot individually and compare the Shift Command, APP Sensor A (V), and the Vehicle Speed to the table below.

**Upshift: D Position**

**VEHICLE SPEED REFERENCE - UPSHIFT D POSITION**

| **APP Sensor A voltage: 1.3 V** | |
|---|---|
| 1st-->2nd | 9-12 mph (15-19 km/h) |
| 2nd-->3rd | 17-21 mph (28-33 km/h) |

| | |
|---|---|
| 3rd-->4th | 26-30 mph (42-49 km/h) |
| 4th-->5th | 35-41 mph (57-66 km/h) |
| Lock-->up ON | 31-37 mph (50-60 km/h) |
| **APP Sensor A voltage: 2.5 V** | |
| 1st-->2nd | 18-22 mph (29-35 km/h) |
| 2nd-->3rd | 34-39 mph (54-62 km/h) |
| 3rd-->4th | 50-55 mph (80-89 km/h) |
| 4th-->5th | 75-86 mph (121-138 km/h) |
| Lock-->up ON | 93-104 mph (150-167 km/h) |
| **Fully-opened throttle APP Sensor A voltage: 4.4 V** | |
| 1st-->2nd | 35-40 mph (57-65 km/h) |
| 2nd-->3rd | 64-72 mph (103-116 km/h) |
| 3rd-->4th | 102-112 mph (164-181 km/h) |

**Downshift: D Position**

## VEHICLE SPEED REFERENCE - DOWNSHIFT D POSITION

| | |
|---|---|
| **APP Sensor A voltage: 1.3 V** | |
| Lock-up OFF | 30-37 mph (49-59 km/h) |
| 5th-->4th | 30-35 mph (49-57 km/h) |

| | |
|---|---|
| 4th-->3rd | 22-25 mph (36-41 km/h) |
| 3rd-->2nd | 5-8 mph (8-13 km/h) |
| 2nd-->1st | 5-8 mph (8-13 km/h) |
| **APP sensor A voltage: 2.5 V** | |
| Lock-up OFF | 60-68 mph (97-110 km/h) |
| **Fully-opened throttle APP Sensor A voltage: 4.4 V** | |
| Lock-up OFF | 119-129 mph (191-208 km/h) |
| 4th-->3rd | 82-92 mph (132-148 km/h) |
| 3rd-->2nd | 54-61 mph (87-98 km/h) |
| 2nd-->1st | 26-31 mph (42-50 km/h) |

15. Drive the vehicle in 4th or 5th gear in D, then shift to 2, the vehicle should immediately begin to slow down from engine braking.
16. Shift to 1, accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage. Upshifts should not occur in this position.
17. Shift to 2, accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage. Upshifts and downshifts should not occur in this position.
18. Shift to R, accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage.
19. Park the vehicle on a slope (about 16-degrees), apply the brake, and shift into P. Release the brake; the vehicle should not move.

**NOTE: Always use the parking brake to hold the vehicle, when stopped on an incline in gear. Depending on the grade of the incline, the vehicle could roll backwards if the brake is released.**

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**STALL SPEED TEST**

1. Make sure the transmission fluid is filled to the proper level (see **ATF LEVEL CHECK** ).
2. Apply the parking brake, and block all four wheels.
3. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover, and go to the A/T DATA LIST.

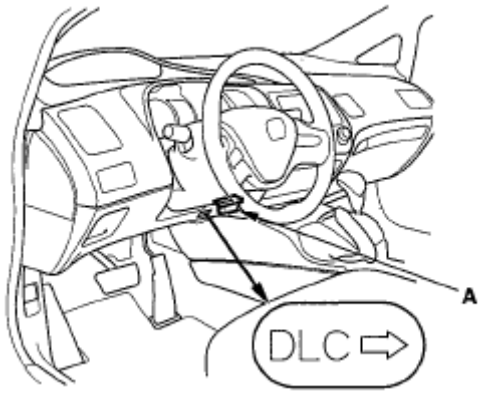



**Fig. 169: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Make sure the A/C switch is OFF.
6. After the engine has warmed up to normal operating temperature (the radiator fan comes on), shift to 2.
7. Firmly press the brake pedal and accelerator pedal for 6 to 8 seconds, and note engine speed. Do not move the shift lever while raising the engine speed.
8. Allow 2 minutes for cooling, then repeat the test in the D, 1, and R.

**NOTE:**

- **Do not test stall speed for more than 10 seconds at a time.**
- **Stall speed tests should be used for diagnostic purposes only.**
- **Stall speed tests should be the same in D, 2, 1, and**

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**R.**

- **Do not test stall speed with the A/T oil pressure gauges installed.**

**Stall Speed rpm:**

**Specification: 2,670 rpm**

**Service Limit: 2,520-2,820 rpm**

9. If the stall speeds are out of the service limit, problems and probable causes are listed in the table.

**PROBLEMS AND PROBABLE CAUSES**

| Problem | Probable causes |
|---|---|
| Stall speed rpm high in the D, 2, 1, and R positions | • ATF pump output low<br>• Clogged ATF strainer<br>• Regulator valve stuck<br>• Slipping clutch |
| Stall speed rpm high in the 1 position | Slippage of 1st clutch |
| Stall speed rpm high in the 2 position | Slippage of 2nd clutch |
| Stall speed rpm high in the R position | Slippage of 5th clutch |
| Stall speed rpm low in the D, 2, 1, and R positions | • Engine output low<br>• Engine throttle valve closed<br>• Torque converter one-way clutch slipping |

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**PRESSURE TEST**

## Special Tools Required

- A/T oil pressure gauge set w/panel 07406-0020400 or 07406-0020401
- A/T pressure hose, 2,210 mm 07MAJ-PY4011A
- A/T pressure hose adapter 07MAJ-PY40120

**NOTE: There may come ABS DTC(s) during the pressure test. If the ABS DTC(s) comes on, clear the ABS DTC(s) with the HDS.**

1. Make sure the transmission fluid is filled to the proper level (see **ATF LEVEL CHECK** ).
2. Raise the vehicle on a lift, or apply the parking brake, block rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
3. Allow the front wheels to rotate freely.
4. Remove the splash shield.
5. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover, and go to the A/T Mod Menu.

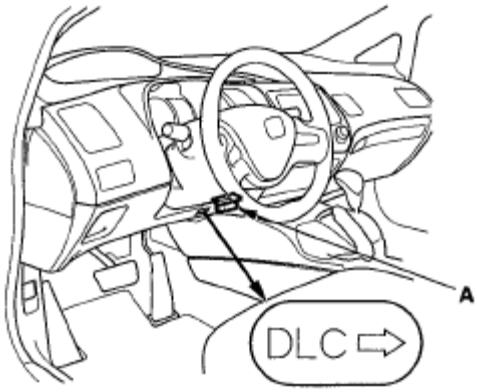



**Fig. 170: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
7. Connect the A/T oil pressure gauge to the line pressure inspection port (A). Do

not allow dust or other foreign particles to enter the ports while connecting the gauges.

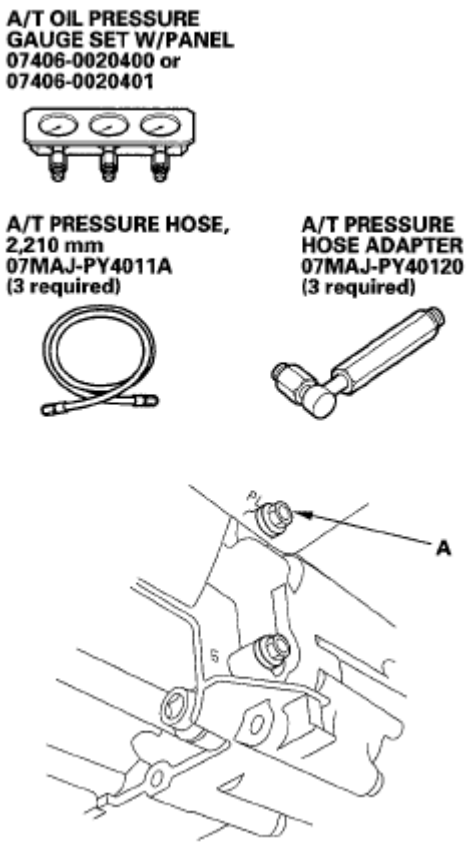



**Fig. 171: Identifying Line Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
9. Measure the line pressure at the line pressure inspection port in P or N while holding the engine speed at 2,000 rpm.

**NOTE: Higher pressure may be indicated if measurements are made in shift lever position other than P or N.**

**FLUID PRESSURE REFERENCE**

| Pressure | Fluid Pressure | |
|---|---|---|
| | Standard | Service Limit |

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| | | |
|---|---|---|
| Line | 900-960 kPa (9.2-9.8 $kgf/cm^2$ , 130-140 psi) | 850 kPa (8.7 $kgf/cm^2$ , 120 psi) |

10. Turn the engine off, then disconnect the A/Toil pressure gauge from the line pressure inspection port.
11. Install the sealing bolt to the line pressure inspection port with a new sealing washer, and tighten the bolt to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washer.
12. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ) and the intake air duct.
13. Connect the A/Toil pressure gauge to the 1st clutch pressure inspection port (B). Then temporarily install the air cleaner assembly and the intake air duct.

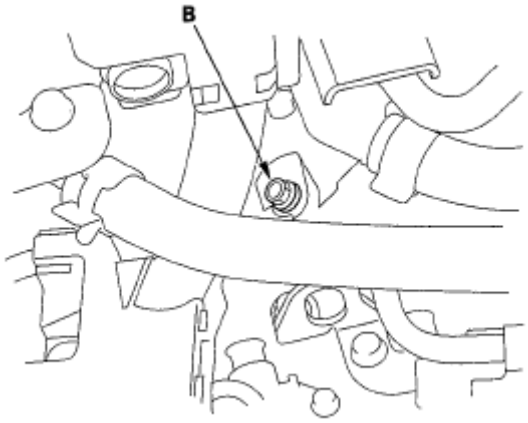



**Fig. 172: Identifying 1st Clutch Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Connect the A/Toil pressure gauge to the 2nd clutch pressure inspection port (C).

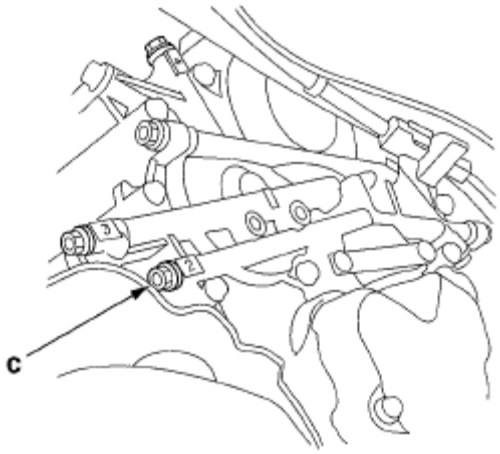



**Fig. 173: Identifying 2nd Clutch Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Start the engine, and shift to 1.
16. Measure the 1st clutch pressure at the 1st clutch pressure inspection port (B) while holding the engine speed at 2,000 rpm.
17. Shift to 2, and measure the 2nd clutch pressure at the 2nd clutch pressure inspection port (C) while holding the engine speed at 2,000 rpm.

**FLUID PRESSURE REFERENCE**

| Pressure | Fluid Pressure | |
|---|---|---|
| | Standard | Service Limit |
| 1st clutch (B)<br>2nd clutch (C) | 890-970 kPa (9.1-9.9 $kgf/cm^2$ , 130-140 psi) | 840 kPa ($8.6\ kgf/cm^2$ , 120 psi) |

18. Turn the engine off, remove the air cleaner assembly and the intake air duct, then disconnect the A/T oil pressure gauges from the 1st clutch pressure and the 2nd clutch pressure inspection ports.
19. Install the sealing bolts to the 1st clutch pressure and the 2nd clutch pressure inspection ports with new sealing washers, and tighten the bolts to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washer.
20. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER**

**REMOVAL/INSTALLATION** ).

21. Connect the A/T oil pressure gauge to the 3rd clutch pressure inspection port (D) and the 4th clutch pressure inspection port (E).

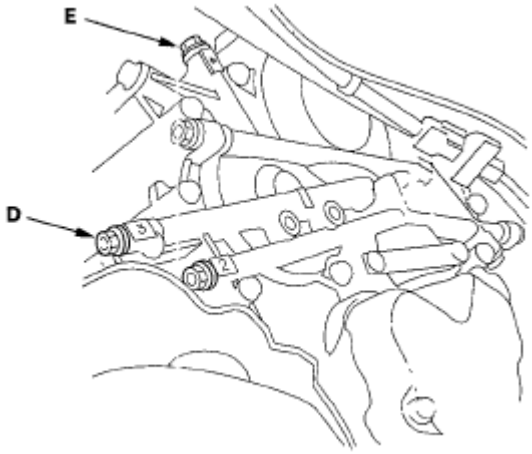



**Fig. 174: Identifying 3rd Clutch Pressure Inspection Port And 4th Clutch Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Connect the A/T oil pressure gauge to the 5th clutch pressure inspection port (F).

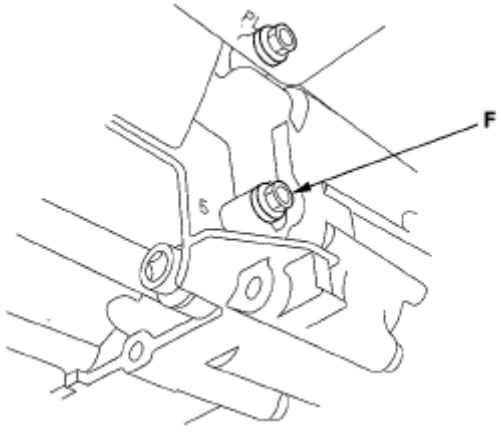



**Fig. 175: Identifying 5th Clutch Pressure Inspection Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Select Pressure Test Assistance Mode in the Miscellaneous Test Menu of the A/T Mode Menu.

24. Start the engine, and shift to D3.
25. Measure the 3rd clutch pressure at the 3rd clutch pressure inspection port (D) while holding the engine speed at 2,000 rpm.
26. Shift to D, and measure the 4th clutch pressure at the 4th clutch pressure inspection port (E) and the 5th clutch pressure at the 5th clutch pressure inspection port (F) while holding the engine speed at 2,000 rpm.

**FLUID PRESSURE REFERENCE**

| Pressure | Fluid Pressure | |
|---|---|---|
| | Standard | Service Limit |
| 3rd clutch (D)<br>4th clutch (E)<br>5th clutch (F) | 890-970 kPa (9.1-9.9 $kgf/cm^2$ , 130-140 psi) | 840 kPa (8.6 $kgf/cm^2$ , 120 psi) |

27. Bring the engine back to an idle, then apply the brake to stop the wheels from rotating.
28. Shift to R, then release the brake pedal. Raise the engine speed to 2,000 rpm, and measure the 5th clutch pressure at the 5th clutch pressure inspection port (F).

**FLUID PRESSURE REFERENCE**

| Pressure | Fluid Pressure | |
|---|---|---|
| | Standard | Service Limit |
| 5th clutch (F) in R | 890-970 kPa (9.1-9.9 $kgf/cm^2$ , 130-140 psi) | 840 kPa (8.6 $kgf/cm^2$ , 120 psi) |

29. Turn the engine off, then disconnect the A/T oil pressure gauges from the 3rd, 4th, and 5th clutch pressure inspection ports.
30. Install the sealing bolts in the 3rd, 4th, and 5th clutch pressure inspection ports with new sealing washers, and tighten the bolts to 18 N.m (1.8 kgf.m, 13 lbf.ft). Do not reuse the old sealing washer.

31. If the pressures are out of the service limit, problems and probable causes are listed in the table.

**PROBLEMS AND PROBABLE CAUSES**

| Problem | Probable causes |
|---|---|
| No or low line pressure | • Torque converter<br>• ATF pump<br>• Regulator valve<br>• Torque converter check valve<br>• Clogged ATF strainer |
| No or low 1st clutch pressure | • 1st clutch<br>• O-rings |
| No or low 2nd clutch pressure | • 2nd clutch<br>• O-rings |
| No or low 3rd clutch pressure | • 3rd clutch<br>• O-rings |
| No or low 4th clutch pressure | • 4th clutch<br>• O-rings |
| No or low 5th clutch pressure | • 5th clutch<br>• O-rings |
| No or low 5th clutch pressure in the R position | • Servo valve<br>• 4th clutch<br>• O-rings |

32. Install the splash shield.

**SHIFT SOLENOID VALVE TEST**

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

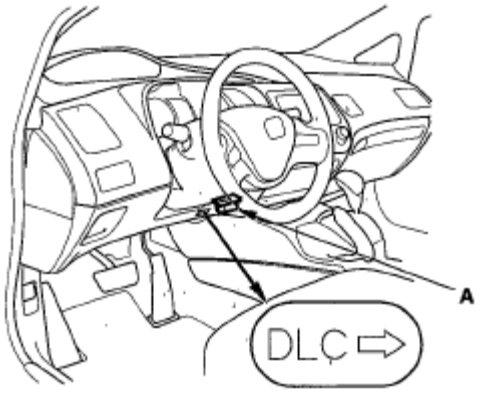



**Fig. 176: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Shift Solenoid Valve A, B, C, and D Test in the Miscellaneous Test Menu on the HDS.
4. Check that shift solenoid valve A, B, C, and D operate with the HDS. A clicking sound should be heard.
   - If a clicking sound is heard, the valves are OK.

     The test is complete, disconnect the HDS.

   - If no clicking sound is heard, go to step 5, and test the solenoid valves.
5. Raise the vehicle on a lift, or apply the parking brake, block rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
6. Remove the splash shield.
7. Disconnect the shift solenoid harness connector.

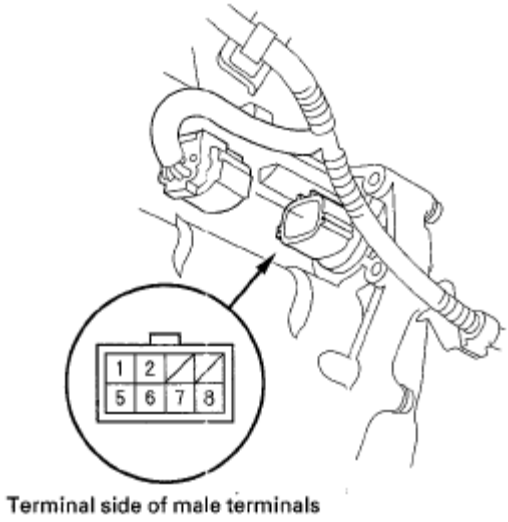



**Fig. 177: Identifying Shift Solenoid Harness Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the shift solenoid valve resistance between the shift solenoid harness connector terminals below and body ground:
   - No. 1: Shift solenoid valve C
   - No. 2: Shift solenoid valve B
   - No. 5: Shift solenoid valve A
   - No. 8: Shift solenoid valve D

   **Standard: 12-25 ohms**

   - If the resistance is within the standard, go to step 9 and check solenoid valve for a clicking sound.
   - If the resistance is out of standard, go to step 10.
9. Connect a jumper wire from the battery positive terminal to each shift solenoid harness connector terminals individually. A clicking sound should be heard.
   - If a clicking sound is heard, the valves are OK.

     The test is complete, connect the connector.

   - If no clicking sound is heard, go to step 10 and test the shift solenoid harness.

10. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

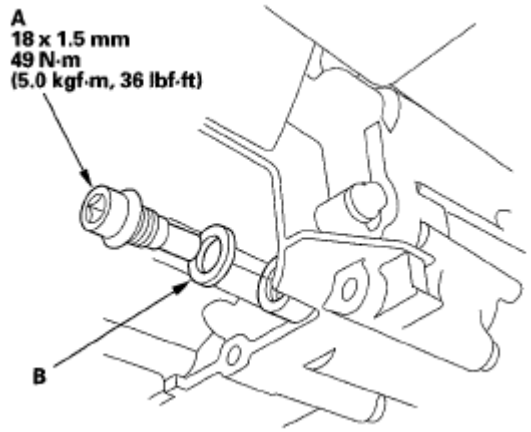



**Fig. 178: Identifying Drain Plug w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Reinstall the drain plug with a new sealing washer (B).
12. Remove the shift solenoid valve cover (A), the dowel pins (B), the gasket (C), and the harness clamp bracket (D).

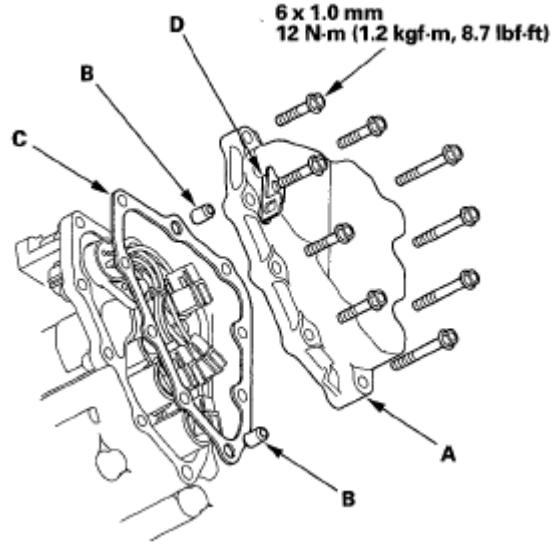



**Fig. 179: Identifying Shift Solenoid Valve Cover, Dowel Pins, Gasket, Harness Clamp Bracket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Disconnect the connectors from shift solenoid valve A, shift solenoid valve B,

shift solenoid valve C, and shift solenoid valve D.

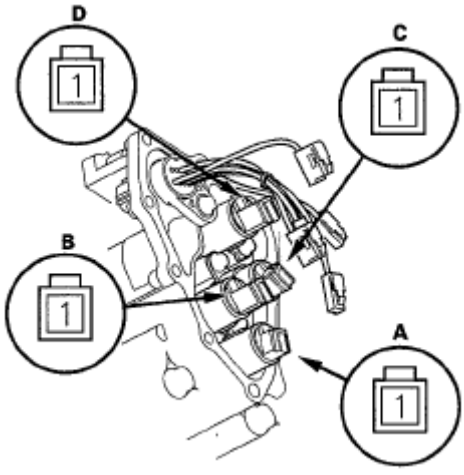



**Fig. 180: Identifying Shift Solenoid Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Measure the resistance of each solenoid valve between the connector terminal and body ground.

    **Standard: 12-25 ohms**

    - If the resistance is out of standard, go to step 17 and replace the shift solenoid valve.
    - If the resistance is within the standard, go to step 15 and check the solenoid valve for a clicking sound.
15. Connect a jumper wire from the positive battery terminal to each solenoid terminal individually.
    - If a clicking sound is heard, go to step 16 and replace the solenoid harness.
    - If no clicking sound is heard, go to step 17 and replace shift solenoid valve.
16. Remove the shift solenoid harness connector (A), and replace it. Install a new O-ring (B) on the shift solenoid harness connector, and install the connector in the transmission housing, then go to step 22.

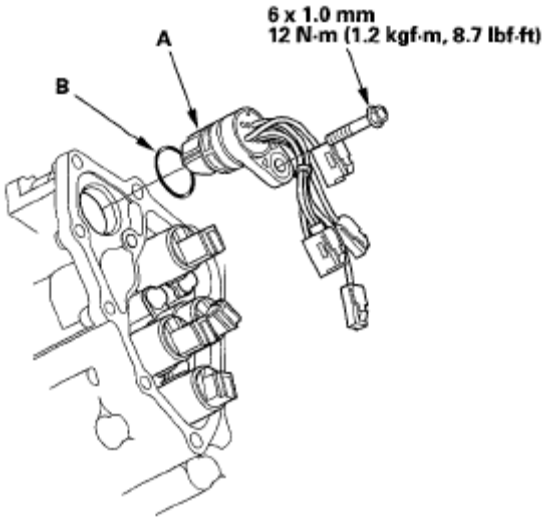



**Fig. 181: Identifying Shift Solenoid Harness Connector, O-Ring w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Remove the mounting bolts, then hold the shift solenoid valve body and remove the solenoid valves. Do not hold the connector to remove the solenoid valve.

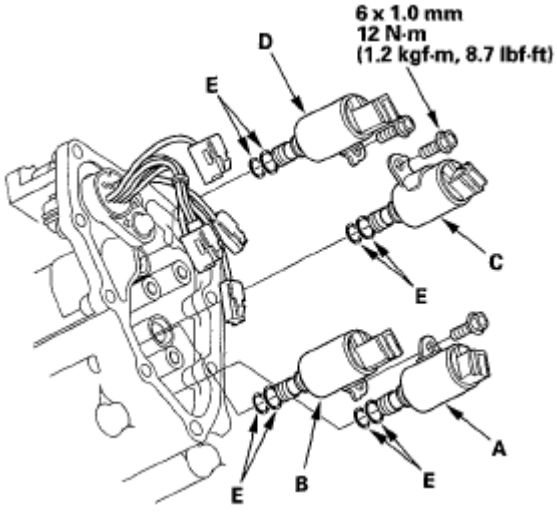



**Fig. 182: Identifying Shift Solenoid Valve, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Install new O-rings (two O-rings per solenoid valve) (E) on the reused solenoid valve.

**NOTE: A new solenoid valve comes with new O-rings. If you install a new solenoid valve, use the O-rings provided on it.**

19. Install shift solenoid valve D (black connector) and shift solenoid valve C (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the servo body.

**NOTE: Do not hold the solenoid valve by the connector when installing the solenoid valve. Be sure to hold the solenoid valve body.**

20. Install shift solenoid valve B (black connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the servo body.
21. Install shift solenoid valve A (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the bracket of shift solenoid valve B.

**NOTE: Do not install shift solenoid valve A before installing shift solenoid valve B. If shift solenoid valve A is installed before installing shift solenoid valve B, it may damage to hydraulic control system.**

22. Connect the shift solenoid harness connectors:
    - BLU wire to shift solenoid valve A.
    - ORN, WHT, and WHT wires to shift solenoid valve B.
    - GRN wire to shift solenoid valve C.
    - YEL wire to shift solenoid valve D.
23. Install the shift solenoid valve cover, the dowel pins, a new gasket, and the harness clamp bracket.
24. Check the connector for rust, dirt, or oil, then connect the connector securely.
25. Refill the transmission with ATF (see step 5 ).
26. Install the splash shield.

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**SHIFT SOLENOID VALVE AND SHIFT SOLENOID WIRE HARNESS REPLACEMENT**

1. Raise the vehicle on a lift, or apply the parking brake, block rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the splash shield.
3. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

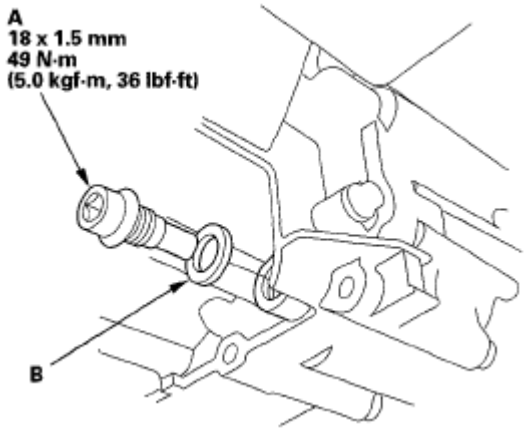



**Fig. 183: Identifying Drain Plug, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Reinstall the drain plug with a new sealing washer (B).
5. Remove the shift solenoid valve cover (A), the dowel pins (B), the gasket (C), and the harness clamp bracket (D).

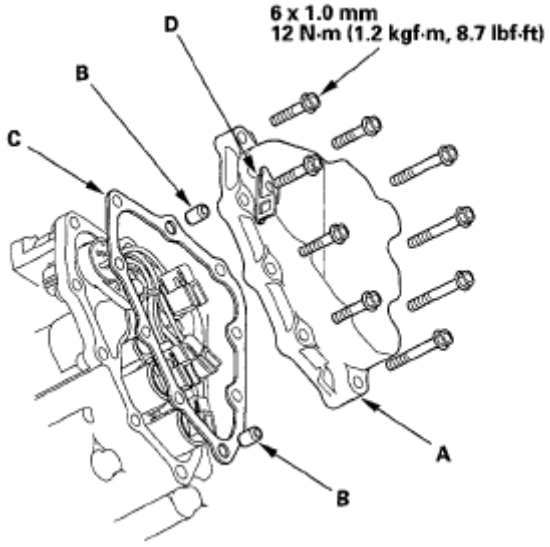


**Fig. 184: Identifying Shift Solenoid Valve Cover, Dowel Pins, Gasket, Harness Clamp Bracket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Disconnect the shift solenoid valve connectors.
   - If replacing shift solenoid valve(s), go to step 7.
   - If replacing the shift solenoid harness, remove the shift solenoid harness connector (A), and replace it. Install a new O-ring (B) on the new shift solenoid harness connector, and install it in the transmission housing, then go to step 12.

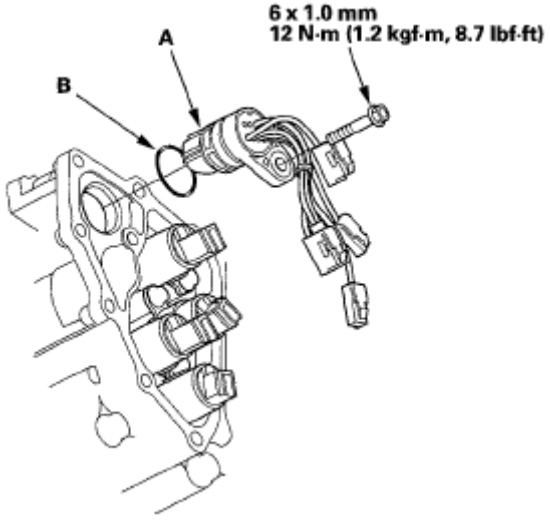



**Fig. 185: Identifying Shift Solenoid Harness Connector, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the mounting bolts, then hold the shift solenoid valve body and remove the solenoid valves. Do not hold the connector to remove the solenoid valve.

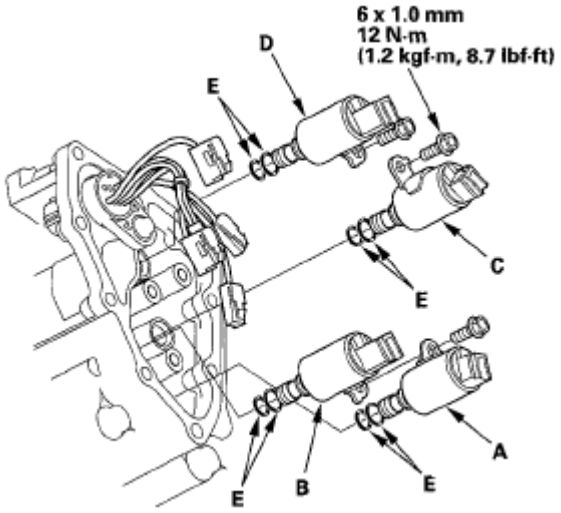



**Fig. 186: Identifying Shift Solenoid Valve, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install new O-rings (two O-rings per solenoid valve) (E) on the solenoid valve.

**NOTE: A new solenoid valve comes with new O-rings. If you install a new solenoid valve, use the O-rings provided on it.**

9. Install shift solenoid valve D (black connector) and shift solenoid valve C (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the servo body.

**NOTE: Do not hold the solenoid valve by the connector when installing the solenoid valve. Be sure to hold the solenoid valve body.**

10. Install shift solenoid valve B (black connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the servo body.
11. Install shift solenoid valve A (brown connector) by holding the shift solenoid valve body; make sure the mounting bracket contacts the bracket of shift solenoid valve B.

**NOTE: Do not install shift solenoid valve A before installing**

**shift solenoid valve B. If shift solenoid valve A is installed before installing shift solenoid valve B, it may damage to hydraulic control system.**

12. Connect the shift solenoid harness connectors:
    - BLU wire to shift solenoid valve A.
    - ORN, WHT, and WHT wires to shift solenoid valve B.
    - GRN wire to shift solenoid valve C.
    - YEL wire to shift solenoid valve D.
13. Install the shift solenoid valve cover, the dowel pins, a new gasket, and the harness clamp bracket.
14. Check the connector for rust, dirt, or oil, then connect the connector securely.
15. Refill the transmission with ATF (see step 5 ).
16. Install the splash shield.

**A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A TEST**

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

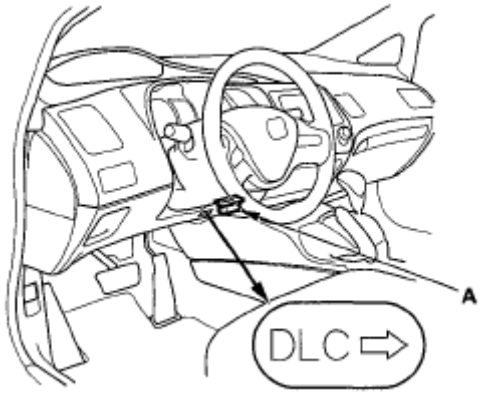



**Fig. 187: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** )

3. Select Clutch Pressure Control (Linear) Solenoid Valve A in the Miscellaneous Test Menu with the HDS.
4. Test A/T clutch pressure control solenoid valve A with the HDS.
   - If the valve tests OK, the test is complete. Disconnect the HDS.
   - If the valve does not test OK, follow the instructions on the HDS.
   - If the valve does not test OK, and the HDS does not determine the cause, go to step 5.
5. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ) and the intake air duct.
6. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

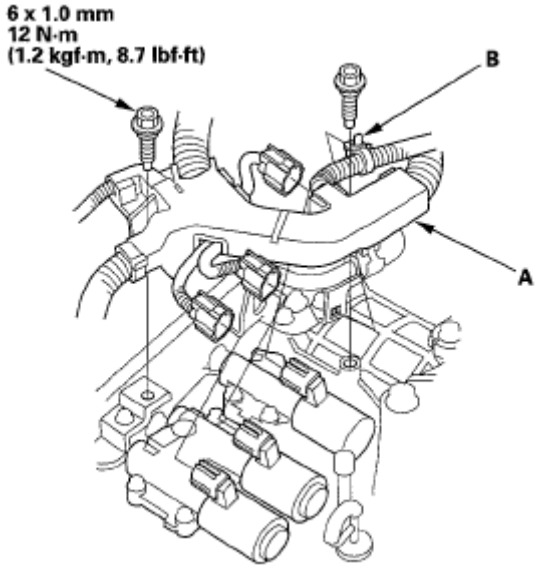



**Fig. 188: Identifying Harness Cover, Harness Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the A/T clutch pressure control solenoid valve A connector (A)

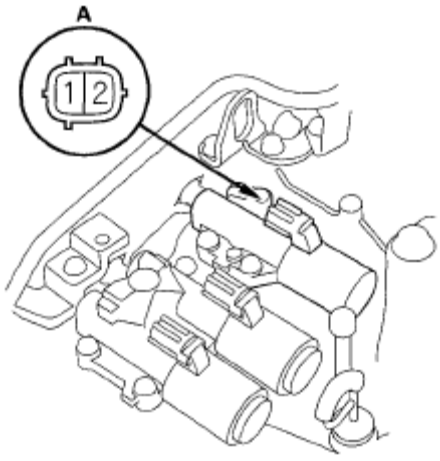



**Fig. 189: Identifying A/T Clutch Pressure Control Solenoid Valve A Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the A/T clutch pressure control solenoid valve A resistance at the connector terminals.

   **Standard: 3-10** ohms

   - If the resistance is out of standard, replace A/T clutch pressure control solenoid valve A (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT** ).
   - If the resistance is within the standard, go to step 9.
9. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve A connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1.
   - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
   - If no clicking sound is heard, go to step 10.
10. Remove the mounting bolts and A/T clutch pressure control solenoid valve A.

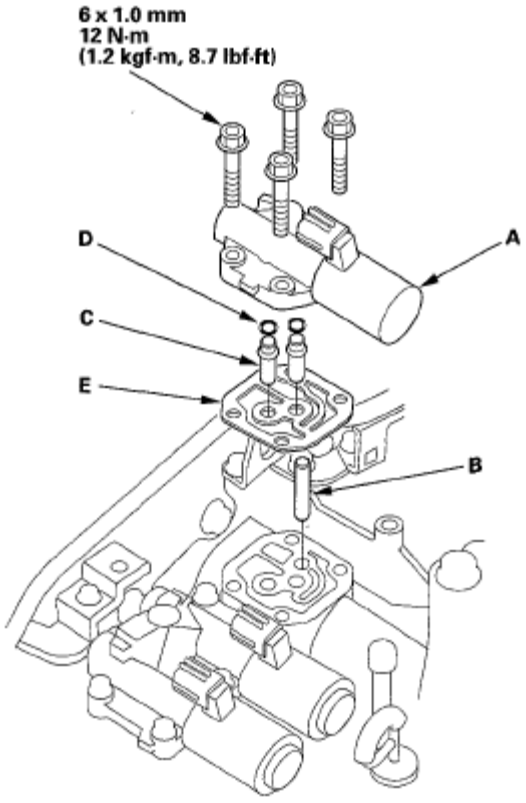



**Fig. 190: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the ATF pipe (B), the ATF joint pipes (C), the O-rings (D), and the gasket (E).
12. Check the fluid passage of the solenoid valve for contamination.
13. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve A connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve A moves.

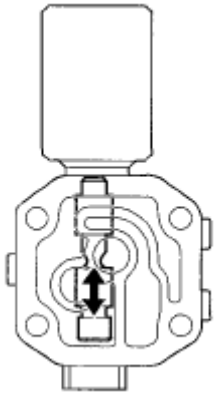


**Fig. 191: Checking A/T Clutch Pressure Control Solenoid Valve A**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect one of the jumper wires and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valve A.
15. Clean the mounting surfaces and fluid passages of the solenoid valve body and the transmission housing.
16. Install a new gasket with the blue side down and the white side up on the transmission housing, and install the ATF pipe and the ATF joint pipes.
17. Install new O-rings over the ATF joint pipes.
18. Install A/T clutch pressure control solenoid valve A.
19. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connectors securely.
20. Secure the harness cover with the mounting bolts, and install the harness clamp.
21. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** )

**A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE A REPLACEMENT**

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

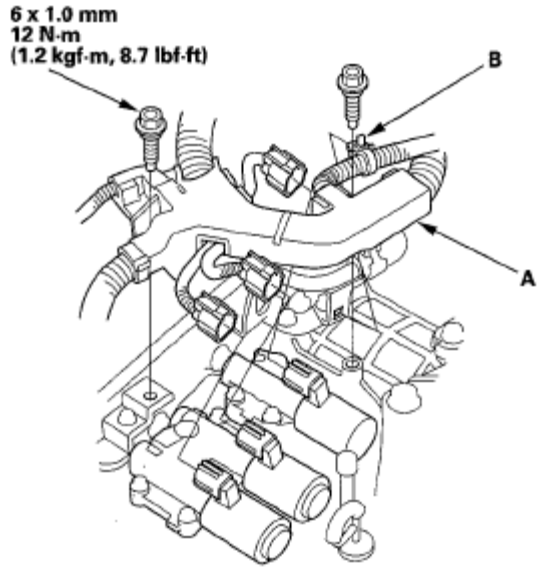



**Fig. 192: Identifying Harness Cover, Harness Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the A/T clutch pressure control solenoid valve A connector.
4. Remove the mounting bolts and A/T clutch pressure control solenoid valve A.

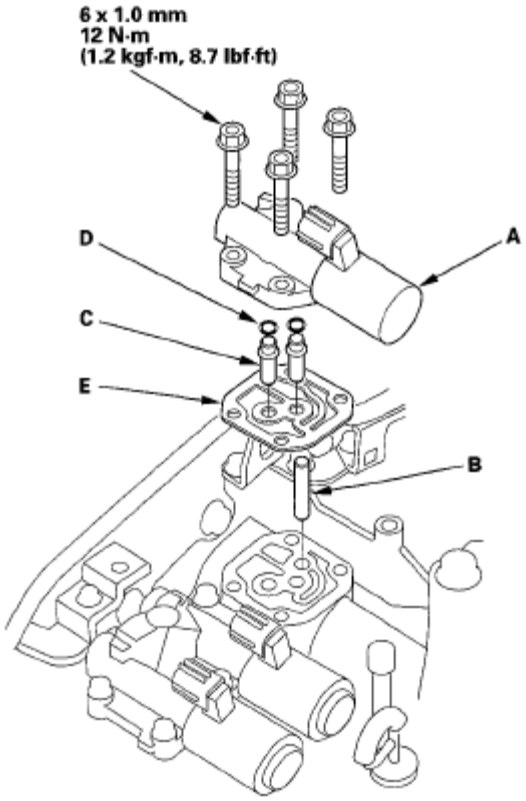



**Fig. 193: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the ATF pipe (B), the ATF joint pipes (C), the O-rings (D), and the gasket (E).
6. Check the fluid passage of the transmission housing for dust or dirt, and clean the passage.
7. Install a new gasket with the blue side down and the white side up on the transmission housing, and install the ATF pipe and the ATF joint pipes.
8. Install new O-rings over the ATF joint pipes.
9. Install a new A/T clutch pressure control solenoid valve A.
10. Check the A/T clutch pressure control solenoid valve A connector for rust, dirt, or oil, then connect the connector securely.
11. Secure the harness cover with the mounting bolts, and install the harness clamp.
12. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER**

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**ELEMENT INSPECTION/REPLACEMENT** )

**A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B TEST**

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

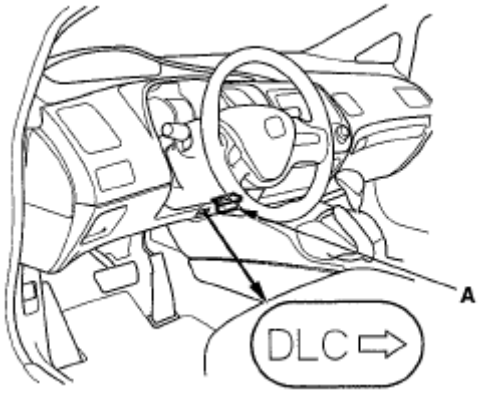



**Fig. 194: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Clutch Pressure Control (Linear) Solenoid Valve B in the Miscellaneous Test Menu with the HDS.
4. Test A/T clutch pressure control solenoid valve B with the HDS.
   - If the valve tests OK, the test is complete. Disconnect the HDS.
   - If the valve does not test OK, follow the instructions on the HDS.
   - If the valve does not test OK, and the HDS does not determine the cause, go to step 5.
5. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
6. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

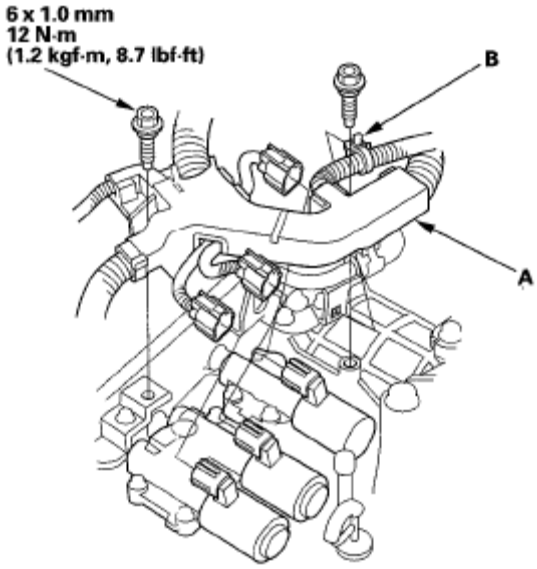



**Fig. 195: Identifying Harness Cover, Harness Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the A/T clutch pressure control solenoid valve B connector (A).

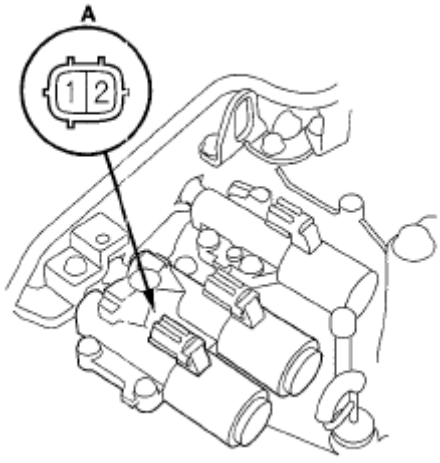



**Fig. 196: Identifying A/T Clutch Pressure Control Solenoid Valve B Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the A/T clutch pressure control solenoid valve B resistance at the connector terminals.

**Standard: 3-10** ohms

- If the resistance is out of standard, replace A/T clutch pressure control solenoid valve B (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ).
- If the resistance is within the standard, go to step 9.

9. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve B connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1.
   - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
   - If no clicking sound is heard, go to step 10.
10. Remove A/T clutch pressure control solenoid valve B and C.

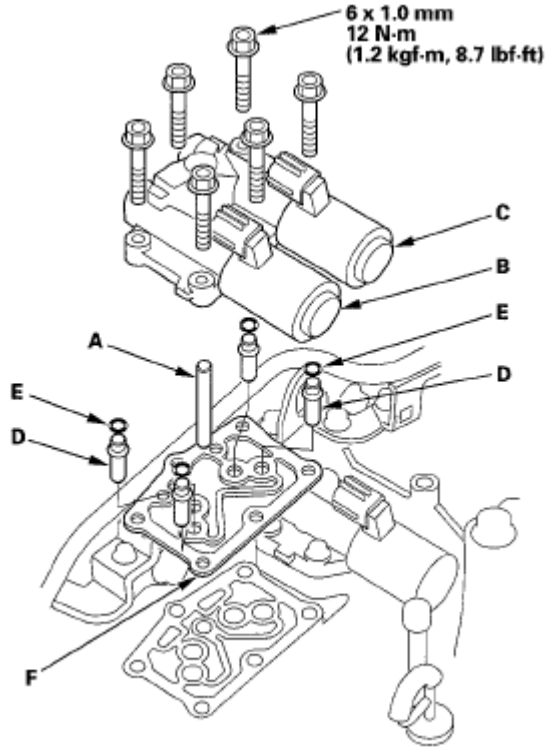



**Fig. 197: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the ATF pipe (A), the ATF joint pipes (D), the O-rings (E), and the gasket (F).
12. Check the fluid passage of the solenoid valve for contamination.
13. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve B connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve B moves.

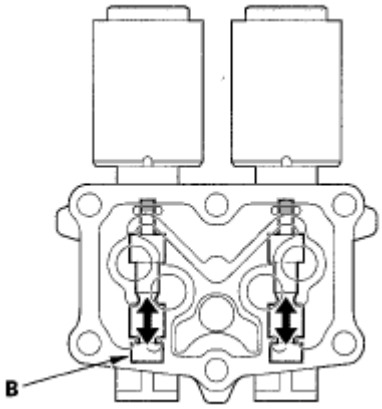



**Fig. 198: Checking A/T Clutch Pressure Control Solenoid Valve B**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect one of the jumper wires and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valves B and C.
15. Clean the mounting surfaces and fluid passages of the solenoid valve body and the transmission housing.
16. Install a new gasket with the blue side down and the white side up on the transmission housing.
17. Install the ATF pipe and the ATF joint pipes, and install new O-rings over the ATF joint pipes.
18. Install A/T clutch pressure control solenoid valves B and C.
19. Check the A/T clutch pressure control solenoid valve B and C connectors for rust, dirt, or oil, then connect the connectors securely.
20. Secure the harness cover with the mounting bolts, and install the harness

clamp.

21. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

**A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE C TEST**

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

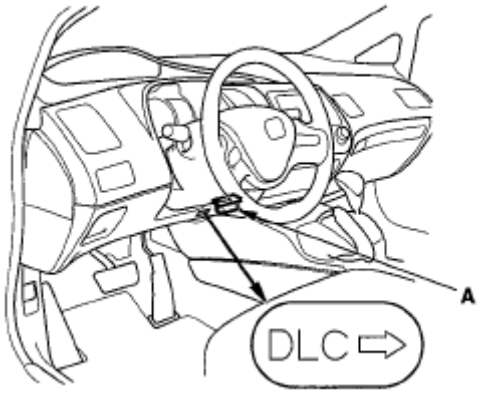



**Fig. 199: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Clutch Pressure Control (Linear) Solenoid Valve C in the Miscellaneous Test Menu on the HDS.
4. Test A/T clutch pressure control solenoid valve C with the HDS.
   - If the valve tests OK, the test is complete. Disconnect the HDS.
   - If the valve does not test OK, follow the instructions on the HDS.
   - If the valve does not test OK, and the HDS does not determine the cause, go to step 5.
5. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
6. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

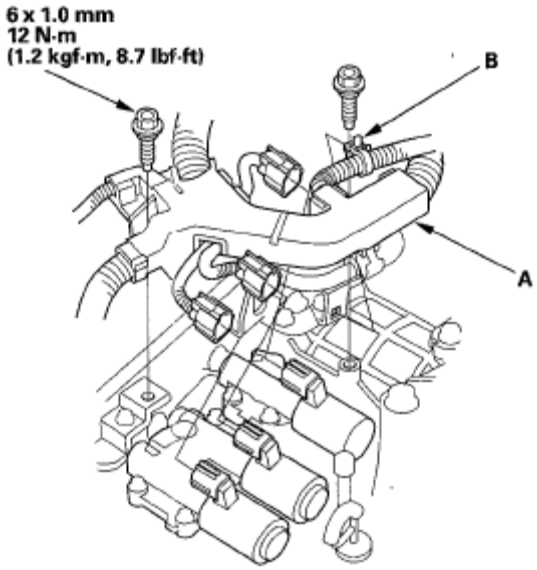



**Fig. 200: Identifying Harness Cover, Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the A/T clutch pressure control solenoid valve C connector (A).

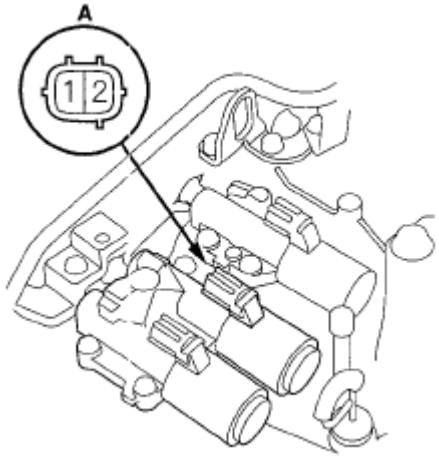



**Fig. 201: Identifying A/T Clutch Pressure Control Solenoid Valve C Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the A/T clutch pressure control solenoid valve C resistance at the connector terminals.

   **Standard: 3-10** ohms

- If the resistance is out of standard, replace A/T clutch pressure control solenoid valve C (see **A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT** ).
- If the resistance is within the standard, go to step 9.

9. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve C connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1.
   - If a clicking sound is heard, the valve is OK. Reconnect the connector, and install all removed parts.
   - If no clicking sound is heard, go to step 10.
10. Remove A/T clutch pressure control solenoid valve B and C.

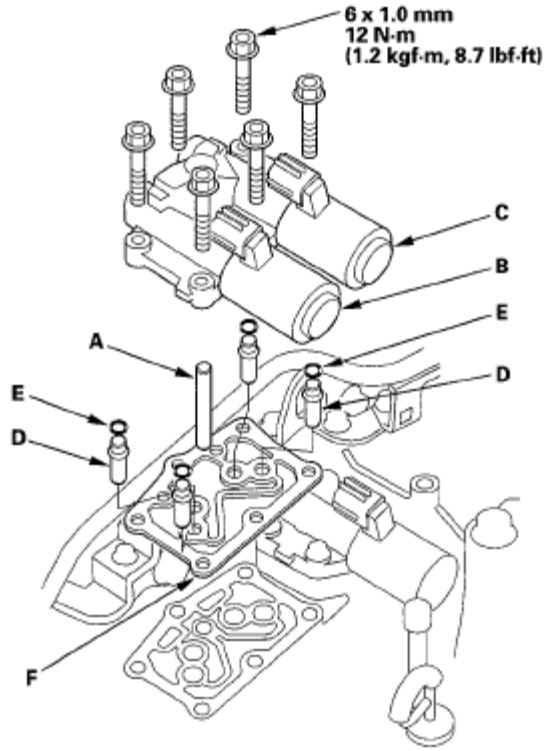



**Fig. 202: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the ATF pipe (A), the ATF joint pipes (D), the O-rings (E), and the

gasket (F).

12. Check the fluid passage of the solenoid valve for contamination.
13. Connect a jumper wire from the negative battery terminal to A/T clutch pressure control solenoid valve C connector terminal No. 2, and connect another jumper wire from the positive battery terminal to connector terminal No. 1. Make sure A/T clutch pressure control solenoid valve C moves.

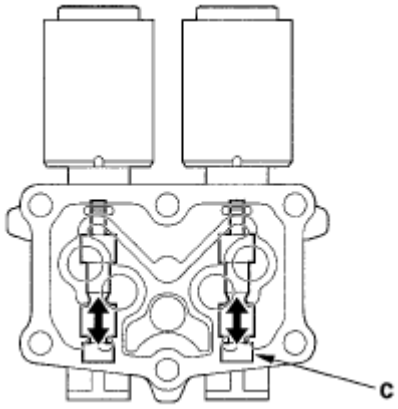



**Fig. 203: Checking A/T Clutch Pressure Control Solenoid Valve C**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect one of the jumper wires and check the valve movement at the fluid passage in the valve body mounting surface. If the valve binds or moves sluggishly, or if the solenoid valve does not operate, replace A/T clutch pressure control solenoid valves B and C.
15. Clean the mounting surfaces and fluid passages of the solenoid valve body and the transmission housing.
16. Install a new gasket with the blue side down and the white side up on the transmission housing.
17. Install the ATF pipe and the ATF joint pipes, and install new O-rings over the ATF joint pipes.
18. Install A/T clutch pressure control solenoid valves B and C.
19. Check the A/T clutch pressure control solenoid valve B and C connectors for rust, dirt, or oil, then connect the connectors securely.
20. Secure the harness cover with the mounting bolts, and install the harness clamp.

21. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

**A/T CLUTCH PRESSURE CONTROL SOLENOID VALVE B AND C REPLACEMENT**

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (D).

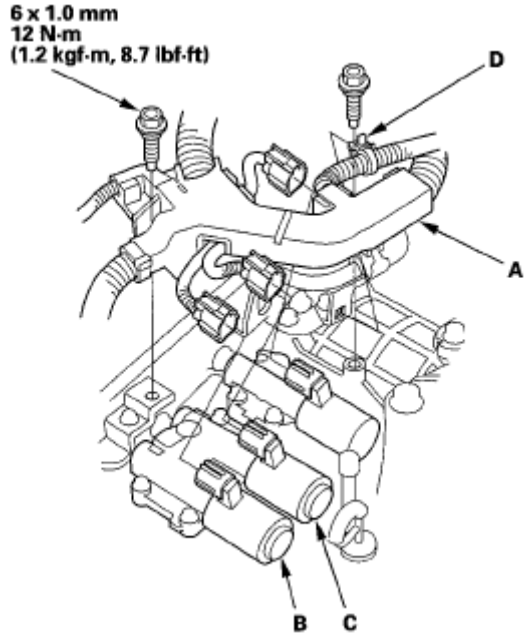



**Fig. 204: Identifying Harness Cover, Clamp & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the connectors from A/T clutch pressure control solenoid valve B and C.
4. Remove A/T clutch pressure control solenoid valve B and C.

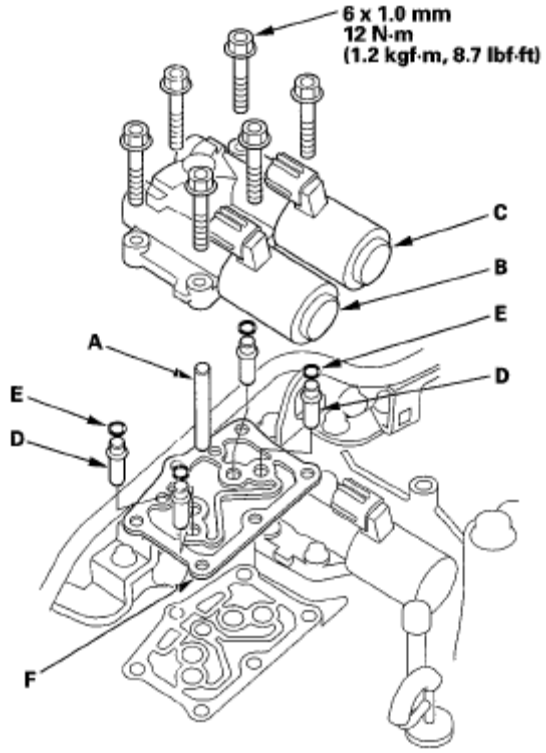



**Fig. 205: Identifying ATF Pipe, ATF Joint Pipes, O-Rings, Gasket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the ATF pipe (A), the ATF joint pipes (D), the O-rings (E), and the gasket (F).
6. Clean the mounting surface and the fluid passages of the transmission housing.
7. Install a new gasket with the blue side down and the white side up on the transmission housing.
8. Install the ATF pipe and the ATF joint pipes, and install new O-rings over the ATF joint pipes.
9. Install a new A/T clutch pressure control solenoid valve B and C.
10. Check the A/T clutch pressure control solenoid valve B and C connectors for rust, dirt, or oil, then connect the connectors securely.
11. Secure the harness cover with the mounting bolts, and install the harness clamp.
12. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** )

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**INPUT SHAFT (MAINSHAFT) SPEED SENSOR REPLACEMENT**

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Remove the harness clamp (A) from its bracket, and remove the air cleaner housing bracket (B).

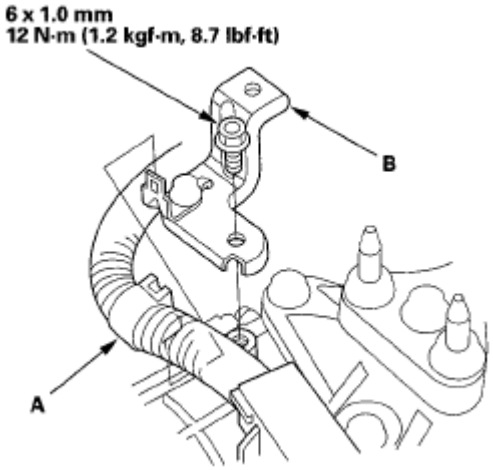



**Fig. 206: Identifying Harness Clamp, Torque Specification And Air Cleaner Housing Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the input shaft (mainshaft) speed sensor connector, and remove the input shaft (mainshaft) speed sensor (A).

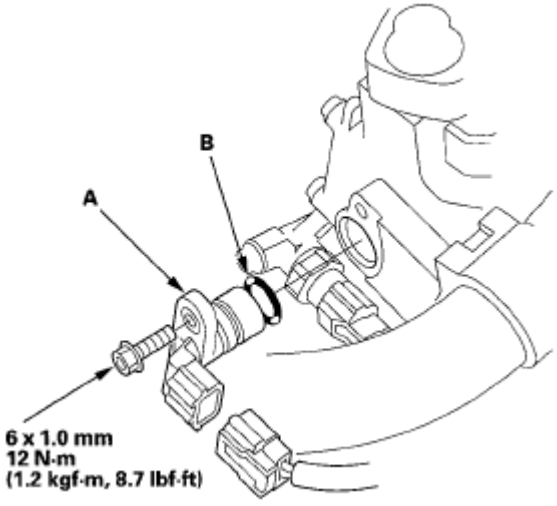


**Fig. 207: Identifying Input Shaft (Mainshaft) Speed Sensor, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new O-ring (B) on the new input shaft (mainshaft) speed sensor, then install the input shaft (mainshaft) speed sensor in the transmission housing.
5. Check the connector for rust, dirt, or oil, then connect the connector securely.
6. Install the air cleaner housing bracket, and install the harness clamp on its bracket.
7. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** )

**OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR REPLACEMENT**

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Disconnect the output shaft (countershaft) speed sensor connector, and remove the output shaft (countershaft) speed sensor (A).

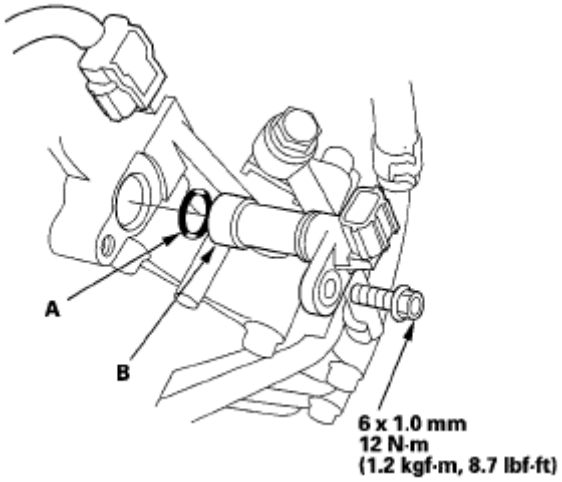



**Fig. 208: Identifying Output Shaft (Countershaft) Speed Sensor, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new O-ring (B) on a new output shaft (countershaft) speed sensor, then install the output shaft (countershaft) speed sensor in the transmission

housing.

4. Check the connector for rust, dirt, or oil, then connect the connector securely.
5. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

**2ND CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT**

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Remove the harness clamp (A) from its bracket, and remove the air cleaner housing bracket (B).

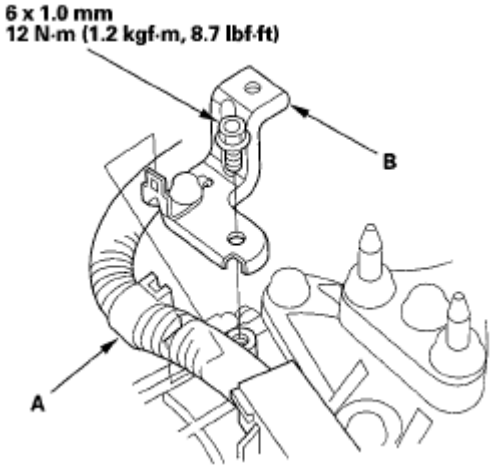



**Fig. 209: Identifying Harness Clamp, Air Cleaner Housing Bracket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the 2nd clutch transmission fluid pressure switch connector, and remove the 2nd clutch transmission fluid pressure switch (A).

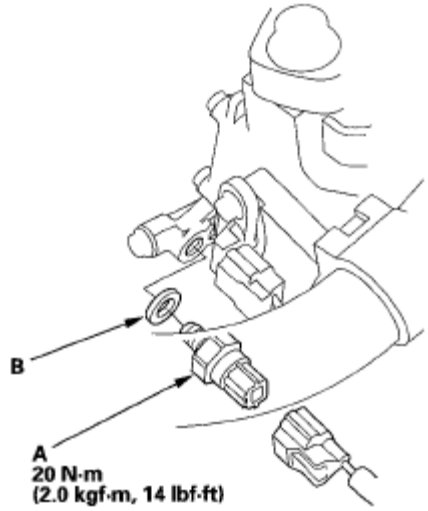



**Fig. 210: Identifying 2nd Clutch Transmission Fluid Pressure Switch, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Make sure there is no water, oil, dust, or foreign particles inside the connectors.
5. Install a new 2nd clutch transmission fluid pressure switch with a new sealing washer (B), and tighten the switch to the specified torque by turning the metal part, not the plastic part.
6. Connect the connector securely.
7. Install the air cleaner housing bracket, and install the harness clamp on its bracket.
8. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

**3RD CLUTCH TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT**

1. Raise the vehicle on a lift, or apply the parking brake, block the rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the splash shield.
3. Disconnect the 3rd clutch transmission fluid pressure switch connector, then remove the 3rd clutch transmission fluid pressure switch (A).

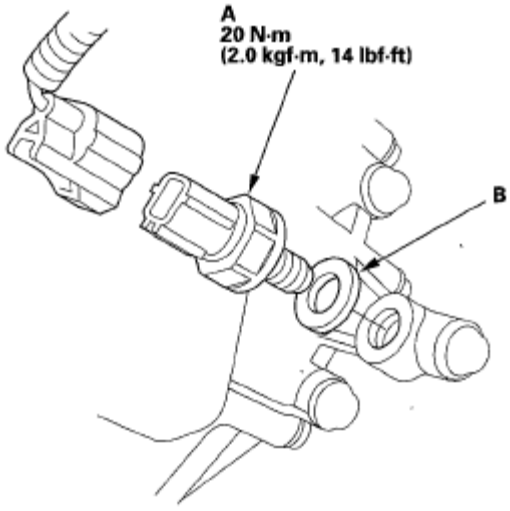



**Fig. 211: Identifying 3rd Clutch Transmission Fluid Pressure Switch, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Make sure there is no water, oil, dust, or foreign particles inside the connector.
5. Install a new 3rd clutch transmission fluid pressure switch with a new sealing washer (B), and tighten the switch to the specified torque by turning the metal part, not the plastic part.
6. Connect the connector securely.
7. Install the splash shield.

**ATF TEMPERATURE SENSOR TEST/REPLACEMENT**

1. Raise the vehicle on a lift, or apply the parking brake, block the rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the splash shield.
3. Disconnect the shift solenoid harness connector.

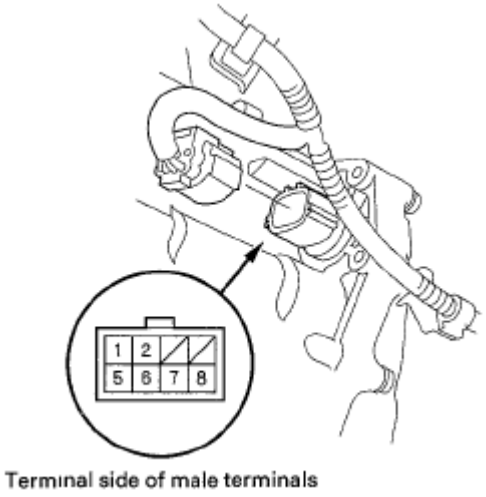



**Fig. 212: Identifying Shift Solenoid Harness Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the ATF temperature sensor resistance between shift solenoid harness connector terminals No. 6 and No. 7.

   **Standard: 50 ohms-25 kohms**

5. If the resistance is out of standard, go to step 6, and replace the ATF temperature sensor and solenoid harness. The ATF temperature sensor is not available separately from the shift solenoid harness.

   If the resistance is within the standard, the test is complete, connect the connector securely, and install the splash shield.

6. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

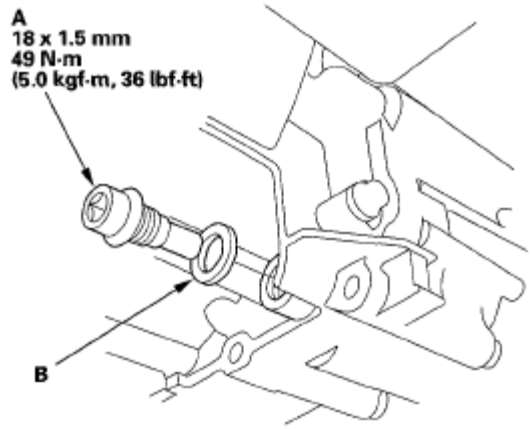



**Fig. 213: Identifying Drain Plug, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Reinstall the drain plug with a new sealing washer (B).
8. Remove the shift solenoid valve cover (A), the dowel pins (B), the gasket (C), and the harness clamp bracket (D).

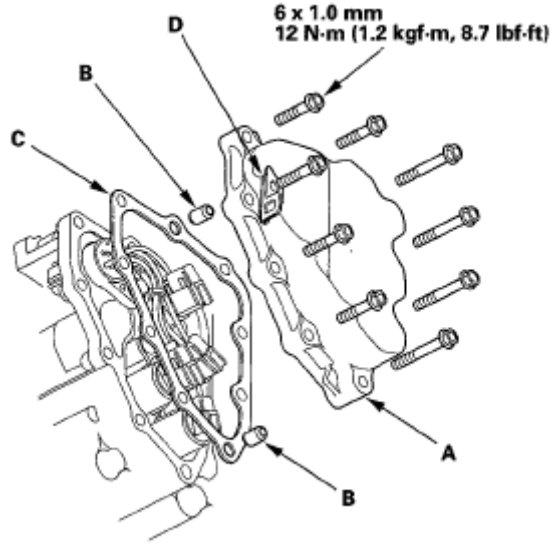



**Fig. 214: Identifying Shift Solenoid Valve Cover, Dowel Pins, Gasket, Harness Clamp Bracket & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the shift solenoid harness connector (E), and replace it.

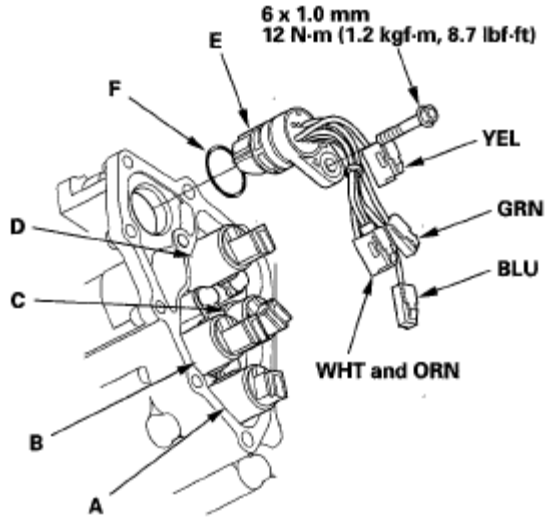



**Fig. 215: Identifying Shift Solenoid Harness Connector, O-Ring & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install a new O-ring (F) on a new shift solenoid harness connector, and install the connector in the transmission housing.
11. Connect WHT harnesses and ORN harness connector to shift solenoid valve B. ATF temperature sensor is assembled in the connector with WHT harnesses.
12. Connect the shift solenoid harness connectors:
    - BLU wire to shift solenoid valve A.
    - GRN wire to shift solenoid valve C.
    - YEL wire to shift solenoid valve D.
13. Install the shift solenoid valve cover, the dowel pins, a new gasket, and the harness clamp bracket.
14. Check the connector for rust, dirt, or oil, then connect the connector securely.
15. Refill the transmission with ATF (see step 5 ).
16. Install the splash shield.

**ATF LEVEL CHECK**

**NOTE: Keep all foreign particles out of the transmission.**

1. Park the vehicle on the level ground.

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2. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on), and turn the engine off. Do not allow the engine to warm up more than two cycles of the cooling fan.

**NOTE: Check the fluid level within 60-90 seconds after turning the engine off. Higher fluid level may be indicated if the radiator fan comes on twice or more.**

3. Remove the dipstick (yellow loop) (A), and wipe it with a clean cloth.

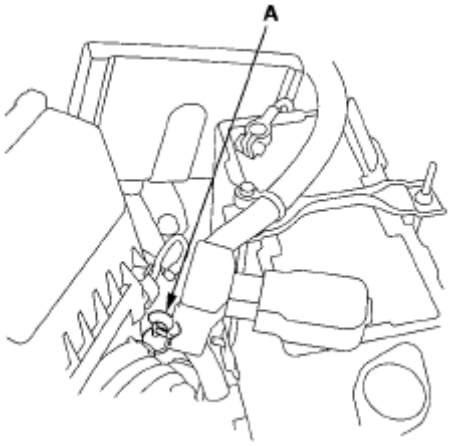



**Fig. 216: Identifying Dipstick (Yellow Loop)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Insert the dipstick into the transmission.
5. Remove the dipstick and check the fluid level. It should be between the upper mark (A) and the lower mark (B).

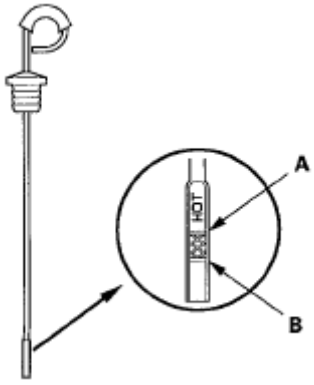


**Fig. 217: Identifying Upper Mark And Lower Mark On Dipstick**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the level is below the lower mark, check for fluid leaks at the transmission, the hoses, and the line joints. If a problem is found, fix it before filling the transmission with ATF.

**NOTE: If the vehicle is driven when the ATF level is below the lower mark:**

- **Transmission damage will result.**
- **The vehicle might not move in any gear.**
- **The vehicle may accelerate poorly, and flare when starting off in D and R.**
- **The engine may vibrate at idle.**

7. If the level is above the upper mark, drain the ATF to proper level (see step 3 ).

**NOTE: If the vehicle is driven when the ATF level is above the upper mark, the vehicle may creep forward while in N, or have problems shifting.**

8. If necessary, fill the transmission with ATF through the dipstick hole (A) to bring the fluid level between the upper mark and the lower mark of the dipstick. Do not fill the fluid above the upper mark. Always use genuine Honda ATF-Z1 automatic transmission fluid (ATF). Using a non-Honda ATF can affect shift quality.

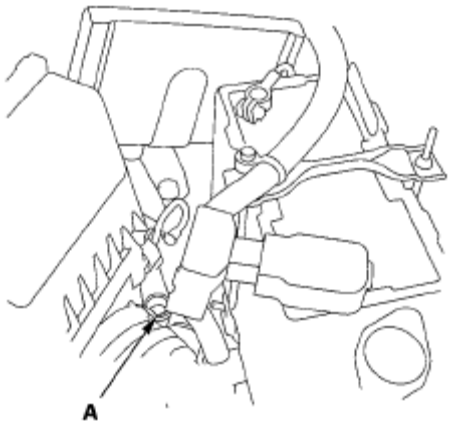



**Fig. 218: Identifying Dipstick Hole**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Insert the dipstick back into the transmission.

**ATF REPLACEMENT**

**NOTE: Keep all foreign particles out of the transmission.**

1. Start the engine, and warm it up to normal operating temperature (the radiator fan comes on).
2. Park the vehicle on the level ground, and turn the engine off.
3. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

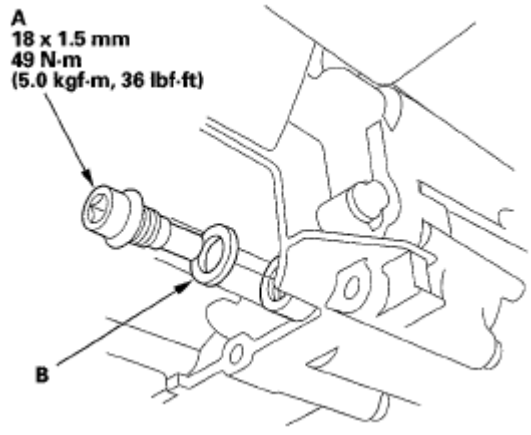



**Fig. 219: Identifying Drain Plug, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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4. Reinstall the drain plug with a new sealing washer (B).
5. Refill the transmission with the recommended fluid into the dipstick hole to bring the fluid level between the upper mark and the lower mark of the dipstick. Always use Honda ATF-Z1 automatic transmission fluid (ATF). Using a non-Honda ATF can affect shift quality.

   **Automatic Transmission Fluid Capacity:**

   **2.4 L (2.5 US qt, 2.1 Imp qt) at change**

   **5.9 L (6.2 US qt, 5.2 Imp qt) at overhaul**

6. Check that the fluid level is between the upper mark and the lower mark of the dipstick.
7. Insert the dipstick back into the transmission.
8. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.




**Fig. 220: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
10. Turn the ignition switch to ON (II), and reset the ATF life with the HDS.
11. '06 4-door model and '07-08 2 and 4 door models: If the maintenance minder recommends replacing the ATF, reset the maintenance minder (see

**RESETTING THE MAINTENANCE INFORMATION DISPLAY** ), and this procedure is complete. If the maintenance minder did not recommend replacing the ATF, go to step 12.

'06 2-door model: If the maintenance minder recommends replacing the ATF, reset the maintenance minder (see **RESETTING THE MAINTENANCE INFORMATION DISPLAY** ), and this procedure is complete. If the maintenance minder did not recommend replacing the ATF, notify the customer that the maintenance minder service interval has not been reached and the maintenance minder will still be on the same interval as before.

12. Select BODY ELECTRICAL with the HDS.
13. Select ADJUSTMENT in the GAUGES MENU with the HDS.
14. Select RESET in the MAINTENANCE MINDER with the HDS.
15. Select RESETTING THE ATF with the HDS.

**NOTE: If you changed the engine oil at the same time with the ATF, select RESETTING THE ENGINE OIL LIFE AND ATF with the HDS instead.**

**TRANSMISSION REMOVAL**

## Special Tools Required

- 1.8 support eyelet 07AAK-SNAA400
- 1.8 support bolt 07AAK-SNAA500
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *
- Front subframe adapter VSB02C000016 *
- * These special tools are available through the Honda Tool and Equipment Program 1-888-424-6857.

**NOTE:**

- **Use fender covers to avoid damaging painted surfaces.**
- **Special tool engine hanger must be used with the side engine mount installed.**

1. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped), then write down the audio presets.
2. Remove the cowl cover (see **COWL COVER REPLACEMENT** ) and the under-cowl panel.
3. Remove the front grille cover (see **FRONT GRILLE COVER REPLACEMENT** ).
4. Make sure the ignition switch is in LOCK (0).

   Disconnect the negative cable from the battery, then disconnect the positive cable.

5. Remove the battery hold-down bracket, and remove the battery and the battery tray.
6. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
7. Remove the battery base and the resonator.
8. Raise the vehicle on a lift, make sure it is securely supported, and remove the wheels.
9. Remove the splash shield (see step 23 on **ENGINE REMOVAL** ).
10. Remove the drain plug (A), and drain the automatic transmission fluid (ATF).

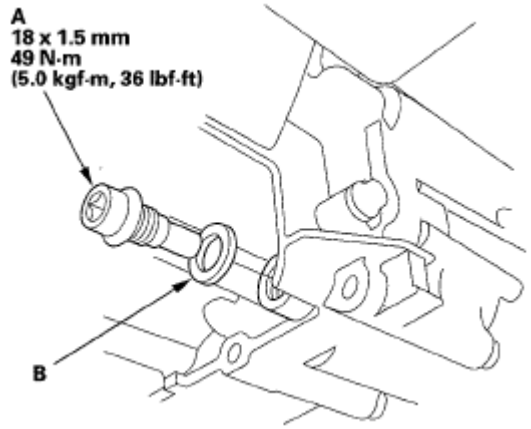



**Fig. 221: Identifying Drain Plug, Sealing Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Reinstall the drain plug with a new sealing washer (B).

12. Secure the hood in the vertical position.
13. Remove the mounting bolts securing the harness cover (A), and remove the harness clamp (B).

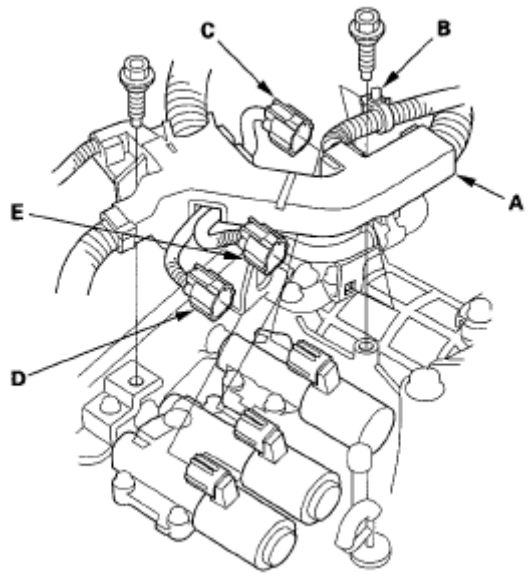



**Fig. 222: Identifying Harness Cover And Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect the A/T clutch pressure control solenoid valve A connector (C), the A/T clutch pressure control solenoid valve B connector (D), and the A/T clutch pressure control solenoid valve C connector (E).
15. Remove the harness clamp (A) from its bracket, and remove the air cleaner housing mounting bracket (B).

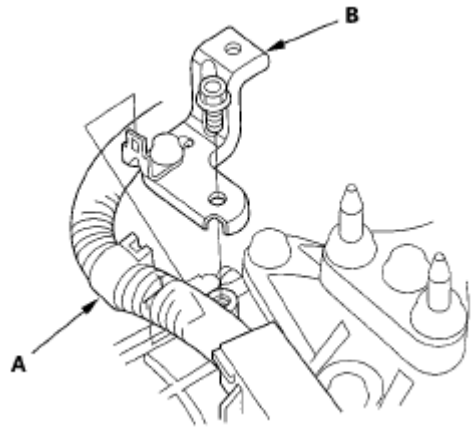


**Fig. 223: Identifying Air Cleaner Housing Mounting Bracket And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Disconnect the transmission range switch connector (A).

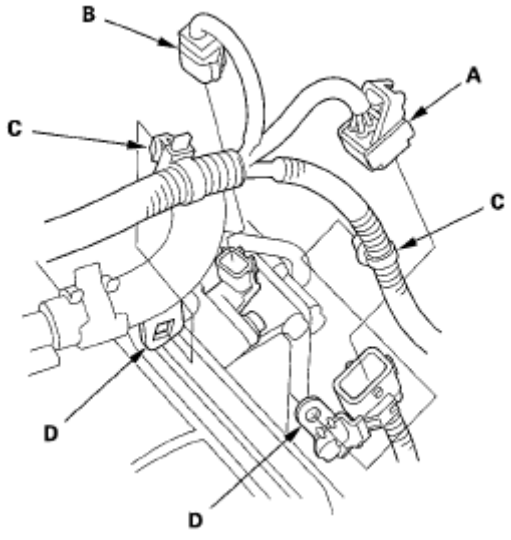



**Fig. 224: Identifying Transmission Range Switch Connector, Output Shaft (Countershaft) Speed Sensor Connector And Harness Clamps**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Disconnect the output shaft (countershaft) speed sensor connector (B), and remove the harness clamps (C) from the clamp brackets (D).
18. Disconnect the input shaft (mainshaft) speed sensor connector (A) and the 2nd clutch transmission fluid pressure switch connector (B).

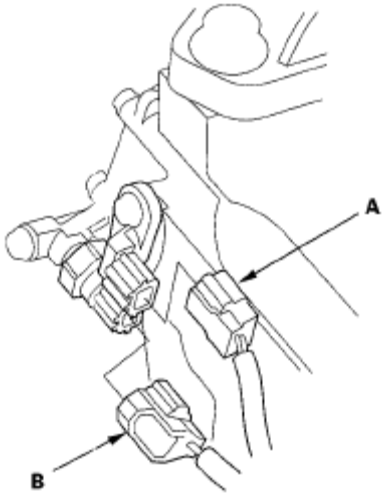



**Fig. 225: Identifying Input Shaft (Mainshaft) Speed Sensor And 2nd Clutch Transmission Fluid Pressure Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Disconnect the ATF warmer hoses (A) from the ATF lines (B). Turn the end of the ATF warmer hoses up to prevent ATF from flowing out, then plug the hoses and lines.

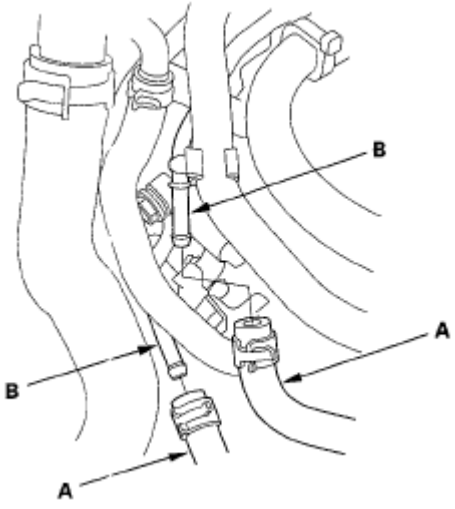



**Fig. 226: Identifying ATF Warmer Hoses And ATF Lines**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Remove the bolts securing the ATF warmer. Do not disconnect the ATF hoses and water by-pass hoses from the ATF warmer.

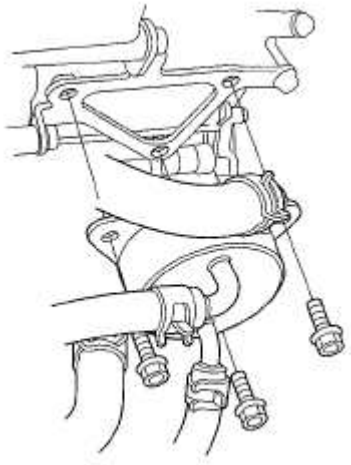


**Fig. 227: Identifying ATF Hoses And Water By-Pass Hoses With Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Disconnect the shift solenoid harness connector (A) and the 3rd clutch transmission fluid pressure switch connector (B), and remove the harness clamps (C) from the clamp brackets (D).

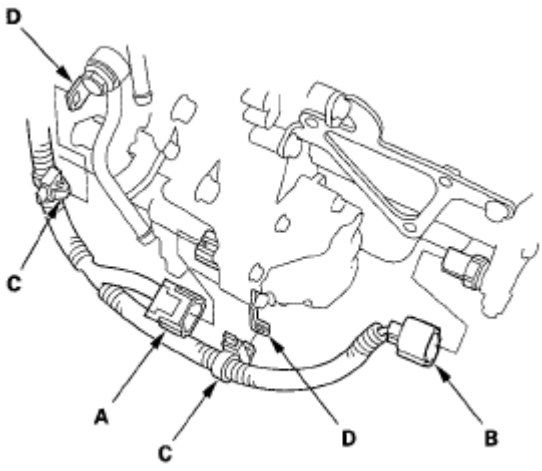



**Fig. 228: Identifying Shift Solenoid Harness Connector And 3rd Clutch Transmission Fluid Pressure Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Remove the harness clamp (A) from its bracket (B), and remove the radiator hose (C) from the clamp (D).

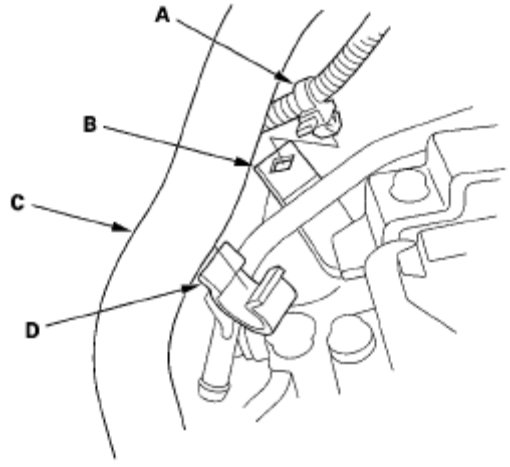



**Fig. 229: Identifying Harness Clamp, Bracket, Radiator Hose And Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Remove the air cleaner housing mounting bracket (A).

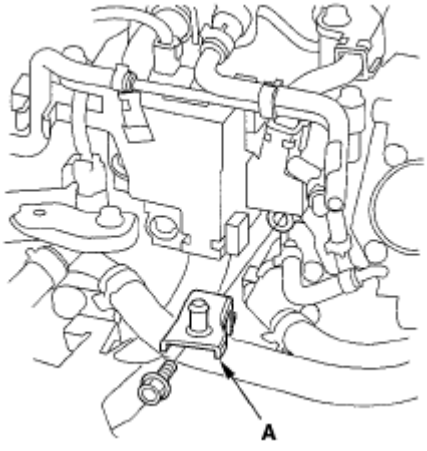



**Fig. 230: Identifying Air Cleaner Housing Mounting Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Install the support eyelet behind the breather pipe (A) and down to the threaded hole (B) on the cylinder head.

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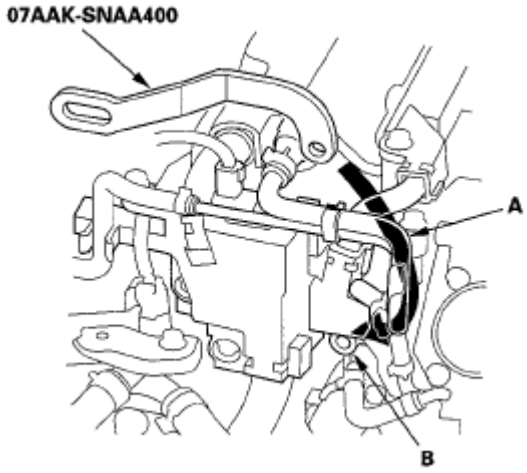



**Fig. 231: Identifying Breather Pipe And Threaded Hole**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Attach the support eyelet to the cylinder head with the support bolt. Tighten the bolt by hand.

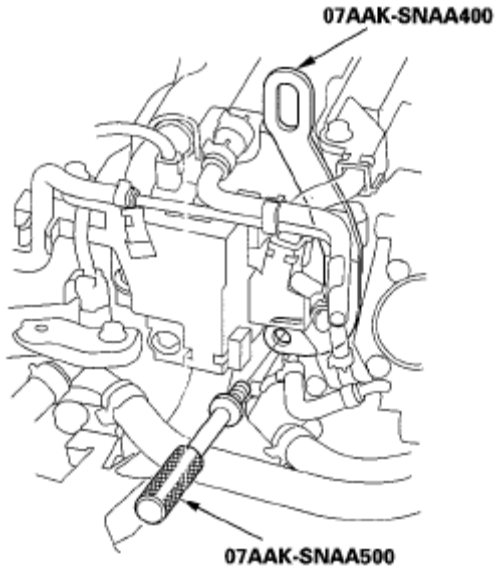



**Fig. 232: Identifying Support Eyelet And Support Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

26. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger (VSB02C000025). Carefully position the engine hanger on the vehicle, and attach the hook to the slotted hole in the support eyelet (D). Tighten the wing

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nut by hand to lift and support the engine/transmission assembly.

**NOTE: Use care when working around the windshield.**

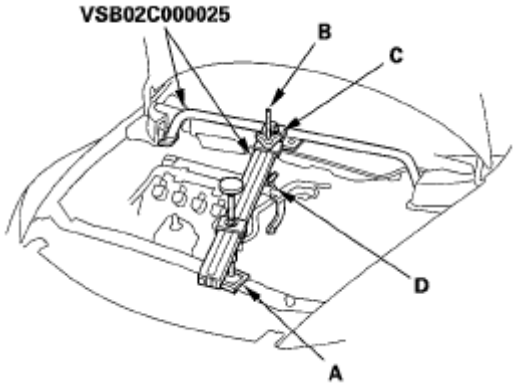



**Fig. 233: Identifying Engine Support Hanger On Vehicle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

27. Remove the nuts and bolt securing the lower arm and ball joint, and separate the lower arms from the ball joints.

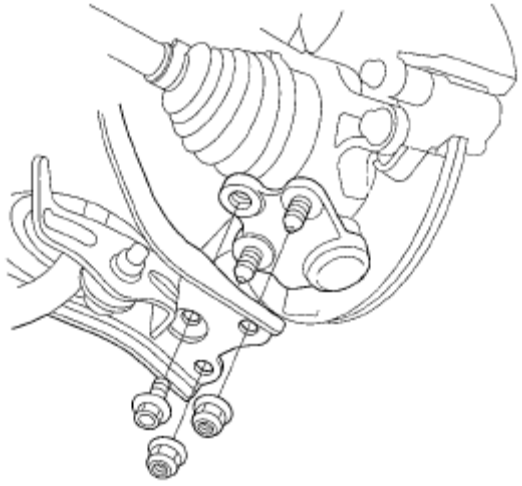


**Fig. 234: Identifying Lower Arms From Ball Joints**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Remove both body mount brackets.

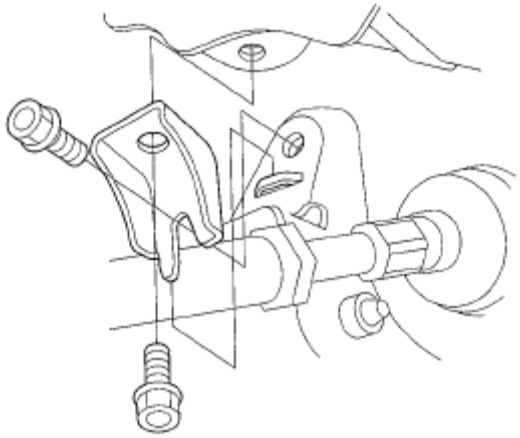


**Fig. 235: Identifying Body Mount Brackets**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

29. Remove the steering gearbox mounting bracket bolts.

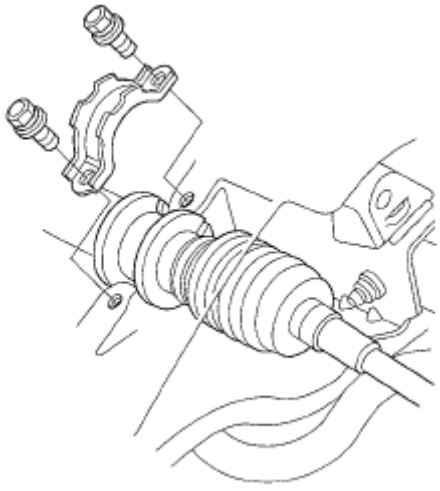


**Fig. 236: Identifying Steering Gearbox Mounting Bracket Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

30. Remove the rear steering gearbox mounting bolt (A), the stiffener mounting bolt (B), and the stiffener (C).

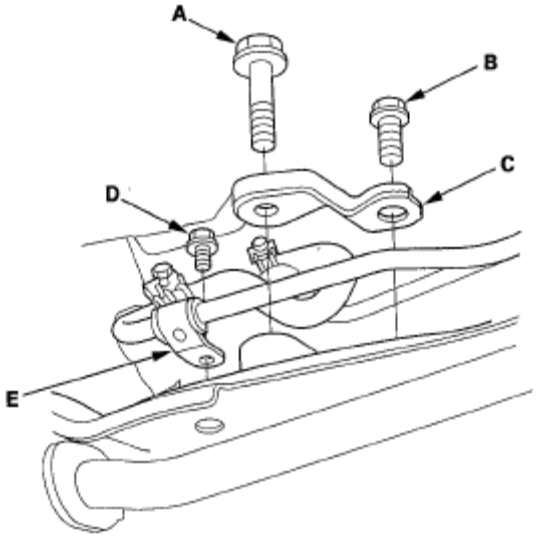



**Fig. 237: Identifying Rear Steering Gearbox Mounting Bolt, Stiffener Mounting Bolt And Stiffener**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

31. Remove the bolt (D) securing the power steering fluid line clamp bracket (E).
32. Remove the front steering gearbox mounting bolt (A), the stiffener mounting bolt (B), and the stiffener (C).

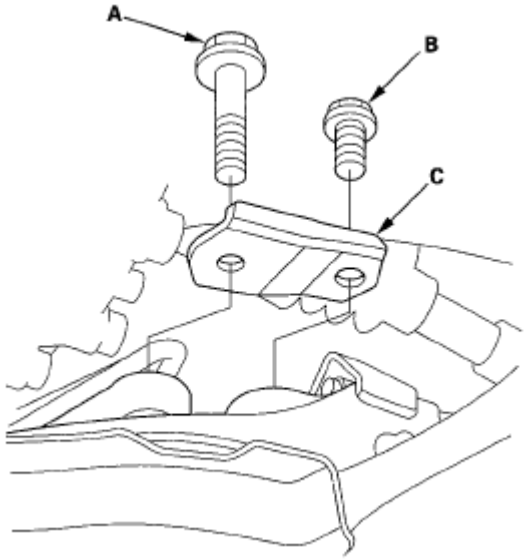



**Fig. 238: Identifying Front Steering Gearbox Mounting Bolt, Stiffener Mounting Bolt And Stiffener**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Remove the bolt (A) securing the power steering fluid line bracket (B) on the right of the front subframe, and remove the power steering fluid line (C) from the clamp (D).

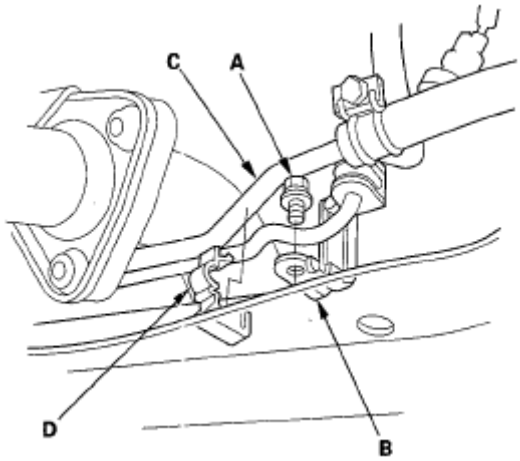



**Fig. 239: Identifying Power Steering Fluid Line Bracket, Power Steering Fluid Line And Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Remove the lower torque rod bolts.

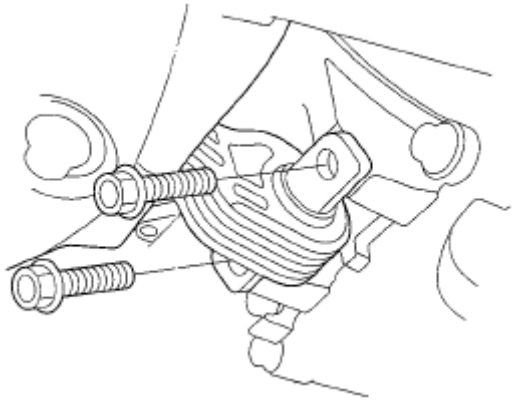


**Fig. 240: Identifying Lower Torque Rod Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

35. Make reference marks (A) on both sides of the front subframe that line up with the body (B).

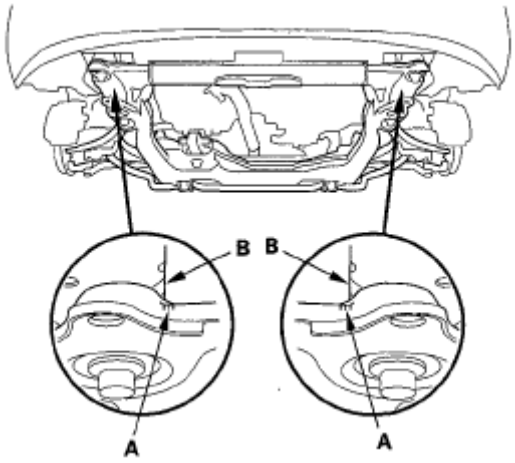



**Fig. 241: Identifying Reference Marks On Both Sides Of Front Subframe Line Up With Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

36. Attach the front subframe adapter (VSB02C000016) to the front subframe by looping the strap (A) over the front of the subframe, then secure the strap with the stop (B), then tighten the wing nut (C).

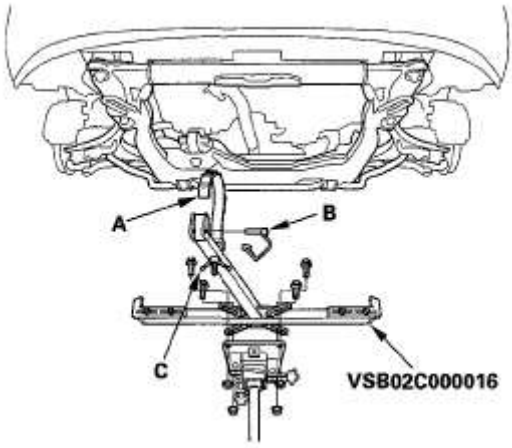



**Fig. 242: Attaching Front Subframe Adapter (VSB02C000016) To Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Raise the jack and line up the slots in the arms with the bolt holes on the corner of the jack base, then tighten the bolts.
38. Remove the four bolts securing the front subframe, and lower the front

subframe.

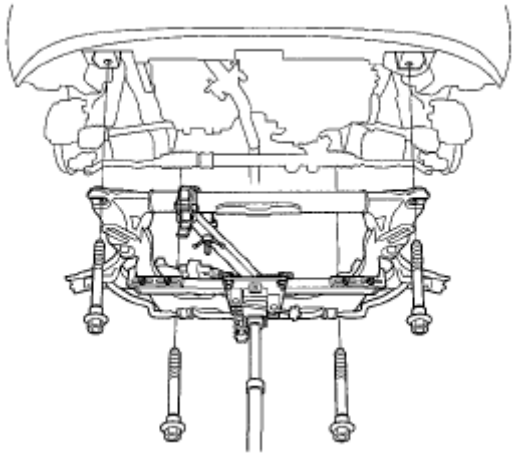


**Fig. 243: Lifting Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

39. Hang the steering gearbox to the body with a rope.
40. Remove the driveshafts from the differential. Coat all precision machined surfaces with clean engine oil, then put plastic bags over the driveshaft ends.

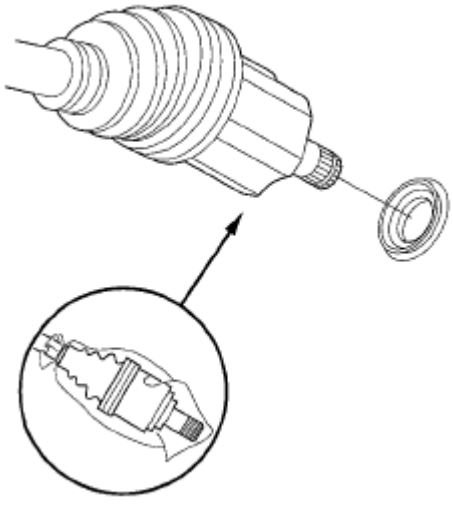


**Fig. 244: Identifying Driveshafts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

41. Remove the shift cable cover (A), and remove the three bolts securing the shift cable holder (B).

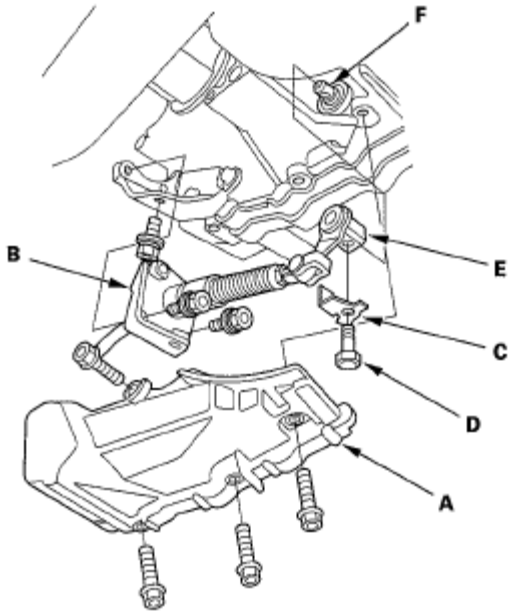



**Fig. 245: Identifying Shift Cable Cover And Shift Cable Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Pry up the lock tab of the lock washer (C), and remove the lock bolt (D) and the lock washer, then separate the shift cable (E) from the control shaft (F). Do not bend the shift cable excessively.
43. Remove the shift cable holder bracket from the transmission.

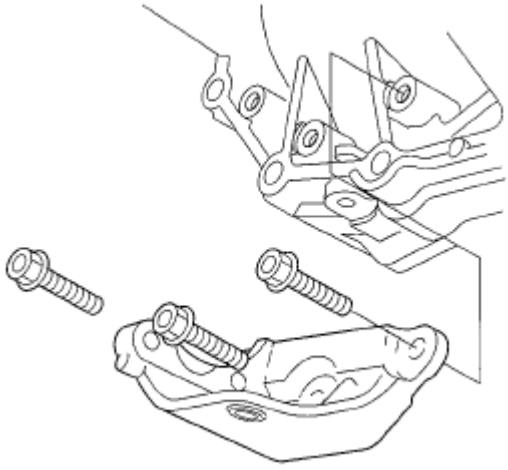


**Fig. 246: Identifying Shift Cable Holder Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

44. Remove the torque converter cover (A), and remove the drive plate bolts (B)

(8) while rotating the crankshaft pulley.

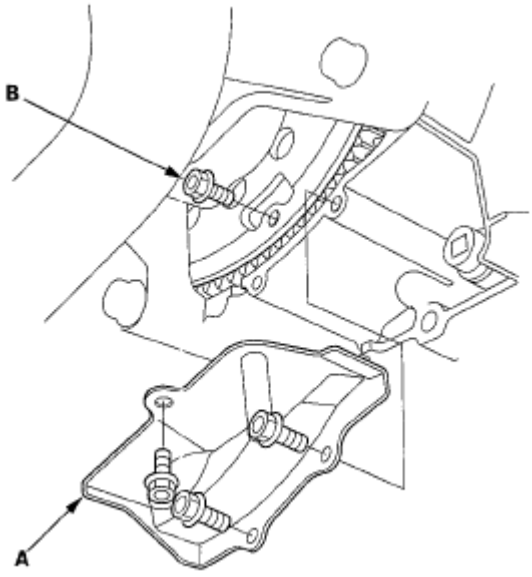



**Fig. 247: Identifying Torque Converter Cover And Drive Plate Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Remove the upper transmission housing mounting bolts.

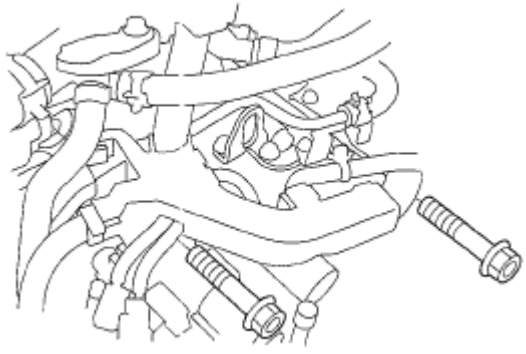


**Fig. 248: Identifying Upper Transmission Housing Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

46. Remove the transmission mount bracket bolts.

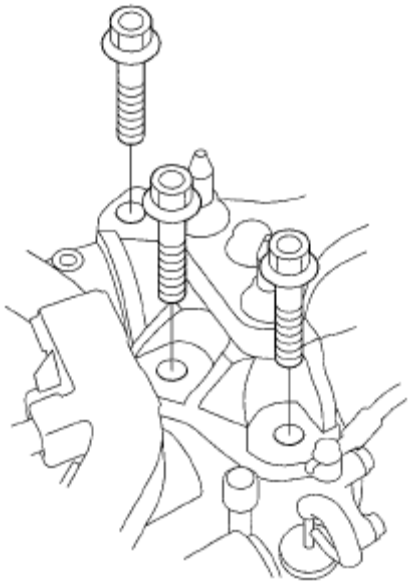


**Fig. 249: Identifying Transmission Mount Bracket Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

47. Remove the front transmission housing mounting bolts.

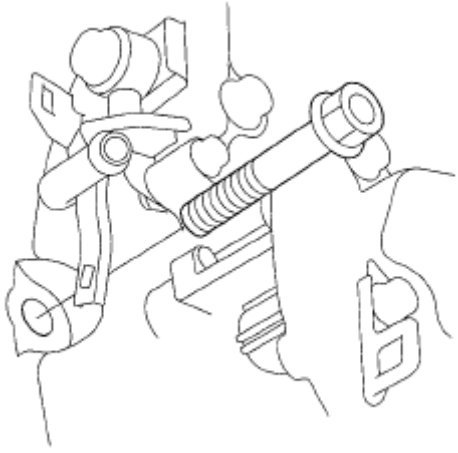


**Fig. 250: Identifying Front Transmission Housing Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

48. Remove the rear transmission housing mounting bolts.

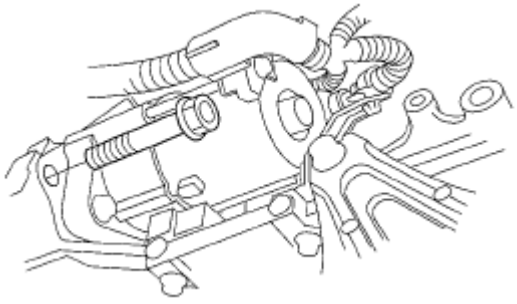


**Fig. 251: Identifying Rear Transmission Housing Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

49. Lower the transmission by loosening the wing nut of the engine support hanger, and tilt the engine just enough for the transmission to clear the side frame.
50. Place a jack under the transmission.
51. Remove the lower transmission housing mounting bolts.

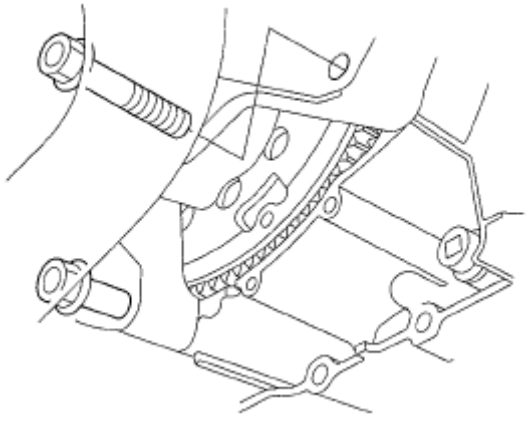


**Fig. 252: Identifying Lower Transmission Housing Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

52. Slide the transmission away from the engine to remove it from the vehicle.
53. Remove the torque converter, the O-ring, and the dowel pins.

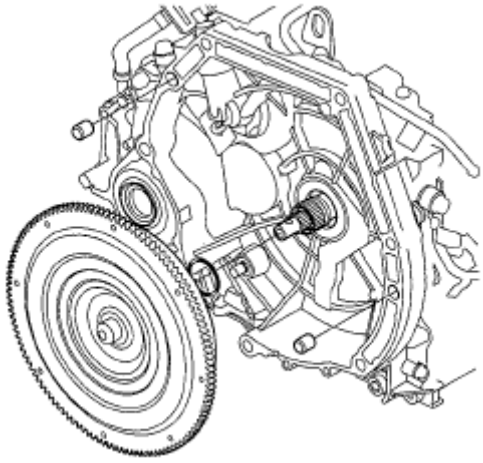


**Fig. 253: Identifying Torque Converter, O-Ring And Dowel Pins**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

54. Inspect the drive plate, and replace it if it is damaged.

**TRANSMISSION INSTALLATION**

## Special Tools Required

- 1.8 support eyelet 07AAK-SNAA400
- 1.8 support bolt 07AAK-SNAA500
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *
- Front subframe adapter VSB02C000016 *

* These special tools are available through the Honda Tool and Equipment Program 1-888-424-6857.

**NOTE: Use fender covers to avoid damaging painted surfaces.**

1. Install the torque converter (A) on the mainshaft (B) with a new O-ring (C).

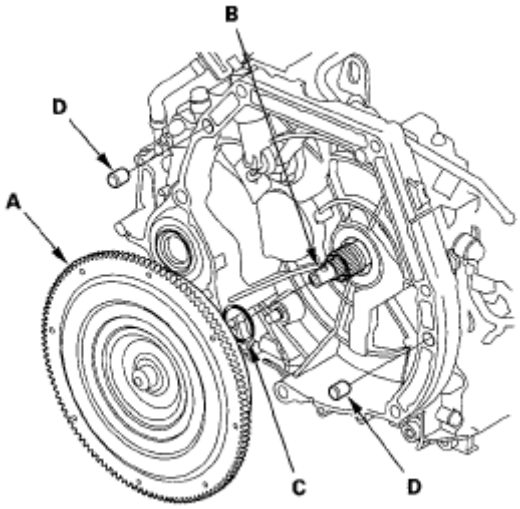



**Fig. 254: Identifying Torque Converter On Mainshaft With O-Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the 14 x 20 mm dowel pins (D) in the torque converter housing.
3. Place the transmission on a jack, and raise the transmission to the engine level.
4. Install the lower transmission housing mounting bolt (A) part-way in the bolt hole on the engine, then attach the transmission to the engine.

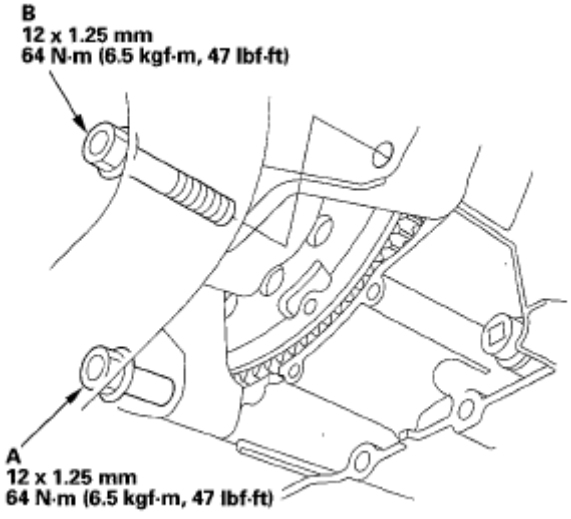



**Fig. 255: Identifying Lower Transmission Housing Mounting Bolt w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the lower transmission housing mounting bolt (B), and tighten the bolts.

6. Install the rear transmission housing mounting bolts.

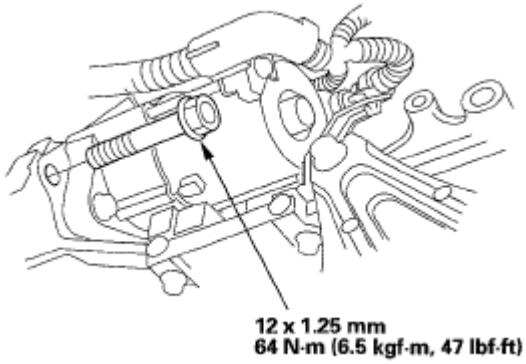



**Fig. 256: Identifying Rear Transmission Housing Mounting Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the front transmission housing mounting bolts.

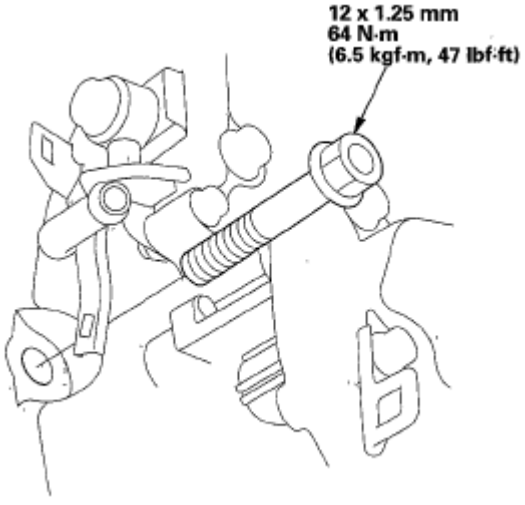



**Fig. 257: Identifying Front Transmission Housing Mounting Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the upper transmission housing mounting bolts.

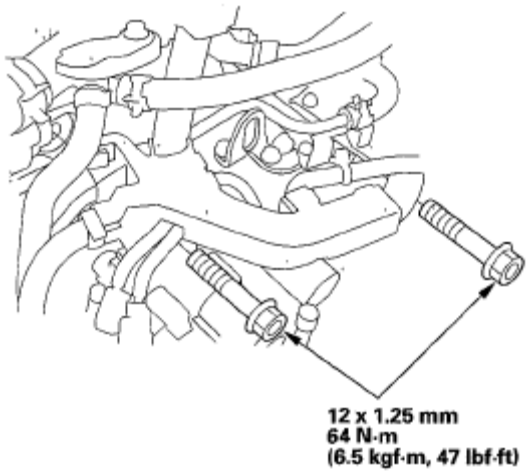



**Fig. 258: Identifying Upper Transmission Housing Mounting Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Secure the transmission mount bracket on the transmission housing with new mounting bolts.

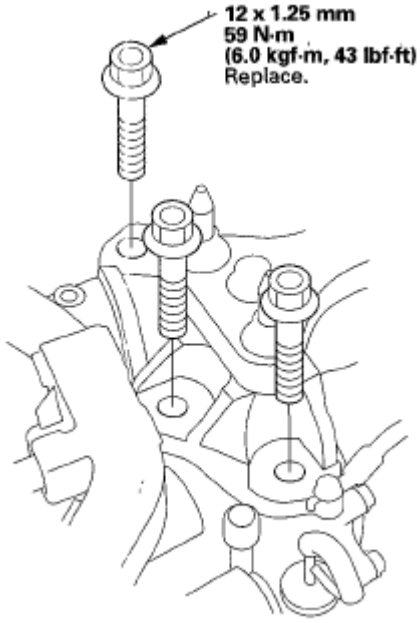



**Fig. 259: Identifying Transmission Mount Bracket & Mounting Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install a new set ring (A) on both driveshafts (B).

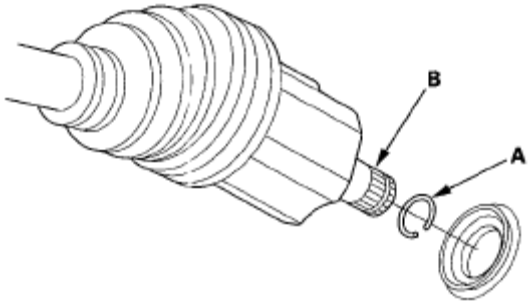



**Fig. 260: Identifying Set Ring On Driveshafts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Clean the areas where the driveshaft contacts the transmission (differential) with solvent, and dry with compressed air. Then install the driveshaft, be sure not to allow dust or other foreign particles to enter the transmission. Turn the steering knuckle fully outward, and slide the driveshaft into the differential until you feel its set ring fully engage the side gear.
12. Attach the torque converter to the drive plate with the eight bolts (A). Rotate the crankshaft pulley as necessary to tighten the bolts to 1/2 of the specified torque, then to the final torque, in a crisscross pattern. After tightening the last bolt, check that the crankshaft rotate freely.

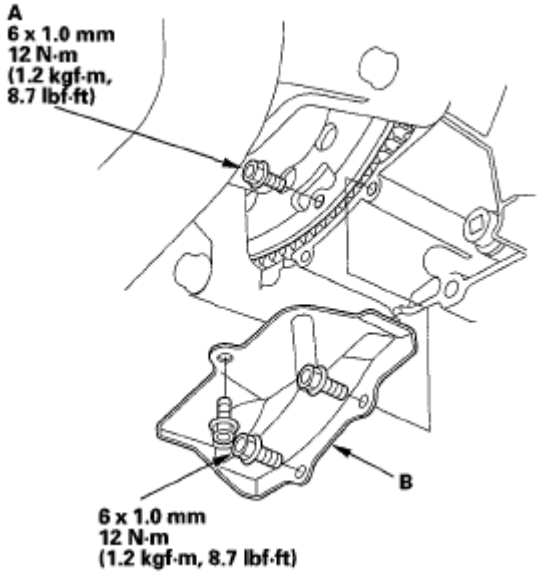



**Fig. 261: Identifying Torque Converter Cover And Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the torque converter cover.
14. Install the shift cable holder bracket.

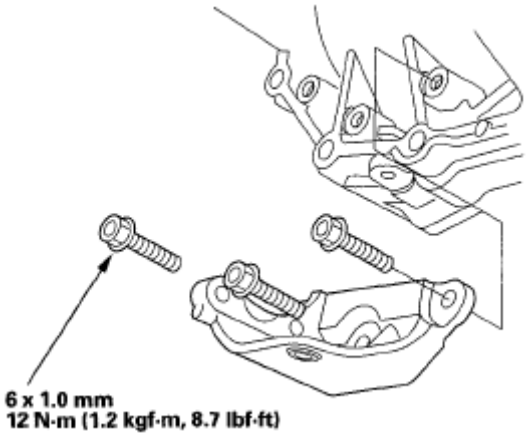



**Fig. 262: Identifying Shift Cable Holder Bracket And Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the control lever (A) over the control shaft (B).

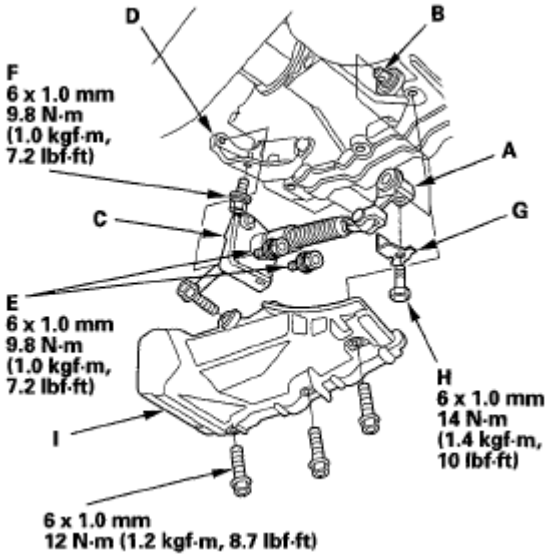



**Fig. 263: Identifying Control Lever, Control Shaft, Shift Cable Holder & Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Install the shift cable holder (C) on the holder bracket (D) with tightening bolts

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loosely. Tighten the bolts (E) in the lateral position to the specified torque, then tighten the bolt (F) in the vertical position.

17. Secure the control lever with a new lock washer (G) and the lock bolt (H), then bend the lock tab of the lock washer against the bolt head.
18. Install the shift cable cover (I).
19. Set the front subframe adapter (VSB02C000016) to the front subframe by looping the strap (A) over the front of the front subframe, then secure the strap with the stop (B), then tighten the wing nut (C).

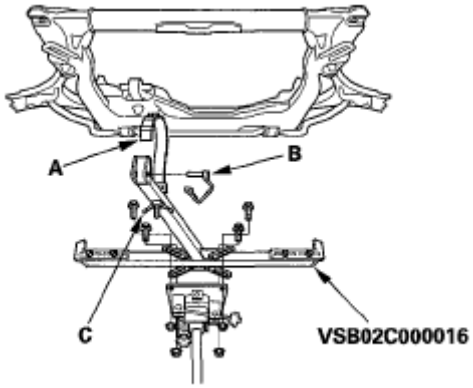



**Fig. 264: Setting Front Subframe Adapter (VSB02C000016) To Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Line up the slots in the arms with the bolt holes on the corner of the jack base, and tighten the bolts, then lift the front subframe up to the body.
21. Loosely install the new front subframe mounting bolts.

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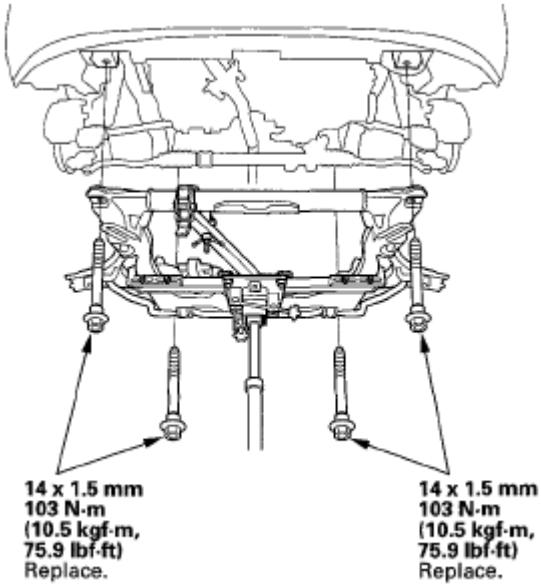



**Fig. 265: Lifting Front Subframe Up To Body, Bolts & Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Align the front subframe reference marks (A) to the body (B), as noted during removal. Tighten the front subframe mounting bolts to the specified torque.

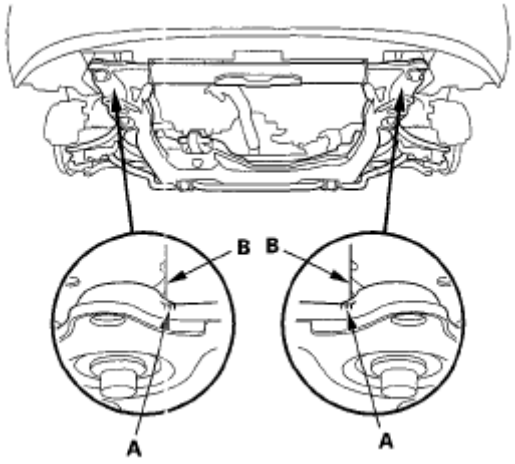



**Fig. 266: Aligning Front Subframe Reference Marks To Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Secure the lower torque rod with new bolts.

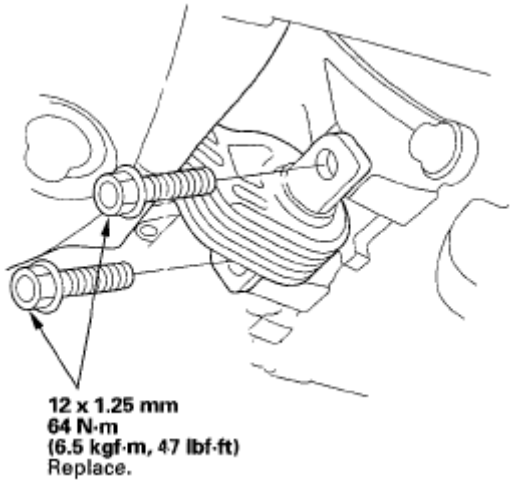



**Fig. 267: Identifying Lower Torque Rod, Bolts & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Remove the engine support hanger, support bolt, and support eyelet from the vehicle.
25. Position the steering gearbox on the gearbox mounting bracket of the front subframe.
26. Install the gearbox stiffener (A) and the bolts, and tighten the bolts loosely.

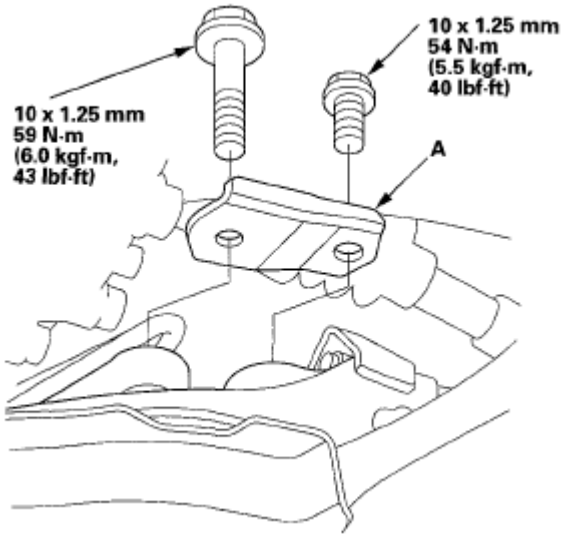



**Fig. 268: Identifying Gearbox Stiffener And Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

27. Install the gearbox stiffener (A) and the bolts, and tighten the bolts loosely.

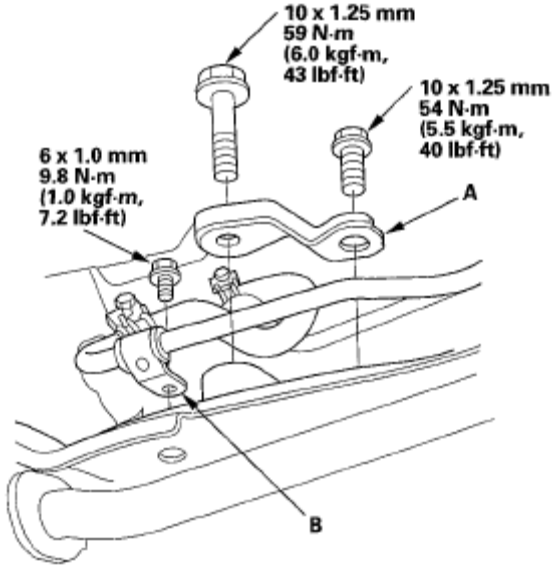



**Fig. 269: Identifying Gearbox Stiffener, Power Steering Fluid Line Clamp Bracket, Bolts & Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Secure the power steering fluid line clamp bracket (B) with the bolt.
29. Align the slit (A) of the gearbox mounting rubber (B) with the rear bracket surface (C), and install the steering gearbox mounting bracket (D) with pointing the arrow (E) up.

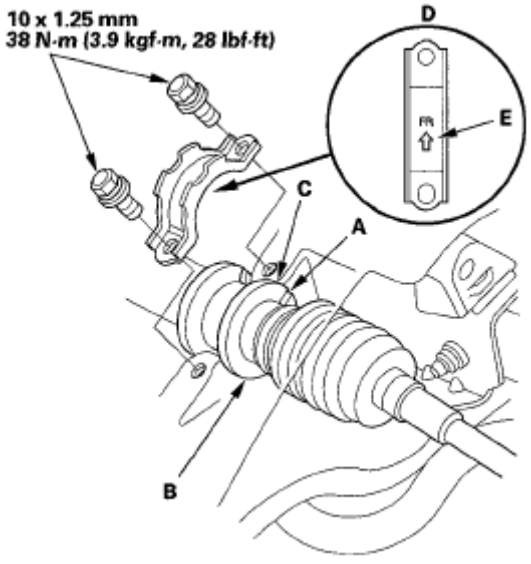



**Fig. 270: Aligning Slit Of Gearbox Mounting Rubber, Rear Bracket**

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**Surface, And Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

30. Tighten the steering gearbox mounting bolts and the stiffener mounting bolts to the specified torque.
31. Secure the power steering fluid line bracket (A) with the bolt, and secure the line (B) with the clamp (C).

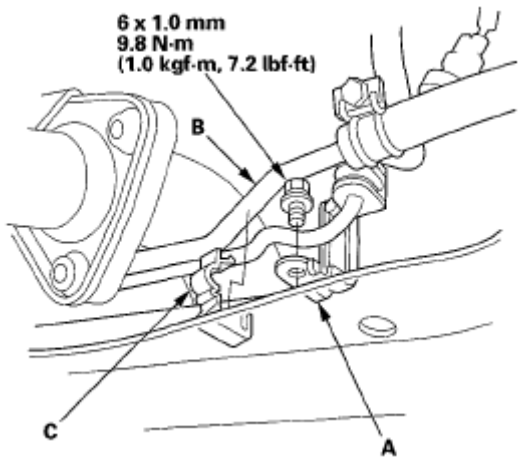



**Fig. 271: Identifying Power Steering Fluid Line Bracket With Line, Clamp, Bolts & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

32. Install both body mount brackets with new bolts.

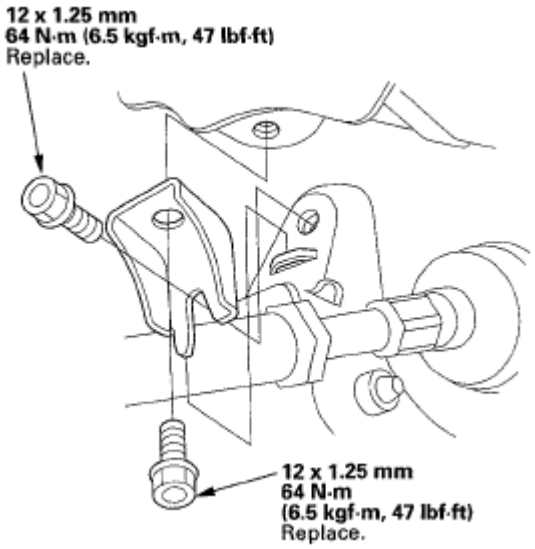


**Fig. 272: Identifying Body Mount Brackets & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Install both of the lower arms (A) to the ball joints (B), and loosely install new mounting nuts and bolts.

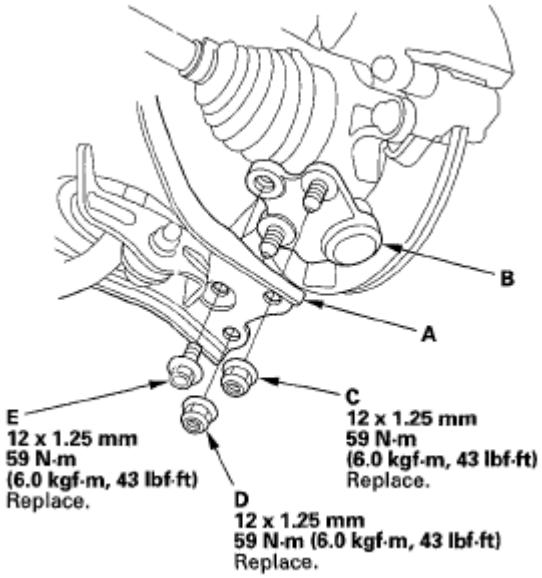



**Fig. 273: Identifying Lower Arms, Ball Joints & Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Tighten the nuts and the bolts to 59 N.m (6.0 kgf.m, 43 lbf.ft) in the following order; (C), (D), then (E).
35. Remove the support bolt and support eyelet from the cylinder head.

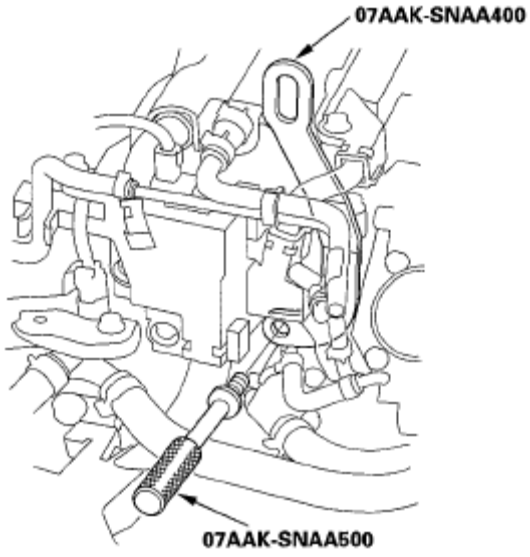



**Fig. 274: Identifying Support Bolt And Support Eyelet**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

36. Install the air cleaner housing mounting bracket (A) on the cylinder head.

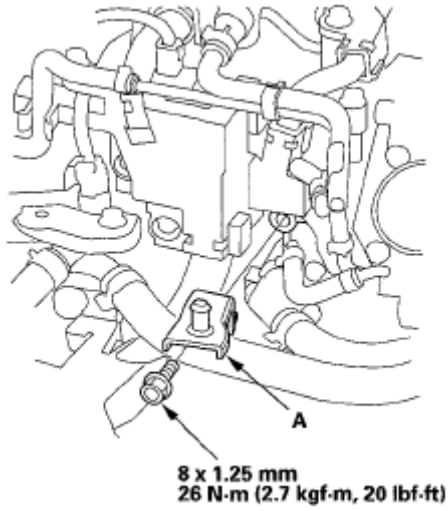



**Fig. 275: Identifying Air Cleaner Housing Mounting Bracket & Bolt w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Connect the shift solenoid harness connector (A) and the 3rd clutch transmission fluid pressure switch connector (B), and install the harness clamps (C) on the clamp brackets (D).

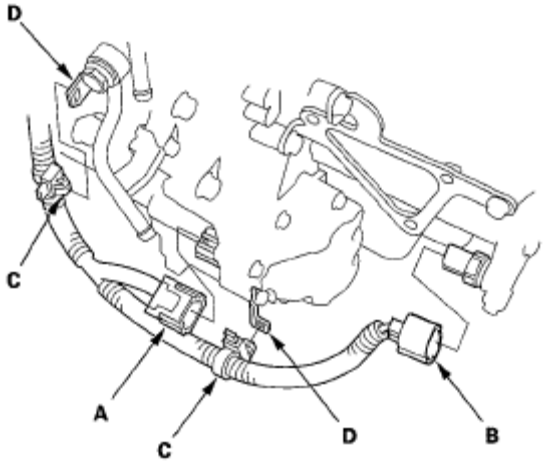



**Fig. 276: Identifying Shift Solenoid Connector, 3rd Clutch Transmission Fluid Pressure Switch Connector, Clamps And Clamp Brackets**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

38. Install the harness clamp (A) in its bracket (B), and install the radiator hose (C) in the clamp (D).

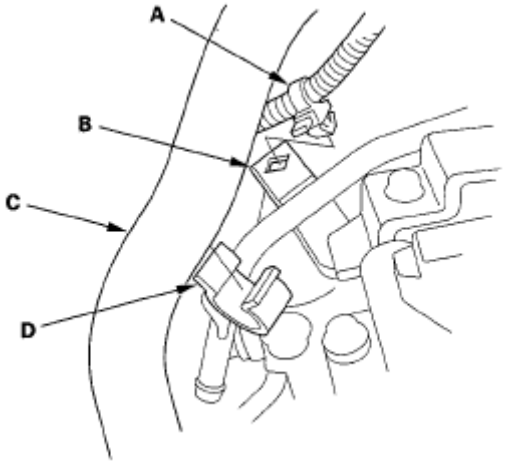



**Fig. 277: Identifying Harness Clamp, Bracket, Radiator Hose And Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

39. Install the ATF warmer (A) on the bracket (B).

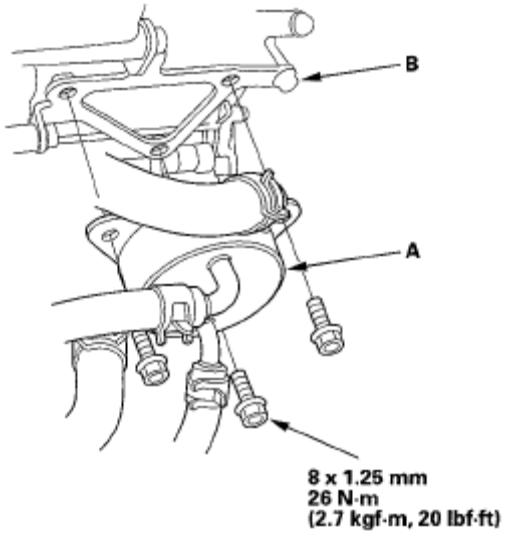



**Fig. 278: Identifying ATF Warmer, Bracket & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

40. Connect the ATF warmer hoses (A) to the ATF lines (B), and secure the hoses with the clips (C) (see **DRIVE PLATE REMOVAL AND INSTALLATION** ).

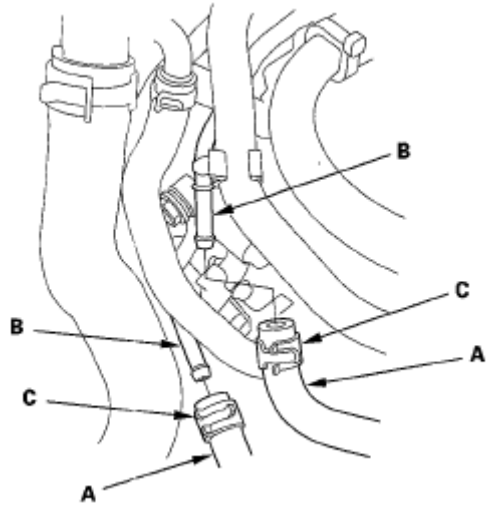



**Fig. 279: Identifying ATF Warmer Hoses, ATF Lines, Hoses And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

41. Connect the input shaft (mainshaft) speed sensor connector (A) and the 2nd clutch transmission fluid pressure switch connector (B).

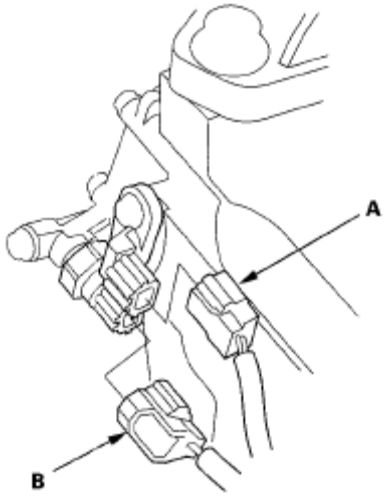



**Fig. 280: Identifying Input Shaft (Mainshaft) Speed Sensor Connector And 2nd Clutch Transmission Fluid Pressure Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Connect the transmission range switch connector (A) and the output shaft (countershaft) speed sensor connector (B), and install the harness clamps (C) on the brackets (D).

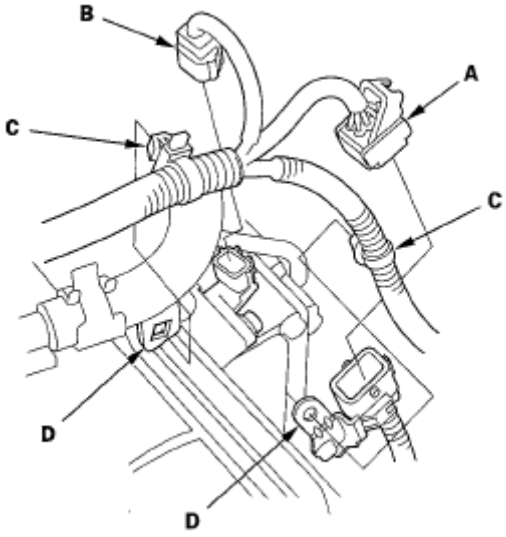



**Fig. 281: Identifying Transmission Range Switch Connector And Output Shaft (Countershaft) Speed Sensor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

43. Install the air cleaner housing mounting bracket (A), and install the harness

clamp (B) on its bracket (C).

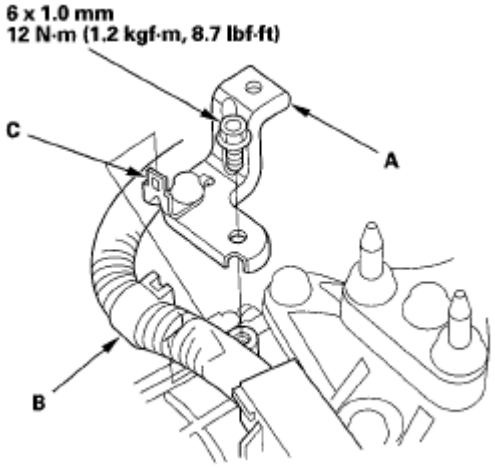



**Fig. 282: Identifying Air Cleaner Housing Mounting Bracket w/Torque Specification And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

44. Connect the A/T clutch pressure control solenoid valve A connector (A), the A/T clutch pressure control solenoid valve B connector (B), and the A/T clutch pressure control solenoid valve C connector (C).

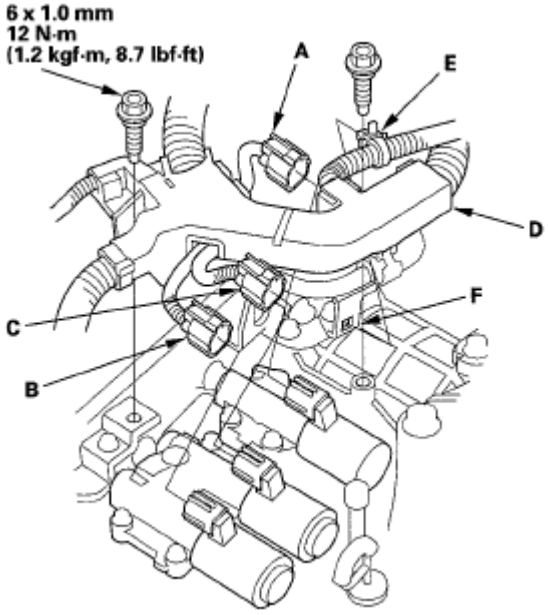



**Fig. 283: Identifying A/T Clutch Pressure Control Solenoid Valve A Connector And A/T Clutch Pressure Control Solenoid Valve B Connector**

**w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Secure the harness cover (D) with the mounting bolts, and install the harness clamp (E) on its bracket (F).
46. Loosen the upper torque rod bolt (A).

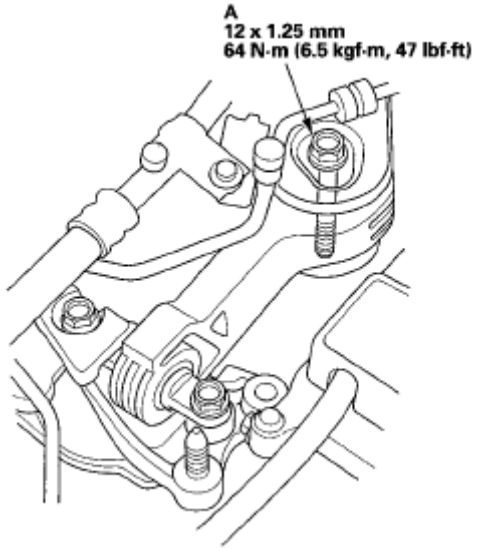



**Fig. 284: Identifying Upper Torque Rod Bolt w/Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

47. Loosen the transmission mounting bolt (A) and the nuts (B).

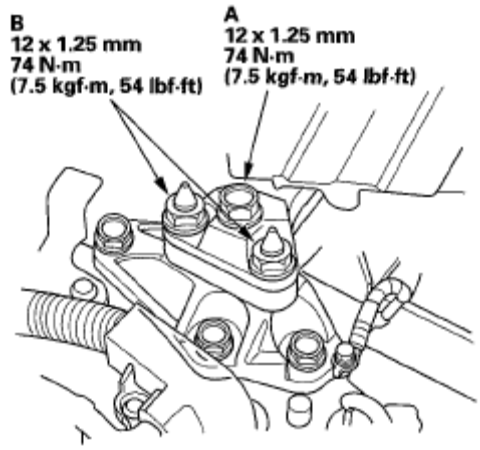



**Fig. 285: Identifying Transmission Mounting Bolt, Nuts & Torque Specification**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

48. Loosen the lower torque rod bolt (A).

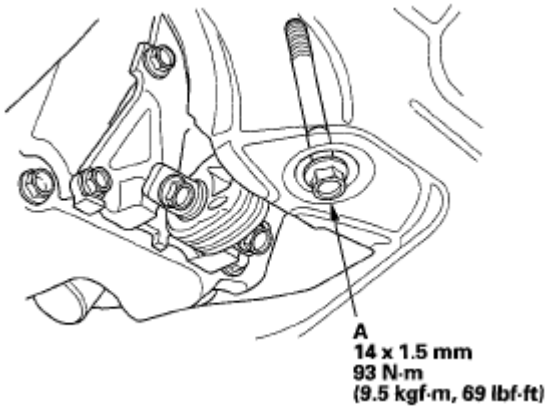



**Fig. 286: Identifying Lower Torque Rod Bolt w/Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

49. Tighten the lower torque rod bolt.
50. Tighten the transmission mounting bolt and the nuts.
51. Tighten the upper torque rod bolt.
52. Refill the transmission with ATF (see step 5 ).
53. Install the battery base and the resonator.
54. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
55. Install the grille cover (see **FRONT GRILLE COVER REPLACEMENT** ).
56. Install the under-cowl panel and the cowl cover (see **COWL COVER REPLACEMENT** ).
57. Install the battery tray and the battery, then secure the battery with its hold-down bracket.
58. Install the wheels.
59. Reconnect the positive cable to the battery, then connect the negative cable.
60. Set the parking brake. Start the engine, and shift the transmission through all positions three times.
61. Check the shift lever operation, the A/T gear position indicator operation, and

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the shift cable adjustment.

62. Check and adjust the front wheel alignment (see **WHEEL ALIGNMENT** ).
63. Install the splash shield.
64. Start the engine in P or N, and warm it up to normal operating temperature (the radiator fan comes on). Turn off the engine, and check the ATF level (see **ATF LEVEL CHECK** ).
65. Enter the anti-theft code for the audio system or the navigation system (if equipped), then enter the audio presets. Set the clock (on vehicles without navigation).
66. Do the road test (see **ROAD TEST** ).

**DRIVE PLATE REMOVAL AND INSTALLATION**

1. Remove the transmission assembly (see **TRANSMISSION REMOVAL** ).
2. Remove the drive plate (A) and the washer (B) from the engine.

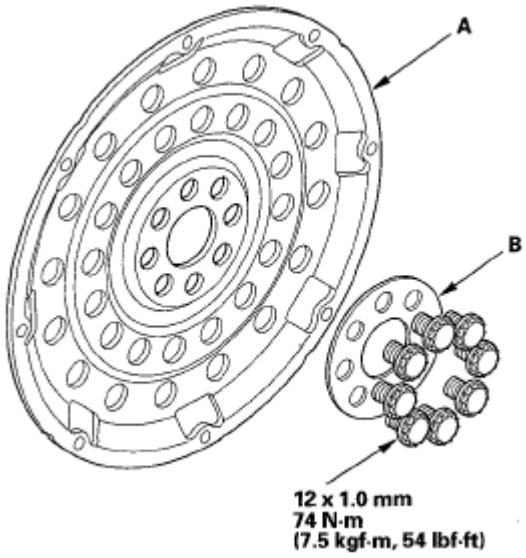



**Fig. 287: Identifying Drive Plate, Washer & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the drive plate and the washer on the engine crankshaft, and tighten the eight bolts in a crisscross pattern in two or more steps.
4. Install the transmission assembly (see **TRANSMISSION INSTALLATION** ).

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**ATF WARMER HOSE REPLACEMENT**

1. Slide the ATF warmer hoses (A) on the ATF filter (B) until the hose ends contact the filter housing, and secure the hoses with the clips (C) at 6-8 mm (0.24-0.31 in.) (D) from the filter housing.

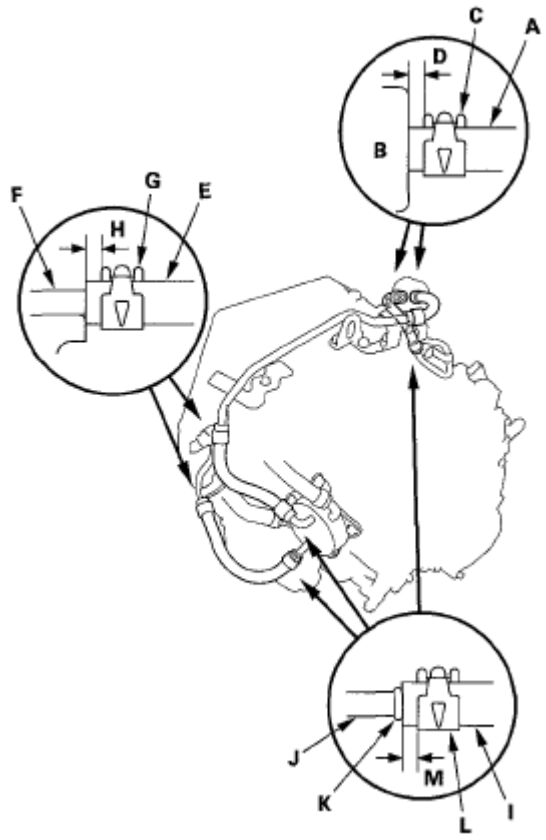



**Fig. 288: Identifying ATF Warmer Hoses And ATF Filter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Slide the ATF warmer hoses (E) over the ATF lines (F) until the hoses stop, and secure the hoses with the clip (G) at 6-8 mm (0.24-0.31 in.) (H) from the hose end.
3. Slide the ATF warmer hoses (I) over the ATF warmer lines (J) until the hose ends contact the bulge (K), and secure the hoses with the clip (L) at 6-8 mm (0.24-0.31 in.) (M) from the hose end.

**ATF WARMER REPLACEMENT**

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1. Remove the splash shield.
2. Drain the engine coolant (see **COOLANT REPLACEMENT** ).
3. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped), then write down the audio presets.
4. Disconnect the negative cable from the battery, then disconnect the positive cable.
5. Remove the battery hold-down bracket, and remove the battery and the battery tray.
6. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
7. Remove the battery base and the resonator.
8. Disconnect the water by-pass hoses (A) and the ATF warmer hoses (B) from the ATF warmer (C), and turn the hose ends up to prevent fluid from flowing out.

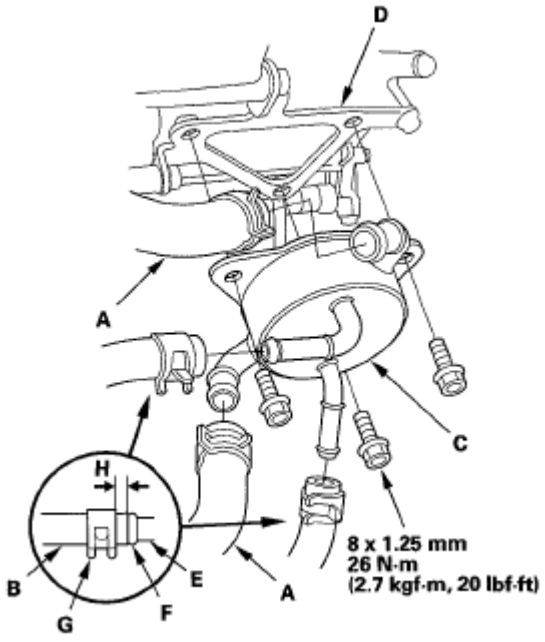



**Fig. 289: Identifying Water By-Pass Hoses, ATF Warmer Hoses & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the ATF warmer, and replace it with new one.

10. Install a new ATF warmer on its bracket (D).
11. Slide the water by-pass hoses to the ATF warmer, and secure the hoses with the clips.
12. Slide the ATF warmer hoses over the ATF warmer lines (E) until the hose ends contact the bulge (F), and secure the hoses with the clip (G) at 6-8 mm (0.24-0.31 in.) (H) from the hose end.
13. Install the battery base and the resonator.
14. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
15. Install the battery tray and the battery, then secure the battery with its hold-down bracket.
16. Reconnect the positive cable to the battery, then connect the negative cable.
17. Install the splash shield.
18. Check the ATF level, and add ATF to proper level if necessary (see **ATF LEVEL CHECK** ).
19. Fill the engine cooling system with recommended coolant (see step 9 on **COOLANT REPLACEMENT** ).
20. Start the engine in P or N, and warm it up to normal operating temperature (the radiator fan comes on). Turn off the engine, and recheck the ATF level (see **ATF LEVEL CHECK** ).
21. Enter the anti-theft code for the audio system or the navigation system (if equipped), then enter the audio presets. Set the clock (on vehicles without navigation).

**ATF FILTER REPLACEMENT**

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.
2. Disconnect the ATF warmer hose (A) from the ATF filter (B).

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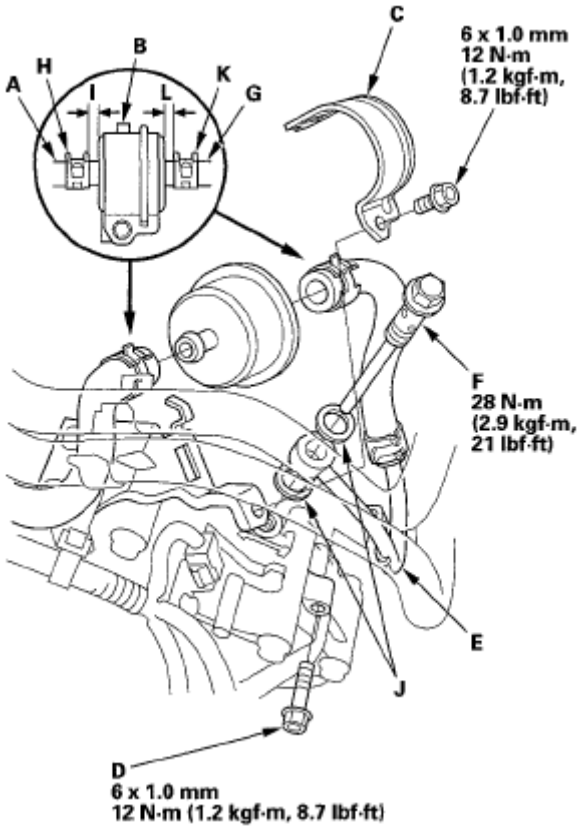



**Fig. 290: Identifying ATF Warmer Hose, ATF Filter & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ATF filter holder (C).
4. Remove the bolt (D) securing the ATF inlet line (E).
5. Remove the joint bolt (F) from the ATF inlet line.
6. Disconnect the ATF filter from the ATF warmer hose (G), and replace it with new one.
7. Slide the ATF warmer hose (A) on the new ATF filter until the hose end contacts the filter housing, and secure the hose with the clip (H) at 6-8 mm (0.24-0.31 in.) (I) from the filter housing.
8. Install the ATF filter and the ATF inlet line/hose with the joint bolt and new sealing washers (J).
9. Secure the ATF filter with the ATF filter holder and the bolt.
10. Slide the ATF warmer hose (G) on the ATF filter until the hose end contacts

the filter housing, and secure the hose with the clip (K) at 6-8 mm (0.24-0.31 in.) (L) from the filter housing.

11. Install the intake air duct and the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).

**SHIFT LEVER REMOVAL**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Shift the shift lever into R.
3. Pry the socket holder lock (A) up using a screwdriver.

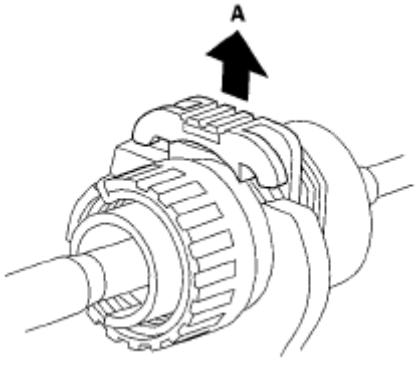



**Fig. 291: Prying Socket Holder Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the nut securing the shift cable end.

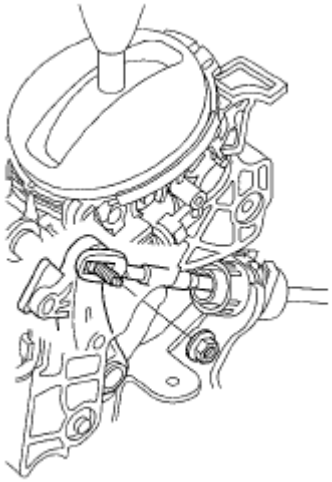


**Fig. 292: Identifying Shift Cable Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Rotate the socket holder retainer (A) counterclockwise, push it against the socket holder bracket (B), then slide the socket holder to remove the shift cable (C) from the bracket.

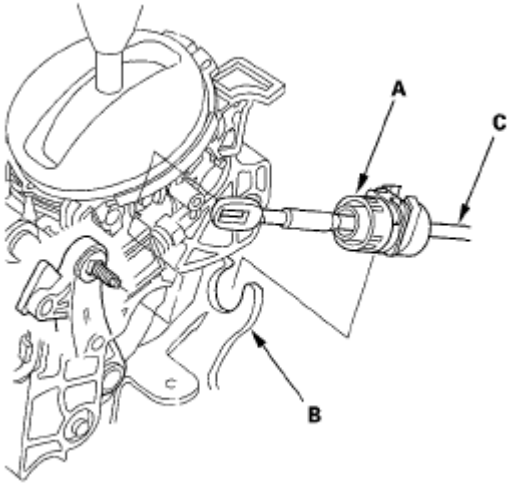



**Fig. 293: Identifying Socket Holder Retainer, Socket Holder Bracket And Shift Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Disconnect the shift lock solenoid connector (A) and the park pin switch/A/T gear position indicator panel light connector (B).

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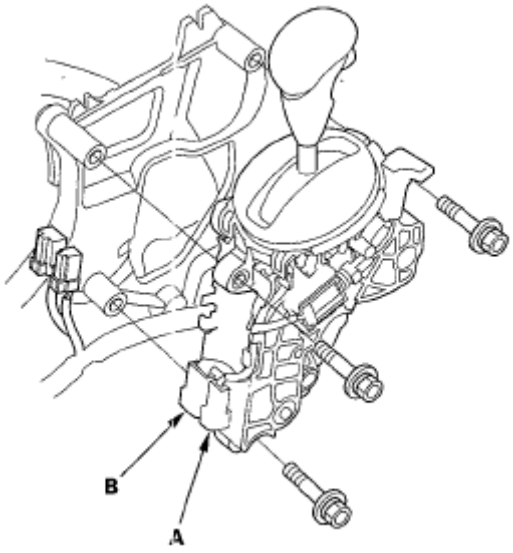



**Fig. 294: Identifying Shift Lock Solenoid Connector And Park Pin Switch/A/T Gear Position Indicator Panel Light Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the shift lever assembly.

**SHIFT LEVER INSTALLATION**

1. Install the shift lever assembly.

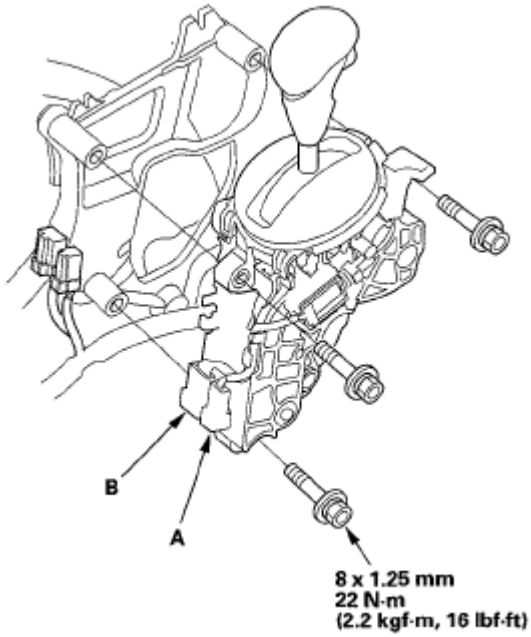


**Fig. 295: Identifying Shift Lock Solenoid Connector, Park Pin Switch/A/T Gear Position Indicator Panel Light Connector & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the shift lock solenoid connector (A) and the park pin switch/A/T gear position indicator panel light connector (B).
3. Install the shift cable on the shift lever, and adjust the cable (see **SHIFT CABLE ADJUSTMENT** ).

**SHIFT LEVER DISASSEMBLY/REASSEMBLY**

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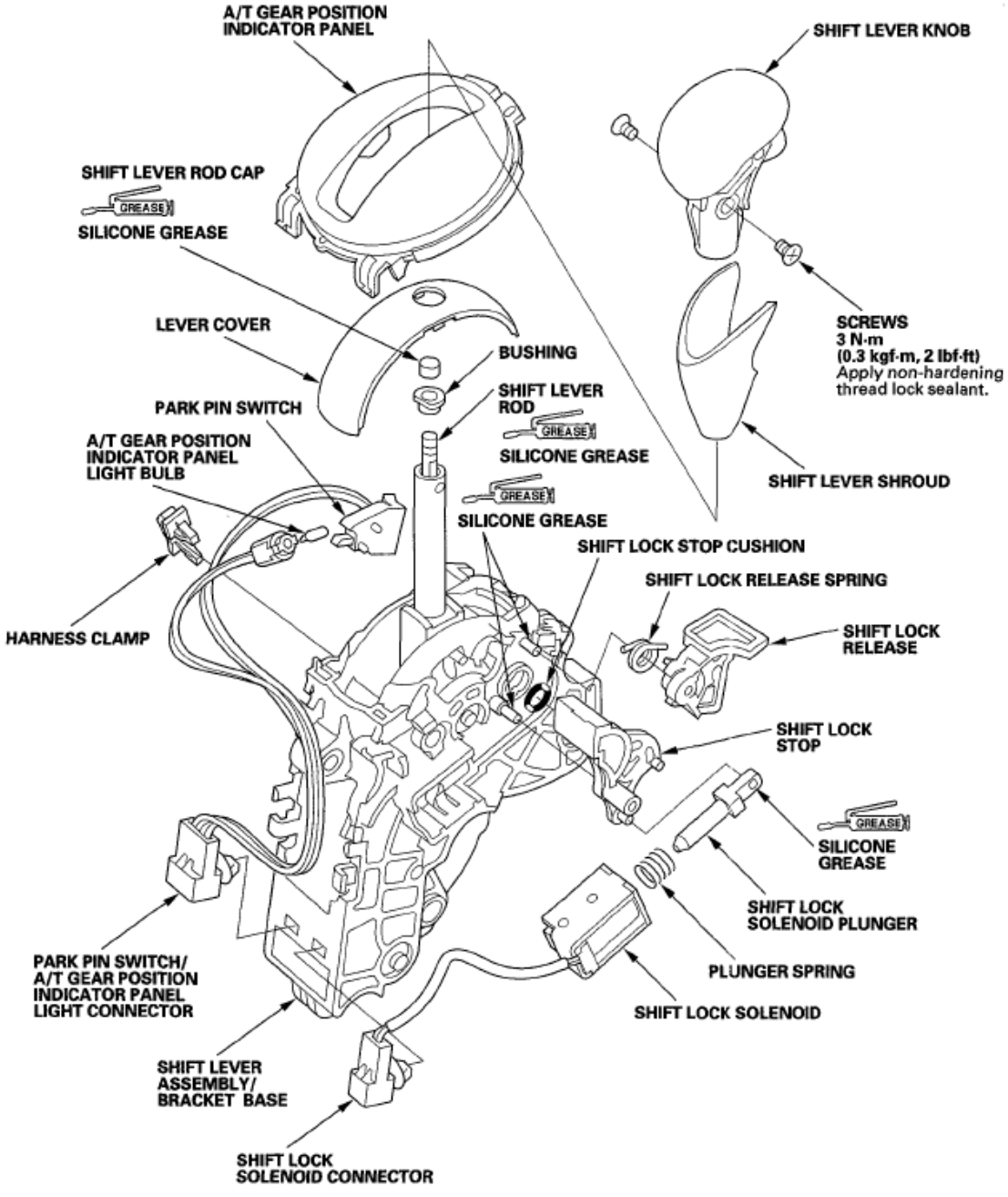



**Fig. 296: Disassembling Shift Lever & Screws w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### SHIFT CABLE REPLACEMENT

1. Raise the vehicle on a lift or apply the parking brake, block rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Remove the center console (see **CENTER CONSOLE**

**REMOVAL/INSTALLATION** ).

3. Pry the socket holder lock (A) up using a screwdriver.

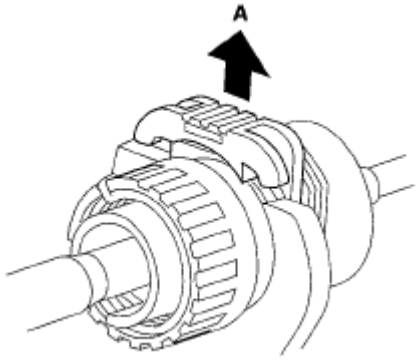



**Fig. 297: Prying Socket Holder Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the nut securing the shift cable end.

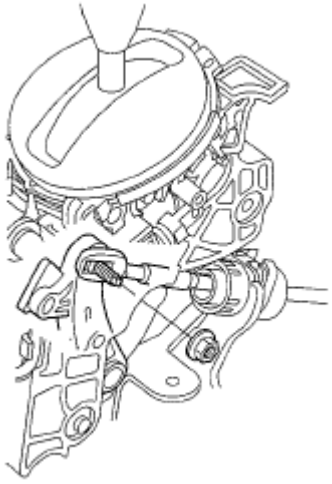


**Fig. 298: Identifying Shift Cable Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Rotate the socket holder retainer (A) counterclockwise, push it against the socket holder bracket (B), then slide the socket holder to remove the shift cable (C) from the bracket.

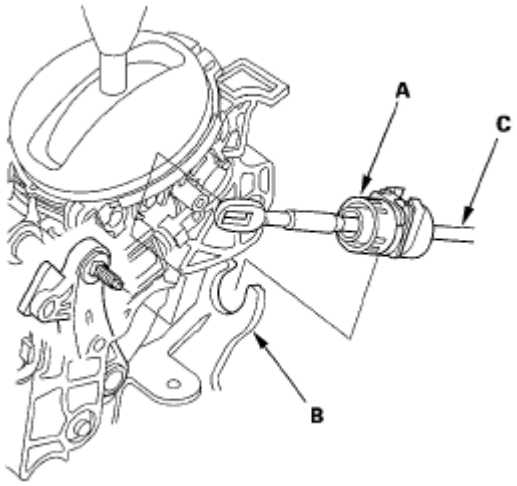



**Fig. 299: Identifying Socket Holder Retainer, Socket Holder Bracket And Shift Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the shift cable cover (A), and remove the three bolts securing the shift cable holder (B).

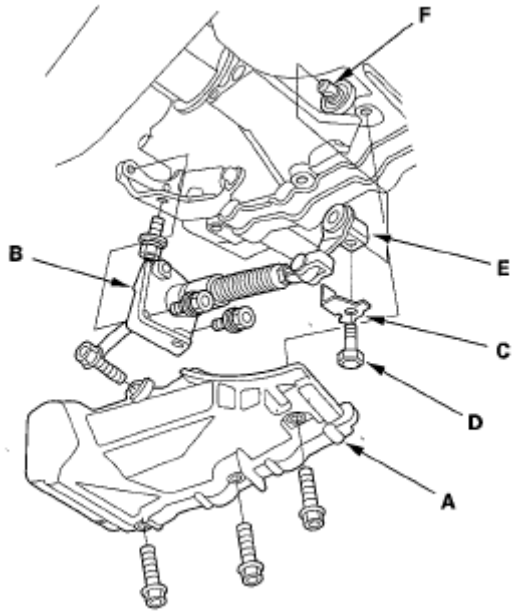



**Fig. 300: Identifying Shift Cable Cover And Shift Cable Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Pry up the lock tab of the lock washer (C), and remove the lock bolt (D) and the lock washer, then separate the shift cable (E) from the control shaft (F).

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8. Remove the nuts securing the shift cable bracket (A) and the grommet (B).

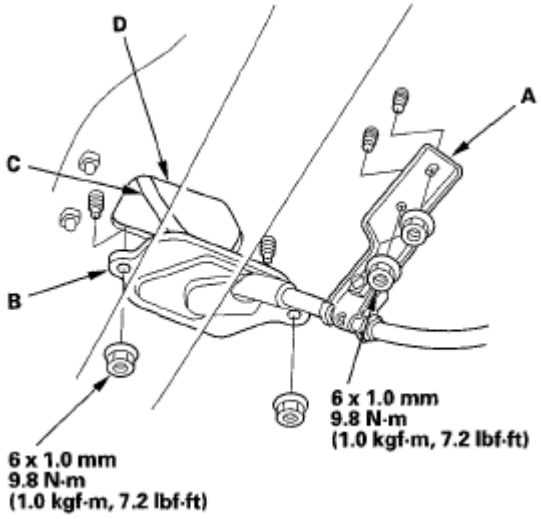



**Fig. 301: Identifying Shift Cable Bracket, Grommet & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the shift cable grommet, and pull out the shift cable (C).
10. Insert a new shift cable through the grommet hole (D), and install the grommet in its hole. Do not bend the shift cable excessively.
11. Secure the shift cable bracket and the grommet with the nuts.
12. Make sure that the transmission is in the R position at the selector control shaft.
13. Install the control lever (A) over the control shaft (B).

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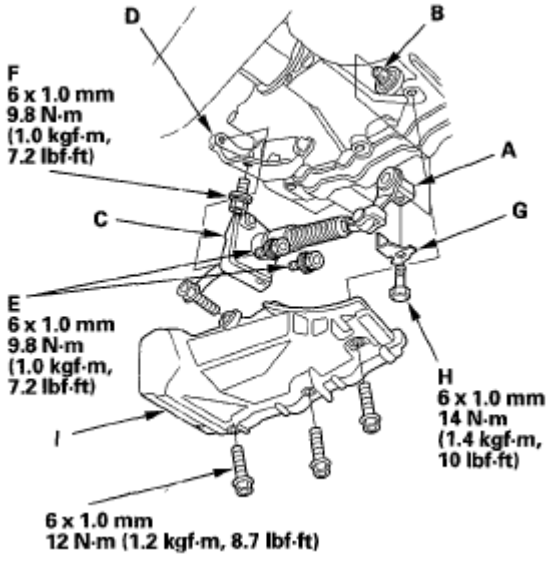



**Fig. 302: Identifying Control Lever, Control Shaft, Shift Cable Holder & Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the shift cable holder (C) on the holder bracket (D) and tighten the bolts loosely. Tighten the bolts (E) in the lateral position to the specified torque, then tighten the bolt (F) in the vertical position.
15. Secure the control lever with a new lock washer (G) and the lock bolt (H), then bend the lock tab of the lock washer against the bolt head.
16. Install the shift cable cover (I).
17. Install the shift cable on the shift lever, and adjust the cable (see step 5 ).

**SHIFT CABLE ADJUSTMENT**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Pry the socket holder lock (A) up with a screwdriver.

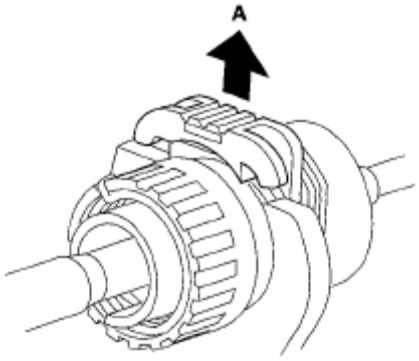



**Fig. 303: Prying Socket Holder Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the nut securing the shift cable end.

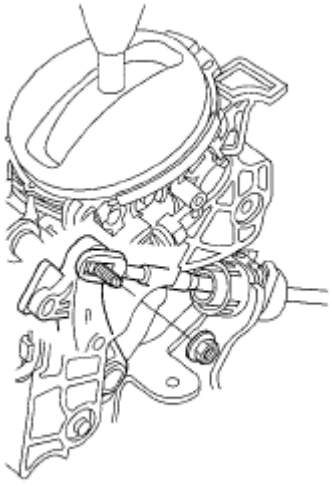


**Fig. 304: Identifying Shift Cable Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Rotate the socket holder retainer (A) counterclockwise, push it against the socket holder bracket (B), then slide the socket holder to remove the shift cable (C) from the bracket.

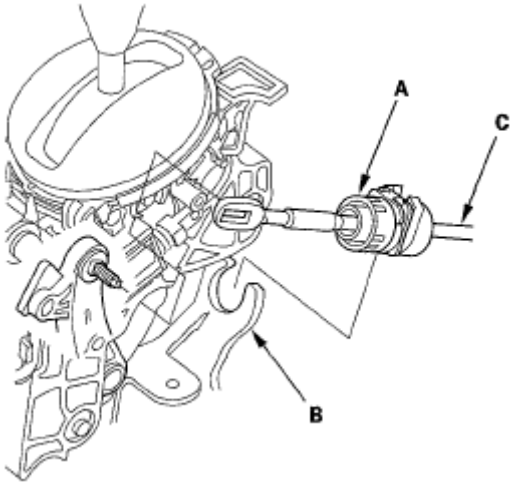



**Fig. 305: Identifying Socket Holder Retainer And Socket Holder Bracket With Shift Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. While holding the socket holder (A), rotate the socket holder retainer (B) fully counterclockwise, and press in the socket holder lock (C) between the holder and retainer.

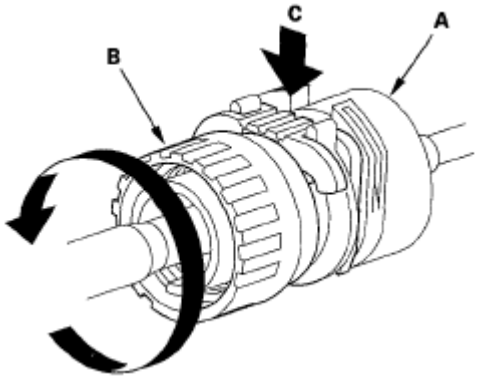



**Fig. 306: Pressing Socket Holder Lock Between Holder And Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Align the socket holder (A) with the slot (B) in the socket holder bracket (C), then slide the holder into the bracket.

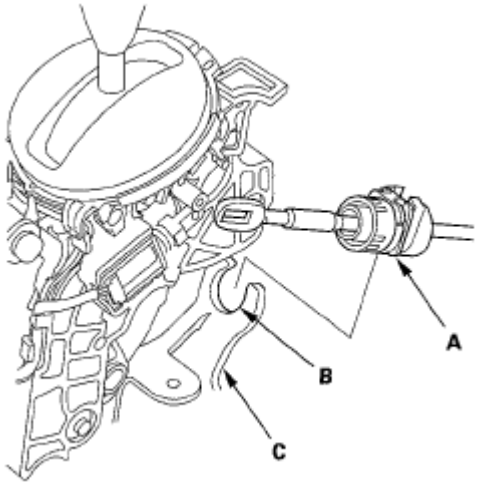



**Fig. 307: Identifying Socket Holder And Socket Holder Bracket With Slot**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Rotate the socket holder retainer (A) clockwise, and push the socket holder lock (B). Rotate the holder retainer counterclockwise until the retainer stops at the stop (C) of the holder lock to secure the shift cable.

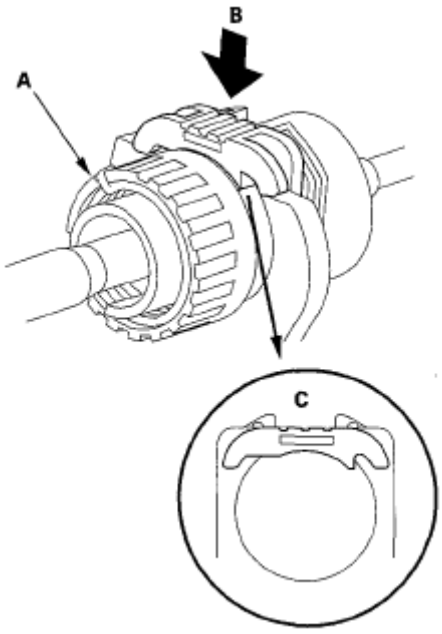



**Fig. 308: Pushing Socket Holder Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Push the shift cable (A) until it stops, then release it. Pull the shift cable back

one step so that the shift position is in R. Do not hold the shift cable guide (B) to adjust the shift cable.

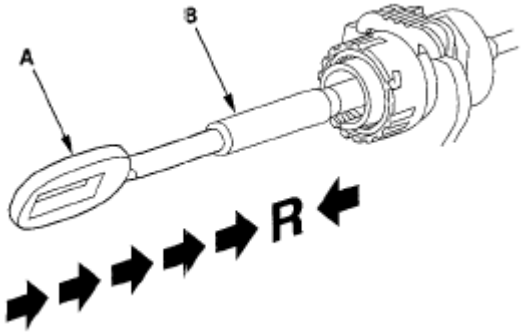



**Fig. 309: Pushing Shift Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Turn the ignition switch to ON (II), and check that the R indicator comes on.

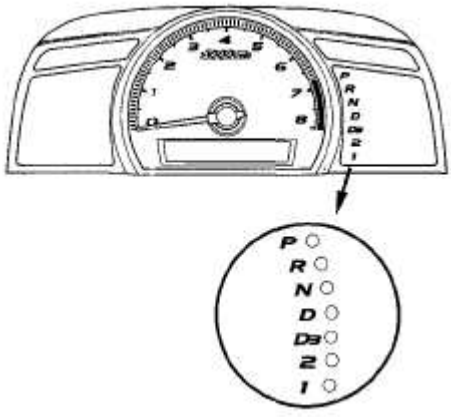



**Fig. 310: Identifying R Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Turn the ignition switch to LOCK (0).
11. Place the shift lever in R, then insert a 6.0 mm (0.24 in.) pin (A) into the positioning hole (B) on the shift lever bracket, through the positioning hole on the shift lever, and into the positioning hole on the bracket. Use only a 6.0 mm pin that is free any burns.

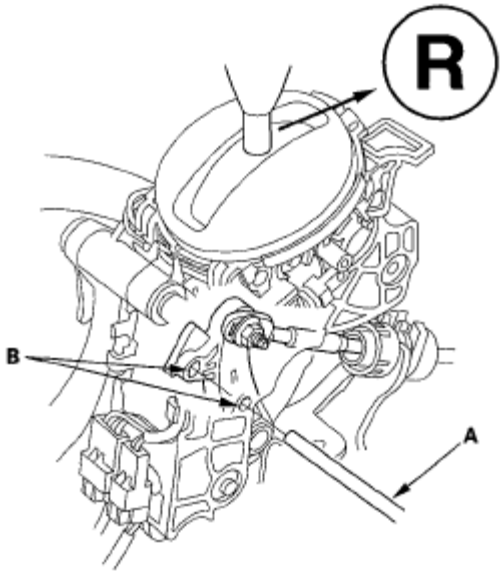



**Fig. 311: Inserting Pin Into Hole On Shift Lever Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Check that the shift lever is secured in R.
13. Install the shift cable end (A) over the mounting stud (B) by aligning its square hole (C) with the square fitting (D) at the bottom of the stud. Do not install the shift cable by holding the shift cable guide (E).

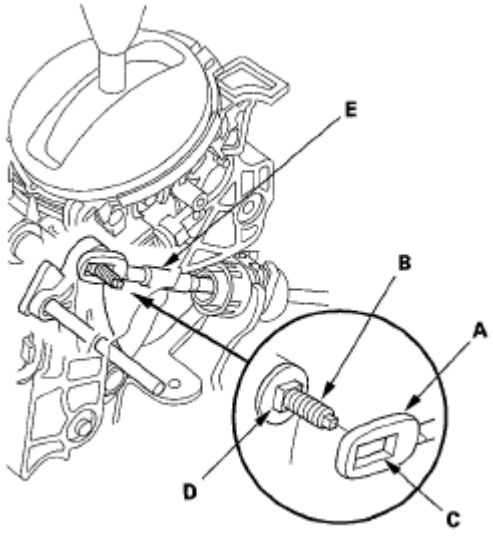



**Fig. 312: Aligning Square Hole With Square Fitting**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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14. Check that the shift cable end (A) is properly installed on the mounting stud (B).

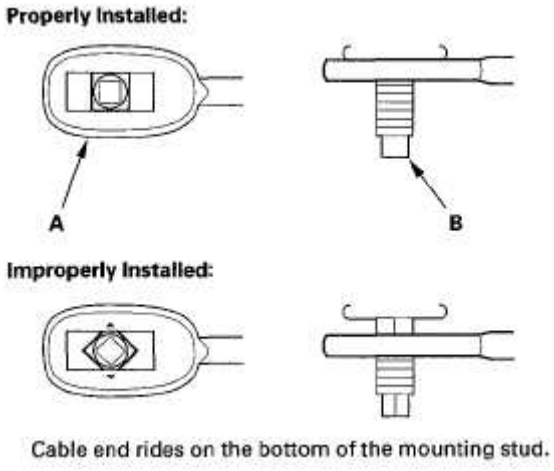



**Fig. 313: Identifying Shift Cable Properly And Improperly Installation Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. If improperly installed, align the square fitting with the square hole by rotating the mounting stud.
16. Install and tighten the nut.

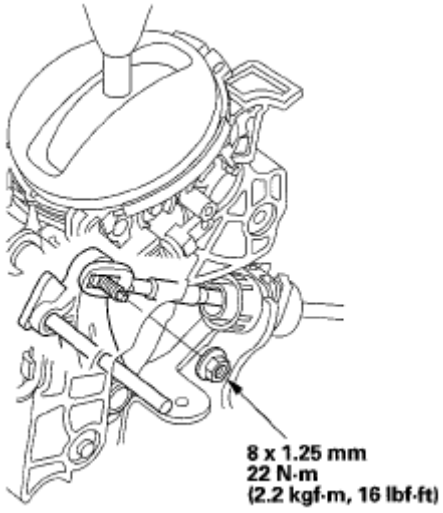



**Fig. 314: Identifying Shift Cable Nuts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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17. Remove the 6.0 mm (0.24 in.) pin that was installed to hold the shift lever.
18. Turn the ignition switch to ON (II). Move the shift lever to each position, and check that the A/T gear position indicator follows the transmission range switch.
19. Shift to P, and check that the shift lock works properly. Push the shift lock release, and check that the shift lever releases.
20. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

## A/T GEAR POSITION INDICATOR

### COMPONENT LOCATION INDEX

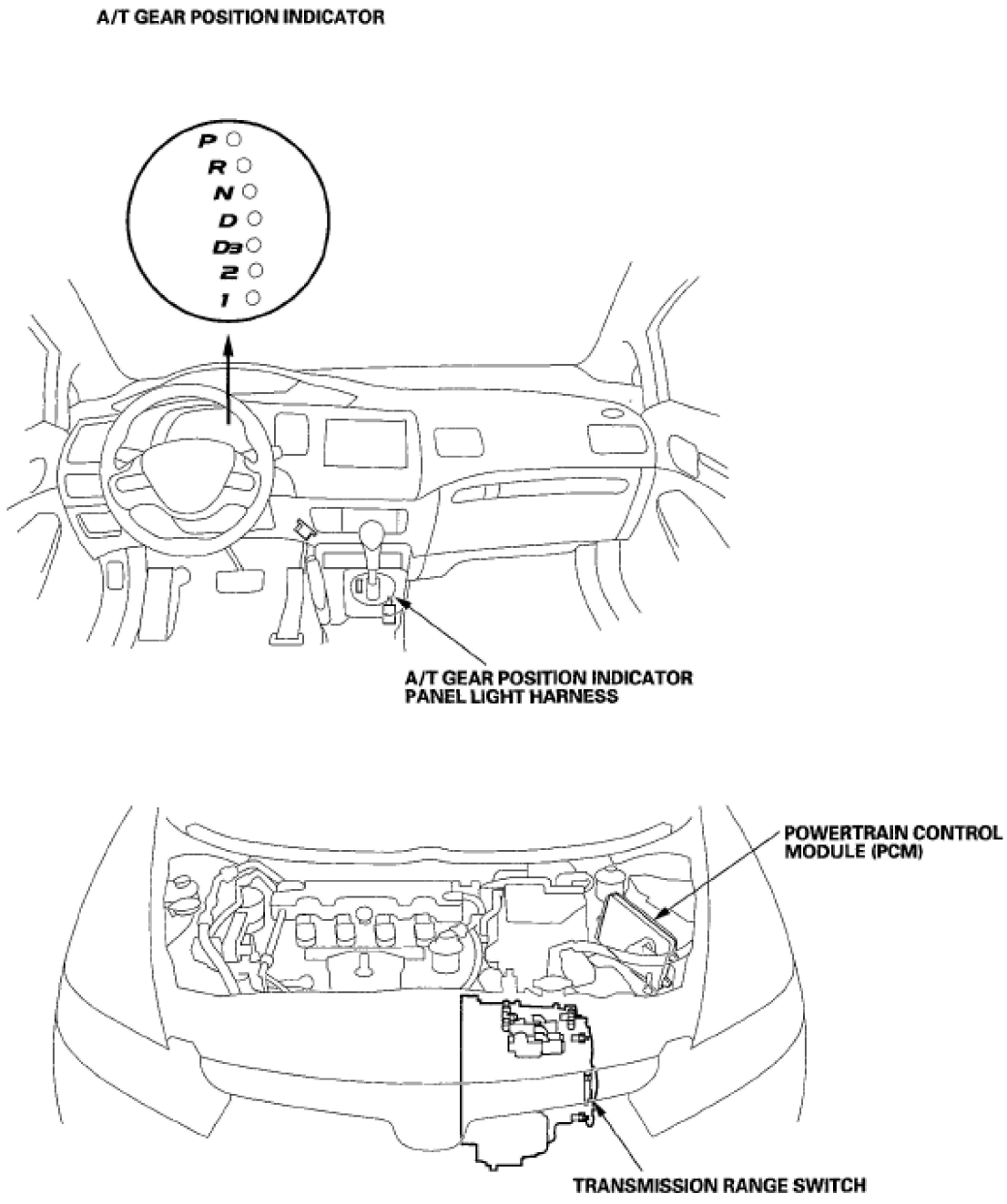
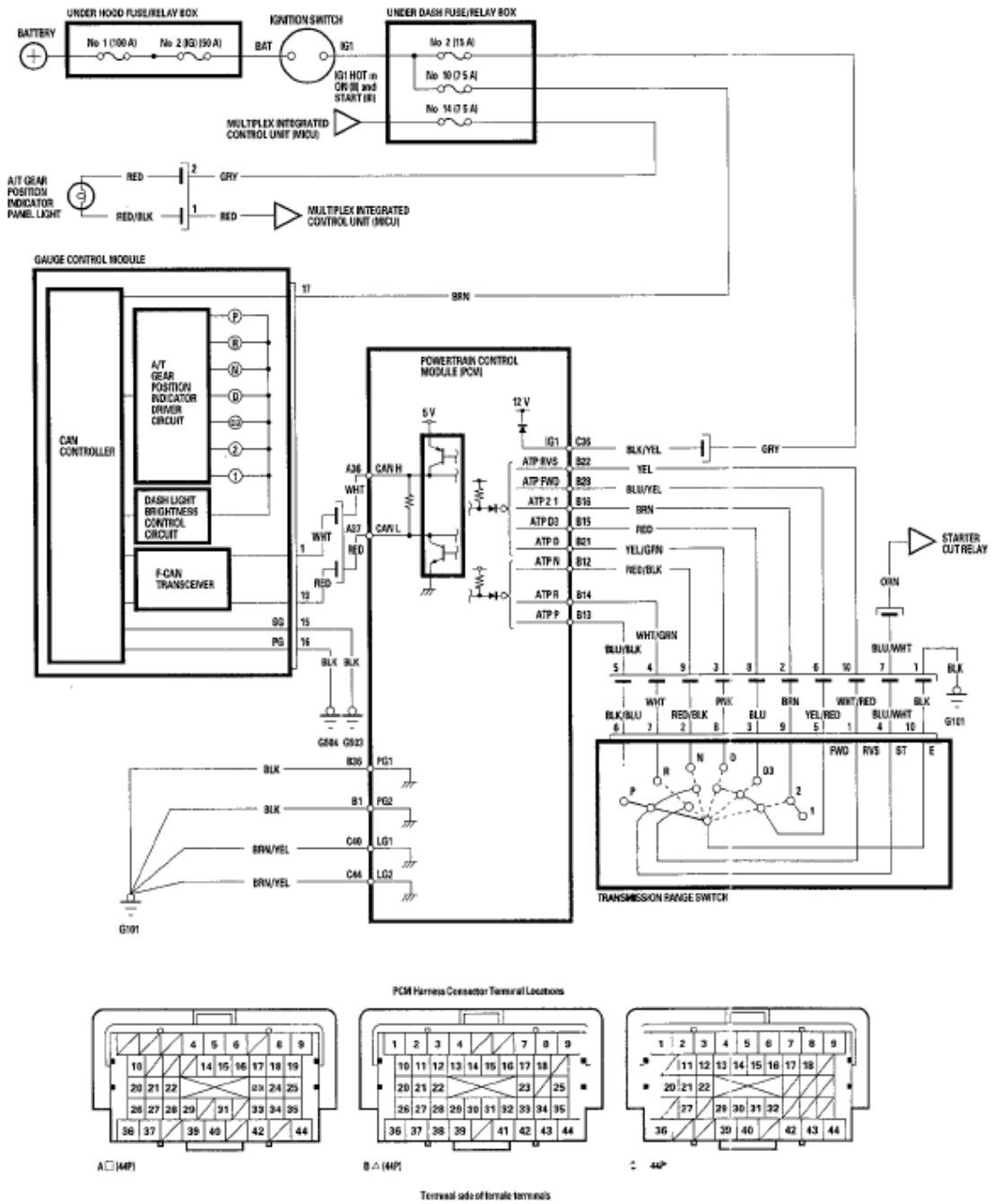



**Fig. 315: Identifying A/T Gear Position Indicator Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CIRCUIT DIAGRAM**

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## Fig. 316: A/T Gear Position Indicator - Circuit Diagram
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

### TRANSMISSION RANGE SWITCH TEST

1. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) and the intake air duct.

2. Disconnect the transmission range switch harness connector (A).

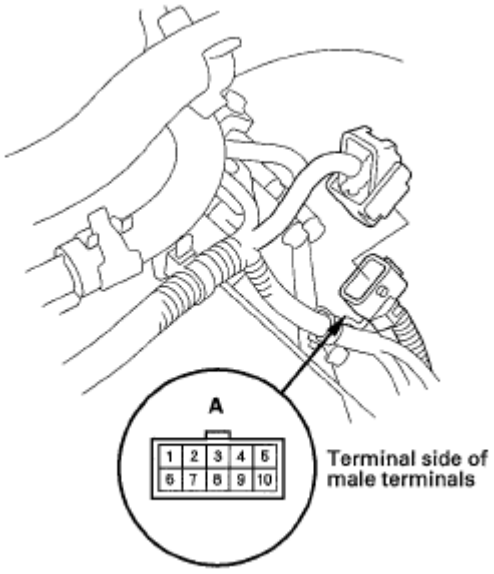



**Fig. 317: Identifying Transmission Range Switch Harness Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between terminals at the harness connector. There should be continuity between the terminals in the following table for each switch position.

**Transmission Range Switch Harness Connector**

| Position | Connector Terminal/Signal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | GND | ATP 2-1 | D | R | P | ATP FWD | ATP NP | D3 | N | ATP RVS |
| P | ○ | | | | ○ | | ○ | | | |
| R | ○ | | | ○ | | | | | | ○ |
| N | ○ | | | | | | ○ | | ○ | |
| D | ○ | | ○ | | | ○ | | | | |
| D3 | ○ | | | | | ○ | | ○ | | |
| 2 | ○ | ○ | | | | ○ | | | | |
| 1 | ○ | ○ | | | | | | | | |

**Fig. 318: Transmission Range Switch Harness Connector Continuity Chart**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Transmission range switch test is completed if the test results are OK.

   If there is no continuity between any terminals, go to step 5.

5. Raise the vehicle on a lift, or apply the parking brake, block the rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
6. Remove the transmission range switch cover.

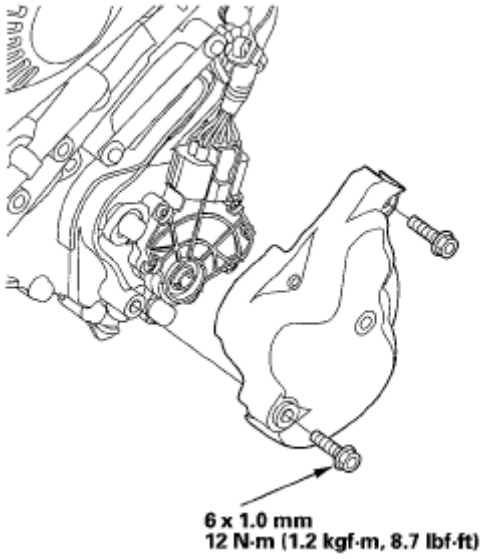



**Fig. 319: Identifying Transmission Range Switch Cover & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the transmission range switch connector.

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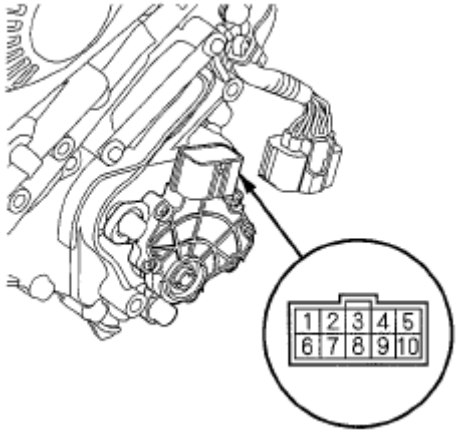



**Fig. 320: Identifying Transmission Range Switch Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Check for continuity between terminals at the switch connector. There should be continuity between the terminals in the following table for each switch position.

**Transmission Range Switch Connector**

| Position | Connector Terminal/Signal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | ATP RVS | N | D3 | ATP NP | ATP FWD | P | R | D | ATP 2-1 | GND |
| P | | | | ○ | | ○ | | | | ○ |
| R | ○ | | | | | | ○ | | | ○ |
| N | | ○ | | ○ | | | | | | ○ |
| D | | | | | ○ | | | ○ | | ○ |
| D3 | | | ○ | | ○ | | | | | ○ |
| 2 | | | | | ○ | | | | ○ | ○ |
| 1 | | | | | | | | | ○ | ○ |

**Fig. 321: Transmission Range Switch Connector Continuity Chart**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. If the transmission range switch test is OK, replace the faulty transmission range switch harness. If there is no continuity between any terminals, go to step 10.
10. Remove the transmission range switch, and check the end of the selector control shaft (A).

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**Selector Control Shaft Specification:**

**Width (B): 6.1-6.2 mm (0.240-0.244 in.)**

**End Gap (C): 1.8-2.0 mm (0.07-0.08 in.)**

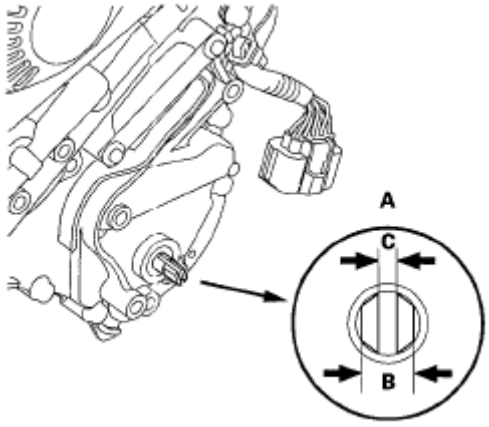



**Fig. 322: Identifying Transmission Range Switch Gap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. If the measurement at the end of the selector control shaft end is within the standard, replace the transmission range switch. If the measurement is out of the standard, repair the selector control shaft end, and recheck the transmission range switch continuity.

**TRANSMISSION RANGE SWITCH REPLACEMENT**

1. Raise the vehicle on a lift, or apply the parking brake, block the rear wheels, and raise the front of the vehicle. Make sure it is securely supported.
2. Shift the shift lever to N.
3. Remove the transmission range switch cover.

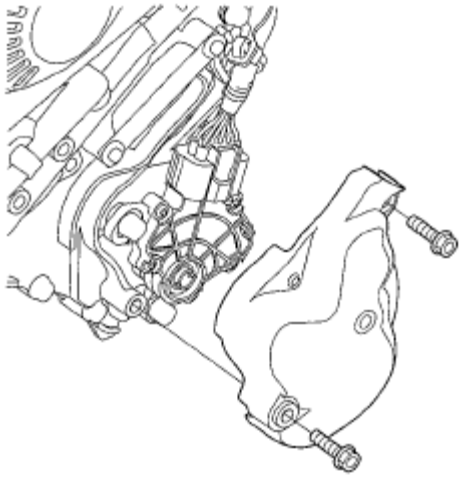


**Fig. 323: Identifying Transmission Range Switch Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the transmission range switch.

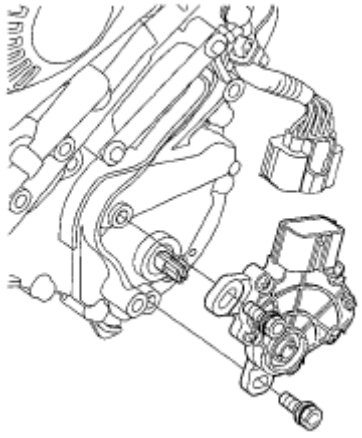


**Fig. 324: Identifying Transmission Range Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Make sure the selector control shaft is in the N position. If necessary, move the shift lever to the N position from the P position.

**NOTE: Do not use the selector control shaft to adjust the shift position. If the selector control shaft tips are squeezed together it will cause a faulty signal or position due to play between the selector control shaft and switch.**

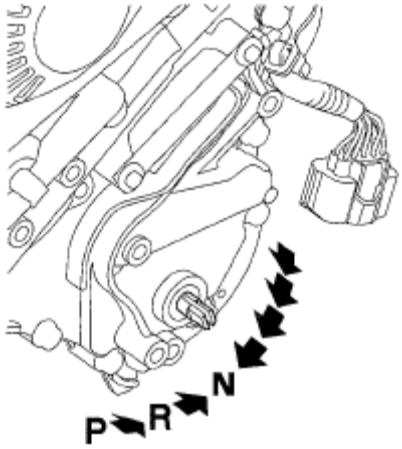



**Fig. 325: Identifying Shift Lever Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Align the cutouts (A) on the rotary-frame with the neutral positioning cutouts (B) on the transmission range switch (C), then put a 2.0 mm (0.08 in.) feeler gauge blade (D) in the cutouts to hold the switch in the N position.

**NOTE: Be sure to use a 2.0 mm (0.08 in.) blade or equivalent to hold the switch in the N position.**

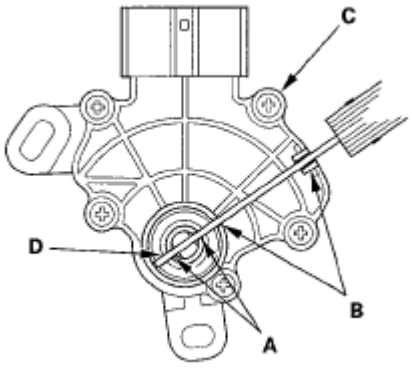



**Fig. 326: Aligning Cutouts On Rotary-Frame With Neutral Positioning Cutouts On Transmission Range Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the transmission range switch (A) gently on the selector control shaft (B) while holding it in the N position with the 2.0 mm (0.08 in.) blade (C).

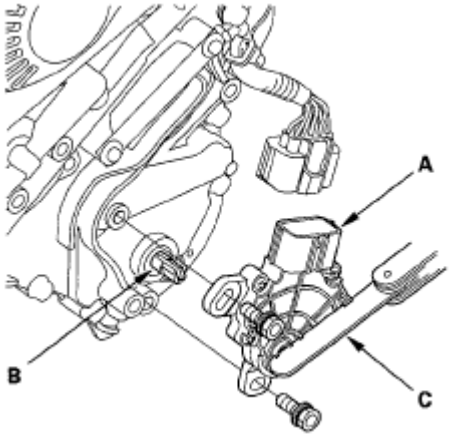



**Fig. 327: Holding Transmission Range Switch N Position With Blade**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Tighten the bolts on the transmission range switch while you continue holding the N position. Do not move the transmission range switch when tightening the bolts. Remove the feeler gauge.

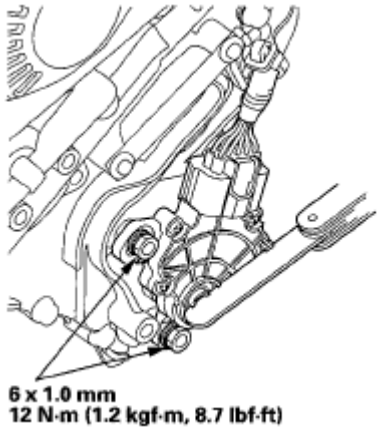



**Fig. 328: Moving Transmission Range Switch & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Check the connectors for rust, dirt, or oil, clean or repair if necessary, then connect the connector securely.
10. Turn the ignition switch to ON (II). Move the shift lever through all positions, and check the transmission range switch synchronization with the A/T gear position indicator.

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11. Check that the engine will start in P and N, and will not start in any other shift lever position.
12. Check that the back-up lights come on when the shift lever is in R.
13. Allow the front wheels to rotate freely, then start the engine, and check the shift lever operation.
14. Install the transmission range switch cover.

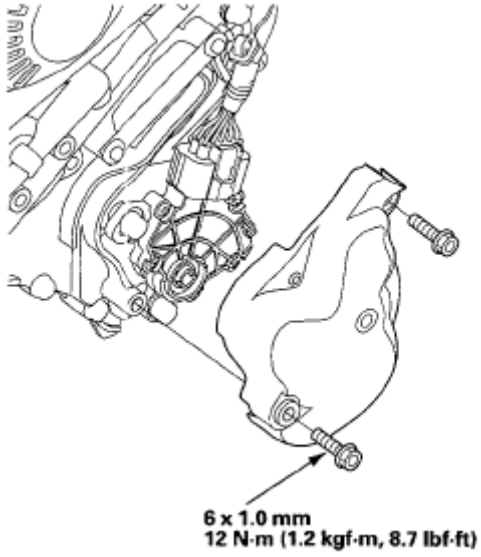



**Fig. 329: Identifying Transmission Range Switch Cover & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**A/T GEAR POSITION INDICATOR PANEL LIGHT HARNESS/PARK PIN SWITCH REPLACEMENT**

**NOTE: The A/T gear position indicator light and the park pin switch are not available separately. Replace the A/T gear position indicator light and the park pin switch as a set.**

1. Remove the shift lever assembly (see **SHIFT LEVER REMOVAL** ).
2. Loosen the A/T gear position indicator panel (see **SHIFT LEVER DISASSEMBLY/REASSEMBLY** ).
3. Remove the park pin switch (A) while pressing the park pin switch lock (B).

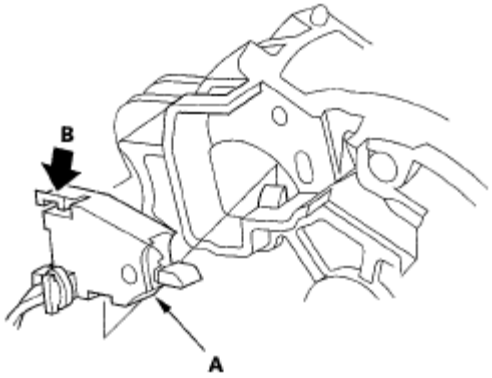



**Fig. 330: Pressing Park Pin Switch Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the A/T gear position indicator panel light and socket (A) from the indicator panel (B), and remove the light bulb (C) from the socket.

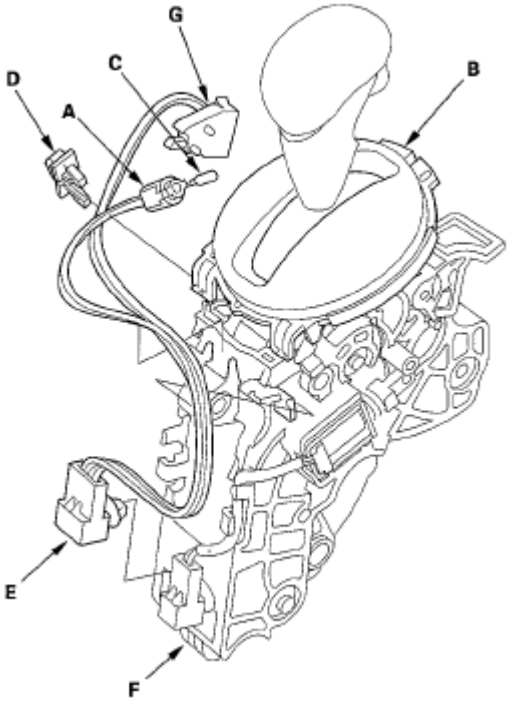



**Fig. 331: Identifying A/T Gear Position Indicator Panel Light, Socket, Indicator Panel And Light Bulb**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the harness clamp (D), and remove the park pin switch/A/T gear position indicator panel light connector (E) from the shift lever assembly/

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bracket base (F).

6. Install a new park pin switch (G) on the shift lever.
7. Install the A/T gear position indicator panel light bulb in the new socket, and install it in the indicator panel.
8. Clamp the harnesses together with the harness clamp, then install the harness clamp on the shift lever bracket base.
9. Route the harnesses along the harness guides, and install the new connector in the bracket base.
10. Install the A/T gear position indicator panel (see **SHIFT LEVER DISASSEMBLY/REASSEMBLY** ).
11. Install the shift lever assembly (see **SHIFT LEVER INSTALLATION** ).
12. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

## A/T INTERLOCK SYSTEM

### COMPONENT LOCATION INDEX

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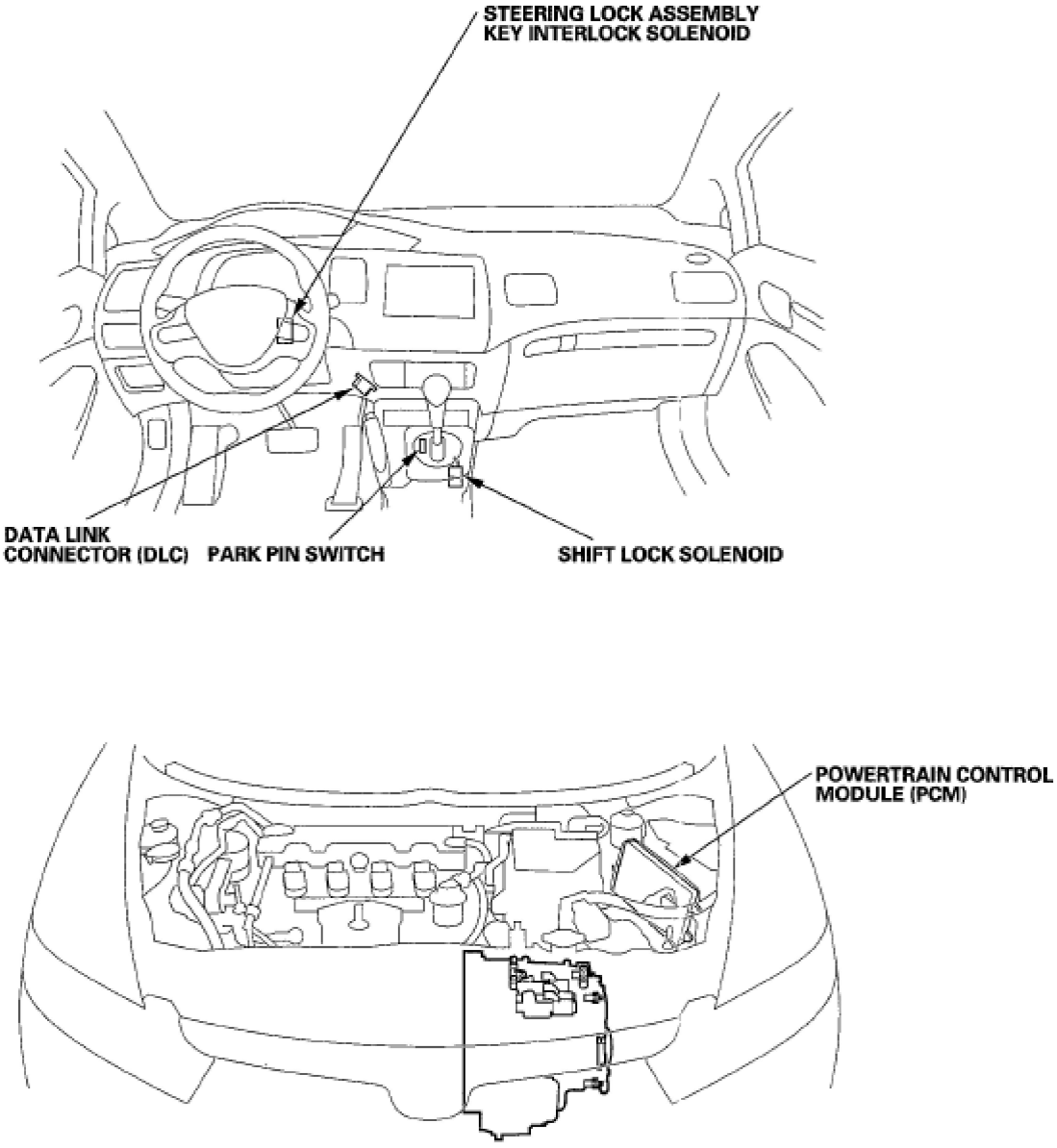
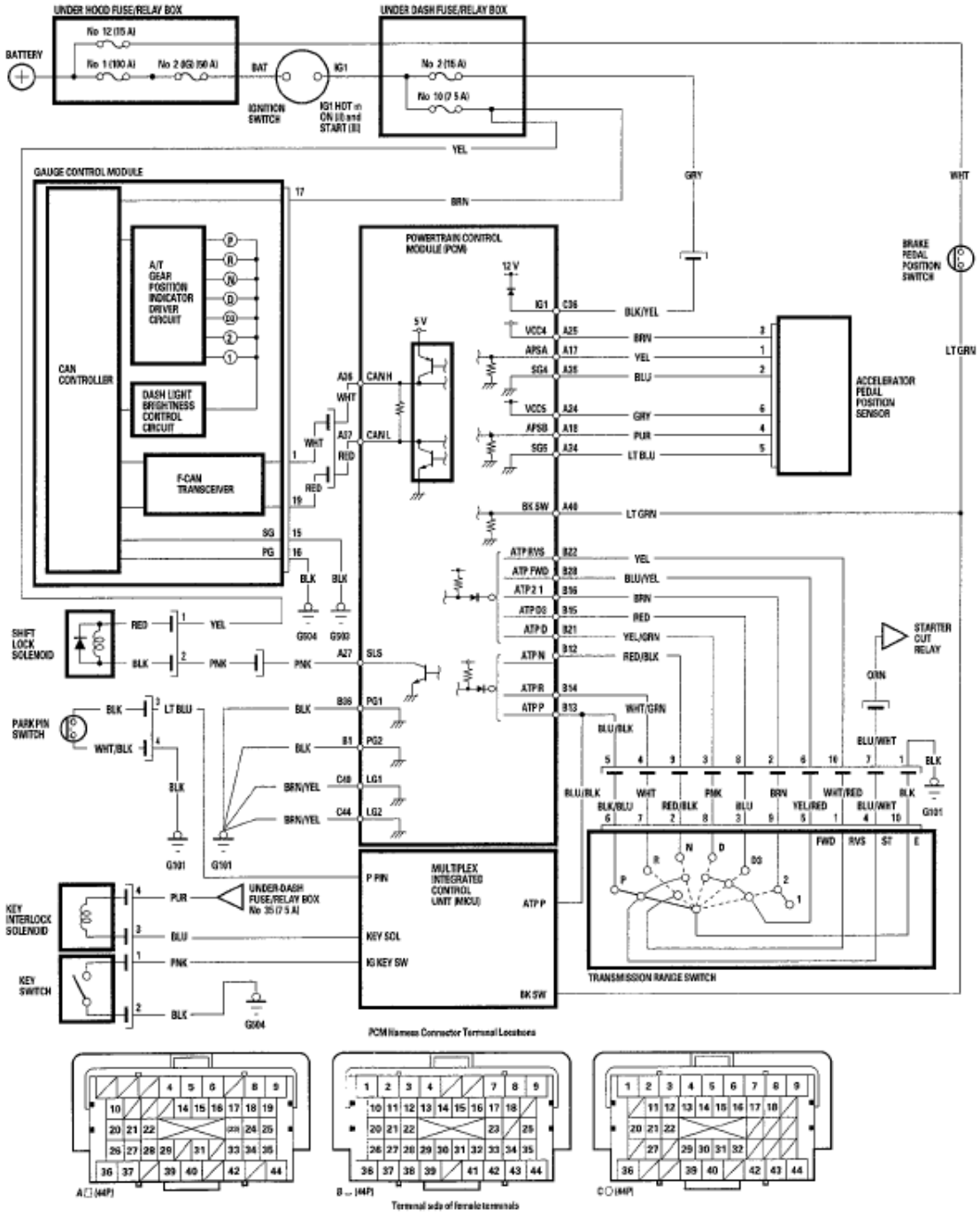



**Fig. 332: Identifying A/T Interlock System Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CIRCUIT DIAGRAM**

# 2008 Honda Civic LX

2006-08 TRANSMISSION Automatic Transmission - Civic (Except Hybrid)




## Fig. 333: A/T Interlock System - Circuit Diagram
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

### SHIFT LOCK SYSTEM CIRCUIT TROUBLESHOOTING

1. Connect the HDS tot he DLC located behind the driver's dashboard lower cover.

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Shift Lock Solenoid Test in the Miscellaneous Test Menu, and check that the shift lock solenoid operates with the HDS.

   *Does the shift lock solenoid work properly?*

   **YES** -Go to step 15.

   **NO** -Go to step 4.

4. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
5. Disconnect the shift lock solenoid connector.
6. Turn the ignition switch to ON (II).
7. Measure the voltage between shift lock solenoid connector terminal No. 1 and body ground.

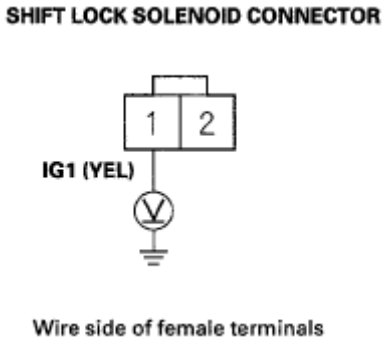



**Fig. 334: Measuring Voltage Between Shift Lock Solenoid Connector Terminal 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 8.

**NO** -Check for a blown No. 10 (7.5 A) fuse in the under-dash fuse/relay box. If

the fuse is OK, repair open or short to body ground in the wire between the shift lock solenoid connector and the under-dash fuse/relay box.

8. Shift to P, and press the brake pedal. Do not press the accelerator.
9. Measure the voltage between shift lock solenoid connector terminals No. 1 and No. 2 while pressing the brake pedal.

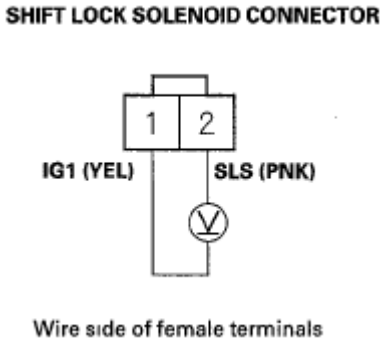



**Fig. 335: Measuring Voltage Between Shift Lock Solenoid Connector Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 10.

**NO** -Go to step 11.

10. Release the brake pedal, and measure the voltage between shift lock solenoid connector terminals No. 1 and No. 2. The shift lever must be in P.

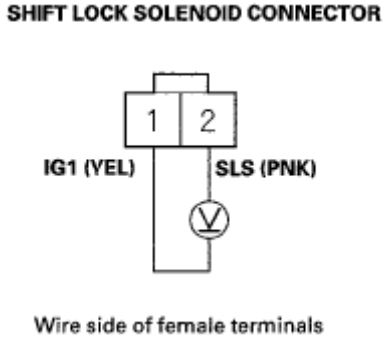



**Fig. 336: Measuring Voltage Between Shift Lock Solenoid Connector**

**Terminals 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Repair short to body ground in the wire between PCM connector terminal A27 and the shift lock solenoid.

**NO** -Check the shift lock mechanism. If the mechanism is OK, replace the shift lock solenoid (see **SHIFT LOCK SOLENOID REPLACEMENT** ).

11. Turn the ignition switch to LOCK (0).
12. Jump the SCS line with the HDS.
13. Disconnect PCM connector A (44P).
14. Check for continuity between PCM connector terminal A27 and shift lock solenoid connector terminal No. 2.

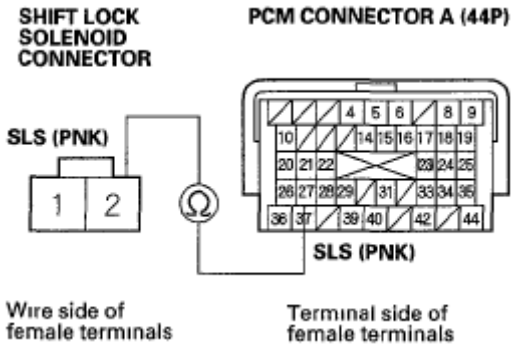



**Fig. 337: Checking Continuity Between PCM Connector Terminal A27 And Shift Lock Solenoid Connector Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good PCM (see **SUBSTITUTING THE PCM** ) and recheck.

**NO** -Repair open in the wire between PCM connector terminal A27 and the shift lock solenoid connector.

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15. Press the brake pedal.

    *Are the brake lights ON?*

    **YES** -Go to step 16.

    **NO** -Repair faulty brake light circuit.

16. Turn the ignition switch to LOCK (0).
17. Jump the SCS line with the HDS.
18. Disconnect PCM connector A (44P).
19. Measure the voltage between PCM connector terminal A40 and body ground while pressing the brake pedal and when the brake pedal is released.

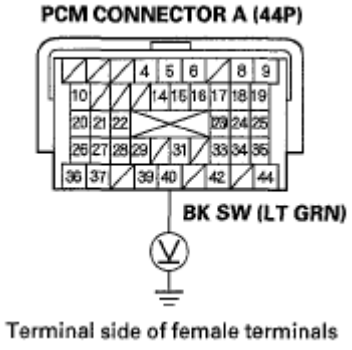



**Fig. 338: Measuring Voltage Between PCM Connector Terminal A40 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage while the brake pedal is pressed, and no voltage when the pedal is released?*

**YES** -Go to step 21.

**NO** -Go to step 20.

20. Check for continuity between PCM connector terminal A40 and brake pedal position switch 4P connector terminal No. 2.

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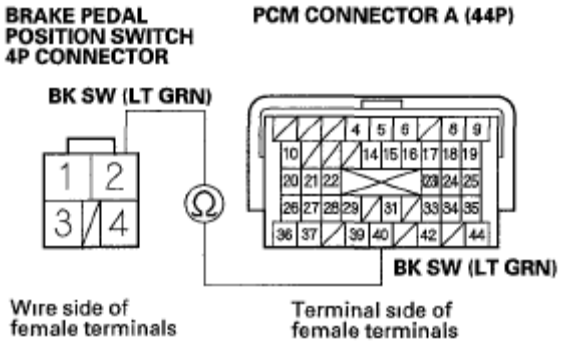



**Fig. 339: Checking Continuity Between PCM Terminal A40 And Brake Pedal Position Switch 4P Terminal 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good PCM (see **SUBSTITUTING THE PCM** ) and recheck.

**NO** -Repair open in the wire between PCM connector terminal A40 and the brake pedal position switch.

21. Connect PCM connector A (44P).
22. Disconnect the transmission range switch connector.
23. Turn the ignition switch to ON (II).
24. Measure the voltage between transmission range switch connector terminals No. 6 and No. 10.

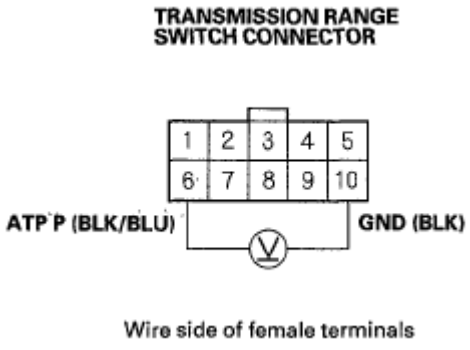



**Fig. 340: Measuring Voltage Between Transmission Range Switch Connector Terminals 6 And 10**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** -Go to step 30.

**NO** -Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Disconnect PCM connector B (44P).
27. Check for continuity between PCM connector : terminal B13 and body ground.

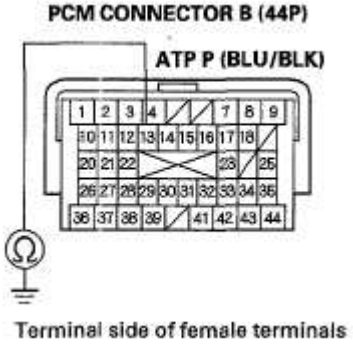



**Fig. 341: Checking Continuity Between PCM Connector Terminal B13 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between PCM connector terminal B13 and the transmission range switch.

**NO** -Go to step 28.

28. Check for continuity between PCM connector terminal B13 and transmission range switch connector terminal No. 6.

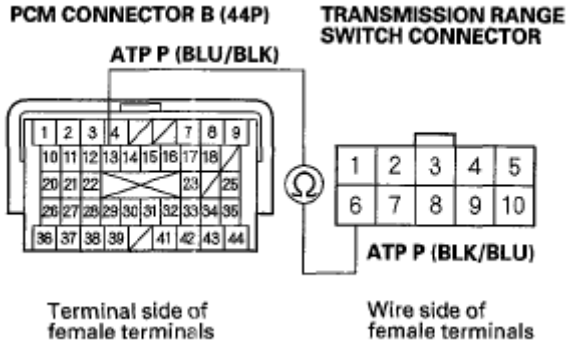



**Fig. 342: Checking Continuity Between PCM Connector Terminal B13 And Transmission Range Switch Connector Terminal 6**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 29.

**NO** -Repair open in the wire between PCM connector terminal B13 and the transmission range switch.

29. Check for continuity between transmission range switch connector terminal No. 10 and body ground.

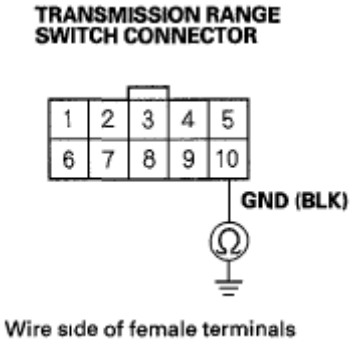



**Fig. 343: Checking Continuity Between Transmission Range Switch Connector Terminal 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good PCM (see **SUBSTITUTING THE PCM** ) and

recheck

**NO** -Repair open in the wire between transmission range switch connector terminal No. 10 and ground (G101) (see **CONNECTOR TO HARNESS INDEX** ), or repair poor ground (G101).

30. Test the transmission range switch (see **TRANSMISSION RANGE SWITCH TEST** ).

    *Is the switch OK?*

    **YES** -Go to step 30.

    **NO** -Replace the transmission range switch (see **TRANSMISSION RANGE SWITCH REPLACEMENT** ).

31. Connect the HDS to the DLC.
32. Check the accelerator pedal position sensor 1 in the DATA LIST with the HDS. Do not press the accelerator.

    *Is the accelerator pedal position sensor 1 opening 11 % and above, or the sensor 1 voltage 0.90 V and above?*

    **YES** -Check the APP Sensor (see **APP SENSOR SIGNAL INSPECTION** ).

    **NO** -Substitute a known-good PCM (see **SUBSTITUTING THE PCM** ) and recheck.

**KEY INTERLOCK SYSTEM CIRCUIT TROUBLESHOOTING**

SRS components are located in this area. Review the SRS component locations, 4-door (see **COMPONENT LOCATION INDEX** ), 2-door (see **COMPONENT LOCATION INDEX** ), and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) before doing repair or service.

1. Turn the ignition switch to ACCESSORY (I). The shift lever must be in P.
2. Disconnect the steering lock assembly connector.
3. Check if the ignition switch can be turned to the LOCK (0) position.

*Can the ignition switch be turned the LOCK (0) position?*

**YES** -Go to step 4.

**NO** -Replace the ignition key cylinder/steering lock assembly (see **STEERING COLUMN REMOVAL AND INSTALLATION** ).

4. Turn the ignition switch to LOCK (0).
5. Move the shift lever out of P.
6. Check for continuity between steering lock assembly connector terminal No. 3 and body ground.

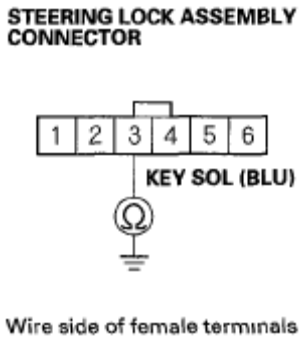



**Fig. 344: Checking Continuity Between Steering Lock Assembly Connector Terminal 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the key interlock solenoid and the MICU.

**NO** -Go to step 7.

7. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
8. Check for continuity between park pin switch/A/T gear position indicator panel light connector terminal No. 3 and body ground.

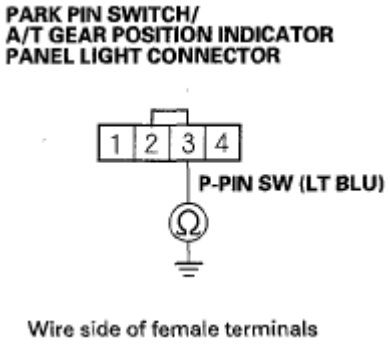



**Fig. 345: Checking Continuity Between Park Pin Switch/A/T Gear Position Indicator Panel Light Connector Terminal 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between park pin switch/A/T gear position indicator panel light connector terminal No. 3 and the MICU.

**NO** -Go to step 9.

9. Shift to P.
10. Check for continuity between park pin switch/A/T gear position indicator panel light connector terminals No. 3 and No. 4. Do not push the shift lever button.

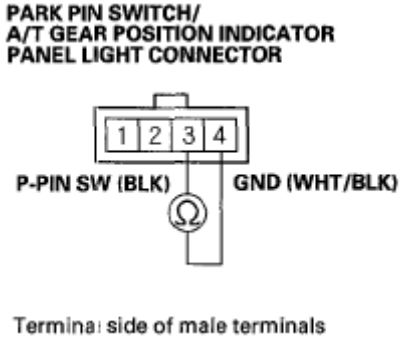



**Fig. 346: Checking Continuity Between Park Pin Switch/A/T Gear Position Indicator Panel Light Connector Terminals 3 And 4**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the park pin switch (see **A/T GEAR POSITION INDICATOR PANEL LIGHT HARNESS/PARK PIN SWITCH REPLACEMENT** ).

**NO** -Substitute 8 known-good MICU and recheck.

**SHIFT LOCK SOLENOID TEST**

1. Connect the HDS to the DLC (A) located behind the driver's dashboard lower cover.

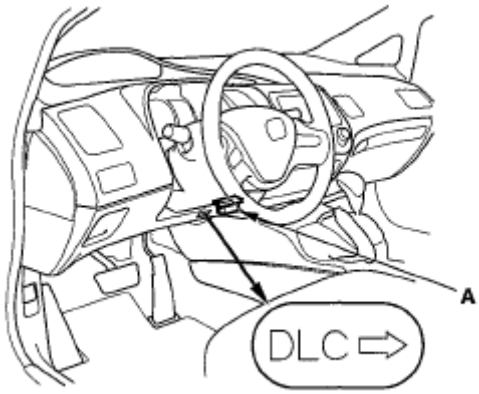



**Fig. 347: Identifying Data Link Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Turn the ignition switch to ON (II). Make sure the HDS communicates with the PCM. If it does not, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).
3. Select Shift Lock Solenoid Test in the Miscellaneous Test Menu, and check that the shift lock solenoid operates with the HDS.
4. Make sure that the shift lever can be moved out of P when Shift Lock Solenoid is ON. Move the shift lever back in P, and make sure it locks when Shift Lock Solenoid is OFF.
5. Make sure that the shift lock releases when the shift lock release is pushed, and check that it locks when the shift lock release is released.
6. If the shift lock solenoid does not work properly, go to the shift lock system troubleshooting (see **SHIFT LOCK SYSTEM CIRCUIT TROUBLESHOOTING** ).

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**SHIFT LOCK SOLENOID REPLACEMENT**

1. Remove the shift lever assembly (see **SHIFT LEVER REMOVAL** ).
2. Remove the shift lock solenoid connector.
3. Release the shift lock solenoid lock (A), then remove the shift lock solenoid (B).

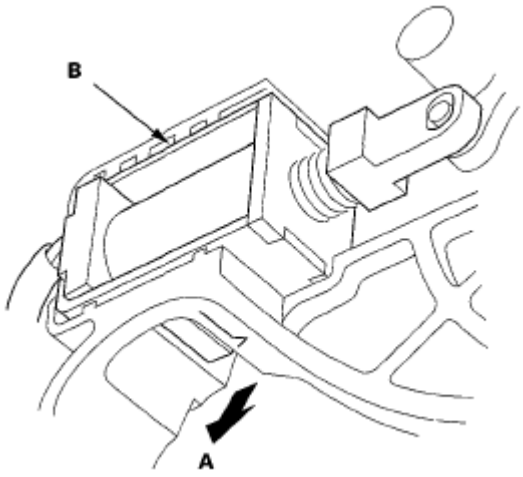



**Fig. 348: Removing Shift Lock Solenoid Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Replace the shift lock solenoid (A), solenoid plunger (B), and plunger spring (C) assembly.

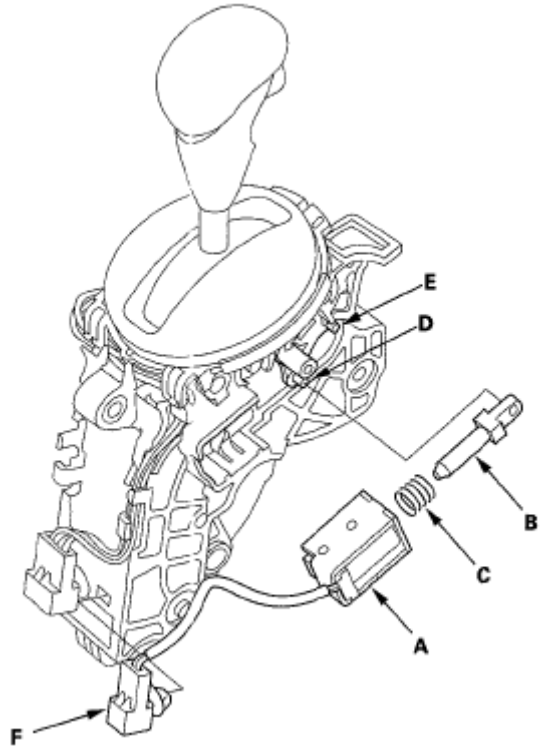



**Fig. 349: Identifying Shift Lock Solenoid, Solenoid Plunger And Plunger Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Apply silicone grease to the tip (D) of the shift lock stop (E), and install a new shift lock solenoid assembly by aligning the joint of the shift lock solenoid plunger with the tip of the shift lock stop.
6. Route the shift lock solenoid harness in the guide, and install the connector (F) on the bracket base.
7. Install the shift lever assembly (see **SHIFT LEVER INSTALLATION** ).

**SHIFT LOCK STOP, SHIFT LOCK STOP CUSHION REPLACEMENT**

1. Remove the shift lever assembly (see **SHIFT LEVER REMOVAL** ).
2. Release the shift lock solenoid lock (A), then remove the shift lock solenoid (B).

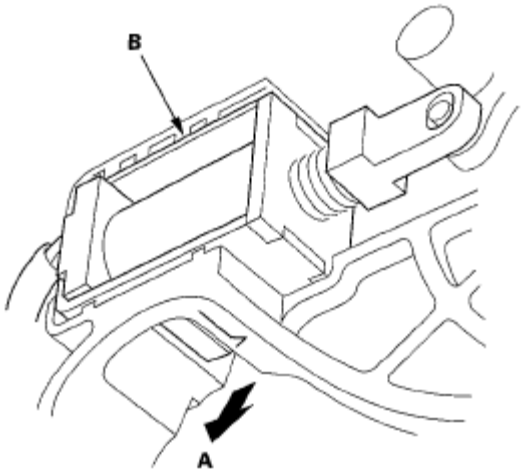



**Fig. 350: Removing Shift Lock Solenoid Lock**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the shift lock release (A) and release the spring (B).

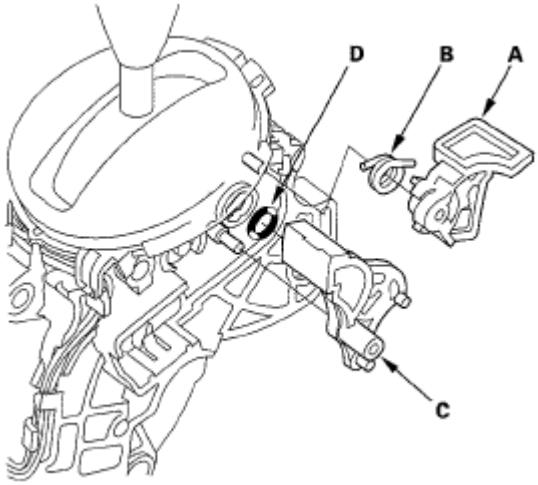



**Fig. 351: Identifying Shift Lock Stop And Stop Cushion**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the shift lock stop (C) and the stop cushion (D), and replace the shift lock stop or the stop cushion.
5. Install the shift lock stop cushion on the shift lock stop.
6. Apply silicone grease to the pin on the shift lever bracket base, and install the shift lock stop over the pin.
7. Install the shift lock release spring and the shift lock release, apply silicone

grease to the shift lock release mounting tip if necessary.

8. Apply silicone grease to the tip of the shift lock stop, and install the shift lock solenoid assembly by aligning the joint of the shift lock solenoid plunger with the tip of the shift lock stop.
9. Route the shift lock solenoid harness in the guide.
10. Install the shift lever assembly (see **SHIFT LEVER INSTALLATION** ).

**PARK PIN SWITCH TEST**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Move the shift lever into P, and check for continuity between park pin switch/A/T gear position indicator panel light connector terminals No. 3 and No. 4. There should be no continuity.

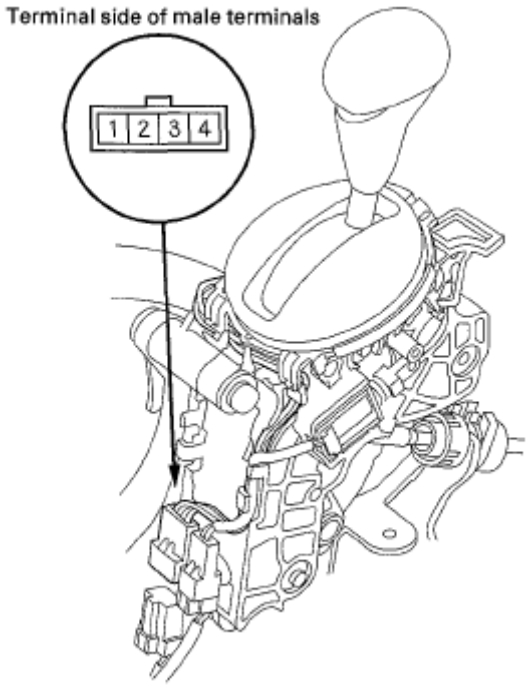



**Fig. 352: Identifying A/T Gear Position Indicator Panel Light Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Shift out of P, and check for continuity between connector terminals No. 3 and No. 4. There should be continuity.

4. If the park pin switch tests OK, install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

   If the park pin switch fails the test, replace the park pin switch (see **A/T GEAR POSITION INDICATOR PANEL LIGHT HARNESS/PARK PIN SWITCH REPLACEMENT** ).

## TRANSMISSION END COVER

### END COVER REMOVAL

## Special Tools Required

Mainshaft holder 07GAB-PF50101 or 07GAB-PF50100

1. Remove the ATF dipstick.
2. Remove the five bolts (D) securing the ATF inlet line brackets, the ATF filter bracket bolts (E), the line bolt and the sealing washers, and remove the ATF inlet line, the ATF hose, and the ATF filter (F).

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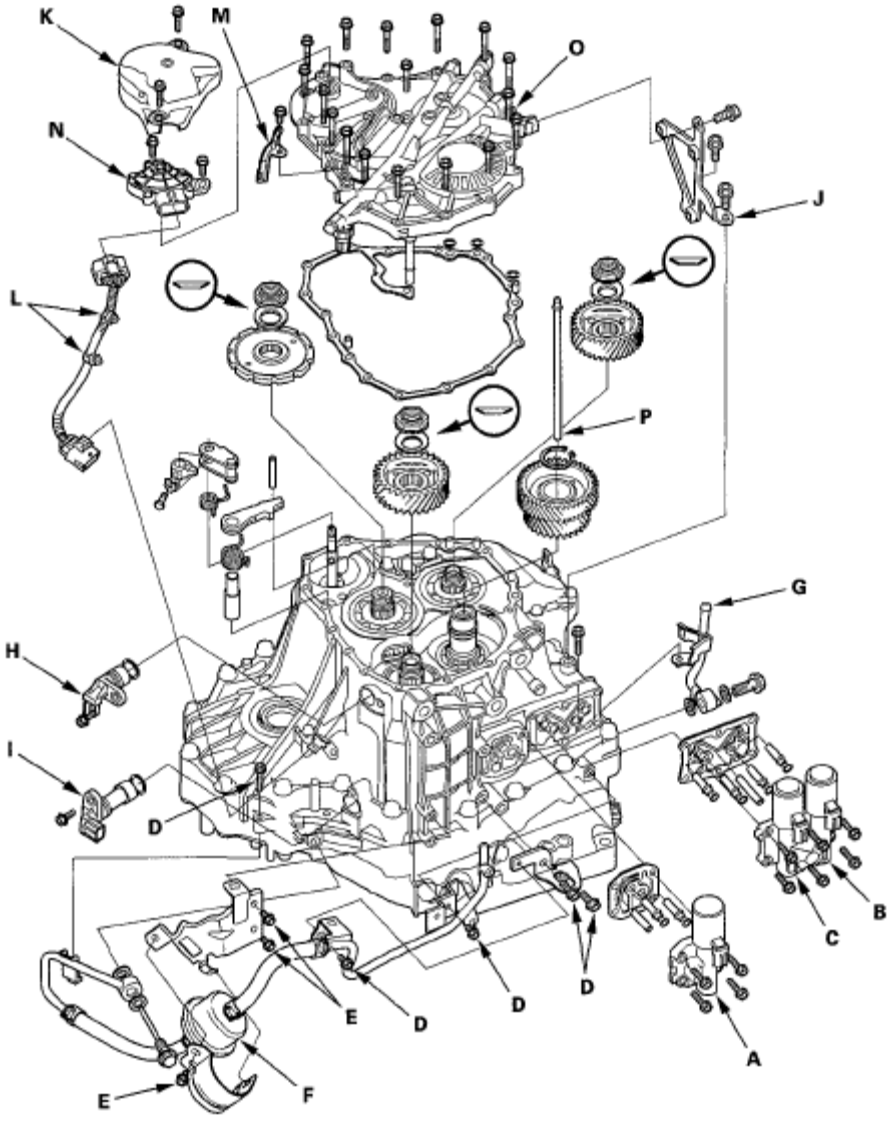



**Fig. 353: Disassembling Transmission**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ATF outlet line bolt, the line mounting bolt, the sealing washers, and the ATF outlet line (G).
4. Remove A/T clutch pressure control solenoid valve A, the ATF joint pipes, the O-rings, the ATF pipe, and the gasket.
5. Remove A/T clutch pressure control solenoid valves B and C, the O-rings, the ATF pipe, the ATF joint pipes, and the gasket.
6. Remove the input shaft (mainshaft) speed sensor (H) and the output shaft (countershaft) speed sensor (I).

7. Remove the ATF warmer bracket (J).
8. Remove the transmission range switch cover (K).
9. Remove the transmission range switch harness clamps (L) from the clamp bracket (M), then remove the transmission range switch (N).
10. Remove the clamp bracket from the end cover (O).
11. Remove the end cover, the dowel pins, the O-rings, and the end cover gasket.
12. Remove the ATF lubrication pipe (P) from the idler gear shaft.
13. Slip the mainshaft holder onto the mainshaft.

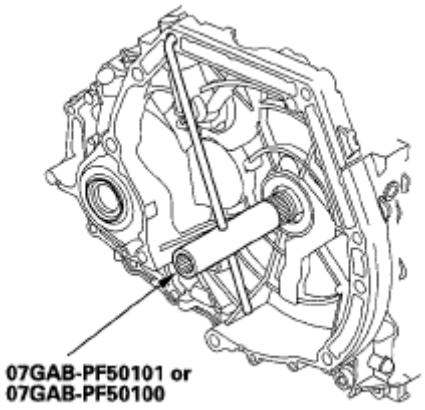



**Fig. 354: Identifying Mainshaft Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Engage the park pawl with the park gear.
15. Cut the lock tab (A) of the each shaft locknut (B) using a chisel (C). Then remove the locknuts and conical spring washers from each shaft.

**NOTE:**

- **Countershaft and secondary shaft locknuts have left-hand threads.**
- **Keep all of the chiseled particles out of the transmission.**
- **Clean the old locknuts; they are used to install the press fit idler gears and park gear.**

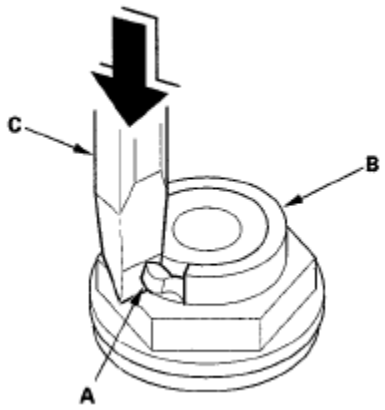



**Fig. 355: Cutting Lock Tab**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the snap ring securing the idler gear to the idler gear shaft.
17. Install 6 x 1.0 mm bolts (A) on the idler gear shaft idler gear (B). Set a puller (C) on the idler gear shaft (D) with putting a spacer (E) between the puller and the idler gear shaft, then remove the idler gear shaft idler gear.

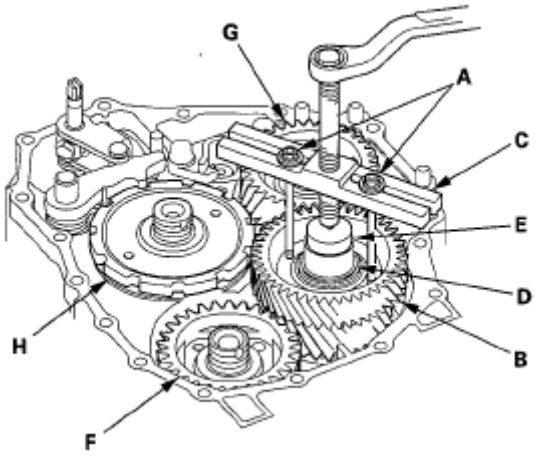



**Fig. 356: Removing Idler Gear Shaft Idler Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Set the puller, 6 x 1.0 mm bolts, and spacer on the secondary shaft idler gear (F), and remove the secondary shaft idler gear from the secondary shaft in the same manner as the removal of the idler gear shaft idler gear.
19. Set the puller, 6 x 1.0 mm bolts, and spacer on the mainshaft idler gear (G), and remove the mainshaft idler gear from the mainshaft in the same manner as

the removal of the idler gear shaft idler gear.

20. Set the puller, 6 x 1.0 mm bolts, and spacer on the park gear (H), and remove the park gear from the countershaft in the same manner as the removal of the idler gear shaft idler gear.
21. Remove the park pawl, the park pawl spring, the park pawl shaft, and the stop shaft.
22. Remove the park lever from the selector control shaft.

**PARK LEVER STOP INSPECTION AND ADJUSTMENT**

1. Set the park lever in the P position.
2. Measure the distance (A) between the park pawl shaft center (B) and the extension line (C) connected centers of the park lever roller pin (D) and the control shaft (E) in the vertical direction from the extension line.

   **Standard: 46.8-47.8 mm (1.84-1.88 in.)**

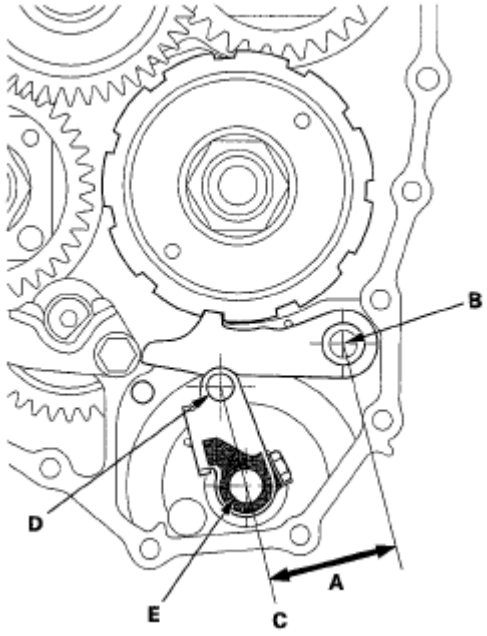



**Fig. 357: Measuring Distance Between Park Pawl Shaft Center And Extension Line**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the measurement is out of standard, select and install the appropriate park

lever stop (A) from the table.

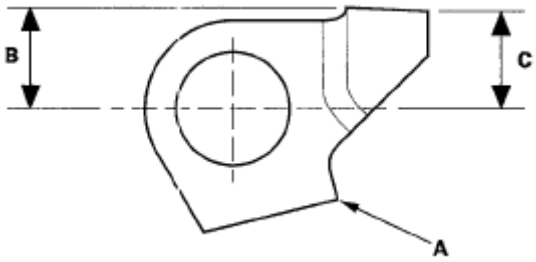



**Fig. 358: Identifying Park Lever Stop Measurement**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**PARK LEVER STOP**

**PART NUMBER REFERENCE**

| Mark | Part Number | B | C |
|---|---|---|---|
| 1 | 24537-PA9-003 | 11.00 mm (0.433 in.) | 11.00 mm (0.433 in.) |
| 2 | 24538-PA9-003 | 10.80 mm (0.425 in.) | 10.65 mm (0.419 in.) |
| 3 | 24539-PA9-003 | 10.60 mm (0.417 in.) | 10.30 mm (0.406 in.) |

4. After replacing the park lever stop, make sure the distance is within tolerance.

**IDLER GEAR SHAFT BEARING REPLACEMENT**

## Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
- Driver 07749-0010000
- Attachment, 52 x 55 mm 07746-0010400

1. Remove the idler gear shaft bearing from the end cover using the adjustable bearing puller and a commercially available 3/8"-16 slide hammer (A).

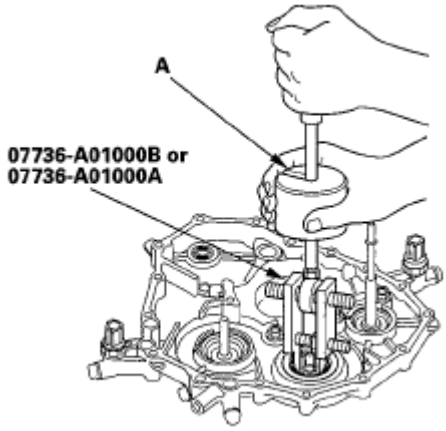



**Fig. 359: Identifying Idler Gear Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new bearing in the end cover using the driver and the 52 x 55 mm attachment.

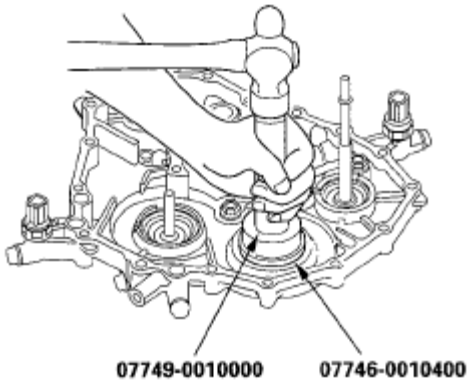



**Fig. 360: Tapping Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SELECTOR CONTROL SHAFT OIL SEAL REPLACEMENT**

## Special Tools Required

- Driver 07749-0010000
- Attachment, 22 x 24 mm 07746-0010800

1. Remove the oil seal from the end cover.

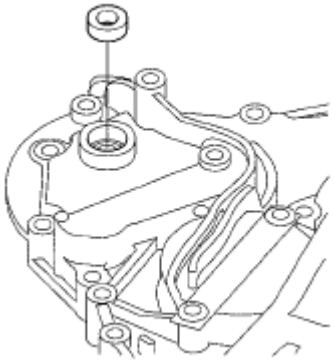


**Fig. 361: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new oil seal flush to the end cover using the driver and the 22 x 24 mm attachment.

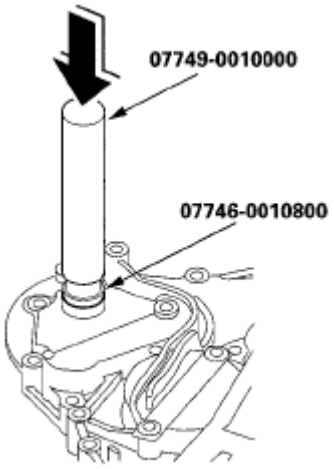



**Fig. 362: Pressing Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SELECTOR CONTROL SHAFT BEARING REPLACEMENT**

## Special Tools Required

- Driver 07749-0010000
- Attachment, 22 x 24 mm 07746-0010800

1. Remove the oil seal from the end cover.

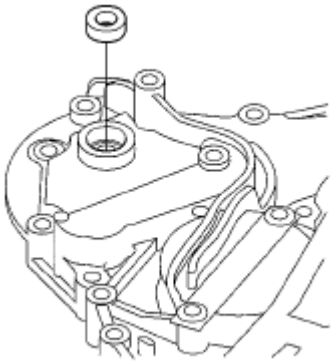


**Fig. 363: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the selector control shaft bearing from the end cover.

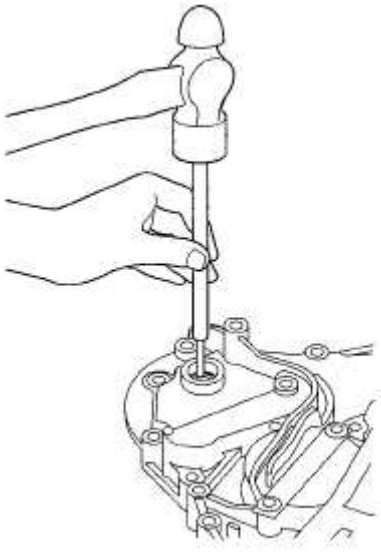


**Fig. 364: Tapping Selector Control Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new bearing flush to the end cover using the driver and the 22 x 24 mm attachment.

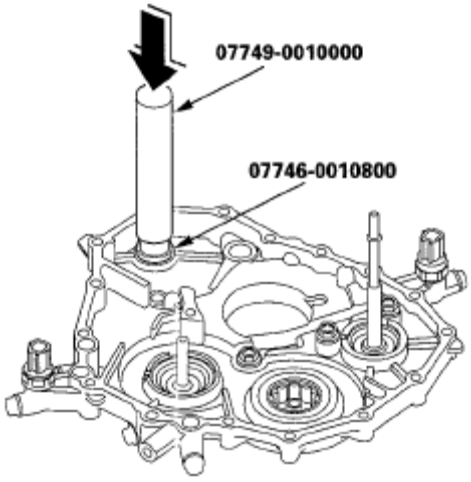



**Fig. 365: Pressing Bearing Flush**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new oil seal flush to the end cover using the driver and the 22 x 24 mm attachment.

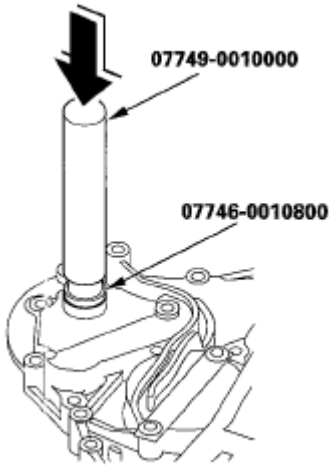



**Fig. 366: Pressing Oil Seal Flush**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**ATF FEED PIPE REPLACEMENT**

1. Remove the snap ring (A), the 3rd clutch feed pipe (B), and the feed pipe flange (C) from the end cover (D).

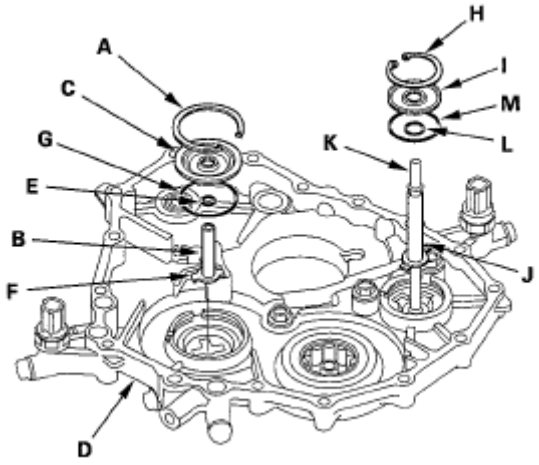



**Fig. 367: Identifying Snap Ring, 3rd Clutch Feed Pipe And Feed Pipe Flange**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new O-ring (E) over a new 3rd clutch feed pipe.
3. Install the 3rd clutch feed pipe in the end cover by aligning the feed pipe tabs (F) with the indentations in the end cover.
4. Install a new O-ring (G) in the end cover, then install the feed pipe flange over the 3rd clutch feed pipe.
5. Secure the 3rd clutch feed pipe and the feed pipe flange with the snap ring.
6. Remove the snap ring (H) and feed pipe flange (I).
7. Check the 4th clutch feed pipe (J) and 2nd clutch feed pipe (K) for scoring and damage. Replace the end cover, if the feed pipes are scored or damaged.
8. Install a new O-ring (L) over a new 4th clutch feed pipe.
9. Install a new O-ring (M) in the end cover, then install the feed pipe flange over the 4th clutch feed pipe.
10. Secure the 4th clutch feed pipe and feed pipe flange with the snap ring.

**TRANSMISSION FLUID PRESSURE SWITCH REPLACEMENT**

1. Remove the 2nd clutch transmission fluid pressure switch (A).

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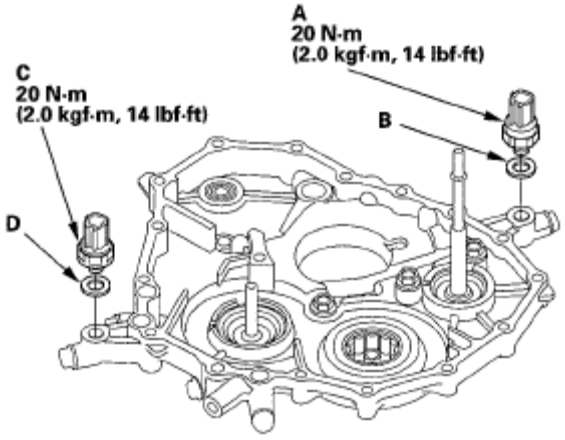



**Fig. 368: Identifying 2nd Clutch Transmission Fluid Pressure Switch, 3rd Clutch Transmission Fluid Pressure Switch & Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Make sure there is no water, oil, dust, or foreign particles inside the connector.
3. Install a new 2nd clutch transmission fluid pressure switch and a new sealing washer (B), then tighten the switch to the specified torque on the metal part, not the plastic part.
4. Remove the 3rd clutch transmission fluid pressure switch (C).
5. Make sure there is no water, oil, dust, or foreign particles inside the connector.
6. Install a new 3rd clutch transmission fluid pressure switch and a new sealing washer (D), then tighten the switch to the specified torque on the metal part, not the plastic part.

**AIR CHECK VALVE INSPECTION AND REPLACEMENT**

1. Check the air check valve filter for clogging. If the filter is clogged, remove the air check valve (A), and clean the filter thoroughly by pouring clean ATF. Do not blow out the filter with compressed air. Replace the air check valve, if the filter or check valve (ball) is clogged or damaged.

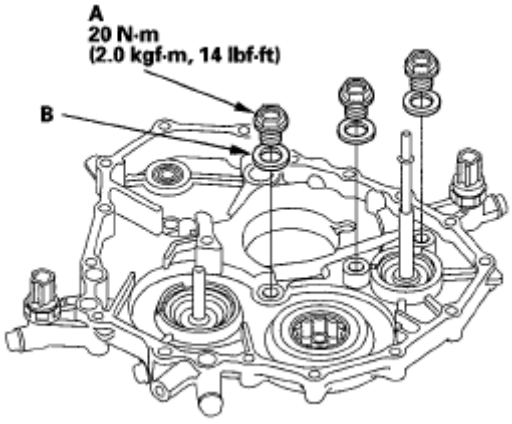



**Fig. 369: Identifying Air Check Valve, Sealing Washer & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the air check valve and a new sealing washer (B).

## TRANSMISSION HOUSING

### HOUSING AND SHAFT ASSEMBLY REMOVAL

## Special Tools Required

Housing puller 07HAC-PK40102

1. Remove the shift solenoid valve cover (A), the dowel pins (B), the gasket (C), and the harness clamp bracket (D).

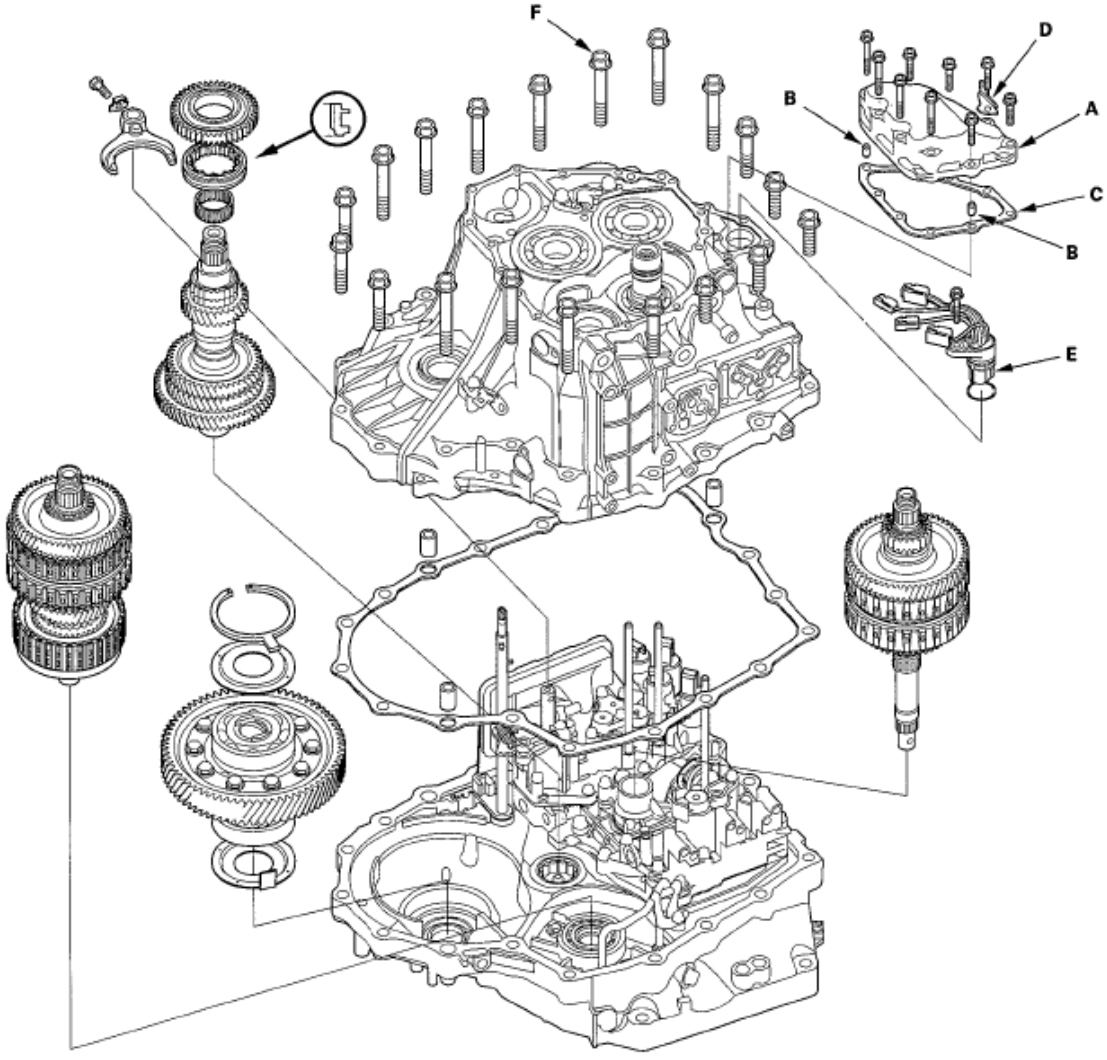



**Fig. 370: Disassembling Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Disconnect the connectors from the shift solenoid valves, and remove the solenoid harness connector (E).
3. Remove the transmission housing mounting bolts (F) (19).
4. Align the spring pin (A) on the selector control shaft (B) with the transmission housing groove (C) by turning the selector control shaft with the detent plate.

**NOTE: Do not squeeze the end of the selector control shaft tips together when turning the control shaft.**

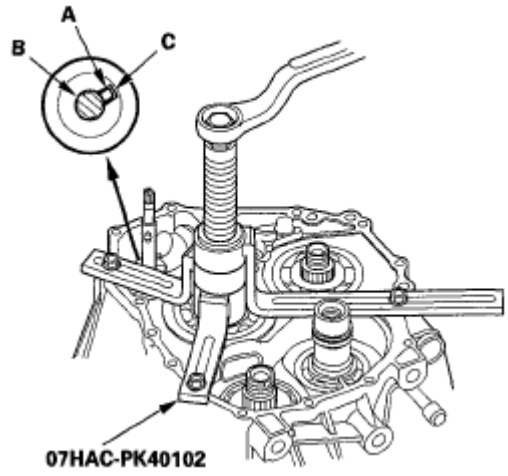



**Fig. 371: Aligning Spring Pin On Selector Control Shaft With Transmission Housing Groove**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the housing puller over the countershaft, then remove the transmission housing.

**NOTE: If the top arm of your housing puller is too short, replace it with housing puller arm, 205 mm 07SAC-P0Z0101.**

6. Remove the countershaft reverse gear and the needle bearing.
7. Remove the lock bolt securing the shift fork, then remove the shift fork with the reverse selector together.
8. Remove the mainshaft subassembly (A), the countershaft subassembly (B), and the secondary shaft subassembly (C) together. If the reverse selector hub is removed by hand, remove the 4th-5th gear and the needle bearings, and remove the mainshaft subassembly. Then remove the countershaft subassembly and the secondary shaft subassembly together.

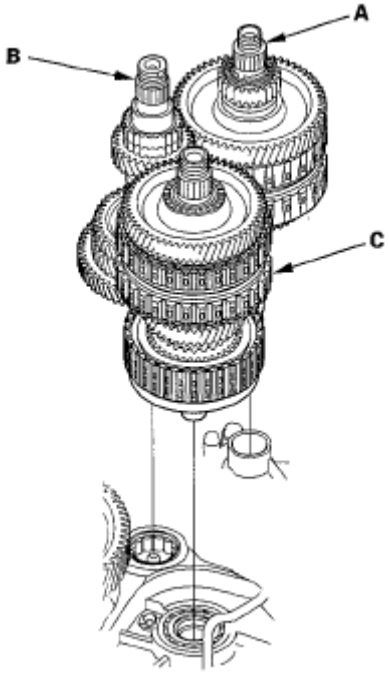



**Fig. 372: Identifying Mainshaft Subassembly, Countershaft Subassembly And Secondary Shaft Subassembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the differential assembly.

**BEARING REMOVAL**

## Special Tools Required

- Attachment, 72 x 75 mm 07746-0010600
- Attachment, 78 x 80 mm 07NAD-PX40100
- Attachment, 62 x 68 mm 07746-0010500
- Driver 07749-0010000

1. Remove the snap ring (A), the cotter retainer (B), and the cotters (C) from the idler gear shaft (D), then remove the idler gear shaft. Do not distort the snap ring.

**NOTE: If you are not removing the idler gear shaft bearing, idler gear shaft removal is not needed.**

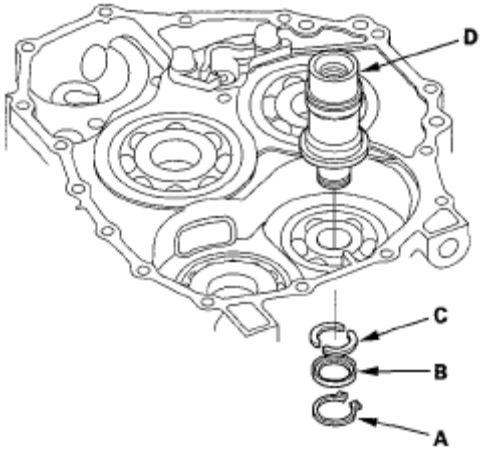



**Fig. 373: Identifying Snap Ring, Cotter Retainer And Cotters**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. To remove the mainshaft bearing (A), the countershaft bearing (B), the secondary shaft bearing (C), and the idler gear shaft bearing (D) from the transmission housing, expand each snap ring using snap ring pliers, then push the bearing out using the driver and the attachment.

**NOTE: Do not remove the snap ring unless it is necessary to clean the grooves in the housing.**

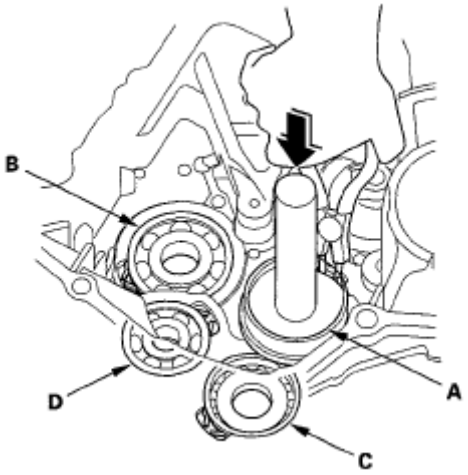



**Fig. 374: Removing Mainshaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**BEARING INSTALLATION**

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## Special Tools Required

- Attachment, 72 x 75 mm 07746-0010600
- Attachment, 78 x 80 mm 07NAD-PX40100
- Attachment, 62 x 68 mm 07746-0010500
- Driver 07749-0010000

1. Install the mainshaft bearing (A), the countershaft bearing (B), the secondary shaft bearing (C), and the idler gear shaft bearing (D) in the transmission housing in the direction shown.

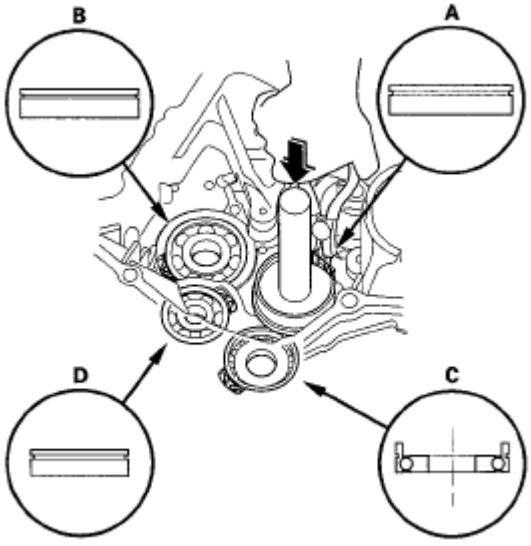



**Fig. 375: Installing Mainshaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Expand each snap ring using snap ring pliers, and install the bearing part-way into the housing.
3. Release the pliers, then push the beating down into the housing using the driver and the attachment until the snap ring snaps in place around it.
4. After installing the bearings check that the snap rings (A) are seated in the bearing and housing grooves, and that the ring end gaps (B) are 0-7 mm (0-0.28 in.)

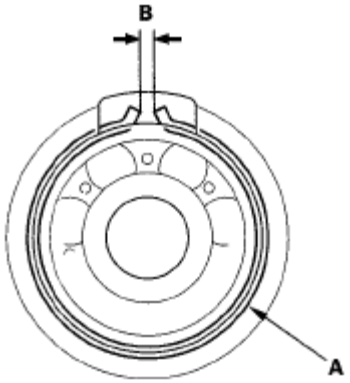



**Fig. 376: Identifying Snap Ring Gap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the idler gear shaft (A) in the idler gear shaft bearing.

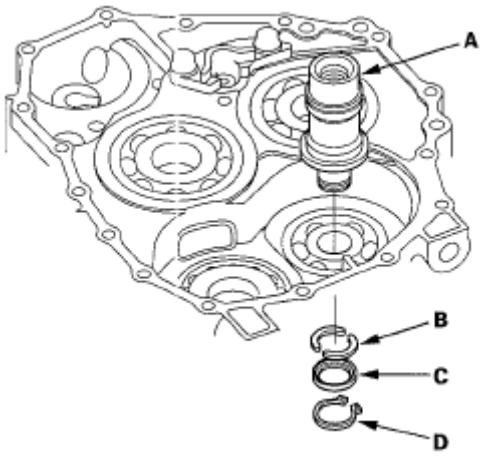



**Fig. 377: Identifying Idler Gear Shaft, Cotters And Cotter Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the cotters (B) and the cotter retainer (C), and secure the idler gear shaft with the snap ring (D).

**REVERSE IDLER GEAR REMOVAL**

1. Remove the bolts (A) securing the reverse idler gear shaft holder (B).

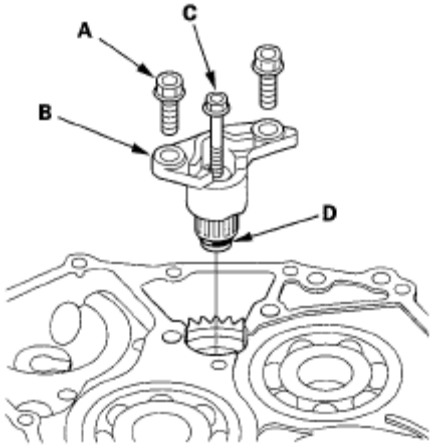



**Fig. 378: Identifying Idler Gear Shaft Holder And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a 5 x 0.8 mm bolt (C) in the reverse gear shaft, and pull it to remove the reverse idler gear shaft (D) and the reverse idler gear shaft holder together.
3. Remove the reverse idler gear.

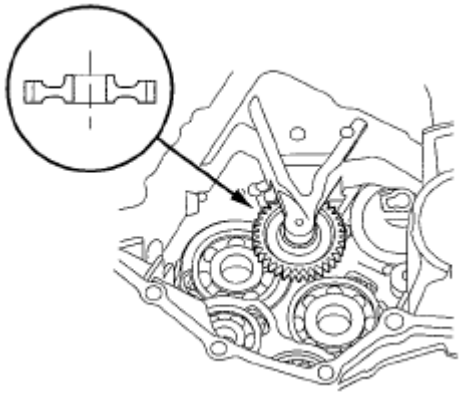


**Fig. 379: Removing Reverse Idler Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**REVERSE IDLER GEAR INSTALLATION**

1. Lightly coat the reverse idler gear shaft (A), the needle bearing (B), and new O-rings (C) with lithium grease.

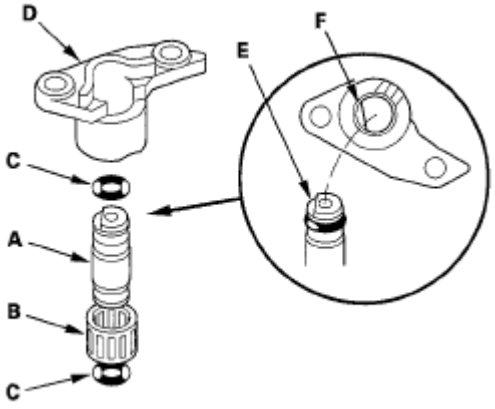



**Fig. 380: Identifying Reverse Idler Gear Shaft, Needle Bearing And O-Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Assemble new O-rings and needle bearing on the reverse idler gear shaft, then install the reverse idler gear shaft in the reverse idler gear shaft holder (D). Align the D-shaped (E) cutout of the shaft with the D-shaped area (F) of the holder.
3. Install the reverse idler gear in the transmission housing in the direction shown.

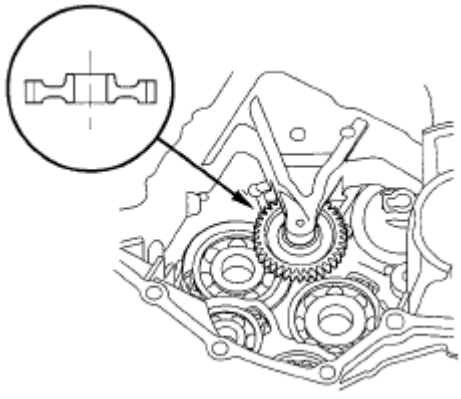


**Fig. 381: Installing Reverse Idler Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the reverse idler gear shaft/holder assembly in the reverse idler gear.

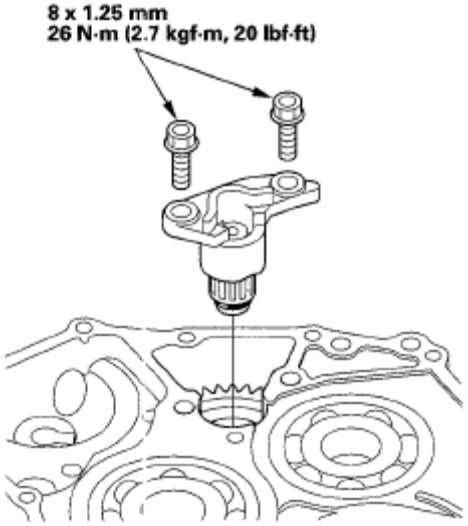



**Fig. 382: Identifying Reverse Idler Gear Shaft/Holder Assembly & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Secure the holder with the bolts.

**IDLER GEAR SHAFT REMOVAL AND INSTALLATION**

1. Remove the snap ring (A), the cotter retainer (B), and the cotters (C) from the idler gear shaft (D), then remove the idler gear shaft. Do not distort the snap ring.

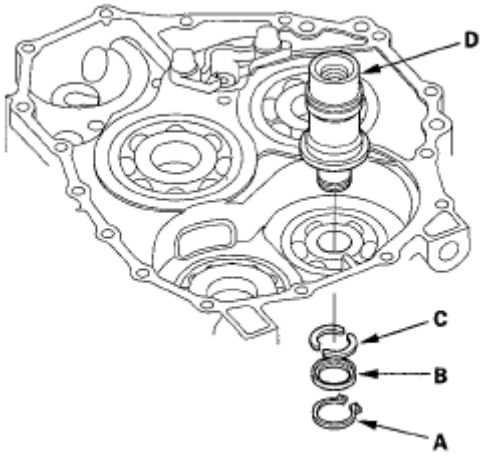



**Fig. 383: Identifying Snap Ring, Cotter Retainer, Cotters And Idler Gear Shaft**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check the snap ring and the cotter retainer for wear and damage. Replace the snap ring and/or the cotter retainer if the snap ring or the cotter retainer is worn, distorted, or damaged.
3. Install the idler gear shaft in the idler gear shaft bearing.
4. Install the cotters and the cotter retainer, and secure the idler gear shaft with the snap ring.

## VALVE BODY

### VALVE BODY AND ATF STRAINER REMOVAL

1. Remove the ATF feed pipe (A) from the regulator valve body (B).

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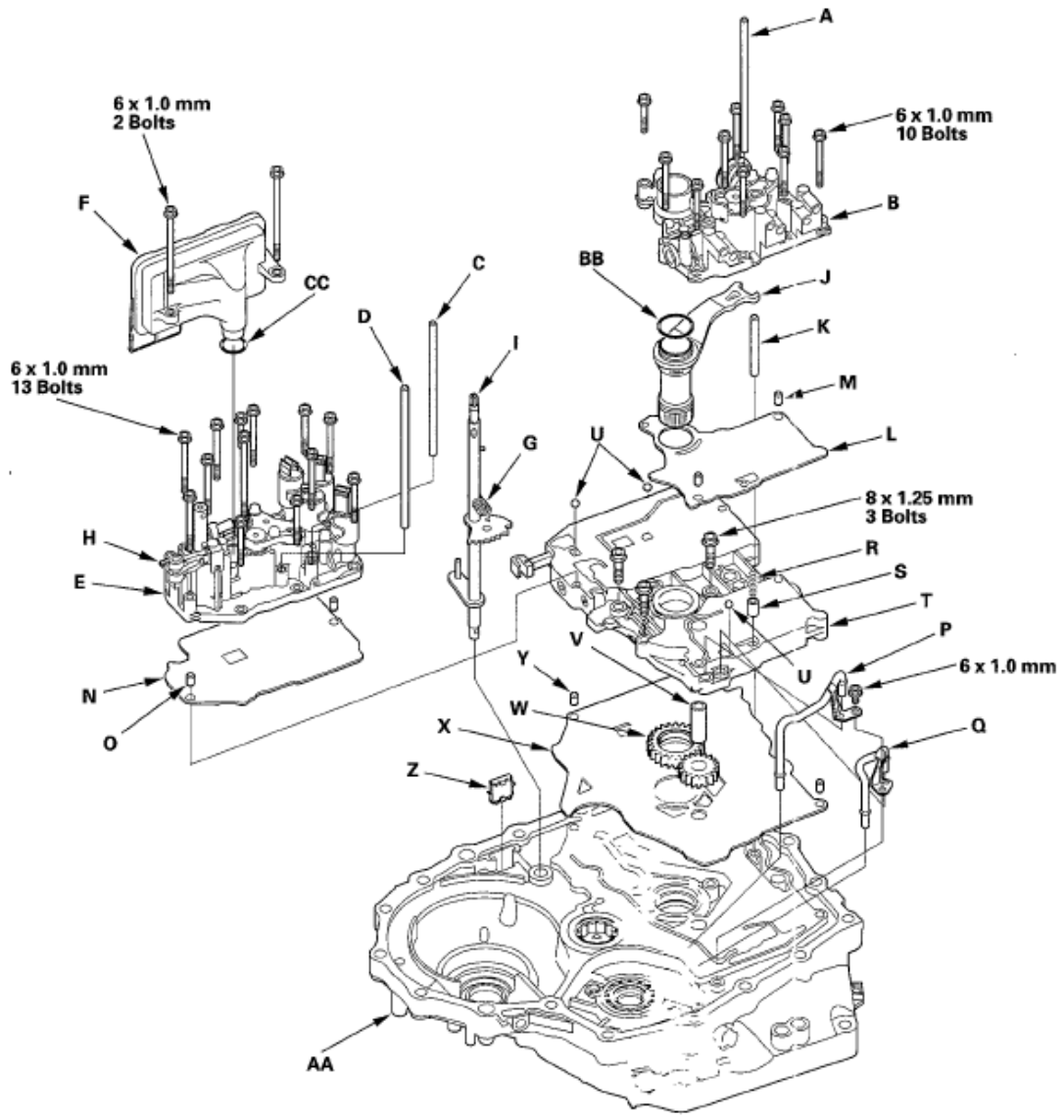



**Fig. 384: Disassembling Valve Body And ATF Strainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the ATF feed pipes (C) (D) from the servo body (E).
3. Remove the ATF strainer (F) (two bolts).
4. Unhook the detent spring (G) from the detent arm (H), and remove the selector control shaft (I).
5. Remove the regulator valve body (10 bolts).
6. Remove the stator shaft (J) and the stator shaft stop (K), then remove the regulator separator plate (L) and the two dowel pins (M).

7. Remove the servo body (13 bolts), then remove the separator plate (N) and the two dowel pins (O).
8. Remove the ATF joint pipes (P) (Q).
9. Remove the cooler check valve spring (R) and the cooler check valve (S), then remove the main valve body (T) (three bolts). Do not let the check balls (U) fall out.
10. Remove the ATF pump driven gear shaft (V), then remove the ATF pump gears (W).
11. Remove the main separator plate (X) and the two dowel pins (Y).
12. Remove the ATF magnet (Z), clean and reinstall it in the torque converter housing (AA).
13. Remove the O-ring (BB) from the stator shaft, and remove the O-ring (CC) from the ATF strainer. Install new ones when installing the valve bodies.
14. Clean the inlet opening (A) of the ATF strainer (B) thoroughly with compressed air, then check that it is in good condition and that the inlet opening is not clogged.

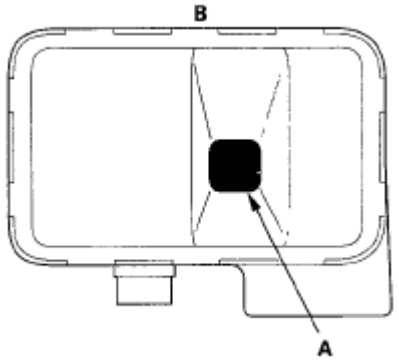



**Fig. 385: Identifying Inlet Opening Of ATF Strainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Test the ATF strainer by pouring clean ATF through the inlet opening, and replace it if it is clogged or damaged.

**VALVE BODY REPAIR**

**NOTE: Valve body repair is only necessary if one or more of the**

**valves in a valve body do not slide smoothly in their bores. Use this procedure to free the valves.**

1. Soak a sheet of #600 abrasive paper in ATF for about 30 minutes.
2. Carefully tap the valve body so the sticking valve drops out of its bore. It may be necessary to use a small screwdriver to pry the valve free. Be careful not to scratch the bore with the screwdriver.
3. Inspect the valve for any scuff marks. Use the ATF-soaked #600 paper to polish off any burrs that are on the valve, then wash the valve in solvent and dry it with compressed air.
4. Roll up half of the ATF-soaked #600 paper and insert it in the valve bore of the sticking valve. Twist the paper slightly, so that it unrolls and fits the bore tightly, then polish the bore by twisting the paper as you push it in and out.

**NOTE: The valve body is aluminum and does not require much polishing to remove any burrs.**



**Fig. 386: Inspecting Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the #600 paper. Thoroughly wash the entire valve body in solvent, then dry it with compressed air.
6. Coat the valve with ATF, then drop it into its bore. It should drop to the bottom of the bore under its own weight. If not, repeat steps 4 and 5, then retest. If the valve still sticks, replace the valve body.

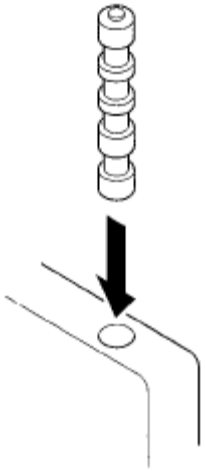


**Fig. 387: [Identifying Valve]**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the valve, and thoroughly clean it and the valve body with solvent. Dry all parts with compressed air, then reassemble using ATF as a lubricant.

**VALVE BODY VALVE INSTALLATION**

1. Coat all parts with ATF before assembly.
2. Install the valves and springs in the sequence shown for the main valve body (see **MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), the regulator valve body (see **REGULATOR VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ), and the servo body (see **SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ). Refer to the following valve cap illustrations, and install the each valve cap so the end shown facing up will be facing the outside of the valve body, then secure the valve cap with the valve cap clip.

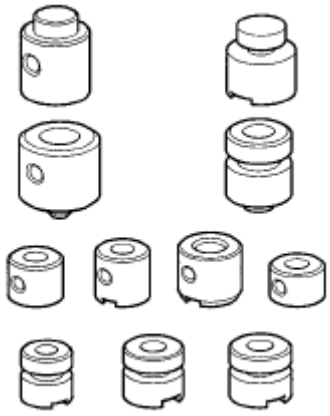


**Fig. 388: Identifying Valves And Springs**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the valve and the valve spring (A) in the valve body (B). Push the valve spring in with a screwdriver, then install the spring seat (C).

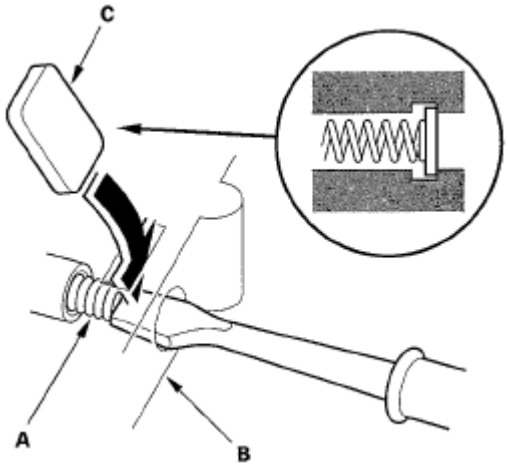



**Fig. 389: Pushing Valve Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages.
2. Do not use a magnet to remove the check balls, it may magnetize the check balls.
3. Inspect the main valve body for scoring and damage.

4. Check all valves for free movement. If any fail to slide freely, refer to **VALVE BODY REPAIR** .
5. Coat all parts with ATF during assembly.

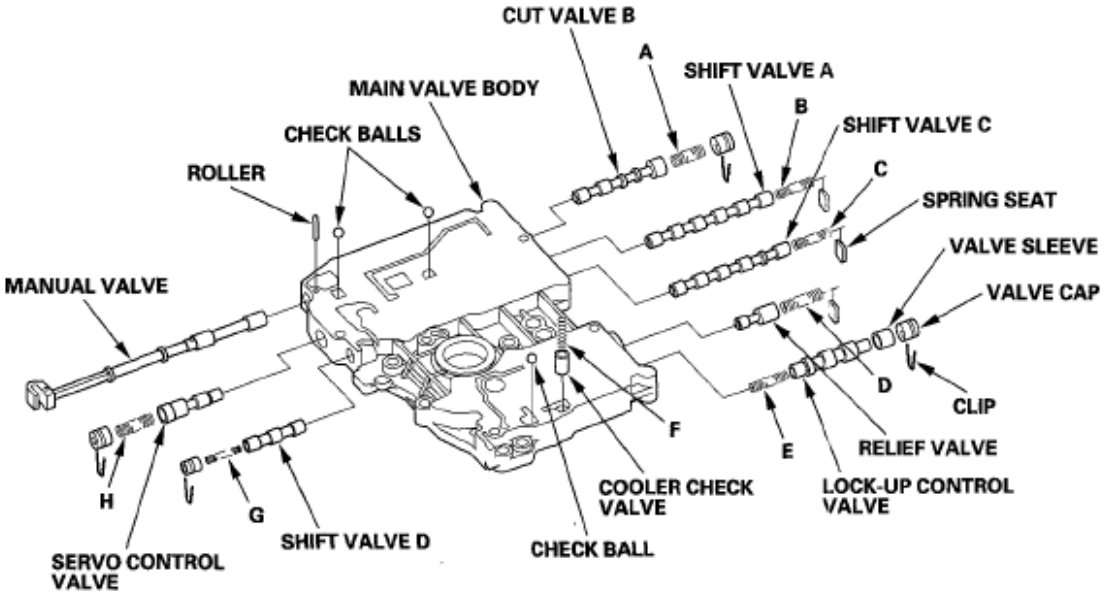



**Fig. 390: Disassembling Main Valve Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## VALVE SPRING SPECIFICATIONS

## VALVE SPRING SPECIFICATIONS

| Valve Springs | | Standard (New)-Unit: mm (in.) | | | |
|---|---|---|---|---|---|
| | | Wire Diameter | O.D. | Free Length | No. of Coils |
| A | Cut valve B spring | 0.8 (0.031) | 9.9 (0.390) | 27.3 (1.075) | 8.0 |
| B | Shift valve A spring | 0.8 (0.031) | 7.1 (0.280) | 23.7 (0.933) | 9.7 |
| C | Shift valve C | 0.8 (0.031) | 7.1 (0.280) | 23.7 (0.933) | 9.7 |

| | | | | | |
|---|---|---|---|---|---|
| | spring | | | | |
| D | Relief valve spring | 1.0 (0.039) | 9.6 (0.378) | 34.1 (1.343) | 10.2 |
| E | Lock-up control valve spring | 0.6 (0.024) | 7.1 (0.280) | 31.2 (1.228) | 11.2 |
| F | Cooler check valve spring | 0.85 (0.033) | 6.6 (0.260) | 27.0 (1.063) | 11.3 |
| G | Shift valve D spring | 0.8 (0.031) | 5.6 (0.220) | 28.1 (1.106) | 15.9 |
| H | Servo control valve spring | 0.8 (0.031) | 9.9 (0.390) | 27.3 (1.075) | 8.0 |

**ATF PUMP INSPECTION**

1. Install the ATF pump drive gear (A), the ATF pump driven gear (B), and the ATF pump driven gear shaft (C) in the main valve body (D). Lubricate all parts with ATF, and install the ATF pump driven gear with its grooved and chamfered side facing up.

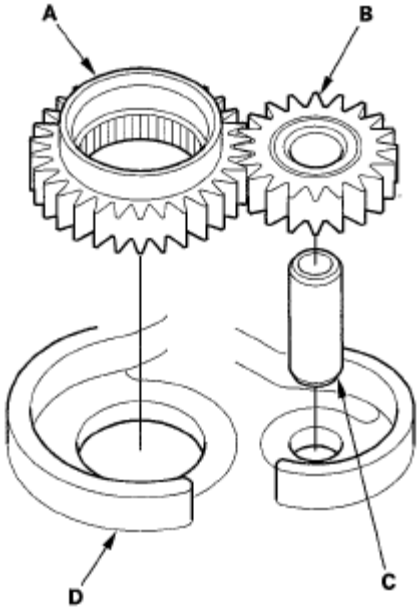



**Fig. 391: Identifying ATF Pump Drive Gear, ATF Pump Driven Gear, ATF Pump Driven Gear Shaft And Main Valve Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the side clearance of the ATF pump drive gear (A) and the ATF pump driven gear (B).

**ATF Pump Gears Side (Radial) Clearance**

**Standard (New)**

**ATF Pump Drive Gear:**

**0.210-0.265 mm (0.0083-0.0104 in.)**

**ATF Pump Driven Gear:**

**0.070-0.125 mm (0.0028-0.0049 in.)**

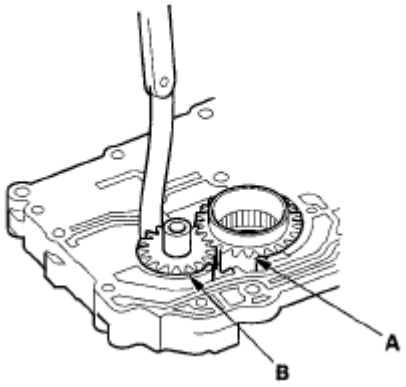



**Fig. 392: Measuring Side Clearance Of ATF Pump Drive Gear And ATF Pump Driven Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ATF pump driven gear shaft. Measure the thrust clearance between the ATF pump driven gear (A) and the valve body (B) with a straight edge (C) and a feeler gauge (D).

**ATF Pump Drive/Driven Gear Thrust (Axial)**

**Clearance:**

**Standard (New): 0.03-0.06 mm (0.001-0.002 in.)**

**Service Limit: 0.07 mm (0.003 in.)**

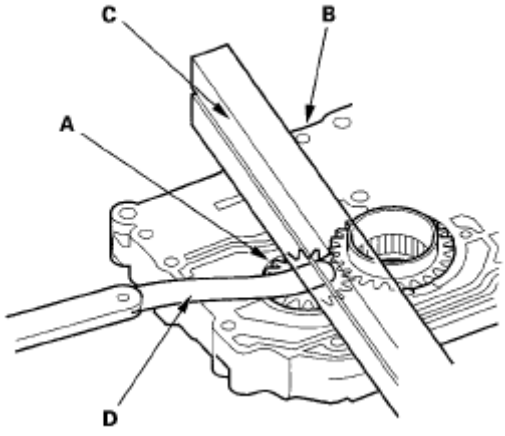



**Fig. 393: Measuring Thrust Clearance Between ATF Pump Driven Gear And Valve Body**

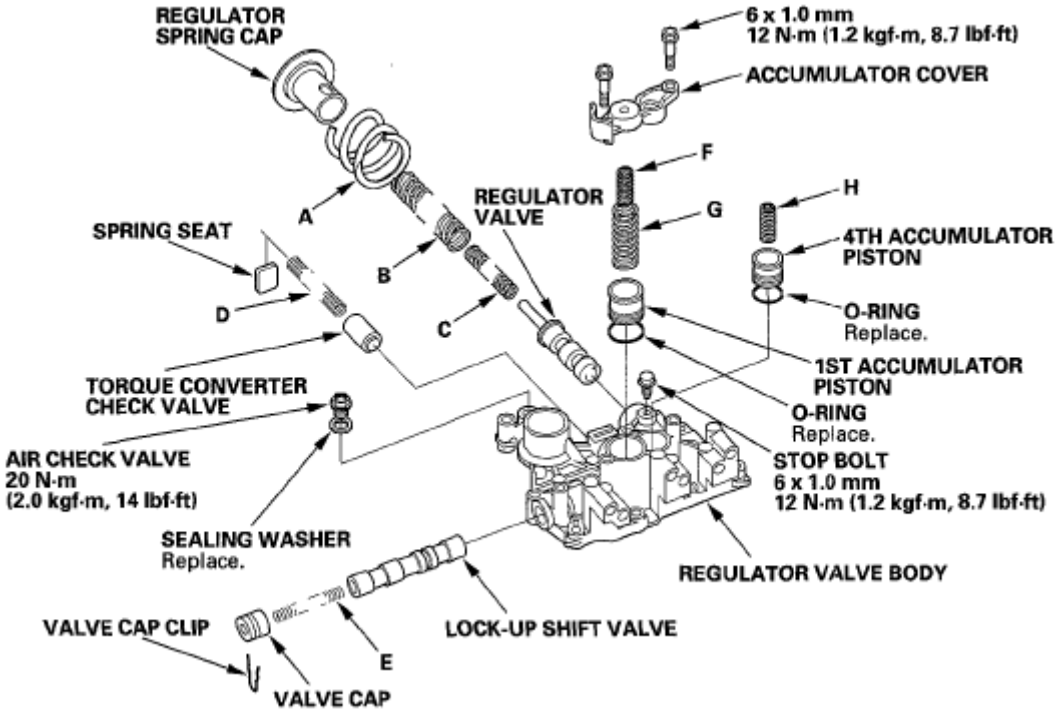
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## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**REGULATOR VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages except the air check valve filter.
2. Inspect the regulator valve body for scoring and damage.
3. Hold the regulator spring cap in place while removing the stop bolt. The regulator spring cap is spring loaded. Once the stop bolt is removed, release the spring cap slowly so it does not pop out.
4. Check all valves for free movement. If any fail to slide freely, refer to **VALVE BODY REPAIR** .
5. Check the air check valve filter for clogging. If the filter is clogged, remove the air check valve, and clean the filter thoroughly by pouring clean ATF. Do not blow out the filter with compressed air. Replace the air check valve, if the filter or check valve (ball) is clogged or damaged.
6. Coat all parts with ATF during assembly.
7. Align the hole in the regulator spring cap with the stop bolt hole, then press the spring cap into the valve body, and tighten the stop bolt.



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**Fig. 394: Disassembling Regulator Valve Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## VALVE SPRING SPECIFICATIONS

## VALVE SPRING SPECIFICATIONS

| Valve Springs | | Standard (New)-Unit: mm (in.) | | | |
|---|---|---|---|---|---|
| | | Wire Diameter | O.D. | Free Length | No. of Coils |
| A | Stator reaction spring | 4.5 (0.177) | 35.4 (1.394) | 30.3 (1.193) | 1.92 |
| B | Regulator valve spring A | 1.9 (0.075) | 14.7 (0.579) | 80.6 (3.173) | 16.1 |
| C | Regulator valve spring B | 1.6 (0.063) | 9.2 (0.362) | 44.0 (1.732) | 12.5 |
| D | Torque converter check valve spring | 1.2 (0.047) | 8.6 (0.339) | 33.8 (1.331) | 12.2 |
| E | Lock-up shift valve spring | 1.0 (0.039) | 6.6 (0.260) | 35.5 (1.398) | 18.2 |
| F | 1st accumulator spring B | 2.4 (0.094) | 12.2 (0.480) | 35.0 (1.378) | 7.7 |
| G | 1st accumulator spring A | 2.4 (0.094) | 18.6 (0.732) | 50.1 (1.972) | 6.7 |
| H | 4th accumulator spring | 2.5 (0.098) | 14.6 (0.575) | 29.9 (1.177) | 4.9 |

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**SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY**

1. Clean all parts thoroughly in solvent, and dry them with compressed air. Blow out all passages.
2. Inspect the servo body for scoring and damage.
3. Check all valves for free movement. If any fail to slide freely, refer to **VALVE BODY REPAIR** .
4. Coat all parts with ATF during assembly.

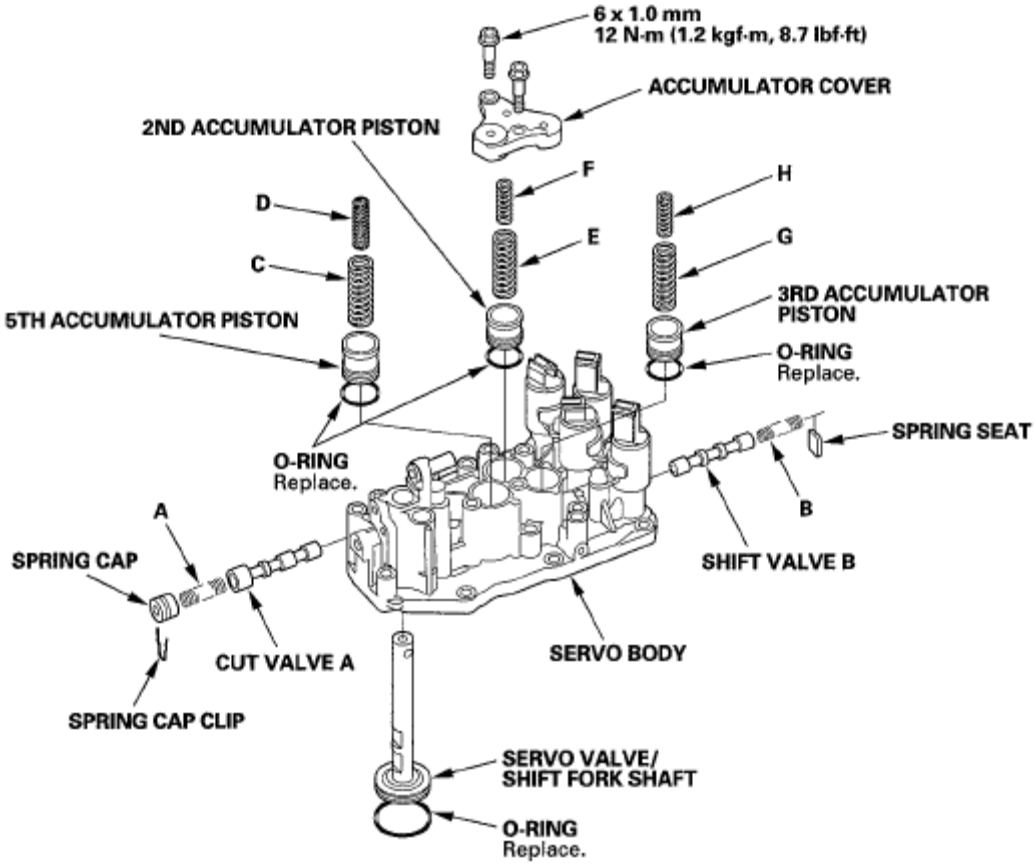



**Fig. 395: Disassembling Servo Body & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## VALVE SPRING SPECIFICATIONS

## VALVE SPRING SPECIFICATIONS

| | Standard (New)-Unit: mm (in.) | | | |
|---|---|---|---|---|
| | Wire | | Free | No. of |

| Valve Springs | | Diameter | O.D. | Length | Coils |
|---|---|---|---|---|---|
| A | Cut valve A spring | 0.9 (0.035) | 9.9 (0.390) | 22.3 (0.878) | 6.9 |
| B | Shift valve B spring | 0.8 (0.031) | 7.1 (0.280) | 23.7 (0.933) | 9.7 |
| C | 5th accumulator spring A | 2.5 (0.098) | 16.6 (0.654) | 46.9 (1.846) | 7.8 |
| D | 5th accumulator spring B | 1.9 (0.075) | 10.0 (0.394) | 38.5 (1.516) | 10.6 |
| E | 2nd accumulator spring A | 1.8 (0.071) | 14.6 (0.575) | 43.8 (1.724) | 7.9 |
| F | 2nd accumulator spring B | 1.85 (0.073) | 9.4 (0.370) | 32.5 (1.280) | 8.7 |
| G | 3rd accumulator spring A | 1.8 (0.071) | 14.6 (0.575) | 43.8 (1.724) | 7.9 |
| H | 3rd accumulator spring B | 1.85 (0.073) | 9.4 (0.370) | 32.5 (1.280) | 8.7 |

**SHIFT SOLENOID VALVE REMOVAL AND INSTALLATION**

**NOTE: Do not hold the solenoid valve connector to remove and install the solenoid valves. Be sure to hold the solenoid valve body.**

1. Remove the mounting bolts, then remove the solenoid valves by holding the solenoid valve body.
2. Install new O-rings (E) on each solenoid valve.

**NOTE: A new shift solenoid valve comes with new O-rings. If**

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**you install a new solenoid valve, use the O-rings provided on it.**

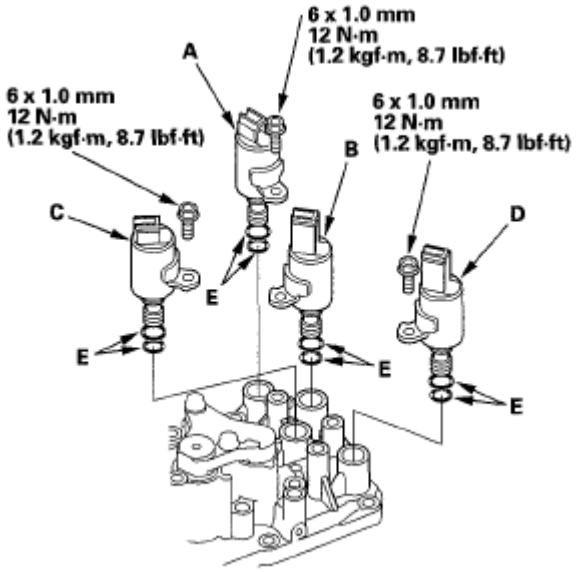



**Fig. 396: Identifying Shift Solenoid Valve, O-Ring & Bolts w/Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install shift solenoid valve D (black connector) by holding the shift solenoid valve body; be sure to install the mounting bracket contacts to the servo body.
4. Install shift solenoid valve C (brown connector) by holding the shift solenoid valve body; be sure to install the mounting bracket contacts to the servo body.
5. Install shift solenoid valve B (black connector) by holding the shift solenoid valve body; be sure to install the mounting bracket Contacts to the servo body.
6. Install shift solenoid valve A (brown connector) by holding the shift solenoid valve body; be sure to install the mounting bracket contacts to the bracket of shift solenoid valve B.

**NOTE: Do not install shift solenoid valve A before installing shift solenoid valve B. If shift solenoid valve A is installed before installing shift solenoid valve B, it may damage to hydraulic control system.**

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# TORQUE CONVERTER HOUSING

**MAINSHAFT BEARING AND OIL SEAL REPLACEMENT**

## Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
- Driver 07749-0010000
- Attachment, 62 x 68 mm 07746-0010500
- Attachment, 72 x 75 mm 07746-0010600

1. Remove the mainshaft bearing and oil seal using the adjustable bearing puller and a commercially available 3/8"-16 slide hammer (A).

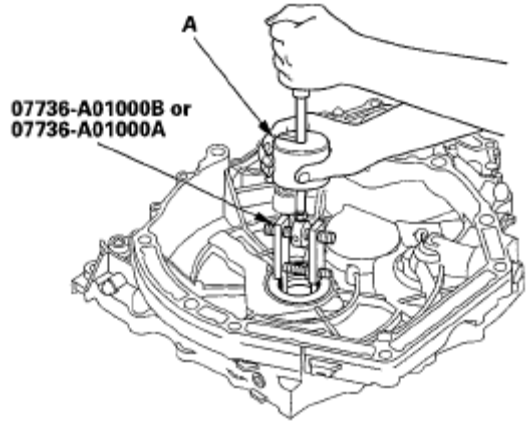



**Fig. 397: Removing Mainshaft Bearing And Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new mainshaft bearing until it bottoms in the torque converter housing using the driver and the 62 x 68 mm attachment.

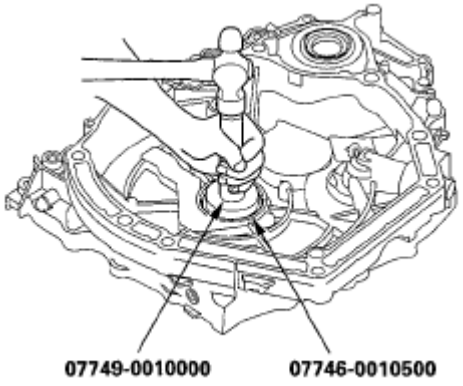



**Fig. 398: Tapping Mainshaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new oil seal flush with the housing using the driver and the 72 x 75 mm attachment.

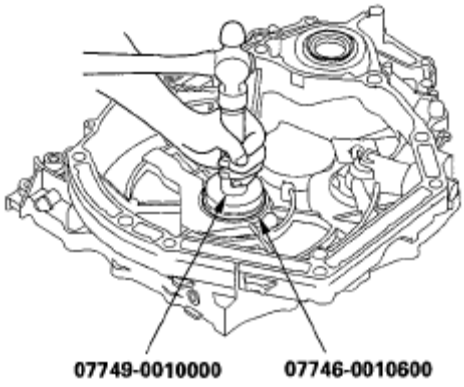



**Fig. 399: Tapping Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT BEARING REPLACEMENT**

## Special Tools Required

- Adjustable bearing puller, 25-40 mm 07736-A01000B or 07736-A01000A
- Driver 07749-0010000
- Attachment, 62 x 68 mm 07746-0010500

1. Remove the countershaft bearing using the adjustable bearing puller and a commercially available 3/8"-16 slide hammer (A).

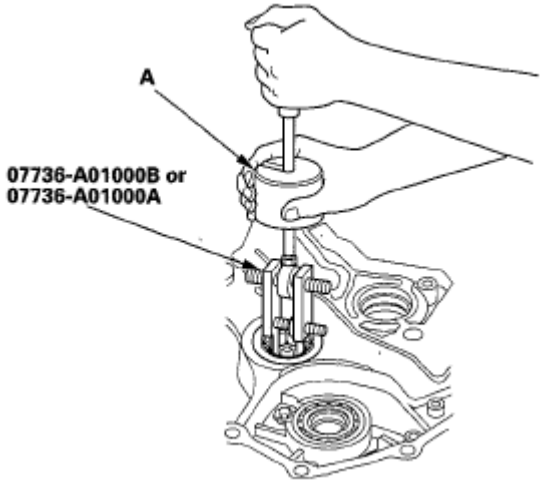



**Fig. 400: Removing Countershaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the ATF guide plate (A).

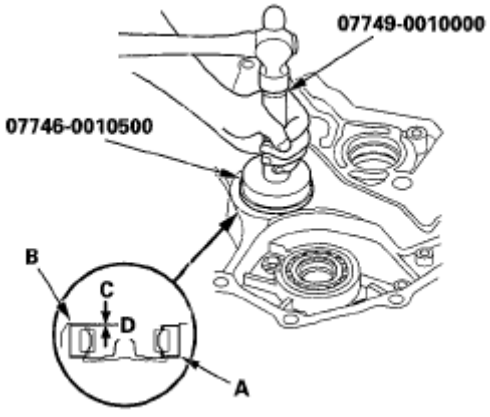



**Fig. 401: Tapping ATF Guide Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new countershaft bearing (B) in the housing using the driver and the 62 x 68 mm attachment; install the bearing outer race surface in height (C) of 0-0.03 mm (0-0.001 in.) above the housing surface (D). Do not install the bearing exceeding 0.03 mm (0.001 in.) high from housing surface.

**SECONDARY SHAFT BEARING REPLACEMENT**

## Special Tools Required

- Driver 07749-0010000
- Attachment, 62 x 68 mm 07746-0010500

1. Remove the bolt, then remove the lock washer (A) and the bearing set plate (B).

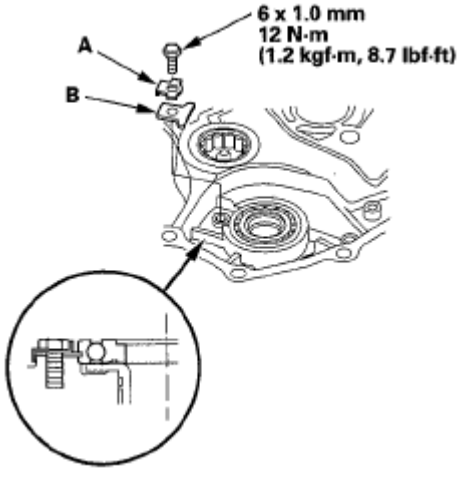



**Fig. 402: Identifying Lock Washer, Bearing Set Plate w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the secondary shaft bearing (A) by heating the housing to about 212 ° F (100 °C) with a heat gun (B). Do not heat the housing more than 212 °F (100 °C).

**NOTE: Let the housing cool to normal temperature before installing the bearing.**

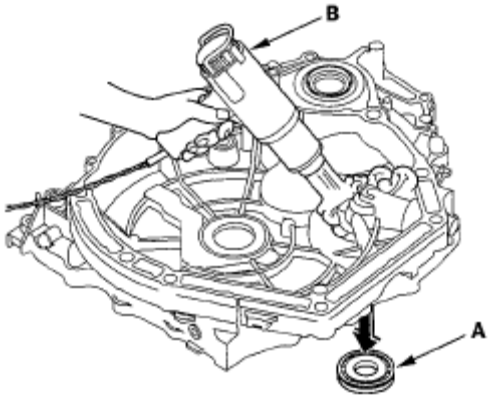



**Fig. 403: Heating Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install new O-rings (A) on the ATF guide collar (B), then install the ATF guide collar in the housing.

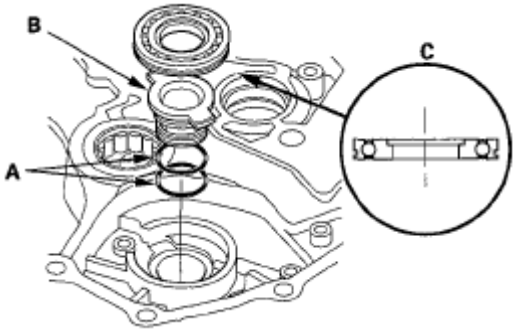



**Fig. 404: Identifying O-Rings And ATF Guide Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new secondary shaft bearing (C) in the direction shown.
5. Install the secondary shaft bearing using the driver and the 62 x 68 mm attachment securely in the housing.

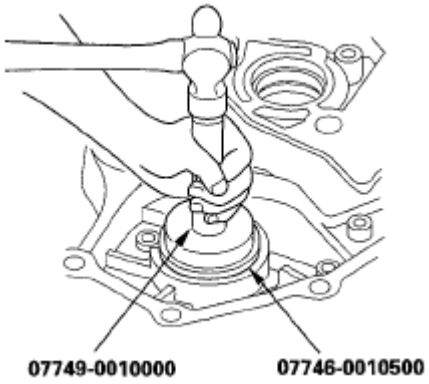



**Fig. 405: Tapping Secondary Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Check that the bearing groove aligns with the housing surface, then install the bearing set plate aligned with the bearing groove.
7. Install a new lock washer and the bolt, then bend the lock tab of the lock washer against the bolt head.

**LUBRICATION CHECK VALVE REPLACEMENT**

1. Remove the sealing bolt (A) and the sealing washer (B).

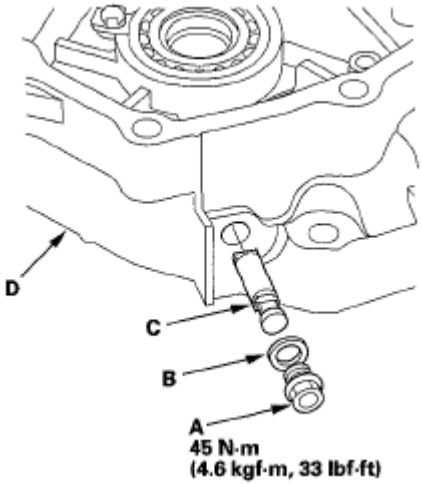



**Fig. 406: Identifying Lubrication Check Valve, Sealing Bolt, Sealing Washer & Bolt w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the lubrication check valve (C) from the torque converter housing (D).

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3. Install a new lubrication check valve, a new sealing washer, and the sealing bolt.

**SELECTOR CONTROL SHAFT OIL SEAL REPLACEMENT**

## Special Tools Required

- Driver 07749-0010000
- Oil seal driver attachment 07947-ZV00100

1. Remove the oil seal from the torque converter housing.

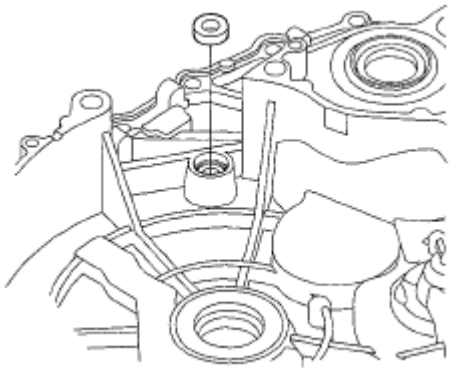
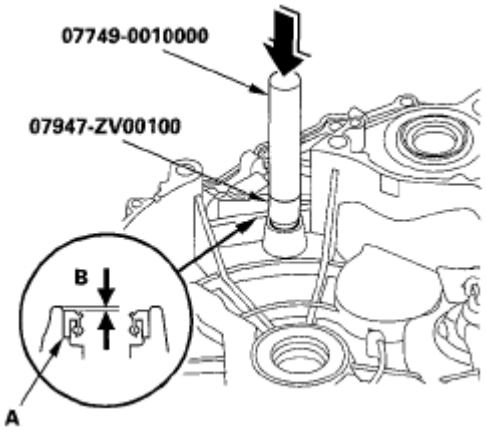


**Fig. 407: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. install a new oil seal (A) in the torque converter housing to a depth (B) of 0.5-1.5 mm (0.02-0.06 in.) below the housing surface using the driver and the oil seal driver attachment.



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**Fig. 408: Pressing Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SHAFTS AND CLUTCHES

### MAINSHAFT DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Inspect the thrust needle bearing and the needle bearing for galling and rough movement.

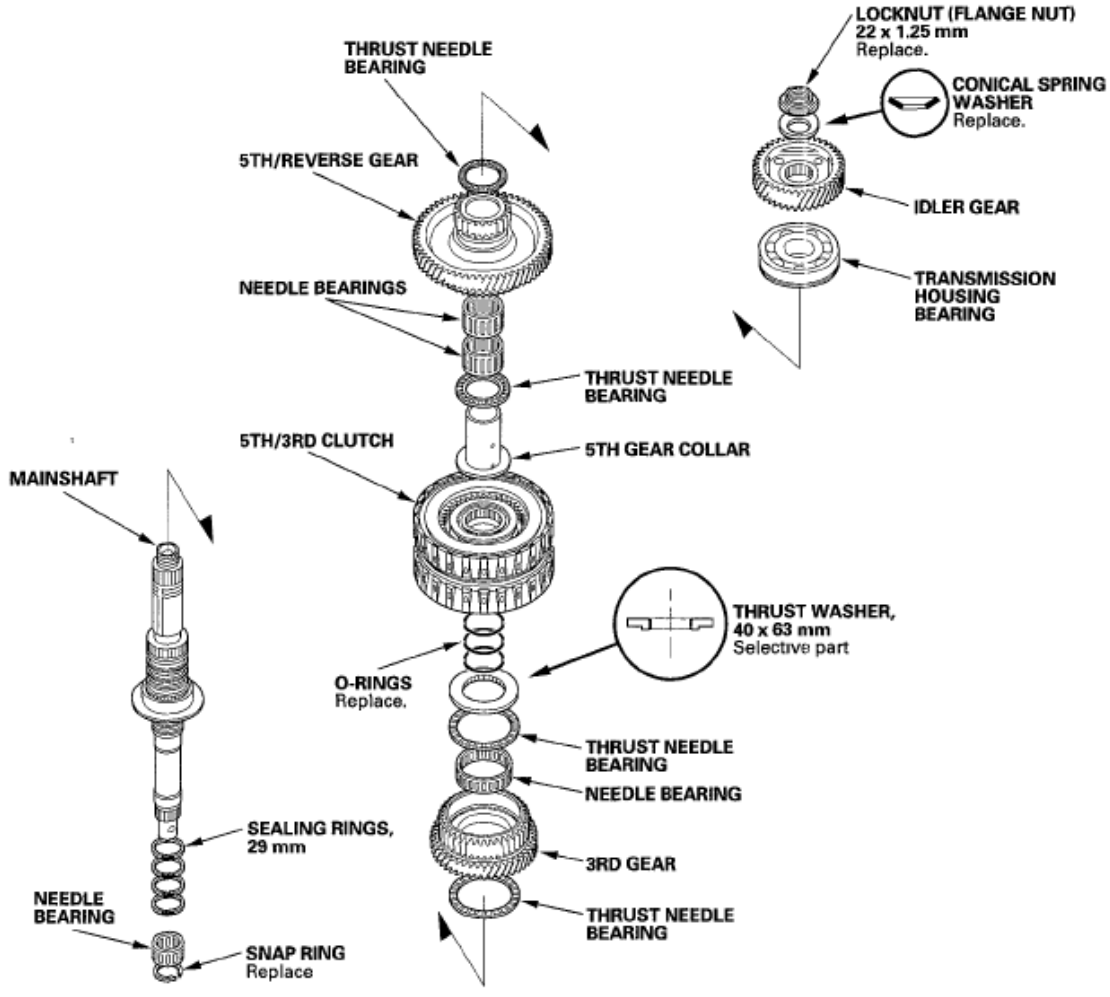



**Fig. 409: Exploded View Of Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the splines for excessive wear and damage.
3. Check the shaft bearing surface for scoring and excessive wear.

4. Before installing the O-rings, wrap the shaft splines with tape to prevent O-ring damage.
5. Lubricate all parts with ATF during assembly.
6. Install the conical spring washer, the 40 x 63 mm thrust washer in the direction shown.
7. Replace the locknut and the conical spring washer with new ones when assembling the transmission.
8. Check the axial clearance of 3rd gear (see **MAINSHAFT 3RD GEAR AXIAL CLEARANCE INSPECTION** ).

**MAINSHAFT 3RD GEAR AXIAL CLEARANCE INSPECTION**

1. Remove the mainshaft transmission housing bearing (see **BEARING REMOVAL** ).
2. Install the thrust needle bearing (A), 3rd gear (B), the needle bearing (C), the thrust needle bearing (D), the 40 x 63 mm thrust washer (E), the 3rd/5th clutch (F), the 5th gear collar (G), and the transmission housing bearing (H) on the mainshaft (I). Do not install the O-rings during inspection.

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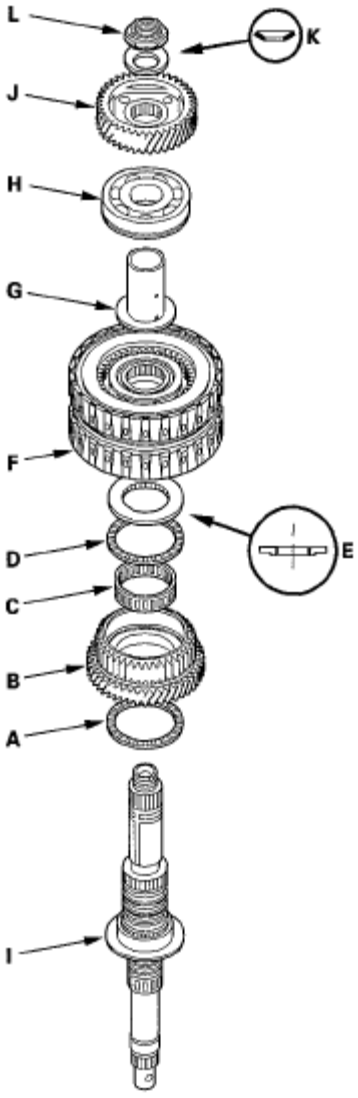



**Fig. 410: Identifying Thrust Needle Bearing, 3rd Gear, Needle Bearing And Thrust Needle Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the idler gear (J) on the mainshaft by a press, then install the conical spring washer (K) and the locknut (L).
4. Tighten the locknut to 29 N.m (3.0 kgf.m, 22 lbf.ft).
5. Set the dial indicator (A) on 3rd gear (B).

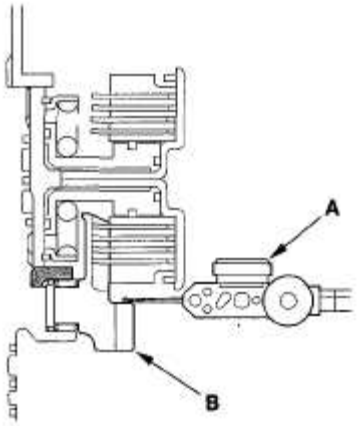



**Fig. 411: Setting Dial Indicator On 3rd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Lift 3rd gear (A) up while holding the mainshaft, and use the dial indicator (B) to read the 3rd gear axial clearance.

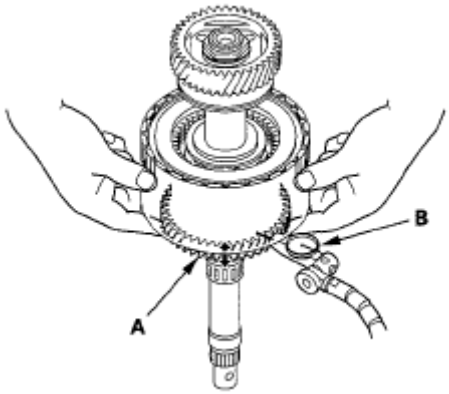



**Fig. 412: Measuring 3rd Gear Axial Clearance**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Measure the 3rd gear axial clearance in at least three places while moving 3rd gear. Use the average as the actual clearance.

   **Standard: 0.04-0.10 mm (0.002-0.004 in.)**

8. If the clearance is out of standard, remove the 40 x 63 mm thrust washer and measure its thickness (A).

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**Fig. 413: Identifying Thrust Washer Thickness**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Select and install a new thrust washer, then recheck.

**THRUST WASHER, 40 x 63 mm**

**THRUST WASHER THICKNESS SPECIFICATION**

| No. | Part Number | Thickness |
|---|---|---|
| 1 | 90414-RPC-002 | 3.750 mm (0.1476 in.) |
| 2 | 90415-RPC-002 | 3.775 mm (0.1486 in.) |
| 3 | 90416-RPC-002 | 3.800 mm (0.1496 in.) |
| 4 | 90417-RPC-002 | 3.825 mm (0.1506 in.) |
| 5 | 90418-RPC-002 | 3.850 mm (0.1516 in.) |
| 6 | 90419-RPC-002 | 3.875 mm (0.1526 in.) |
| 7 | 90420-RPC-002 | 3.900 mm (0.1535 in.) |
| 8 | 90421-RPC-002 | 3.925 mm (0.1545 in.) |
| 9 | 90422-RPC-002 | 3.950 mm (0.1555 in.) |
| 10 | 90423-RPC-002 | 3.975 mm (0.1565 in.) |
| 11 | 90424-RPC-002 | 4.000 mm (0.1575 in.) |

10. After replacing the thrust washer, make sure the clearance is within standard.
11. Disassemble the installed parts from the mainshaft.
12. Reinstall the bearing in the transmission housing (see **BEARING INSTALLATION** ).

**COUNTERSHAFT DISASSEMBLY, INSPECTION, AND REASSEMBLY**

1. Inspect the thrust needle bearing and the needle bearing for galling and rough movement.

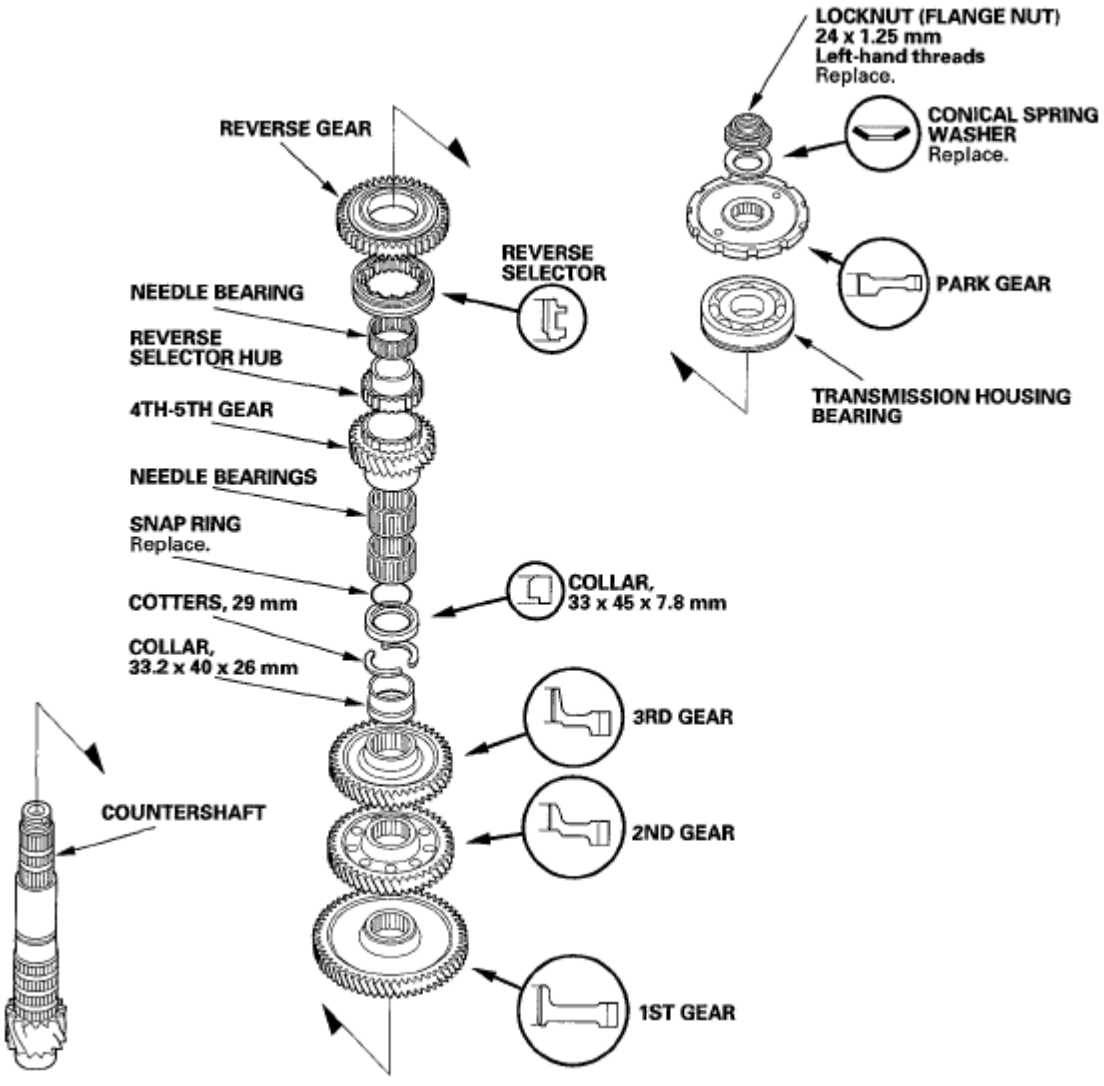



**Fig. 414: Exploded View Of Countershaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the splines for excessive wear and damage.
3. Check the shaft bearing surface for scoring and excessive wear.
4. Lubricate all parts with ATF during assembly.
5. Install the conical spring washer, the park gear, the reverse selector, the 33 x 45 x 7.8 mm collar, and gears in the direction shown.
6. Replace the locknut and the conical spring washer with new ones when assembling the transmission. The countershaft locknut has left-hand threads.
7. Some reverse selector hubs are press-fitted to the countershaft; remove the hubs with a press (see **COUNTERSHAFT REVERSE SELECTOR HUB REMOVAL** ), and install them with the special tool and a press (see **COUNTERSHAFT REVERSE SELECTOR HUB REMOVAL** ).

**COUNTERSHAFT REVERSE SELECTOR HUB REMOVAL**

1. Remove the reverse selector hub from the countershaft by hand. If the reverse selector hub (A) cannot be removed by hand, it is press-fitted to the countershaft (B), and remove it from the countershaft with a press. Place 4th-5th gear (C) on press bases (D), and place a shaft protector (E) between the countershaft and press to prevent damaging the countershaft.

**NOTE: Some reverse selector hubs are not press-fitted, and can be removed without using a press.**

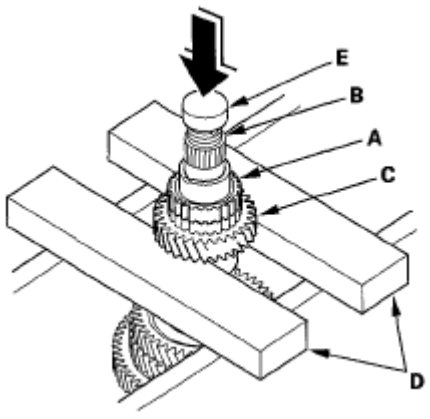



**Fig. 415: Removing Countershaft Reverse Selector Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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2. Support the bottom of the countershaft with one hand, then press the countershaft out of the press-fitted reverse selector hub, and remove the countershaft while holding the underside the countershaft. The countershaft will drop down after pressing it out of the press-fitted reverse selector hub.
3. Remove the remaining parts from the countershaft, if necessary.

**COUNTERSHAFT REVERSE SELECTOR HUB INSTALLATION**

## Special Tools Required

Driver, 40 mm I.D. 07746-0030100

1. Install 1st gear, 2nd gear, 3rd gear, the 33.2 x 40 x 26 mm collar, the 29 mm cotters, and the 33 x 45 x 7.8 mm collar on the countershaft, and secure them with the snap ring.
2. Install the needle bearings and 4th-5th gear.
3. Slide the reverse selector hub (A) over the countershaft (B), then press it in place using the 40 mm I.D. driver and a press.

**NOTE: Some reverse selector hubs are not press-fitted, and can be installed without using the special tool and a press.**

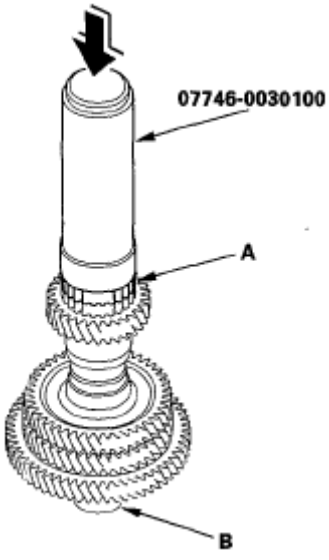


**Fig. 416: Installing Countershaft Reverse Selector Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SECONDARY SHAFT DISASSEMBLY, INSPECTION, AND REASSEMBLY**

1. Inspect the thrust needle bearing and the needle bearing for galling and rough movement.

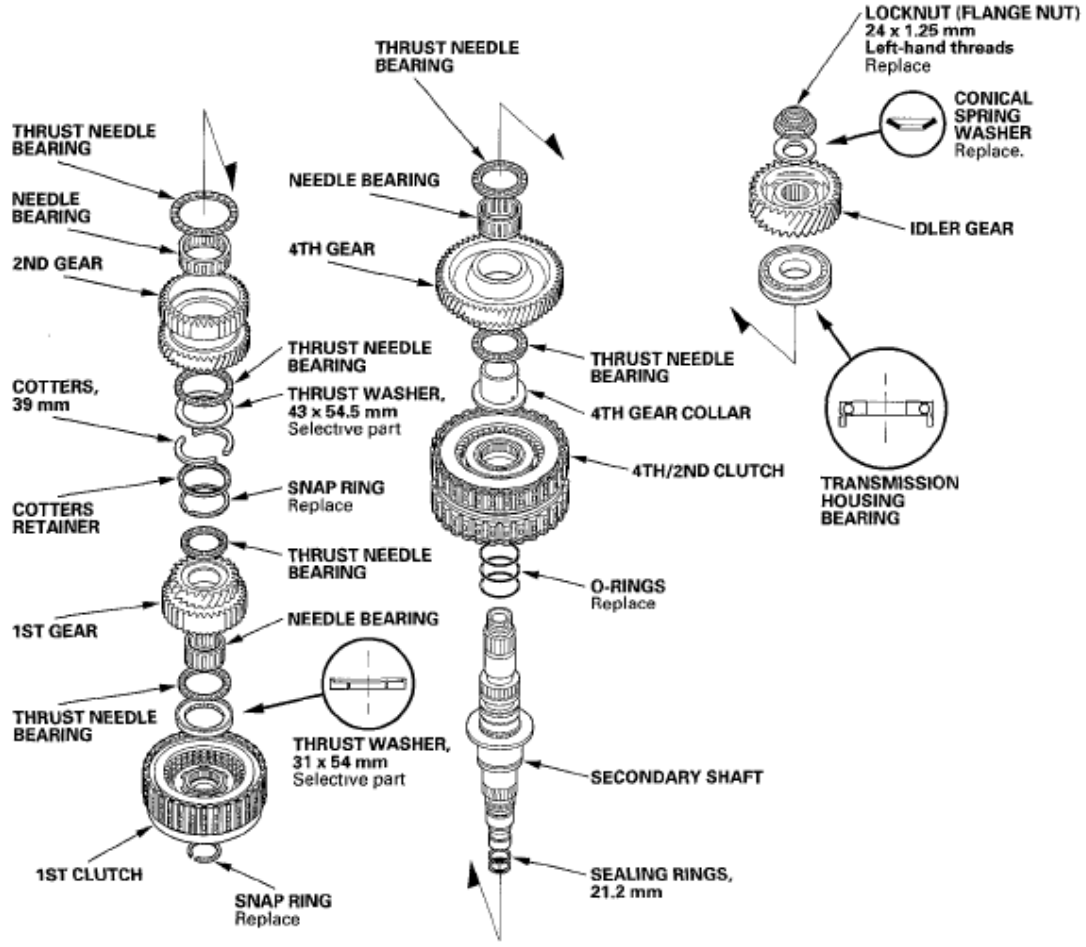



**Fig. 417: Exploded View Of Secondary Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the splines for excessive wear and damage.
3. Check the shaft bearing surface for scoring and excessive wear.
4. Before installing the O-rings, wrap the shaft splines with tape to prevent O-ring damage.

5. Lubricate all parts with ATF during assembly.
6. Install the conical spring washer, the idler gear, and the 31 x 54 mm thrust washer in the direction shown.
7. Replace the locknut and the conical spring washer with new ones when assembling the transmission. The locknut has left-hand threads.
8. Check the axial clearance of 1st gear (see **SECONDARY SHAFT 1ST GEAR AXIAL CLEARANCE INSPECTION** ) and 2nd gear (see **SECONDARY SHAFT 2ND GEAR AXIAL CLEARANCE INSPECTION** ).
9. Inspect the condition of the sealing rings. If the sealing rings are worn, distorted, or damaged, replace them (see **SECONDARY SHAFT SEALING RING REPLACEMENT** ).

**SECONDARY SHAFT 1ST GEAR AXIAL CLEARANCE INSPECTION**

1. Install the thrust needle bearing (A), 1st gear (B), the needle bearing (C), the thrust needle bearing (D), the 31 x 54 mm thrust washer (E), and the 1st clutch (F) on the secondary shaft (G), then secure them with the snap ring (H).

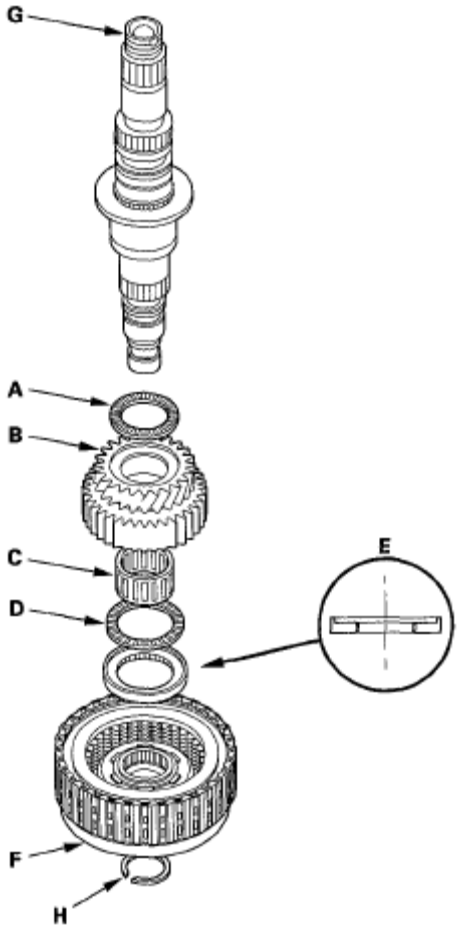



**Fig. 418: Identifying Thrust Needle Bearing, 1st Gear, Needle Bearing And Thrust Needle Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the clearance between the snap ring (A) and the 1st clutch drum (B) using a feeler gauge (C), in at least three places. Use the average as the actual clearance.

   **Standard: 0.04-0.12 mm (0.002-0.005 in.)**

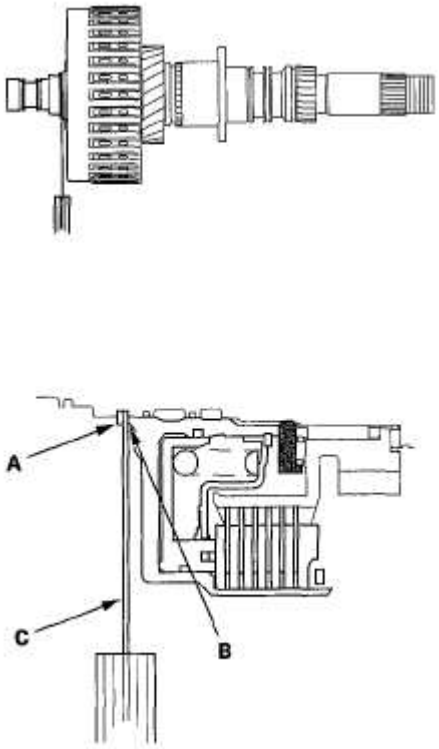



**Fig. 419: Measuring Clearance Between Snap Ring And 1st Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the clearance is out of standard, remove the 31 x 54 mm thrust washer and measure its thickness (A).

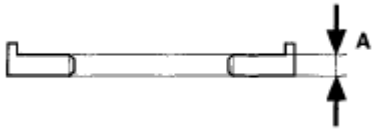



**Fig. 420: Identifying Thrust Washer Thickness**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Select and install a new thrust washer, then recheck.

**THRUST WASHER, 31 x 54 mm**

**THRUST WASHER THICKNESS SPECIFICATION**

| No. | Part Number | Thickness |
|---|---|---|
| 1 | 90521-RPC- | 3.925 mm |

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| | | |
|---|---|---|
| | 001 | (0.1545 in.) |
| 2 | 90522-RPC-001 | 3.950 mm (0.1555 in.) |
| 3 | 90523-RPC-001 | 3.975 mm (0.1565 in.) |
| 4 | 90524-RPC-001 | 4.000 mm (0.1575 in.) |
| 5 | 90525-RPC-001 | 4.025 mm (0.1585 in.) |
| 6 | 90526-RPC-001 | 4.050 mm (0.1594 in.) |
| 7 | 90527-RPC-001 | 4.075 mm (0.1604 in.) |
| 8 | 90528-RPC-001 | 4.100 mm (0.1614 in.) |
| 9 | 90529-RPC-001 | 4.125 mm (0.1624 in.) |
| 10 | 90530-RPC-000 | 4.150 mm (0.1634 in.) |
| 11 | 90531 -RPC-000 | 4.175 mm (0.1644 in.) |
| 12 | 90532-RPC-000 | 4.200 mm (0.1654 in.) |
| 13 | 90533-RPC-000 | 4.225 mm (0.1663 in.) |
| 14 | 90534-RPC-000 | 4.250 mm (0.1673 in.) |
| 15 | 90535-RPC-000 | 4.275 mm (0.1683 in.) |
| 16 | 90536-RPC-000 | 4.300 mm (0.1693 in.) |
| 17 | 90537-RPC-000 | 4.325 mm (0.1703 in.) |

5. After replacing the thrust washer, make sure the clearance is within standard.
6. Disassemble the installed parts from the secondary shaft.

**SECONDARY SHAFT 2ND GEAR AXIAL CLEARANCE INSPECTION**

1. Install the thrust needle bearing (A), the needle bearing (B), 2nd gear (C), the thrust needle bearing (D), the 43 x 54.5 mm thrust washer (E), the 39 mm cotters (F), and the cotter retainer (G) on the secondary shaft (H), then secure them with the snap ring (I).

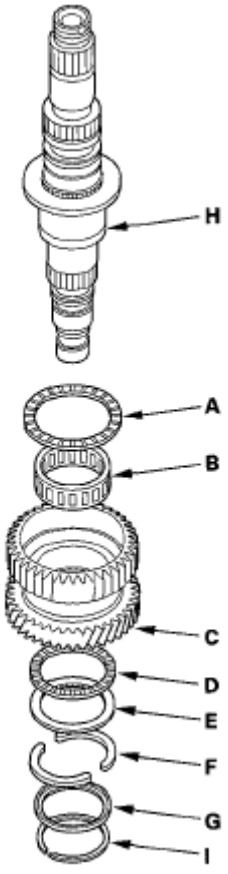



**Fig. 421: Identifying Thrust Needle Bearing, Needle Bearing, 2nd Gear, Thrust Needle Bearing And Thrust Washer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Set the dial indicator (A) on 2nd gear (B).

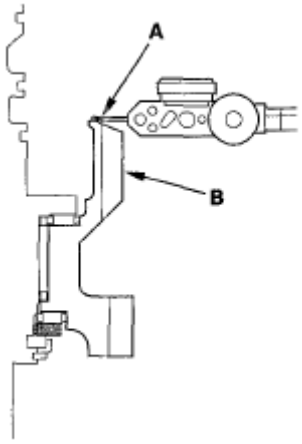



**Fig. 422: Setting Dial Indicator On 2nd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Lift 2nd gear (A) up while holding the secondary shaft (B), and use the dial indicator (C) to read the 2nd gear axial clearance.

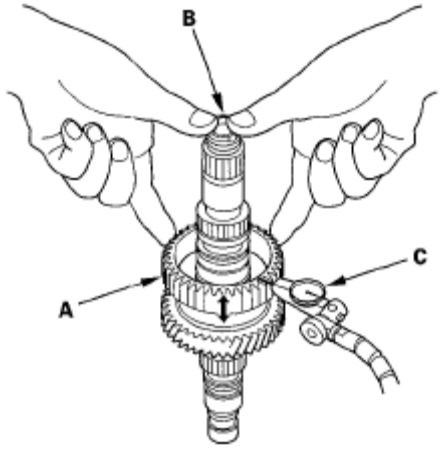



**Fig. 423: Measuring 2nd Gear Axial Clearance**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the 2nd gear axial clearance in at least three places while turning 2nd gear. Use the average as the actual clearance.

   **Standard: 0.04-0.12 mm (0.002-0.005 in.)**

5. If the clearance is out of standard, remove the 43 x 54.5 mm thrust washer and measure its thickness.

6. Select and install a new thrust washer, then recheck.

**THRUST WASHER, 43 x 54.5 mm**

**THRUST WASHER THICKNESS SPECIFICATION**

| No. | Part Number | Thickness |
|---|---|---|
| 1 | 90502-RPC-000 | 2.900 mm (0.1142 in.) |
| 2 | 90503-RPC-000 | 2.925 mm (0.1152 in.) |
| 3 | 90504-RPC-000 | 2.950 mm (0.1161 in.) |
| 4 | 90505-RPC-000 | 2.975 mm (0.1171 in.) |
| 5 | 90506-RPC-000 | 3.000 mm (0.1181 in.) |
| 6 | 90507-RPC-000 | 3.025 mm (0.1191 in.) |
| 7 | 90508-RPC-000 | 3.050 mm (0.1201 in.) |
| 8 | 90509-RPC-000 | 3.075 mm (0.1211 in.) |
| 9 | 90510-RPC-000 | 3.100 mm (0.1220 in.) |
| 10 | 90511-RPC-000 | 3.125 mm (0.1230 in.) |
| 11 | 90512-RPC-000 | 3.150 mm (0.1240 in.) |
| 12 | 90513-RPC-000 | 3.175 mm (0.1250 in.) |
| 13 | 90514-RPC-000 | 3.200 mm (0.1260 in.) |

7. After replacing the thrust washer, make sure the clearance is within standard.

8. Disassemble the installed parts from the secondary shaft.

**SECONDARY SHAFT SEALING RING REPLACEMENT**

The sealing rings are synthetic resin with chamfered ends. Check the condition of the sealing rings, and replace them only if they are worn, distorted, or damaged.

1. For a better fit, squeeze sealing rings together slightly before installing them.



**Fig. 424: Identifying Sealing Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Apply ATF to new sealing rings, then install them on the mainshaft.

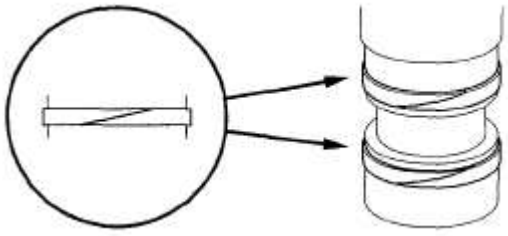


**Fig. 425: Identifying Sealing Rings On Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. After installing the sealing rings, check the following:
   - The rings are fully seated in the groove.
   - The rings are not twisted.
   - The chamfered ends of the rings are properly joined.

**CLUTCH DISASSEMBLY**

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## Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100 or 07HAE-PL50101
- Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A

1. Remove the snap ring using a screwdriver.

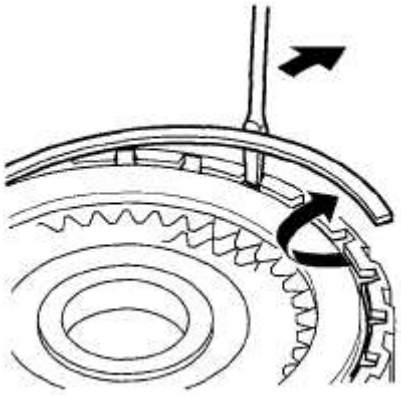
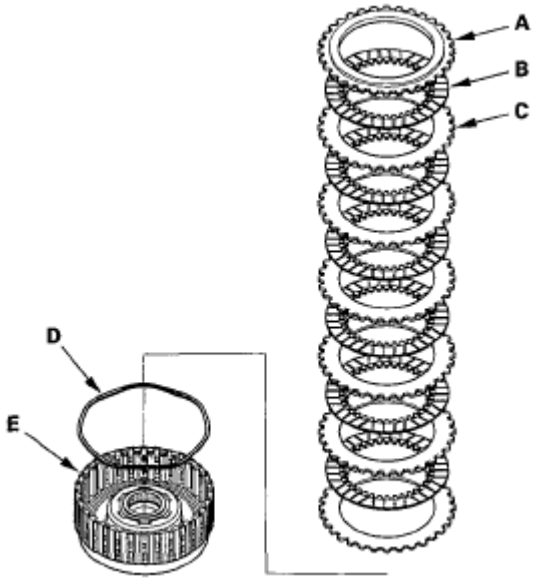


**Fig. 426: Removing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the clutch end-plate (A), the clutch discs (B) (6), the clutch wave-plates (C) (6), and the waved spring (D) from the 1st clutch drum (E)



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**Fig. 427: Identifying Clutch End-Plate, Clutch Discs, Clutch Wave-Plates, Waved Spring And 1st Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the clutch end-plate (A), the clutch discs (B) (4), the clutch flat-plates (C) (4), and the waved spring (D) from the 2nd clutch drum (E).

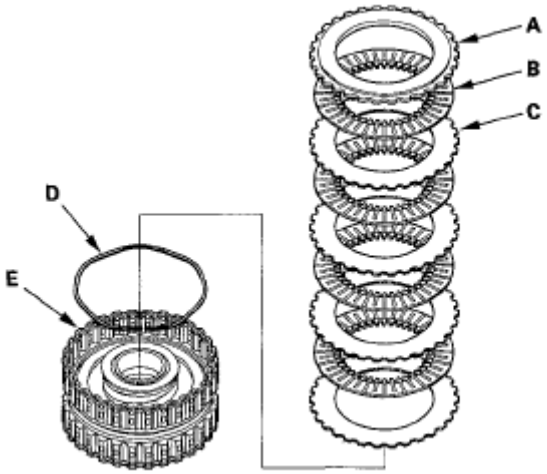



**Fig. 428: Disassembling 2nd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the clutch end-plate (A), the clutch discs (B) (4), the clutch flat-plates (C) (4), and the waved spring (D) from the 4th clutch drum (E).

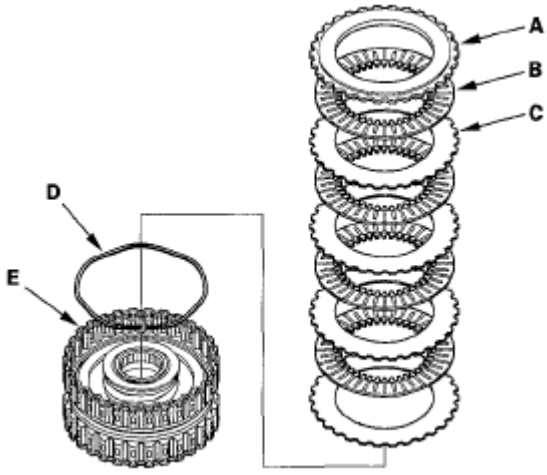



**Fig. 429: Disassembling 4th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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5. Remove the clutch end-plate (A), the clutch discs (B) (4), the clutch wave-plates (C) (4), and the waved spring (D) from the 3rd clutch drum (E).

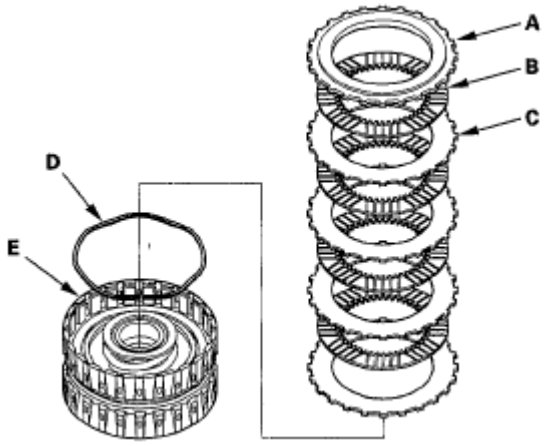



**Fig. 430: Disassembling 3rd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the clutch end-plate (A), the clutch discs (B) (4), the clutch wave-plates (C) (4), and the waved spring (D) from the 5th clutch drum (E).

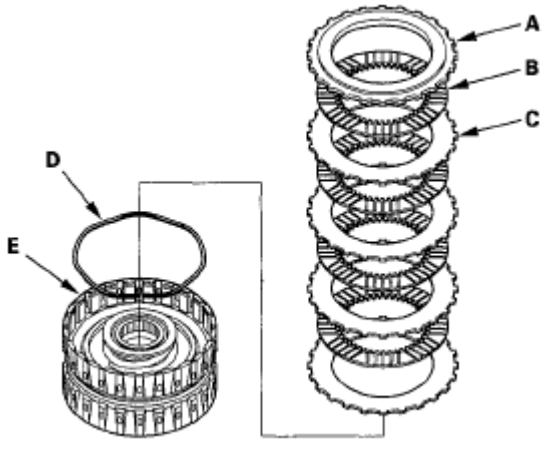



**Fig. 431: Disassembling 5th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the clutch spring compressor attachment and the clutch spring compressor bolt assembly.

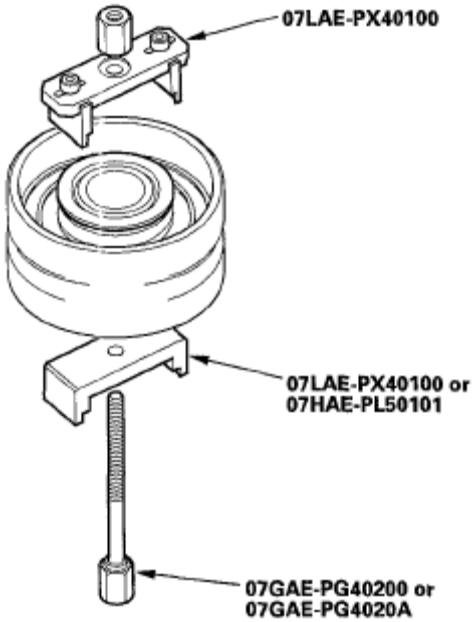



**Fig. 432: Identifying Clutch Spring Compressor Attachment And Clutch Spring Compressor Bolt Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Set the clutch spring compressor attachment (A) on the spring retainer (B) of the 1st clutch in such a way that it works on the clutch return spring (C).

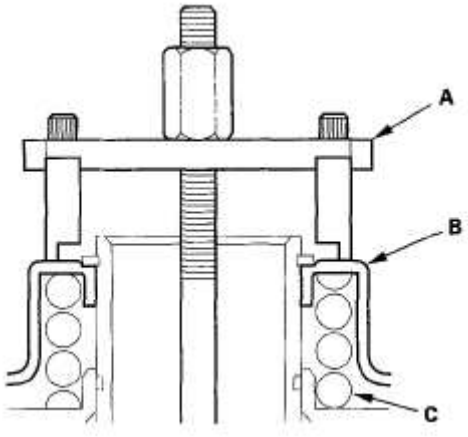



**Fig. 433: Setting Clutch Spring Compressor Attachment On Spring Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Be sure the clutch spring compressor attachment (A) is adjusted to have full contact with the return spring retainer (B).

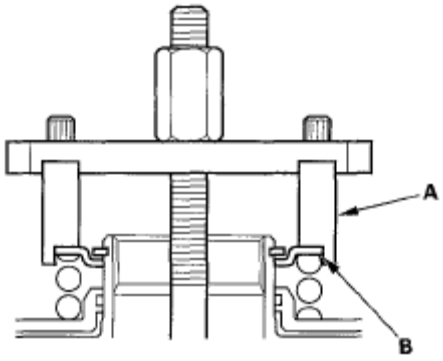



**Fig. 434: Identifying Clutch Spring Compressor Attachment And Return Spring Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Check the placement of the clutch spring compressor attachment. If either end of the clutch spring compressor attachment is set over an area of the spring retainer that is unsupported by the return spring, the retainer may be damaged.

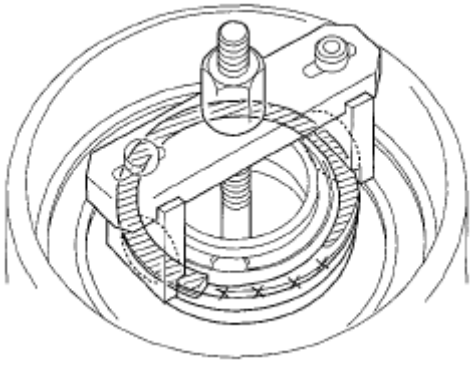


**Fig. 435: Identifying Clutch Spring Compressor Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Compress the return spring until the snap ring can be removed.

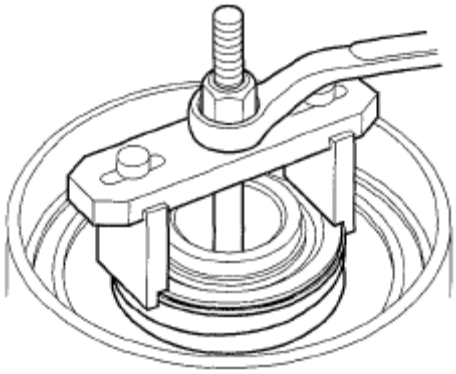


**Fig. 436: Compressing Return Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Remove the snap ring using snap ring pliers.

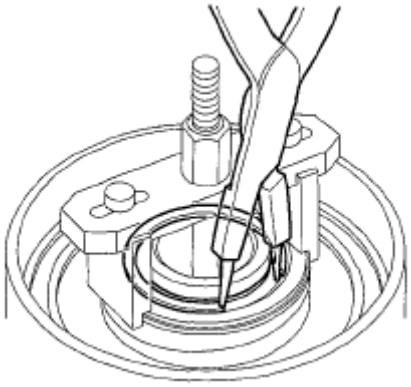


**Fig. 437: Removing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Remove the clutch spring compressor attachment and the clutch spring compressor bolt assembly.
14. Remove the snap ring (A), the spring retainer (B), and the return spring (C).

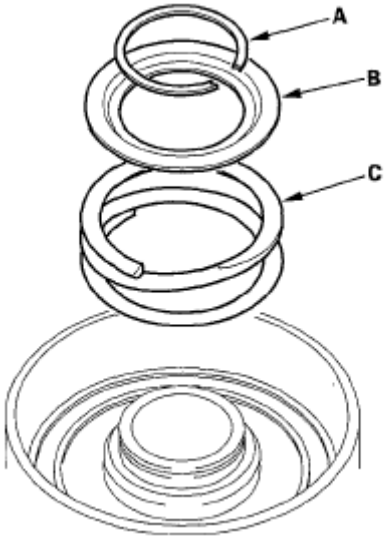



**Fig. 438: Identifying Snap Ring, Spring Retainer And Return Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Wrap a shop rag around the clutch drum, and apply air pressure to the fluid passage to remove the piston. Place a finger tip on the other passage while applying air pressure.

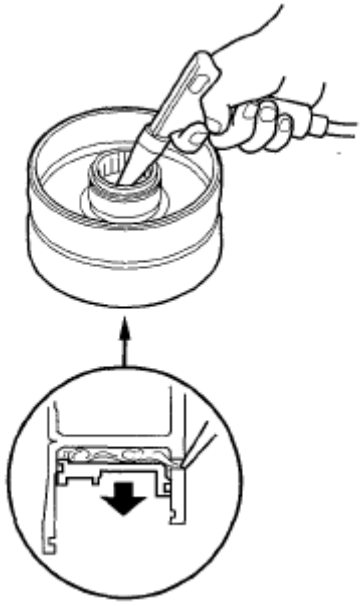


**Fig. 439: Applying Air Pressure To Fluid Passage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the clutch piston (A), and remove the outer O-ring (B) and the inner

O-ring (C) from the piston.

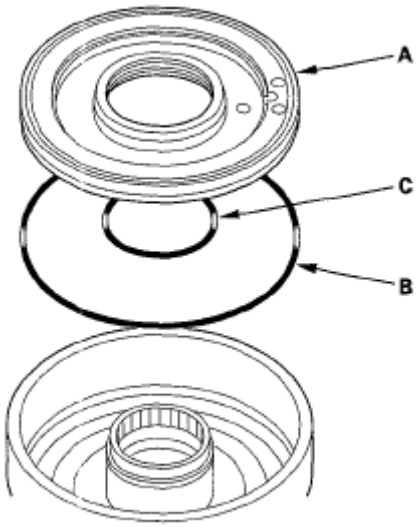



**Fig. 440: Identifying Clutch Piston, Outer O-Ring And Inner O-Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CLUTCH INSPECTION**

1. Inspect the 4th and 5th clutch pistons and the clutch piston check valves (A).

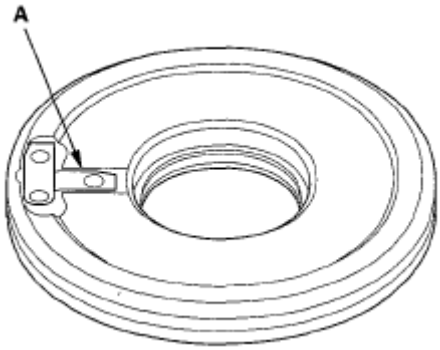



**Fig. 441: Identifying Clutch Piston Check Valves**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. If the clutch piston check valve is loose or damaged, replace the clutch piston.
3. Check the spring retainer for wear and damage.
4. Check the oil seal (A) on the spring retainer of the 1st, 2nd, and 3rd clutches for wear, damage, and peeling.

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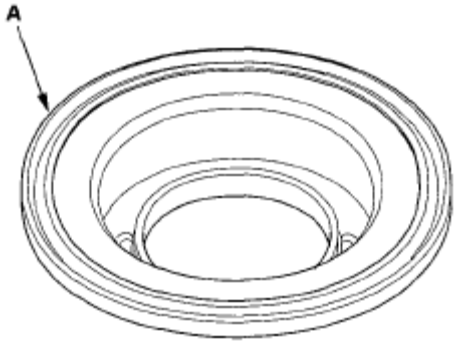



**Fig. 442: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. If the oil seal is worn, damaged, or peeling, replace the spring retainer.
6. Inspect the clutch discs, the clutch plates, and the clutch end-plate for wear, damage, and discoloration.

**Clutch Discs Standard Thickness:**

**1st Clutch: 1.94 mm (0.076 in.)**

**2nd Clutch: 1.96 mm (0.077 in.)**

**3rd Clutch: 1.94 mm (0.076 in.)**

**4th Clutch: 1.96 mm (0.077 in.)**

**5th Clutch: 1.94 mm (0.076 in.)**

**Clutch Plates Standard Thickness:**

**1st Clutch (wave-plates): 1.6 mm (0.063 in.)**

**2nd Clutch (flat-plates): 2.0 mm (0.079 in.)**

**3rd Clutch (wave-plates): 1.6 mm (0.063 in.)**

**4th Clutch (flat-plates): 1.6 mm (0.063 in.)**

**5th Clutch (wave-plates): 1.6 mm (0.063 in.)**

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7. If the clutch discs are worn or damaged, replace them as a set. If the clutch discs are replaced, inspect the clearance between the clutch end-plate and the top disc.
8. If any plate is worn, damaged, or discolored, replace the damaged plate with a new plate, and inspect the other wave-plates for a phase difference. If the clutch plate is replaced, inspect the clearance between the clutch end-plate and the top disc.
9. If the clutch end-plate is worn, damaged, or discolored, inspect the clearance between the clutch end-plate and the top disc, then replace the clutch end-plate.

**CLUTCH WAVE-PLATE PHASE DIFFERENCE INSPECTION**

1. Place the clutch wave-plate (A) on a surface plate, and set a dial indicator (B) on the wave-plate.

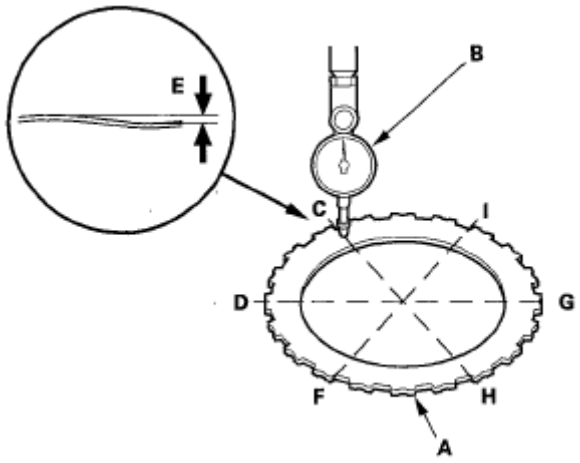



**Fig. 443: Checking Clutch Wave-Plate Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Find the bottom (C) of a phase difference of the wave-plate, zero the dial indicator and make a reference mark on the bottom of the wave-plate.
3. Rotate the 1st clutch wave-plate about 56-degrees or 67-degrees apart from the bottom while holding the wave-plate by its circumference, and rotate the 3rd and 5th clutch wave-plate about 60-degrees apart from the bottom while holding the wave-plate by its circumference. The dial indicator should be at the top (D) of a phase difference. Do not rotate the wave-plate while holding its

surface, always rotate it by holding its circumference.

4. Read the dial indicator. The dial indicator reads the phase difference (E) of the wave-plate between the bottom and top.

   **Standard: 0.07-0.20 mm (0.003-0.008 in.)**

5. Rotate the 1st clutch wave-plate about 67-degrees or 56-degrees from the top, and rotate the 3rd and 5th clutch wave-plate about 60-degrees. The dial indicator should be at the bottom of a phase difference (F and G), and zero the dial indicator.
6. Measure the phase difference at the other two tops (H and I) of the wave-plate by following steps 3 thru 5.
7. If the two values of the three measurements are within the standard, the wave-plate is OK. If the two values of the three measurements are out of the standard, replace the wave-plate.

**CLUTCH CLEARANCE INSPECTION**

## Special Tools Required

*Clutch compressor attachment 07ZAE-PRP0100*

1. Inspect the clutch piston, discs, plates, and the end-plate for wear and damage (see **CLUTCH INSPECTION** ), and inspect the clutch wave-plate phase difference (see **CLUTCH WAVE-PLATE PHASE DIFFERENCE INSPECTION** ), if necessary.
2. Install the clutch pistons in the clutch drums. Do not install the O-rings during inspection.

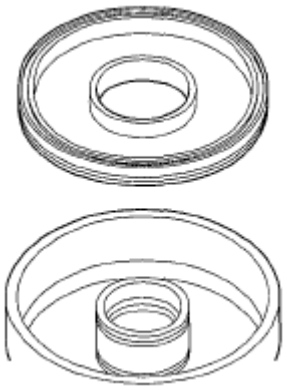


**Fig. 444: Identifying Clutch Pistons**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the waved spring (A) in the 1st clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (6) and the discs (D) (6). Install the clutch end-plate (E) with the flat side down on the top disc.

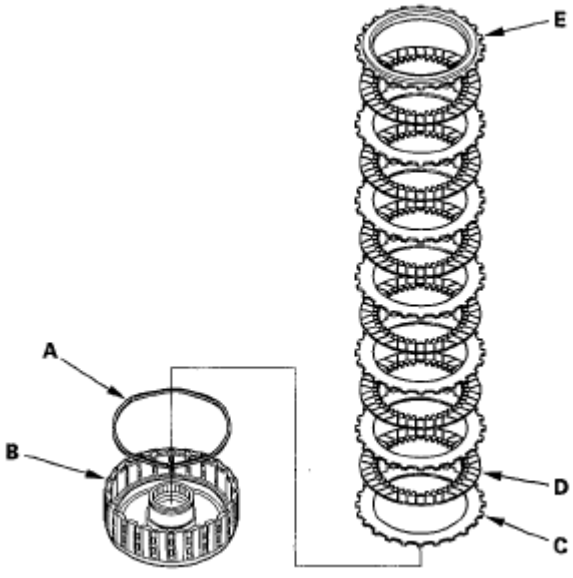



**Fig. 445: Disassembling 1st Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the waved spring (A) in the 2nd clutch drum (B). Starting with the clutch flat-plate, alternately install the flat-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

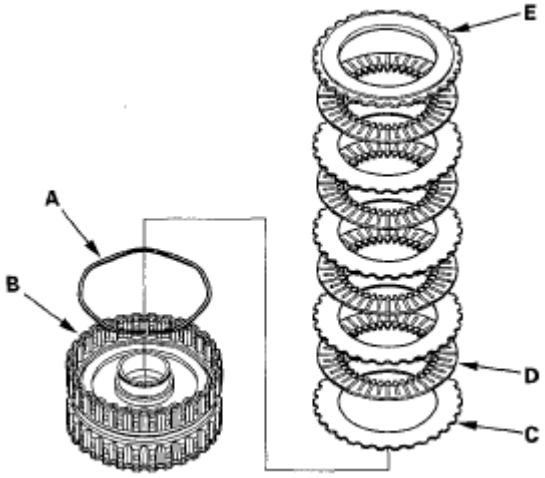



**Fig. 446: Disassembling 2nd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the waved spring (A) in the 4th clutch drum (B). Starting with the clutch flat-plate, alternately install the flat-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

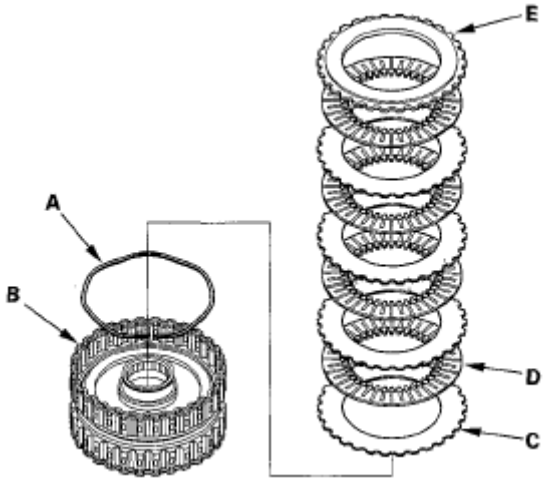



**Fig. 447: Disassembling 4th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the waved spring (A) in the 3rd clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

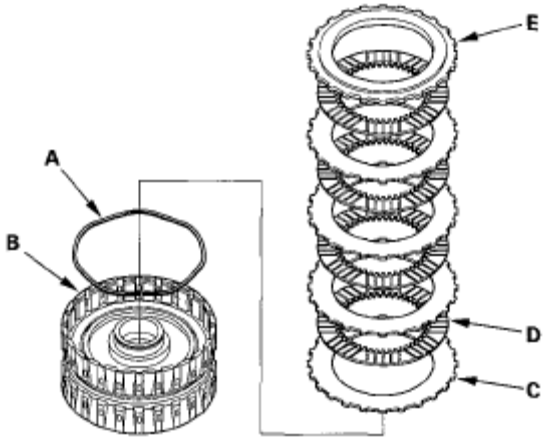



**Fig. 448: Disassembling 3rd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the waved spring (A) in the 5th clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

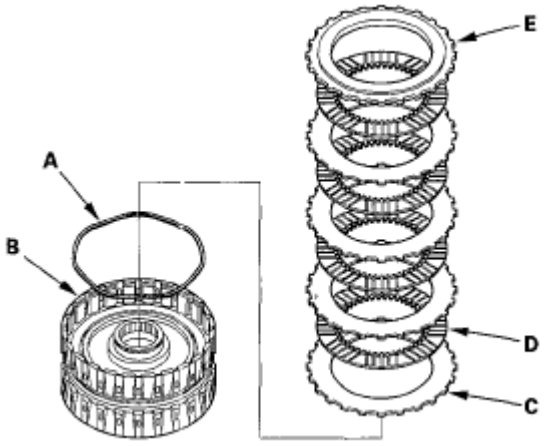



**Fig. 449: Disassembling 5th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the snap ring using a screwdriver to secure the clutch end-plate.

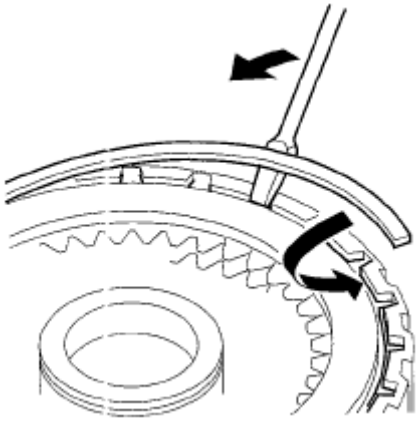


**Fig. 450: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Set a dial indicator (A) on the clutch end-plate (B).

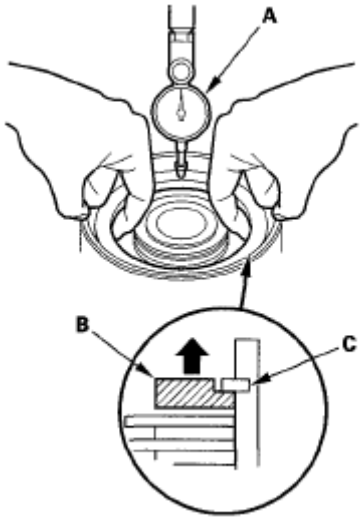



**Fig. 451: Setting Dial Indicator On Clutch End-Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Zero the dial indicator with the clutch end-plate lifted up to the snap ring (C).
11. Release the clutch end-plate to lower the clutch end-plate, then put the clutch compressor attachment on the end-plate (A).

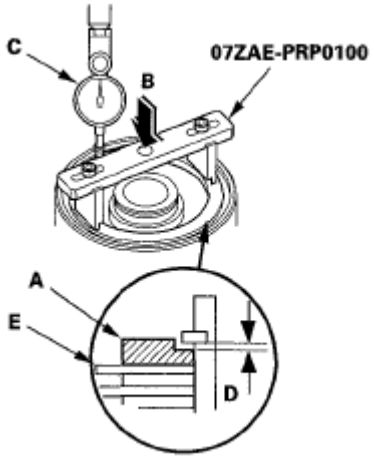



**Fig. 452: Pressing Clutch Compressor Attachment Down**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. For the 1st, 3rd, and 5th clutches: Press the clutch compressor attachment down with 150-160 N (15-16 kgf, 33-35 lbf) (B) using a force gauge, and read the dial indicator (C). The dial indicator reads the clearance (D) between the clutch end-plate and top disc (E). Take measurements in at least three places, and use the average as the actual clearance.
13. For 2nd and 4th clutches: Press the clutch compressor attachment down with 39 N (4 kgf, 9 lbf) (B) using a force gauge, and read the dial indicator (C). The dial indicator reads the clearance (D) between the clutch end-plate and top disc (E). Take measurements in at least three places, and use the average as the actual clearance.

    **Clearance between Clutch End-Plate and Top Disc Service Limit:**

    **1st Clutch: 1.62-1.82 mm (0.064-0.072 in.)**

    **2nd Clutch: 0.7-0.9 mm (0.028-0.035 in.)**

    **3rd Clutch: 0.93-1.13 mm (0.037-0.044 in.)**

    **4th Clutch: 0.7-0.9 mm (0.028-0.035 in.)**

    **5th Clutch: 0.93-1.13 mm (0.037-0.044 in.)**

14. If the clearance of the 1st, 3rd, or 5th clutch is out of the service limit, select a

new clutch end-plate from the following table.

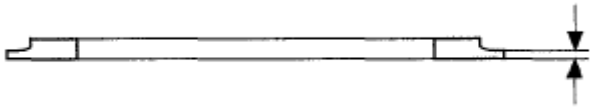


**Fig. 453: Identifying Clearance Between Clutch And Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 1ST CLUTCH END-PLATES

### 1ST CLUTCH END-PLATES THICKNESS SPECIFICATION

| Mark | Part Number | Thickness |
|---|---|---|
| 1 | 22551-RPC-003 | 2.1 mm (0.083 in.) |
| 2 | 22552-RPC-003 | 2.2 mm (0.087 in.) |
| 3 | 22553-RPC-003 | 2.3 mm (0.091 in.) |
| 4 | 22554-RPC-003 | 2.4 mm (0.094 in.) |
| 5 | 22555-RPC-003 | 2.5 mm (0.098 in.) |
| 6 | 22556-RPC-003 | 2.6 mm (0.102 in.) |
| 7 | 22557-RPC-003 | 2.7 mm (0.106 in.) |
| 8 | 22558-RPC-003 | 2.8 mm (0.110 in.) |
| 9 | 22559-RPC-003 | 2.9 mm (0.114 in.) |

## 3RD and 5TH CLUTCH END-PLATES

### 3RD AND 5TH CLUTCH END-PLATES THICKNESS SPECIFICATION

http://ReadManuals.com



| Mark | Part Number | Thickness |
|---|---|---|
| 1 | 22561-RPC-003 | 2.1 mm (0.083 in.) |
| 2 | 22562-RPC-003 | 2.2 mm (0.087 in.) |
| 3 | 22563-RPC-003 | 2.3 mm (0.091 in.) |
| 4 | 22564-RPC-003 | 2.4 mm (0.094 in.) |
| 5 | 22565-RPC-003 | 2.5 mm (0.098 in.) |
| 6 | 22566-RPC-003 | 2.6 mm (0.102 in.) |
| 7 | 22567-RPC-003 | 2.7 mm (0.106 in.) |
| 8 | 22568-RPC-003 | 2.8 mm (0.110 in.) |
| 9 | 22569-RPC-003 | 2.9 mm (0.114 in.) |

15. If the clearance of the 2nd or 4th clutch is out of the service limit, remove the clutch end-plate and check the clutch end-plate mark. Select a new clutch end-plate from the following tables by the mark on the old clutch end-plate; use the AC-AL Plates table with the old clutch end-plate is marked with between AC and AL, and use the AM-AV Plates table with the old clutch end-plate is marked with between AM and AV.



**Fig. 454: Identifying Clearance Between Clutch And Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2ND and 4TH CLUTCH END-PLATES**

http://ReadManuals.com



## AC-AL Plates

### 2ND AND 4TH CLUTCH END-PLATES THICKNESS SPECIFICATION (AC-AL PLATES)

| Mark | Part Number | Thickness |
|---|---|---|
| AC | 22551-RPC-004 | 2.1 mm (0.083 in.) |
| AD | 22552-RPC-004 | 2.2 mm (0.087 in.) |
| AE | 22553-RPC-004 | 2.3 mm (0.091 in.) |
| AF | 22554-RPC-004 | 2.4 mm (0.094 in.) |
| AG | 22555-RPC-004 | 2.5 mm (0.098 in.) |
| AH | 22556-RPC-004 | 2.6 mm (0.102 in.) |
| AJ | 22557-RPC-004 | 2.7 mm (0.106 in.) |
| AK | 22558-RPC-004 | 2.8 mm (0.110 in.) |
| AL | 22559-RPC-004 | 2.9 mm (0.114 in.) |

## AM-AV Plates

### 2ND AND 4TH CLUTCH END-PLATES THICKNESS SPECIFICATION (AM-AV PLATES)

| Mark | Part Number | Thickness |
|---|---|---|
| AM | 22561-RPC-004 | 2.1 mm (0.083 in.) |
| AN | 22562-RPC-004 | 2.2 mm (0.087 in.) |
| AP | 22563-RPC- | 2.3 mm (0.091 |

| | | |
|---|---|---|
| | 004 | in.) |
| AQ | 22564-RPC-004 | 2.4 mm (0.094 in.) |
| AR | 22565-RPC-004 | 2.5 mm (0.098 in.) |
| AS | 22566-RPC-004 | 2.6 mm (0.102 in.) |
| AT | 22567-RPC-004 | 2.7 mm (0.106 in.) |
| AU | 22568-RPC-004 | 2.8 mm (0.110 in.) |
| AV | 22569-RPC-004 | 2.9 mm (0.114 in.) |

16. Install a new clutch end-plate, and recheck the clearance. If the thickest clutch end-plate is installed, but the clearance is still over the service limit, replace the clutch discs and plates.

**1ST CLUTCH REASSEMBLY**

## Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100 or 07HAE-PL50101
- Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A

**NOTE:**

- **Hold the spring compressor attachment in a vise with soft jaws. Be careful not to damage the clutch drum.**
- **Insert the spring retainer can be adjusted (center of tolerance) to prevent damaging the spring retainer oil seal.**

1. Soak the clutch discs thoroughly in ATF for a minimum of 30 minutes.
2. Install a new O-ring (A) in the 1st clutch piston (B), and install a new O-ring (C) on the clutch drums (D).

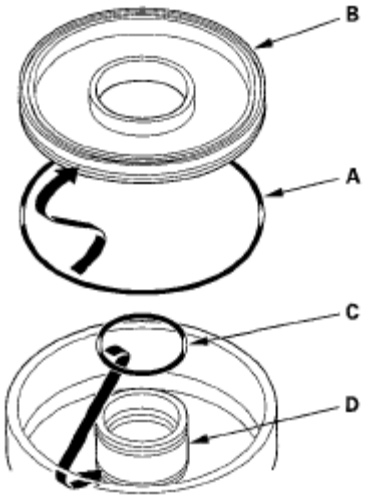



**Fig. 455: Installing O-Ring In 1st Clutch Piston**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the clutch piston (A) in the clutch drum (B). Apply pressure and rotate to ensure proper seating. Lubricate the piston O-ring with ATF before installing. Do not pinch the O-ring by installing the piston with too much force.

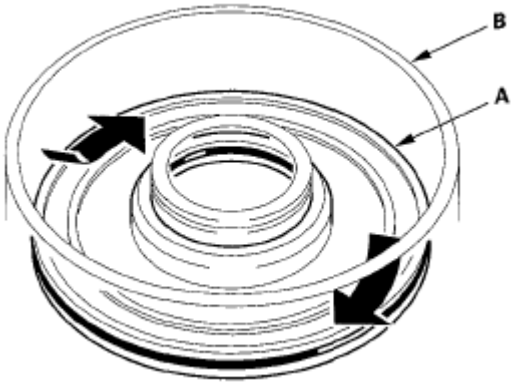



**Fig. 456: Installing Clutch Piston In Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Set the return spring (A) and the spring retainer (B), and position the snap ring (C) on the spring retainer.

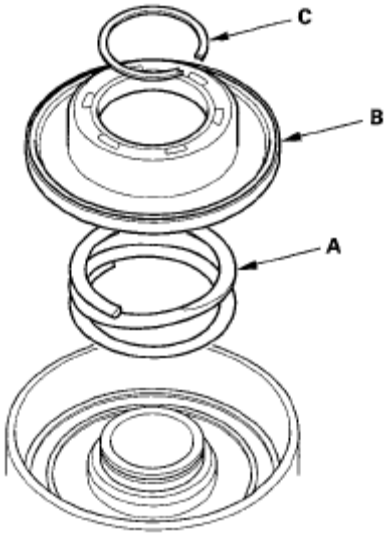



**Fig. 457: Identifying Return Spring, Spring Retainer And Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the clutch spring compressor attachment and the clutch spring compressor bolt assembly.




**Fig. 458: Identifying Clutch Spring Compressor Attachment And Clutch Spring Compressor Bolt Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Set the clutch spring compressor attachment (A) on the spring retainer (B) so that it compresses the clutch return spring (C).

**NOTE: Coat the circumference of the spring retainer and the areas where the spring retainer contacts the clutch piston with ATF before installation.**

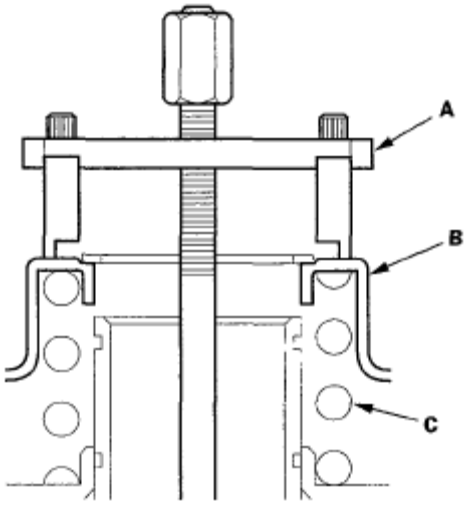



**Fig. 459: Setting Clutch Spring Compressor Attachment On Spring Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Compress the return spring carefully until the snap ring can be installed. Check that the spring retainer (A) is properly installed on the clutch hub (B). If improperly installed, change the position of the spring compressor attachment and the spring retainer.

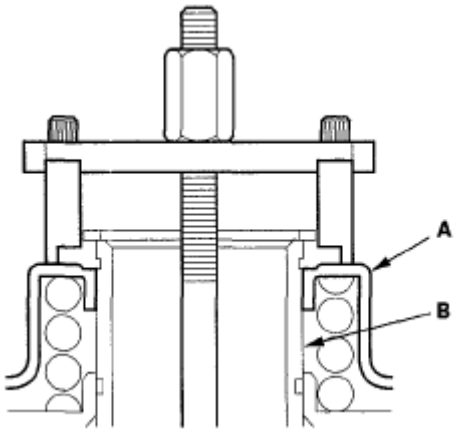



**Fig. 460: Identifying Spring Retainer And Clutch Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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8. Install the snap ring with snap ring pliers.

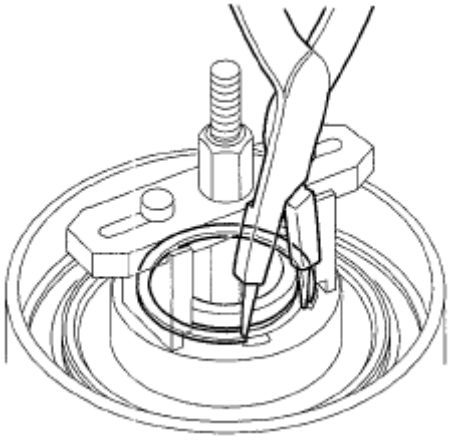


**Fig. 461: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Make sure the oil seal of the spring retainer (A) is properly installed on the clutch piston (B). If the oil seal was damaged or cracked, replace the spring retainer.

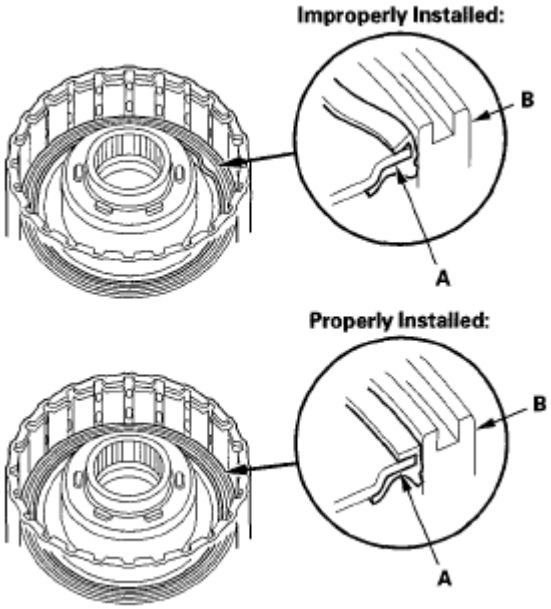



**Fig. 462: Identifying Spring Retainer Proper And Improper Installation Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the waved spring (A) in the 1st clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (6) and the discs (D) (6). Install the clutch end-plate (E) with the flat side down on the top disc.

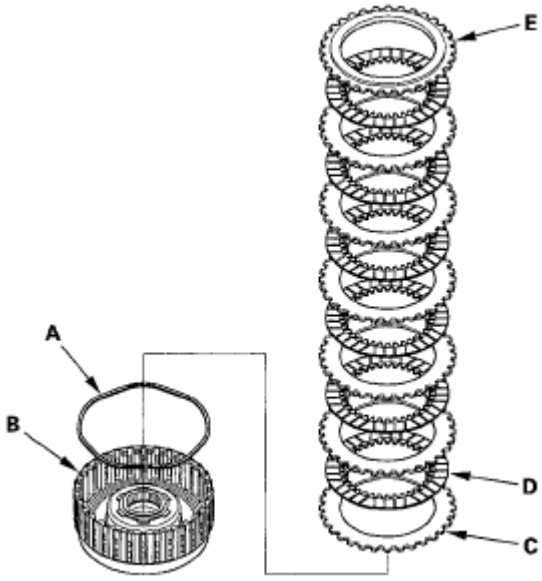



**Fig. 463: Disassembling 1st Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Install the snap ring using a screwdriver to secure the clutch end-plate.

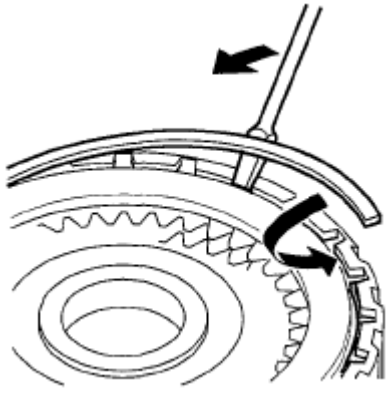


**Fig. 464: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Check that the clutch piston moves by applying air pressure into fluid passage.

**2ND, 3RD, 4TH, AND 5TH CLUTCH REASSEMBLY**

## Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100 or 07HAE-PL50101
- Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A

1. Soak the clutch discs thoroughly in ATF for a minimum of 30 minutes.
2. Install new O-rings (A) on the clutch piston (B).

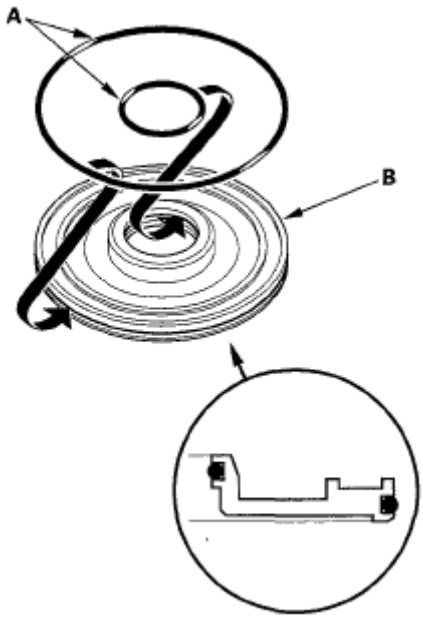



**Fig. 465: Installing O-Rings On Clutch Piston**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the clutch piston (A) in the clutch drum (B) while applying pressure and rotating to ensure proper seating. Do not pinch the O-ring.

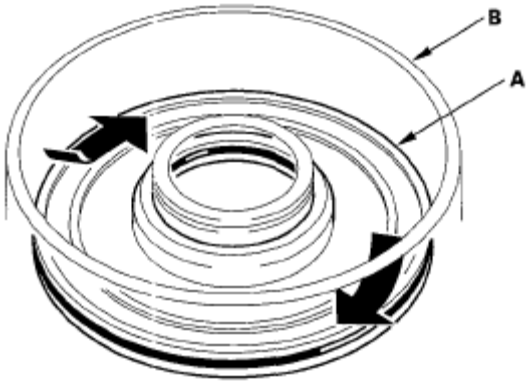



**Fig. 466: Installing Clutch Piston In Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Set the return spring (A) and the spring retainer (B), and position the snap ring (C) on the spring retainer.

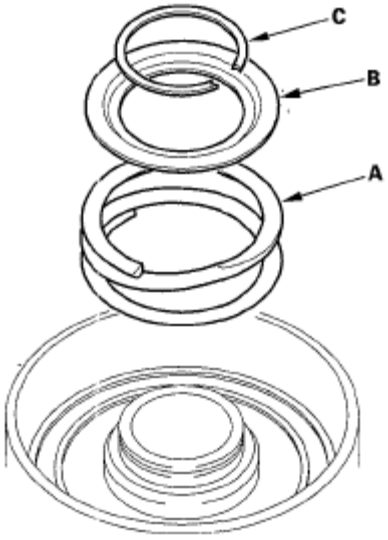



**Fig. 467: Identifying Return Spring, Spring Retainer And Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the clutch spring compressor attachment and the clutch spring compressor bolt assembly.

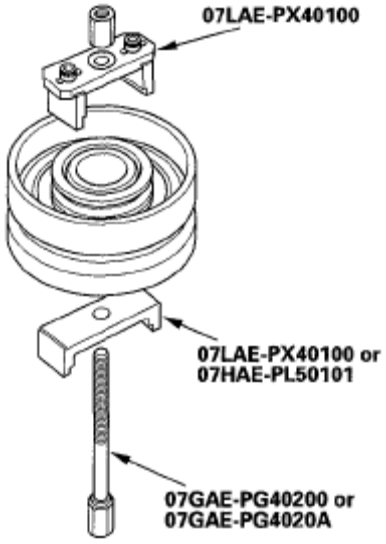



**Fig. 468: Identifying Clutch Spring Compressor Attachment And Clutch Spring Compressor Bolt Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Be sure the clutch spring compressor attachment (A) is adjusted to have full contact with the spring retainer (B).

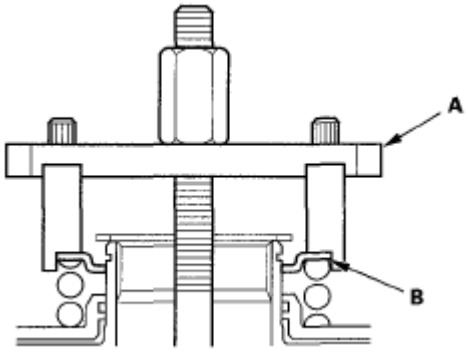



**Fig. 469: Identifying Clutch Spring Compressor Attachment With Spring Retainer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Check the placement of the clutch spring compressor attachment. If either end of the clutch spring compressor attachment is set over an area of the spring retainer that is unsupported by the return spring, the retainer may be damaged.

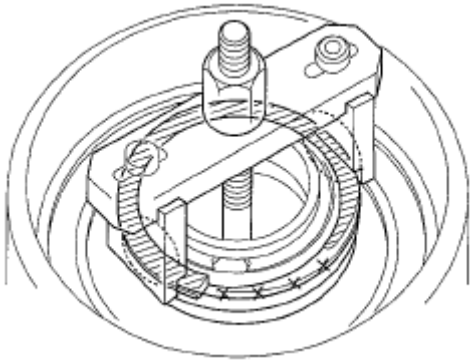


**Fig. 470: Identifying Clutch Spring Compressor Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Compress the return spring until the snap ring can be installed.

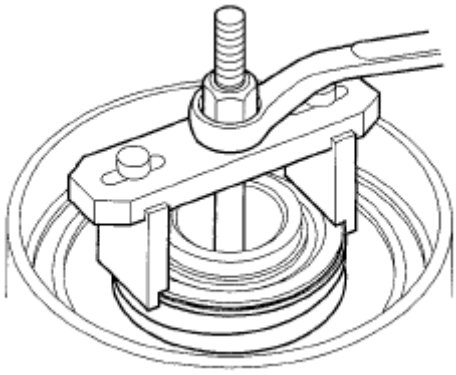


**Fig. 471: Compressing Return Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install the snap ring using snap ring pliers.

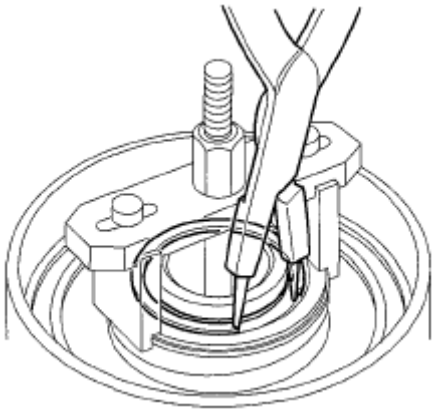


**Fig. 472: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the clutch spring compressor attachment and the clutch spring compressor bolt assembly.
11. Install the waved spring (A) in the 2nd clutch drum (B). Starting with the clutch flat-plate, alternately install the flat-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

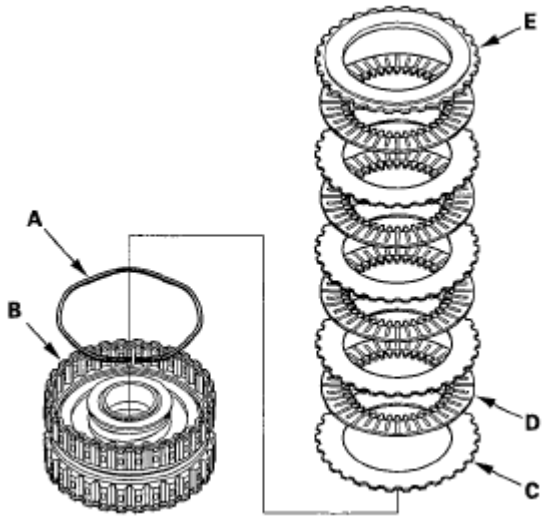



**Fig. 473: Disassembling 2nd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Install the waved spring (A) in the 4th clutch drum (B). Starting with the clutch flat-plate, alternately install the flat-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

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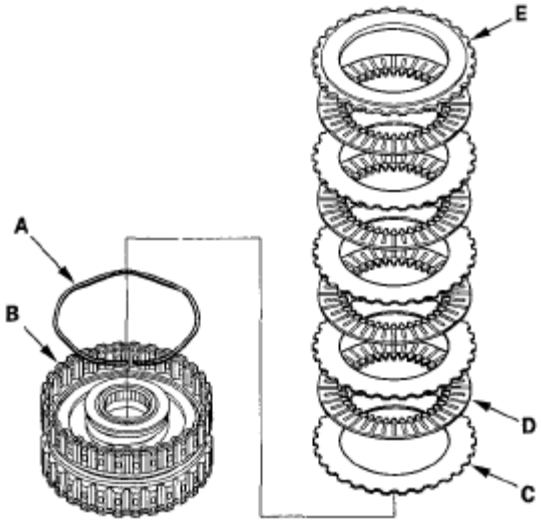



**Fig. 474: Disassembling 4th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the waved spring (A) in the 3rd clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

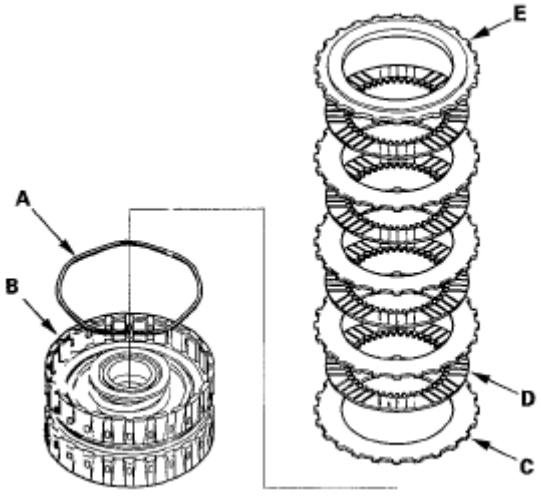



**Fig. 475: Disassembling 3rd Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the waved spring (A) in the 5th clutch drum (B). Starting with the clutch wave-plate, alternately install the wave-plates (C) (4) and the discs (D) (4). Install the clutch end-plate (E) with the flat side down on the top disc.

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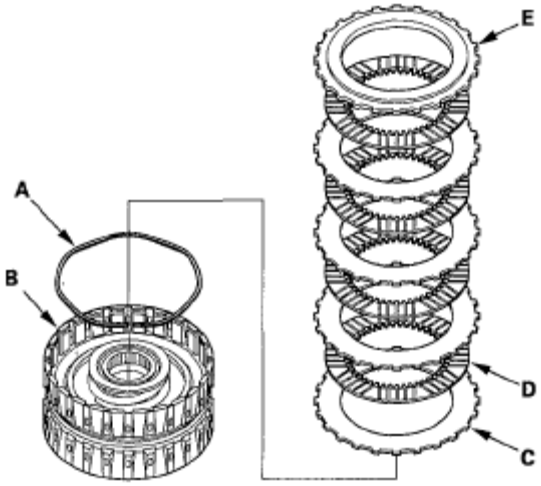



**Fig. 476: Disassembling 5th Clutch Drum**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the snap ring using a screwdriver to secure the clutch end-plate.

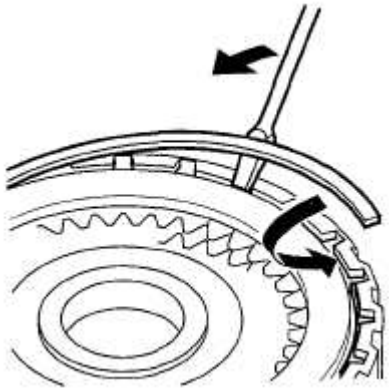


**Fig. 477: Installing Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Check that the clutch piston moves by applying air pressure into fluid passage.

**VALVE BODY AND ATF STRAINER INSTALLATION**

1. Make sure that the ATF magnet is cleaned and installed in the torque converter housing.

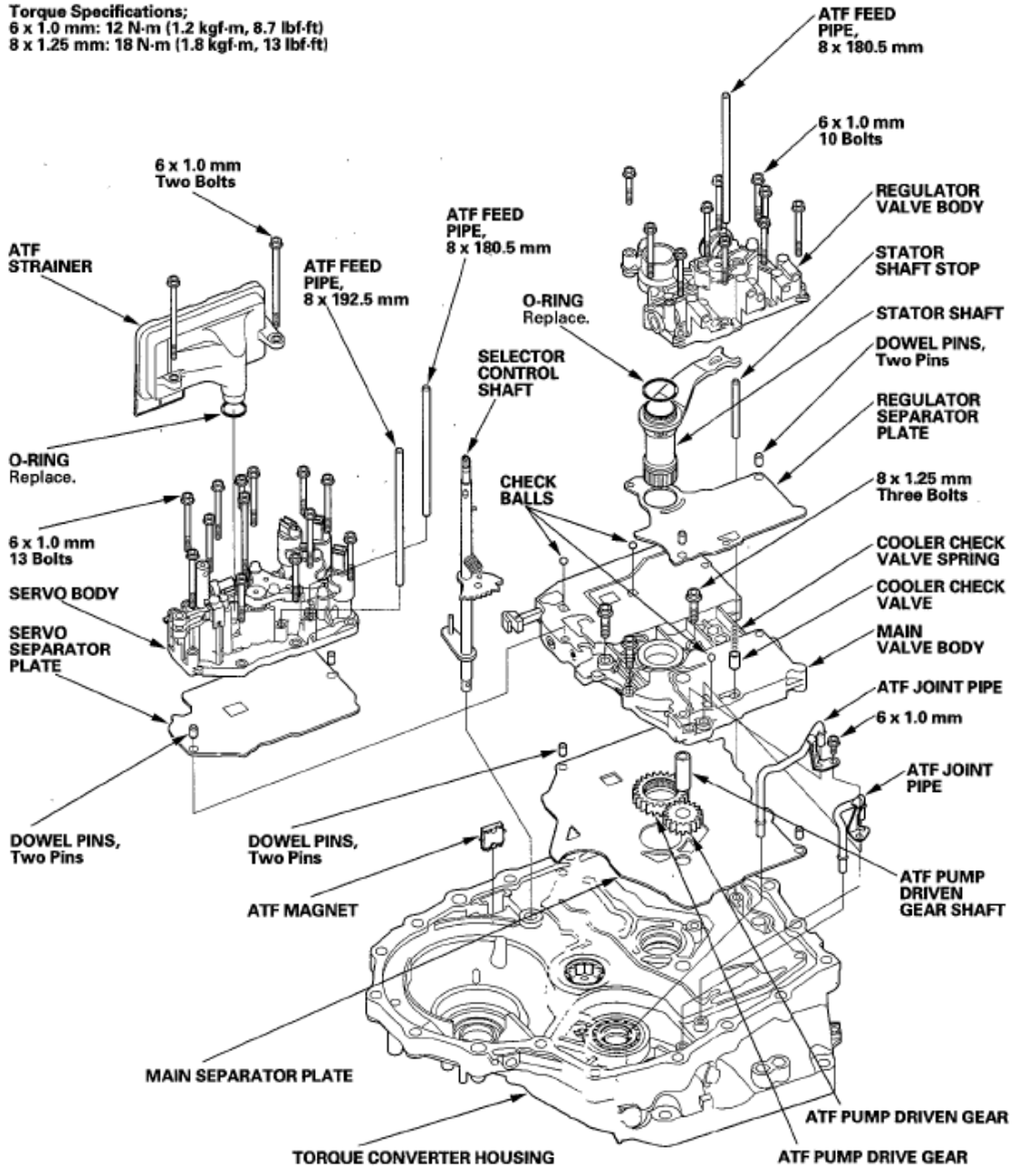



**Fig. 478: Exploded View Of Valve Body And ATF Strainer w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the main separator plate and the two dowel pins on the torque converter housing.
3. Install the ATF pump drive gear (A), the ATF pump driven gear (B), and the ATF pump driven gear shaft (C). Install the ATF pump driven gear with its

grooved and chamfered side facing down.

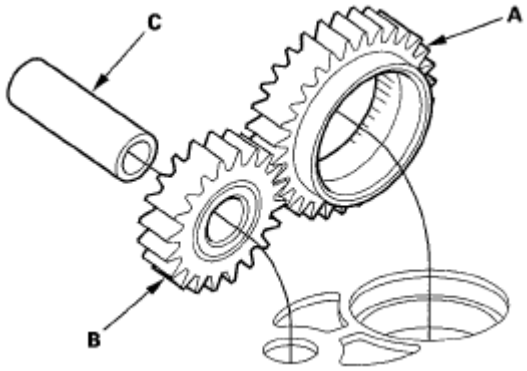



**Fig. 479: Identifying ATF Pump Drive Gear, ATF Pump Driven Gear And ATF Pump Driven Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the main valve body.
5. Make sure the ATF pump drive gear (A) rotates smoothly in the normal operating direction, and the ATF pump driven gear shaft (B) moves smoothly in the axial and normal operating direction.

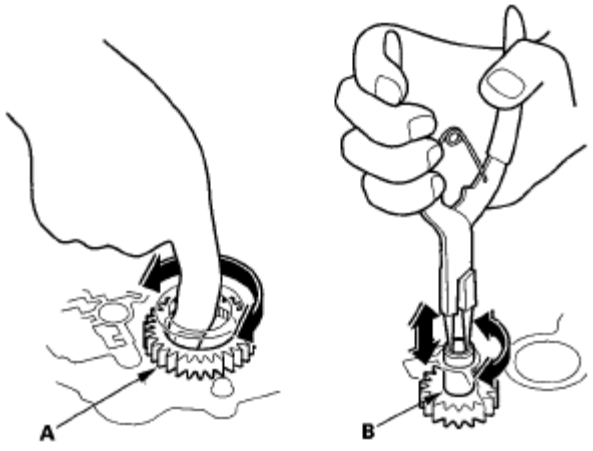



**Fig. 480: Checking ATF Pump Drive Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the ATF pump drive gear and the ATF pump driven gear shaft do not move smoothly, loosen the main valve body bolts. Realign the ATF pump driven gear shaft, and retighten the bolts to the specified torque, then recheck. Failure to align the ATF pump driven gear shaft correctly will result in a seized ATF

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pump drive gear or ATF pump driven gear shaft.

7. Make sure that the three check balls and the cooler check valve are in the main valve body, then install the cooler check valve spring in the cooler check valve.
8. Install the ATF joint pipes between the main valve body and the torque converter housing.
9. Install the regulator separator plate and the two dowel pins on the main valve body.
10. Install a new O-ring on the stator shaft, and install the stator shaft and the stator shaft stop.
11. Install the regulator valve body (10 bolts).
12. Install the servo separator plate and the two dowel pins on the main valve body.
13. Install the servo body (13 bolts).
14. If the detent arm was removed, install the detent arm (A) with arm collar (B) on the servo body (C), and install a new lock washer (D) by aligning its cutout (E) with the projection (F) of the servo body. Install and tighten the bolt, then bend the lock tab (G) of the lock washer against the bolt head.

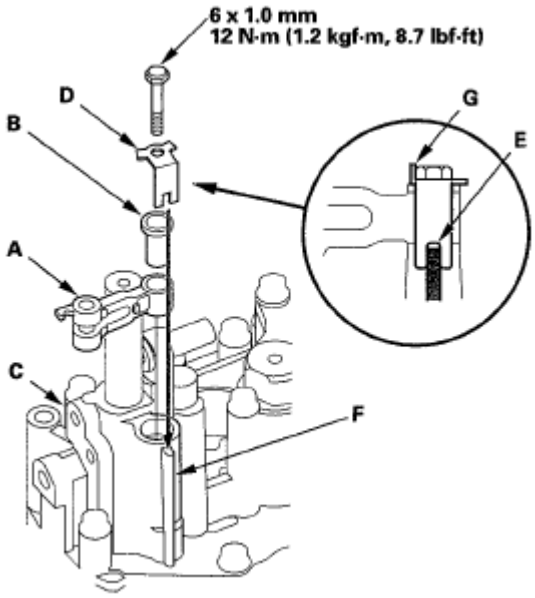



**Fig. 481: Aligning Cutout With Projection Of Servo Body & Bolt w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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15. Install the selector control shaft (A) in the torque converter housing while aligning the manual valve lever pin (B) on the selector control shaft with the guide of the manual valve (C).

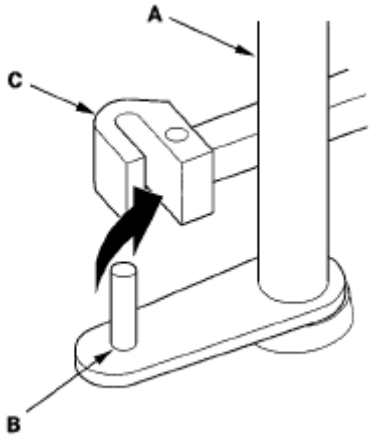



**Fig. 482: Aligning Manual Valve Lever Pin On Selector Control Shaft With Guide Of Manual Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Hook the detent arm spring (A) to the detent arm (B).

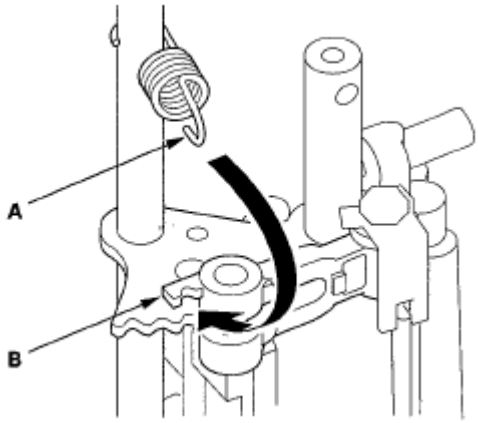



**Fig. 483: Hooking Detent Arm Spring To Detent Arm**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Install a new O-ring on the ATF strainer, and install the ATF strainer (two bolts).
18. Install the 8 x 180.5 mm ATF feed pipe in the regulator valve body.

19. Install the 8 x 192.5 mm ATF feed pipe and the 8 x 180.5 mm ATF feed pipe in the servo body.

**SHAFT ASSEMBLY AND HOUSING INSTALLATION**

1. Install the spacer in the torque converter housing with the spacer tab into the guide of the torque converter housing. Do not mix-up the spacers from the transmission housing and the torque converter housing. Install the differential assembly in the torque converter housing, and put the spacer on the differential.

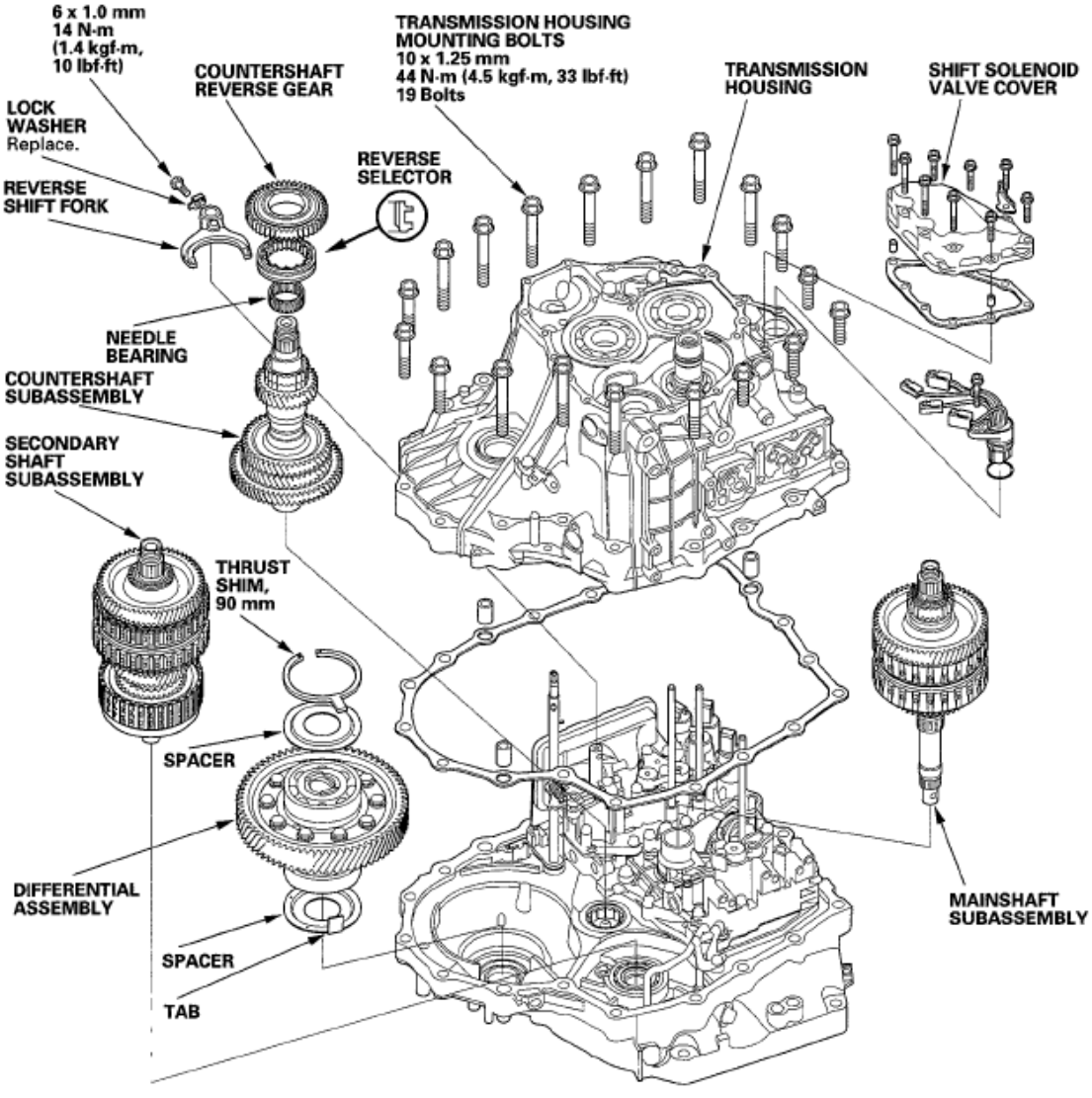



**Fig. 484: Exploded View Of Shaft Assembly, Housing & Bolt Torque**

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**Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the differential assembly securely in the torque converter housing so there is no clearance.
3. Install the 90 mm thrust shim in the transmission housing.
4. Assemble the mainshaft, the countershaft, and the secondary shaft.
   - Countershaft reverse selector hub is press-fitted type, go to step 5.
   - Countershaft reverse selector hub is not press-fitted type, go to step 6.
5. Join the mainshaft subassembly (A), the countershaft subassembly (B), and the secondary shaft subassembly (C) together, and install them in the torque converter housing.

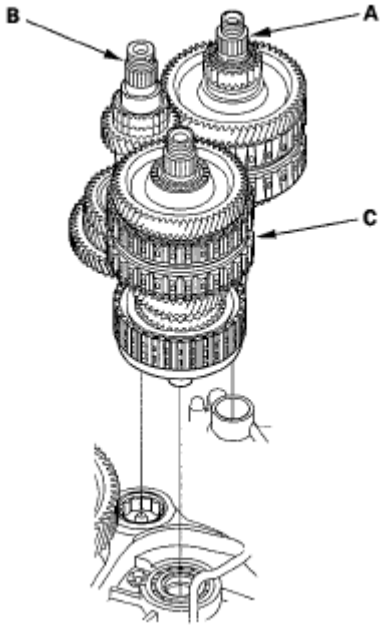



**Fig. 485: Identifying Mainshaft Subassembly, Countershaft Subassembly And Secondary Shaft Subassembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Join the countershaft subassembly and the secondary shaft subassembly together, then install them in the torque converter housing, and install the mainshaft subassembly. Install the needle bearings, 4th-5th gear, and the reverse selector hub over the countershaft.

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7. Turn the shift fork shaft (A) so the large chamfered hole (B) is facing the fork bolt hole (C) of the shift fork (D).

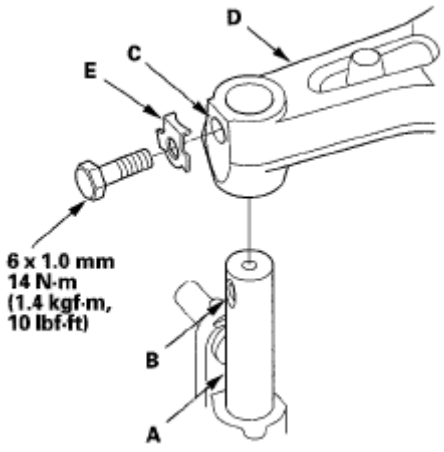



**Fig. 486: Identifying Shift Fork Shaft, Shift Fork, Lock Washer & Bolt Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the shift fork and the reverse selector together on the shift fork shaft and the countershaft. Secure the shift fork to the shift fork shaft with the lock bolt and a new lock washer (E), then bend the lock tab of the lock washer against the bolt head.
9. Install the needle bearing and the countershaft reverse gear on the countershaft.
10. Install the reverse idler gear in the transmission housing (see **REVERSE IDLER GEAR INSTALLATION** ).
11. Install the three dowel pins (A) and a new gasket (B) on the torque converter housing (C).

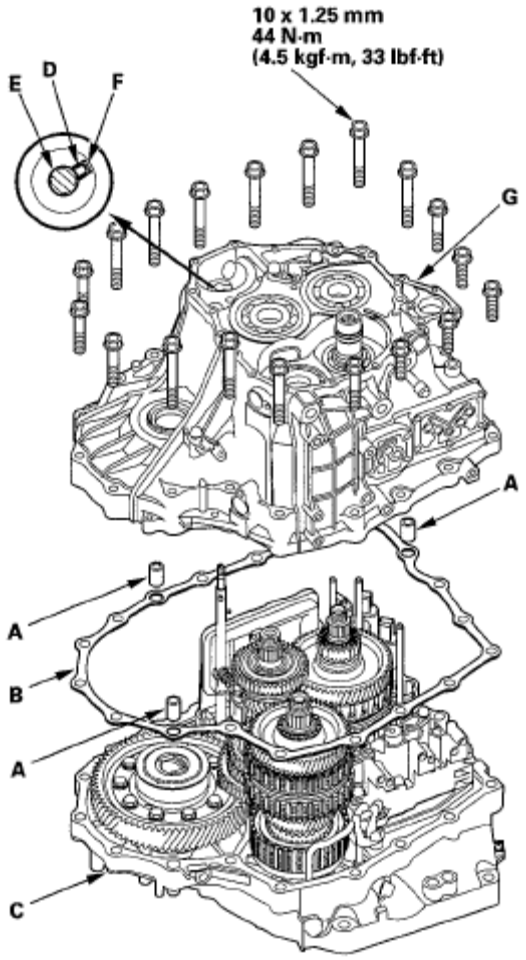



**Fig. 487: Disassembling Torque Converter Housing & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Align the spring pin (D) of the control shaft (E) with the transmission housing groove (F) by turning the selector control shaft detent plate. Do not squeeze the end of the selector control shaft tips together when turning the shaft. If the tips are squeezed together, it will causes a faulty shift position signal or position due to the play between the selector control shaft and the switch.
13. Place the transmission housing (G) on the torque converter housing. Do not install the input shaft (mainshaft) speed sensor and the output shaft (countershaft) speed sensor before installing the transmission housing on the torque converter housing.
14. Wrap a screwdriver tip with tape to prevent damage to the reverse idler gear

teeth. Engage the reverse idler gear with the reverse gears by rotating the idler gear using the screwdriver.

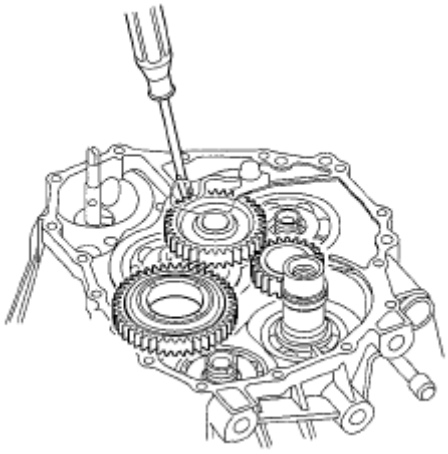


**Fig. 488: Engaging Reverse Idler Gear With Reverse Gears**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the transmission housing mounting bolts, and tighten the 19 bolts to 44 N.m (4.5 kgf.m, 33 lbf.ft) in two or more steps in a crisscross pattern.
16. Install the shift solenoid harness connector (E) in the transmission housing with a new O-ring (F).

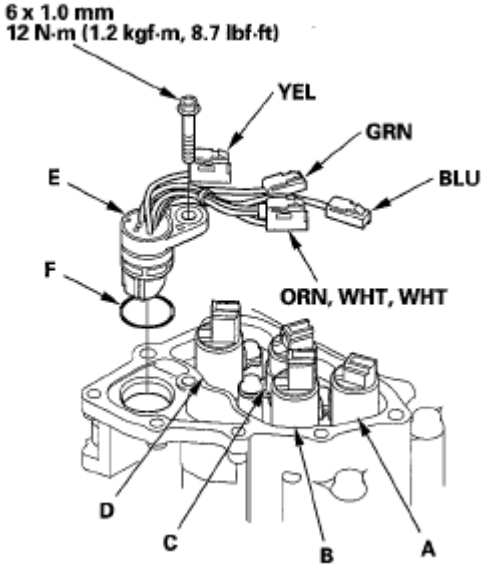



**Fig. 489: Identifying Shift Solenoid Harness Connector, Transmission Housing, O-Ring & Bolt Torque Specification**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Connect WHT harnesses and ORN harness connector to shift solenoid valve B. ATF temperature sensor is assembled in the connector with WHT harnesses.
18. Connect the shift solenoid harness connectors:
    - BLU wire to shift solenoid valve A.
    - GRN wire to shift solenoid valve C.
    - YEL wire to shift solenoid valve D.
19. Install the shift solenoid valve cover (A), the two dowel pins (B), a new gasket (C), and the harness clamp bracket (D).

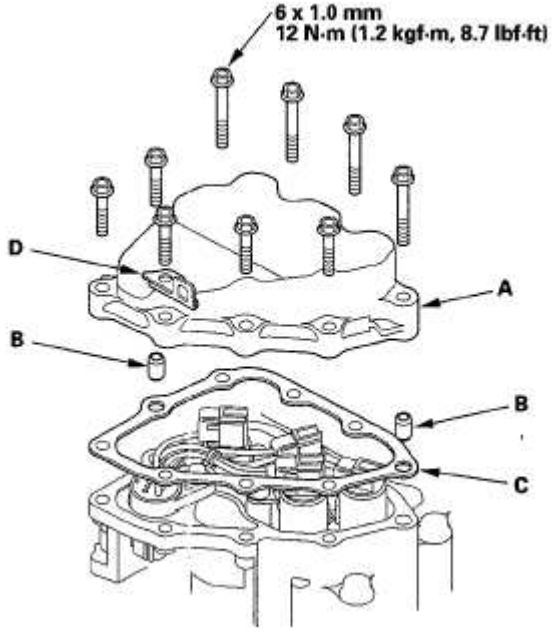



**Fig. 490: Identifying Shift Solenoid Valve Cover, Dowel Pins, Gasket, Harness Clamp Bracket & Bolt Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**END COVER INSTALLATION**

## Special Tools Required

- Mainshaft holder 07GAB-PF50101 or 07GAB-PF50100
- Gear installer set 070AC-XFD0100

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1. Install the mainshaft holder onto the mainshaft.

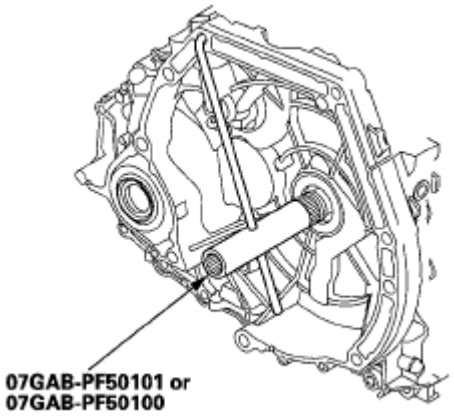



**Fig. 491: Identifying Mainshaft Holder Onto Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Lubricate the following parts with ATF:
   - Splines and threads of the mainshaft.
   - Splines of the mainshaft idler gear.
   - Old conical spring washer and old locknut.
3. Install the mainshaft idler gear (A), the old conical spring washer (B), and the old locknut (C) on the mainshaft (D), and tighten the locknut to 216 N.m (22.0 kgf.m, 159 lbf.ft).

**NOTE:**
- **Do not tap the idler gear to install.**
- **Use a torque wrench to tighten the locknut. Do not use an impact wrench.**

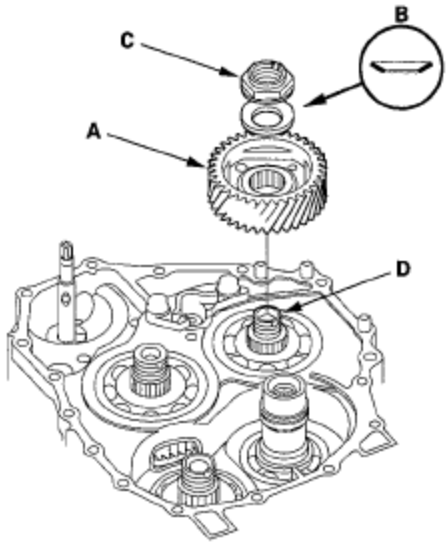



**Fig. 492: Identifying Mainshaft Idler Gear, Old Conical Spring Washer, Old Locknut And Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Lubricate the following parts with ATF:
   - Splines and threads of the secondary shaft and the idler gear shaft.
   - Splines of the secondary shaft idler gear.
   - Old conical spring washer and old locknut.
5. Install the secondary shaft idler gear (A) on the secondary shaft (B), and install the idler gear shaft idler gear (C) on the idler gear shaft (D).

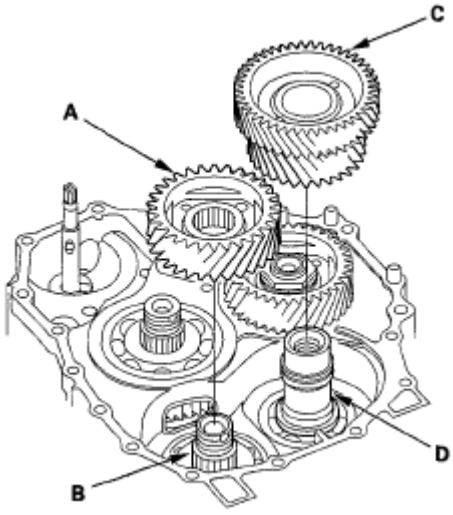


**Fig. 493: Identifying Secondary Shaft Idler Gear, Secondary Shaft, Idler Gear Shaft Idler Gear And Idler Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Set the gear installer set on the idler gear shaft and the idler gear, and tighten the installer nut to install the idler gear part-way.

**NOTE: The installer nut has left-hand threads.**

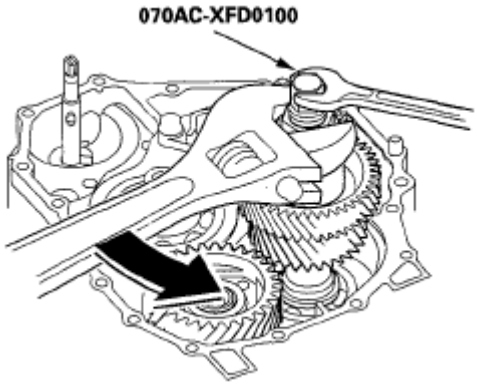



**Fig. 494: Tightening Installer Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the old conical spring washer (A) and the old locknut (B) on the secondary shaft (C), and tighten the locknut to 226 N.m (23.0 kgf.m, 166 lbf.ft).

**NOTE:**

- **Do not tap the idler gear to install.**
- **Use a torque wrench to tighten the locknut. Do not use an impact wrench.**
- **Secondary shaft locknut has left-hand threads.**

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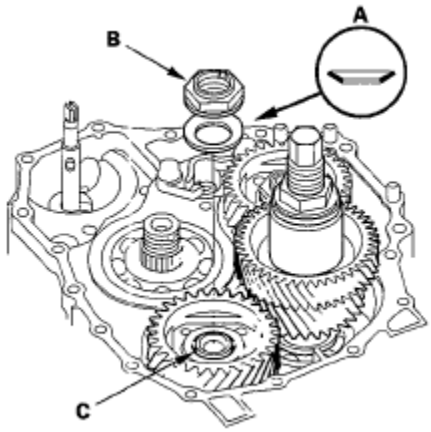



**Fig. 495: Identifying Conical Spring Washer, Locknut And Secondary Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Retighten the installer nut to seat the idler gear in the idler gear shaft until it stops. Remove the gear installer set from the idler gear shaft.

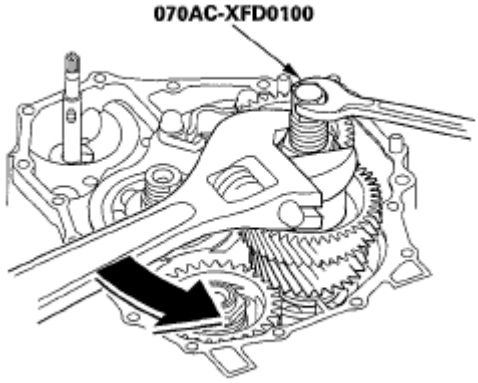



**Fig. 496: Tightening Installer Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install a new snap ring (A) on the idler gear shaft (B), and check that the snap ring is seated securely into the groove.

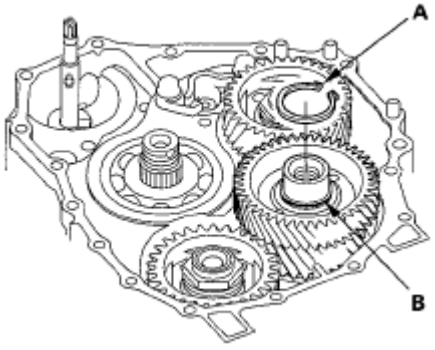



**Fig. 497: Identifying Snap Ring And Idler Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the park lever (A) and the park lever stop (B) on the selector control shaft (C), then install the lock bolt and a new lock washer (D). Do not bend the lock tab of the lock washer until step 23.

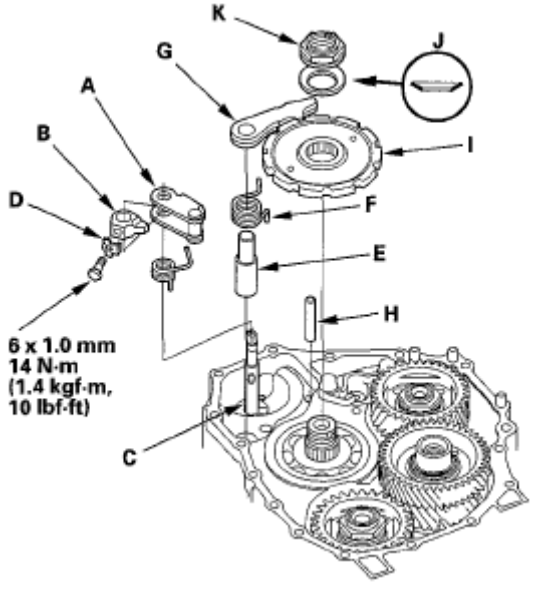



**Fig. 498: Identifying Park Lever, Park Lever Stop, Selector Control Shaft & Screw w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Install the park pawl shaft (E), the park pawl spring (F), the park pawl (G), and the stop shaft (H) on the transmission housing.
12. Lubricate the following parts with ATF:
    - Threads and splines of the countershaft.

- Old conical spring washer and old locknut.
- Areas where the park gear contacts the conical spring washer.

13. Install the park gear (I), the old conical spring washer (J), and the old locknut (K) on the countershaft.
14. Lift the park pawl up, and engage it with the park gear, then tighten the locknut to 226 N.m (23.0kgf.m, 166 lbf.ft).

**NOTE:**

- **Do not tap the park gear to install.**
- **Use a torque wrench to tighten the locknut. Do not use an impact wrench.**
- **Countershaft locknut has left-hand threads.**

15. Remove the locknuts and the conical spring washers from the mainshaft, the countershaft, and the secondary shaft.
16. Lubricate the threads of the shafts, the new locknuts and the new conical spring washers with ATF.
17. Install new conical spring washers (A) (B) with facing stamped mark side up in the direction shown, and install a new mainshaft locknut (C), a new countershaft locknut (D), and a new secondary shaft locknut (E).

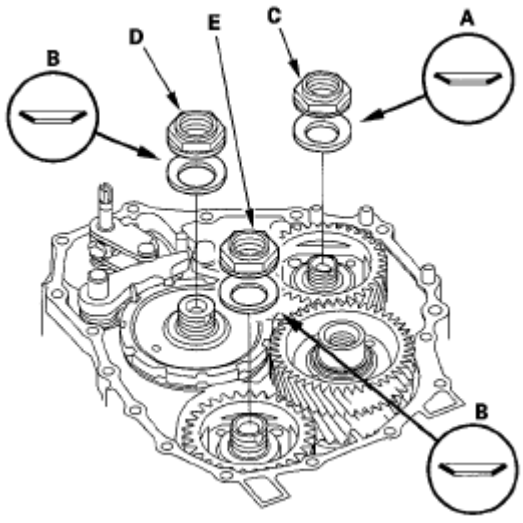



**Fig. 499: Identifying Conical Spring Washers, Mainshaft Locknut And Countershaft Locknut**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Tighten the countershaft locknut and the secondary shaft locknut to 167 N.m (17.0 kgf.m, 123 lbf.ft), and tighten the mainshaft locknut to 155 N.m (15.8 kgf.m, 114 lbf.ft).

**NOTE:**

- **Be sure to install the conical spring washers in the direction shown.**
- **Use a torque wrench to tighten the locknut. Do not use an impact wrench.**
- **Countershaft and secondary shaft locknuts have left-hand threads.**

19. Remove the mainshaft holder from the mainshaft.
20. Stake the locknuts into the shafts to a depth (A) of 0.7-1.3 mm (0.03-0.05 in.) using a 3.5 mm punch (B).

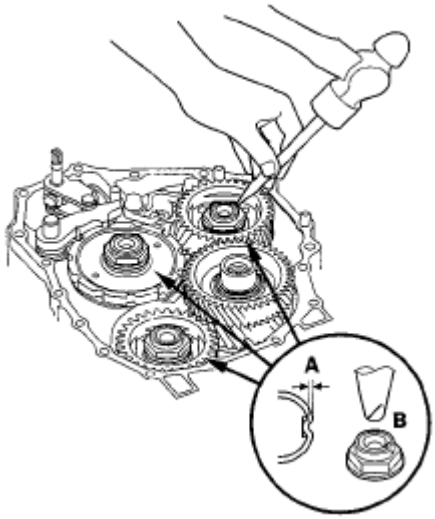



**Fig. 500: Staking Locknuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Set the park pawl (A) in the P position, then check that the park pawl engages with the park gear (B).

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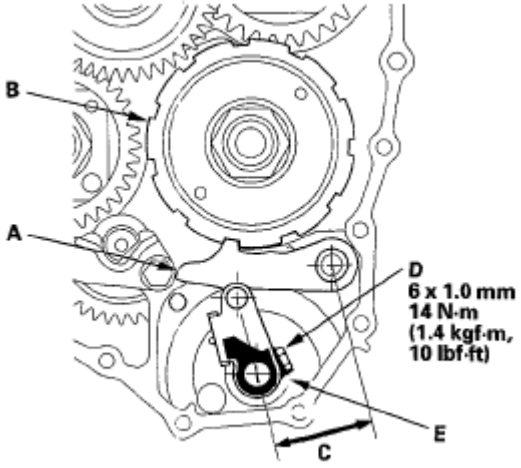



**Fig. 501: Identifying Distance Between Park Pawl Shaft, Extension Line & Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. If the park pawl does not engage fully, check the distance (C) between the park pawl shaft and the extension line connected centers of the park lever roller pin and the selector control shaft (see **PARK LEVER STOP INSPECTION AND ADJUSTMENT** ).
23. Tighten the lock bolt (D), and bend the lock tab of the lock washer (E) against the bolt head.
24. Install the ATF lubrication pipe (A) into the idler gear shaft (B).

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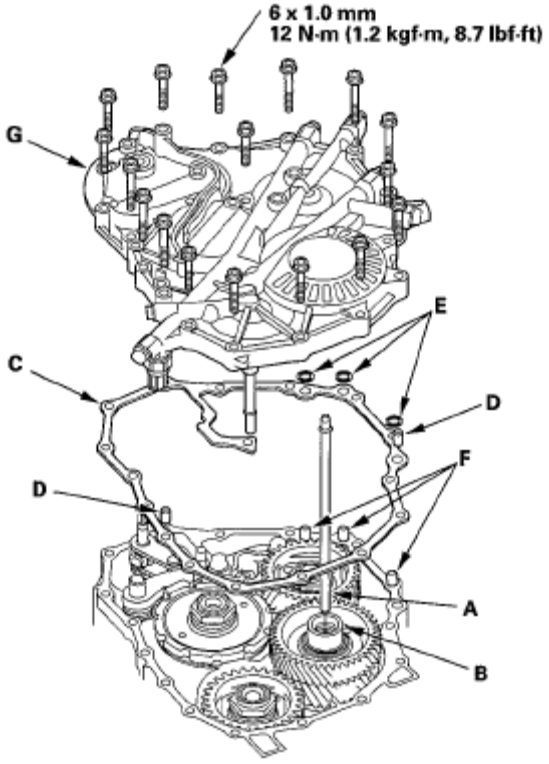



**Fig. 502: Identifying ATF Lubrication Pipe, Idler Gear Shaft, Gasket, Dowel Pins & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Install a new gasket (C) on the transmission housing, and install the two dowel pins (D) and new O-rings (E) over the top of the ATF feed pipes (F).
26. Install the end cover (G), and tighten the 17 bolts.
27. Set the selector control shaft (A) to the N position by turning the selector control shaft on the torque converter side.

**NOTE: Do not squeeze the end of the selector control shaft tips together when turning the shaft. If the selector control shaft tips are squeezed together it will cause a faulty signal or position due to play between the selector control shaft and the transmission range switch.**

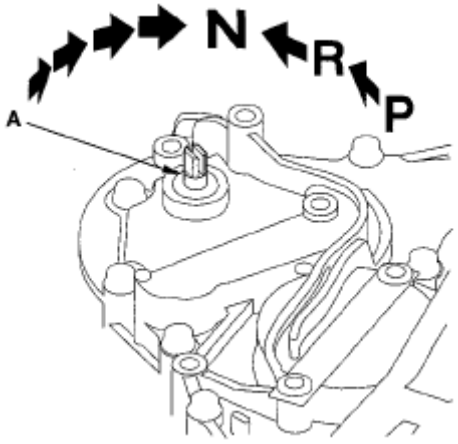



**Fig. 503: Setting Selector Control Shaft To N Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Align the cutouts (A) on the rotary-frame with the neutral positioning cutouts (B) on the transmission range switch (C), then put a 2.0 mm (0.08 in.) feeler gauge blade (D) in the cutouts to hold the switch in the N position.

**NOTE: Be sure to use a 2.0 mm (0.08 in.) blade or equivalent to hold the switch in the N position.**

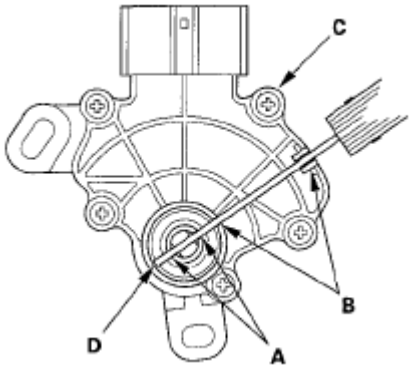



**Fig. 504: Aligning Cutouts On Rotary-Frame With Neutral Positioning Cutouts On Transmission Range Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

29. Install the transmission range switch (A) gently on the selector control shaft (B) while holding it in the N position with the 2.0 mm (0.08 in.) blade (C).

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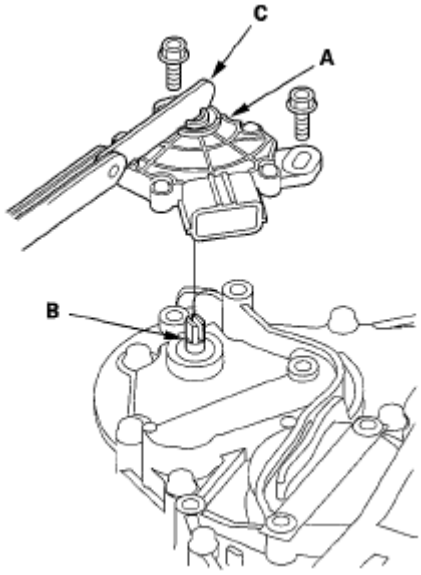



**Fig. 505: Holding N Position With Blade**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

30. Tighten the bolts on the transmission range switch while you continue to hold it in the N position. Do not move the transmission range switch while tightening the bolts. Remove the feeler gauge.

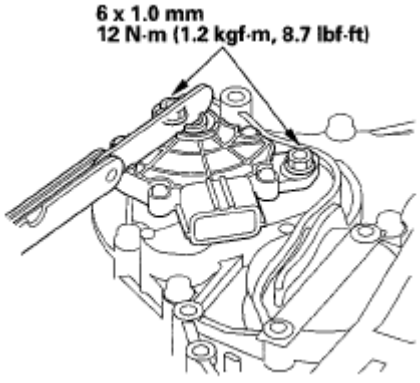



**Fig. 506: Tightening Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

31. Install the harness clamp bracket (A) on the end cover (B).

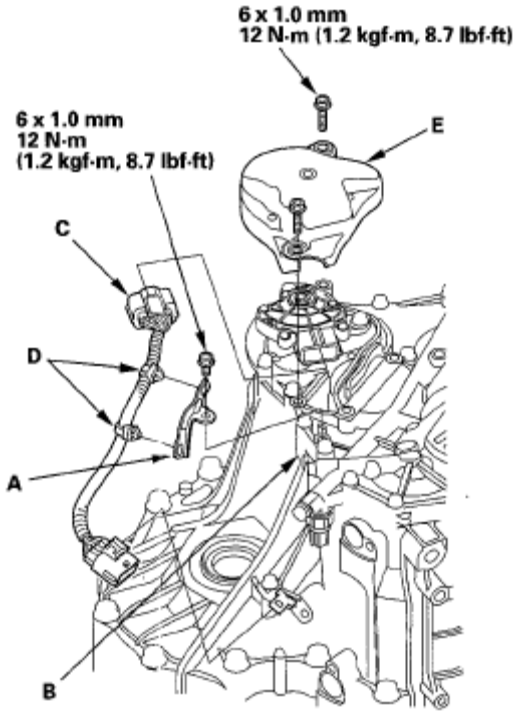



**Fig. 507: Identifying Transmission Range Switch Cover, Harness Clamp Bracket, Cover & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

32. Connect the transmission range switch connector (C) securely, then install the harness clamps (D) on the clamp bracket.
33. Install the transmission range switch cover (E).
34. Install a new O-ring (A) on the input shaft (mainshaft) speed sensor (B), then install the input shaft (mainshaft) speed sensor.

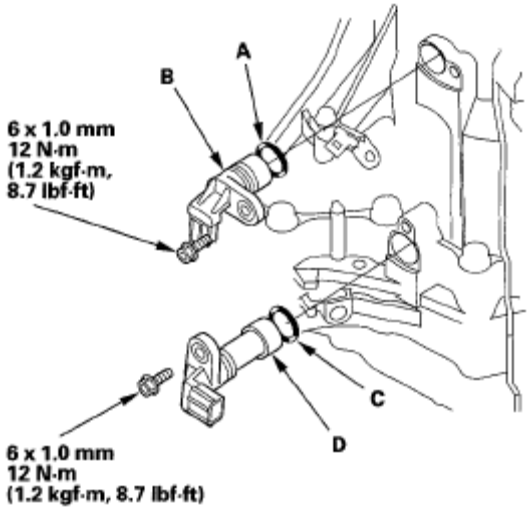



**Fig. 508: Identifying Input Shaft (Mainshaft) Speed Sensor, O-Ring & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

35. Install a new O-ring (C) on the output shaft (countershaft) speed sensor (D), then install the output shaft (countershaft) speed sensor.
36. Install a new gasket (B) on the transmission housing, and install the ATF pipe (C) and the ATF joint pipes (D).

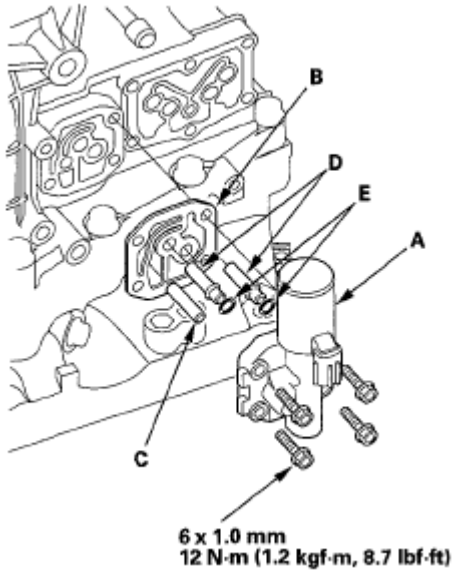



**Fig. 509: Identifying ATF Pipe, ATF Joint Pipes, Gasket, O-Ring & Bolts w/Torque Specification**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Install new O-rings (E) over the ATF joint pipes, and install A/T clutch pressure control solenoid valve A.
38. Install a new gasket (A) with facing the blue side to the transmission housing and the white side faces to the A/T clutch pressure control solenoid valve body.

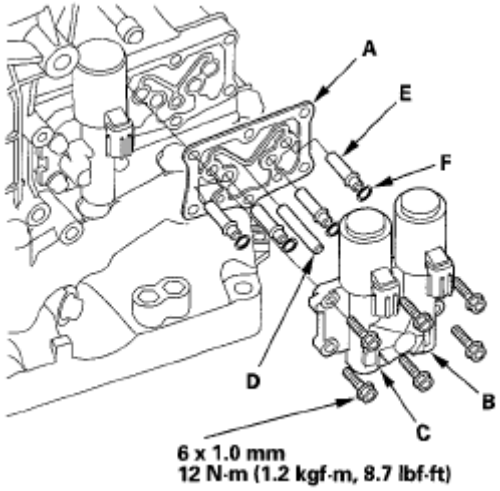



**Fig. 510: Identifying ATF Pipe, ATF Joint Pipes, O-Ring & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

39. Install the ATF pipe (D) and the ATF joint pipes (E), and install new O-rings (F) over the ATF joint pipes.
40. Install A/T clutch pressure control solenoid valves B and C.
41. Install the ATF warmer bracket.

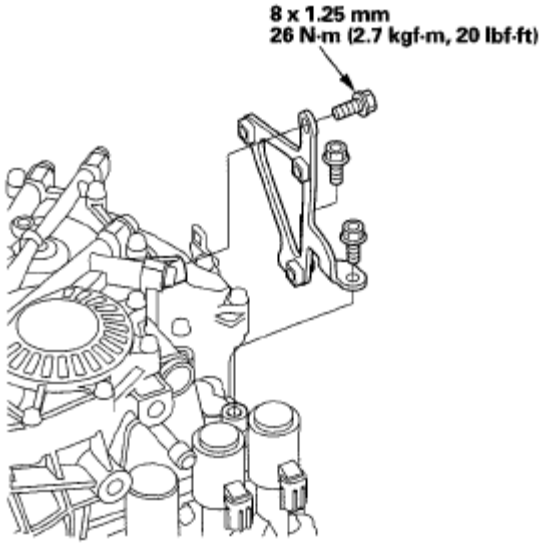



**Fig. 511: Identifying ATF Warmer Bracket & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Install the ATF outlet line (A) on the torque converter housing, and secure it with the line bolt (B) and new sealing washers (C).

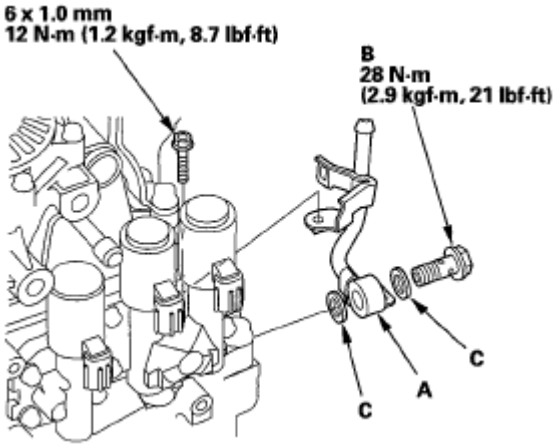



**Fig. 512: Identifying ATF Outlet Line, Sealing Washers & Bolts w/ Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

43. Secure the ATF outlet line with the bracket bolt.
44. Install the transmission hanger (A).

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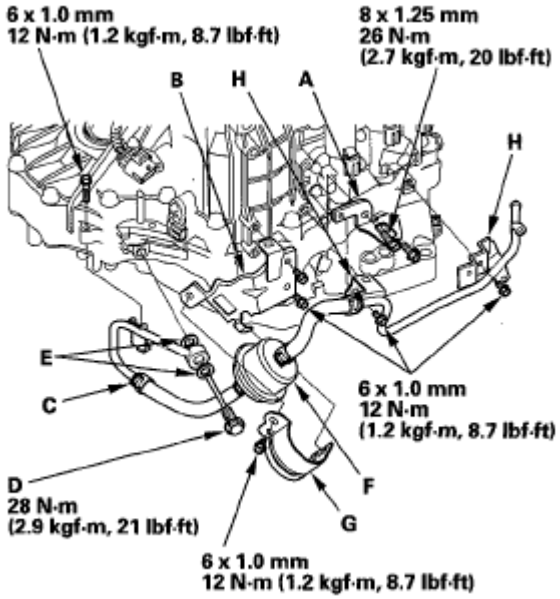



**Fig. 513: Identifying Transmission Hanger, ATF Filter Bracket, Line Brackets & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Install the ATF filter bracket (B).
46. Install the ATF inlet line and the hose (C) on the torque converter housing, and secure it with the line bolt (D) and new sealing washers (E).
47. Put the ATF filter (F) on its bracket, and secure with the bracket (G) and the bolt.
48. Secure the line brackets (H) with the bolts on the transmission hanger and the torque converter housing.
49. Install the breather cap on the breather pipe.
50. Install the ATF dipstick.

## A/T DIFFERENTIAL

### COMPONENT LOCATION INDEX

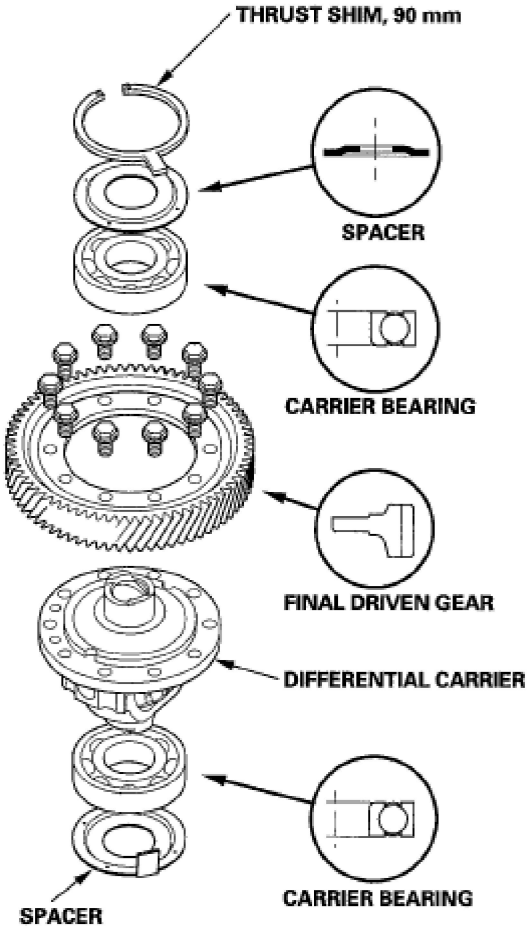



**Fig. 514: Identifying A/T Differential Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**BACKLASH INSPECTION**

1. Install both axles into the differential, and place the axles on V-blocks (A).

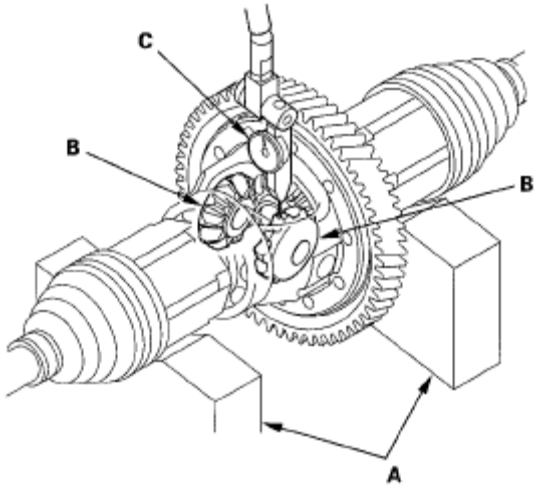



**Fig. 515: Measuring Backlash Of Pinion Gears**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the backlash of the pinion gears (B) using a dial indicator (C).

   **Standard: 0.05-0.15 mm (0.002-0.006 in.)**

3. If the backlash is out of standard, replace the differential carrier (see **DIFFERENTIAL CARRIER AND FINAL DRIVEN GEAR REPLACEMENT** ).

**DIFFERENTIAL CARRIER AND FINAL DRIVEN GEAR REPLACEMENT**

1. Remove the final driven gear (A) from the differential carrier (B). The final driven gear bolts have left-hand threads.

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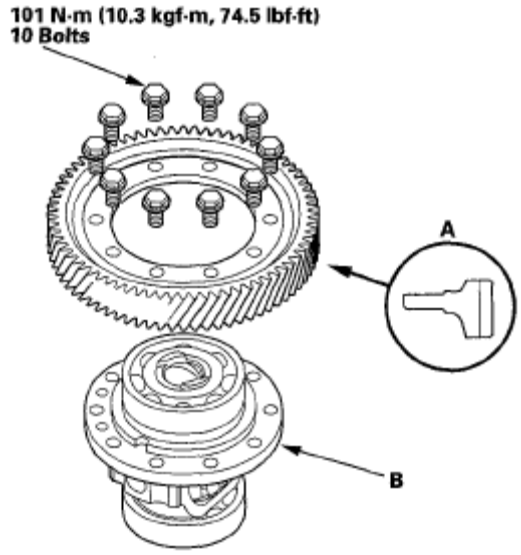



**Fig. 516: Identifying Final Driven Gear, Differential Carrier & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new final driven gear on the differential carrier in the direction shown. Tighten the bolts to 101 N.m (10.3 kgf.m, 74.5 lbf.ft) in a crisscross pattern in two or more steps.

**CARRIER BEARING REPLACEMENT**

## Special Tools Required

Driver, 40 mm I.D. 07746-0030100

**NOTE: Check the bearing for wear and rough rotation. If the bearing is OK, removal is not necessary.**

1. Place a collar (A) on the differential carrier, and remove the carrier bearing (B) using the commercially available bearing puller (C).

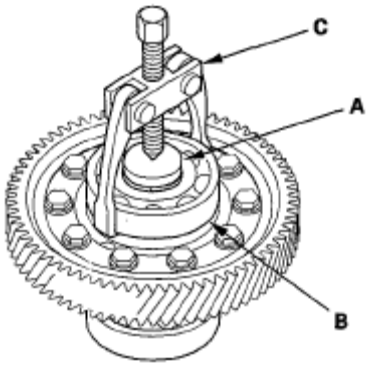



**Fig. 517: Removing Carrier Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new bearing using the 40 mm I.D. driver and a press. Press the bearing on until it bottoms.

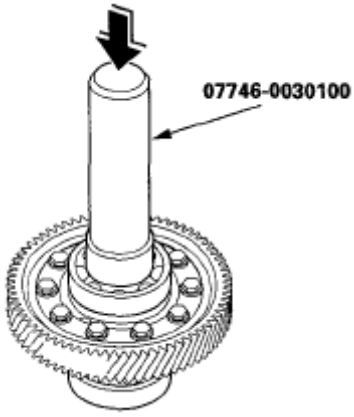



**Fig. 518: Pressing Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**OIL SEAL REPLACEMENT**

## Special Tools Required

- Driver 07749-0010000
- Oil seal driver attachment 07JAD-PH80101

1. Remove the oil seal from the transmission housing.

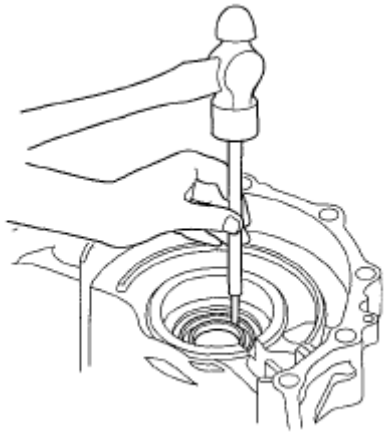


**Fig. 519: Identifying Oil Seal From Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the oil seal from the torque converter housing.

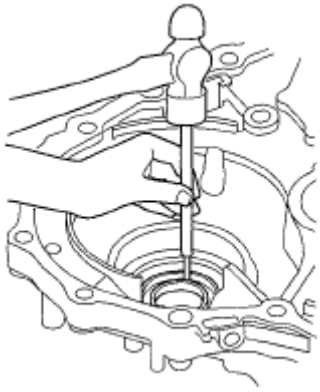


**Fig. 520: Identifying Oil Seal From Torque Converter Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install a new oil seal flush with the transmission housing using the driver and the oil seal driver attachment.

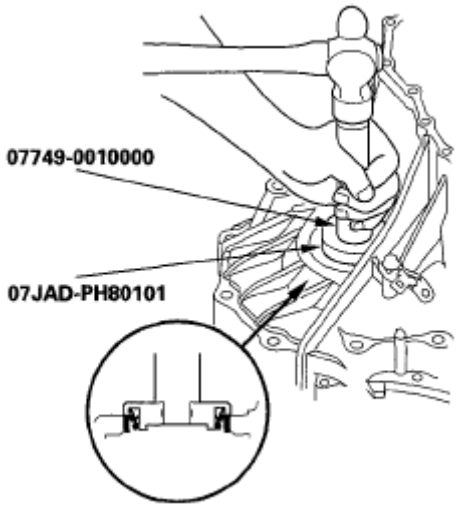



**Fig. 521: Identifying Oil Seal Flush With Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new oil seal in the torque converter housing using the driver and the oil seal driver attachment.

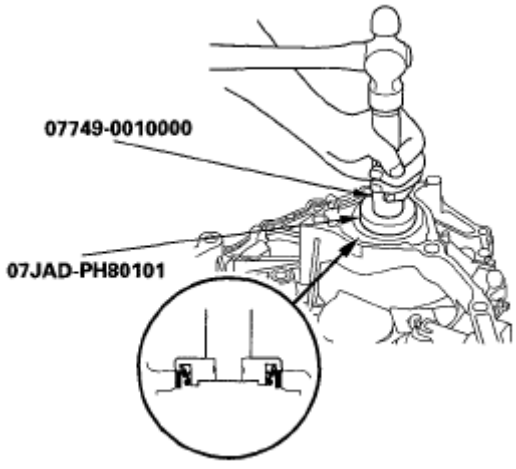



**Fig. 522: Identifying Oil Seal In Torque Converter Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CARRIER BEARING SIDE CLEARANCE INSPECTION**

## Special Tools Required

- Driver, 40 mm I.D. 07746-0030100
- Attachment, 30 mm I.D. 07746-0030300

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1. Install the spacer (A) in the torque converter housing with the spacer tab (B) into the guide. Do not install the spacers mix-up in the transmission housing and the torque converter housing.

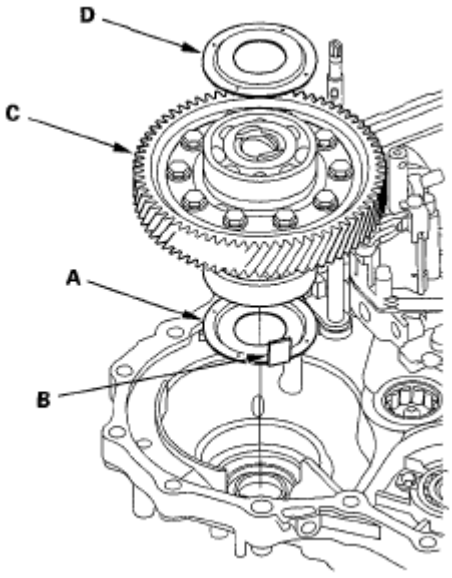



**Fig. 523: Identifying Differential Assembly, Spacer And Spacer Tab**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the differential assembly (C) in the torque converter housing, and put the spacer (D) on the differential.
3. Install the differential assembly securely using the 40 mm I.D. driver and the 30 mm I.D. attachment in the torque converter housing, so there is no clearance between the bearing, the spacer, and the torque converter housing.

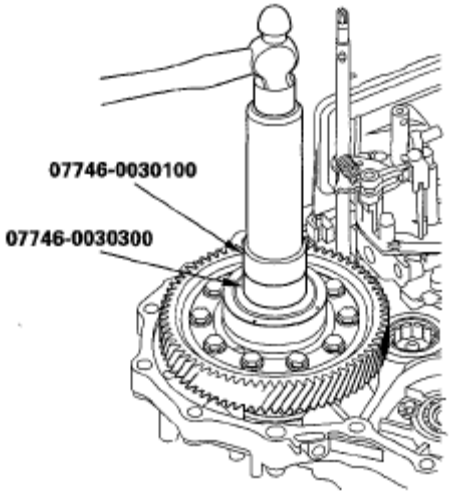



**Fig. 524: Identifying Differential Assembly In Torque Converter Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the 90 mm thrust shim (A) in the transmission housing (B).

   If you replace the 90 mm thrust shim with a new one, use the same thickness as the old one.

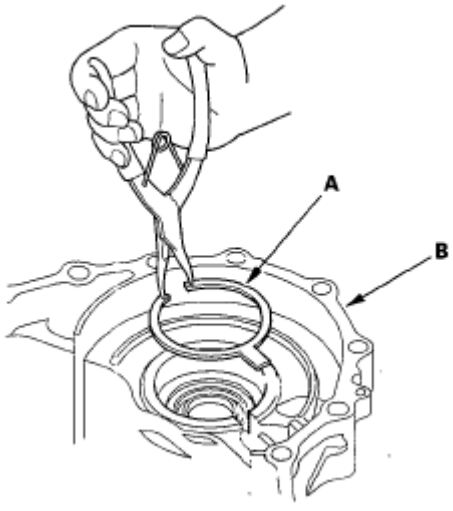



**Fig. 525: Installing Thrust Shim**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Align the spring pin (A) on the selector control shaft (B) with the transmission housing groove (C) by turning the control shaft with the detent plate (D).

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**NOTE: Do not squeeze the end of the selector control shaft tips together when turning the control shaft.**

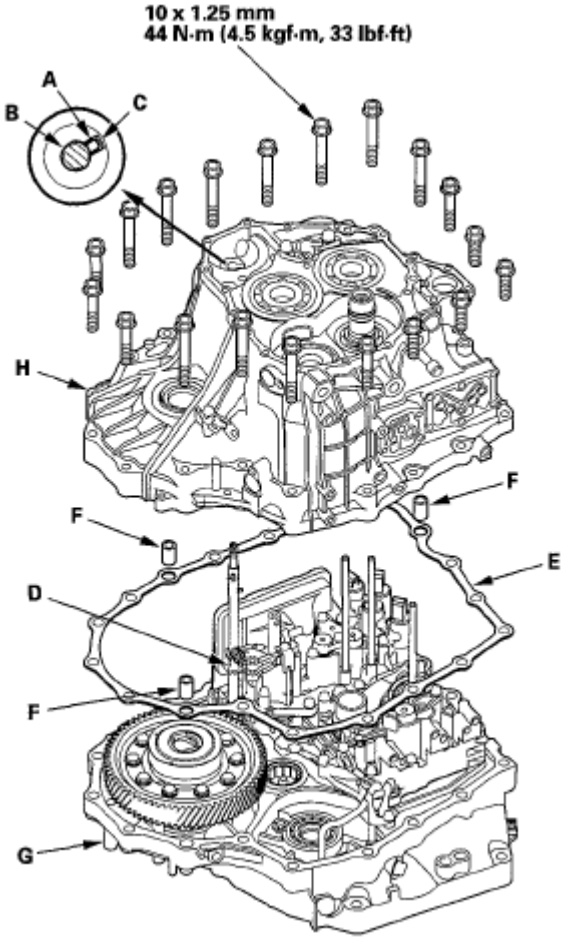



**Fig. 526: Disassembling Torque Converter Housing & Bolts w/Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the gasket (E) and the three dowel pins (F) on the torque converter housing (G).
7. Place the transmission housing (H), and install the mounting bolts (19 bolts). Tighten the bolts to 44 N.m (4.5 kgf.m, 33 lbf.ft) in a crisscross pattern in two or more steps.
8. Measure the clearance between the 90 mm thrust shim and the spacer using a feeler gauge.

**Standard: 0-0.07 mm (0-0.003 in.)**

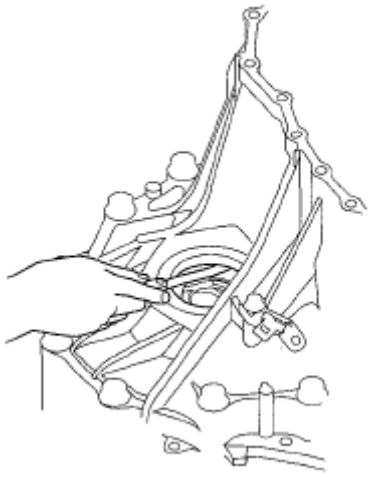


**Fig. 527: Measuring Clearance Between Thrust Shim And Spacer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. If the clearance is out of standard, remove the 90 mm thrust shim, and measure its thickness.
10. Select and install a new thrust shim. Recheck the clearance and make sure it is within the standard.

**THRUST SHIM, 90 mm**

**THRUST SHIM THICKNESS SPECIFICATION**

| No. | Part Number | Thickness |
|---|---|---|
| A | 41441-RPC-000 | 1.30 mm (0.051 in.) |
| B | 41442-RPC-000 | 1.35 mm (0.053 in.) |
| C | 41443-RPC-000 | 1.40 mm (0.055 in.) |
| D | 41444-RPC-000 | 1.45 mm (0.057 in.) |
| E | 41445-RPC-000 | 1.50 mm (0.059 in.) |

| | | |
|---|---|---|
| F | 41446-RPC-000 | 1.55 mm (0.061 in.) |
| G | 41447-RPC-000 | 1.60 mm (0.063 in.) |
| H | 41448-RPC-000 | 1.65 mm (0.065 in.) |
| I | 41449-RPC-000 | 1.70 mm (0.067 in.) |
| J | 41450-RPC-000 | 1.75 mm (0.069 in.) |
| K | 41451-RPC-000 | 1.80 mm (0.071 in.) |
| L | 41452-RPC-000 | 1.85 mm (0.073 in.) |
| M | 41453-RPC-000 | 1.90 mm (0.075 in.) |
| N | 41454-RPC-000 | 1.95 mm (0.077 in.) |
| O | 41455-RPC-000 | 2.00 mm (0.079 in.) |
| P | 41456-RPC-000 | 2.05 mm (0.081 in.) |
| Q | 41457-RPC-000 | 2.10 mm (0.083 in.) |
| R | 41458-RPC-000 | 2.15 mm (0.085 in.) |
| S | 41459-RPC-000 | 2.20 mm (0.087 in.) |
| T | 41460-RPC-000 | 2.25 mm (0.089 in.) |
| U | 41461-RPC-000 | 2.30 mm (0.091 in.) |
| V | 41462-RPC- | 2.35 mm |

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| | | |
|---|---|---|
| | 000 | (0.093 in.) |
| W | 41463-RPC-000 | 2.40 mm (0.095 in.) |

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# GENERAL INFORMATION

## Trouble Shooting - Basic Procedures

## * PLEASE READ THIS FIRST *

**NOTE: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this Trouble Shooting information is to provide a list of common causes to problem symptoms. For model-specific Trouble Shooting, refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

## ACCESSORIES & ELECTRICAL

### CHARGING SYSTEM TROUBLE SHOOTING

**NOTE: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this Trouble Shooting information is to provide a list of common causes to problem symptoms. For model-specific Trouble Shooting, refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

**NOTE: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this Trouble Shooting information is to provide a list of common causes to problem symptoms. For model-specific Trouble Shooting, refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

## BASIC CHARGING SYSTEM TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Vehicle Will Not Start | |

| | |
|---|---|
| Dead battery | Check battery cells, alternator belt tension and alternator output |
| Loose or corroded battery connections | Check all charging system connections |
| Ignition circuit or switch malfunction | Check and replace as necessary |
| Alternator Light Stays On With Engine Running | |
| Loose or worn alternator drive belt | Check alternator drive tension and condition, See Belt Adjustment in TUNE-UP article in the TUNE-UP section |
| Loose alternator wiring connections | Check all charging system connections |
| Short in alternator light wiring | See Indicator Warning Lights in STANDARD INSTRUMENTS in the ACCESSORIES & EQUIPMENT section |
| Defective alternator stator or diodes | See Bench Tests in ALTERNATOR article |
| Defective regulator | See Regulator Check in ALTERNATOR article |
| Alternator Light Stays Off With Ignition Switch ON | |
| Blown fuse | See WIRING DIAGRAMS |
| Defective alternator | See Testing in ALTERNATOR article |
| Defective indicator light bulb or socket | See Indicator Warning Lights in STANDARD INSTRUMENTS in the ACCESSORIES & EQUIPMENT section |

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| | |
|---|---|
| Alternator Light Stays OFF With Ignition Switch ON | |
| Short in alternator wiring | See On-Vehicle Tests in ALTERNATOR article |
| Defective rectifier bridge | See Bench Tests in ALTERNATOR article |
| Lights or Fuses Burn Out Frequently | |
| Defective alternator wiring | See On-Vehicle Tests in ALTERNATOR article |
| Defective regulator | See Regulator Check in ALTERNATOR article |
| Defective battery | Check and replace as necessary |
| Ammeter Gauge Shows Discharge | |
| Loose or worn drive belt | Check alternator drive belt tension and condition. See Belt Adjustment in TUNE-UP article in the TUNE-UP section |
| Defective wiring | Check all wires and wire connections |
| Defective alternator or regulator | See Bench Tests and On-Vehicle Tests in ALTERNATOR article |
| Defective ammeter, or improper ammeter wiring connection | See Testing in STANDARD INSTRUMENTS in the ACCESSORIES & EQUIPMENT section |
| Noisy Alternator | |
| Loose drive pulley | Tighten drive pulley attaching nut |

| | |
|---|---|
| Loose mounting bolts | Tighten all alternator mounting bolts |
| Worn or dirty bearings | See Bearing Replacement ALTERNATOR article |
| Defective diodes or stator | See Bench Test in ALTERNATOR article |
| Battery Does Stay Charged | |
| Loose or worn drive belt | Check alternator drive belt tension and condition. See Belt Adjustment in appropriate TUNE-UP article in the TUNE-UP section |
| Loose or corroded battery connections | Check all charging system connections |
| Loose alternator connections | Check all charging system connections |
| Defective alternator or battery | See On-Vehicle Tests and Bench Tests in ALTERNATOR article |
| Add-on electrical accessories exceeding alternator capacity | Install larger alternator |
| Battery Overcharged-Uses Too Much Water | |
| Defective battery | Check alternator output and repair as necessary |
| Defective alternator | See On-Vehicle Test and Bench Tests in ALTERNATOR article |
| Excessive alternator voltage | Check alternator output and repair as necessary |

**IGNITION SYSTEM TROUBLE SHOOTING**

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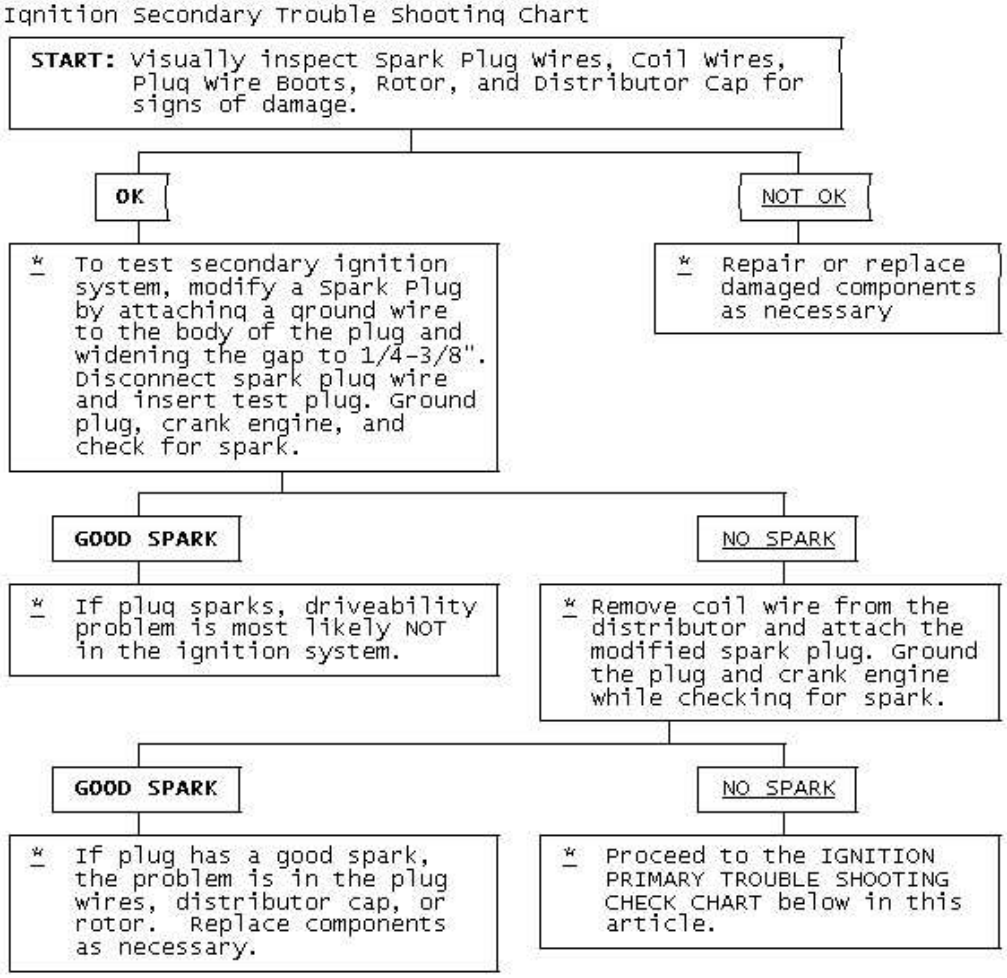
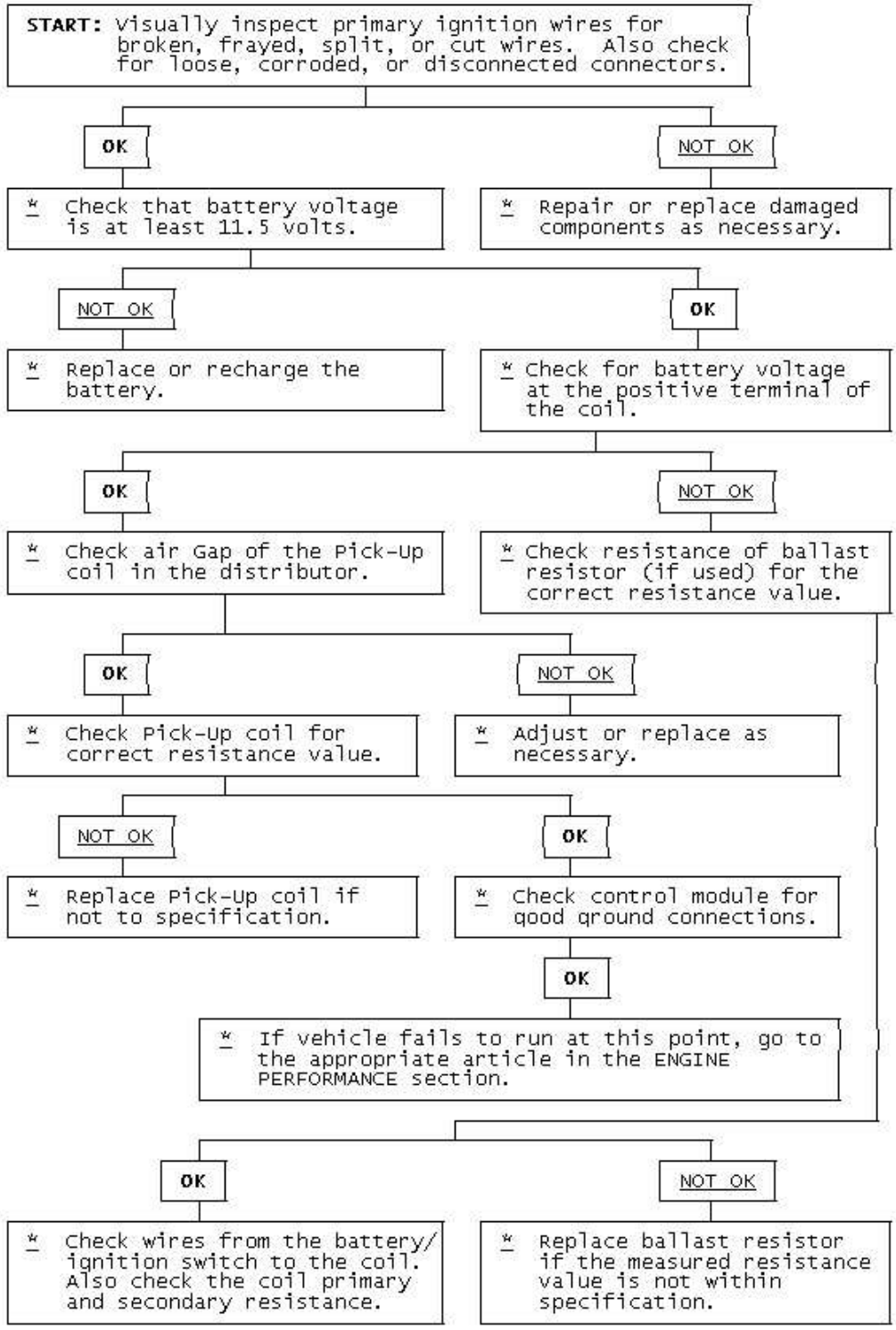



**Fig. 1: Ignition Secondary Trouble Shooting Chart**

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Ignition Primary Trouble Shooting Chart



## Fig. 2: Ignition Primary Trouble Shooting Chart

**STARTER TROUBLE SHOOTING**

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## BASIC STARTER TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Starter Fails to Operate | |
| Dead battery or bad connections between starter and battery | Check battery charge and all wires and connections to starter |
| Ignition switch faulty or misadjusted | Adjust or replace ignition switch |
| Open circuit between starter switch ignition terminal on starter relay | Check and repair wires and connections as necessary |
| Starter relay or starter defective | See Testing in STARTER article |
| Open solenoid pull-in wire | Testing in STARTER article |
| Starter Does Not Operate and Headlights Dim | |
| Weak battery or dead cell | Charge or replace battery as necessary |
| Loose or corroded battery connections | Check that battery connections are clean and tight |
| Internal ground in starter windings | See Testing in STARTER article |

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| | |
|---|---|
| Grounded starter fields | See Testing in STARTERS |
| Armature rubbing on pole | See STARTER article shoes |
| Starter Turns but Engine Does Not Rotate | |
| Starter clutch slipping | See STARTER article |
| Broken clutch housing | See STARTER article |
| Pinion shaft rusted or dry | See STARTER article |
| Engine basic timing incorrect | See Ignition Timing in TUNE-UP article |
| Broken teeth on engine flywheel | Replace flywheel and check for starter pinion gear damage |
| Starter Will Not Crank Engine | |
| Faulty overrunning clutch | See STARTER article |
| Broken clutch housing | See STARTER article |
| Broken flywheel teeth | Replace flywheel and check for starter pinion gear damage |
| Armature shaft sheared or reduction gear teeth stripped | See STARTER article |
| Weak battery | Charge or replace battery as necessary |
| Faulty solenoid | See On-Vehicle Tests in STARTER article |
| Poor grounds | Check all ground connections for tight and clean connections |
| Ignition switch faulty or misadjusted | Adjust or replace ignition switch as necessary |
| Starter Cranks Engine Slowly | |
| Battery weak or defective | Charge or replace |

| | |
|---|---|
| | battery as necessary |
| Engine overheated | See ENGINE COOLING SYSTEM article |
| Engine oil too heavy | Check that proper viscosity oil is used |
| Poor battery-to-starter connections | Check that all between battery and starter are clean and tight |
| Current draw too low or too high | See Bench Tests in STARTER article |
| Bent armature, loose pole shoes screws or worn bearing | See STARTER article |
| Burned solenoid contacts | Replace solenoid |
| Faulty starter | Replace starter |
| Starter Engages Engine Only Momentarily | |
| Engine timing too far advanced | See Ignition Timing in TUNE-UP article |
| Overrunning clutch not engaging properly | Replace overrunning clutch. See STARTER article |
| Broken starter clutch | See STARTER article |
| Broken teeth on engine flywheel | Replace flywheel and check starter pinion gear for damage |
| Weak drive assembly thrust spring | See STARTER article |
| Weak hold-in coil | See Bench Tests in STARTER article |
| Starter Drive Will Not Engage | |
| Defective point assembly | See Testing in STARTER article |
| Poor point assembly ground | See Testing in STARTER article |

| | |
|---|---|
| Defective pull-in coil | Replace starter solenoid |
| Starter Relay Does Not Close | |
| Dead battery | Charge or replace battery as necessary |
| Faulty wiring | Check all wiring and connections leading to relay |
| Neutral safety switch faulty | Replace neutral safety switch |
| Starter relay faulty | Replace starter relay |
| Starter Drive Will Not Disengage | |
| Starter motor loose on mountings | Tighten starter attach bolts |
| Worn drive end bushing | See STARTER article |
| Damaged engine flywheel teeth | Replace flywheel and starter pinion gear for damage |
| Drive yolk return spring broken or missing | Replace return spring |
| Faulty ignition switch | Replace ignition switch |
| Insufficient clearance between winding leads to solenoid terminal and main contact in solenoid | Replace starter solenoid |
| Starter clutch not disengaging | Replace starter clutch |
| Ignition starter switch | Replace ignition switch contacts sticking |
| Starter Relay Operates but Solenoid Does Not | |
| Faulty solenoid switch, switch connections or relay | Check all wiring between relay and solenoid or replace relay or solenoid as necessary |
| Broken lead or loose soldered connections | Repair wire or wire connections as |

| | |
|---|---|
| | necessary |
| Solenoid Plunger Vibrates When Switch is Engaged | |
| Weak battery | Charge or replace battery as necessary |
| Solenoid contacts corroded | Clean contacts or replace solenoid |
| Faulty wiring | Check all wiring leading to solenoid |
| Broken connections inside switch cover | Repair connections or replace solenoid |
| Open hold-in wire | solenoid |
| Low Current Draw | |
| Worn brushes or weak brush springs | Replace brushes or brush springs as necessary |
| High Pitched Whine During Cranking Before Engine Fires but Engine Fires and Cranks Normally | |
| Distance too great between starter pinion and flywheel | Align starter or check that correct starter and flywheel are being used |
| High Pitched Whine After Engine Fires With Key released. Engine Fires and Cranks Normally | |
| Distance too small between starter pinion and flywheel | Flywheel runout contributes to the intermittent nature |

## AIR CONDITIONING & HEAT

### AIR CONDITIONING TROUBLE SHOOTING

**WARNING: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this**

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**Trouble Shooting information is to provide a list of common causes to problem symptoms. For model-specific Trouble Shooting, refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

## BASIC AIR CONDITIONING TROUBLE SHOOTING CHART

| CONDITION | POSSIBLE CAUSE |
|---|---|
| Compressor Not Working | Compressor clutch circuit open. |
| ..... | Compressor clutch coil inoperative. |
| ..... | Poor clutch ground connection. |
| ..... | Fan belts loose. |
| ..... | Thermostatic switch inoperative. |
| ..... | Thermostatic switch not adjusted. |
| ..... | Ambient temperature switch open. |
| ..... | Superheat fuse blown. |
| Excessive Noise or Vibration | Missing or loose mounting bolts. |
| ..... | Bad idler pulley bearings. |
| ..... | Fan belts not tightened correctly. |
| ..... | Compressor clutch contacting body. |
| ..... | Excessive system pressure. |
| ..... | Compressor oil level low. |
| ..... | Damaged clutch bearings. |
| ..... | Damaged reed valves. |
| ..... | Damaged compressor. |
| Insufficient or No Cooling; Compressor Working | Expansion valve inoperative. |
| ..... | Heater control valve stuck open. |
| ..... | Low system pressure. |
| ..... | Blocked condenser fins. |

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| | |
|---|---|
| ..... | Blocked evaporator fins. |
| ..... | Vacuum system leak. |
| ..... | Vacuum motors inoperative. |
| ..... | Control cables improperly adjusted. |
| ..... | Restricted air inlet. |
| ..... | Mode doors binding. |
| ..... | Blower motor inoperative. |
| ..... | Temperature above system capacity. |

**HEATER SYSTEM TROUBLE SHOOTING**

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## BASIC HEATER SYSTEM TROUBLE SHOOTING CHART

| CONDITION | POSSIBLE CAUSE |
|---|---|
| Insufficient, Erratic, or No Heat | Low Coolant Level |
| ..... | Incorrect thermostat. |
| ..... | Restricted coolant flow through core. |
| ..... | Heater hoses plugged. |
| ..... | Misadjusted control cable. |
| ..... | Sticking heater control valve. |
| ..... | Vacuum hose leaking. |
| ..... | Vacuum hose blocked. |
| ..... | Vacuum motors inoperative. |
| ..... | Blocked air inlet. |
| ..... | Inoperative heater blower motor. |

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| | |
|---|---|
| ..... | Oil residue on heater core fins. |
| ..... | Dirt on heater core fins. |
| Too Much Heat | Improperly adjusted cables. |
| ..... | Sticking heater control valve. |
| ..... | No vacuum to heater control valve. |
| ..... | Temperature door stuck open. |
| Air Flow Changes During Acceleration | Vacuum system leak. |
| ..... | Bad check valve or reservoir. |
| Air From Defroster At All Times | Vacuum system leak. |
| ..... | Improperly adjusted control cables. |
| ..... | Inoperative vacuum motor. |
| Blower Does Not Operate Correctly | Blown fuse. |
| ..... | Blower motor windings open. |
| ..... | Resistors burned out. |
| ..... | Motor ground connection loose. |
| ..... | Wiring harness connections loose. |
| ..... | Blower motor switch inoperative. |
| ..... | Blower relay inoperative. |
| ..... | Fan binding or foreign object in housing. |
| ..... | Fan blades broken or bent. |

## BRAKES

### BRAKE SYSTEM TROUBLE SHOOTING

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## BRAKE SYSTEM TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Brakes Pull Left or Right | |
| Incorrect tire pressure | Inflate tires to proper pressure |
| Front end out of alignment | See WHEEL ALIGNMENT |
| Mismatched tires | Check tires sizes |
| Restricted brake lines or hoses | Check hose routing |
| Loose or malfunctioning caliper | See DISC BRAKES or BRAKE SYSTEM |
| Bent shoe or oily linings | See DRUM BRAKES or BRAKE SYSTEM |
| Malfunctioning rear brakes | See DRUM, DISC BRAKES or BRAKE SYSTEM |
| Loose suspension parts | See SUSPENSION |
| Noises Without Brakes Applied | |
| Front linings worn out | Replace linings |
| Dust or oil on drums or rotors | See DRUM, DISC BRAKES or BRAKE SYSTEM |
| Noises With Brakes Applied | |
| Insulator on outboard shoe damaged | See DISC BRAKES or BRAKE SYSTEM |
| Incorrect pads or linings | Replace pads or linings |
| Brake Rough, Chatters or Pulsates | |
| Excessive lateral runout | Check rotor runout |
| Parallelism not to specifications | Reface or replace rotor |
| Wheel bearings not adjusted | See SUSPENSION |

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| | |
|---|---|
| Rear drums out-of-round | Reface or replace drums |
| Disc pad reversed, steel against rotor | Remove and reinstall pad |
| Excessive Pedal Effort | |
| Malfunctioning power unit | See POWER BRAKES or BRAKE SYSTEM |
| Partial system failure | Check fluid and pipes |
| Worn disc pad or lining | Replace pad or lining |
| Caliper piston stuck or sluggish | See DISC BRAKES or BRAKE SYSTEM |
| Master cylinder piston stuck | See MASTER CYLINDERS or BRAKE SYSTEM |
| Brake fade due to incorrect pads for linings | Replace pads or linings |
| Linings or pads glazed | Replace pads or linings |
| Worn drums | Reface or replace drums |
| Excessive Pedal Travel | |
| Partial brake system failure | Check fluid and pipes |
| Insufficient fluid in master cylinder | See MASTER CYLINDERS or BRAKE SYSTEM |
| Air trapped in system | See BRAKE BLEEDING or BRAKE SYSTEM |
| Rear brakes not adjusted | See Adjustments in DRUM BRAKES or BRAKE SYSTEM |
| Bent shoe or lining | See DRUM BRAKES |

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| | |
|---|---|
| | or BRAKE SYSTEM |
| Plugged master cylinder cap | See MASTER CYLINDERS or BRAKE SYSTEM |
| Improper brake fluid | Replace brake fluid |
| Pedal Travel Decreasing | |
| Compensating port plugged | See MASTER CYLINDERS or BRAKE SYSTEM |
| Swollen cup in master cylinder | See MASTER CYLINDERS or BRAKE SYSTEM |
| Master cylinder piston not returning | See MASTER CYLINDERS or BRAKE SYSTEM |
| Weak shoe retracting springs | See DRUM BRAKES BRAKE SYSTEM |
| Wheel cylinder piston sticking | See DRUM BRAKES or BRAKE SYSTEM |
| Dragging Brakes | |
| Master cylinder pistons not returning | See MASTER CYLINDERS BRAKE SYSTEM |
| Restricted brake lines or hoses | Check line routing |
| Incorrect parking brake adjustment | See DRUM BRAKES BRAKE SYSTEM |
| Parking Brake cables frozen | See DRUM BRAKES BRAKE SYSTEM |
| Incorrect installation of inboard disc pad | Remove and replace correctly |
| Power booster output rod too long | See POWER BRAKE UNITS BRAKE SYSTEM |
| | |

| | |
|---|---|
| Brake pedal not returning freely | See DISC, DRUM BRAKES BRAKE SYSTEM |
| Brakes Grab or Uneven Braking Action | |
| Malfunction of combination valve | See CONTROL VALVE or BRAKE SYSTEM |
| Malfunction of power brake unit | See POWER BRAKE UNITS or BRAKE SYSTEM |
| Binding brake pedal | See DISC, DRUM BRAKES or BRAKE SYSTEM |
| Pulsation or Roughness | |
| Uneven pad wear caused by caliper | See DISC BRAKES or BRAKE SYSTEM |
| Uneven rotor wear | See DISC BRAKES or BRAKE SYSTEM |
| Drums out-of-round | Reface or replace drums |

## ENGINE MECHANICAL

### COOLING SYSTEM TROUBLE SHOOTING

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## COOLING SYSTEM TROUBLE SHOOTING

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|

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| | |
|---|---|
| Overheating | |
| Coolant Leak | Fill/Pressure Test System |
| A/C Condenser Fins Clogged | Remove/Clean Condenser |
| Radiator Fins Clogged | Remove/Clean Radiator |
| Thermostat Stuck Closed | Replace Thermostat |
| Clogged Cooling System Passages | Clean/Flush Cooling System |
| Water Pump Malfunction | Replace Water Pump |
| Fan Clutch Malfunction | Replace Fan Clutch |
| Retarded Ignition Timing | Reset Ignition Timing |
| Cooling Fan Malfunction | Test Cooling Fan/Circuit |
| Cooling Fan Motor Malfunction | Test Fan Motor |
| Cooling Fan Relay Malfunction | Test Fan Relay |
| Faulty Radiator Cap | Replace Radiator Cap |
| Broken/Slipping Fan Belt | Replace Fan Belt |
| Restricted Exhaust | Repair Exhaust System |
| Corrosion | |
| Impurities In Coolant | Clean/Flush System |
| Coolant Leakage | |
| Damaged hose | Replace Hose |
| Leaky Water Pump | Replace Water Pump |
| Damaged Radiator Seam | Replace/Repair Radiator |
| Leaky Thermostat Cover | Replace Thermostat Cover |
| Cylinder Head Problem | Check Head/Head Gasket |
| | |

| | |
|---|---|
| Leaky Freeze Plugs | Replace Freeze Plugs |
| Recovery System Inoperative | |
| Loose and/or Defective Radiator Cap | Replace Radiator Cap |
| Overflow Tube Clogged and/or Leaking | Repair Tube |
| Recovery Bottle Vent Restricted | Clean Vent |
| No Heater Core Flow | |
| Collapsed Heater Hose | Replace Heater Hose |
| Plugged Heater Core | Clean/Replace Heater Core |
| Faulty Heater Valve | Replace Heater Valve |

**GASOLINE ENGINE - MECHANICAL TROUBLE SHOOTING**

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## BASIC GASOLINE ENGINE - MECHANICAL TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Engine Lopes At Idle | |
| Intake manifold-to-head leaks | Replace manifold gasket, See ENGINES |
| Blown head gasket | Replace head gasket, See ENGINES |
| Worn timing gears, chain or sprocket | Replace gears, chain or sprocket |
| Worn camshaft lobes | Replace camshaft, See ENGINES |
| Overheated engine | Check cooling system, |

| | |
|---|---|
| | See COOLING |
| Blocked crankcase vent valve | Remove restriction |
| Leaking EGR valve | Repair leak and/or replace valve |
| Faulty fuel pump | Replace fuel pump |
| Engine Has Low Power | |
| Leaking fuel pump | Repair leak and/or replace fuel pump |
| Excessive piston-to-bore clearance | Install larger pistons, See ENGINES |
| Sticking valves or weak valve springs | Check valve train components, See ENGINES |
| Incorrect valve timing | Reset valve timing, See ENGINES |
| Worn camshaft lobes | Replace camshaft, See ENGINES |
| Blown head gasket | Replace head gasket. See ENGINES. |
| Clutch slipping | Adjust pedal and/or replace components, See ENGINES |
| Engine overheating | Check cooling system, See COOLING |
| Auto. Trans. pressure regulator valve faulty | Replace pressure regulator valve |
| Auto. Trans. fluid level too low | Add fluid as necessary |
| Improper vacuum diverter valve operation | Replace vacuum diverter valve |
| Vacuum leaks | Inspect vacuum system and repair as required |
| Leaking piston rings | Replace piston rings, |

| | |
|---|---|
| | See ENGINES |
| Faulty High Speed Operation | |
| Low fuel pump volume | Replace fuel pump |
| Leaking valves or worn | Replace valves and/or springs, See ENGINES |
| Incorrect valve timing | Reset valve timing,See ENGINES |
| Intake manifold restricted | Remove restriction |
| Worn distributor shaft | Replace distributor |
| Faulty Acceleration | |
| Improper fuel pump stroke | Remove pump and reset pump stroke |
| Incorrect ignition timing | Reset ignition timing, See TUNE-UP |
| Leaking valves | Replace valves, See ENGINES |
| Worn fuel pump diaphragm or piston | Replace diaphragm or piston |
| Intake Backfire | |
| Improper ignition timing | Reset ignition timing, See TUNE-UP |
| Faulty accelerator pump discharge | Replace accelerator pump |
| Improper choke operation | Check choke and adjust as required |
| Defective EGR valve | Replace EGR valve |
| Fuel mixture too lean | Reset air/fuel mixture, See TUNE-UP |
| Choke valve initial clearance too large | Reset choke valve initial clearance |
| Exhaust Backfire | |
| Vacuum leak | Inspect and repair |

| | |
|---|---|
| | vacuum system |
| Faulty vacuum diverter valve | Replace vacuum diverter valve |
| Faulty choke operation | Check choke and adjust as required |
| Exhaust system leak | repair exhaust system leak |
| Engine Detonation | |
| Ignition timing too far advanced | Reset ignition timing, See TUNE-UP |
| Faulty ignition system | Check ignition timing, See TUNE-UP |
| Spark plugs loose or faulty | Retighten or replace plugs |
| Fuel delivery system clogged | Inspect lines, pump and filter for clog |
| EGR valve inoperative | Replace EGR valve |
| PCV system inoperative | Inspect and/or replace hoses or valve |
| Vacuum leaks | Check vacuum system and repair leaks |
| Excessive combustion chamber deposits | Remove built-up deposits |
| Leaking, sticking or broken valves | Inspect and/or replace valves |
| External Oil Leakage | |
| Fuel pump improperly seated or worn gasket | Remove pump, replace gasket and seat properly |
| Oil pan gasket broken or pan bent | Straighten pan and replace gasket |
| Timing chain cover gasket broken | Replace timing chain cover gasket |

| | |
|---|---|
| Rear main oil seal worn | Replace rear main oil seal |
| Oil pan drain plug not seated properly | Remove and reinstall drain plug |
| Camshaft bearing drain hole blocked | Remove restriction |
| Oil pressure sending switch leaking | Remove and reinstall sending switch |
| Excessive Oil Consumption | |
| Worn valve stems or guides | Replace stems or guides, See ENGINES |
| Valve "O" ring seals damaged | Replace "O" ring seals, See ENGINES |
| Plugged oil drain back holes | Remove restrictions |
| Improper PCV valve operation | Replace PCV valve |
| Engine oil level too high | Remove excess oil |
| Engine oil too thin | Replace thicker oil |
| Valve stem oil deflectors damaged | Replace oil deflectors |
| Incorrect piston rings | Replace piston rings, See ENGINES |
| Piston ring gaps not staggered | Reinstall piston rings, See ENGINES |
| Insufficient piston ring tension | Replace rings, See ENGINES |
| Piston ring grooves or oil return | slots clogged Replace piston rings, See ENGINES |
| Piston rings sticking in grooves | Replace piston rings, See ENGINES |
| Piston ring grooves excessively worn | Replace piston and rings, See ENGINES |
| Compression rings installed upside down | Replace compression rings correctly, See ENGINES |

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| | |
|---|---|
| Worn or scored cylinder walls | Rebore cylinders or replace block |
| Mismatched oil ring expander and rail | Replace oil ring expander and rail, See ENGINES |
| Intake gasket dowels too long | Replace intake gasket dowels |
| Excessive main or connecting rod bearing clearance | Replace main or connecting rod bearings, See ENGINES |
| No Oil Pressure | |
| Low oil level | Add oil to proper level |
| Oil pressure sender or gauge broken | Replace sender or gauge |
| Oil pump malfunction | Remove and overhaul oil pump, See ENGINES |
| Oil pressure relief valve sticking | Remove and reinstall valve |
| Oil pump passages blocked | Overhaul oil pump, See ENGINES |
| Oil pickup screen or tube blocked | Remove restriction |
| Loose oil inlet tube | Tighten oil inlet tube |
| Loose camshaft bearings | Replace camshaft bearings, See ENGINES |
| Internal leakage at oil passages | Replace block or cylinder head |
| Low Oil Pressure | |
| Low engine oil level | Add oil to proper level |
| Engine oil too thin | Remove and replace with thicker oil |

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| | |
|---|---|
| Excessive oil pump clearance | Reduce oil pump clearance, See ENGINES |
| Oil pickup tube or screen blocked | Remove restrictions |
| Main, rod or cam bearing clearance excessive | Replace bearing to reduce clearance, See ENGINES |
| High Oil Pressure | |
| Improper grade of oil | Replace with proper oil |
| Oil pressure relief valve stuck closed | Eliminate binding |
| Oil pressure sender or gauge faulty | Replace sender or gauge |
| Noisy Main Bearings | |
| Inadequate oil supply | Check oil delivery to main bearings |
| Excessive main bearing clearance | Replace main bearings, See ENGINES |
| Excessive crankshaft end play | Replace crankshaft, See ENGINES |
| Loose flywheel or torque converter | Tighten attaching bolts |
| Loose or damaged vibration damper | Tighten or replace vibration damper |
| Crankshaft journals out-of-round | Re-grind crankshaft journals |
| Excessive belt tension | Loosen belt tension |
| Noisy Connecting Rods | |
| Excessive bearing clearance or missing bearing | Replace bearing, See ENGINES |
| Crankshaft rod journal out-of-round | Re-grind crankshaft journal |
| Misaligned connecting rod or cap | Remove rod or cap |

| | |
|---|---|
| | and realign |
| Incorrectly tightened rod bolts | Remove and re-tighten rod bolts |
| Noisy Pistons and Rings | |
| Excessive piston-to-bore clearance | Install larger pistons, See ENGINES |
| Bore tapered or out-of-round | Rebore block |
| Piston ring broken | Replace piston rings, See ENGINES |
| Piston pin loose or seized | Replace piston pin, See ENGINES |
| Connecting rods misaligned | Realign connecting rods |
| Ring side clearance too loose or tight | Replace with larger or smaller rings |
| Carbon build-up on piston | Remove carbon |
| Noisy Valve Train | |
| Worn or bent push rods | Replace push rods, See ENGINES |
| Worn rocker arms or bridged pivots | Replace push rods, See ENGINES |
| Dirt or chips in valve lifters | Remove lifters and remove dirt/chips |
| Excessive valve lifter leak-down | Replace valve lifters, See ENGINES |
| Valve lifter face worn | Replace valve lifters, See ENGINES |
| Broken or cocked valve springs | Replace or reposition springs |
| Too much valve stem-to-guide clearance | Replace valve guides, See ENGINES |
| Valve bent | Replace valve, See ENGINES |

| | |
|---|---|
| Loose rocker arms | Retighten rocker arms, See ENGINES |
| Excessive valve seat run-out | Reface valve seats, See ENGINES |
| Missing valve lock | Install new valve lock |
| Excessively worn camshaft lobes | Replace camshaft, See ENGINES |
| Plugged valve lifter oil holes | Eliminate restriction or replace lifter |
| Faulty valve lifter check ball | Replace lifter check ball, See ENGINES |
| Rocker arm nut installed upside down | Remove and reinstall correctly |
| Valve lifter incorrect for engine | Remove and replace valve lifters |
| Faulty push rod seat or lifter plunger | Replace plunger or push rod |
| Noisy Valves | |
| Improper valve lash | Re-adjust valve lash, See ENGINES |
| Worn or dirty valve lifters | Clean and/or replace lifters |
| Worn valve guides | Replace valve guides, See ENGINES |
| Excessive valve seat or face run-out | Reface seats or valve face |
| Worn camshaft lobes | Replace camshaft, See ENGINES |
| Loose rocker arm studs | Re-tighten rocker arm studs, See ENGINES |
| Bent push rods | Replace push rods, See ENGINES |
| Broken valve springs | Replace valve springs, |

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| | |
|---|---|
| | See ENGINES |
| Burned,Sticking or Broken Valves | |
| Weak valve springs or warped valves | Replace valves and/or springs, See ENGINES |
| Improper lifter clearance | Re-adjust clearance or replace lifters |
| Worn guides or improper guide clearance | Replace valve guides, See ENGINES |
| Out-of-round valve seats or improper seat width | Re-grind valve seats |
| Gum deposits on valve stems, seats or guide | Remove deposits |
| Improper spark timing | Re-adjust spark timing |
| Broken Pistons/Rings | |
| Undersize pistons | Replace with larger pistons, See ENGINES |
| Wrong piston rings | Replace with correct rings, See ENGINES |
| Out-of-round cylinder bore | Re-bore cylinder bore |
| Improper connecting rod alignment | Remove and realign connecting rods |
| Excessively worn ring grooves | Replace pistons, See ENGINES |
| Improperly assembled piston pins | Re-assemble pin-to-piston, See ENGINES |
| Insufficient ring gap clearance | Install new rings, See ENGINES |
| Engine overheating | Check cooling system |
| Incorrect ignition timing | Re-adjust ignition timing, See TUNE-UP |
| Excessive Exhaust Noise | |
| Leaks at manifold to head, or to pipe | Replace manifold or pipe gasket |

| | |
|---|---|
| Exhaust manifold cracked or broken | Replace exhaust manifold, See ENGINES |

## ENGINE PERFORMANCE

**CARBURETOR TROUBLE SHOOTING:**

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## BASIC COLD START SYMPTOMS TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Engine Won't Start | |
| Choke not closing | Check choke operation, see FUEL SYSTEMS |
| Choke linkage bent | Check linkage, see FUEL SYSTEM |
| Engine Starts, Then Dies | |
| Choke vacuum kick setting too wide | Check setting and adjust see, FUEL SYSTEMS |
| Fast idle RPM too low | Reset RPM to specification, see TUNE-UP |
| Fast idle cam index incorrect | Reset fast idle cam index, see FUEL SYSTEMS |
| Vacuum leak | Inspect vacuum system |

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| | |
|---|---|
| | for leaks |
| Low fuel pump outlet | Repair or replace pump, see FUEL SYSTEMS |
| Low carburetor fuel level | Check float setting see FUEL SYSTEM |
| Engine Quits Under Load | |
| Choke vacuum kick setting incorrect | Reset vacuum kick setting,see FUEL SYSTEMS |
| Fast idle cam index incorrect | Reset fast idle cam index, see FUEL SYSTEM |
| Incorrect hot fast idle speed RPM | Reset fast idle RPM, see TUNE-UP |
| Engine Starts, Runs Up, Then Idles, Slowly With Black Smoke | |
| Choke vacuum kick set too narrow | Reset vacuum kick, see FUEL SYSTEMS |
| Fast idle cam index incorrect | Reset fast idle cam index, see FUEL SYSTEMS |
| Hot fast idle RPM too low | Reset fast idle RPM, see TUNE-UP |

## BASIC HOT START SYMPTOMS TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Engine Won't Start | |
| Engine flooded | Allow fuel to evaporate |

## BASIC COLD ENGINE DRIVEABILITY SYMPTOMS TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Engine Stalls in Gear | |

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| | |
|---|---|
| Choke vacuum kick setting incorrect | Reset choke vacuum kick, see FUEL SYSTEMS |
| Fast idle RPM incorrect | Reset fast idle RPM, see TUNE-UP |
| Fast idle cam index incorrect | Reset fast idle cam see FUEL SYSTEMS |
| Acceleration Sag or Stall | |
| Defective choke control switch | Replace choke control switch |
| Choke vacuum kick setting incorrect | Reset choke vacuum kick see, FUEL SYSTEMS |
| Float level incorrect (too low) | Adjust float level, FUEL SYSTEMS |
| Accelerator pump defective | Repair or replace pump see FUEL SYSTEMS |
| Secondary throttles not closed | Inspect lockout adjustment, see FUEL SYSTEMS |
| Sag or Stall After Warmup | |
| Defective choke control switch | Replace choke control switch, see FUEL SYSTEMS |
| Defective accelerator pump | Replace pump, see FUEL SYSTEMS |
| Float level incorrect (too low) | Adjust float level, see FUEL SYSTEMS |
| Backfiring & Black Smoke | |
| Plugged heat crossover system | Remove restriction |

## BASIC WARM ENGINE DRIVEABILITY SYMPTOMS TROUBLE SHOOTING CHART

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| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Hesitation With Small Amount of Gas Pedal Movement | |
| Vacuum leak | Inspect vacuum lines |
| Accelerator pump weak or inoperable | Replace pump, see FUEL SYSTEMS |
| Float level setting too low | Reset float level, see,FUEL SYSTEMS |
| Metering rods sticking or binding | Inspect and/or replace rods, see FUEL SYSTEMS |
| Carburetor idle or transfer system plugged | Inspect system and remove restriction |
| Frozen or binding heated air inlet | Inspect heated air door for binding |
| Hesitation With Heavy Gas Pedal Movement | |
| Defective accelerator pump | Replace pump, see FUEL SYSTEMS |
| Metering rod carrier sticking or binding | Remove restriction |
| Large vacuum leak | Inspect vacuum system and repair leak |
| Float level setting too low | Reset float level, see FUEL SYSTEMS |
| Defective fuel pump, lines or filter | Inspect pump, lines and filter |
| Air door setting incorrect | Adjust air door setting, see FUEL |

**DIESEL ENGINE TROUBLE SHOOTING**

**NOTE: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this Trouble Shooting information is to provide a list of common causes to problem symptoms. For model-specific Trouble Shooting,**

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**refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

**NOTE: Diesel engines mechanical diagnosis is the same as gasoline engines for items such as noisy valves, bearings, pistons, etc. The following trouble shooting covers only items pertaining to diesel engines.**

## BASIC DIESEL ENGINE TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Engine Won't Crank | |
| Bad battery connections or dead batteries | Check connections and/or replace batteries |
| Bad starter connections or bad starter | Check connections and/or replace starter |
| Engine Cranks Slowly, Won't Start | |
| Bad battery connections or dead batteries | Check connections and/or replace batteries |
| Engine oil too heavy | Replace engine oil |
| Engine Cranks Normally, But Will Not Start | |
| Glow plugs not functioning | Check glow plug system, see FUEL SYSTEMS |
| Glow plug control not functioning | Check controller, see FUEL SYSTEMS |
| Fuel not injected into cylinders | Check fuel injectors, see FUEL SYSTEMS |
| No fuel to injection pump | Check fuel delivery system |
| Fuel filter blocked | Replace fuel filter |
| Fuel tank filter blocked | Replace fuel tank filter |
| Fuel pump not operating | Check pump operation and/or replace pump |

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| | |
|---|---|
| Fuel return system blocked | Inspect system and remove restriction |
| No voltage to fuel solenoid | Check solenoid and connections |
| Incorrect or contaminated fuel | Replace fuel |
| Incorrect injection pump timing | Re-adjust pump timing, see FUEL SYSTEMS |
| Low compression | Check valves, pistons, rings, see ENGINES |
| Injection pump malfunction | Inspect and/or replace injection pump |
| Engine Starts, Won't Idle | |
| Incorrect slow idle adjustment | Reset idle adjustment, see TUNE-UP |
| Fast idle solenoid malfunctioning | Check solenoid and connections |
| Fuel return system blocked | Check system and remove restrictions |
| Glow plugs go off too soon | See glow plug diagnosis in FUEL SYSTEMS |
| Injection pump timing incorrect | Reset pump timing, see FUEL SYSTEMS |
| No fuel to injection pump | Check fuel delivery system |
| Incorrect or contaminated fuel | Replace fuel |
| Low compression | Check valves, piston, rings, see ENGINES |
| Injection pump malfunction | Replace injection pump, see FUEL SYSTEMS |
| Fuel solenoid closes in RUN position | Check solenoid and |

| | |
|---|---|
| | connections |
| Engines Starts/Idles Rough W/out Smoke or Noise | |
| Incorrect slow idle adjustment | Reset slow idle, see TUNE-UP |
| Injection line fuel leaks | Check lines and connections |
| Fuel return system blocked | Check lines and connections |
| Air in fuel system | Bleed air from system |
| Incorrect or contaminated fuel | Replace fuel |
| Injector nozzle malfunction | Check nozzles, see FUEL SYSTEMS |
| Engines Starts and Idles Rough W/out Smoke or Noise, But Clears After Warm-Up | |
| Injection pump timing incorrect | Reset pump timing, see FUEL SYSTEMS |
| Engine not fully broken in | Put more miles on engine |
| Air in system | Bleed air from system |
| Injector nozzle malfunction | Check nozzles, see FUEL SYSTEMS |
| Engine Idles Correctly, Misfires Above Idle | |
| Blocked fuel filter | Replace fuel filter |
| Injection pump timing incorrect | Reset pump timing, see FUEL SYSTEMS |
| Incorrect or contaminated fuel | Replace fuel |
| Engine Won't Return To Idle | |
| Fast idle adjustment incorrect | Reset fast idle, see TUNE-UP |
| Internal injection pump malfunction | Replace injection pump, see FUEL SYSTEMS |
| External linkage binding | Check linkage and |

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| | |
|---|---|
| | remove binding |
| Fuel Leaks On Ground | |
| Loose or broken fuel line | Check lines and connections |
| Internal injection pump seal leak | Replace injection pump, see FUEL SYSTEMS |
| Cylinder Knocking Noise | |
| Injector nozzles sticking open | Test injectors, see FUEL SYSTEMS |
| Very low nozzle opening pressure | Test injectors and/or replace |
| Loss of Engine Power | |
| Restricted air intake | Remove restriction |
| EGR valve malfunction | Replace EGR valve |
| Blocked or damaged exhaust system | Remove restriction and/or replace components |
| Blocked fuel tank filter | Replace filter |
| Restricted fuel filter | Remove restriction and/or replace filter |
| Block vent in gas cap | Remove restriction and/or replace cap |
| Tank-to-injection pump fuel supply blocked | Check fuel lines and connections |
| Blocked fuel return system | Remove restriction |
| Incorrect or contaminated fuel | Replace fuel |
| Blocked injector nozzles | Check nozzle for blockage, see FUEL SYSTEMS |
| Low compression | Check valves, rings, pistons, see ENGINES |
| Loud Engine Noise With Black Smoke | |

| | |
|---|---|
| Basic timing incorrect | Reset timing, see FUEL SYSTEMS |
| EGR valve malfunction | Replace EGR valve |
| Internal injection pump malfunction | Replace injection pump, see FUEL SYSTEMS |
| Incorrect injector pump housing pressure | Check pressure, see FUEL SYSTEMS |
| Engine Overheating | |
| Cooling system leaks | Check cooling system and repair leaks |
| Belt slipping or damaged | Check tension and/or replace belt |
| Thermostat stuck closed | Remove and replace thermostat, see ENGINE COOLING |
| Head gasket leaking | Replace head gasket |
| Oil Light on at Idle | |
| Low oil pump pressure | Check oil pump operation, see ENGINES |
| Oil cooler or line restricted | Remove restriction and/or replace cooler |
| Engine Won't Shut Off | |
| Injector pump fuel solenoid does not return fuel valve to OFF position | Remove and check solenoid and replace if needed |

## VACUUM PUMP DIAGNOSIS

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Excessive Noise | |
| Loose pump-to-drive assembly screws | Tighten screws |
| Loose tube on pump assembly | Tighten tube |

| | |
|---|---|
| Valves not functioning properly | Replace valves |
| Oil Leakage | |
| Loose end plug | Tighten end plug |
| Bad seal crimp | Remove and re-crimp seal |

**FUEL INJECTION TROUBLE SHOOTING**

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## BASIC FUEL INJECTION TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Engine Won't Start (Cranks Normally) | |
| Cold start valve inoperative | Test valve and circuit |
| Poor connection;vacuum or wiring | Check vacuum and electrical connections |
| Contaminated fuel | Test fuel for water or alcohol |
| Defective fuel pump relay or circuit | Test relay and wiring |
| Battery too low | Charge and test battery |
| Low fuel pressure | Test pressure regulator and fuel pump, check for restricted lines and filters |
| No distributor reference pulses | Repair ignition system as necessary |
| Open coolant temperature sensor circuit | Test sensor and wiring |
| Shorted W.O.T. switch in T.P.S. | Disconnect W.O.T. |

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| | |
|---|---|
| | switch, engine should start |
| Defective ECM | Replace ECM |
| Fuel tank residual pressure valve leaks | Test for fuel pressure drop after shut down |
| Hard Starting | |
| Disconnected hot air tube to air cleaner | Reconnect tube and test control valve |
| Defective Idle Air Control (IAC) valve | Test valve operation and circuit |
| Shorted, open or misadjusted T.P.S. | Test and adjust or replace T.P.S. |
| EGR valve open | Test EGR valve and control circuit |
| Poor Oxygen sensor signal | Test for shorted or circuit |
| Incorrect mixture from PCV system | Test PCV for flow, check sealing of oil filter cap |
| Poor High Speed Operation | |
| Low fuel pump volume | Faulty pump or restricted fuel lines or filters |
| Poor MAP sensor signal | Test MAP sensor, vacuum hose and wiring |
| Poor Oxygen sensor signal | Test for shorted or open sensor or circuit |
| Open coolant temperature sensor circuit | Test sensor and wiring |
| Faulty ignition operation | Check wires for cracks or poor con- nections, test secondary voltage with oscilloscope |
| | |

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| | |
|---|---|
| Contaminated fuel | Test fuel for water or alcohol |
| Intermittent ECM ground | Test ECM ground connection for resistance |
| Restricted air cleaner | Replace air cleaner |
| Restricted exhaust system | Test for exhaust manifold back pressure |
| Poor MAF sensor signal | Check leakage between sensor and manifold |
| Poor VSS signal | If tester for ALCL hook-up is available check that VSS reading matches speedometer |
| Ping or Knock on Acceleration | |
| Poor Knock sensor signal | Test for shorted or open sensor or circuit |
| Poor Baro sensor signal | Test for shorted or open sensor or circuit |
| Improper ignition timing | See VEHICLE EMISSION CONTROL LABEL (where applicable) |
| Check for engine overheating problems | Low coolant, loose belts or electric cooling fan inoperative |

**NOTE: For additional electronic fuel injection trouble shooting information, see the appropriate article in the ENGINE PERFORMANCE section (not all vehicles have Computer Engine Control articles). Information is provided there for**

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**diagnosing fuel system problems on vehicles with electronic fuel injection.**

## IGNITION SYSTEM TROUBLE SHOOTING

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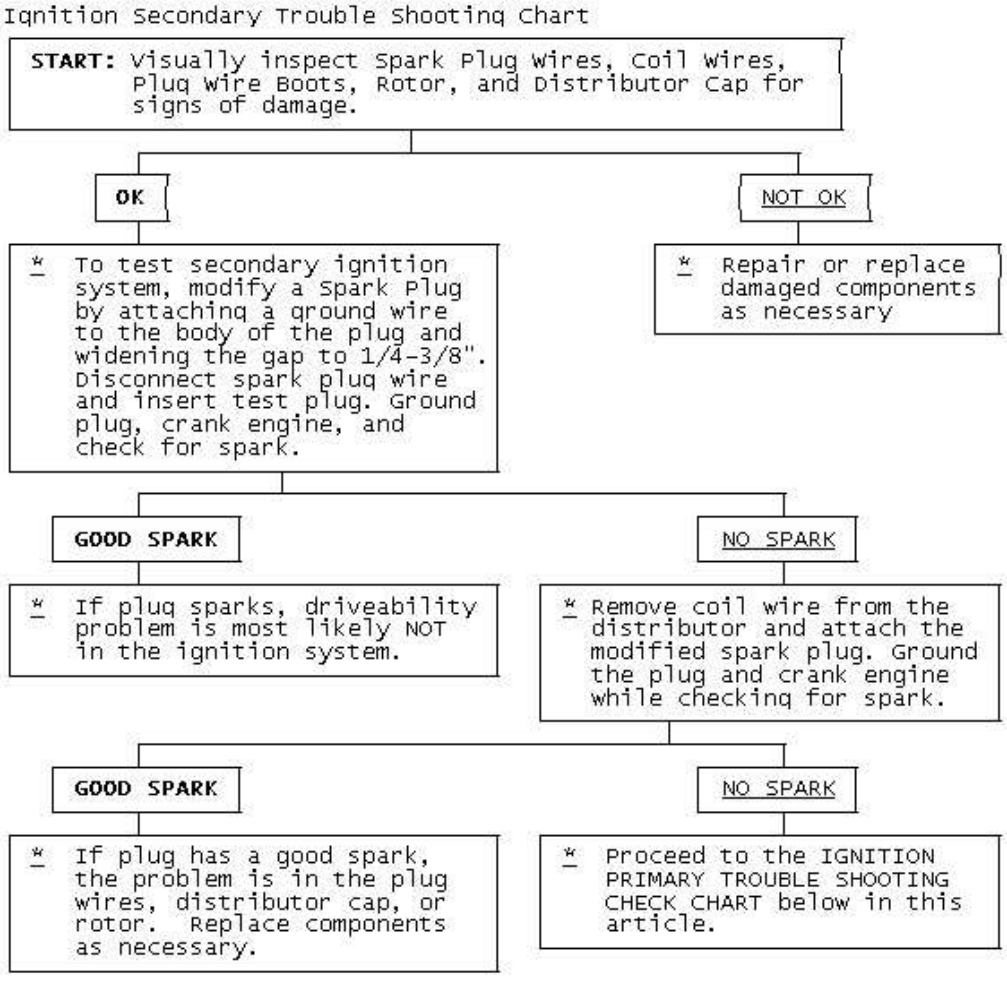
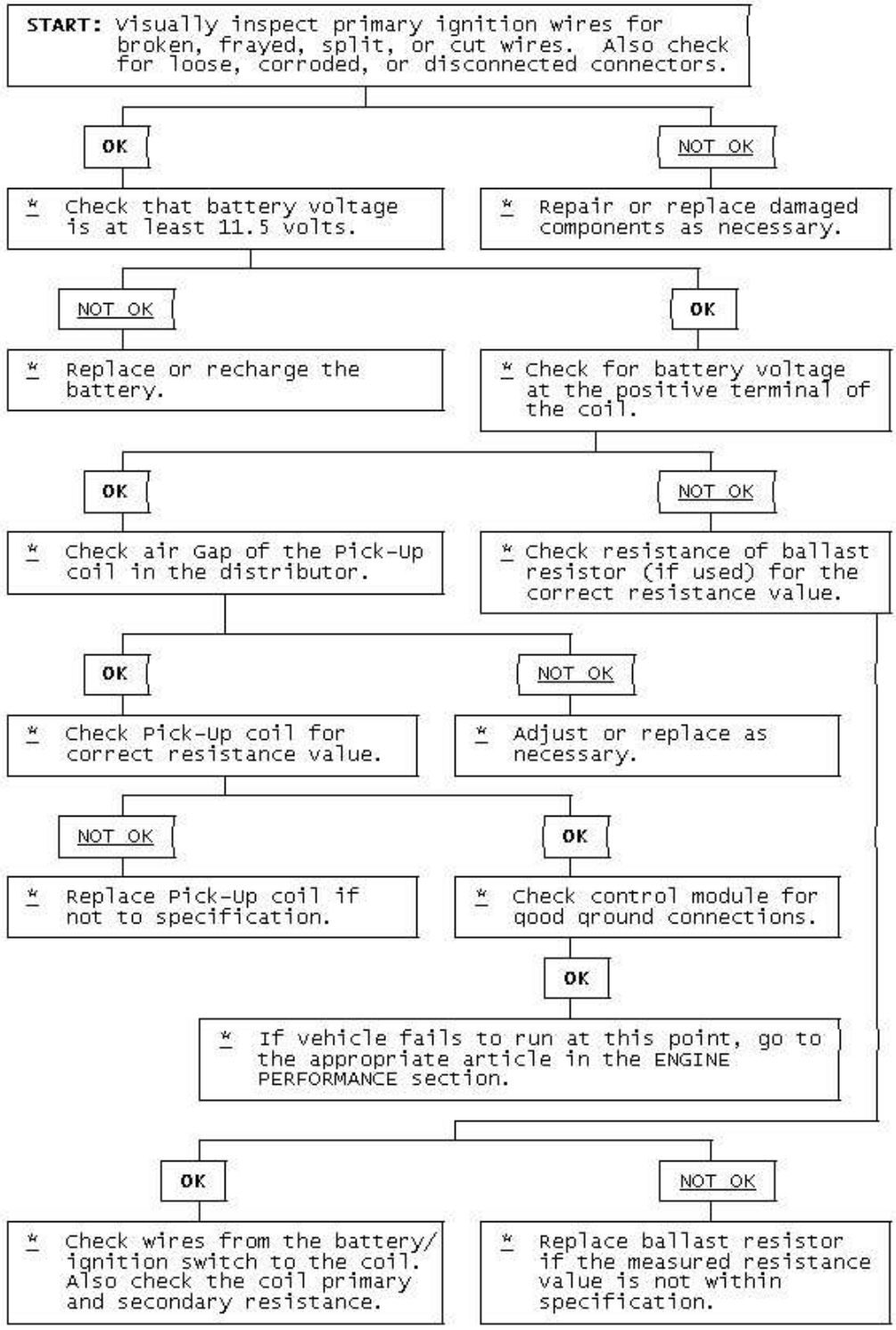



**Fig. 3: Ignition Secondary Trouble Shooting Chart**

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Ignition Primary Trouble Shooting Chart



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## Fig. 4: Ignition Primary Trouble Shooting Chart

**STARTER TROUBLE SHOOTING**

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## BASIC STARTER TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Starter Fails to Operate | |
| Dead battery or bad connections between starter and battery | Check battery charge and all wires and connections to starter |
| Ignition switch faulty or misadjusted | Adjust or replace ignition switch |
| Open circuit between starter switch ignition terminal on starter relay | Check and repair wires and connections as necessary |
| Starter relay or starter defective | See Testing in STARTER article |
| Open solenoid pull-in wire | See Testing in STARTER article |
| Starter Does Not Operate and Headlights Dim | |
| Weak battery or dead cell | Charge or replace battery as necessary |
| Loose or corroded battery connections | Check that battery connections are clean and tight |
| Internal ground in starter windings | See Testing in STARTER article |

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| | |
|---|---|
| Grounded starter fields | See Testing in STARTERS |
| Armature rubbing on pole shoes | See STARTER article |
| Starter Turns but Engine Does Not Rotate | |
| Starter clutch slipping | See STARTER article |
| Broken clutch housing | See STARTER article |
| Pinion shaft rusted or dry | See STARTER article |
| Engine basic timing incorrect | See Ignition Timing in TUNE-UP article |
| Broken teeth on engine flywheel | Replace flywheel and check for starter pinion gear damage |
| Starter Will Not Crank Engine | |
| Faulty overrunning clutch | See STARTER article |
| Broken clutch housing | See STARTER article |
| Broken flywheel teeth | Replace flywheel and check for starter pinion gear damage |
| Armature shaft sheared or reduction gear teeth stripped | See STARTER article |
| Weak battery | Charge or replace battery as necessary |
| Faulty solenoid | See On-Vehicle Tests in STARTER article |
| Poor grounds | Check all ground connections for tight and clean connections |
| Ignition switch faulty or misadjusted | Adjust or replace ignition switch as necessary |
| Starter Cranks Engine Slowly | |
| Battery weak or defective | Charge or replace battery as necessary |

| | |
|---|---|
| Engine overheated | See ENGINE COOLING SYSTEM article |
| Engine oil too heavy | Check that proper viscosity oil is used |
| Poor battery-to-starter connections | Check that all between battery and starter are clean and tight |
| Current draw too low or too high | See Bench Tests in STARTER article |
| Bent armature, loose pole shoes screws or worn bearings | See STARTER article |
| Burned solenoid contacts | Replace solenoid |
| Faulty starter | Replace starter |
| Starter Engages Engine Only Momentarily | |
| Engine timing too far advanced | See Ignition Timing in TUNE-UP article |
| Overrunning clutch not engaging properly | Replace overrunning clutch. See STARTER article |
| Broken starter clutch | See STARTER article |
| Broken teeth on engine flywheel | Replace flywheel and check starter pinion gear for damage |
| Weak drive assembly thrust spring | See STARTER article |
| Weak hold-in coil | See Bench Tests in STARTER article |
| Starter Drive Will Not Engage | |
| Defective point assembly | See Testing in STARTER article |
| Poor point assembly ground | See Testing in STARTER article |

| | |
|---|---|
| Defective pull-in coil | Replace starter solenoid |
| Starter Relay Does Not Close | |
| Dead battery | Charge or replace battery as necessary |
| Faulty wiring | Check all wiring and connections leading to relay |
| Neutral safety switch faulty | Replace neutral safety switch |
| Starter relay faulty | Replace starter relay |
| Starter Drive Will Not Disengage | |
| Starter motor loose on mountings | Tighten starter attach bolts |
| Worn drive end bushing | See STARTER article |
| Damaged engine flywheel teeth | Replace flywheel and starter pinion gear for damage |
| Drive yolk return spring broken or missing | Replace return spring |
| Faulty ignition switch | Replace ignition switch |
| Insufficient clearance between winding leads to solenoid terminal and main contact in solenoid | Replace starter solenoid |
| Starter clutch not disengaging | Replace starter clutch |
| Ignition starter switch contacts sticking | Replace ignition switch |
| Starter Relay Operates but Solenoid Does Not | |
| Faulty solenoid switch, switch connections or relay | Check all wiring between relay and solenoid or replace relay or solenoid as necessary |
| Broken lead or loose soldered connections | Repair wire or wire |

| | |
|---|---|
| | connections as necessary |
| Solenoid Plunger Vibrates When Switch is Engaged | |
| Weak battery | Charge or replace battery as necessary |
| Solenoid contacts corroded | Clean contacts or replace solenoid |
| Faulty wiring | Check all wiring leading to solenoid |
| Broken connections inside switch cover | Repair connections or replace solenoid |
| Open hold-in wire | Replace solenoid |
| Low Current Draw | |
| Worn brushes or weak | Replace brushes or brush springs as necessary |
| High Pitched Whine During Cranking Before Engine Fires but Engine Fires and Cranks Normally | |
| Distance too great between starter pinion and flywheel | Align starter or check that correct starter and flywheel are being used |
| High Pitched Whine After Engine Fires With Key released. Engine Fires and Cranks Normally | |
| Distance too small between starter pinion and flywheel | Flywheel runout contributes to the intermittent nature |

**TUNE-UP TROUBLE SHOOTING - GAS ENGINE VEHICLES**

**NOTE: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this Trouble Shooting information is to provide a list of common causes to**

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**problem symptoms. For model-specific Trouble Shooting, refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

## BASIC SPARK PLUG TROUBLE SHOOTING CHARTS

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Normal Spark Plug Condition | |
| Light Tan or Gray deposits | No Action |
| Electrode not burned or fouled | No Action |
| Gap tolerance not changed | No Action |
| Cold Fouling or Carbon Deposits | |
| Overrich air/fuel mixture | Adjust air/fuel mixture, see ENGINE PERFORMANCE section |
| Faulty choke | Replace choke assembly, see ENGINE PERFORMANCE section |
| Clogged air filter | Clean and/or replace air filter |
| Incorrect idle speed or dirty carburetor | Reset idle speed and/ or clean carburetor |
| Faulty ignition wires | Replace ignition wiring |
| Prolonged operation at idle | Shut engine off during long idle |
| Sticking valves or worn valve guide seals | Check valve train |
| Wet Fouling or Oil Deposits | |
| Worn rings and pistons | Install new rings and pistons |
| Excessive cylinder wear | Rebore or replace |

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| | |
|---|---|
| | block |
| Excessive valve guide clearance | Worn or loose bearing |
| Gap Bridged | |
| Deposits in combustion chamber becoming fused to electrode | Clean combustion chamber of deposits |
| Blistered Electrode | |
| Engine overheating | Check cooling system |
| Wrong type of fuel | Replace with correct fuel |
| Loose spark plugs | Retighten spark plugs |
| Over-advanced ignition timing | Reset ignition timing see ENGINE PERFORMANCE |
| Pre-Ignition or Melted Electrodes | |
| Incorrect type of fuel | Replace with correct fuel |
| Incorrect ignition timing | Reset ignition timing see ENGINE PERFORMANCE |
| Burned valves | Replace valves |
| Engine Overheating | Check cooling system |
| Wrong type of spark plug, too hot | Replace with correct spark plug, see ENGINE PERFORMANCE |
| Chipped Insulators | |
| Severe detonation | Check for over-advanced timing or combustion |
| Improper gapping procedure | Re-gap spark plugs |
| Rust Colored Deposits | |
| Additives in unleaded fuel | Try different fuel brand |

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| | |
|---|---|
| Water In Combustion Chamber | |
| Blown head gasket or cracked head | Repair or replace head or head gasket |

**NOTE: Before diagnosing an electronic ignition system, ensure that all wiring is connected properly between distributor, wiring connector and spark plugs. Ignition problem will show up either as: Engine Will Not Start or Engine Runs Rough.**

## BASIC ELECTRONIC IGNITION TROUBLE SHOOTING CHARTS

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Engine Won't Start | |
| Open circuit between distributor and bulkhead connector | Repair circuit |
| Open circuit between bulkhead connector and ignition switch | Repair circuit |
| Open circuit between ignition switch and starter solenoid | Repair circuit |
| Engine Runs Rough | |
| Fuel lines leaking or clogged | Tighten fitting, remove restriction |
| Initial timing incorrect | Reset ignition timing see ENGINE PERFORMANCE |
| Centrifugal advance malfunction | Repair distributor advance |
| Defective spark plugs or wiring | Replace plugs or plug wiring |
| Component Failure | |
| Spark arc-over on cap, rotor or coil | Replace cap, rotor or or coil |
| Defective pick-up coil | Replace pick-up coil |

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| | |
|---|---|
| Defective ignition coil | Replace ignition coil |
| Defective vacuum unit | Replace vacuum unit |
| Defective control module | Replace control module |

## BASIC ELECTRONIC IGNITION TROUBLE SHOOTING CHARTS - USING OSCILLOSCOPE PATTERNS

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Firing Voltage Lines are the Same, but Abnormally High | |
| Retarded ignition timing | Reset ignition timing, see ENGINE PERFORMANCE section |
| Fuel mixture too lean | Readjust carburetor, see ENGINE PERFORMANCE |
| High resistance in coil wire | Replace coil wire |
| Corrosion in coil tower terminal | Clean and/or replace coil |
| Corrosion in distributor coil terminal | Clean and/or replace distributor cap |
| Firing Voltage Lines are the Same but Abnormally Low | |
| Fuel mixture too rich | Readjust carburetor, see ENGINE PERFORMANCE |
| Breaks in coil wire causing arcing | Replace coil wire |
| Cracked coil tower causing arcing | Replace coil |
| Low coil output | Replace coil |
| Low engine compression | Determine cause and repair |
| One or More, But Not All Firing Voltage Lines are Higher Than Others | |
| Carburetor idle mixture not balanced | Readjust carburetor, see ENGINE |

| | |
|---|---|
| | PERFORMANCE |
| EGR valve stuck open | Clean and/or replace valve |
| High resistance in spark plug wires | Replace spark plug wires |
| Cracked or broken spark plug insulator | Replace spark plugs |
| Intake vacuum leak | Repair leak |
| Defective spark plugs | Replace spark plugs |
| Corroded spark plug terminals | Replace spark plugs |
| One or More, But Not All Firing Voltage Lines Are Lower Than Others | |
| Curb idle mixture not balanced | Readjust carburetor, see ENGINE PERFORMANCE |
| Breaks in plug wires | Replace plug wires causing arcing |
| Cracked coil tower causing arcing | Replace coil |
| Low compression | Determine cause and repair |
| Defective spark plugs | Replace spark plugs |
| Corroded spark plugs | Replace spark plugs |
| Cylinders Not Firing | |
| Cracked distributor cap terminals | Replace distributor cap |
| Shorted spark plug wire | Determine cause and repair |
| Mechanical problem in engine | Determine cause and repair |
| Defective spark plugs | Replace spark plugs |
| Spark plugs fouled | Replace spark plugs |

## BASIC DRIVEABILITY PROBLEMS TROUBLE SHOOTING

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Hard Starting | |
| Binding carburetor linkage | Eliminate binding |

| | |
|---|---|
| Binding choke linkage | Eliminate binding |
| Binding choke piston | Eliminate binding |
| Restricted choke vacuum | Check vacuum lines for blockage |
| Worn or dirty needle valve and seat | Clean carburetor, see ENGINE PERFORMANCE |
| Float sticking | Readjust or replace float see the ENGINE PERFORMANCE section |
| Incorrect choke adjustment | Reset choke adjustment see ENGINE PERFORMANCE |
| Defective coil | Replace coil |
| Improper spark plug gap | Regap spark plugs |
| Incorrect ignition timing | Reset ignition timing see ENGINE PERFORMANCE |
| Detonation | |
| Over-advanced ignition timing | Reset ignition timing see ENGINE PERFORMANCE |
| Defective spark plugs | Replace spark plugs |
| Fuel lines clogged | Clean fuel lines |
| EGR system malfunction | Check and repair EGR system |
| PCV system malfunction | Repair PCV system |
| Vacuum leaks | Check and repair vacuum system |
| Loose fan belts | Tighten or replace fan belts, see ENGINE |

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| | |
|---|---|
| | PERFORMANCE |
| Restricted airflow | Remove restriction |
| Vacuum advance malfunction | Check distributor operation |
| Dieseling | |
| Binding carburetor linkage | Eliminate binding |
| Binding throttle linkage | Eliminate blinding |
| Binding choke linkage or fast idle cam | Eliminate binding |
| Defective idle solenoid | Replace idle solenoid see ENGINE PERFORMANCE |
| Improper base idle speed | Reset idle speed, see see ENGINE PERFORMANCE |
| Incorrect ignition timing | Reset ignition timing see ENGINE PERFORMANCE |
| Incorrect idle mixture setting | Reset idle mixture, see ENGINE PERFORMANCE |
| Faulty Acceleration | |
| Incorrect ignition timing | Reset ignition timing see ENGINE PERFORMANCE |
| Engine cold and choke too lean | Adjust choke and allow engine to warm-up |
| Defective spark plugs | Replace spark plugs |
| Defective coil | Replace coil |
| Faulty Low Speed Operation | |
| Clogged idle transfer slots | Clean idle transfer slots, see FUEL |
| Restricted idle air bleeds and passages | Disassemble and clean |

| | |
|---|---|
| | carburetor, see FUEL |
| Clogged air cleaner | Replace air filter |
| Defective spark plugs | Replace spark plugs |
| Defective ignition wires | Replace ignition wire see ENGINE PERFORMANCE |
| Defective distributor cap | Replace distributor cap |
| Faulty High Speed Operation | |
| Incorrect ignition timing | Reset ignition timing see ENGINE PERFORMANCE |
| Defective distributor centrifugal advance | Replace advance mechanism |
| Defective distributor vacuum advance | Replace advance unit |
| Incorrect spark plugs or plug gap | Check gap and/or replace spark plugs |
| Faulty choke operation | Check choke and repair as required |
| Clogged vacuum passages | Remove restrictions |
| Improper size or clogged main jet | Check jet size and clean, see FUEL |
| Restricted air cleaner | Check filter and replace as necessary |
| Defective distributor cap, rotor or coil | Replace cap, rotor or coil |
| Misfire at All Speeds | |
| Defective spark plugs | Replace spark plugs |
| Defective spark plug wires | Replace spark plug wires |
| Defective distributor cap, rotor, or coil | Replace cap, rotor, or coil |
| Cracked or broken vacuum hoses | Replace vacuum hoses |
| Vacuum leaks | Repair vacuum leaks |

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| | |
|---|---|
| Fuel lines clogged | Remove restriction |
| Hesitation | |
| Cracked or broken vacuum | Replace vacuum hoses hoses |
| Vacuum leaks | Repair Vacuum leaks |
| Binding carburetor linkage | Eliminate binding |
| Binding throttle linkage | Eliminate binding |
| Binding choke linkage or fast idle cam | Eliminate binding |
| Improper float setting | Readjust float setting, see FUEL |
| Cracked or broken ignition wires | Replace ignition wires |
| Rough Idle, Missing or Stalling | |
| Incorrect curb idle or fast idle speed | Reset idle speed, see see ENGINE PERFORMANCE |
| Incorrect basic timing | Reset ignition timing see ENGINE PERFORMANCE |
| Improper idle mixture adjustment | Reset idle mixture, see ENGINE PERFORMANCE |
| Improper feedback system operation | Check feedback system see ENGINE PERFORMANCE |
| Incorrect spark plug gap | Reset spark plug gap, see ENGINE PERFORMANCE |
| Moisture in ignition components | Dry components |
| Loose or broken ignition wires | Replace ignition wires |
| Damaged distributor cap or or rotor | Replace distributor cap or rotor |
| Faulty ignition coil | Replace ignition coil |
| Fuel filter clogged or worn | Replace fuel filter |

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| | |
|---|---|
| Damaged idle mixture screw | Replace idle mixture screw, see FUEL |
| Improper fast idle cam adjustment | Reset fast idle cam adjustment, see TUNE- see ENGINE PERFORMANCE |
| Improper EGR valve operation | Replace EGR valve |
| Faulty PCV valve air flow | Replace PCV valve |
| Choke binding or improper choke setting | Reset choke or eliminate binding |
| Vacuum leak | Repair vacuum leak |
| Improper float bowl fuel level | Reset float adjustment, see FUEL |
| Clogged air bleed or idle passages | Clean carburetor passages, see FUEL |
| Clogged or worn air cleaner filter | Replace air filter |
| Faulty choke vacuum diaphragm | Replace diaphragm, see ENGINE PERFORMANCE |
| Exhaust manifold heat valve inoperative | Replace heat valve |
| Improper distributor spark advance | Check distributor operation |
| Leaking valves or valve components | Check and repair valvetrain |
| Improper carburetor mounting | Remove and remount carburetor |
| Excessive play in distributor shaft | Replace distributor |
| Loose or corroded wiring connections | Repair or replace as required |
| Engine Surges | |
| Improper PCV valve airflow | Replace PCV valve |
| Vacuum leaks | Repair vacuum leaks |
| Clogged air bleeds | Remove restriction |

| | |
|---|---|
| EGR valve malfunction | Replace EGR valve |
| Restricted air cleaner filter | Replace air filter |
| Cracked or broken vacuum hoses | Replace vacuum hoses |
| Cracked or broken ignition wires | Replace ignition wires |
| Vacuum advance malfunction | Check unit and replace as necessary |
| Defective or fouled spark plugs | Replace spark plugs |
| Ping or Spark Knock | |
| Incorrect ignition timing | Reset ignition timing see ENGINE PERFORMANCE |
| Distributor centrifugal or vacuum advance malfunction | Check operation and replace as necessary |
| Carburetor setting too lean | Readjust mixture setting, see ENGINE PERFORMANCE |
| Vacuum leak | Eliminate vacuum leak |
| EGR valve malfunction | Replace EGR valve |
| Poor Gasoline Mileage | |
| Cracked or broken vacuum | Replace vacuum hoses hoses |
| Vacuum leaks | Repair vacuum leaks |
| Defective ignition wires | Replace wires |
| Incorrect choke setting | Readjust setting, see ENGINE PERFORMANCE |
| Defective vacuum advance | Replace vacuum advance |
| Defective spark plugs | Replace spark plugs |
| Binding carburetor power piston | Eliminate binding |
| Dirt in carburetor jets | Clean and/or replace jets |
| Incorrect float adjustment | Readjust float setting, |

| | |
|---|---|
| | see FUEL |
| Defective power valve | Replace power valve, see ENGINE PERFORMANCE |
| Incorrect idle speed | Readjust idle speed |
| Engine Stalls | |
| Improper float level | Readjust float level |
| Leaking needle valve and seat | Replace needle valve and seat |
| Vacuum leaks | Eliminate vacuum leaks |

**VACUUM PUMP - DIESEL TROUBLE SHOOTING**

**NOTE: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this Trouble Shooting information is to provide a list of common causes to problem symptoms. For model-specific Trouble Shooting, refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

**NOTE: Diesel engines mechanical diagnosis is the same as gasoline engines for items such as noisy valves, bearings, pistons, etc. The following trouble shooting covers only items pertaining to diesel engines.**

**VACUUM PUMP (DIESEL) TROUBLE SHOOTING CHART**

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Excessive Noise | |
| Loose pump-to-drive assembly screws | Tighten screws |
| Loose tube on pump assembly | Tighten tube |
| Valves not functioning properly | Replace valves |
| Oil Leakage | |

| | |
|---|---|
| Loose end plug | Tighten end plug |
| Bad seal crimp | Remove and re-crimp seal |

## MANUAL TRANSMISSION

### MANUAL TRANSMISSION TROUBLE SHOOTING

**NOTE: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this Trouble Shooting information is to provide a list of common causes to problem symptoms. For model-specific Trouble Shooting, refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

### MANUAL TRANSMISSION/TRANSAXLE TROUBLE SHOOTING

| Condition | Possible Cause |
|---|---|
| Noisy In Forward Gears | Low gear oil level, Loose bell housing bolts, Worn bearings or gears |
| Clunk On Deceleration (FWD Only) | Loose engine mounts, Worn inboard CV joints, Worn differential pinion shaft, Side gear hub counterbore in case worn oversize |
| Gear Clash When Shifting Forward Gears | Clutch Out Of Adjustment, Shift linkage damaged or out of adjustment, Gears or synchronizers damaged, Low gear oil level |
| Transmission Noisy When Moving (RWD Only) Quiet In Neutral With Clutch Engaged | Worn rear outputshaft bearing |
| Gear Rattle | Worn bearings, Wrong gear oil, Low gear oil, Worn gears |
| Steady Ticking At Idle (Increases With RPM) | Broken tooth on gear |

| | |
|---|---|
| Gear Clash When Shifting Forward Gears | Worn or broken synchronizers |
| Loud Whine In Reverse | Normal condition (1) |
| Noise When Stepping On Clutch | Bad release bearing, Worn pilot bearing |
| Ticking Or Screeching As Clutch Is Engaged | Faulty release bearing, Uneven pressure plate fingers |
| Click Or Snap When Clutch Is Engaged | Worn clutch fork, Worn or broken front bearing retainer |
| Transmission Shifts Hard | Clutch not releasing, Shift mechanism binding, Clutch installed backwards |
| Will Not Shift Into One Gear, Shifts Into All Others | Bent shift fork, Worn detent balls |
| Locked Into Gear, Cannot Shift | Clutch adjustment, Worn detent balls |
| Transmission Jumps Out Of Gear | Pilot bearing worn, Bent shift fork, Worn gear teeth or face, Excessive gear train end play, Worn synchronizers, Missing detent ball spring, Shift mechanism worn or out of adjustment, Engine or transmission mount bolts loose or out of adjustment, Transmission not aligned |
| Shift Lever Rattle | Worn shift lever or detents, Worn shift forks, Worn synchronizers sleeve |
| Shift Lever Hops Under Acceleration | Worn engine or transmission mounts |
| (1) Most units use spur cut gears in reverse and are noisy | |

## POWERTRAIN

### CLUTCH TROUBLE SHOOTING

**NOTE: This is GENERAL information. This article is not intended to be specific to any unique situation or individual vehicle configuration. The purpose of this Trouble Shooting**

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**information is to provide a list of common causes to problem symptoms. For model-specific Trouble Shooting, refer to SUBJECT, DIAGNOSTIC, or TESTING articles available in the section(s) you are accessing.**

## BASIC CLUTCH TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Chattering or Grabbing | |
| Incorrect clutch adjustment | Adjust clutch |
| Oil, grease or glaze on facings | Disassemble and clean or replace |
| Loose "U" joint flange | See DRIVE AXLES article |
| Worn input shaft spline | Replace input shaft |
| Binding pressure plate | Replace pressure plate |
| Binding release lever | See CLUTCH article |
| Binding clutch disc hub | Replace clutch disc |
| Unequal pressure plate contact | Replace worn/misaligned components |
| Loose/bent clutch disc | Replace clutch disc |
| Incorrect transmission alignment | Realign transmission |
| Worn pressure plate, disc or flywheel | Replace damaged components |
| Broken or weak pressure springs | Replace pressure plate |
| Sticking clutch pedal | Lubricate clutch pedal & linkage |
| Incorrect clutch disc facing | Replace clutch disc |
| Engine loose in chassis | Tighten all mounting bolts |
| Failure to Release | |
| Oil or grease on clutch facings | Clean or replace clutch clutch disc |
| Incorrect release lever or pedal adjustment | See CLUTCH article |

| | |
|---|---|
| Worn or broken clutch facings | Replace clutch disc |
| Bent clutch disc or pressure plate | Replace damaged components |
| Clutch disc hub binding on input shaft | Clean or replace clutch disc and/or input shaft |
| Binding pilot bearing | Replace pilot bearing |
| Sticking release bearing sleeve | Replace release bearing and/or sleeve |
| Binding clutch cable | See CLUTCH article |
| Defective clutch master | Replace master cylinder |
| Defective clutch slave | Replace slave cylinder |
| Air in hydraulic system | Bleed hydraulic system |
| Rattling | |
| Weak or broken release lever spring | Replace spring and check alignment |
| Damaged pressure plate | Replace pressure plate |
| Broken clutch return spring | Replace return spring |
| Worn splines on clutch disc or input shaft | Replace clutch disc and/or input shaft |
| Worn clutch release bearing | Replace release bearing |
| Dry or worn pilot bearing | Lubricate or replace pilot bearing |
| Unequal release lever contact | Align or replace release lever |
| Incorrect pedal free play | Adjust free play |
| Warped or damaged clutch disc | Replace damaged components |
| Slipping | |
| Pressure springs worn or | Release pressure plate |
| Oily, greasy or worn facings | Clean or replace clutch disc |
| Incorrect clutch alignment | Realign clutch assembly |
| | |

| | |
|---|---|
| Warped clutch disc or pressure plate | Replace damaged components |
| Binding release levers or clutch pedal | Lubricate and/or replace release components |
| Squeaking | |
| Worn or damaged release | Replace release bearing |
| Dry or worn pilot or release bearing | Lubricate or replace assembly |
| Pilot bearing turning in crankshaft | Replace pilot bearing and/or crankshaft |
| Worn input shaft bearing | Replace bearing and seal |
| Incorrect transmission alignment | Realign transmission |
| Dry release fork between pivot | Lubricate release fork and pivot |
| Heavy and/or Stiff Pedal | |
| Sticking release bearing sleeve | Replace release bearing and/or sleeve |
| Dry or binding clutch pedal hub | Lubricate and align components |
| Floor mat interference with pedal | Lay mat flat in proper area |
| Dry or binding ball/fork pivots | Lubricate and align components |
| Faulty clutch cable | Replace clutch cable |
| Noisy Clutch Pedal | |
| Faulty interlock switch | Replace interlock switch |
| Self-adjuster ratchet noise | Lubricate or replace self-adjuster |
| Speed control interlock switch | Lubricate or replace interlock switch |
| Clutch Pedal Sticks Down | |
| Binding clutch cable | See CLUTCH article |
| Springs weak in pressure plate | Replace pressure plate |

| | |
|---|---|
| Binding in clutch linkage | Lubricate and free linkage |
| Noisy | |
| Dry release bearing | Lubricate or replace release bearing |
| Dry or worn pilot bearing | Lubricate or replace bearing |
| Worn input shaft bearing | Replace bearing |
| Transmission Click | |
| Weak springs in pressure | Replace pressure plate plate |
| Release fork loose on ball stud | Replace release fork and/or ball stud |
| Oil on clutch disc damper | Replace clutch disc |
| Broken spring in slave cylinder | Replace slave cylinder |

**DRIVE AXLE - NOISE DIAGNOSIS**

**Unrelated Noises**

Some driveline trouble symptoms are also common to the engine, transmission, wheel bearings, tires, and other parts of the vehicle. Ensure cause of trouble actually is in the drive axle before adjusting, repairing, or replacing any of its parts.

**Non-Drive Axle Noises**

A few conditions can sound just like drive axle noise and have to be considered in pre-diagnosis. The 4 most common noises are exhaust, tires, CV/universal joints and wheel trim rings.

In certain conditions, the pitch of the exhaust gases may e gear whine. At other times, it may be mistaken for a wheel bearing rumble.

Tires, especially radial and snow, can have a high-pitched tread whine or roar, similar to gear noise. Also, some non-standard tires with an unusual tread construction may emit a roar or whine.

Defective CV/universal joints may cause clicking noises or excessive driveline play that can be improperly diagnosed as drive axle problems.

Trim and moldings also can cause a whistling or whining noise. Ensure none of these components are causing the noise before disassembling the drive axle.

**Gear Noise**

A "howling" or "whining" noise from the ring and pinion gear can be caused by an improper gear pattern, gear damage, or improper bearing preload. It can occur at various speeds and driving conditions, or it can be continuous.

Before disassembling axle to diagnose and correct gear ke sure that tires, exhaust, and vehicle trim have been checked as possible causes.

**Chuckle**

This is a particular rattling noise that sounds like a stick against the spokes of a spinning bicycle wheel. It occurs while decelerating from 40 MPH and usually can be heard until vehicle comes to a complete stop. The frequency varies with the speed of the vehicle.

A chuckle that occurs on the driving phase is usually caused ive clearance due to differential gear wear, or by a damaged tooth on the coast side of the pinion or ring gear. Even a very small tooth nick or a ridge on the edge of a gear tooth is enough the cause the noise.

This condition can be corrected simply by cleaning the gear tooth nick or ridge with a small grinding wheel. If either gear is damaged or scored badly, the gear set must be replaced. If metal has broken loose, the carrier and housing must be cleaned to remove particles that could cause damage.

**Knock**

This is very similar to a chuckle, though it may be louder, and occur on acceleration or deceleration. Knock can be caused by a gear tooth that is damaged on the drive side of the ring and pinion gears. Ring gear bolts that are hitting the carrier casting can cause knock. Knock can also be due to excessive end play in the axle shafts.

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**Clunk**

Clunk is a metallic noise heard when an automatic transmission is engaged in Reverse or Drive, or when throttle is applied or released. It is caused by backlash somewhere in the driveline, but not necessarily in the axle. To determine whether driveline clunk is caused by the axle, check the total axle backlash as follows:

1. Raise vehicle on a frame or twinpost hoist so that drive wheels are free. Clamp a bar between axle companion flange and a part of the frame or body so that flange cannot move.
2. On conventional drive axles, lock the left wheel to keep it from turning. On all models, turn the right wheel slowly until it is felt to be in Drive condition. Hold a chalk marker on side of tire about 12" from center of wheel. Turn wheel in the opposite direction until it is again felt to be in Drive condition.
3. Measure the length of the chalk mark, which is the total axle backlash. If backlash is one inch or less, drive axle is not the source of clunk noise.

**Bearing Whine**

Bearing whine is a high-pitched sound similar to a whistle. It is usually caused by malfunctioning pinion bearings. Pinion bearings operate at drive shaft speed. Roller wheel bearings may whine in a similar manner if they run completely dry of lubricant. Bearing noise will occur at all driving speeds. This distinguishes it from gear whine, which usually comes and goes as speed changes.

**Bearing Rumble**

Bearing rumble sounds like marbles being tumbled. It is usually caused by a malfunctioning wheel bearing. The lower pitch is because the wheel bearing turns at only about 1/3 of drive shaft speed.

**Chatter On Turns**

This is a condition where the entire front or rear of vehicle vibrates when vehicle is moving. The vibration is plainly felt as well as heard. Extra differential thrust washers installed during axle repair can cause a condition of partial lock-up that creates this chatter.

**Axle Shaft Noise**

Axle shaft noise is similar to gear noise and pinion bearing whine. Axle shaft bearing noise will normally distinguish itself from gear noise by occurring in all driving modes (Drive, cruise, coast and float), and will persist with transmission in Neutral while vehicle is moving at problem speed.

If vehicle displays this noise condition, remove suspect parts, replace wheel seals and install a new set of bearings. Re-evaluate vehicle for noise before removing any internal components.

**Vibration**

Vibration is a high-frequency trembling, shaking or grinding condition (felt or heard) that may be constant or variable in level and can occur during the total operating speed range of the vehicle.

The types of vibrations that can be felt in the vehicle can d into 3 main groups:

- Vibrations of various unbalanced rotating parts of the vehicle.
- Resonance vibrations of the body and frame structures caused by rotating of unbalanced parts.
- Tip-in moans of resonance vibrations from stressed engine or exhaust system mounts or driveline flexing modes.

**DRIVE AXLE - RWD TROUBLE SHOOTING**

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## DRIVE AXLE (RWD) TROUBLE SHOOTING

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|

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| | |
|---|---|
| Knocking or Clunking | |
| Differential Side Gear Clearance | Check Clearance |
| Worn Pinion Shaft | Replace Pinion Shaft |
| Axle Shaft End Play | Check End Play |
| Missing Gear Teeth | Check Differential/Replace Gear |
| Wrong Axle Backlash | Check Backlash |
| Misaligned Driveline | Realign Driveline |
| Clinking During Engagement | |
| Side Gear Clearance | Check Clearance |
| Ring and Pinion Backlash | Check Backlash |
| Worn/Loose Pinion Shaft | Replace Shaft/Bearing |
| Bad "U" Joint | Replace "U" Joint |
| Sticking Slip Yoke | Lube Slip Yoke |
| Broken Rear Axle Mount | Replace Mount |
| Loose Drive Shaft Flange | Check Flange |
| Click/Chatter On Turns | |
| Differential Side Gear Clearance | Check Clearance |
| Wrong Turn On Plates (1) | Replace Clutch Plates |
| Wrong Differential Lubricant (1) | Change Lubricant |
| Knock Or Click | |
| Flat Spot on Rear Wheel Bearing | Replace Wheel Bearing |
| Low Vibration At All Speeds | |
| Faulty Wheel Bearing | Replace Wheel Bearing |
| Faulty "U" Joint | Replace "U" Joint |
| Faulty Drive Shaft | Balance Drive Shaft |

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| | |
|---|---|
| Faulty Companion Flange | Replace Flange |
| Faulty Slip Yoke Flange | Replace Flange |
| (1) Limited slip differential only. | |

### FWD AXLE SHAFTS & CV JOINTS TROUBLE SHOOTING

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## BASIC FWD AXLE SHAFTS & CV JOINTS TROUBLE SHOOTING CHART

| CONDITION | POSSIBLE CAUSE |
|---|---|
| Grease Leaks | CV boot torn or cracked |
| Clicking Noise on Cornering | Damaged outer CV |
| Clunk Noise on Acceleration | Damaged inner CV |
| Vibration or Shudder on Acceleration | Sticking, damaged or worn CV<br>Misalignment or spring height |

## STEERING & SUSPENSION

### MANUAL STEERING GEAR TROUBLE SHOOTING

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## BASIC MANUAL STEERING GEAR TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Rattle or Chucking Noise in Rack and Pinion | |
| Rack and pinion mounting bracket loose | Tighten all mounting bolts |
| Lack of/or incorrect lubricant | Correct as necessary |
| Steering gear mounting bolts loose | Tighten all mounting bolts |
| Excessive Play | |
| Front wheel bearing improperly adjusted | See FRONT SUSPENSION article |
| Loose or worn steering linkage | See STEERING LINKAGE article |
| Loose or worn steering gear shift | See MANUAL STEERING GEAR article |
| Steering arm loose on gear shaft | See MANUAL STEERING GEAR article |
| Steering gear housing bolts loose | Tighten all mounting bolts |
| Steering gear adjustment too loose | See MANUAL STEERING GEAR article |
| Steering arms loose on knuckles | Tighten and check steering linkage |
| Rack and pinion mounting loose | Tighten all mounting bolts |
| Rack and pinion out of adjustment | See adjustment in STEERING article |
| Tie rod end loose | Tighten and check steering linkage |
| Excessive Pitman shaft-to-ball nut lash | Repair as necessary |

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|---|---|
| Poor Returnability | |
| Lack of lubricant in ball joint or linkage | Lubricate and service systems |
| Binding in linkage or ball joints | See STEERING LINKAGE and SUSPENSION article |
| Improper front end alignment | See WHEEL ALIGNMENT article |
| Improper tire pressure | Inflate to proper pressure |
| Tie rod binding | Inflate to proper pressure |
| Shaft seal rubbing shaft | See STEERING COLUMN article |
| Excessive Vertical Motion | |
| Improper tire pressure | Inflate to proper pressure |
| Tires, wheels or rotors out of balance | Balance tires then check wheels and rotors |
| Worn or faulty shock absorbers | Check and replace if necessary |
| Loose tie rod ends or steering | Tighten or replace if necessary |
| Loose or worn wheel bearings | See SUSPENSION article |
| Steering Pulls to One Side | |
| Improper tire pressure | Inflate to proper pressure |
| Front tires are different sizes | Rotate or replace if necessary |
| Wheel bearings not adjusted properly | See FRONT SUSPENSION article |

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| | |
|---|---|
| Bent or broken suspension components | See FRONT SUSPENSION article |
| Improper wheel alignment | See WHEEL ALIGNMENT article |
| Brakes dragging | See BRAKES article |
| Instability | |
| Low or uneven tire pressure | Inflate to proper pressure |
| Loose or worn wheel bearings | See FRONT SUSPENSION article |
| Loose or worn idler arm bushing | See FRONT SUSPENSION article |
| Loose or worn strut bushings | See FRONT SUSPENSION article |
| Incorrect front wheel alignment | See WHEEL ALIGNMENT article |
| Steering gear not centered | See MANUAL STEERING GEARS article |
| Springs or shock | Check and replace if necessary |
| Improper cross shaft | See MANUAL STEERING GEARS article |

**POWER STEERING TROUBLE SHOOTING**

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## BASIC POWER STEERING TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Rattle or Chucking Noise | |
| Pressure hoses touching engine parts | Adjust to proper clearance |
| Loose Pitman shaft | Adjust or replace if necessary |
| Tie rods ends or Pitman arm loose | Tighten and check system |
| Rack and pinion mounts loose | Tighten all mounting bolts |
| Free play in worm gear | See POWER STEERING GEAR article |
| Loose sector shaft or thrust bearing adjustment | See POWER STEERING GEAR |
| Free play in pot coupling | See STEERING COLUMN article |
| Worn shaft serrations | See STEERING COLUMN article |
| Growl in Steering Pump | |
| Excessive pressure in hoses | Restricted hoses, see POWER STEERING GEAR article |
| Scored pressure plates | See POWER STEERING GEAR article |
| Scored thrust plates or rotor | See POWER STEERING GEAR article |
| Extreme wear of cam ring | See POWER STEERING GEAR article |

| | |
|---|---|
| Rattle in Steering Pump | |
| Vanes not installed | See POWER STEERING PUMP article |
| Vanes sticking in rotor | See POWER STEERING PUMP article |
| Swish noise in Pump | |
| Defective flow control valve | See POWER STEERING PUMP article |
| Groan in Steering Pump | |
| Air in fluid | See POWER STEERING PUMP article |
| Poor pressure hose connection | Tighten and check, replace if necessary |
| Squawk When Turning | |
| Damper "O" ring on valve spool cut | See POWER STEERING PUMP article |
| Moan or Whine in Pump | |
| Pump shaft bearing scored | Replace bearing and fluid |
| Air in fluid or fluid level low | See POWER STEERING PUMP article |
| Hose or column grounded | Check and replace if necessary |
| Cover "O" ring missing or damaged | See POWER STEERING PUMP article |
| Valve cover baffle missing or damaged | See POWER |

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| | |
|---|---|
| | STEERING PUMP article |
| Interference of components in pump | See POWER STEERING PUMP article |
| Loose or poor bracket alignment | Correct or replace if necessary |
| Hissing When Parking | |
| Internal leakage in steering gear | Check valved assembly first |
| Chirp in Steering Pump | |
| Loose or worn power steering belt | Adjust or replace if necessary |
| Buzzing When Not Steering | |
| Noisy pump | See POWER STEERING PUMP article |
| Free play in steering shaft bearing | See STEERING COLUMN article |
| Bearing loose on shaft serrations | See STEERING COLUMN article |
| Clicking Noise in Pump | |
| Pump slippers too long | See POWER STEERING PUMP article |
| Broken slipper springs | See POWER STEERING PUMP article |
| Excessive wear or nicked rotors | See POWER STEERING PUMP article |
| Damaged cam contour | See POWER STEERING PUMP |

| | |
|---|---|
| | article |
| Poor Return of Wheel | |
| Wheel rubbing against turn signal | See STEERING COLUMN SWITCHES article |
| Flange rubbing steering gear adjuster | See STEERING COLUMN article |
| Tight or frozen steering shaft bearing | See STEERING COLUMN article |
| Steering gear out of adjustment | See POWER STEERING GEAR article |
| Sticking or plugged spool valve | See POWER STEERING PUMP article |
| Improper front end alignment | See WHEEL ALIGNMENT article |
| Wheel bearings worn or loose | See FRONT SUSPENSION article |
| Ties rods or ball joints binding | Check and replace if necessary |
| Intermediate shaft joints binding | See STEERING COLUMN article |
| Kinked pressure hoses | Correct or replace if necessary |
| Loose housing head spanner nut | See POWER STEERING GEAR article |
| Damaged valve lever | See POWER STEERING GEAR article |
| Sector shaft adjusted too tight | See ADJUSTMENTS in POWER STEERING GEAR |

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| | |
|---|---|
| | article |
| Worm thrust bearing adjusted too tight | See ADJUSTMENTS in POWER STEERING GEAR article |
| Reaction ring sticking in cylinder | See POWER STEERING GEAR article |
| Reaction ring sticking in housing head | See POWER STEERING GEAR article |
| Steering pump internal leakage | See POWER STEERING PUMP article |
| Steering gear-to-column misalignment | See STEERING COLUMN article |
| Lack of lubrication in linkage | Service front suspension |
| Lack of lubrication in ball joints | Service front suspension |
| Increased Effort When Turning Wheel Fast Foaming, Milky Power Steering Fluid, Low Fluid Level or Low Pressure | |
| High internal pump leakage | See POWER STEERING PUMP article |
| Power steering pump belt slipping | Adjust or replace if necessary |
| Low fluid level | Check and fill to proper level |
| Engine idle speed to low | Adjust to correct setting |
| Air in pump fluid system | See POWER STEERING PUMP article |

| | |
|---|---|
| Pump output low | See POWER STEERING PUMP article |
| Steering gear malfunctioning | See POWER STEERING GEAR article |
| Wheel Surges or Jerks | |
| Low fluid level | Check and fill to proper level |
| Loose fan belt | Adjust or replace if necessary |
| Insufficient pump pressure | See POWER STEERING PUMP article |
| Sticky flow control valve | See POWER STEERING PUMP article |
| Linkage hitting oil pan at full turn | Replace bent components |
| Kick Back or Free Play | |
| Air in pump fluid system | See POWER STEERING PUMP article |
| Worn poppet valve in steering gear | See POWER STEERING PUMP article |
| Excessive over center lash | See POWER STEERING GEAR article |
| Thrust bearing out of adjustment | See POWER STEERING GEAR article |
| Free play in pot coupling | See POWER STEERING PUMP |

| | |
|---|---|
| | article |
| Steering gear coupling loose on shaft | See POWER STEERING PUMP article |
| Steering disc mounting bolts loose | Tighten or replace if necessary |
| Coupling loose on worm shaft | Tighten or replace if necessary |
| Improper sector shaft adjustment | See POWER STEERING GEAR article |
| Excessive worm piston side play | See POWER STEERING GEAR article |
| Damaged valve lever | See POWER STEERING GEAR article |
| Universal joint loose | Tighten or replace if necessary |
| Defective rotary valve | See POWER STEERING GEAR article |
| No Power When Parking | |
| Sticking flow control valve | See POWER STEERING PUMP article |
| Insufficient pump pressure output | See POWER STEERING PUMP article |
| Excessive internal pump leakage | See POWER STEERING PUMP article |
| Excessive internal gear leakage | See POWER STEERING PUMP |

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| | |
|---|---|
| | article |
| Flange rubs against gear adjust plug | See STEERING COLUMN article |
| Loose pump belt | Adjust or replace if necessary |
| Low fluid level | Check and add proper amount of fluid |
| Engine idle too low | Adjust to correct setting |
| Steering gear-to-column misaligned | See STEERING COLUMN article |
| No Power, Left Turn | |
| Left turn reaction seal "O" ring worn | See POWER STEERING GEAR article |
| Left turn reaction seal damaged/missing | See POWER STEERING GEAR article |
| Cylinder head "O" ring damaged | See POWER STEERING PUMP article |
| No Power, Right Turns | |
| Column pot coupling bottomed | See STEERING COLUMN article |
| Right turn reaction seal "O" ring worn | See POWER STEERING GEAR article |
| Right turn reaction seal damaged | See POWER STEERING GEAR article |
| Internal leakage through piston end plug | See POWER STEERING GEAR article |
| | |

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| | |
|---|---|
| Internal leakage through side plugs | See POWER STEERING GEAR article |
| Lack of Effort in Turning | |
| Left and/or right reaction seal sticking in cylinder head | Replace, see POWER STEERING GEAR article |
| Wanders to One Side | |
| Front end alignment incorrect | See WHEEL ALIGNMENT article |
| Unbalanced steering gear valve | See POWER STEERING GEAR article |
| Low Pressure Due to Steering Pump | |
| Flow control valve stuck or inoperative | See POWER STEERING PUMP article |
| Pressure plate not flat against cam ring | See POWER STEERING PUMP article |
| Extreme wear of cam ring | Replace and check adjustments |
| Scored plate, thrust plate or rotor | See POWER STEERING PUMP article |
| Vanes not installed properly | See POWER STEERING PUMP article |
| Vanes sticking in rotor slots | See POWER STEERING PUMP article |
| Cracked/broken thrust or pressure plate | See POWER STEERING PUMP article |

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**STEERING COLUMN TROUBLE SHOOTING**

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## BASIC STEERING COLUMN TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Noise in Steering | |
| Coupling pulled apart | See STEERING COLUMNS article |
| Column not correctly aligned | See STEERING COLUMNS article |
| Broken lower joint | Replace joint |
| Horn contact ring not | See STEERING COLUMN article |
| Bearing not lubricated | See STEERING COLUMN article |
| Shaft snap ring not properly seated | Reseat or replace snap ring |
| Plastic spherical joint not lubricated | See STEERING COLUMN article |
| Shroud or housing loose | Tighten holding screws |
| Lock plate retaining ring not seated | See STEERING COLUMN article |
| Loose sight shield | Tighten holding screws |
| High Steering Shaft Effort | |
| Column assembly misaligned | See STEERING |

| | |
|---|---|
| | COLUMN article |
| Improperly installed dust shield | Adjust or replace |
| Tight steering universal joint | See STEERING COLUMN article |
| High Shift Effort | |
| Column is out of alignment | See STEERING COLUMN article |
| Improperly installed dust shield | Adjust or replace |
| Seals or bearings not lubricated | See STEERING COLUMNS article |
| Mounting bracket screws too long | Replace with new shorter screws |
| Burrs on shift tube | Remove burrs or replace tube |
| Lower bowl bearing assembled wrong | See STEERING COLUMN article |
| Shift tube bent or broken | Replace as necessary |
| Improper adjustment of shift levers | See STEERING COLUMN article |
| Improper Trans. Shifting | |
| Sheared shift tube joint | Replace as necessary |
| Sheared lower shaft lever | Replace as necessary |
| Improper shift lever adjustment | See STEERING COLUMN article |
| Improper gate plate adjustment | See STEERING COLUMN article |
| Excess Play in Column | |
| Instrument panel bracket bolts loose | Tighten bolts and check bracket |
| Broken weld nut on jacket | See STEERING COLUMN article |
| Instrument bracket capsule sheared | See STEERING COLUMN article |

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| | |
|---|---|
| Column bracket/jacket bolts loose | Tighten bolts and check bracket |
| Steering Locks in Gear | |
| Release lever mechanism | See STEERING COLUMN article |

**SUSPENSION TROUBLE SHOOTING**

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## BASIC SUSPENSION TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Front End Noise | |
| Loose or worn wheel | See Wheel Bearing Adjustment in SUSPENSION |
| Worn shocks or shock mountings | Replace struts or strut mountings |
| Worn struts or strut mountings | Replace struts or strut mountings |
| Loose or worn lower control arm | See SUSPENSION |
| Loose steering gear-to-frame bolts | See STEERING |
| Worn control arm bushings | See SUSPENSION |
| Ball joints not lubricated | Lubricate ball joints & see Ball Joint Checking in SUSPENSION |
| Front Wheel Shake, Shimmy, or Vibration | |

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| | |
|---|---|
| Tires or wheels out of balance | Check tire balance |
| Incorrect wheel alignment | See WHEEL ALIGNMENT |
| Drive shaft unbalanced | Check drive shaft balance |
| Loose or worn wheel bearings | See WHEEL ALIGNMENT |
| Loose or worn tie rod ends | See SUSPENSION |
| Worn upper ball joints | See Ball Joint Checking in SUSPENSION |
| Worn shock absorbers | Replace shock absorbers |
| Worn strut bushings | Replace strut bushings |
| Car Pulls to One Side | |
| Mismatched or uneven tires | Check tire condition |
| Broken or sagging springs | See SUSPENSION |
| Loose or worn strut bushings | See SUSPENSION |
| Improper wheel alignment | See WHEEL ALIGNMENT |
| Improper rear axle alignment | Check rear axle alignment |
| Power steering gear unbalanced | See STEERING |
| Front brakes dragging | See BRAKES |
| Abnormal Tire Wear | |
| Unbalanced tires | Check tire balance & rotation |
| Sagging or broken springs | See SUSPENSION |
| Incorrect front end alignment | See WHEEL ALIGNMENT |
| Faulty shock absorbers | Replace chock absorbers |
| Scuffed Tires | |

| | |
|---|---|
| Toe-In incorrect | See WHEEL ALIGNMENT |
| Suspension arm bent or twisted | See appropriate SUSPENSION article |
| Springs Bottom or Sag | |
| Bent or broken springs | See SUSPENSION |
| Leaking or worn shock absorbers | Replace shock absorbers |
| Frame misalignment | Check frame for damage |
| Spring Noises | |
| Loose "U" Bolts | See SUSPENSION |
| Loose or worn bushings | See SUSPENSION |
| Worn or missing interliners | See SUSPENSION |
| Shock Absorber Noise | |
| Loose shock mountings | Check & tighten mountings |
| Worn bushings | Replace bushings |
| Air in system | Bleed air from system |
| Undercoating on shocks | Remove undercoating |
| Car Leans or Sways on Corners | |
| Loose stabilizer bar | See SUSPENSION |
| Faulty shocks or mountings | Replace shocks or mountings |
| Broken or sagging springs | See SUSPENSION |
| Shock Absorbers Leaking | |
| Worn seals or reservoir tube crimped | See SUSPENSION |
| Broken Springs | |
| Loose "U" bolts | See SUSPENSION |
| Inoperative shock absorbers | Replace shock absorbers |

**WHEEL ALIGNMENT TROUBLE SHOOTING**

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## BASIC WHEEL ALIGNMENT TROUBLE SHOOTING CHART

| CONDITION & POSSIBLE CAUSE | CORRECTION |
|---|---|
| Premature Tire Wear | |
| Improper tire inflation | Check tire pressure |
| Front alignment out of tolerance | See ALIGNMENT SPECS in WHEEL ALIGNMENT section |
| Suspension components worn | See SUSPENSION section |
| Steering system components worn | See STEERING section |
| Improper standing height | See WHEEL ALIGNMENT |
| Uneven or sagging springs | See SUSPENSION section |
| Bent wheel | See WHEEL ALIGNMENT |
| Improper torsion bar adjustment | See SUSPENSION section |
| Loose or worn wheel bearings | See WHEEL BEARING ADJ. in SUSPENSION section |
| Worn or defective shock | Replace shock absorbers |
| Tires out of balance | Check tire balance |
| Pulls to One Side | |

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| | |
|---|---|
| Improper tire inflation | Check tire pressure |
| Brake dragging | See BRAKE section |
| Mismatched tires | See WHEEL ALIGNMENT |
| Broken or sagging spring | See SUSPENSION section |
| Broken torsion bar | See SUSPENSION section |
| Power steering valve not centered | See STEERING section |
| Front alignment out of tolerance | See WHEEL ALIGNMENT section |
| Defective wheel bearing | See WHEEL BEARINGS in SUSPENSION section |
| Uneven sway bar links | See SUSPENSION section |
| Frame bent | Check for frame damage |
| Steering system bushing worn | See STEERING section |
| Hard Steering | |
| Idler arm bushing too tight | See STEERING LINKAGE in STEERING section |
| Ball joint tight or seized | See SUSPENSION section |
| Steering linkage too tight | See STEERING LINKAGE in STEERING section |
| Power steering fluid low | Add proper amount of fluid |
| Power steering drive belt loose | See STEERING |

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| | |
|---|---|
| | section |
| Power steering pump defective | See STEERING section |
| Steering gear out of adjustment | See STEERING section |
| Incorrect wheel alignment | See WHEEL ALIGNMENT |
| Damaged steering gear | See STEERING section |
| Damaged suspension | See SUSPENSION section |
| Bent steering knuckle or supports | See SUSPENSION section |
| Vehicle "Wanders" | |
| Strut rod or control arm bushing worn | See SUSPENSION section |
| Loose or worn wheel bearings | See WHEEL BEARINGS in SUSPENSION section |
| Improper tire inflation | Check tire pressure |
| Stabilizer bar missing or defective | See SUSPENSION section |
| Wheel alignment out of tolerance | See Adjustment in WHEEL ALIGNMENT section |
| Broken spring | See SUSPENSION section |
| Defective shock absorber | Replace shock absorbers |
| Worn steering & suspension components | See SUSPENSION section |
| Front End Shimmy | |
| Tire out of balance/round | Check tire balance |

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| | |
|---|---|
| Excessive wheel runout | See WHEEL ALIGNMENT |
| Insufficient or improper caster | See WHEEL ALIGNMENT section |
| Worn suspension or steering components | See SUSPENSION section |
| Defective shock absorbers | Replace shock absorber |
| Wheel bearings worn or loose | See WHEEL BEARING ADJ. in SUSPENSION section |
| Power steering reaction Bracket loose | See STEERING section |
| Steering gear box (rack) mounting loose | See STEERING section |
| Steering gear adjustment loose | See STEERING section |
| Worn spherical joints | See SUSPENSION section |
| Toe-In Not Adjustable | |
| Lower control arm bent | See SUSPENSION section |
| Frame bent | Check frame for damage |
| Camber Not Adjustable | |
| Control arm bent | See SUSPENSION section |
| Frame bent | Check frame for damage |
| Hub & bearing not seated properly | See SUSPENSION section |

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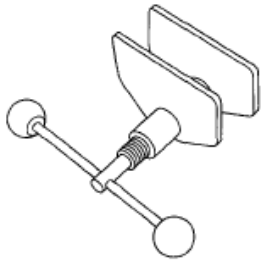
# 2006-08 BRAKES

## Conventional Brake Components - Civic (Except Hybrid)

## SPECIAL TOOLS

**NOTE: Refer to the CONVENTIONAL BRAKE COMPONENTS (GX) (SUPPLEMENT) article for additional information for the GX model.**

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAE-SEPA101 | Brake Caliper Piston Compressor | 1 |



①

**Fig. 1: Identifying Special Tools**

## COMPONENT LOCATION INDEX

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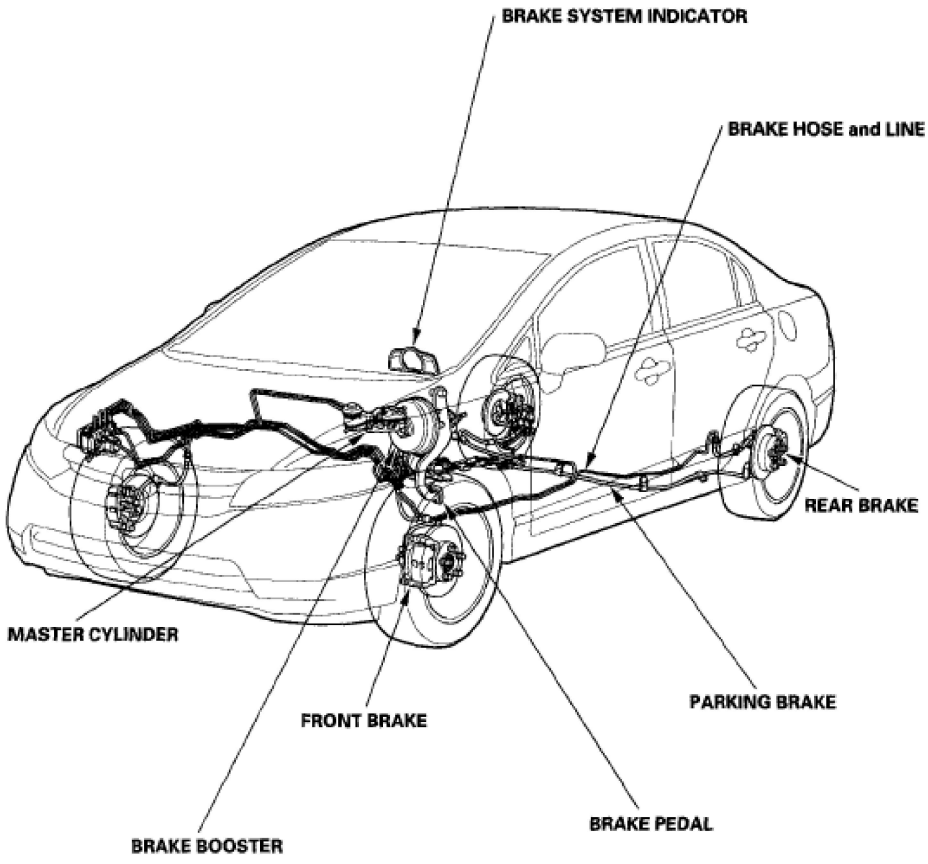



**Fig. 2: Locating Conventional Brake Component**

## BRAKE SYSTEM INSPECTION AND TEST

Inspect the brake system components listed. Repair or replace any parts that are leaking or damaged.

## BRAKE SYSTEM COMPONENT INSPECTIONS REFERENCE

| Component | Procedure | Also check for |
|---|---|---|
| Master Cylinder | Look for damage or signs of fluid leakage at:<br>• Reservoir tank, reservoir union or master cylinder body.<br>• Lines, reservoir tank | Bulging seat at reservoir cap. This is a sign of fluid contamination. |

| | | |
|---|---|---|
| | hose and grommets, and their joints.<br>• Between master cylinder and booster. | |
| Brake Hoses | Look for damage or signs of fluid leakage at:<br>• Line joints and banjo bolt connections.<br>• Hoses and lines, also inspect for twisting or damage. | Bulging, twisted, or bent lines. |
| Caliper | Look for damage or signs of fluid leakage at:<br>• Piston seal.<br>• Banjo bolt connections.<br>• Bleed screw. | Seized or sticking caliper pins. |
| Wheel Cylinder | Look for damage or signs of fluid leakage at:<br>• Wheel cylinder.<br>• Line joints.<br>• Bleed Screw. | |
| ABS or VSA Modulator-control Unit | Look for damage or signs of fluid leakage at:<br>• Line joints.<br>• Modulator-control unit. | |

**BRAKE SYSTEM TEST**

**Brake pedal sinks/fades when braking**

1. Set the parking brake, and start the engine, then turn off the A/C switch. Allow

the engine to warm up to normal operating temperature (radiator fan comes on twice).

2. Attach a 50 mm (2 in.) piece of masking tape along the bottom of the steering wheel, and draw a horizontal reference mark across it.
3. With the transmission M/T in neutral position, A/T in P or N position, press and hold the brake pedal lightly (about the same pressure needed to keep an A/T-equipped vehicle from creeping), then release the parking brake.
4. While still holding the brake pedal, hook the end of the tape measure behind the brake pedal, then pull the tape up to the steering wheel. Note the measurement between the brake pedal and the reference mark on the steering wheel.
5. Apply steady pressure to the brake pedal for 3 minutes.
6. Watch the tape measure.
   - If the measurement increases 10 mm (3/8 in.) or less, the master cylinder is OK.
   - If the measurement increases more than 10 mm (3/8 in.), replace the master cylinder.

## SYMPTOM TROUBLESHOOTING

### RAPID BRAKE PAD WEAR, VEHICLE VIBRATION (AFTER A LONG DRIVE), OR HIGH, HARD BRAKE PEDAL

**NOTE: Make sure that the caliper pins are installed correctly.**

The upper caliper pin B and lower caliper pin A are different. If the pins are installed in the wrong location, it will cause, vibration, and or uneven or rapid pad wear, or possibly uneven tire wear. For proper caliper pin location: Except Si model (see **EXCEPT SI MODEL** ), Si model (see **SI MODEL** ).

1. Drive the vehicle until the brakes drag or until the pedal is high and hard. This can take 20 or more brake pedal applications during an extended test-drive.
2. With the engine running, raise the vehicle on a lift, and spin all four wheels by hand.

*Is there brake drag at any of the wheels?*

**YES** - Go to step 3.

**NO** - Look for other causes of the pad wear, high pedal, or vehicle vibration.

3. Turn the engine off, pump the brake pedal to deplete the vacuum in the brake booster, and then spin the wheels again to check for brake drag.

   *Is there brake drag at any of the wheels?*

   **YES** - Go to step 4.

   **NO** - Replace the brake booster: Except Si model (see **EXCEPT SI MODEL** ), Si model (see **SI MODEL** ).

4. Without removing the brake lines, unbolt and separate the master cylinder from the booster, then spin the wheels to check for brake drag.

   *Is there brake drag at any of the wheels?*

   **YES** - Go to step 5.

   **NO** - Check the brake pedal position switch adjustment and pedal free play (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).

5. Loosen the hydraulic lines at the master cylinder, then spin the wheels to check for brake drag.

   *Is there brake drag at any of the wheels?*

   **YES** - Go to step 6.

   **NO** - Replace the master cylinder (see **MASTER CYLINDER REPLACEMENT** ).

6. Loosen the bleed screws at each caliper or wheel cylinder, then spin the wheels to check for brake drag.

*Is there brake drag at any of the wheels?*

**YES** - Disassemble and repair the caliper or wheel cylinder on the wheel(s) with brake drag.

**NO** - Look for and replace any damaged brake lines. If all brake lines are OK, replace the ABS or VSA modulator-control unit: ABS (except Si model) (see **REMOVAL - EXCEPT SI MODEL** ), ABS (Si model) (see **REMOVAL - SI MODEL** ), VSA (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

## BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT

### PEDAL HEIGHT

1. Turn the brake pedal position switch (A) counterclockwise, and pull it back until it is no longer touching the brake pedal.

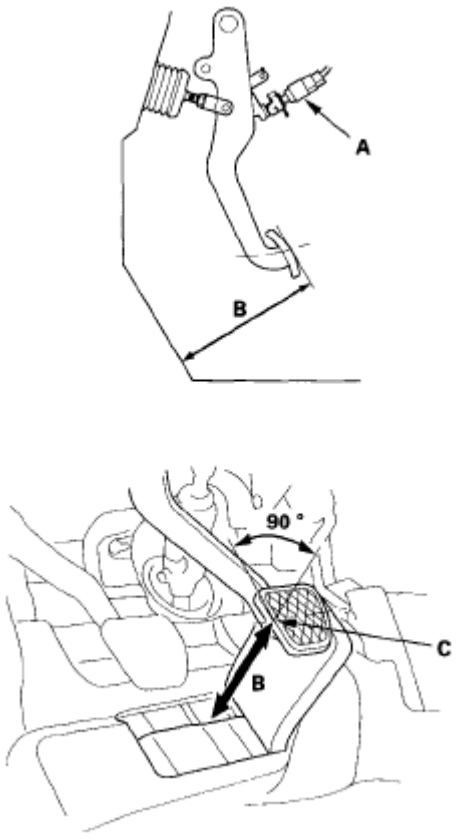



**Fig. 3: Turning Brake Pedal Position Switch Counterclockwise**

2. Pull back the carpet and find the cutout in the insulator. Lift up the insulator cutout and measure the pedal height (B) at the middle of the left side center of the pedal pad (C) to the floor.

   **Standard pedal height (with carpet removed):**

   **M/T model: 153 mm (6 in.)**
   **A/T model: 158 mm (6 1/4 in.)**

3. Loosen the pushrod locknut (A), and screw the pushrod (B) in or out with pliers until the standard pedal height from the floor is reached. After adjustment, tighten the locknut firmly. Do not adjust the pedal height with the pushrod pressed.

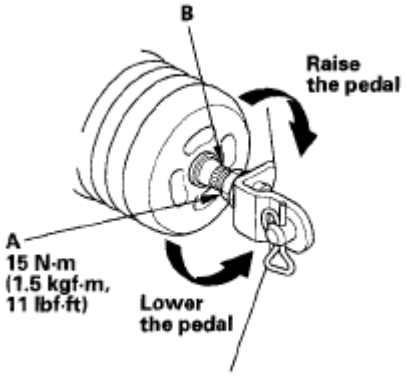



**Fig. 4: Loosening Pushrod Locknut (With Specifications)**

**Brake Pedal Position Switch Clearance**

4. Pull up on the brake pedal, then push in the brake pedal position switch until its plunger is fully pressed (threaded end (A) touching the pad (B) on the pedal arm). Then, turn the brake pedal position switch 45° clockwise to lock it. The gap between the brake pedal position switch and the pad is automatically adjusted to 0.7 mm (0.03 in.) by locking the switch. Make sure the brake lights go off when the pedal is released.

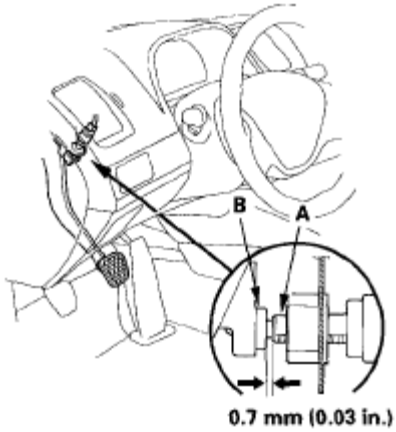



**Fig. 5: Identifying Brake Pedal Position Switch**

5. Check the brake pedal free play.

**PEDAL FREE PLAY**

1. With the ignition switch OFF, inspect the pedal free play (A) on the pedal pad (B) by pushing the pedal by hand. If the brake pedal free play is insufficient, it may result in excessive brake drag.

   **Free play: 1-5 mm (1/16-3/16 in.)**

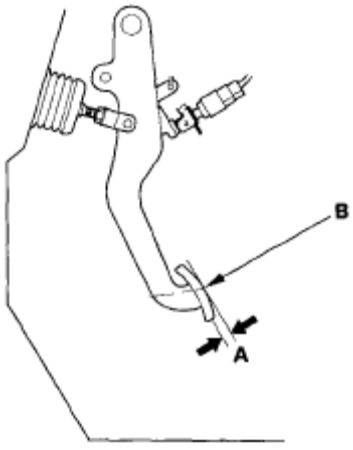



**Fig. 6: Inspecting Pedal Free Play On Pedal Pad Pushing Pedal**

## PARKING BRAKE INSPECTION AND ADJUSTMENT

**INSPECTION**

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1. Pull the parking brake lever (A) with 196 N (20 kgf, 44 lbf) of force to fully apply the parking brake. The parking brake lever should be locked within the specified number of clicks.

   **Lever locked clicks: 8 to 10**

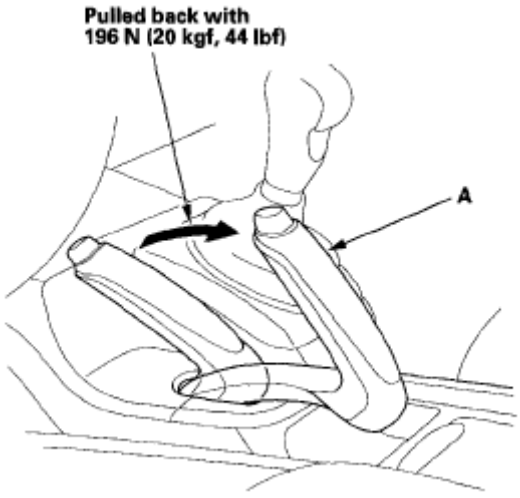



**Fig. 7: Inspecting Parking Brake (With Specifications)**

2. If the number of lever clicks is excessive, adjust the parking brake.

**ADJUSTMENT - REAR DISC BRAKE TYPE**

1. Remove the center console panel (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Release the parking brake lever fully.
3. Loosen the parking brake adjusting nut (A).

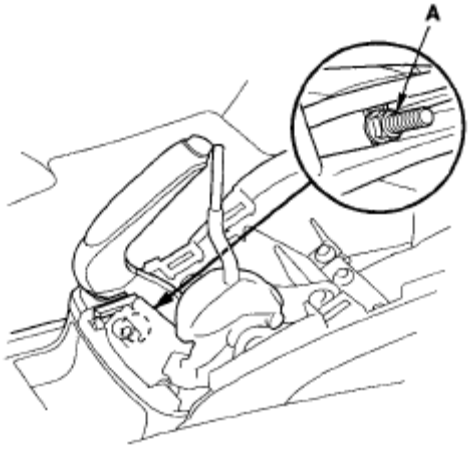



**Fig. 8: Loosening Parking Brake Adjusting Nut**

4. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
5. Remove the rear wheels.
6. Make sure the parking brake lever (A) on the rear brake caliper contacts the stop pin (B).

**NOTE: The parking brake lever will only contact the stop pin when the parking brake adjusting nut is loosened.**

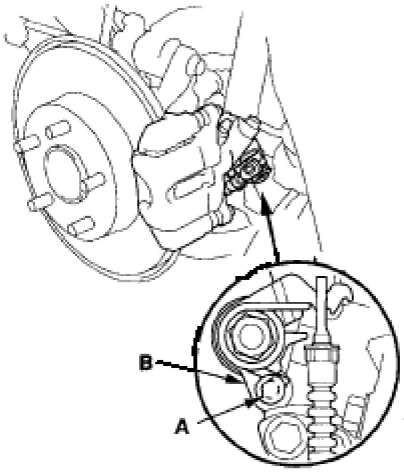



**Fig. 9: Making Sure Parking Brake Lever On Rear Brake Caliper Contacts Stop Pin**

7. Install the rear wheels.

8. Pull the parking brake lever 1 click.
9. Tighten the parking brake adjusting nut until the parking brakes drag slightly when the rear wheels are turned.
10. Release the parking brake lever fully, and check that the parking brakes do not drag when the rear wheels are turned. Readjust if necessary.
11. Make sure the parking brakes are fully applied when the parking brake lever is pulled all the way (8 to 10 clicks).
12. Install the center console panel (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

**ADJUSTMENT - REAR DRUM BRAKE TYPE**

1. Remove the center console panel (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Release the parking brake lever fully.
3. Loosen the parking brake adjusting nut (A).

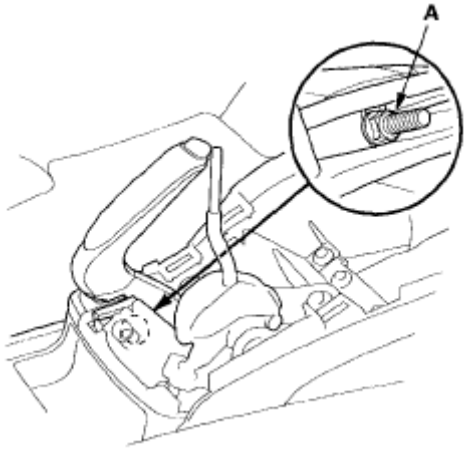



**Fig. 10: Loosening Parking Brake Adjusting Nut**

4. Press the brake pedal several times to set the self-adjusting brake before adjusting the parking brake.
5. Pull the parking brake lever 1 click.
6. Tighten the parking brake adjusting nut until the parking brakes drag slightly when the rear wheels are turned.

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7. Release the parking brake lever fully, and check that the parking brakes do not drag when the rear wheels are turned. Readjust if necessary.
8. Make sure the parking brakes are fully applied when the parking brake lever is pulled all the way (8 to 10 clicks).
9. Install the center console panel (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

## BRAKE SYSTEM BLEEDING

**NOTE:**

- **Do not reuse the drained fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.**
- **Do not mix different brands of brake fluid; they may not be compatible.**
- **Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.**
- **Do not spill brake fluid on the vehicle, it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.**
- **The reservoir connected to the master cylinder must be at the MAX (upper) level mark at the start of the bleeding procedure and checked after bleeding each brake system. Add fluid as required.**

1. Make sure the brake fluid level in the reservoir (A) is at the MAX (upper) level line (B).

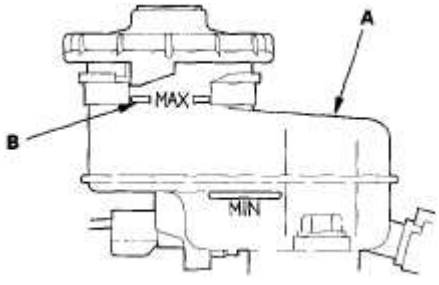


**Fig. 11: Identifying Brake Fluid Level In Reservoir Is At MAX (Upper) Level Line**

2. Have someone slowly pump the brake pedal several times, then apply steady pressure.
3. Start the bleeding at the driver's side of the front brake system.

**NOTE: Bleed the calipers or the wheel cylinders in the sequence shown.**

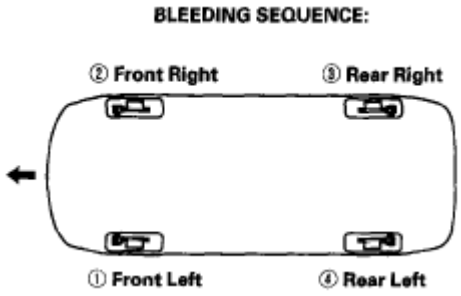



**Fig. 12: Bleeding Calipers Or Wheel Cylinder In Sequence**

4. Attach a length of clear drain tube (A) to the bleed screw (B), then, loosen the bleed screw to allow air to escape from the system. Then tighten the bleed screw securely.

**Front**

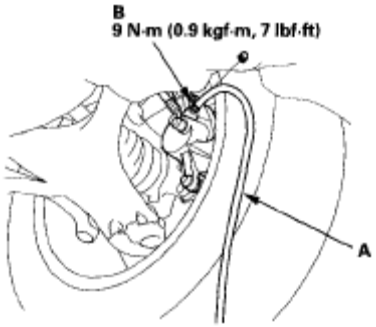



**Fig. 13: Attaching Clear Drain Tube To Bleed Screw (Front) (With Specifications)**

**Rear-disc type**

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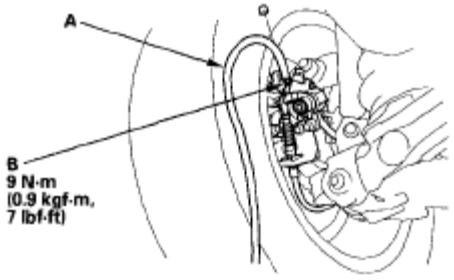



**Fig. 14: Attaching Clear Drain Tube To Bleed Screw (Rear-Disc Type) (With Specifications)**

**Rear-drum type**

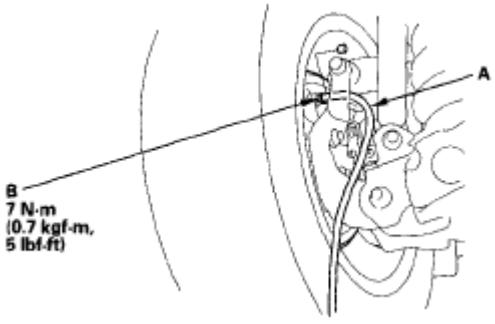



**Fig. 15: Attaching Clear Drain Tube To Bleed Screw (Rear-Drum Type) (With Specifications)**

5. Refill the master cylinder reservoir to the MAX (upper) level line.
6. Repeat the procedure for each brake circuit until no air bubbles are in the fluid.

## BRAKE SYSTEM INDICATOR CIRCUIT DIAGRAM

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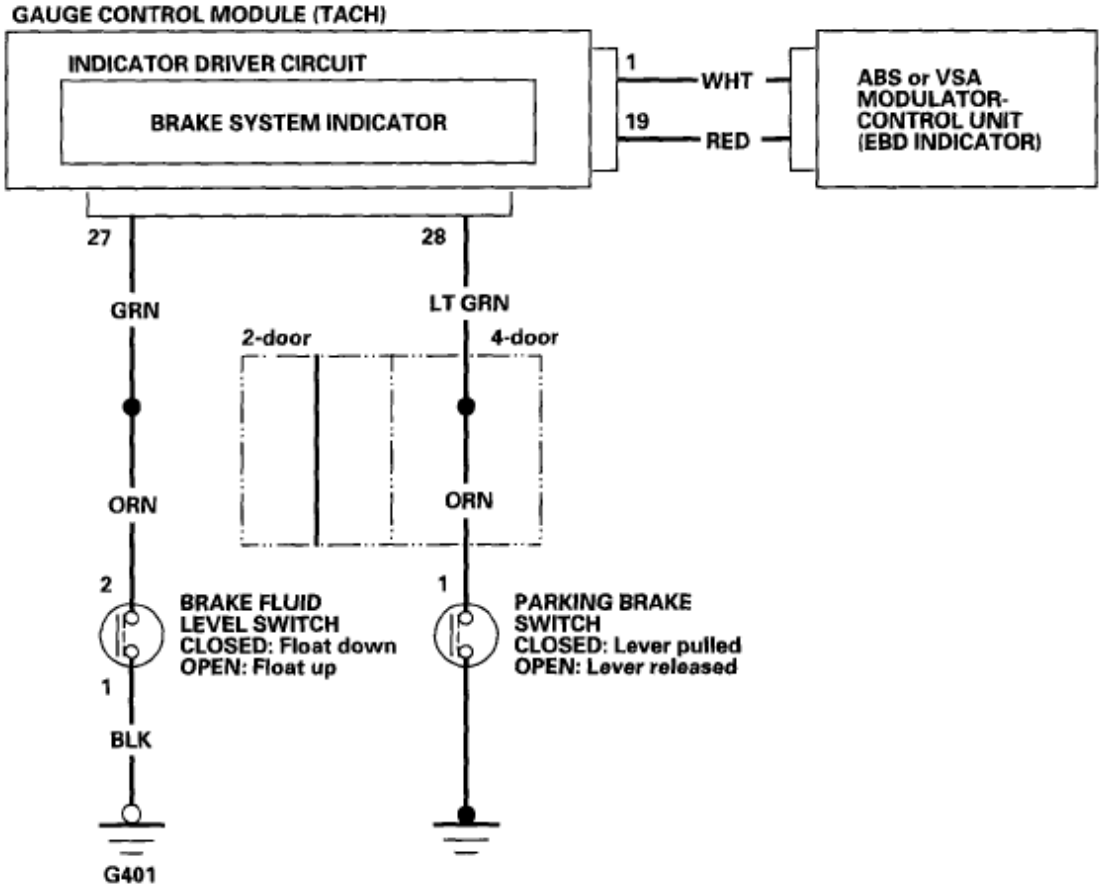



**Fig. 16: Identifying Brake System Indicator Circuit Diagram**

## PARKING BRAKE SWITCH TEST

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Disconnect the parking brake switch connector (A) from the parking brake switch (B).

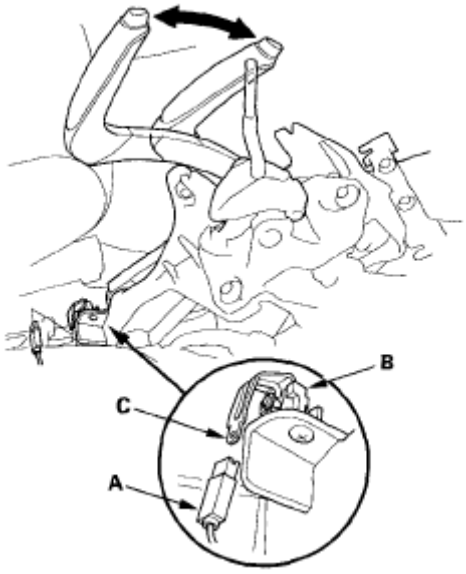



**Fig. 17: Disconnecting Parking Brake Switch Connector From Parking Brake Switch**

3. Check for continuity between the positive terminal (C) and body ground.
   - With the parking brake lever pulled, there should be continuity.
   - With the parking brake lever released, there should be no continuity.

**NOTE:**

- **If both the ABS indicator and the brake system indicator come on at the same time, check the ABS or VSA system first: ABS (see GENERAL TROUBLESHOOTING INFORMATION ), VSA (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **If the parking brake switch and fluid level switch are OK, but the brake system indicator does not function, check the ABS or VSA system: ABS (see GENERAL TROUBLESHOOTING INFORMATION ), VSA (see GENERAL TROUBLESHOOTING INFORMATION ).**

4. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

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## BRAKE FLUID LEVEL SWITCH TEST

Check for continuity between the terminals (1) and (2) with the float in the down position and in the up position.

**NOTE:**

- **Remove the brake fluid completely from the reservoir. With the float down, there should be continuity.**
- **Fill the reservoir with brake fluid to the MAX (upper) level (A). With the float up, there should be no continuity.**
- **If both the ABS indicator and the brake system indicator come on at same time, check the ABS or VSA system first: ABS (see GENERAL TROUBLESHOOTING INFORMATION ), VSA (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **If the parking brake switch and fluid level switch are OK, but brake system indicator does not function, check the ABS or VSA system: ABS (see GENERAL TROUBLESHOOTING INFORMATION ), VSA (see GENERAL TROUBLESHOOTING INFORMATION ).**

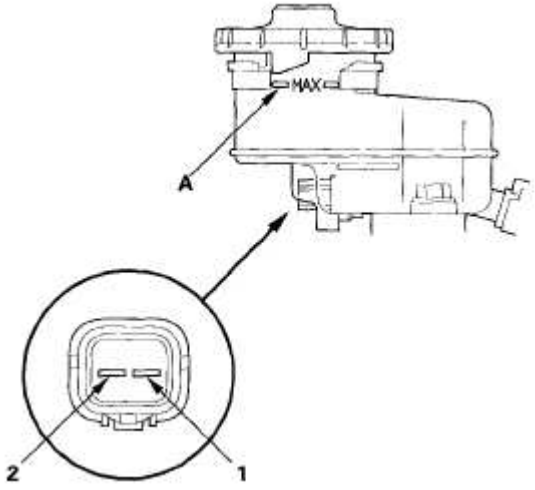



**Fig. 18: Testing Brake Fluid Level Switch**

## FRONT BRAKE PAD INSPECTION AND REPLACEMENT

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## Special Tools Required

Brake caliper piston compressor 07AAE-SEPA101

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

**INSPECTION - EXCEPT SI MODEL**

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheels.
3. Check the thickness (A) of the inner pad (B) and outer pad (C). Do not include the thickness of the backing plate.

**Brake pad thickness:**

**Standard: 9.6-10.2 mm (0.38-0.40 in.)**
**Service limit: 1.6 mm (0.06 in.)**

**Inner pad**

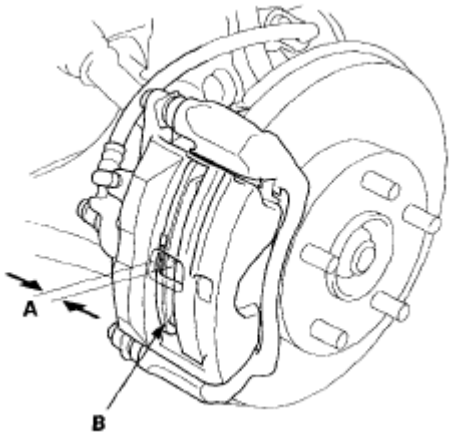



**Fig. 19: Identifying Inner Pad Thickness**

**Outer pad**

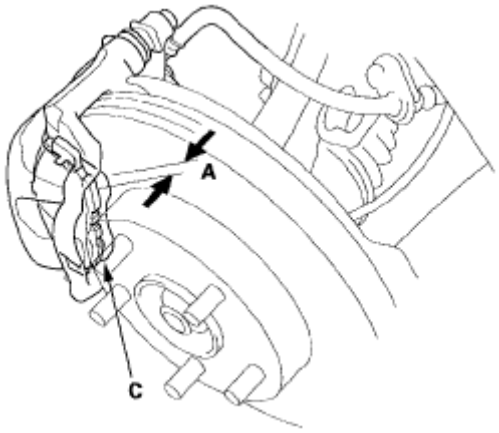



**Fig. 20: Identifying Outer Pad Thickness**

4. If the brake pad thickness is less than the service limit, replace the front brake pads as a set.

**REPLACEMENT - EXCEPT SI MODEL**

1. Remove some brake fluid from the master cylinder.
2. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
3. Remove the front wheels.
4. Remove the flange bolt (A), and pivot the caliper (B) up out of the way. Check

the hose and pin boots for damage and deterioration.

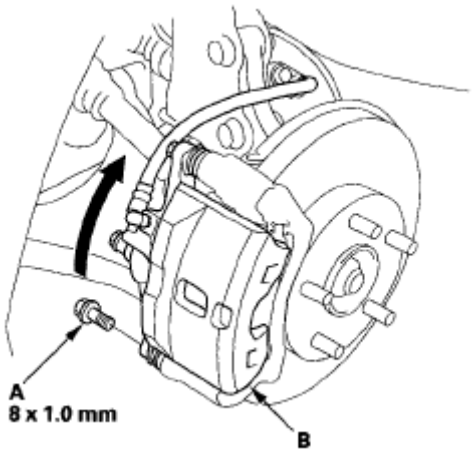



**Fig. 21: Removing Flange Bolt And Pivot Caliper**

5. Remove the pad shims (A) and brake pads (B).

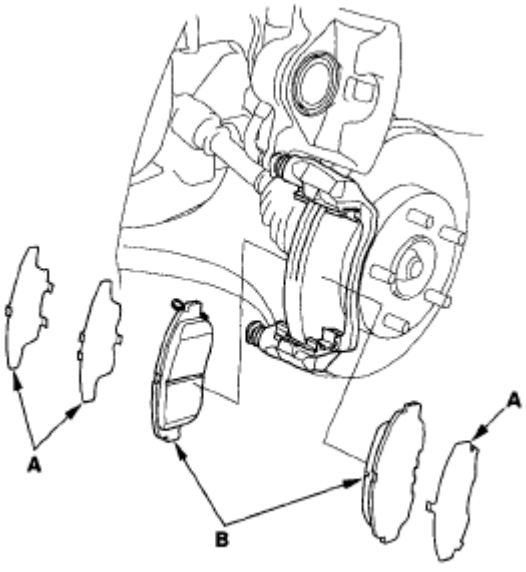



**Fig. 22: Removing Pad Shims And Brake Pads**

6. Remove the pad retainers (A).

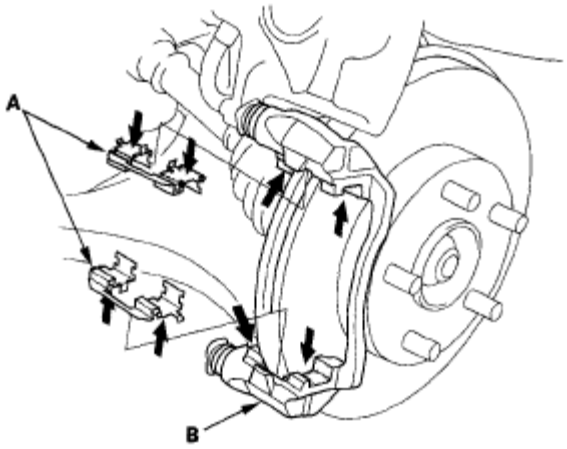



**Fig. 23: Removing Pad Retainers**

7. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the retainers on their mating surfaces (indicated by the arrows) against the caliper bracket.
10. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the assembly paste off the discs and pads.
11. Mount the brake caliper piston compressor (A) on the caliper body (B).

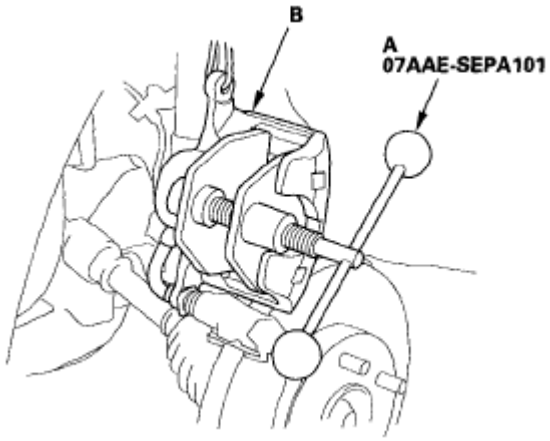



**Fig. 24: Mounting Brake Caliper Piston Compressor On Caliper Body**

12. Press in the piston with the brake caliper piston compressor so the caliper will fit over the brake pads. Make sure the piston boot is in position to prevent

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damaging it when pivoting the caliper down.

**NOTE: Be careful when pressing in the piston; brake fluid might overflow from the master cylinder's reservoir.**

13. Remove the brake caliper piston compressor.
14. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), the back of the brake pads (B) and the other areas indicated by the arrows. Wipe excess assembly paste off the pad shims and brake pads. Contaminated brake discs or brake pads reduce stopping ability. Keep grease and assembly paste off the brake discs and brake pads.

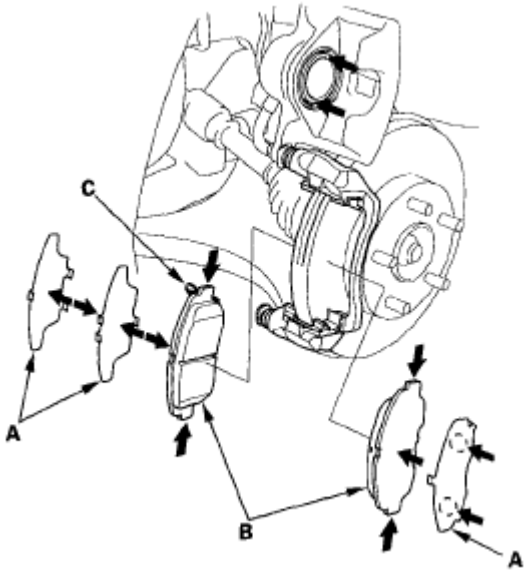



**Fig. 25: Applying Assembly Paste To Pad Shims And Brake Pads**

15. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the upper inside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a temporary loss of braking efficiency.
16. Pivot the caliper down into position. Install the flange bolt (A), and tighten it to the specified torque.

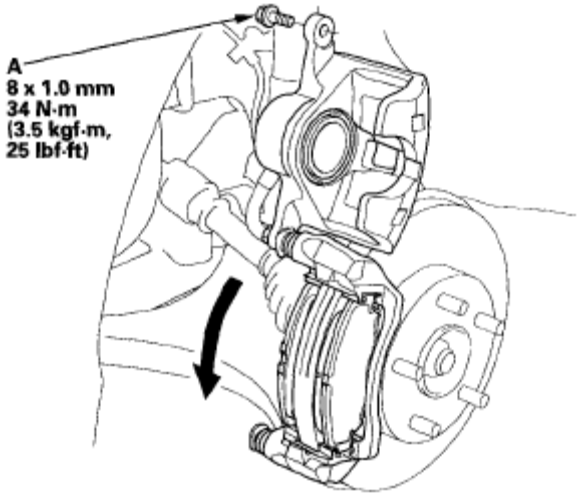



**Fig. 26: Installing Flange Bolt (With Specifications)**

17. Press the brake pedal several times to make sure the brakes work.

**NOTE: Engagement may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.**

18. Add brake fluid as needed.
19. After installation, check for leaks at the hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION** ).

**INSPECTION - SI MODEL**

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheels.
3. Check the thickness (A) of the inner pad (B) and outer pad (C). Do not include the thickness of the backing plate.

**Brake pad thickness:**

**Standard: 9.0-9.7 mm (0.35-0.38 in.)**

**Service limit: 1.6 mm (0.06 in.)**

**Inner pad**

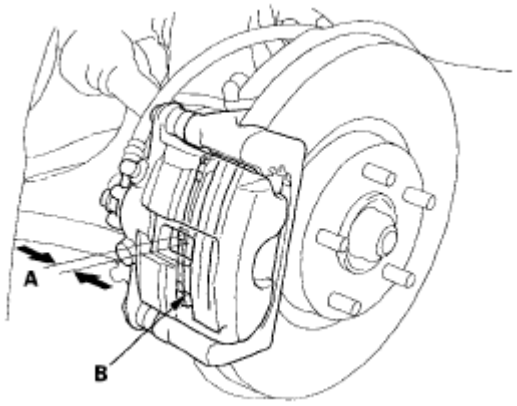



**Fig. 27: Checking Inner Pad Thickness**

**Outer pad**

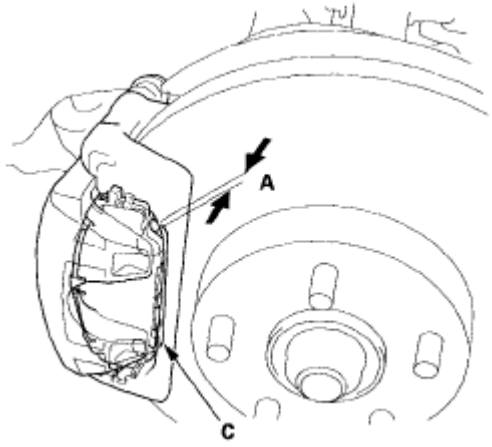



**Fig. 28: Checking Outer Pad Thickness**

4. If the brake pad thickness is less than the service limit, replace the front brake pads as a set.

**REPLACEMENT - SI MODEL**

1. Remove some brake fluid from the master cylinder.
2. Raise the front of the vehicle, and support it with safety stands in the proper

locations (see **LIFT AND SUPPORT POINTS** ).

3. Remove the front wheels.
4. Remove the flange bolt (A) while holding the caliper pin (B) with a wrench. Be careful not to damage the pin boot, and pivot the caliper (C) up out of the way. Check the hose and pin boots for damage and deterioration.

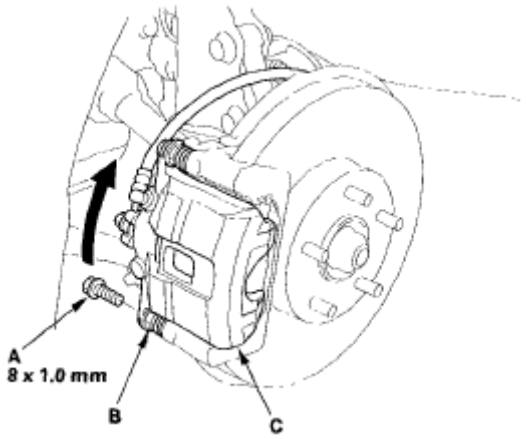



**Fig. 29: Removing Flange Bolt Holding Caliper Pin With Wrench**

5. Remove the pad shims (A) and brake pads (B).

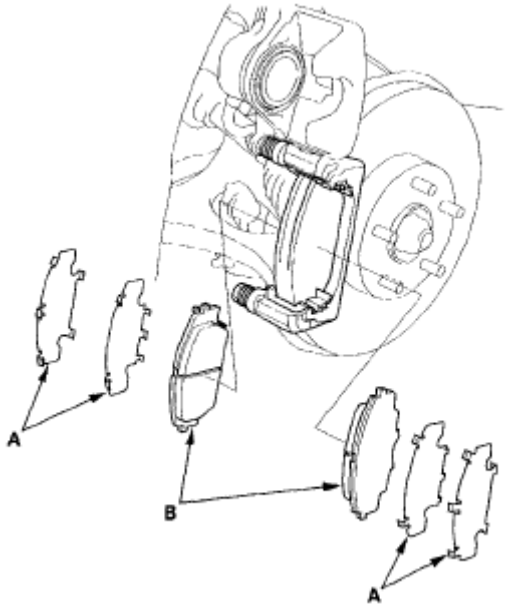



**Fig. 30: Removing Pad Shims And Brake Pads**

6. Remove the pad retainers (A).

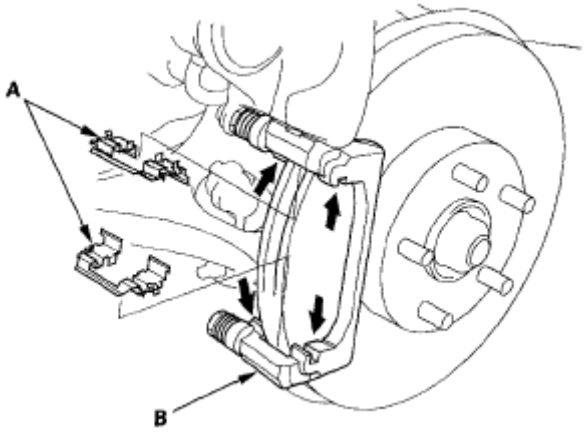



**Fig. 31: Removing Pad Retainers**

7. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the retainers on their mating surfaces (indicated by the arrows) against the caliper bracket.
10. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the assembly paste off the discs and pads.
11. Mount the brake caliper piston compressor (A) on the caliper body (B).

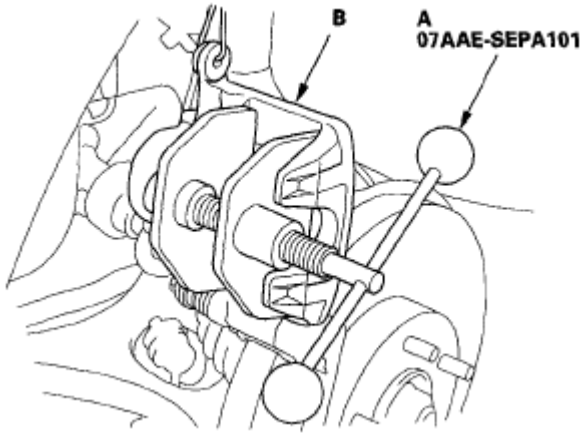



**Fig. 32: Mounting Brake Caliper Piston Compressor On Caliper Body**

12. Press in the piston with the brake caliper piston compressor so the caliper will

fit over the brake pads. Make sure the piston boot is in position to prevent damaging it when pivoting the caliper down.

**NOTE: Be careful when pressing in the piston; brake fluid might overflow from the master cylinder's reservoir.**

13. Remove the brake caliper piston compressor.
14. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), the back of the brake pads (B) and the other areas indicated by the arrows. Wipe excess assembly paste off the pad shims and brake pads. Contaminated brake discs or brake pads reduce stopping ability. Keep grease and assembly paste off the brake discs and brake pads.

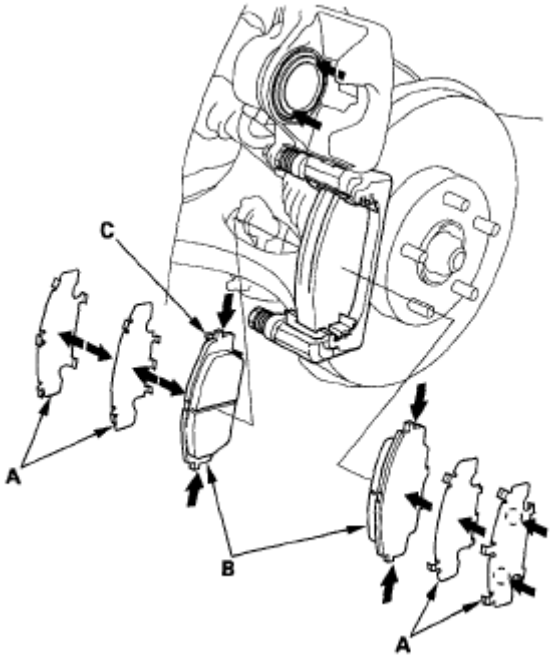



**Fig. 33: Applying Assembly Paste To Pad Side Of Shims And Brake Pads**

15. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the upper inside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a temporary loss of braking efficiency.
16. Pivot the caliper down into position. Install the flange bolt (A), and tighten it to the specified torque while holding the caliper pin (B), with a wrench. Be

careful not to damage the pin boot.

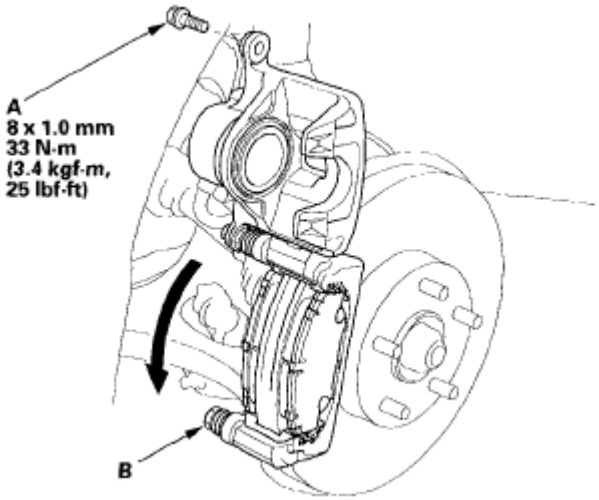



**Fig. 34: Installing Flange Bolt (With Specifications)**

17. Press the brake pedal several times to make sure the brakes work.

**NOTE: Engagement may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.**

18. Add brake fluid as needed.
19. After installation, check for leaks at the hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION** ).

## FRONT BRAKE DISC INSPECTION

### RUNOUT

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheels.
3. Remove the brake pads: Except Si model (see **REPLACEMENT - EXCEPT SI MODEL** ), Si model (see **REPLACEMENT - SI MODEL** ).

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4. Inspect the brake disc surface for damage and cracks. Clean the brake disc thoroughly, and remove all rust.
5. Install suitable flat washers (A) and wheel nuts (B), and tighten the wheel nuts to the specified torque to hold the brake disc securely against the hub.

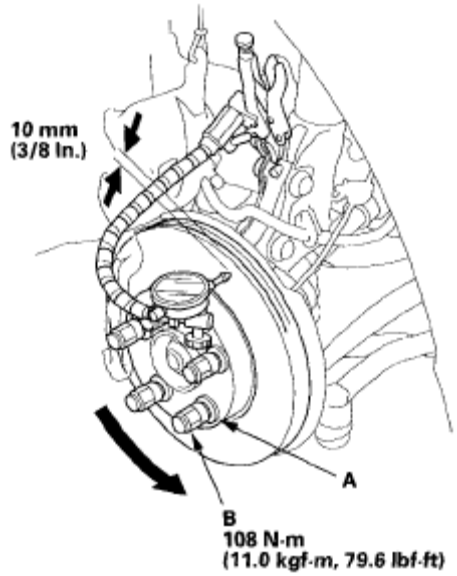



**Fig. 35: Installing Flat Washers And Wheel Nuts (With Specifications)**

6. Set up the dial gauge against the brake disc as shown, and measure the runout at 10 mm (3/8 in.) from the outer edge of the brake disc.

   **Brake disc runout:**

   **Service limit: 0.04 mm (0.0016 in.)**

7. If the brake disc is beyond the service limit, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

   **Max. refinishing limit:**

   **Except Si model: 19.0 mm (0.75 in.)**
   **Si model: 23.0 mm (0.91 in.)**

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**NOTE:**

- **If the brake disc is beyond the service limit for refinishing, replace it (see KNUCKLE/HUB REPLACEMENT ).**
- **A new brake disc should be refinished if its runout is greater than 0.04 mm (0.0016 in.).**

**THICKNESS AND PARALLELISM**

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheels.
3. Remove the brake pads: Except Si model (see **REPLACEMENT - EXCEPT SI MODEL** ), Si model (see **REPLACEMENT - SI MODEL** ).
4. Using a micrometer, measure the brake disc thickness at eight points, about 45° apart and 10 mm (3/8 in.) in from the outer edge of the brake disc. Replace the brake disc if the smallest measurement is less than the max. refinishing limit.

**Brake disc thickness:**

**Standard:**

**Except Si model: 20.9-21.1 mm (0.82-0.83 in.)**
**Si model: 24.9-25.1 mm (0.98-0.99 in.)**

**Max. refinishing limit:**

**Except Si model: 19.0 mm (0.75 in.)**
**Si model: 23.0 mm (0.91 in.)**

**Brake disc parallelism: 0.015 mm (0.0006 in.) max.**

**NOTE: This is the maximum allowable difference between the thickness measurements.**

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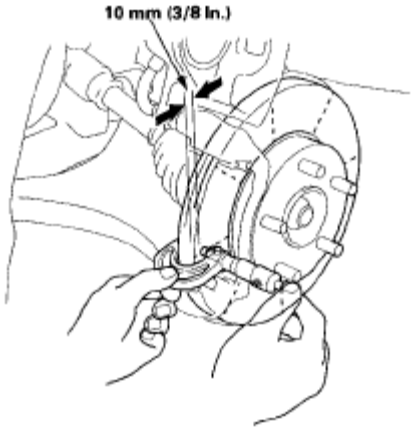



**Fig. 36: Measuring Brake Disc Thickness At Eight Points By Micrometer**

5. If the brake disc is beyond the service limit for parallelism, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

**NOTE: If the brake disc is beyond the service limit for refinishing, replace it (see KNUCKLE/HUB REPLACEMENT ).**

## FRONT BRAKE CALIPER OVERHAUL

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

**EXCEPT SI MODEL**

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

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**NOTE: Make sure that the caliper pins are installed correctly. Upper caliper pin B and lower caliper pin A are different. If the these caliper pins are installed in the wrong location, it will cause vibration, uneven or rapid brake pad wear, and possibly uneven tire wear.**

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets in the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing brake pads, always reinstall them in their original positions to prevent loss of braking efficiency.
- Do not reuse drained brake fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the pistons, piston seal grooves, and caliper bores with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.

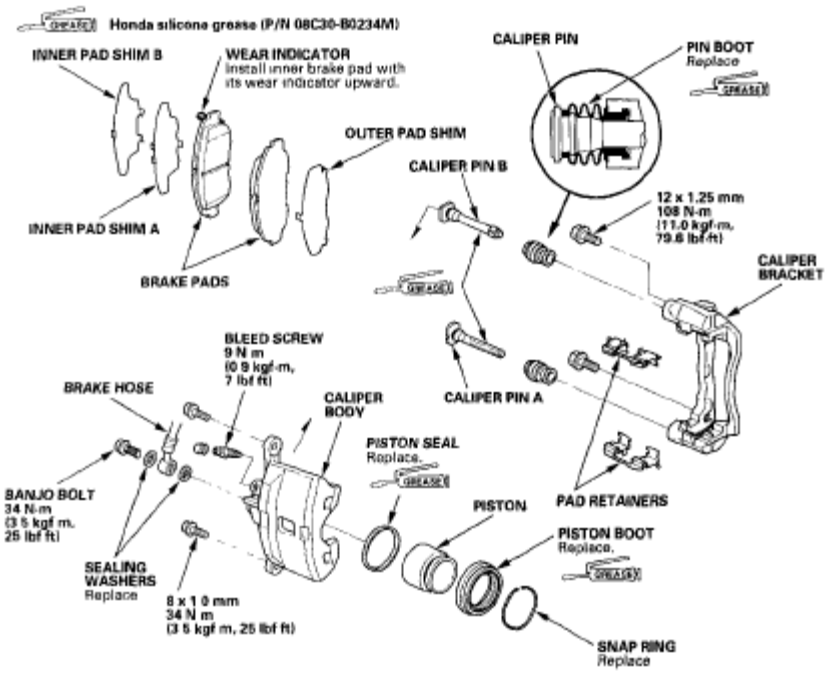



**Fig. 37: Exploded View Of Front Brake Caliper Overhaul (Except Si Model) (With Specifications)**

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

**SI MODEL**

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

**NOTE: Make sure that the caliper pins are installed correctly. Upper caliper pin B and lower caliper pin A are different. If the these caliper pins are installed in the wrong location, it will cause vibration, uneven or rapid brake pad wear, and**

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**possibly uneven tire wear.**

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets in the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing brake pads, always reinstall them in their original positions to prevent loss of braking efficiency.
- Do not reuse drained brake fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the pistons, piston seal grooves, and caliper bores with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.

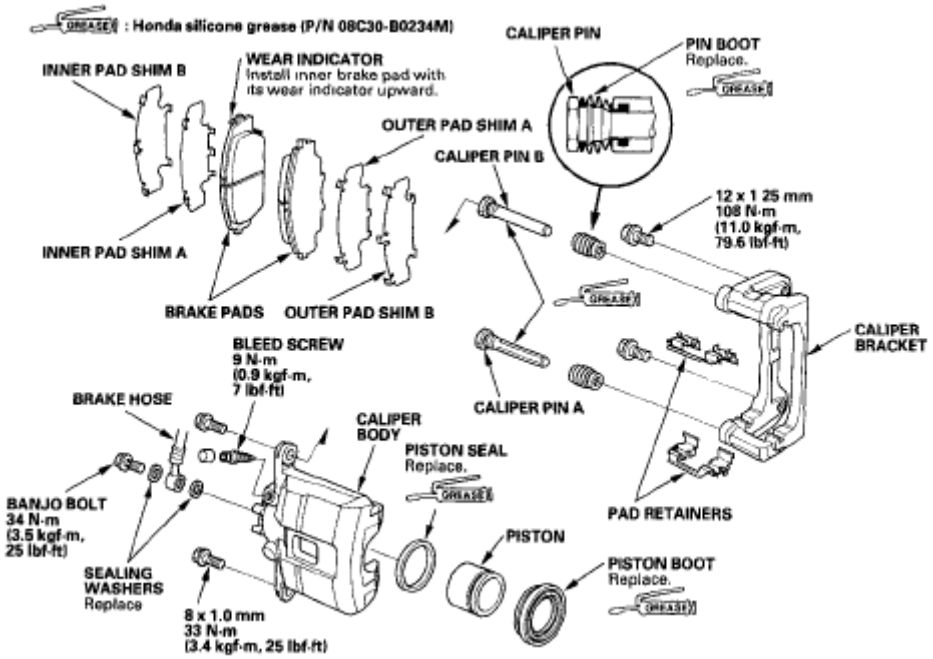



**Fig. 38: Exploded View Of Front Brake Caliper Overhaul (Si Model) (With Specifications)**

## MASTER CYLINDER REPLACEMENT

**NOTE:**

- **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.**
- **Be careful not to damage or deform the brake lines during removal and installation.**
- **To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent.**

1. Remove the air cleaner: Except Si model (see **AIR CLEANER REMOVAL/INSTALLATION** ), Si model (see **AIR CLEANER REMOVAL/INSTALLATION** ).
2. Remove the reservoir cap and brake fluid from the master cylinder reservoir with a syringe.
3. Disconnect the brake fluid level switch connector (A).

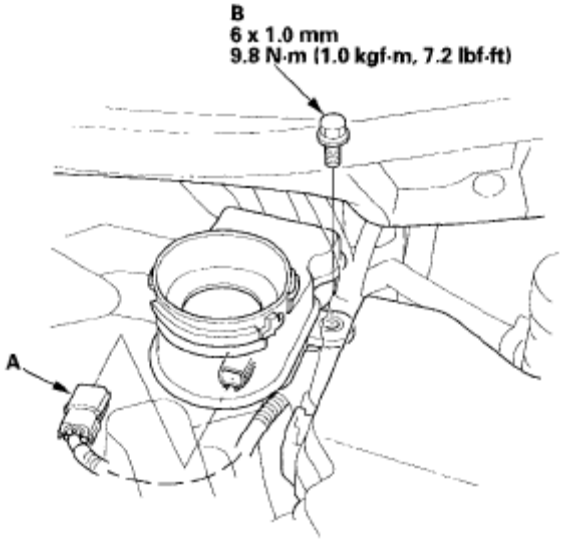



**Fig. 39: Disconnecting Brake Fluid Level Switch Connector (With Specifications)**

4. Remove the reservoir tank mounting bolt (B).
5. Disconnect the brake lines (A) from the master cylinder (B). To prevent spills, cover the hose joints with rags or shop towels.

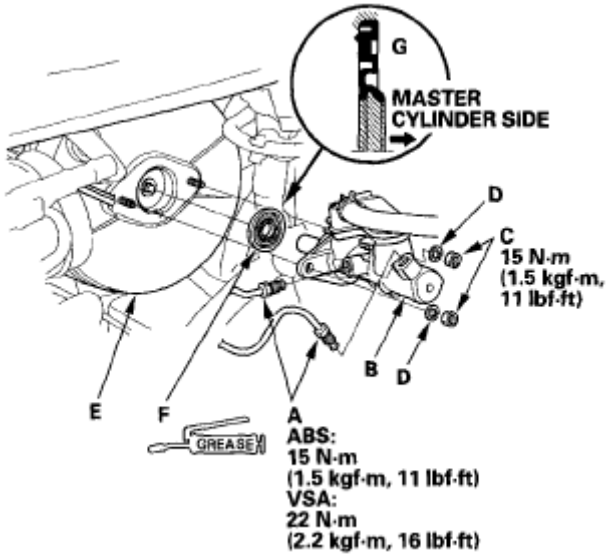



**Fig. 40: Disconnecting Brake Lines From Master Cylinder (With Specifications)**

6. Remove the master cylinder mounting nuts (C) and washers (D).

7. Remove the master cylinder from the brake booster (E). Be careful not to bend or damage the brake lines when removing the master cylinder.
8. Remove the rod seal (F) from the master cylinder.

**NOTE: During installation, set the new rod seal onto the master cylinder with its grooved side (G) toward the master cylinder.**

9. Install the master cylinder in the reverse order of removal, and note these items:
   - Use a new rod seal on reassembly.
   - Coat the inner bore lip and outer circumference of the new rod seal with the Shin-Etsu silicone grease (P/N 08798-9013).
   - Check the brake pedal height and free play after installing the master cylinder, and adjust if necessary (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).
10. Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
11. Spin the wheels to check for brake drag.

## MASTER CYLINDER INSPECTION

1. Inspect and note these items:
   - Before reassembling, check that all parts are free of dirt and other foreign particles.
   - Do not try to disassemble the master cylinder assembly. Replace the master cylinder assembly with a new part if necessary.
   - Do not allow dirt or foreign matter to contaminate the brake fluid.

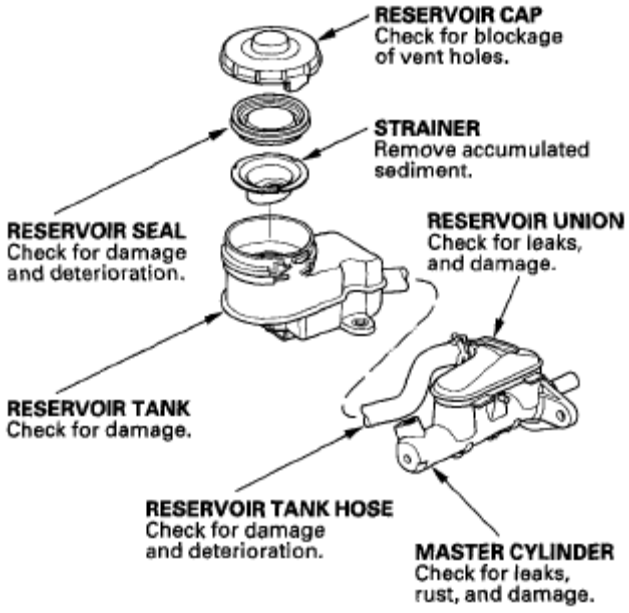



**Fig. 41: Inspecting Master Cylinder**

2. If the reservoir tank hose was disconnected, install the reservoir tank (A) and the reservoir tank hose (B) to the reservoir union (C).

**NOTE:**

- **Align the "TRIANGLE" marks (D) on the reservoir tank and reservoir union with the paint marks (E) on the hose.**
- **Position the direction of the clamp (F).**

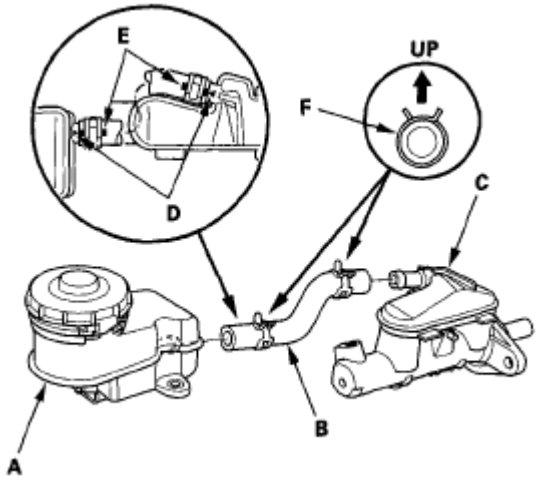



**Fig. 42: Installing Reservoir Tank And Hose To**

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## Reservoir Union

# BRAKE BOOSTER TEST

### FUNCTIONAL TEST

1. With the engine stopped, press the brake pedal several times to deplete the vacuum reservoir, then press the brake pedal hard, and hold it for 15 seconds. If the brake pedal sinks, either the master cylinder is bypassing internally, or the brake system is leaking. Inspect the brake hoses and lines (see **BRAKE HOSE AND LINE INSPECTION** ).
2. Start the engine with the brake pedal pressed. If the brake pedal sinks slightly, the vacuum booster is operating normally. If the brake pedal height does not vary, do the leak test.
3. Do the brake system test (see **BRAKE SYSTEM INSPECTION AND TEST** ).

### LEAK TEST

1. Press the brake pedal with the engine running, then stop the engine. If the brake pedal height does not vary while pressed for 30 seconds, the vacuum booster is OK. If the pedal height rises go to step 6. If it does not rise go to step 2.
2. Start the engine and let it idle for 30 seconds. Turn the ignition switch off, and wait 30 seconds. Press the brake pedal several times using normal pressure. When the pedal is first pressed, it should be low. On consecutive applications, the pedal height should gradually rise. Does the pedal rise on each consecutive application? If it rises the booster is OK. If it does not go to step 3.
3. Disconnect the brake booster vacuum hose (A) at the booster. The check valve is built into the hose.

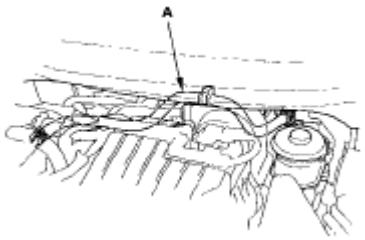


**Fig. 43: Disconnecting Brake Booster Vacuum Hose At Booster**

4. Start the engine, and let it idle. There should be vacuum available. If no vacuum is available, the check valve is not working properly. Replace the brake booster vacuum hose and check valve, and retest. If vacuum is found, go to step 5.
5. With the engine off, reconnect the vacuum hose to the brake booster.
6. Start the engine, and then pinch the brake booster vacuum hose between the check valve and the booster.
7. Turn the ignition switch off, and wait 30 seconds. Press the brake pedal several times using normal pressure. When the pedal is first pressed, it should be low. On consecutive applications, the pedal height should gradually rise.
   - If the pedal position does not vary inspect the seal between the master cylinder and booster. If the seal is OK, replace the brake booster.
   - If the pedal position varies, replace the brake booster vacuum hose/check valve assembly.

## BRAKE BOOSTER REPLACEMENT

**EXCEPT SI MODEL**

1. Remove the master cylinder (see **MASTER CYLINDER REPLACEMENT** ).
2. Disconnect the brake booster vacuum hose (A) from the brake booster (B).

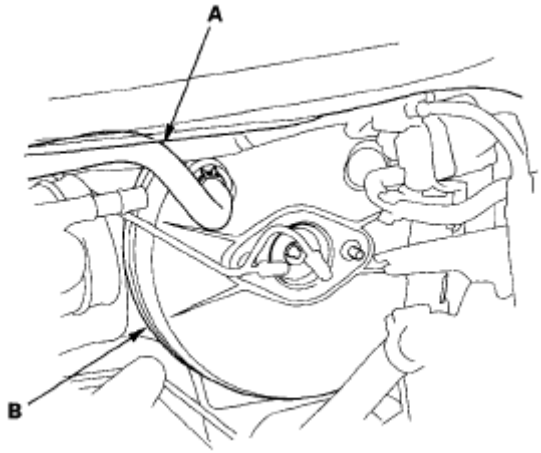


**Fig. 44: Disconnecting Brake Booster Vacuum Hose From Brake Booster**

3. Remove the engine wire harness clamps (A).

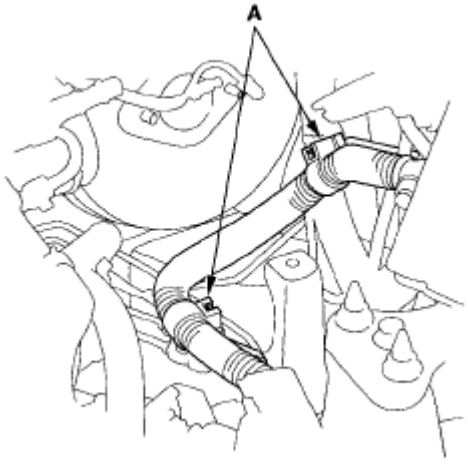



**Fig. 45: Removing Engine Wire Harness Clamps**

4. Remove the heater hoses (A) from the clamp (B).

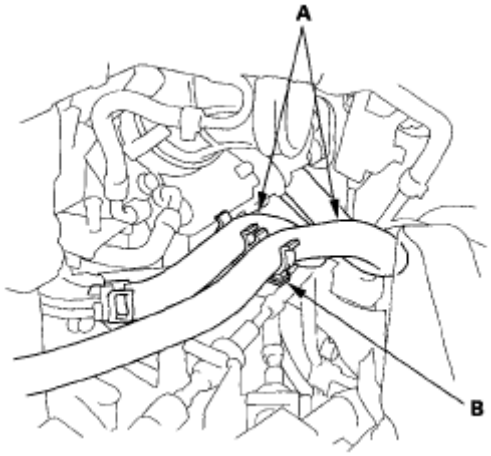



**Fig. 46: Removing Heater Hoses From Clamp**

5. Remove the lock pin (A) and the joint pin (B), then disconnect the yoke from the brake pedal.

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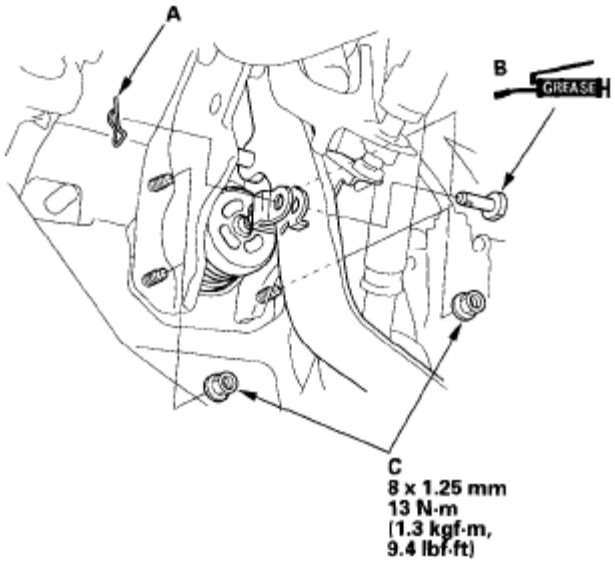



**Fig. 47: Removing Lock Pin And Joint Pin (With Specifications)**

6. Remove the brake booster mounting nuts (C).
7. Pull the brake booster (A) forward.

**NOTE:**

- **Be careful not to damage the booster surfaces and the threads on the booster studs.**
- **Be careful not to bend or damage the brake lines.**

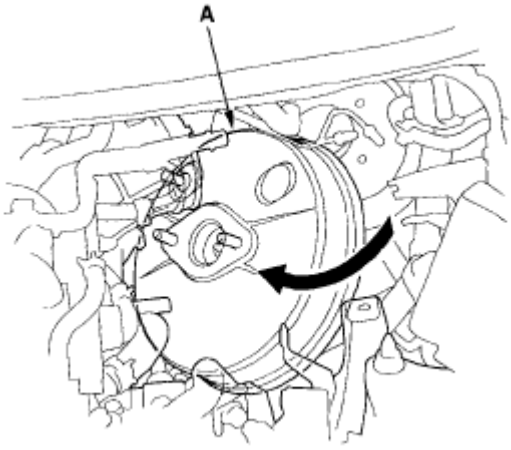



**Fig. 48: Pulling Brake Booster Forward**

8. Remove the brake booster (A) by pulling it out and turning it, and remove it from the engine compartment.

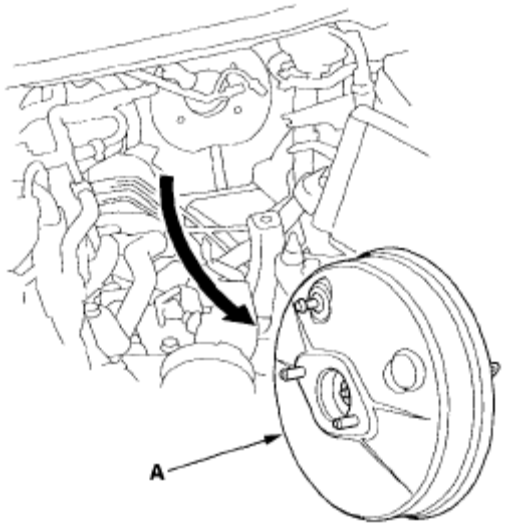



**Fig. 49: Removing Brake Booster**

9. Install the brake booster in the reverse order of removal, and note these items:
   - Install the master cylinder after installing the brake booster (see **MASTER CYLINDER REPLACEMENT** ).
   - Check the brake pedal height and free play after installing the master cylinder, and adjust it if necessary (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).
   - Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).

**SI MODEL**

1. Remove the master cylinder (see **MASTER CYLINDER REPLACEMENT** ).
2. Disconnect the brake booster vacuum hose (A) from the brake booster (B).

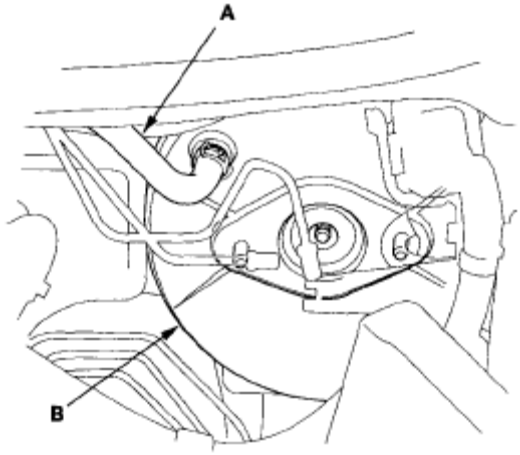



**Fig. 50: Disconnecting Brake Booster Vacuum Hose**

3. Remove the engine wire harness clamps (A).

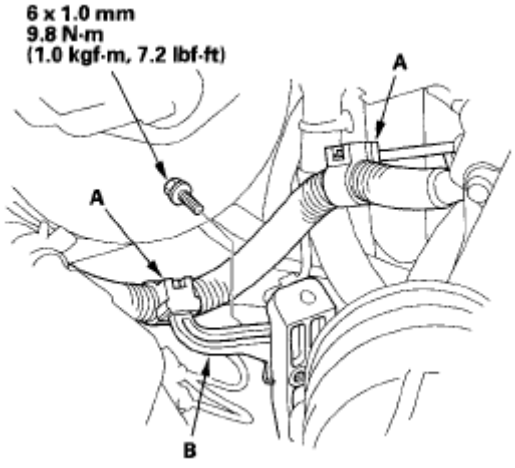



**Fig. 51: Removing Engine Wire Harness Clamps (With Specifications)**

4. Remove the air cleaner bracket (B).
5. Remove the lock pin (A) and the joint pin (B), then disconnect the yoke from the brake pedal.

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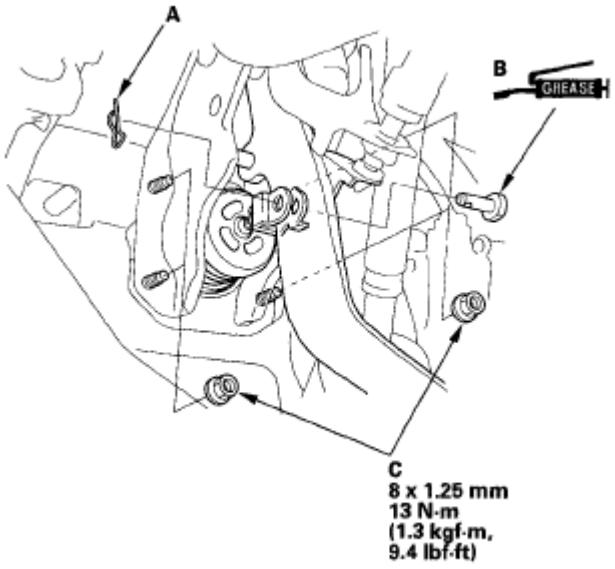



**Fig. 52: Removing Lock Pin And Joint Pin (With Specifications)**

6. Remove the brake booster mounting nuts (C).
7. Pull the brake booster (A) forward.

**NOTE:**

- **Be careful not to damage the booster surfaces and the threads on the booster studs.**
- **Be careful not to bend or damage the brake lines.**

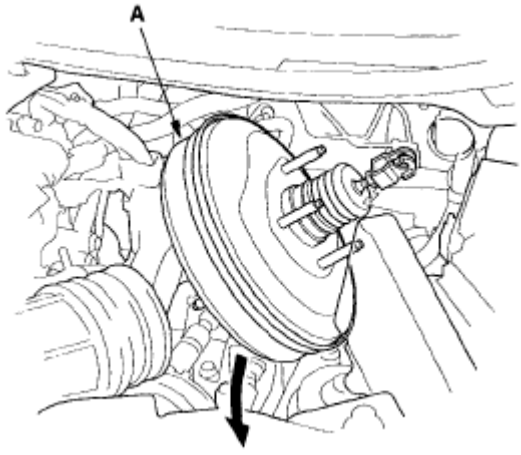



**Fig. 53: Pulling Brake Booster Forward**

8. Remove the brake booster by pulling it out and turning it, and remove it from

the engine compartment.

9. Install the brake booster in the reverse order of removal, and note these items:
   - Install the master cylinder after installing the brake booster (see **MASTER CYLINDER REPLACEMENT** ).
   - Check the brake pedal height and free play after installing the master cylinder, and adjust it if necessary (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).
   - Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).

## REAR BRAKE PAD INSPECTION AND REPLACEMENT

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

### INSPECTION

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheels.
3. Check the thickness (A) of the inner pad (B) and outer pad (C). Do not include the thickness of the backing plate.

**Brake pad thickness:**

**Standard: 8.3-9.4 mm (0.33-0.37 in.)**

**Service limit: 1.6 mm (0.06 in.)**

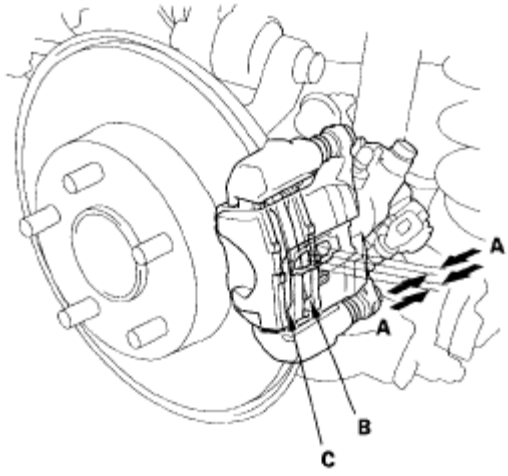



**Fig. 54: Checking Thickness Of Inner Pad And Outer Pad**

4. If the brake pad thickness is less than the service limit, replace all the rear brake pads as a set.

**REPLACEMENT**

1. Remove some brake fluid from the master cylinder.
2. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
3. Remove the rear wheels.
4. Remove the brake hose mounting bolt (A).

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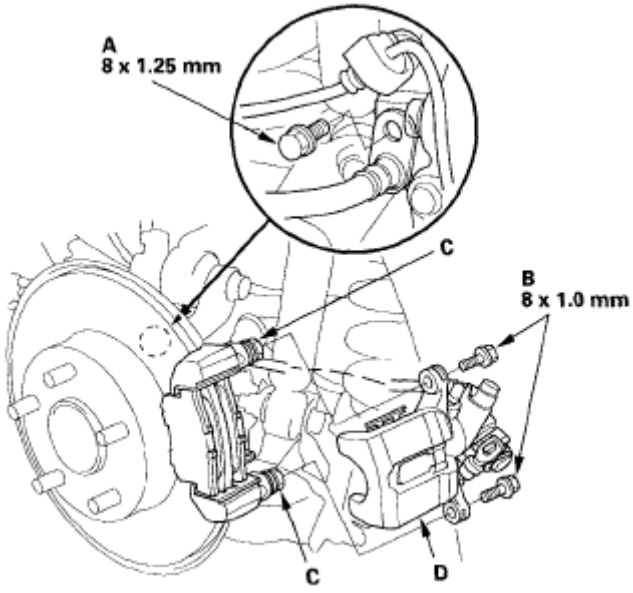



**Fig. 55: Removing Brake Hose Mounting Bolt**

5. Remove the flange bolts (B) while holding respective caliper pin (C) with a wrench. Be careful not to damage the pin boot, and remove the caliper (D). Check the hose and pin boots for damage and deterioration.

**NOTE: Do not twist the brake hose and the parking brake cable to prevent damage.**

6. Remove the pad shims (A) and brake pads (B).

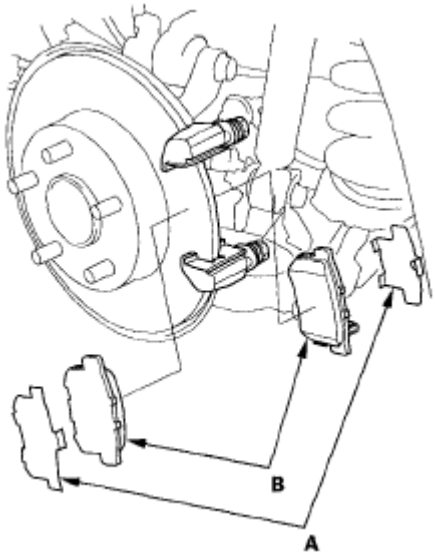


**Fig. 56: Removing Pad Shims And Brake Pads**

7. Remove the pad retainers (A).

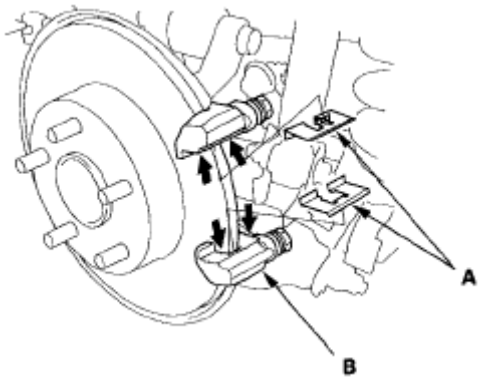



**Fig. 57: Removing Pad Retainers**

8. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
9. Check the brake disc for damage and cracks.
10. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the retainers on their mating surfaces (indicated by the arrows) against the caliper bracket.
11. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the assembly paste off the discs and pads.
12. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), the back of the brake pads (B), and the other areas indicated by the arrows. Wipe excess assembly paste off the pad shims and brake pads. Contaminated brake discs or brake pads reduce stopping ability. Keep assembly paste off the brake discs and pads.

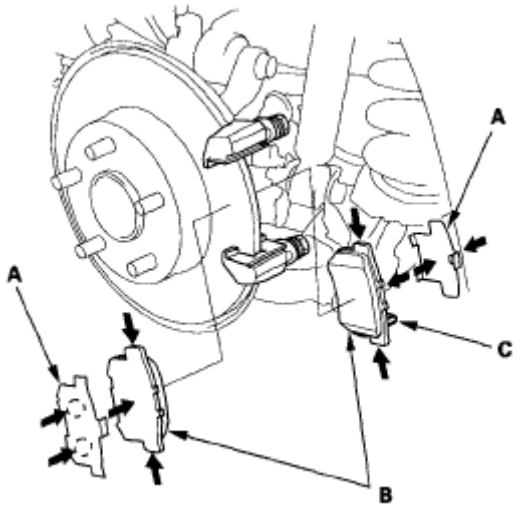



**Fig. 58: Applying Assembly Paste To Pad Side Of Shims And Brake Pads**

13. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the bottom inside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a temporary loss of braking efficiency.
14. Rotate the caliper piston (A) clockwise into the cylinder, then align the cutout (B) in the piston with the tab (C) on the inner pad by turning the piston back. Lubricate the boot with rubber grease to avoid twisting the piston boot. If the piston boot is twisted, back it out so it is positioned properly.

**NOTE: Be careful when moving the piston back in the caliper; brake fluid might overflow from the master cylinder's reservoir.**

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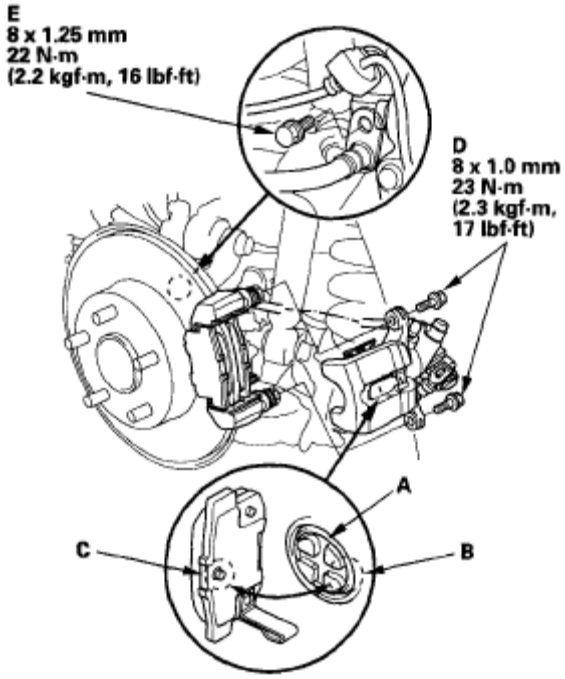



**Fig. 59: Rotating Caliper Piston Clockwise Into Cylinder**

15. Install the caliper. Install the flange bolts (D), and tighten it to the specified torque while holding respective caliper pin with a wrench. Be careful not to damage the pin boots.
16. Install the brake hose mounting bolt (E).
17. Press the brake pedal several times to make sure the brakes work.

**NOTE: Engagement may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.**

18. Add brake fluid as needed.
19. After installation, check for leaks at the hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION** ).

## REAR BRAKE DISC INSPECTION

**RUNOUT**

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1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheels.
3. Remove the brake pads (see **REAR BRAKE PAD INSPECTION AND REPLACEMENT** ).
4. Inspect the brake disc surface for damage and cracks. Clean the brake disc thoroughly, and remove all rust.
5. Install suitable flat washers (A) and wheel nuts (B), and tighten the wheel nuts to the specified torque to hold the brake disc securely against the hub.

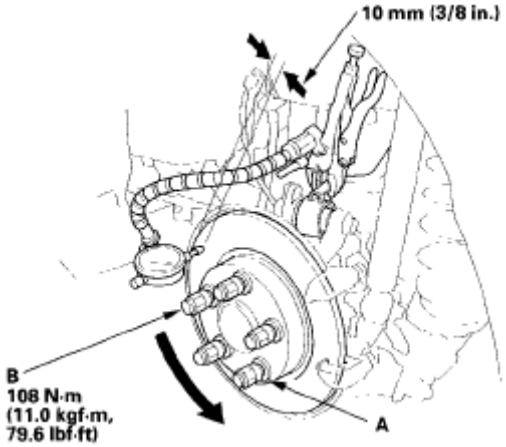



**Fig. 60: Installing Suitable Flat Washer And Wheel Nuts (With Specifications)**

6. Set up the dial gauge against the brake disc as shown, and measure the runout at 10 mm (3/8 in.) from the outer edge of the brake disc.

   **Brake disc runout:**

   **Service limit: 0.04 mm (0.0016 in.)**

7. If the brake disc is beyond the service limit, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

   **Max. refinishing limit: 8.0 mm (0.31 in.)**

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**NOTE:**

- **If the brake disc is beyond the service limit for refinishing, replace it (see HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE ).**
- **A new brake disc should be refinished if its runout is greater than 0.04 mm (0.0016 in.).**

**THICKNESS AND PARALLELISM**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheels.
3. Remove the brake pads (see **REAR BRAKE PAD INSPECTION AND REPLACEMENT** ).
4. Using a micrometer, measure the brake disc thickness at eight points, about 45° apart and 10 mm (3/8 in.) in from the outer edge of the brake disc. Replace the brake disc if the smallest measurement is less than the max. refinishing limit.

   **Brake disc thickness:**

   **Standard: 8.9-9.1 mm (0.35-0.36 in.)**
   **Max. refinishing limit: 8.0 mm (0.31 in.)**

   **Brake disc parallelism: 0.015 mm (0.0006 in.) max.**

   **NOTE: This is the maximum allowable difference between the thickness measurements.**

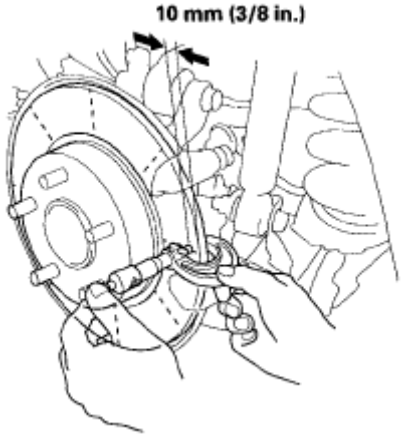



**Fig. 61: Measuring Brake Disc Thickness**

5. If the brake disc is beyond the service limit for parallelism, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

**NOTE: If the brake disc is beyond the service limit for refinishing, replace it (see HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE ).**

## REAR BRAKE CALIPER OVERHAUL

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid

gets on the paint, wash it off immediately with water.

- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets into the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing brake pads, always reinstall them in their original positions to prevent loss of braking efficiency.
- Do not reuse drained brake fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the piston, piston seal groove, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.

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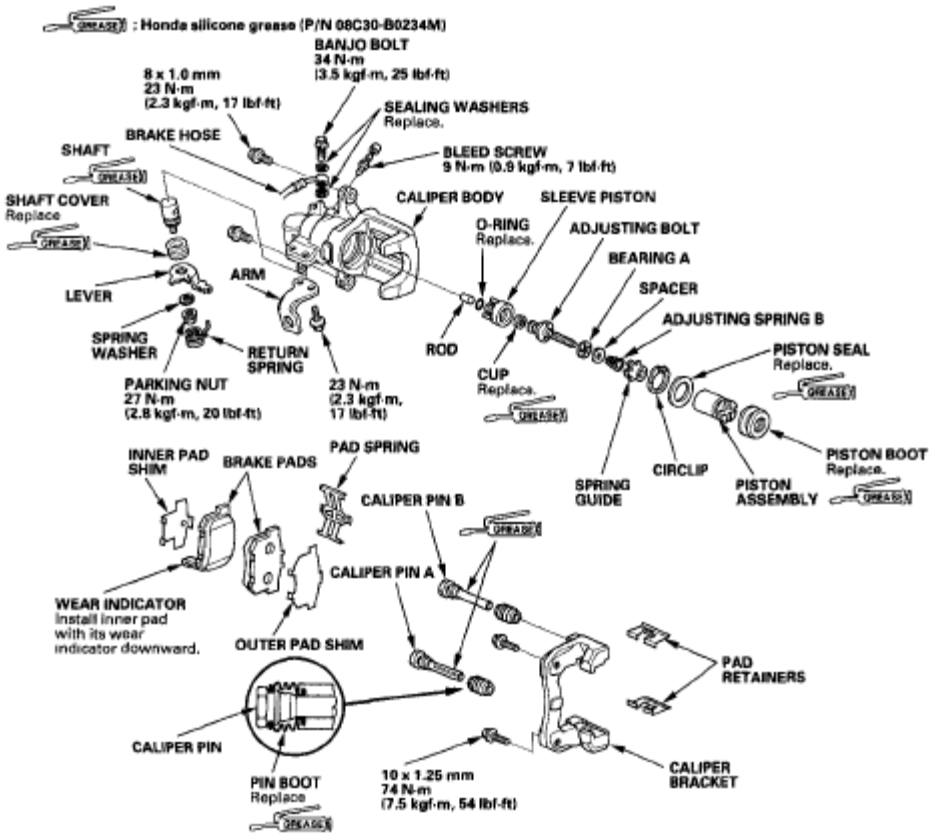



**Fig. 62: Exploded View Of Rear Brake Caliper Overhaul (With Specifications)**

## REAR DRUM BRAKE INSPECTION

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheels.

3. Release the parking brake, and remove the brake drum (see **HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE** ).

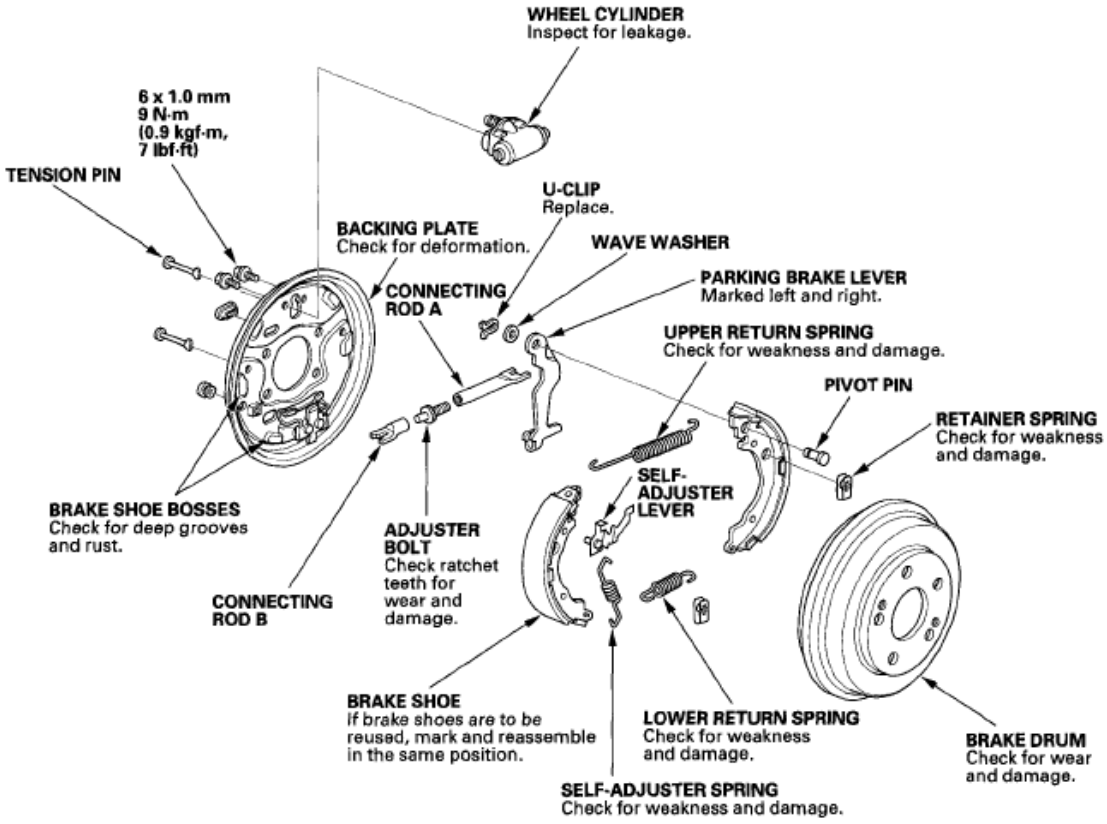



**Fig. 63: Identifying Rear Drum Brake (With Specifications)**

4. Check the wheel cylinder (A) for leakage.

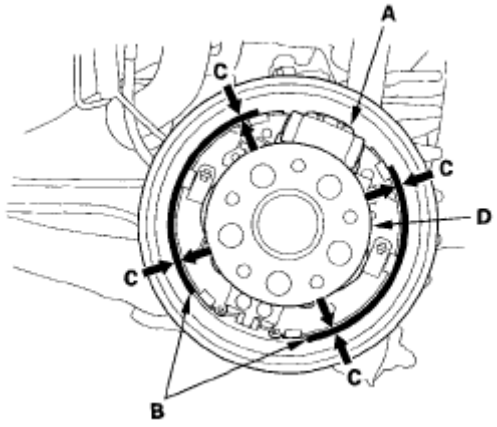



**Fig. 64: Checking Wheel Cylinder For Leakage**

5. Check the brake linings (B) for cracking, glazing, wear, and contamination.

**NOTE: Contaminated brake linings or drums reduce stopping ability.**

6. Measure the brake lining thickness (C). Measurement does not include brake shoe thickness.

**Brake lining thickness:**

**Standard: 4.0 mm (0.16 in.)**
**Service limit: 2.0 mm (0.08 in.)**

7. If the brake lining thickness is less than the service limit, replace the brake shoes as a set.
8. Check the hub (D) for smooth operation. If it requires servicing, replace the hub bearing unit (see **HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE** ).
9. Measure the inside diameter of the brake drum with inside vernier calipers.

**Drum inside diameter:**

**Standard: 199.9-200 mm (7.870-7.874 in.)**
**Service limit: 201 mm (7.91 in.)**

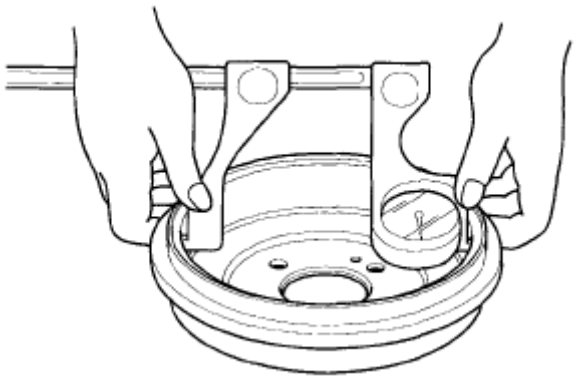


**Fig. 65: Measuring Drum Inside Diameter**

10. If the inside diameter of the brake drum is more than the service limit, replace

the brake drum.

11. Check the brake drum for scoring, grooves, corrosion, and cracks.

## REAR BRAKE SHOE REPLACEMENT

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

### DISASSEMBLY

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheels.
3. Release the parking brake, and remove the brake drum (see **HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE** ).
4. Remove the tension pins (A) by pushing respective retainer spring (B) and turning the pin.

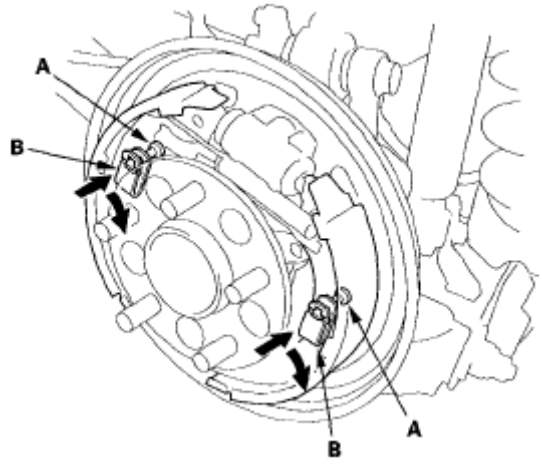



**Fig. 66: Removing Tension Pins Pushing Respective Retainer Spring And**

## Turning Pin

5. Remove the lower return spring (A), and remove the brake shoe assembly over the hub.

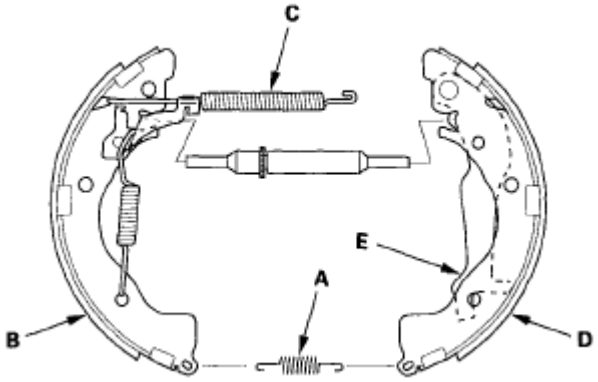



**Fig. 67: Removing Lower Return Spring**

6. Remove the forward brake shoe (B) by removing the upper return spring (C), and disassemble the brake shoe assembly.
7. Remove the rearward brake shoe (D) by disconnecting the parking brake cable from the parking brake lever (E).
8. Remove the U-clip (A), wave washer (B), and pivot pin (C), and separate the parking brake lever (D) from the brake shoe (E).

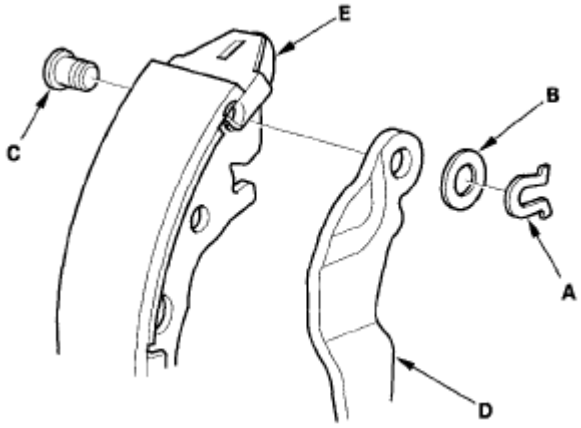



**Fig. 68: Removing U-Clip, Wave Washer And Pivot Pin**

**REASSEMBLY**

1. Apply rubber grease to the sliding surface of the pivot pin (A) for the rearward brake shoe (B).

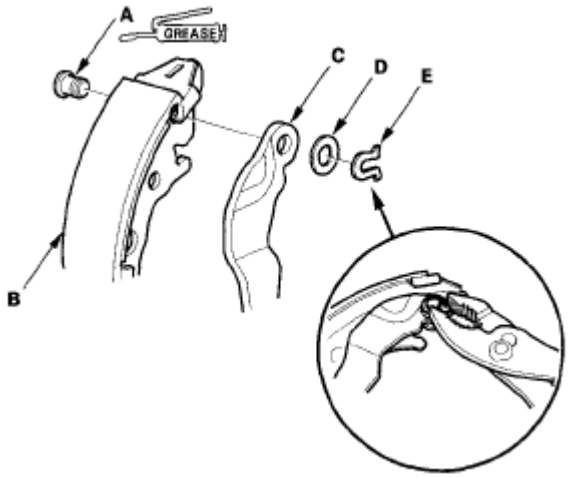



**Fig. 69: Applying Grease To Sliding Surface Of Pivot Pin**

2. Install the parking brake lever (C) and the wave washer (D) on the pivot pin, and secure with a new U-clip (E).

**NOTE: Pinch the U-clip securely to prevent the parking brake lever from coming out of the brake shoe.**

3. Connect the parking brake cable to the parking brake lever.
4. Apply a thin coat of rubber grease to the connecting rod ends (A), and the sliding surfaces (B) as shown. Wipe off any excess. Keep grease off the brake linings.

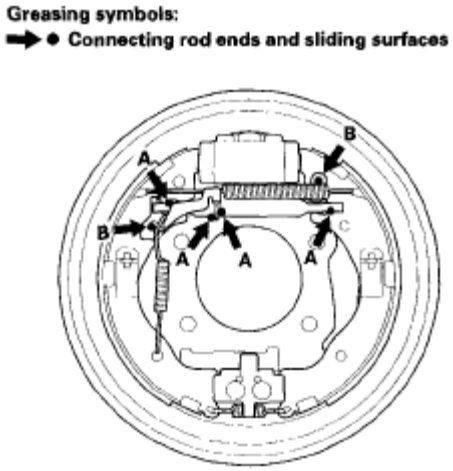



**Fig. 70: Applying Coat Of Rubber Grease To Connecting Rod Ends**

5. Apply a thin coat of Molykote 44MA grease to the shoe ends (A) and to the edge of the shoe surfaces (B) that make contact the backing plate as shown. Wipe off any excess. Keep grease off the brake linings.

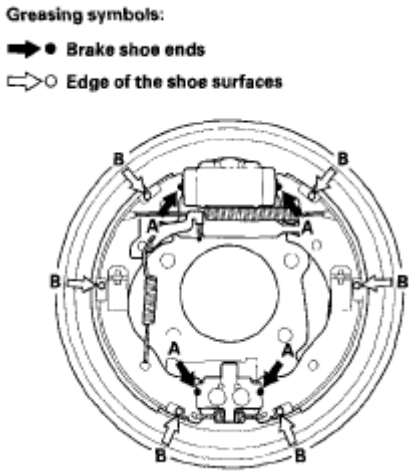



**Fig. 71: Applying Grease To Shoe Ends And Edge Of Shoe Surfaces**

6. Install connecting rods A and B on the adjuster bolt (C).

**NOTE:**

- **Clean the threaded portions of connecting rod A and the sliding surface of connecting rod B, then coat them with rubber grease.**
- **Shorten connecting rod A by fully turning the**

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**adjuster bolt.**

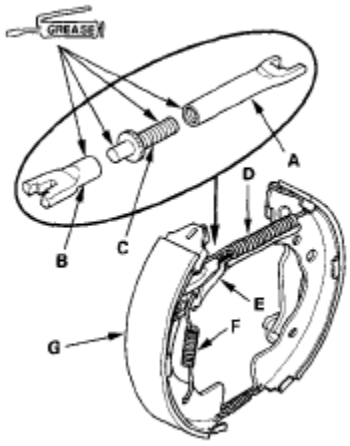



**Fig. 72: Installing Connecting Rods A And B On Adjuster Bolt**

7. Assemble the brake shoes, the upper return spring (D), and the connecting rods with the adjuster bolt against the backing plate, then install the self-adjuster lever (E) and the self-adjuster spring (F) on the forward brake shoe (G).
8. Install the tension pins (A) and the retainer springs (B) by pushing in respective spring and turning each pin.

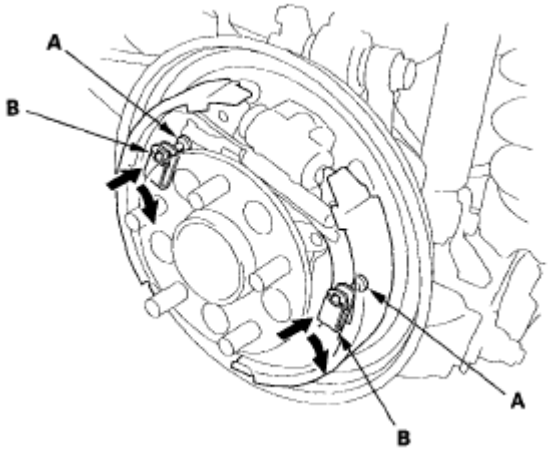



**Fig. 73: Installing Tension Pins And Retainer Springs**

9. Install the lower return spring.

**NOTE: Make sure the brake shoes positioning on the brake shoe bosses of the backing plate, and fitting the top of the brake shoes onto the wheel cylinder pistons.**

10. Install the brake drum.

**NOTE: Before installing the brake drum, clean the mating surface of the rear hub and the inside of the brake drum.**

11. Install the rear wheels.
12. Press the brake pedal several times to make sure the brakes work and to set the self-adjusting brake.

**NOTE: Engagement of the brakes may require a greater pedal stroke immediately after the brake shoes have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.**

13. Do the parking brake adjustment (see **PARKING BRAKE INSPECTION AND ADJUSTMENT** ).

## REAR WHEEL CYLINDER REPLACEMENT

**NOTE:**

- **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.**
- **To prevent spills, cover the hose joints with rags or shop towels.**

1. Remove the brake shoes (see **REAR BRAKE SHOE REPLACEMENT** ).
2. Disconnect the brake line (A) from the wheel cylinder (B).

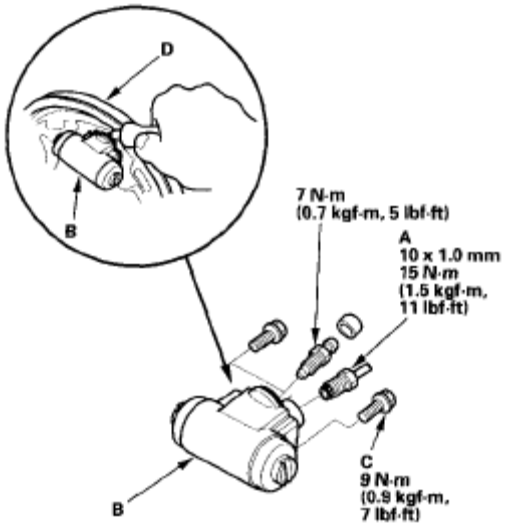



**Fig. 74: Disconnecting Brake Line From Wheel Cylinder (With Specifications)**

3. Remove the bolts (C) and the wheel cylinder from the backing plate.

**NOTE: Use the special bolts on reassembly.**

4. Apply Cemedine 366E sealant or equivalent between the wheel cylinder and backing plate (D), and install the wheel cylinder, then connect the brake line.
5. Install the brake shoes (see **REAR BRAKE SHOE REPLACEMENT** ).
6. Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
7. Do the parking brake inspection and adjustment (see **PARKING BRAKE INSPECTION AND ADJUSTMENT** ).
8. Spin the wheels to check for brake drag.
9. After installation, check for leaks at hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION** ).

## BRAKE PEDAL REPLACEMENT

1. Disconnect the brake pedal position switch connector (A).

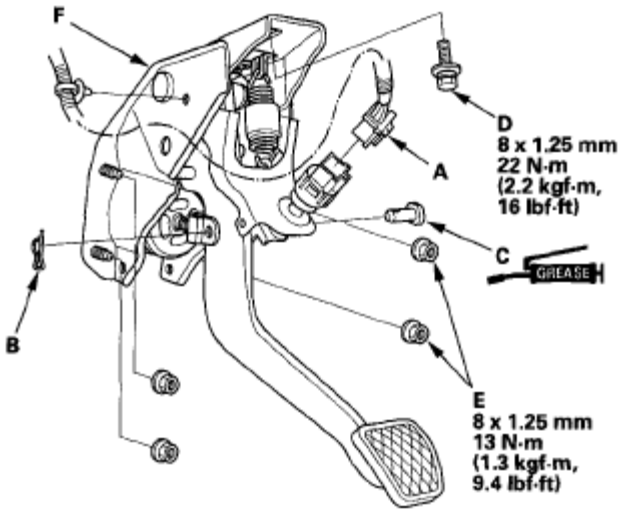



**Fig. 75: Disconnecting Brake Pedal Position Switch Connector (With Specifications)**

2. Remove the lock pin (B) and joint pin (C).
3. Remove the brake pedal bracket mounting bolt (D) and nuts (E).
4. Remove the brake pedal with bracket (F).
5. Install in the reverse order of removal.
6. Do the brake pedal and brake pedal position switch adjustment (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).

## BRAKE HOSE AND LINE INSPECTION

1. Inspect the brake hoses for damage, deterioration, leaks, interference, and twisting.
2. Check the brake lines for damage, rusting, and leaks. Also check for bent brake lines.
3. Check for leaks at hose and line joints and connections, and retighten if necessary.
4. Check the master cylinder and the ABS or VSA modulator-control unit for damage and leaks.

### MASTER CYLINDER AND ABS OR VSA MODULATOR-CONTROL UNIT

| | | | | |
|---|---|---|---|---|

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| Connection Point | Component | Connected to | Specified Torque Value | Note |
|---|---|---|---|---|
| A | Front brake caliper | Brake hose | 34 N.m (3.5 kgf.m, 25 lbf.ft) | Banjo bolt |
| | | Bleed screw | 9 N.m (0.9 kgf.m, 7 lbf.ft) | |
| B | Rear brake caliper (disc type) | Brake hose | 34 N.m (3.5 kgf.m, 25 lbf.ft) | Banjo bolt |
| | | Bleed screw | 9 N.m (0.9 kgf.m, 7 lbf.ft) | |
| | Rear wheel cylinder (drum type) | Brake line | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |
| | | Bleed screw | 7 N.m (0.7 kgf.m, 5 lbf.ft) | |
| C | Brake hose | Brake line | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |
| D | Master cylinder (ABS) | Brake line | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |
| | Master cylinder (VSA) | | 22 N.m (2.2 kgf.m, 16 lbf.ft) | |
| E | ABS modulator-control unit | Brake line | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |
| | VSA modulator-control unit | Brake line (10 mm nut) | 15 N.m (1.5 kgf.m, 11 lbf.ft) | |
| | | Brake line (12 mm nut) | 22 N.m (2.2 kgf.m, 16 lbf.ft) | |
| F | 4-way joint | Brake line | 15 N.m (1.5 kgf.m, 11 lbf.ft) | Flare nut |

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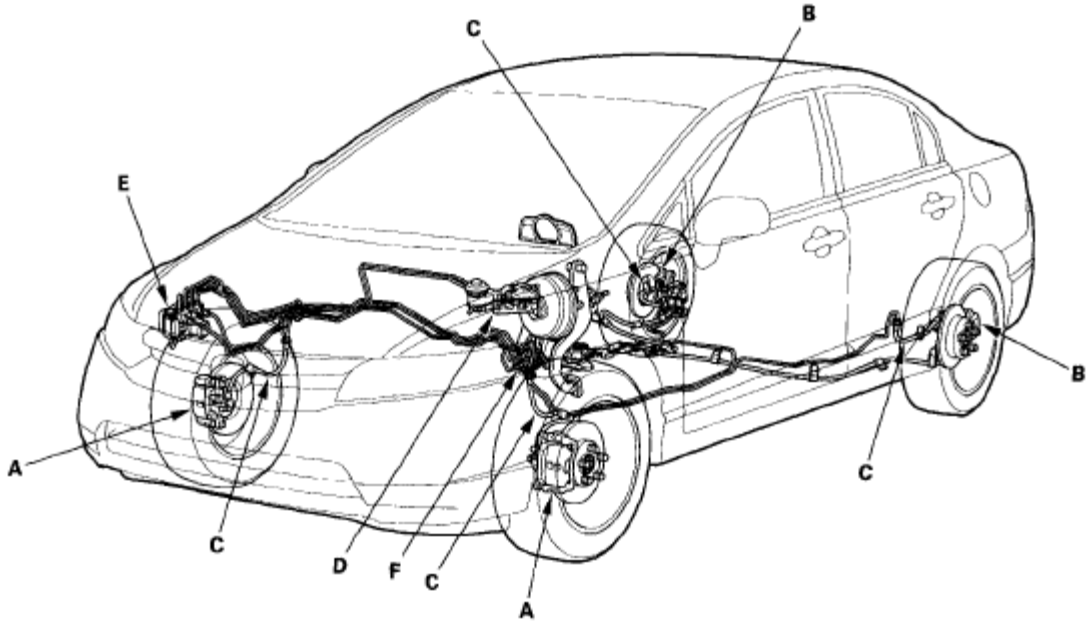



**Fig. 76: Inspecting Brake Hose And Line**

## BRAKE HOSE REPLACEMENT

**NOTE:**

- **Before reassembling, check that all parts are free of dirt and other foreign particles.**
- **Replace parts with new ones whenever specified to do so.**
- **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.**
- **To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent material.**
- **The illustrations show only the front of the vehicle except where the procedure is different for the rear.**

### REMOVAL

1. Disconnect the brake hose (A) from the brake line (B) using a 10 mm flare-nut wrench (C).

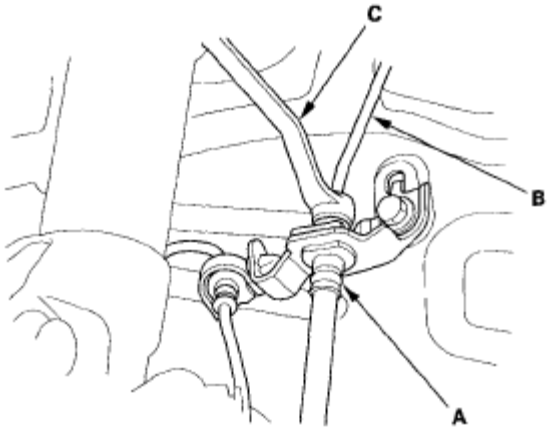



**Fig. 77: Disconnecting Brake Hose From Brake Line**

2. With clip type: Remove and discard the brake hose clip (A) from the brake hose (B).

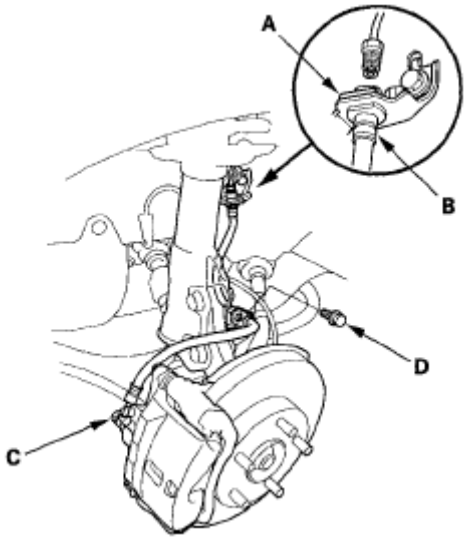



**Fig. 78: Removing And Discarding Brake Hose Clip (Clip Type)**

3. Disc brake type: Remove the banjo bolt (C), and disconnect the brake hose from the caliper.
4. Remove the brake hose mounting bolt(s) (D), then remove the brake hose.

**NOTE: Without clip type: Remove the brake hose with the bracket.**

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**INSTALLATION**

1. Install the brake hose (A) with the mounting bolt (B).

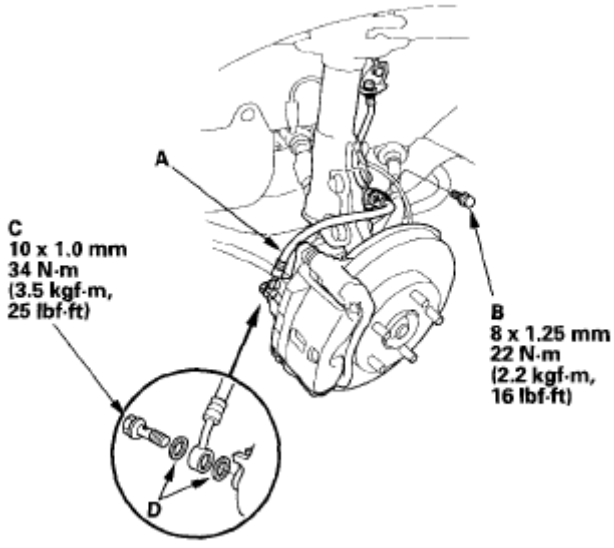



**Fig. 79: Installing Brake Hose (With Specifications)**

2. Disc brake type: Connect the brake hose to the caliper with the banjo bolt (C) and new sealing washers (D).
3. Position the brake hose ends (A).

**NOTE:**

- **With clip type: Install the brake hose on the brake hose bracket (B) with a new brake hose clip (C).**
- **Without clip type: Install the brake hose bracket (D) to the frame.**

**With clip type**

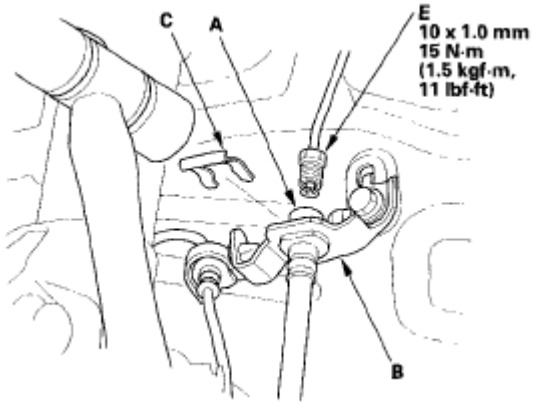



**Fig. 80: Installing Brake Hose On Brake Hose Bracket (With Clip Type) (With Specifications)**

**Without clip type**

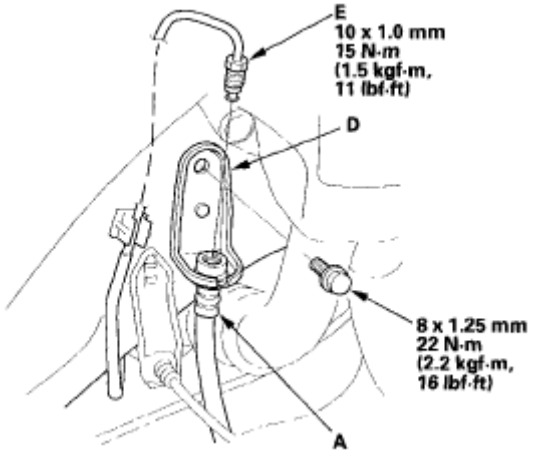



**Fig. 81: Installing Brake Hose Bracket To Frame (Without Clip Type) (With Specifications)**

4. Connect the brake line (E) to the brake hose.
5. After installing the brake hose, bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
6. Do the following check:
   - Check the brake hose and line joint for leaks, and tighten if necessary.
   - Check the brake hoses for interference and twisting.

## PARKING BRAKE CABLE REPLACEMENT

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**EXPLODED VIEW**

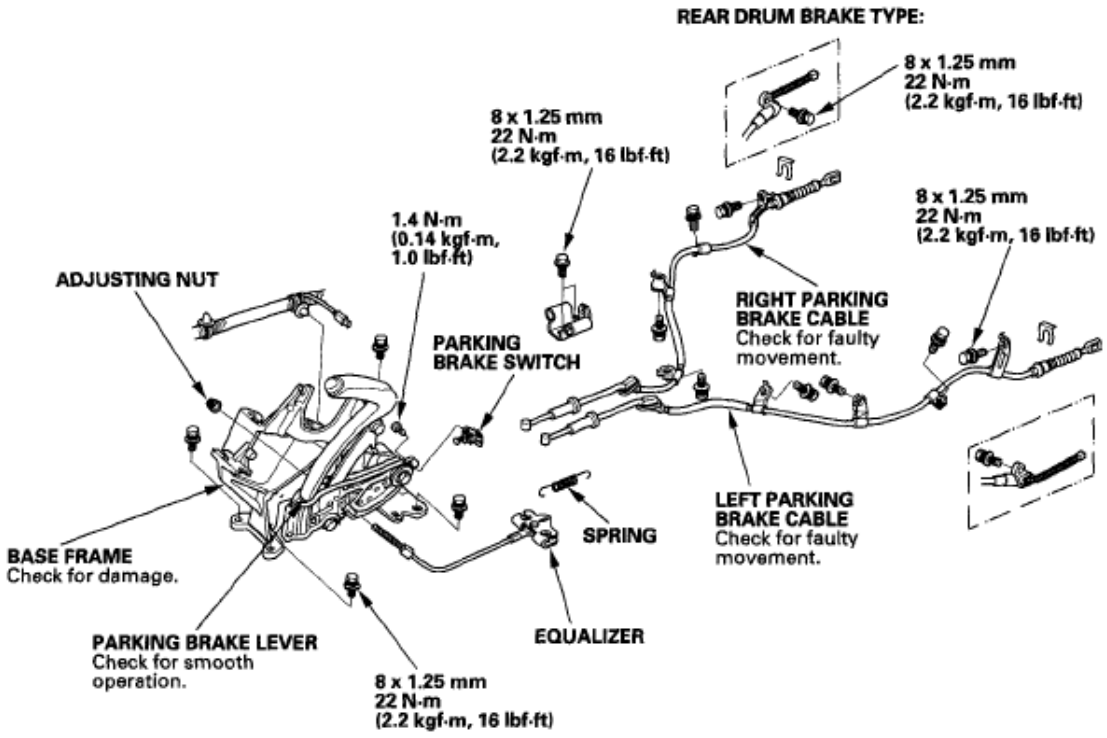



**Fig. 82: Exploded View Of Conventional Brake (With Specifications)**

**NOTE:**

- **The parking brake cables must not be bent or distorted. This will lead to stiff operation and premature failure.**
- **Refer to Fig. 82 as needed during this procedure.**

**REAR DISC BRAKE TYPE**

1. Release the parking brake lever fully.
2. Loosen the parking brake cable adjustment nut (see **ADJUSTMENT - REAR DISC BRAKE TYPE** ).
3. Remove the parking brake cable clip (A) from the brake cable (B).

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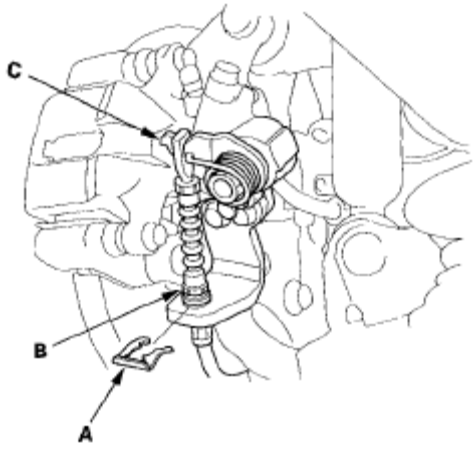



**Fig. 83: Removing Parking Brake Cable Clip**

4. Disconnect the parking brake cable from the lever (C).
5. Remove the parking brake cable mounting hardware, then remove the cable.
6. Install the parking brake cable in the reverse order of removal, and note these items:
   - Be careful not to bend or distort the cable.
   - Make sure the parking brake cable clip is fully seated on the cable housing.
   - Do the parking brake adjustment (see **ADJUSTMENT - REAR DISC BRAKE TYPE** ).

**REAR DRUM BRAKE TYPE**

1. Loosen the parking brake cable adjustment nut (see **ADJUSTMENT - REAR DRUM BRAKE TYPE** ).
2. Remove the brake drum and shoes, and disconnect the parking brake cable from the parking brake lever (see **REAR BRAKE SHOE REPLACEMENT** ).
3. Remove the flange bolt (A) and parking brake cable (B) from the backing plate (C).

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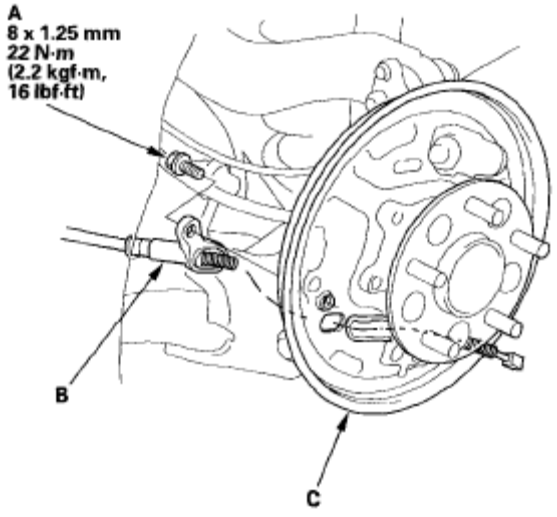



**Fig. 84: Removing Flange Bolt And Parking Brake Cable (With Specifications)**

4. Reinstall the parking brake cable in the reverse order of removal, and note these items:
   - Be careful not to bend or distort the cable.
   - Connect the parking brake cable to the brake lever, and install the brake shoes and drum (see **REAR BRAKE SHOE REPLACEMENT** ).
   - Do the parking brake adjustment (see **ADJUSTMENT - REAR DRUM BRAKE TYPE** ). Apply the parking brake firmly 10 times then adjust it again.

## PARKING BRAKE LEVER GRIP AND COVER REPLACEMENT

**REMOVAL**

### Lever Grip

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Pull up the parking brake fully (8 to 10 clicks).
3. Start at the front edge (A), peel lever grip away from lever cap (B). Continue to peel the grip from the lever to gain access to the hooks (C).

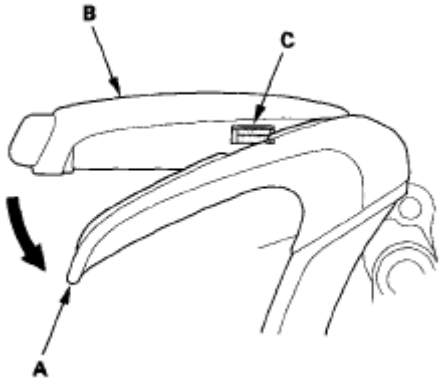



**Fig. 85: Peeling Lever Grip Away From Lever Cap**

4. Push in both sides of the hook (A) on the lever cap (B), and remove the lever cap and the pushrod (C) with the knob (D).

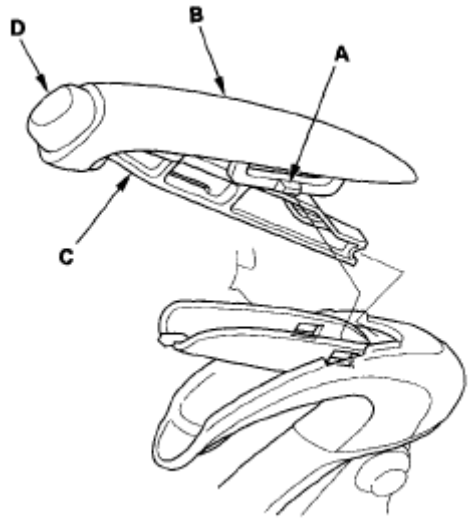
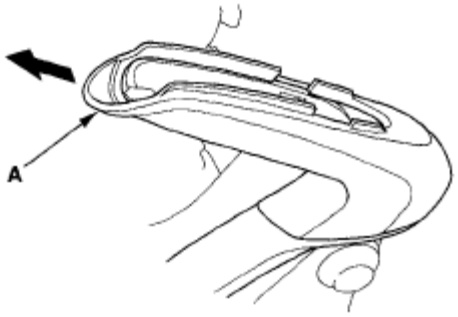



**Fig. 86: Removing Lever Cap And Pushrod With Knob**

5. Remove the lever grip (A) by sliding it up.




Lever Cover

**Fig. 87: Removing Lever Grip**

**Lever Cover**

6. Remove the clip (A) on the driver's side of the parking brake lever cover (B).

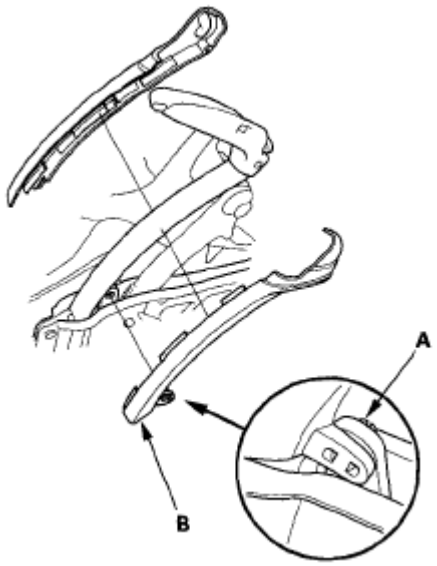



**Fig. 88: Removing Clip On Driver's Side**

7. Separate the parking brake lever covers, and remove them.

**INSTALLATION**

**Lever Cover**

1. Install the clip (A) on driver's side of the parking brake lever cover (B) to the

lever (C).

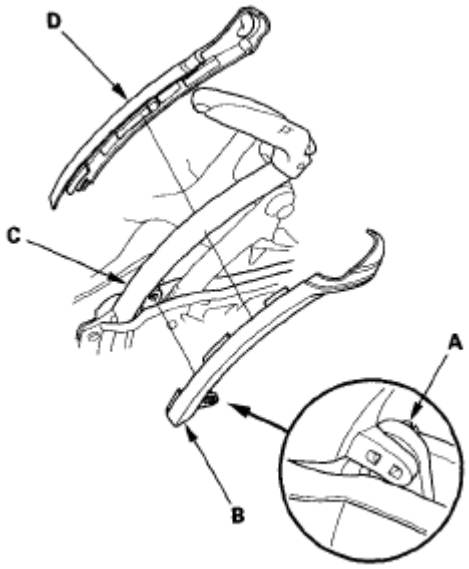



**Fig. 89: Installing Clip On Driver's Side Of Parking Brake Lever Cover To Lever**

2. Install the passenger's side of the parking brake lever cover (D), and squeeze both sides of the cover together.

**Lever Grip**

3. Install a new lever grip (A) by sliding it over the cover.

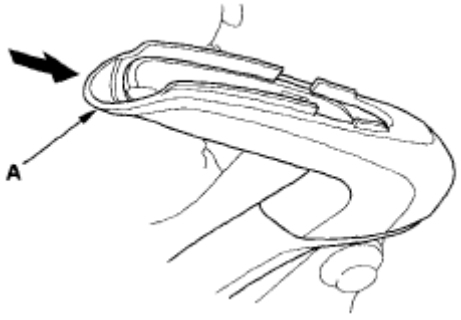



**Fig. 90: Installing Lever Grip Sliding Over Cover**

4. Install a new lever cap (A) on to the lever by aligning the notch (B) in the cap with the tab (C) on the lever.

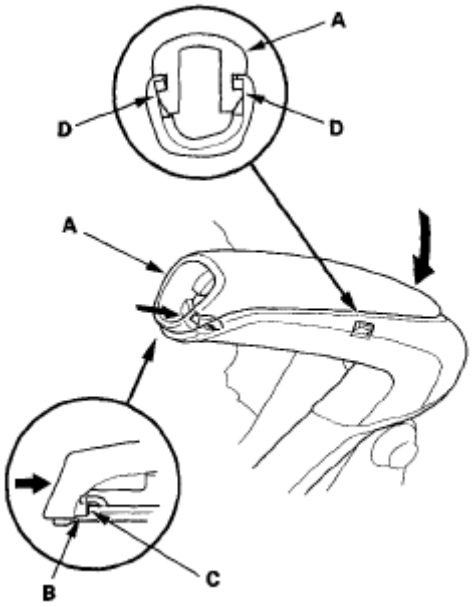



**Fig. 91: Installing Lever Cap On To Lever**

5. With the lever cap and grip in position, push down on the cap to lock the hooks (D) into place.
6. Carefully peel back the front edge (A) of the lever grip, and apply a small amount of gel type super glue (B). Carefully push the grip back into place and wait a minute for the glue to adhere.

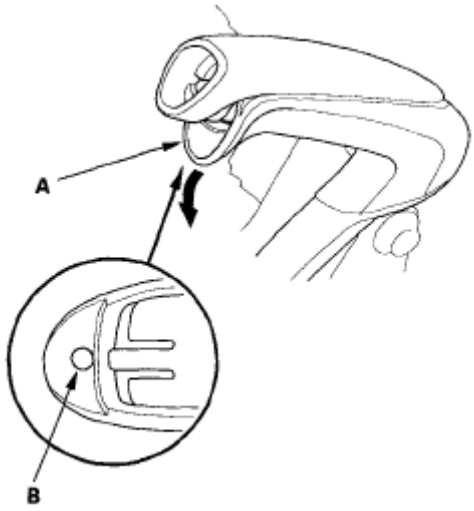



**Fig. 92: Peeling Back Front Edge Of Lever Grip**

7. Install a new pushrod (A) with the knob (B), and push them into the parking

brake lever (C).

**NOTE: Do not use the removed pushrod and knob.**

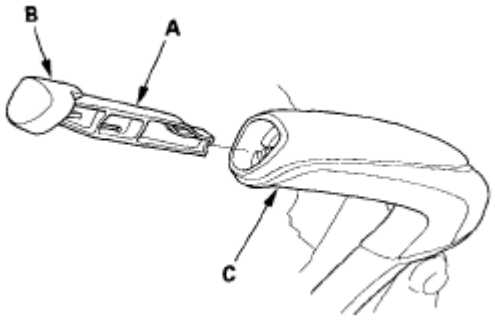



**Fig. 93: Installing Pushrod With Knob**

8. Release and pull the parking brake about 10 times.
9. Check the push knob play of about 0.08 in (2 mm.) and that the parking brake lever moves smoothly, then do the parking brake inspection (see **PARKING BRAKE INSPECTION AND ADJUSTMENT** ).
10. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

## BRAKE PEDAL COVER REPLACEMENT

**NOTE: This procedure is for models equipped with a metal brake cover.**

1. Cover the carpet under the brake pedal to prevent metal shaving from getting on carpet.
2. Center-punch each of the rivets (A), and drill their heads off with a 0.12 in (3 mm.) drill bit (B).

**NOTE: Do not drill the brake pedal plate (C).**

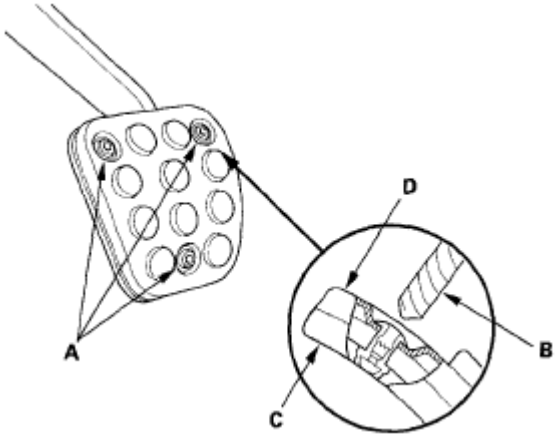



**Fig. 94: Center-Punching Each Rivets**

3. Remove the brake pedal cover (D).
4. Install the brake pedal cover (A) with the rivets (B) firmly.

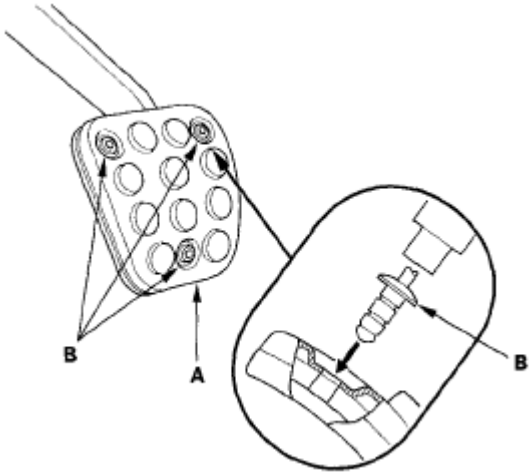



**Fig. 95: Installing Brake Pedal Cover With Rivets**

5. Make sure the brake pedal cover is fastened on the brake pedal by a hand.

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# 2006-08 BRAKES

## Conventional Brake Components - Civic GX

## SPECIAL TOOLS

**NOTE: Refer to the CONVENTIONAL BRAKE COMPONENTS (EXCEPT HYBRID) article for additional information that is not shown in this article.**

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAE-SEPA101 | Brake Caliper Piston Compressor | 1 |
| ② | 07LAF-SM40200 | Brake Spring Installer | 1 |

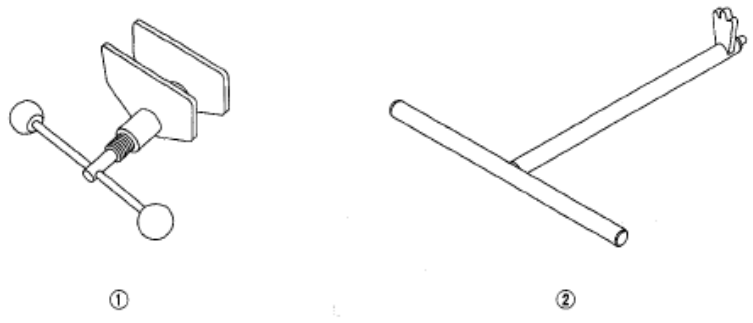



**Fig. 1: Identifying Special Tools**

## COMPONENT LOCATION INDEX

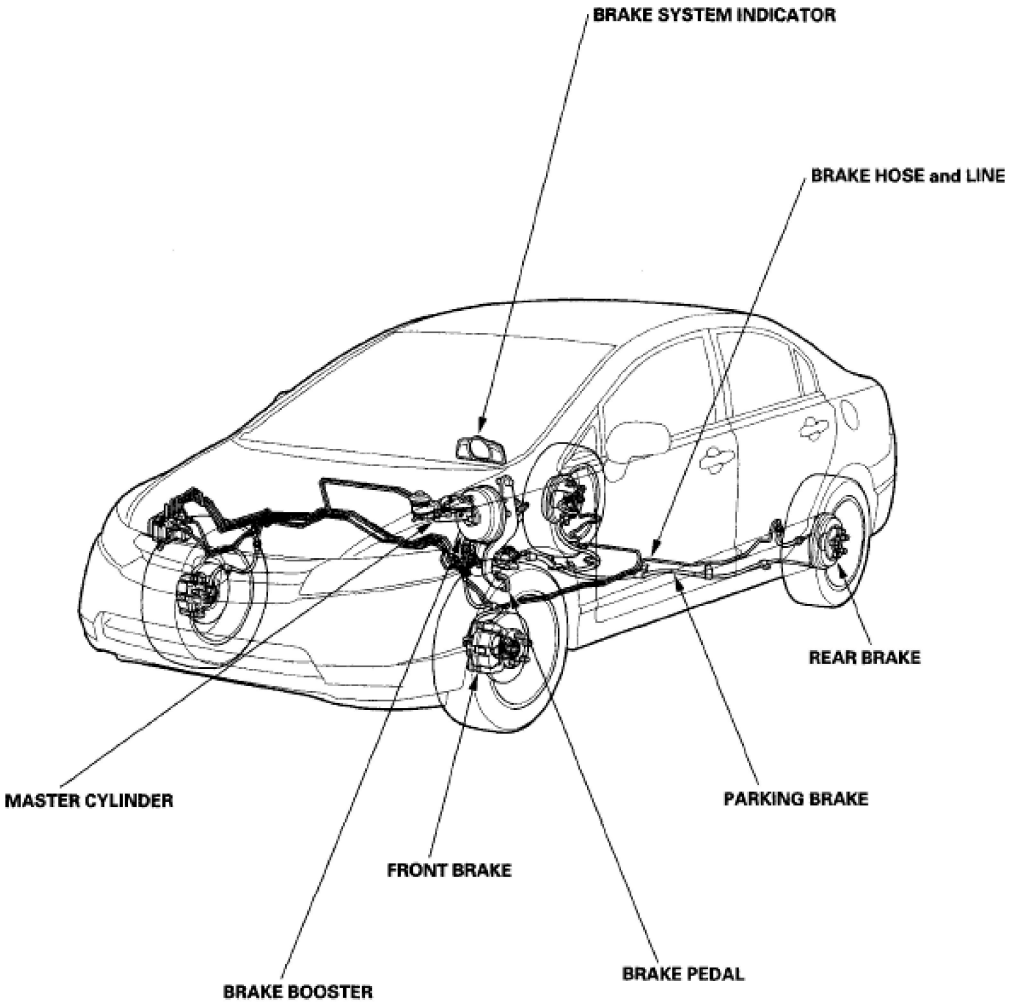



**Fig. 2: Identifying Conventional Brake Components Location**

## FRONT BRAKE PAD INSPECTION AND REPLACEMENT

### Special Tools Required

Brake caliper piston compressor 07AAE-SEPA101

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**

- **Never use an air hose or brush to clean brake assemblies. Use an appropriate vacuum cleaner.**

**INSPECTION**

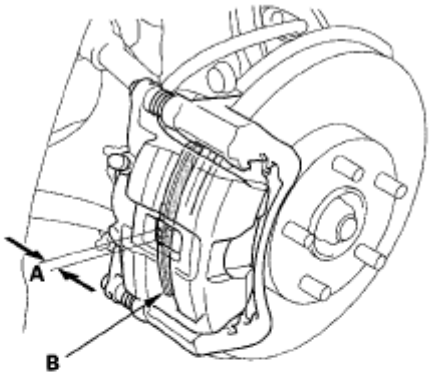
1. Raise the front of the vehicle, and support it with safety stands in the proper locations, refer to the **VEHICLE LIFT** .
2. Remove the front wheels.
3. Check the thickness (A) of the inner pad (B) and outer pad (C). Do not include the thickness of the backing plate.

   **Brake pad thickness:**

   **Standard: 9.6-10.2 mm (0.38-0.40 in.)**

   **Service limit: 1.6 mm (0.06 in.)**

**Inner pad**




**Outer pad**

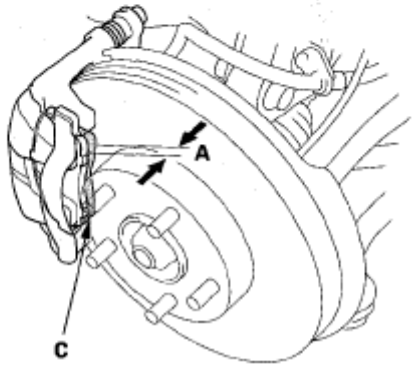


**Fig. 3: Identifying Brake Inner Pad And Outer Pad Thickness**

4. If the brake pad thickness is less than the service limit, replace the front brake pads as a set.

**REPLACEMENT**

1. Remove some brake fluid from the master cylinder.
2. Raise the front of the vehicle, and support it with safety stands in the proper locations, refer to the **VEHICLE LIFT** .
3. Remove the front wheels.
4. Remove the flange bolt (A) while holding the caliper pin (B) with a wrench. Be careful not to damage the pin boot, and pivot the caliper (C) up out of the way. Check the hose and pin boots for damage and deterioration.

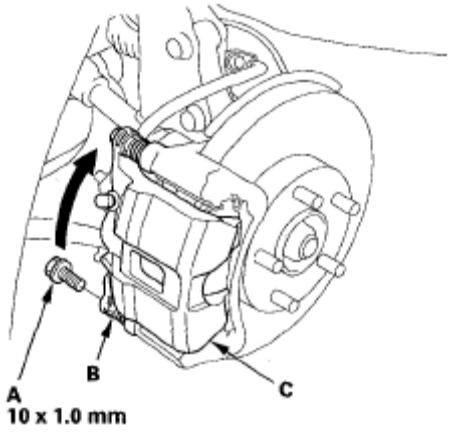



**Fig. 4: Removing Flange Bolt Holding Caliper Pin**

5. Remove the pad shims (A) and brake pads (B).

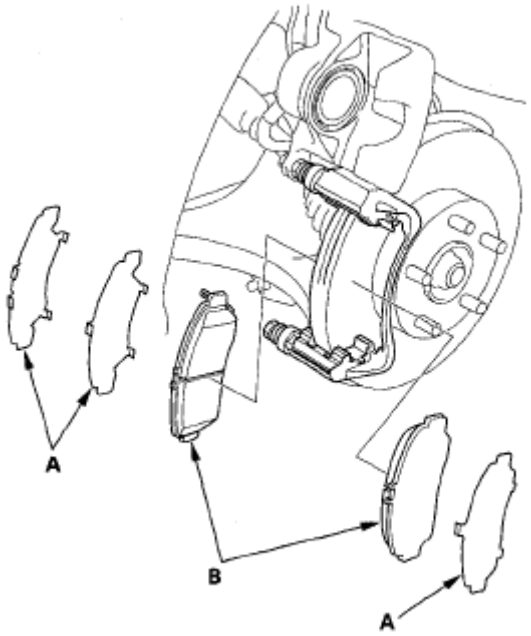



**Fig. 5: Identifying Pad Shims And Brake Pads**

6. Remove the pad retainers (A).

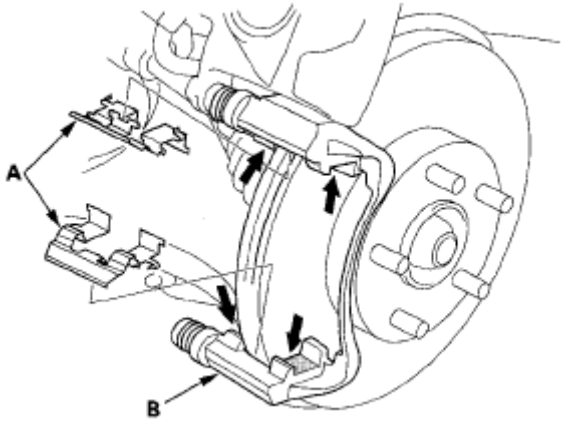



**Fig. 6: Removing Pad Retainers**

7. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the retainers on their mating surfaces (indicated by the arrows) against the caliper bracket.
10. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the

assembly paste off the discs and pads.

11. Mount the brake caliper piston compressor (A) on the caliper body (B).

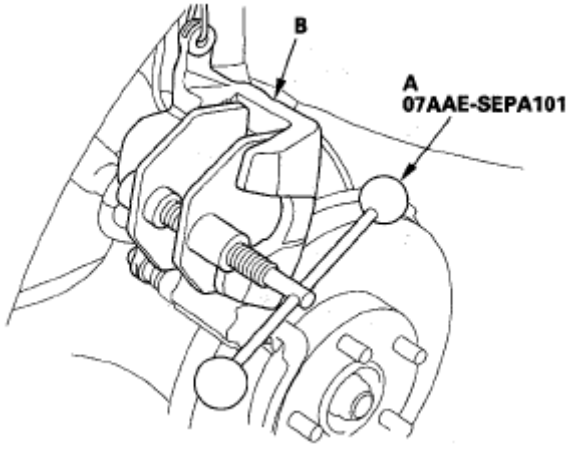



**Fig. 7: Identifying Brake Caliper Piston Compressor On Caliper Body**

12. Press in the piston with the brake caliper piston compressor so the caliper will fit over the brake pads. Make sure the piston boot is in position to prevent damaging it when pivoting the caliper down.

**NOTE: Be careful when pressing in the piston; brake fluid might overflow from the master cylinder's reservoir.**

13. Remove the brake caliper piston compressor.
14. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), the back of the brake pads (B) and the other areas indicated by the arrows. Wipe excess assembly paste off the pad shims and brake pads.

    Contaminated brake discs or brake pads reduce stopping ability. Keep grease and assembly paste off the brake discs and brake pads.

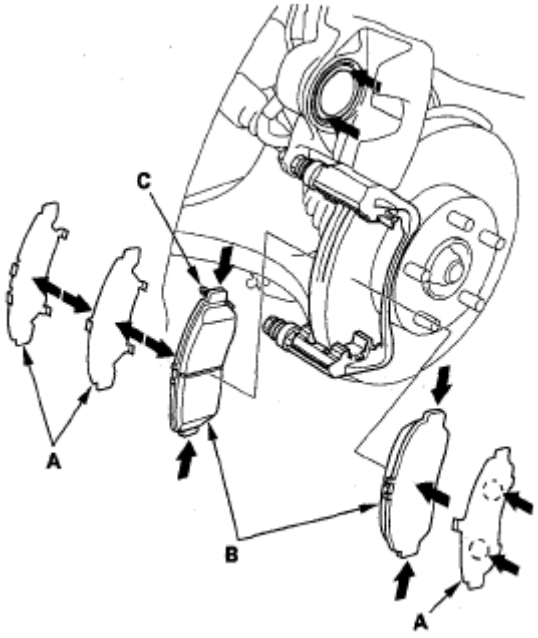



**Fig. 8: Identifying Brake Pad And Shim**

15. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the upper inside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a temporary loss of braking efficiency.
16. Pivot the caliper down into position. Install the flange bolt (A), and tighten it to the specified torque while holding the caliper pin (B), with a wrench. Be careful not to damage the pin boot.

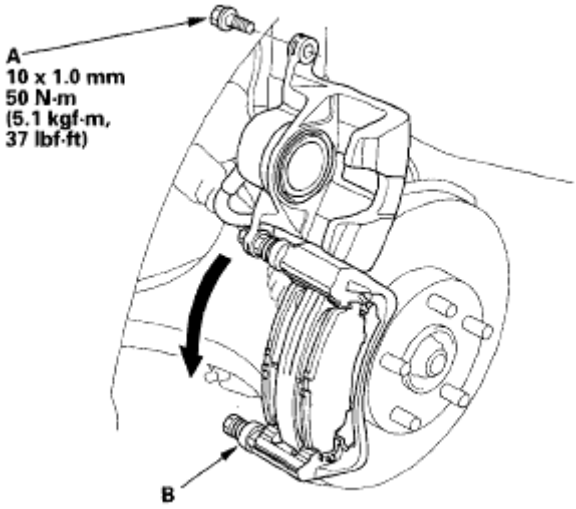


**Fig. 9: Tightening Flange Bolt (With Torque Specifications)**

17. Press the brake pedal several times to make sure the brakes work.

**NOTE: Engagement may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.**

18. After installation, check for leaks at the hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks, refer to the **BRAKE HOSE AND LINE INSPECTION** .
19. Add brake fluid as needed.

## FRONT BRAKE DISC INSPECTION

### RUNOUT

1. Raise the front of the vehicle, and support it with safety stands in the proper locations, refer to the **VEHICLE LIFT** .
2. Remove the front wheels.
3. Remove the brake pads (see **REPLACEMENT** ).
4. Inspect the brake disc surface for damage and cracks. Clean the brake disc thoroughly, and remove all rust.
5. Install suitable flat washers (A) and wheel nuts (B), and tighten the wheel nuts to the specified torque to hold the brake disc securely against the hub.

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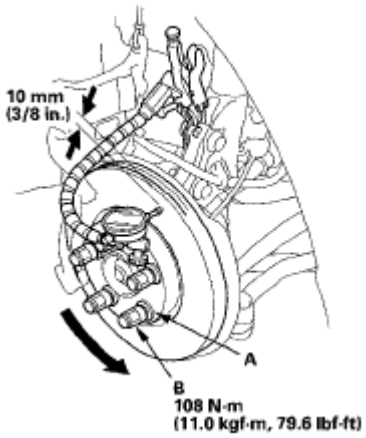



**Fig. 10: Installing Suitable Flat Washers And Wheel Nuts (With Torque Specifications)**

6. Set up the dial gauge against the brake disc as shown, and measure the runout at 10 mm (3/8 in.) from the outer edge of the brake disc.

   **Brake disc runout:**

   **Service limit: 0.04 mm (0.0016 in.)**

7. If the brake disc is beyond the service limit, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

   **Max. refinishing limit: 21.0 mm (0.83 in.)**

**NOTE:**

- **If the brake disc is beyond the service limit for refinishing, replace it, refer to the KNUCKLE/HUB/WHEEL BEARING REPLACEMENT .**
- **A new brake disc should be refinished if its runout is greater than 0.04 mm (0.0016 in.)**

**THICKNESS AND PARALLELISM**

1. Raise the front of the vehicle, and support it with safety stands in the proper locations, refer to the **VEHICLE LIFT** .

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2. Remove the front wheels.
3. Remove the brake pads (see **REPLACEMENT** ).
4. Using a micrometer, measure the brake disc thickness at eight points, about 45° apart and 10 mm (3/8 in.) in from the outer edge of the brake disc. Replace the brake disc if the smallest measurement is less than the max. refinishing limit.

   **Brake disc thickness:**

   **Standard: 22.9-23.1 mm (0.90-0.91 in.)**

   **Max. refinishing limit: 21.0 mm (0.83 in.)**

   **Brake disc parallelism: 0.015 mm (0.0006 in.) max.**

   **NOTE: This is the maximum allowable difference between the thickness measurements.**

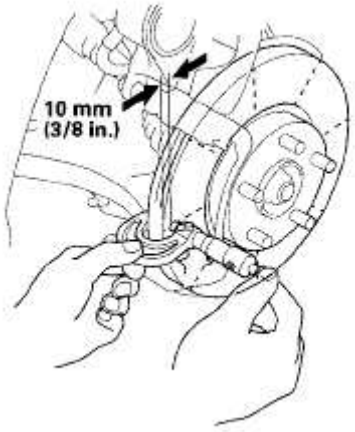



**Fig. 11: Identifying Brake Disc Thickness**

5. If the brake disc is beyond the service limit for parallelism, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

   **NOTE: If the brake disc is beyond the service limit for refinishing, replace it, refer to the**

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## KNUCKLE/HUB/WHEEL BEARING REPLACEMENT .

## FRONT BRAKE CALIPER OVERHAUL

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an appropriate vacuum cleaner.**

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

**NOTE: Make sure that the caliper pins are installed correctly. Upper caliper pin B and lower caliper pin A are different. If the caliper pins are installed in the wrong location, it will cause vibration, uneven or rapid brake pad wear, and possibly uneven tire wear.**

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets in the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing brake pads, always reinstall them in their original positions to prevent loss of braking efficiency.

- Do not reuse drained brake fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the pistons, piston seal grooves, and caliper bores with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.

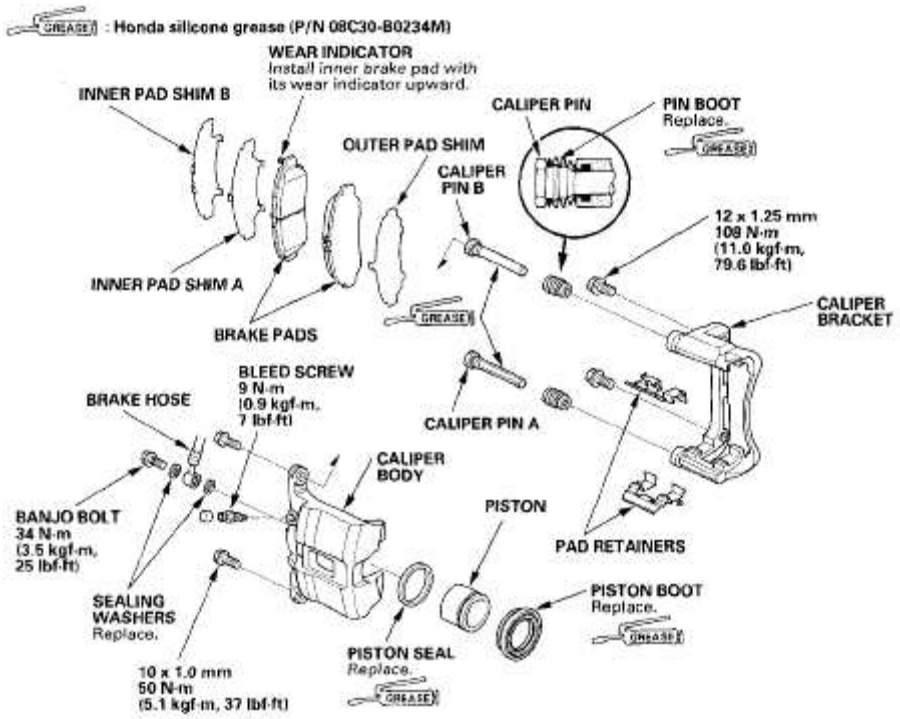



**Fig. 12: Exploded View Off Front Brake Caliper (With Torque Specifications)**

## REAR DRUM BRAKE INSPECTION

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**

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- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations, refer to the **VEHICLE LIFT** .
2. Remove the rear wheels.
3. Release the parking brake, and remove the rear brake drum, refer to the **KNUCKLE/HUB BEARING UNIT REPLACEMENT** .

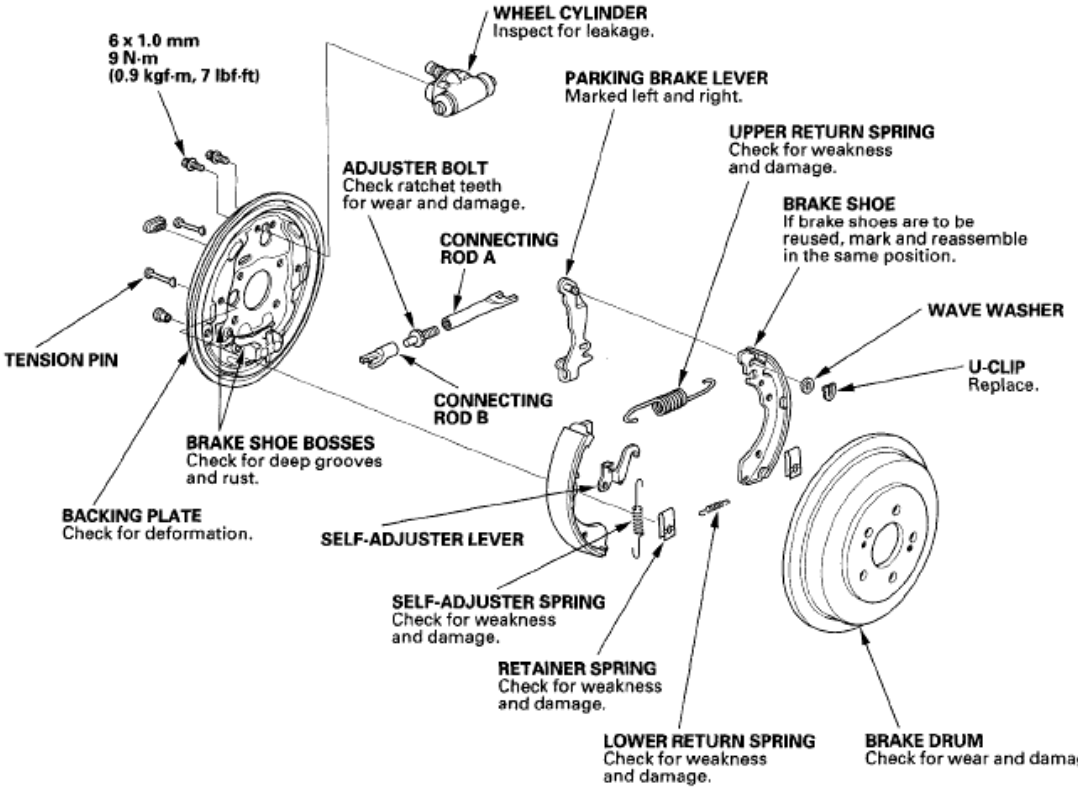



**Fig. 13: Identifying Rear Drum Brake Components (With Torque Specifications)**

4. Check the wheel cylinder (A) for leakage.

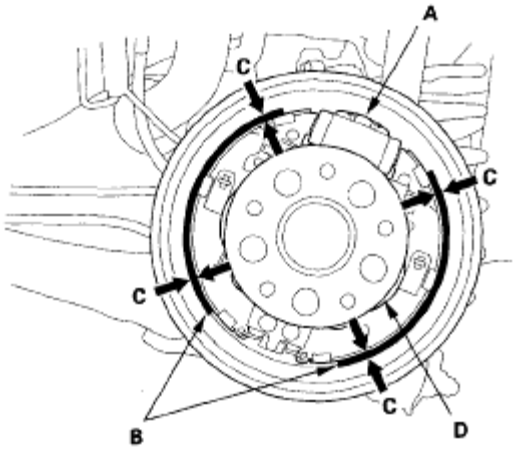



**Fig. 14: Checking Wheel Cylinder For Leakage**

5. Check the brake linings (B) for cracking, glazing, wear, and contamination.

   **NOTE: Contaminated brake linings or drums reduce stopping ability.**

6. Measure the brake lining thickness (C). Measurement does not include brake shoe thickness.

   **Brake lining thickness:**

   **Standard: 4.5 mm (0.18 in.)**

   **Service limit: 2.0 mm (0.08 in.)**

7. If the brake lining thickness is less than the service limit, replace the brake shoes as a set.
8. Check the hub (D) for smooth operation. If it requires servicing, replace the hub bearing unit, refer to the **KNUCKLE/HUB BEARING UNIT REPLACEMENT** .
9. Measure the inside diameter of the brake drum with inside vernier calipers.

   **Drum inside diameter:**

   **Standard: 219.9-220.0 mm (8.657-8.661 in.)**

**Service limit: 221 mm (8.70 in.)**

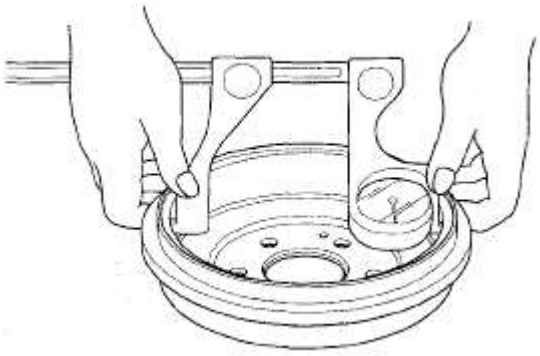


**Fig. 15: Measuring Inside Diameter Of Brake Drum With Inside Vernier Calipers**

10. If the inside diameter of the brake drum is more than the service limit, replace the brake drum.
11. Check the brake drum for scoring, grooves, corrosion, and cracks.

## REAR BRAKE SHOE REPLACEMENT

### Special Tools Required

Brake spring installer 07LAF-SM40200

**CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.**

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

#### DISASSEMBLY

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations, refer to the **VEHICLE LIFT** .
2. Remove the rear wheels.

3. Release the parking brake, and remove the brake drum, refer to the **KNUCKLE/HUB BEARING UNIT REPLACEMENT** .
4. Unhook the upper return spring (A) from the rearward shoe using the brake spring installer (B).

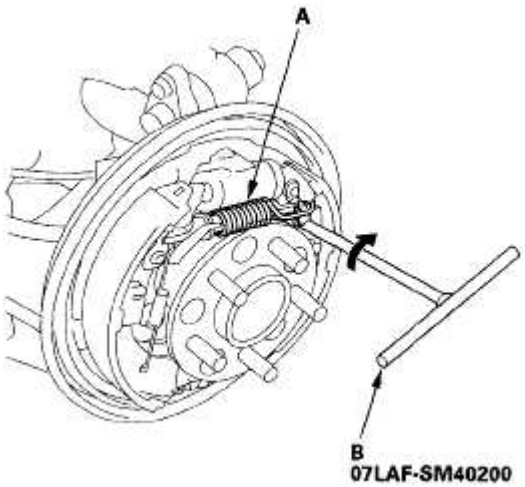



**Fig. 16: Identifying Upper Return Spring From Rearward Shoe**

5. Remove the tension pins (A) by pushing respective retainer spring (B) and turning the pin.

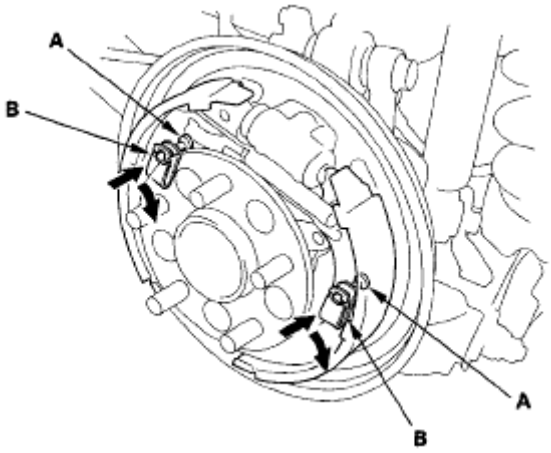



**Fig. 17: Pushing Respective Retainer Spring And Turning Pin**

6. Remove the lower return spring (A), and remove the brake shoe assembly over the hub.

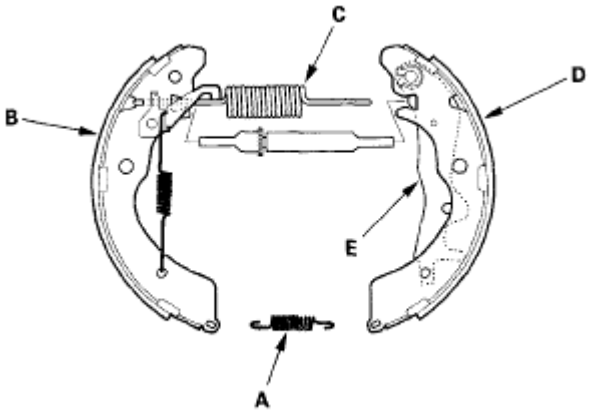



**Fig. 18: Identifying Brake Shoe Assembly Over Hub**

7. Remove the forward brake shoe (B) by removing the upper return spring (C), and disassemble the brake shoe assembly.
8. Remove the rearward brake shoe (D) by disconnecting the parking brake cable from the parking brake lever (E).
9. Remove the U-clip (A), and wave washer (B), and separate the parking brake lever (C) from the brake shoe (D).

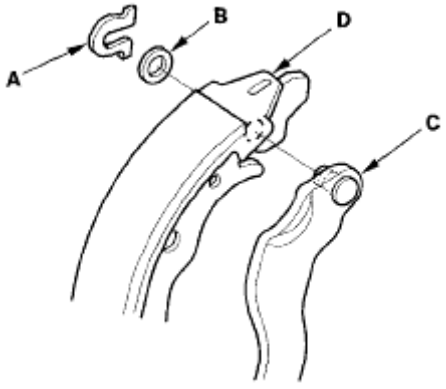



**Fig. 19: Identifying U-Clip, And Wave Washer, And Brake Shoe**

**REASSEMBLY**

1. Apply rubber grease to the sliding surface of the pivot pin (A) on the parking brake lever (B).

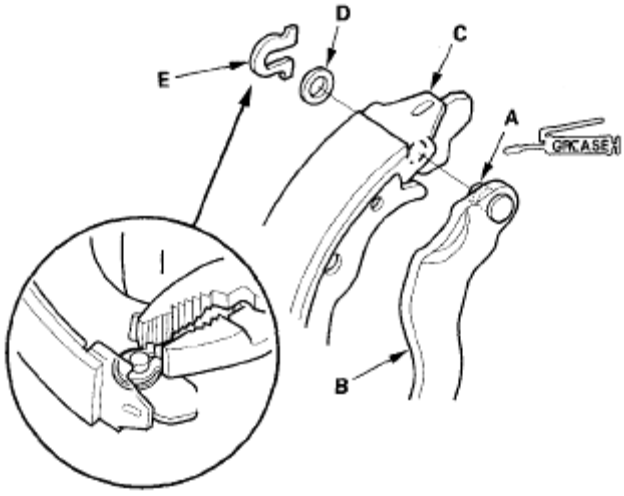



**Fig. 20: Identifying Pivot Pin On Parking Brake Lever**

2. Install the rearward brake shoe (C) and the wave washer (D) on the pivot pin, and secure with a new U-clip (E).

**NOTE: Pinch the U-clip securely to prevent the parking brake lever from coming out of the brake shoe.**

3. Connect the parking brake cable to the parking brake lever.
4. Apply a thin coat of rubber grease to the connecting rod ends (A), and the sliding surfaces (B) as shown. Wipe off any excess. Keep grease off the brake linings.

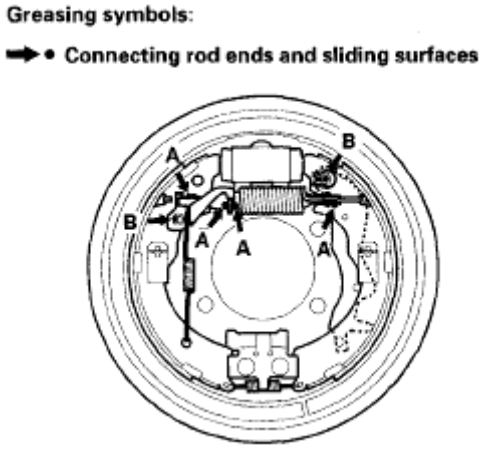



**Fig. 21: Identifying Brake Linings**

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5. Apply a thin coat of Molykote 44MA grease to the shoe ends (A) and to the edge of the shoe surfaces (B) that make contact the backing plate as shown. Wipe off any excess. Keep grease off the brake linings.

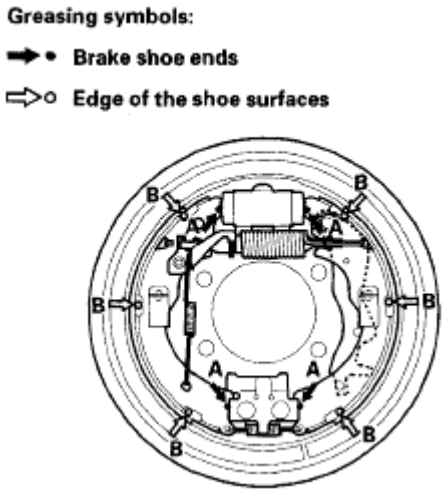



**Fig. 22: Identifying Brake Shoe Ends And Edge Of Shoe Surface**

6. Install connecting rods A and B on the adjuster bolt (C).

**NOTE:**

- **Clean the threaded portions of connecting rod A and the sliding surface of connecting rod B, then coat them with rubber grease.**
- **Shorten connecting rod A by fully turning the adjuster bolt.**

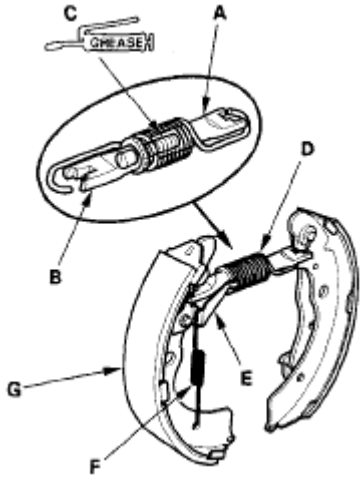


**Fig. 23: Identifying Threaded Portions Of Connecting Rod And Sliding Surface Of Connecting Rod**

7. Assemble the brake shoes, the upper return spring (D), and the connecting rods with the adjuster bolt against the backing plate, then install the self-adjuster lever (E) and the self-adjuster spring (F) on the forward brake shoe (G).
8. Install the tension pins (A) and the retainer springs (B) by pushing in the respective spring and turning the pin.

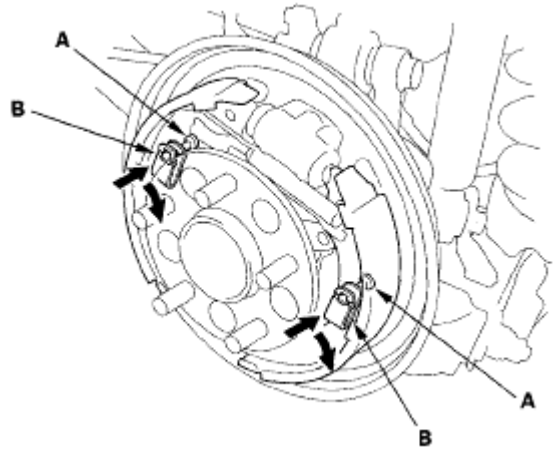



**Fig. 24: Pushing In Respective Spring And Turning Pin**

9. Install the lower return spring.

**NOTE: Make sure the brake shoes positioning on the brake shoe bosses of the backing plate, and fitting the top of the brake shoes onto the wheel cylinder pistons.**

10. Hook the end (A) of the upper return spring (B) with the brake spring installer (C).

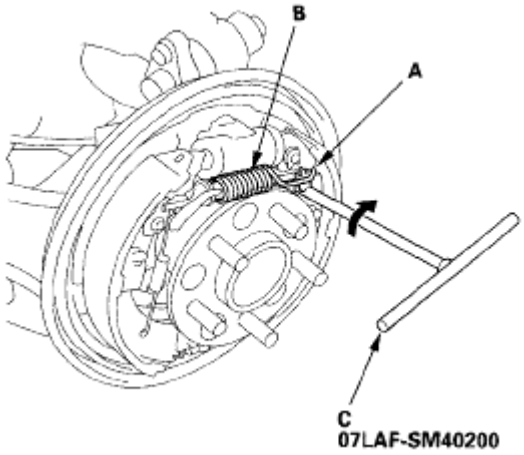



**Fig. 25: Identifying Hook End Of Upper Return Spring With Brake Spring Installer**

11. Install the brake drum.

**NOTE: Before installing the brake drum, clean the mating surface of the rear hub and the inside of the brake drum.**

12. Install the rear wheels.
13. Press the brake pedal several times to make sure the brakes work and to set the self-adjusting brake.

**NOTE: Engagement of the brakes may require a greater pedal stroke immediately after the brake shoes have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.**

14. Do the parking brake adjustment, refer to the **PARKING BRAKE INSPECTION AND ADJUSTMENT** .

## PARKING BRAKE CABLE REPLACEMENT

### EXPLODED VIEW

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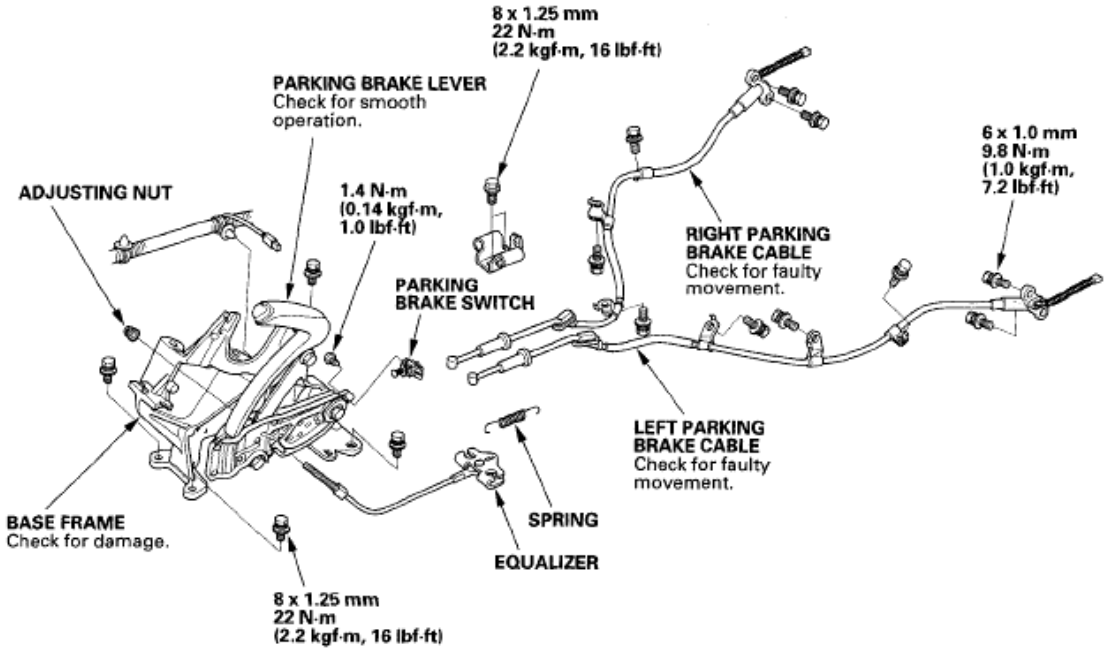



**Fig. 26: Exploded View Of Parking Brake Components (With Torque Specifications)**

**NOTE:**

- **The parking brake cables must not be bent or distorted. This will lead to stiff operation and premature failure.**
- **Refer to the EXPLODED VIEW as needed during this procedure.**

1. Loosen the parking brake cable adjusting nut, refer to the **ADJUSTMENT - REAR DRUM BRAKE TYPE** .
2. Remove the brake drum and shoes, and disconnect the parking brake cable from the parking brake lever (see **REAR BRAKE SHOE REPLACEMENT** ).
3. Remove the flange bolts (A) and the parking brake cable (B) from the backing plate (C).

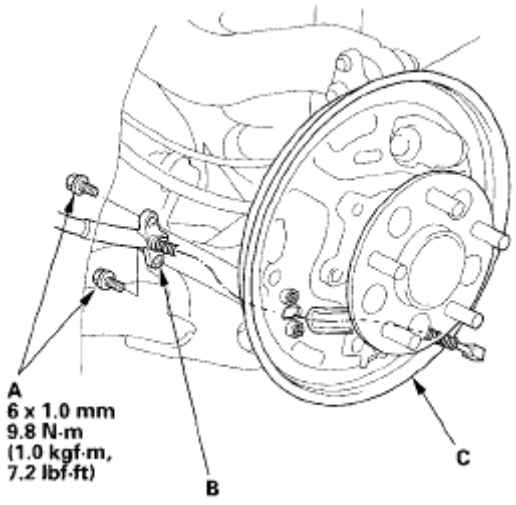



**Fig. 27: Identifying Flange Bolts And Parking Brake Cable From Backing Plate (With Torque Specifications)**

4. Reinstall the parking brake cable in the reverse order of removal, and note these items:
   - Be careful not to bend or distort the cable.
   - Connect the parking brake cable to the brake lever, and install the brake shoes and drum (see **REAR BRAKE SHOE REPLACEMENT** ).
   - Do the parking brake adjustment, refer to the **ADJUSTMENT - REAR DRUM BRAKE TYPE** .

     Apply the parking brake firmly 10 times then adjust it again.

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# CABIN AIR FILTERS

## Dust & Pollen Filter - Civic, Civic Hybrid, CR-V

## REMOVAL & INSTALLATION

**NOTE: Manufacturer's terminology for this filter is dust and pollen filter.**

### CABIN AIR FILTER

#### Removal & Installation

1. Open the glove box. Remove the glove box stop (B) on each side, then let the glove box hang down. See **Fig. 1**.

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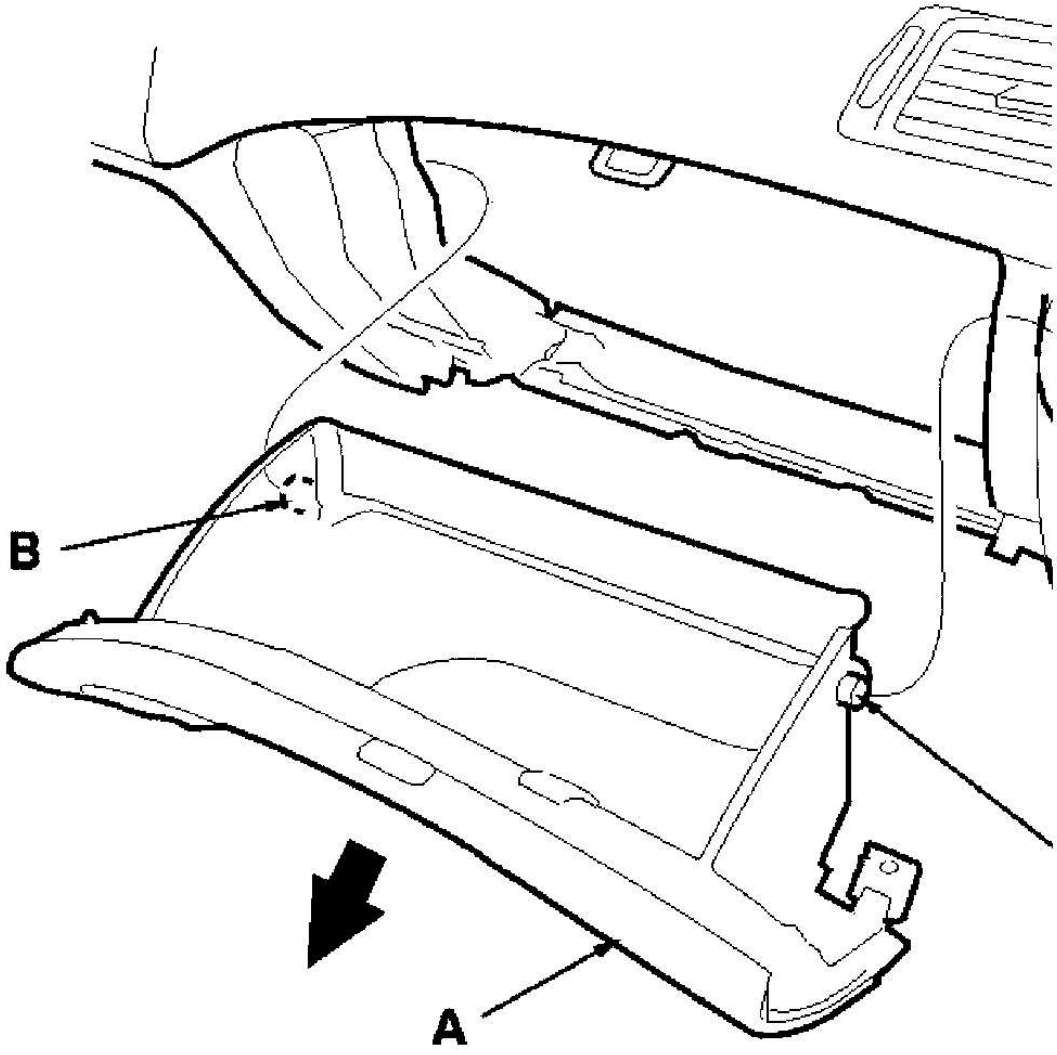
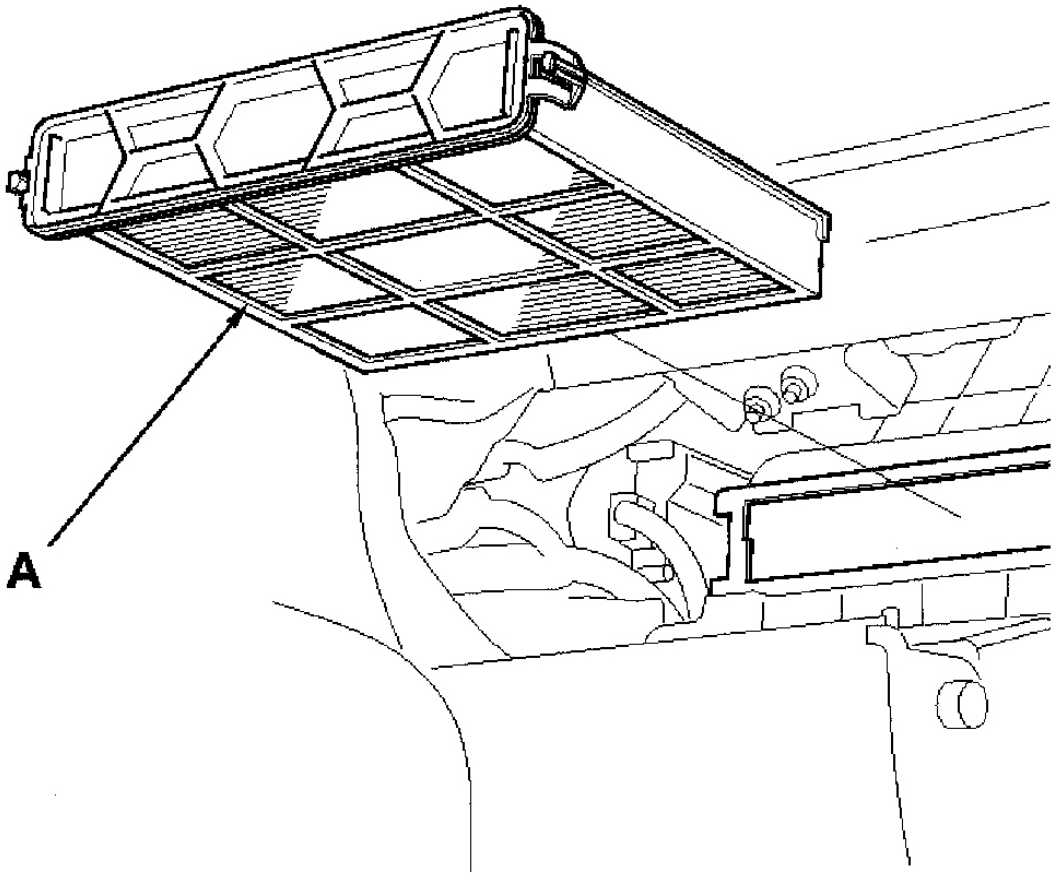



**Fig. 1: Locating Glove Box Stops**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the dust and pollen filter assembly (A) from the evaporator. See **Fig. 2**.



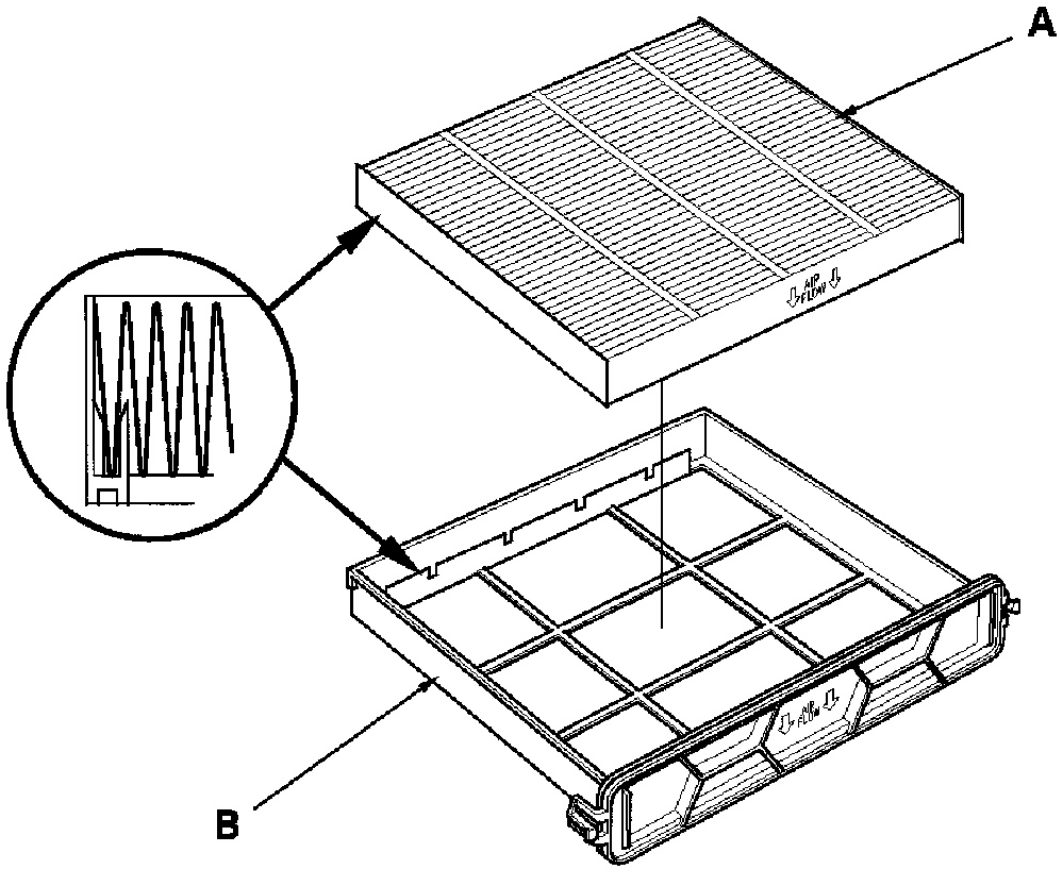

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**Fig. 2: Removing Dust & Pollen Filter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the filter (A) from the housing (B), and replace the filter. See **Fig. 3**. Install the filter in the reverse order of removal. Make sure that there is no air leaking out of the evaporator.

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**Fig. 3: Dust & Pollen Filter Installation Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If there was a maintenance reminder to replace the dust and pollen filter, reset the maintenance reminder, and this procedure is complete. Maintenance reminder can be reset using a factory scan tool, or equivalent aftermarket scan tool.

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**2006-08 ENGINE PERFORMANCE**

**Catalytic Converter System - Civic GX**

## COMPONENT LOCATION INDEX

**NOTE: Refer to the CATALYTIC CONVERTER SYSTEM (R18A1) article for additional information that is not shown in this article.**

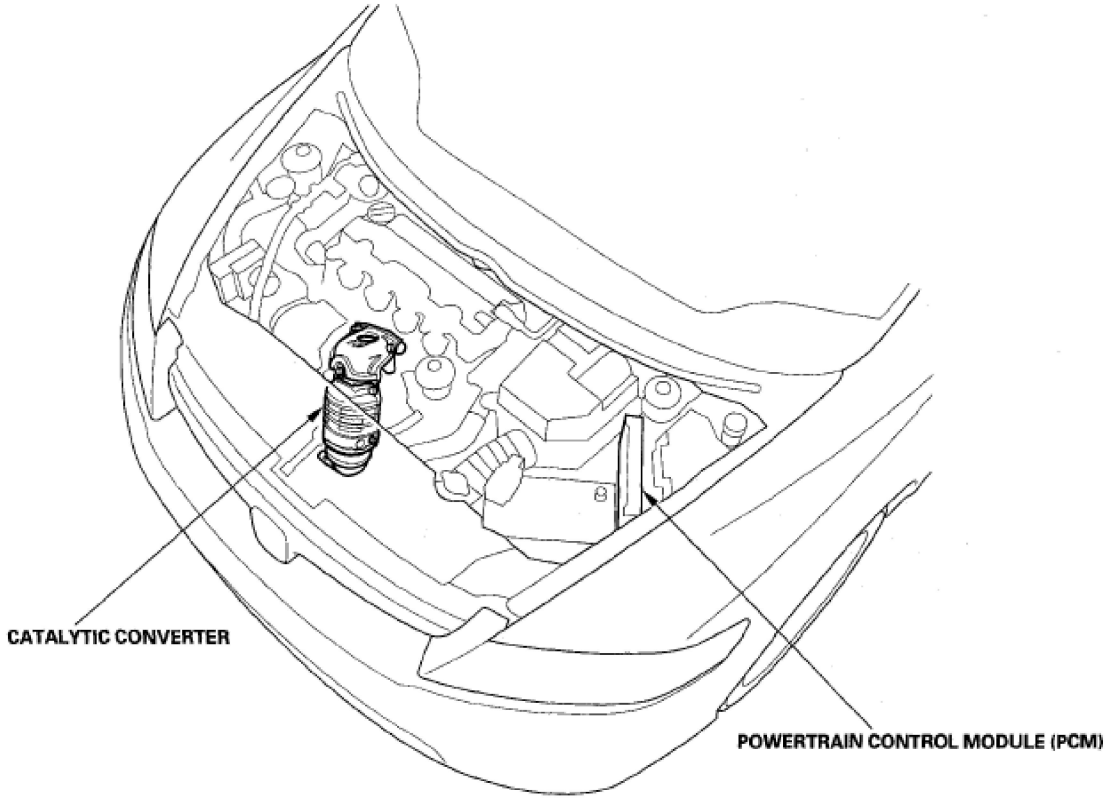



**Fig. 1: Identifying Catalytic Coverter System Component Location**

## CATALYTIC CONVERTER REMOVAL/INSTALLATION

1. Remove the A/F sensor (sensor 1), refer to the **A/F SENSOR REPLACEMENT** .
2. Remove the secondary HO2S (sensor 2), refer to the **A/F SENSOR REPLACEMENT** .
3. Removethe cover (A).

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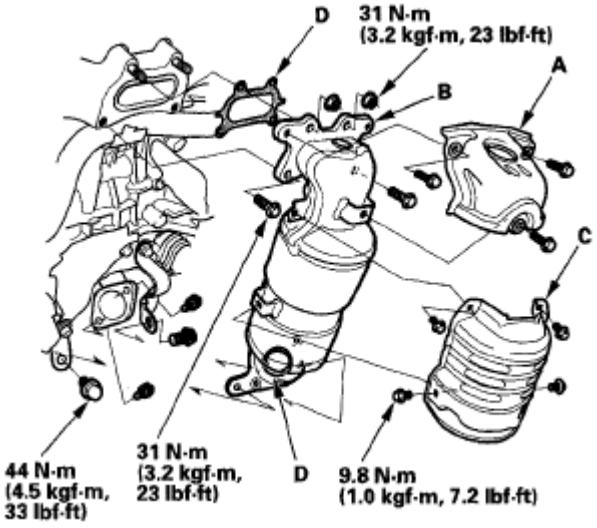



**Fig. 2: Identifying Catalytic Converter Remove/Install Components (With Torque Specifications)**

4. Remove the TWC (B).
5. Remove the converter cover (C).
6. Install the parts in the reverse order of removal with a new gaskets(D).

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## 2006-08 ENGINE PERFORMANCE

## Catalytic Converter System (K20Z3) - Civic (All Except Si)

# COMPONENT LOCATION INDEX

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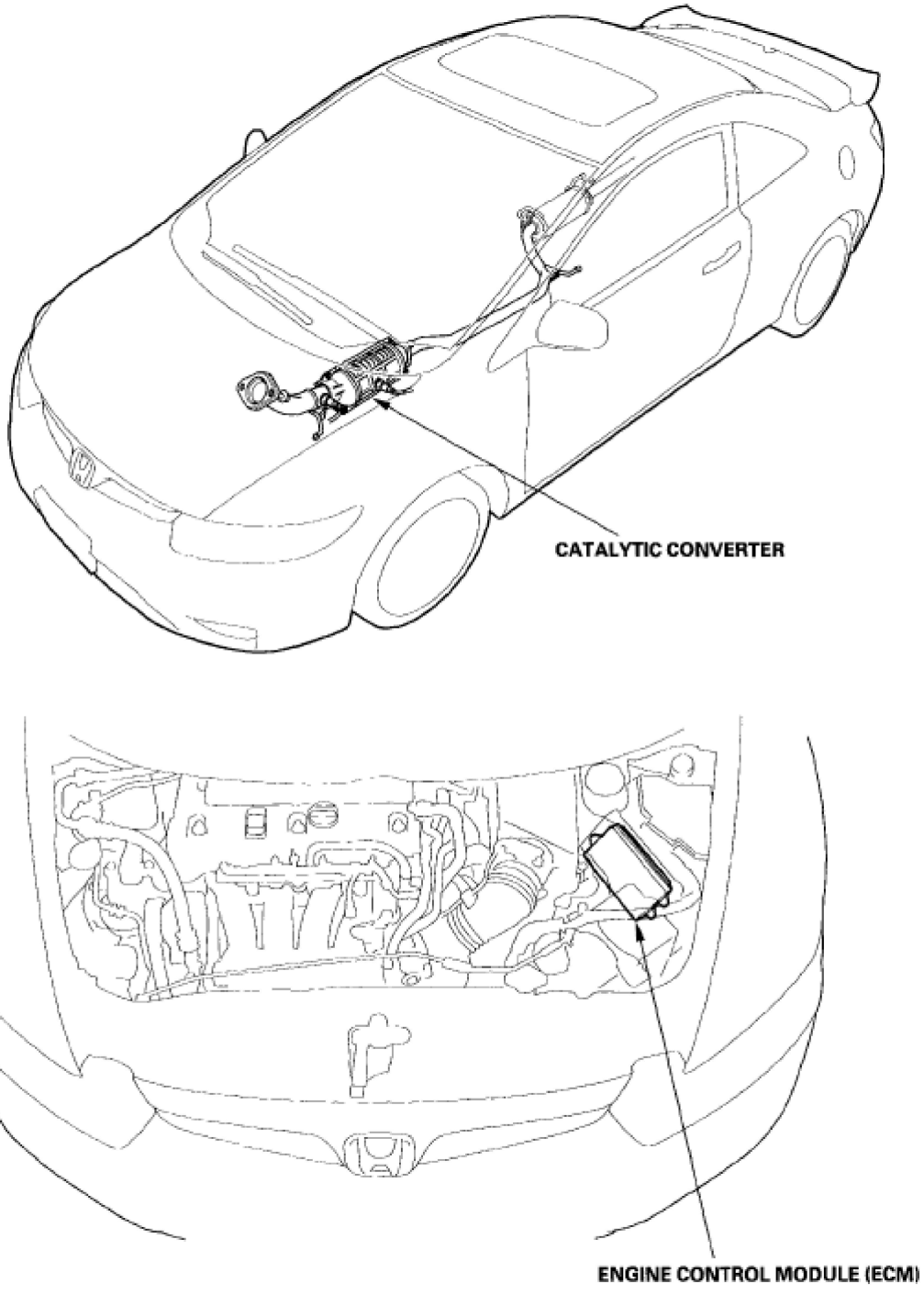



**Fig. 1: Identifying Catalytic Converter System Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DTC TROUBLESHOOTING

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**DTC P0420: CATALYST SYSTEM EFFICIENCY BELOW THRESHOLD**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **If some of the DTCs listed below are stored at the same time as DTC P0420, troubleshoot them first, then recheck for DTC P0420.**

  **P0137, P0138: Secondary H02S (Sensor 2) P0141: Secondary H02S (Sensor 2) heater**

- **Poor quality fuel may cause this DTC.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in neutral) until the radiator fan comes on, then let it idle.
4. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
   - Transmission in 5th gear
   - Vehicle speed between 45-75 mph (72-120 km/h) for 5 minutes or more with cruise control set
   - '06 model: Maintain the vehicle speed at 55 mph (88 km/h) for 5 minutes or more with cruise control set

     '07 model: Maintain the vehicle speed at 55 mph (88 km/h) for 30 seconds or more
5. Monitor the OBD STATUS for DTC P0420 in the DTCs MENU with the HDS.

   *Does the screen indicate EXECUTING?*

**YES** -Go to step 6.

**NO** -If the screen indicates OUT OF CONDITION, go to step 4 and recheck. If the screen indicates PASSED, intermittent failure, the system is OK at this time. If the screen indicates FAILED, go to step 8.

6. Continue test driving until a result comes on.
7. Monitor the OBD STATUS for DTC P0420 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

   **YES** -Go to step 8.

   **NO** -If the screen indicates PASSED, intermittent failure, the system is OK at this time. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 4 and recheck.

8. Turn the ignition switch OFF.
9. Replace the TWC (see **CATALYTIC CONVERTER REMOVAL/INSTALLATION** ).
10. Turn the ignition switch ON (II).
11. Reset the ECM with the HDS.
12. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
13. Start the engine. Hold the engine speed at 3,000 rpm without load (in neutral) until the radiator fan comes on, then let it idle.
14. Test-drive for about 10 minutes, varying the vehicle speed.
15. Check the CATA MONITOR CONDITION in the DATA LIST with the HDS.

    *Is the temperature OK?*

    **YES** -Go to step 16.

    **NO** -Go to step 13 and recheck.

16. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
    - Transmission in 5th gear
    - '06 model: Vehicle speed at 55 mph (88 km/h) for 5 minutes

      '07 model: Vehicle speed at 55 mph (88 km/h) for 30 seconds or more
17. Monitor the OBD STATUS for DTC P0420 in the DTCs MENU with the HDS.

    *Does the screen indicate EXECUTING?*

    **YES** -Go to step 18.

    **NO** -Go to step 16 and recheck.
18. Continue test-driving until a result comes on.
19. Check for Temporary DTCs or DTCs with the HDS.

    *Are any Temporary DTCs or DTCs indicated?*

    **YES** -go to the indicated DTCs troubleshooting .

    **NO** -Go to step 20.
20. Monitor the OBD STATUS for DTC P0420 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** -Troubleshooting is complete.

    **NO** -If the screen indicates FAILED, check the fuel quality. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 13 and recheck.

## CATALYTIC CONVERTER REMOVAL/INSTALLATION

1. Remove the A/F sensor (sensor 1) (see **A/F SENSOR REPLACEMENT** ).
2. Remove the secondary H02S (sensor 2) (see **A/F SENSOR REPLACEMENT** ).
3. Remove the catalytic converter (A).

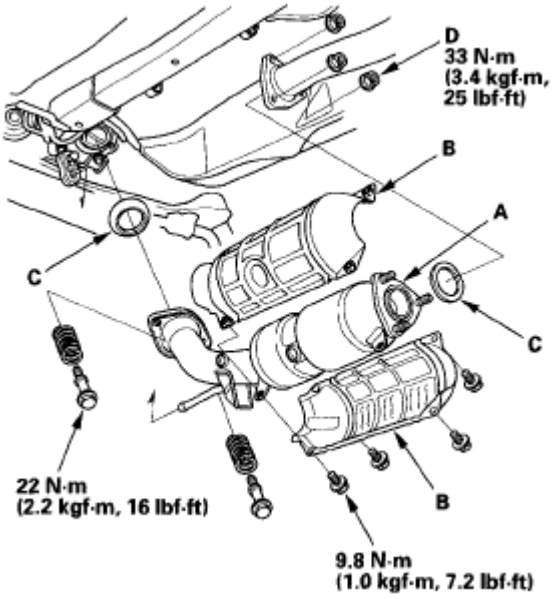



**Fig. 2: Identifying Catalytic Converter, Converter Cover & Gaskets (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the converter cover (B).
5. Install the parts in the reverse order of removal with new gaskets (C) and new self-locking nuts (D).

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# 2006-08 ENGINE PERFORMANCE

## Catalytic Converter System (R18A1) - Civic (Except Hybrid)

## COMPONENT LOCATION INDEX

**NOTE: Refer to the CATALYTIC CONVERTER SYSTEM (GX) (SUPPLEMENT) article for additional information for the GX model.**

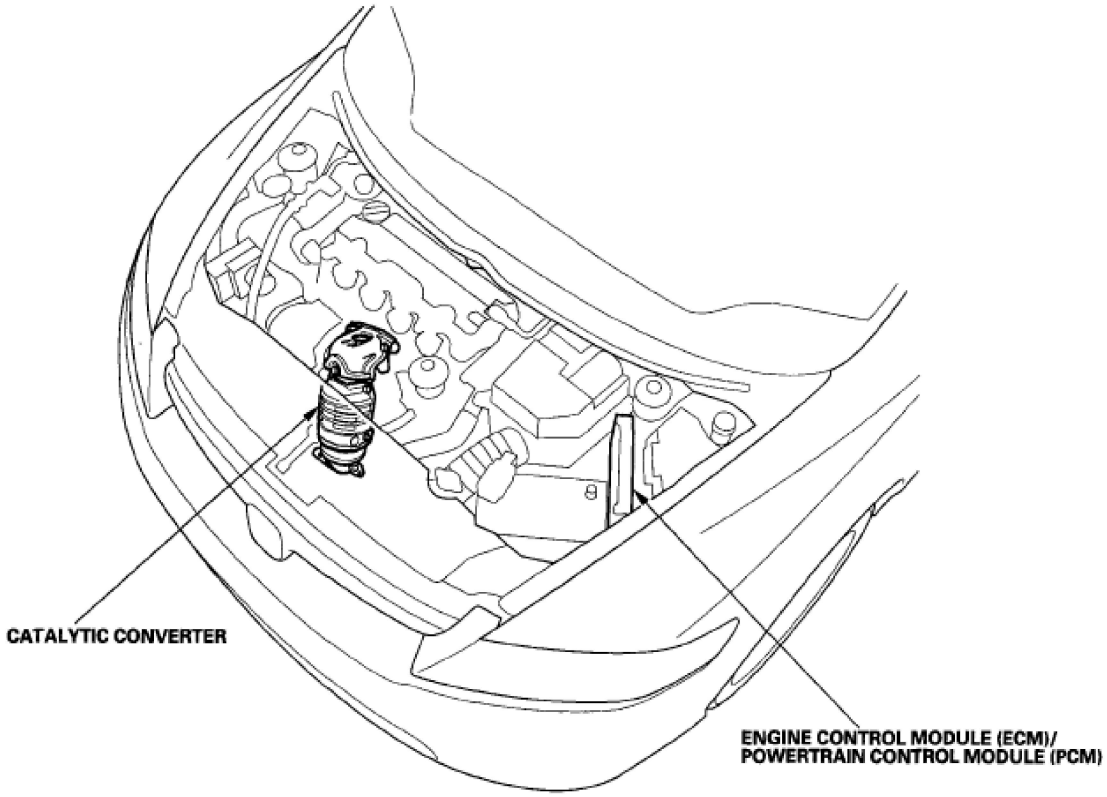



**Fig. 1: Identifying Catalytic Converter Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DTC TROUBLESHOOTING

### DTC P0420: CATALYST SYSTEM EFFICIENCY BELOW THRESHOLD

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general**

**troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

- **If some of the DTCs listed below are stored at the same time as DTC P0420, troubleshoot them first, then recheck for DTC P0420.**

  **P0137, P0138: Secondary H02S (Sensor 2) P0141: Secondary H02S (Sensor 2) heater**

- **Poor quality fuel may cause this DTC.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
   - A/T in D position (M/T in 5th gear)
   - Vehicle speed between 45-75 mph (72-120 km/h) for 5 minutes or more with cruise control set
   - Maintain the vehicle speed at 55 mph (88 km/h) for 5 minutes or more with cruise control set
5. Monitor the OBD STATUS for DTC P0420 in the DTCs MENU with the HDS.

   *Does the screen indicate EXECUTING?*

   **YES** -Go to step 6.

   **NO** -If the screen indicates OUT OF CONDITION, go to step 4 and recheck. If the screen indicates PASSED, intermittent failure, the system is OK at this time. If the screen indicates FAILED, go to step 8.

6. Continue the test-drive until a result comes on.
7. Monitor the OBD STATUS for DTC P0420 in the DTCs MENU with the

HDS.

*Does the screen indicate FAILED?*

**YES** -Go to step 8.

**NO** -If the screen indicates PASSED, intermittent failure, the system is OK at this time. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 4 and recheck.

8. Turn the ignition switch OFF.
9. Replace the TWC (see **CATALYTIC CONVERTER REMOVAL/INSTALLATION** ).
10. Turn the ignition switch ON (II).
11. Reset the ECM/PCM with the HDS.
12. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
13. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
14. Test-drive for about 10 minutes, varying the vehicle speed.
15. Check the CATA MONITOR CONDITION in the DATA LIST with the HDS.

    *Is the temperature OK?*

    **YES** -Go to step 16.

    **NO** -Go to step 13 and recheck.

16. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158 °F (70 °C)
    - A/T in D position (M/T in 5th gear)
    - Vehicle speed at 55 mph (88 km/h) for 5 minutes or more with cruise control set
17. Monitor the OBD STATUS for DTC P0420 in the DTCs MENU with the

HDS.

*Does the screen indicate EXECUTING?*

**YES** -Go to step 18.

**NO** -Go to step 16 and recheck.

18. Continue the test-drive until a result comes on.
19. Check for Temporary DTCs or DTCs with the HDS.

    *Are any Temporary DTCs or DTCs indicated?*

    **YES** -go to the indicated .

    **NO** -Go to step 20.

20. Monitor the OBD STATUS for DTC P0420 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** -Troubleshooting is complete.

    **NO** -If the screen indicates FAILED, check the fuel quality. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 13 and recheck.

## CATALYTIC CONVERTER REMOVAL/INSTALLATION

1. Remove the A/F sensor (sensor 1) (see **A/F SENSOR REPLACEMENT** ).
2. Remove the secondary H02S (sensor 2) (see **A/F SENSOR REPLACEMENT** ).
3. Remove the EGR pipe (see **EGR VALVE REPLACEMENT** ).
4. Remove the cover (A).

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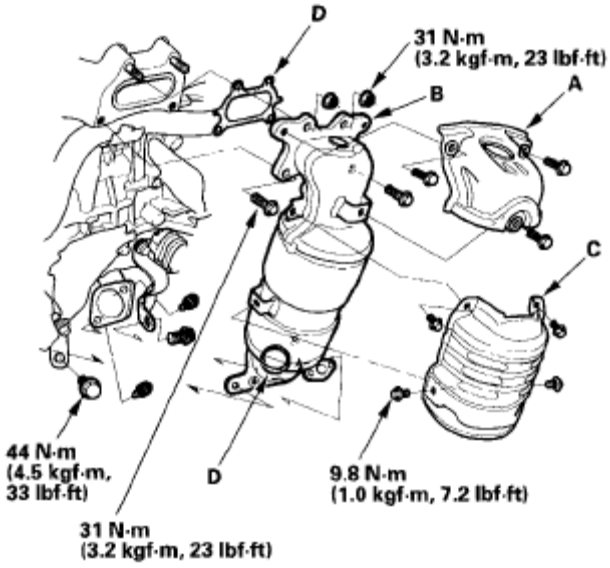



**Fig. 2: Identifying Catalytic Converter Components (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the TWC (B).
6. Remove the converter cover (C).
7. Install the parts in the reverse order of removal with new gaskets (D).

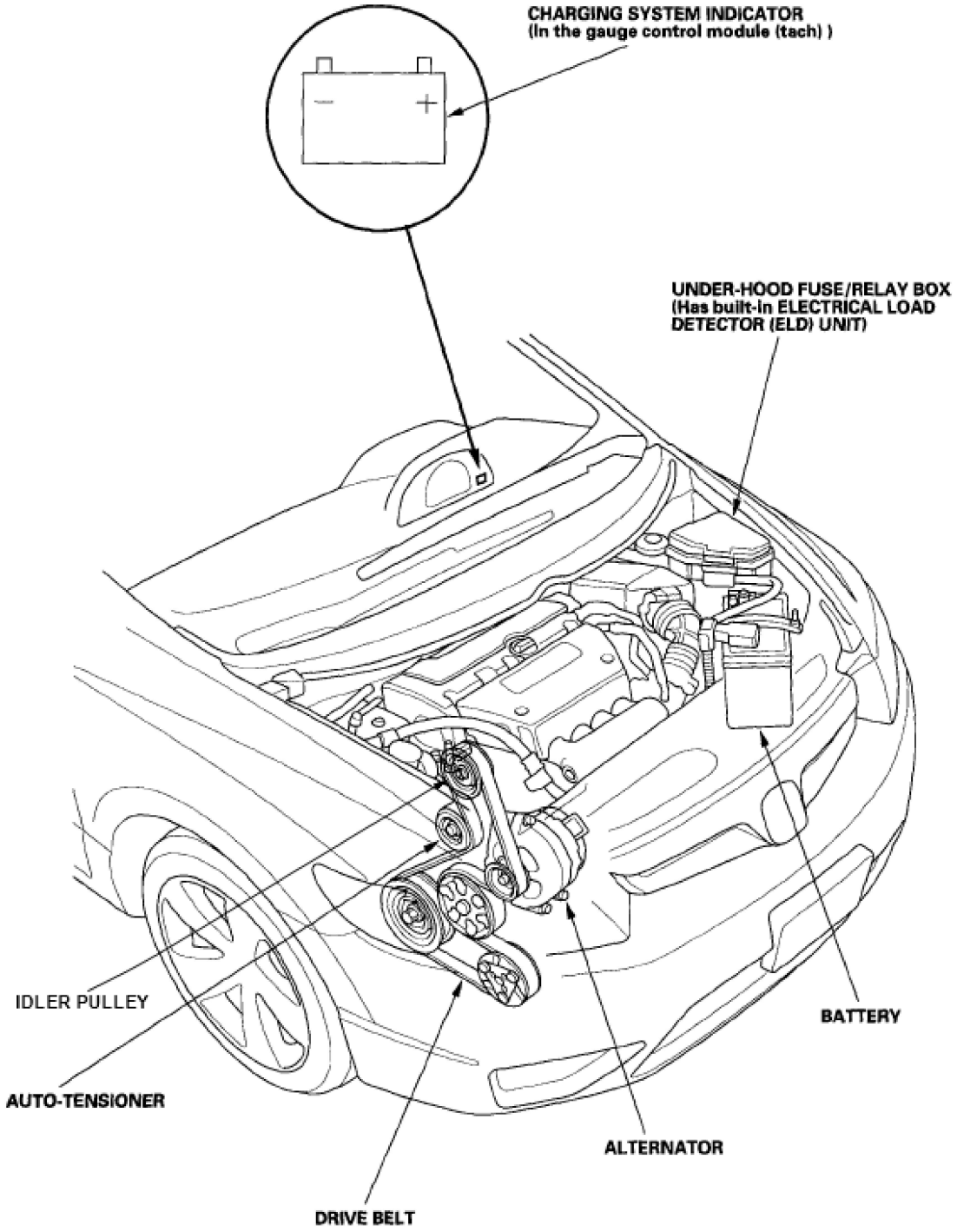
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# 2006-08 ELECTRICAL

## Charging System (K20Z3) - Civic (All Except Si)

## COMPONENT LOCATION INDEX



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**Fig. 1: Locating Charging System Components (K20Z3)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure |
|---|---|
| Charging system indicator does not come on with the ignition switch ON (II) | **TROUBLESHOOT THE CHARGING SYSTEM INDICATOR CIRCUIT** |
| Charging system indicator stays on | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Troubleshoot the charging system indicator circuit (see **CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING** ).<br>3. Check for a broken drive belt (see **DRIVE BELT INSPECTION** ).<br>4. Check the drive belt auto-tensioner (see **DRIVE BELT AUTO-TENSIONER INSPECTION** ). |
| Battery discharged | 1. Check for excessive parasitic electrical current draw with the ignition switch off, and the key removed. The multiplex control unit may take up to 10 minutes to turn off (sleep mode) for some models.<br>2. Check for a broken drive belt (see **DRIVE BELT INSPECTION** ).<br>3. Check the drive belt auto-tensioner (see **DRIVE BELT AUTO-TENSIONER INSPECTION** ). |

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| | |
|---|---|
| | 4. Troubleshoot the alternator and regulator circuit (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ).<br>5. Check for a poor connection at the battery terminal.<br>6. Test the battery (see **BATTERY TEST** ). |
| Battery overcharged | 1. Troubleshoot the alternator and regulator circuit (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ).<br>2. Test the battery (see **BATTERY TEST** ). |

## CIRCUIT DIAGRAM

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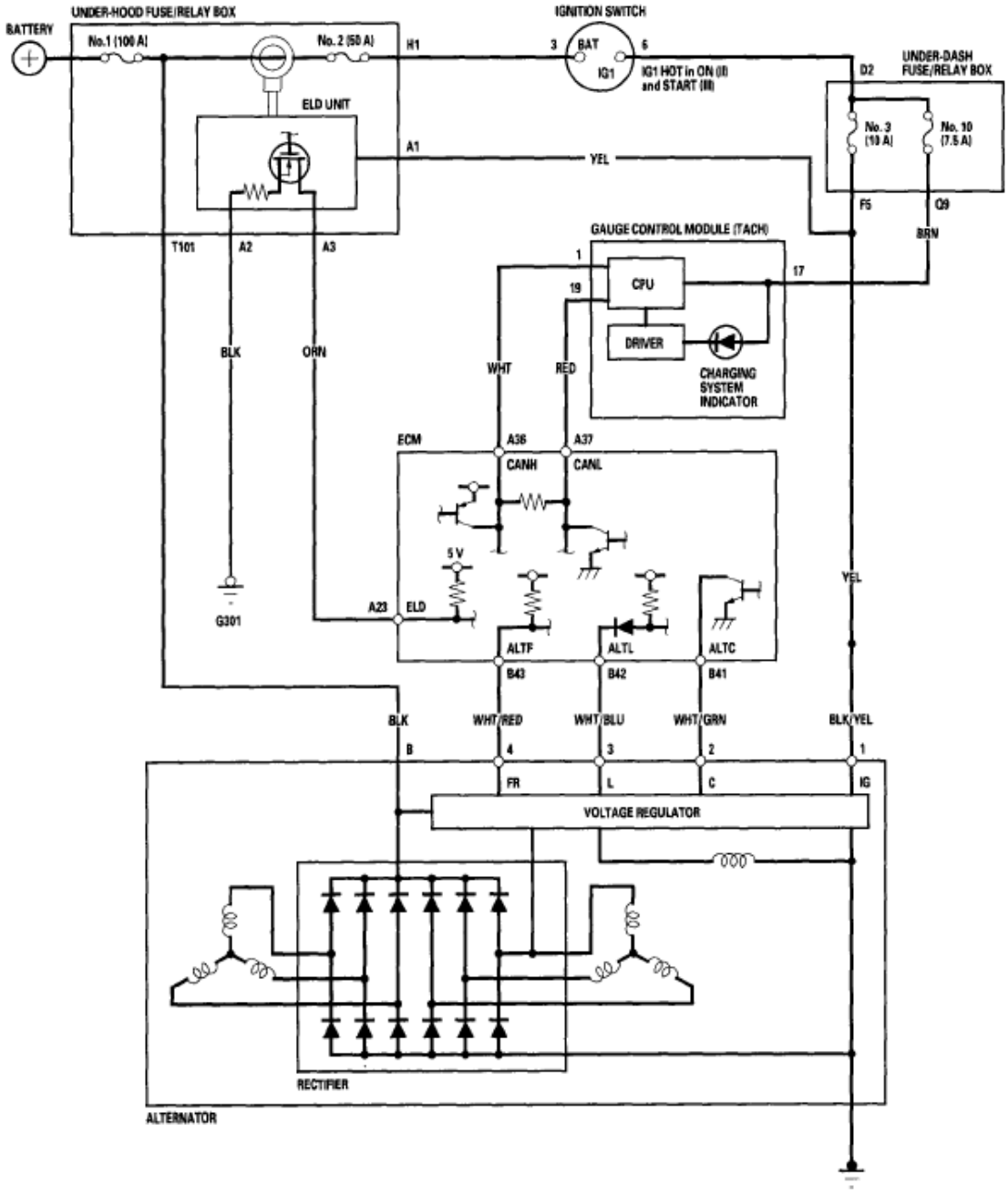



**Fig. 2: Charging System - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING

1. Turn the ignition switch ON (II).

   *Does the charging system indicator come on?*

**YES** - Go to step 2.

**NO** - Go to step 14.

2. Start the engine. Hold the engine speed at 2,000 rpm for 1 minute.

   *Does the charging system indicator go off?*

   **YES** - Charging system indicator circuit is OK. Go to the alternator and regulator circuit troubleshooting (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ).

   **NO** - Go to step 3.

3. Do the gauge control module self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION** ).

   *Does the charging system indicator flash?*

   **YES** - Go to step 4.

   **NO** - Replace the gauge control module (tach) (see **REPLACEMENT** ).

4. Turn the ignition switch OFF.
5. Disconnect the alternator 4P connector.
6. Turn the ignition switch ON (II).

   *Does the charging system indicator go off?*

   **YES** - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or repair the alternator (see **ALTERNATOR OVERHAUL** ).

   **NO** - Go to step 7.

7. Turn the ignition switch OFF.
8. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 in **HOW TO USE THE HDS (HONDA DIAGNOSTIC**

**SYSTEM)** ).

9. Turn the ignition switch ON (II).
10. Make sure the HDS communicates with the vehicle and the engine control module (ECM). If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
11. Jump the SCS line with the HDS, then turn the ignition switch OFF.

**NOTE: This step must be done to protect the ECM from damage.**

12. Disconnect ECM connector B (44P).
13. Check for continuity between ECM connector terminal B42 and body ground.

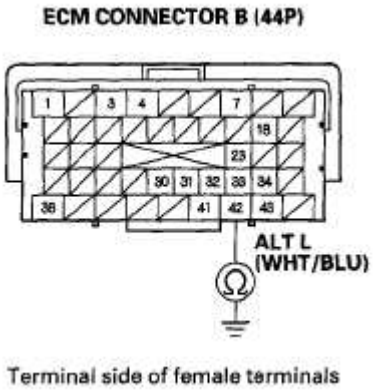



**Fig. 3: Checking Continuity Between ECM Connector Terminal B42 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the alternator and the ECM.

**NO** - Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT** ).

14. Do the gauge control module self-diagnostic function procedure (see **SELF-**

**DIAGNOSTIC FUNCTION** ).

*Does the charging system indicator flash?*

**YES** - Go to step 15.

**NO** - Replace the gauge control module (tach) (see **REPLACEMENT** ).

15. Turn the ignition switch OFF.
16. Disconnect the alternator 4P connector.
17. Connect alternator 4P connector terminal No. 3 and body ground with a jumper wire.

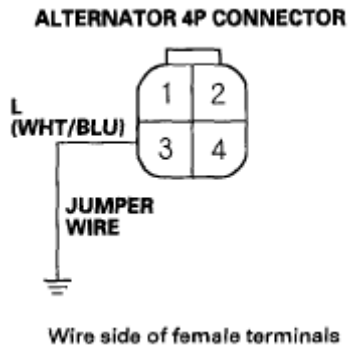



**Fig. 4: Connecting Alternator 4P Connector Terminal No. 3 And Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Turn the ignition switch ON (II).

*Does the charging system indicator come on?*

**YES** - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or repair the alternator (see **ALTERNATOR OVERHAUL** ).

**NO** - Go to step 19.

19. Turn the ignition switch to LOCK (0).
20. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC)

(see step 2 in **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).

21. Turn the ignition switch ON (II).
22. Make sure the HDS communicates with the vehicle and the ECM. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
23. Jump the SCS line with the HDS, then turn the ignition switch OFF.

**NOTE: This step must be done to protect the ECM from damage.**

24. Disconnect ECM connector B (44P).
25. Check for continuity between ECM connector terminal B42 and alternator 4P connector terminal No. 3.

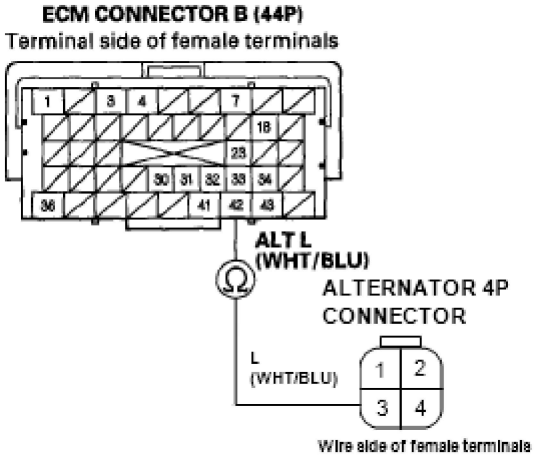



**Fig. 5: Checking Continuity Between ECM Connector Terminal B42 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT** ).

**NO** - Repair open in the wire between the alternator and the ECM.

## ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING

1. Make sure the battery connections are good and the battery is sufficiently charged.
2. Connect a VAT-40 (or equivalent tester), and turn the selector switch to position 1 (starting).

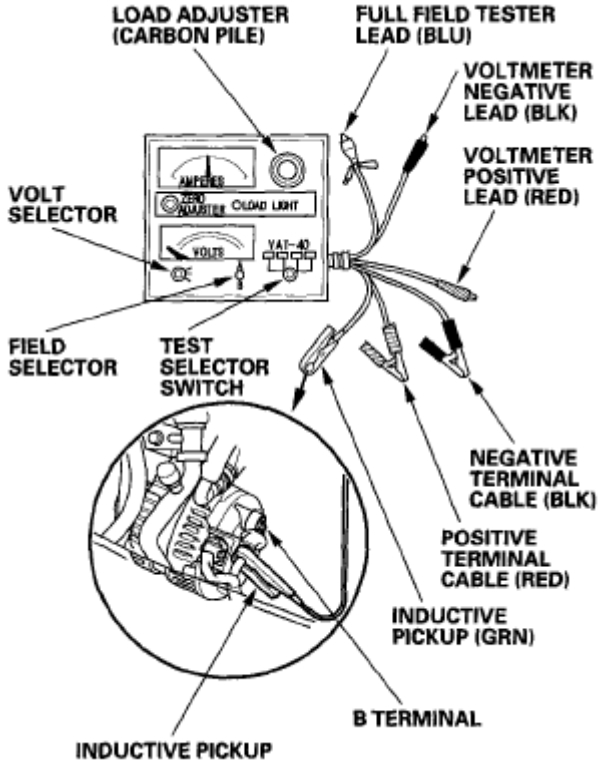



**Fig. 6: Turning Selector Switch To Position 1 (Starting)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Start the engine. Hold the engine speed at 3,000 rpm, with no load until the radiator fan comes on, then let it idle.
4. Raise the engine speed to 2,000 rpm, and hold it there.

*Is the voltage over 15.1 V?*

**YES** - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or rear housing assembly (see **ALTERNATOR**

**OVERHAUL** ).

**NO** - Go to step 5.

5. Release the accelerator pedal, and let the engine idle.
6. Turn off all the accessories. Select the charging test on the tester.
7. Remove the inductive pickup, and zero the ammeter.
8. Place the inductive pickup over the B terminal wire of the alternator so the arrow points away from the alternator.
9. Raise the engine speed to 2,000 rpm, and hold it there.

   *Is the voltage less than 13.5 V?*

   **YES** - Go to alternator control circuit troubleshooting (see **ALTERNATOR CONTROL CIRCUIT TROUBLESHOOTING** ).

   **NO** - Go to step 10.

10. Apply a load with the VAT-40 until the battery voltage drops within 12-13.5 V.

    *Is the amperage 87.5 A or more?*

    **YES** - The charging system is OK.

    **NOTE: If the charging system indicator is still on, replace the alternator (see ALTERNATOR REMOVAL AND INSTALLATION ).**

    **NO** - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or repair the alternator (see **ALTERNATOR OVERHAUL** ).

## ALTERNATOR CONTROL CIRCUIT TROUBLESHOOTING

1. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 in **HOW TO USE THE HDS (HONDA DIAGNOSTIC**

**SYSTEM)** ).

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the engine control module (ECM). If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Check for DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ). If a DTC is present, diagnose and repair the cause before continuing with this test.
5. Disconnect the alternator 4P connector from the alternator.
6. Start the engine, and turn on the headlights to high beam.
7. Measure the voltage between alternator 4P connector terminal No. 2 and the positive terminal of the battery.

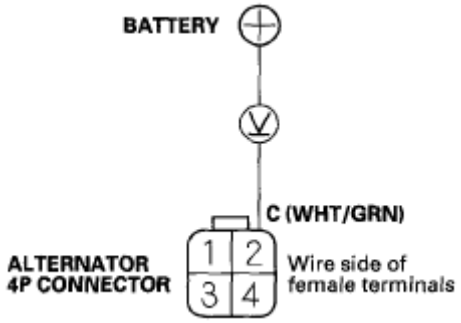



**Fig. 7: Measuring Voltage Between Alternator 4P Connector Terminal No. 2 And Positive Terminal Of Battery**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 1 V or less?*

**YES** - Go to step 11.

**NO** - Go to step 8.

8. Jump the SCS line with the HDS, then turn the ignition switch OFF.

**NOTE: This step must be done to protect the ECM from damage.**

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9. Disconnect ECM connector B (44P).
10. Check for continuity between ECM connector terminal B41 and body ground.

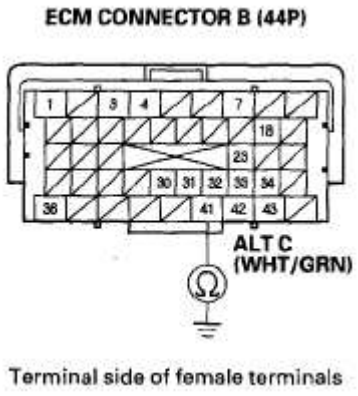



**Fig. 8: Checking Continuity Between ECM Connector Terminal B41 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the alternator and the ECM.

**NO** - Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT** ).

11. Jump the SCS line with the HDS, then turn the ignition switch OFF.

**NOTE: This step must be done to protect the ECM from damage.**

12. Disconnect ECM connector B (44P).
13. Check for continuity between ECM connector terminal B41 and alternator 4P connector terminal No. 2.

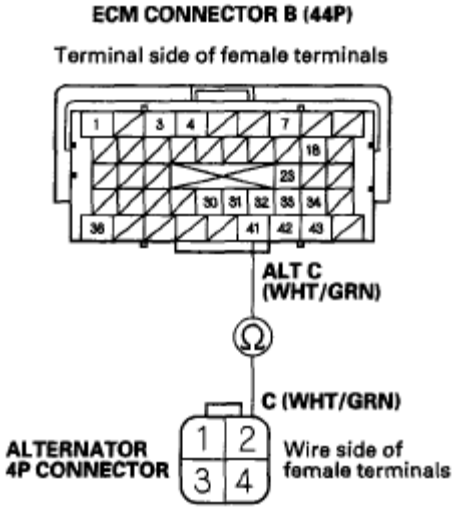



**Fig. 9: Checking Continuity Between ECM Connector Terminal B41 And Alternator 4P Connector Terminal No. 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or repair the alternator (see **ALTERNATOR OVERHAUL** ).

**NO** - Repair open in the wire between the alternator and the ECM.

## DRIVE BELT INSPECTION

1. Inspect the belt for cracks and damage. If the belt is cracked or damaged, replace it.
2. Check that the auto-tensioner indicator (A) is within the standard range (B) as shown. If it is out of the standard range, replace the drive belt (see **DRIVE BELT INSPECTION** ).

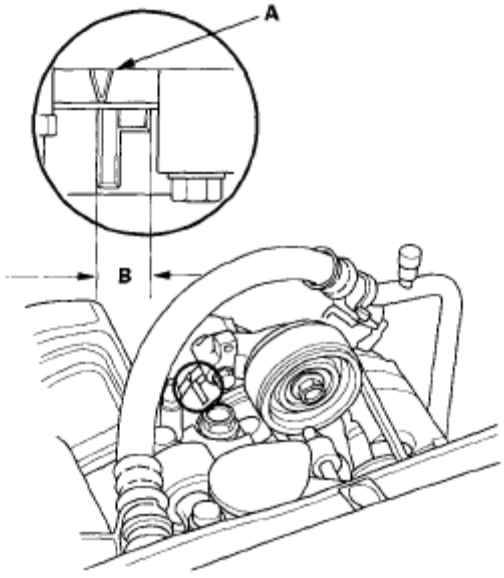



**Fig. 10: Checking Auto-Tensioner Indicator Is Within Standard Range**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DRIVE BELT REMOVAL/INSTALLATION

### Special Tools Required

Belt tension release tool Snap-on YA9317 or equivalent, commercially available

1. Move the auto-tensioner (A) using the belt tension release tool to relieve tension from the drive belt, then remove the drive belt.

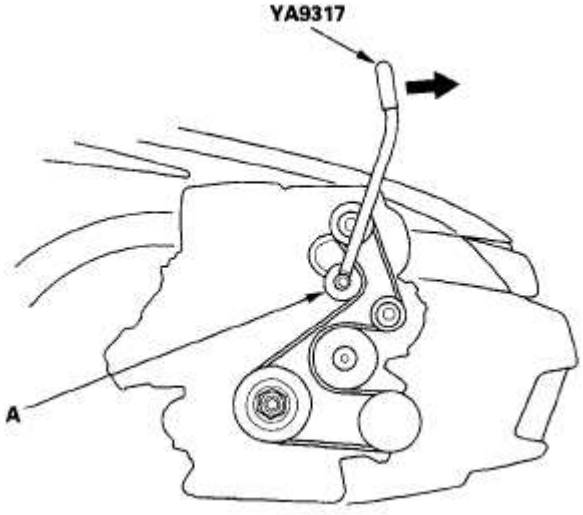


**Fig. 11: Moving Auto-Tensioner Using Belt Tension Release Tool To Relieve Tension From Drive Belt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the new belt in the reverse order of removal.

## DRIVE BELT AUTO-TENSIONER INSPECTION

### Special Tools Required

Belt tension release tool Snap-on YA9317 or equivalent, commercially available

1. Turn the ignition switch ON (II), and make sure to turn the A/C switch OFF. Turn the ignition switch OFF.
2. Check the position of the auto-tensioner indicator's pointer (A). Start the engine then check the position again with the engine idling. If the position of the indicator moves of fluctuates a lot, replace the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).

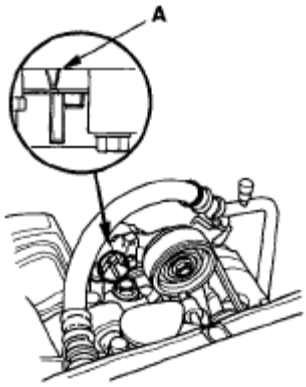



**Fig. 12: Checking Position Of Auto-Tensioner Indicator's Pointer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for abnormal noise from the tensioner pulley. If you hear abnormal noise, replace the tensioner pulley.
4. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
5. Move the auto-tensioner within its limit using the belt tension release tool in the direction shown. Check that the tensioner moves smoothly and without any abnormal noise. If the tensioner does not move smoothly, or you hear abnormal

noise, replace the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).

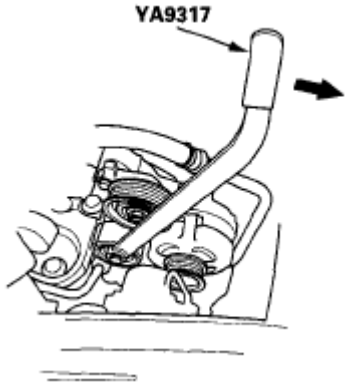



**Fig. 13: Moving Auto-Tensioner Within Its Limit Using Belt Tension Release Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).
7. Clamp the auto-tensioner (A) by using two 8 mm bolts (B) and a vise (C) as shown. Do not clamp the auto-tensioner itself.

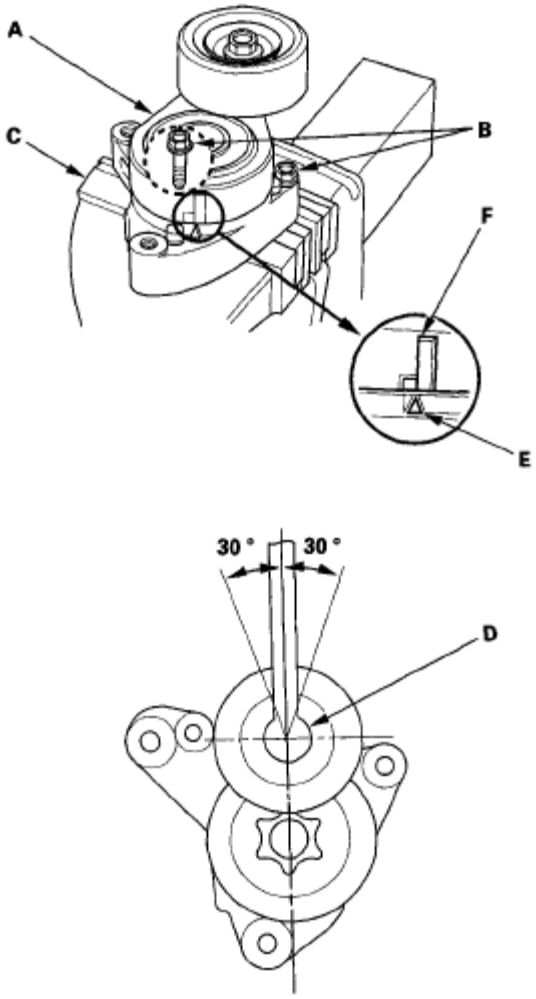



**Fig. 14: Clamping Auto-Tensioner**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Set the torque wrench (D) in the pulley bolt in the direction shown.
9. Align the indicator (E) on the tensioner base with center mark (F) on the tensioner arm by using the torque wrench, and measure the torque. If the torque value is out of specification, replace the auto-tensioner.

**NOTE: If the indicator exceeds the center mark, recheck the torque.**

**Auto-tensioner Spring Torque: 32.5-39.7 N.m (3.31-4.05 kgf.m, 23.9-29.3 lbf.ft)**

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## DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION

1. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
2. Remove the idler pulley base.

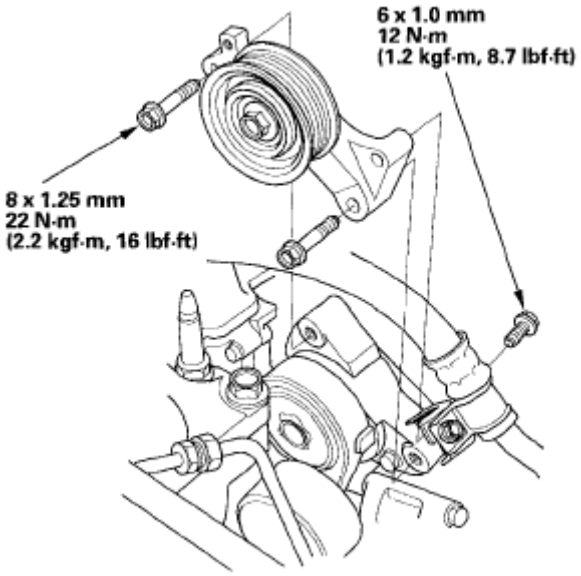



**Fig. 15: Removing Idler Pulley Base**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the pulley bolt (A), then remove the tensioner pulley (B).

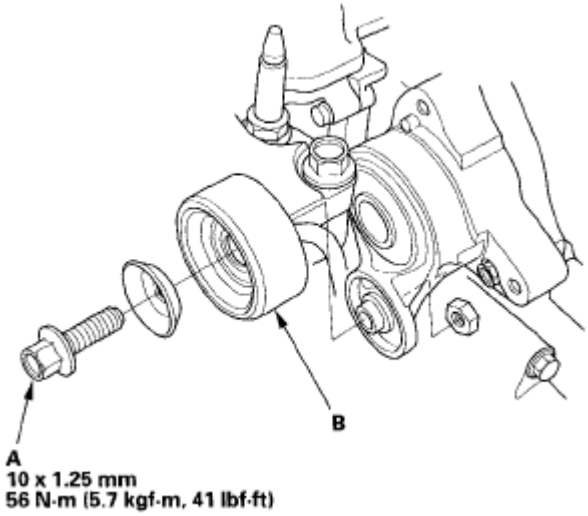



**Fig. 16: Removing Pulley Bolt And Tensioner Pulley**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the auto-tensioner.

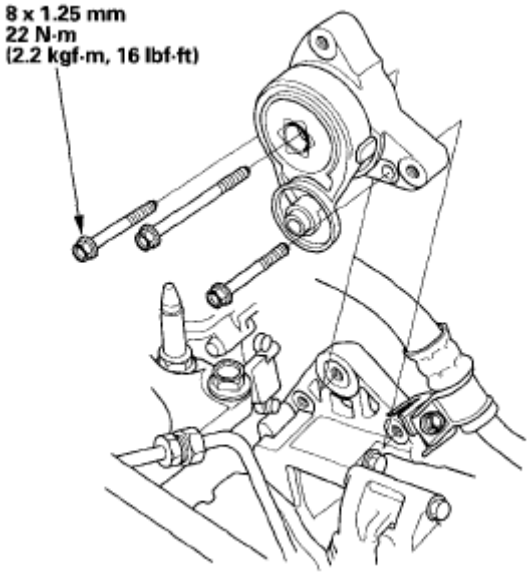



**Fig. 17: Removing Auto-Tensioner**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the auto-tensioner in the reverse order of removal.

## TENSIONER PULLEY REPLACEMENT

1. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
2. Remove the pulley bolt (A), then remove the tensioner pulley (B).

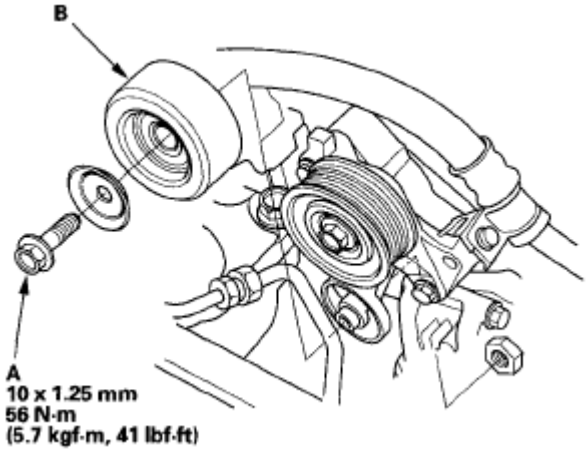



**Fig. 18: Removing Pulley Bolt And Tensioner Pulley**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the tensioner pulley in the reverse order of removal.

## IDLER PULLEY REPLACEMENT

1. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
2. Remove the idler pulley.

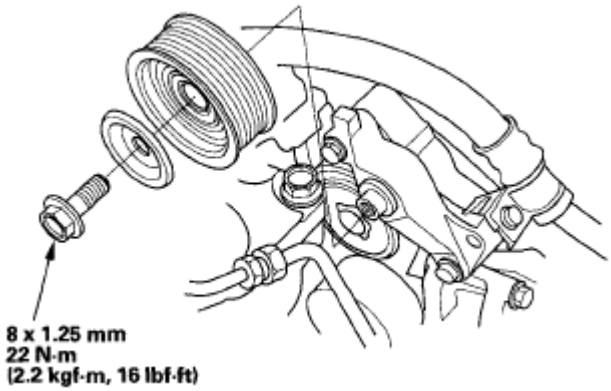



**Fig. 19: Removing Idler Pulley**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the idler pulley in the reverse order of removal.

## ALTERNATOR REMOVAL AND INSTALLATION

### REMOVAL

1. Make sure you have the anti-theft code for the audio system and the navigation system (if equipped), then write down the audio presets.
2. Disconnect the negative cable from the battery first, then disconnect the positive cable.
3. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
4. Remove the front grille cover (see **FRONT GRILLE COVER REPLACEMENT** ).
5. Disconnect the fan motor connectors (A) and hood switch connector (B), then remove the harness clamps (C).

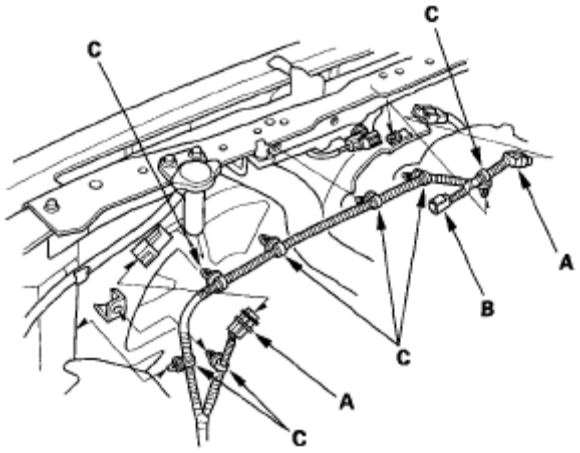



**Fig. 20: Disconnecting Fan Motor Connectors And Hood Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the reservoir hose (A), radiator cap base mounting bolts (B), clips (C) and radiator upper brackets (D).

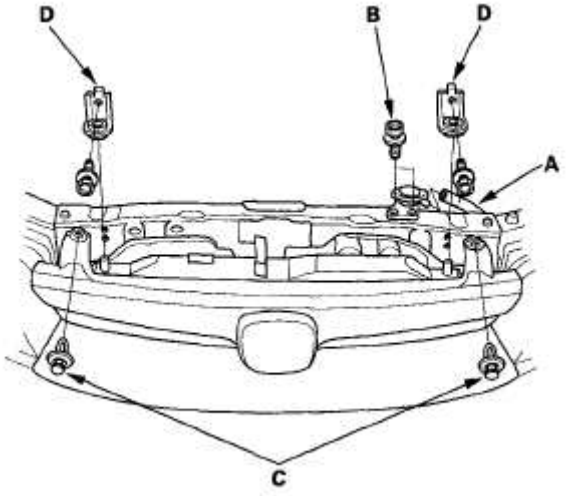



**Fig. 21: Removing Reservoir Hose, Radiator Cap Base Mounting Bolts, Clips And Radiator Upper Brackets**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the condenser bracket mounting bolts (A), then remove the bulkhead (B).

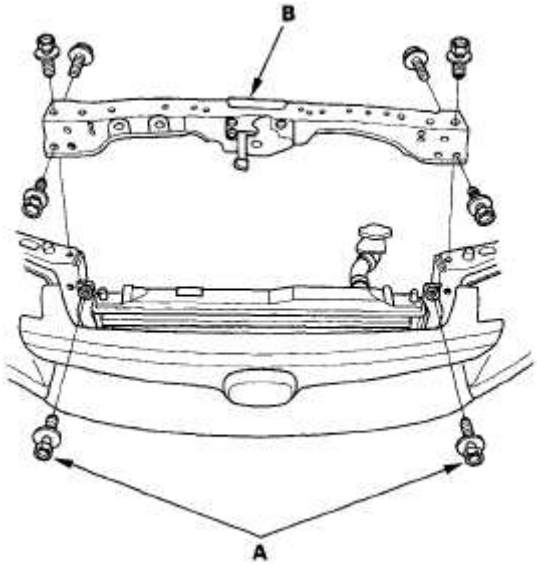



**Fig. 22: Removing Condenser Bracket Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Remove the three bolts securing the alternator.

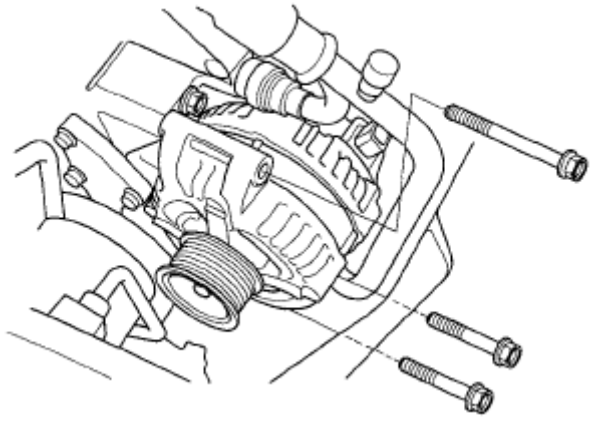


**Fig. 23: Removing Alternator Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Disconnect the alternator connector (A), BLK wire (B) and harness clamp (C) from the alternator, then remove the alternator.

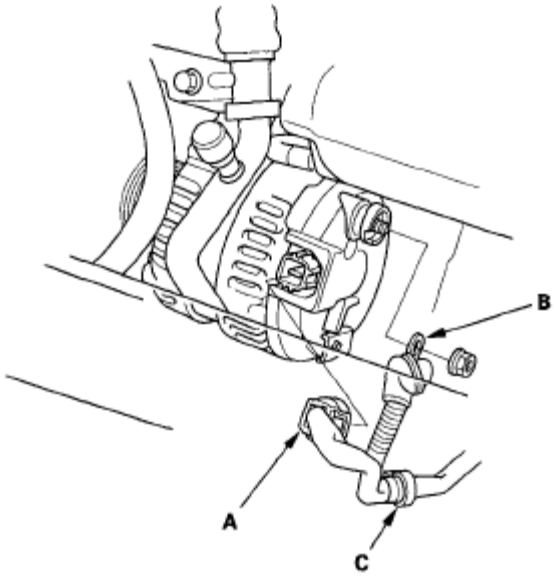



**Fig. 24: Removing Alternator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Connect the alternator connector (A), BLK wire (B) and harness clamp (C) to the alternator.

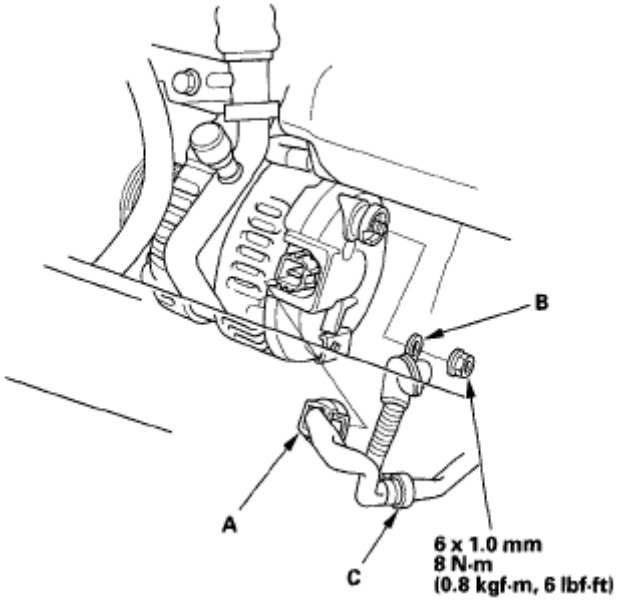



**Fig. 25: Connecting Alternator Connector, BLK Wire And Harness Clamp To Alternator (With Specifications)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Tighten the three bolts securing the alternator.

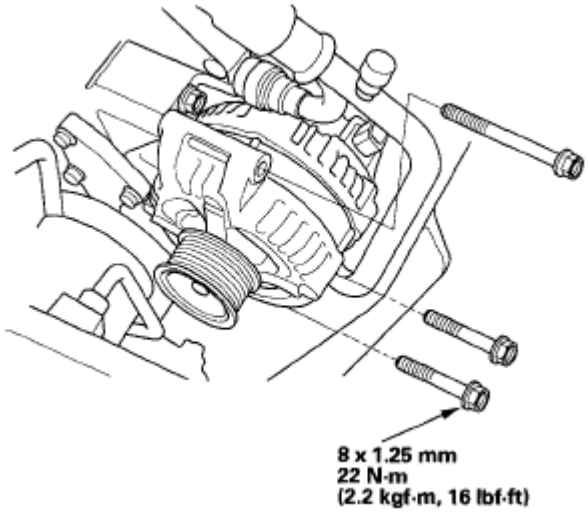



**Fig. 26: Tightening Alternator Bolts (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the bulkhead (A), then install the condenser bracket mounting bolts (B).

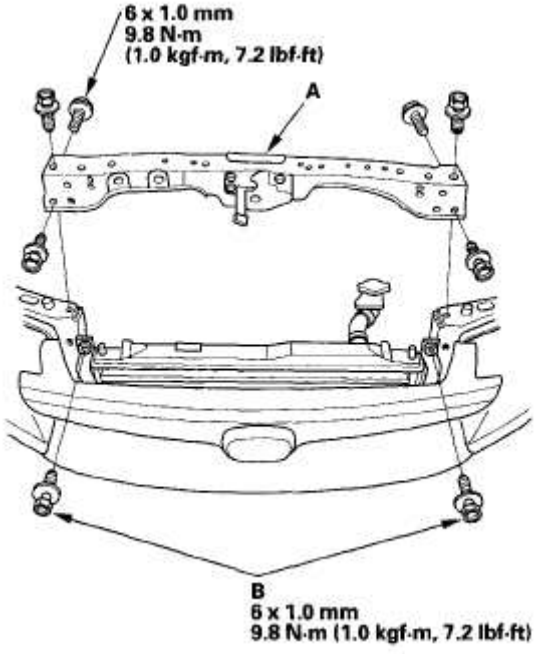



**Fig. 27: Installing Condenser Bracket Mounting Bolts (With**

**Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Apply body paint to the bulkhead mounting bolts.
5. Install the radiator upper brackets (A), radiator cap base mounting bolts (B), reservoir hose (C), and Clips (D).

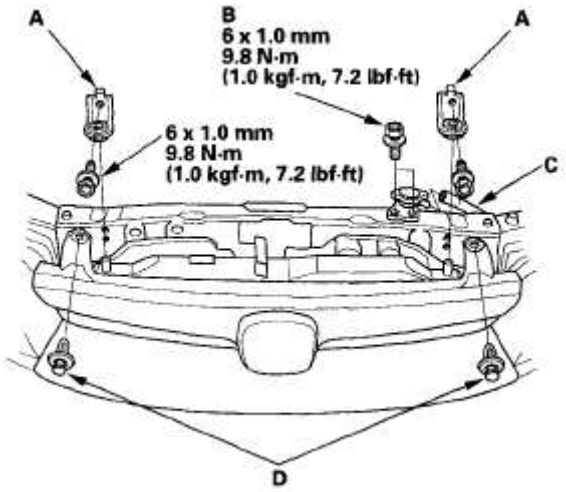



**Fig. 28: Installing Radiator Upper Brackets And Radiator Cap Base Mounting Bolts (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Connect the fan motor connectors (A) and hood switch connector (B), then install the harness clamps (C).

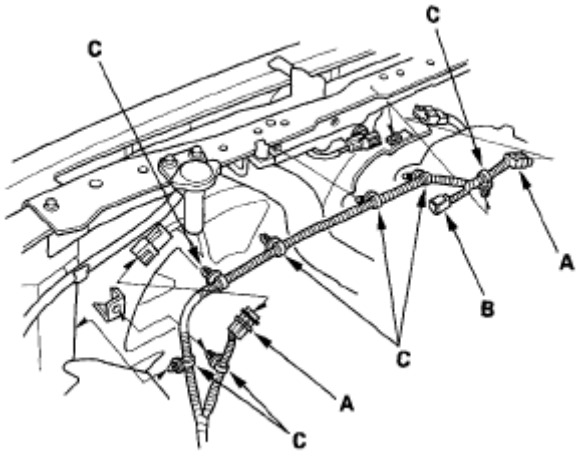



**Fig. 29: Connecting Fan Motor And Hood Switch Connectors**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the front grille cover (see **FRONT GRILLE COVER REPLACEMENT** ).
8. Install the drive belt (see **DRIVE BELT INSPECTION** ).
9. Connect the positive cable to the battery first, then connect the negative cable.
10. Enter the anti-theft code for the audio system and the navigation system (if equipped), then enter the audio preset.
11. Set the clock.

## ALTERNATOR OVERHAUL

**EXPLODED VIEW**

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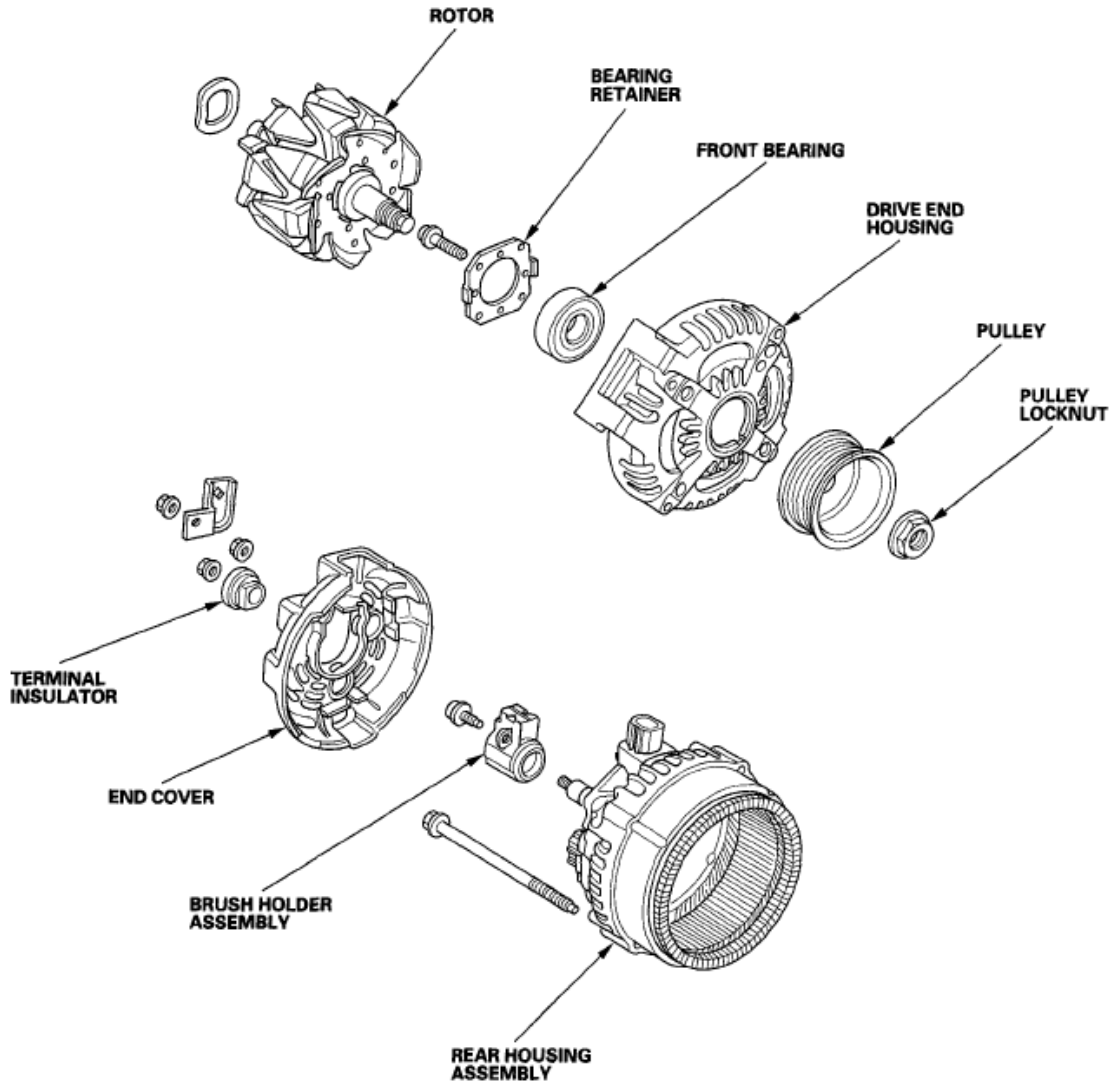



**Fig. 30: Exploded View Of Alternator Overhaul**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Driver 07749-0010000
- Attachment, 42 x 47 mm 07746-0010300

**NOTE: Refer to Fig. 30 as needed during this procedure.**

1. Test the alternator and regulator before you remove them (see **ALTERNATOR AND REGULATOR CIRCUIT**

**TROUBLESHOOTING** ).

2. Remove the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ).
3. If the front bearing needs replacing, remove the pulley locknut with a 10 mm wrench (A) and a 22 mm wrench (B). If necessary, use an impact wrench.

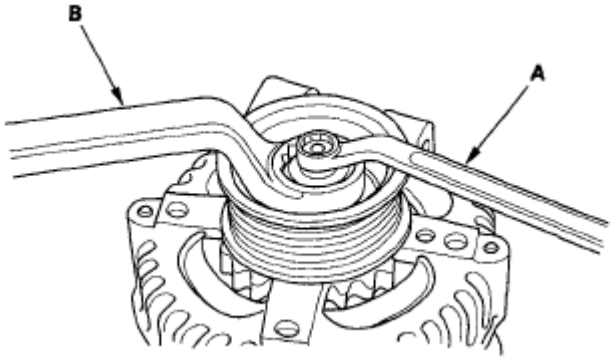



**Fig. 31: Removing Locknut With Wrench**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the harness stay and the three flange nuts from the alternator.

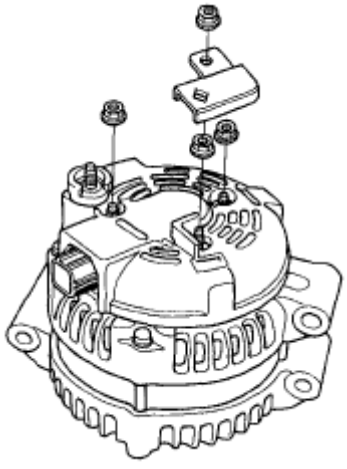


**Fig. 32: Removing Harness Stay And Flange Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the end cover.

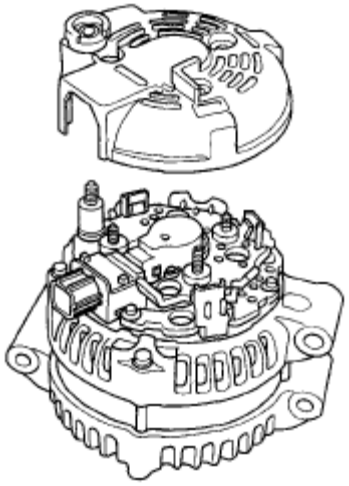


**Fig. 33: Removing End Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the brush holder.

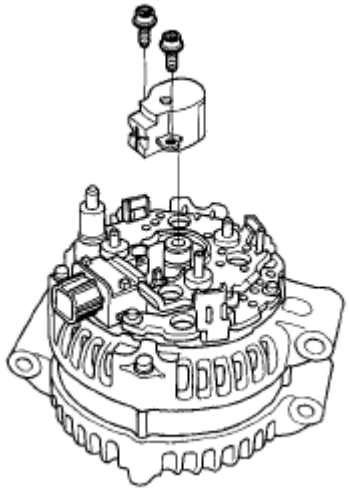


**Fig. 34: Removing Brush Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the four bolts, then remove the rear housing assembly (A), and washer (B).

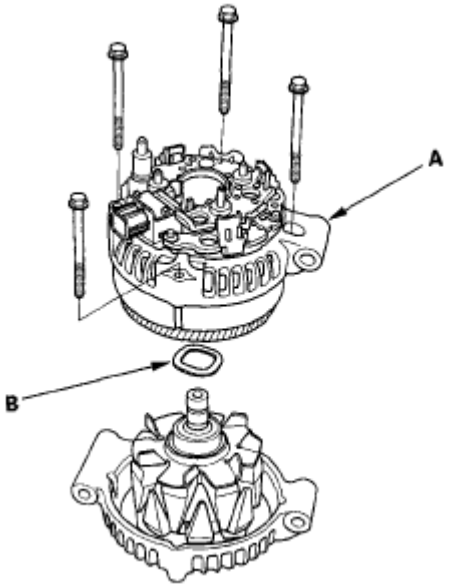



**Fig. 35: Removing Rear Housing Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. If you are not replacing the front bearing, go to step 13. Remove the rotor from the drive end housing.

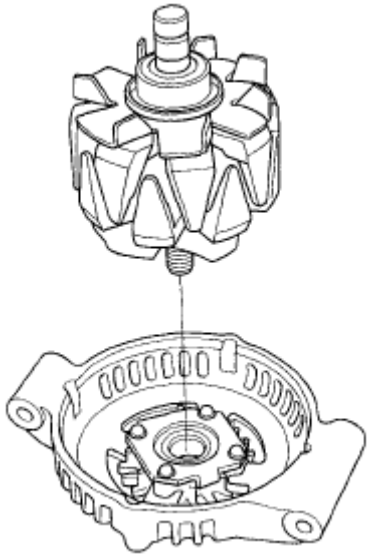


**Fig. 36: Removing Rotor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Inspect the rotor shaft for scoring, and inspect the bearing journal surface in the drive end housing for seizure marks.

- If the rotor is damaged, replace the rotor assembly.
- If the rotor is OK, go to step 10.

10. Remove the front bearing retainer plate.

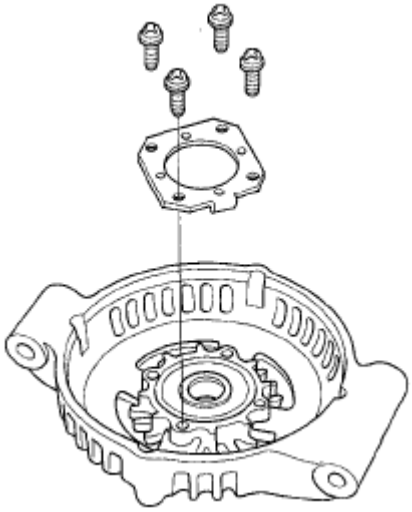


**Fig. 37: Removing Front Bearing Retainer Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Drive out the front bearing with a brass drift and hammer.

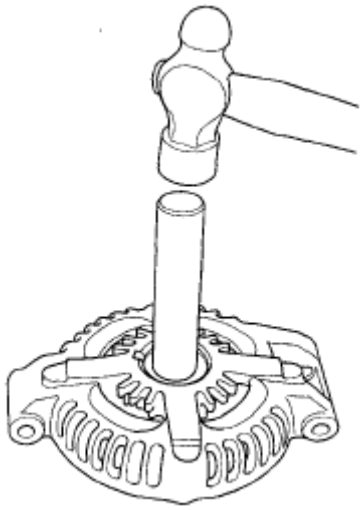


**Fig. 38: Removing Front Bearing With Brass Drift And Hammer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. With a hammer and special tools, install a new front bearing in the drive end

housing.

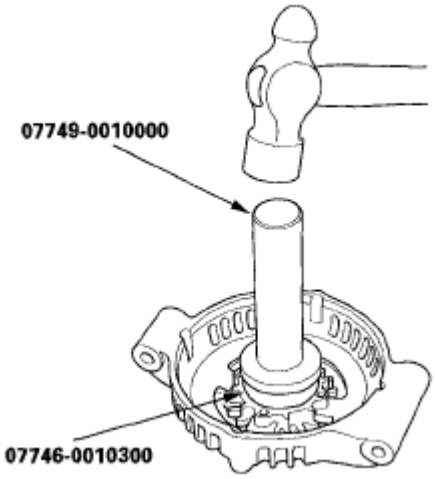



**Fig. 39: Installing Front Bearing In Drive End Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Alternator Brush Inspection

13. Measure the length of both brushes (A) with vernier caliper (B).
    - If either brush is shorter than the service limit, replace the brush holder assembly.
    - If brush length is OK, go to step 14.

### Alternator Brush Length

**Standard (New): 10.5 mm (0.41 in.)**
**Service Limit: 1.5 mm (0.06 in.)**

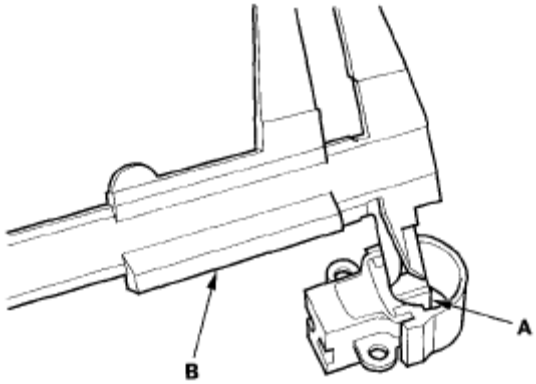


**Fig. 40: Measuring Length Of Brushes**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Rotor Slip Ring Test

14. Check for continuity between the slip rings (A).
    - If there is continuity, go to step 15.
    - If there is no continuity, replace the rotor assembly.

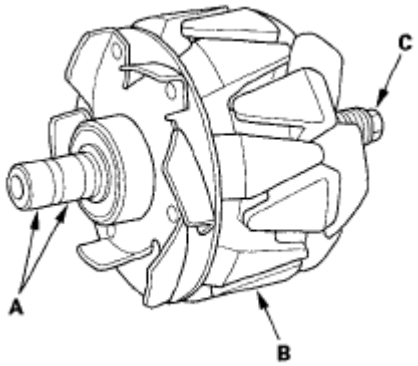



**Fig. 41: Checking Continuity Between Slip Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Check for continuity between each slip ring and the rotor (B) and the rotor shaft (C).
    - If there is no continuity, replace the rear housing assembly, and go to step 16.
    - If there is continuity, replace the rotor assembly.

### Alternator Reassembly

16. If you removed the pulley, put the rotor in the drive end housing, then tighten its locknut to 110 N.m (11.2 kgf.m, 81.0 lbf.ft).
17. Remove any grease or any oil from the slip rings.
18. Put the rear housing assembly and drive end housing/rotor assembly together, tighten the four through bolts.
19. Push the brushes (A) in, then insert a pin or drill bit (B) (about 1.6 mm (0.06 in.) diameter) to hold them there.

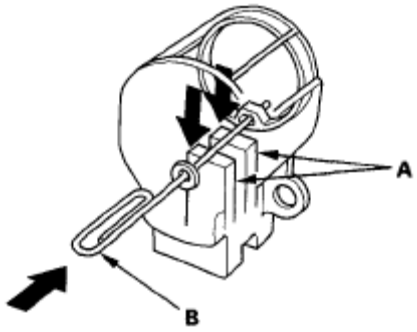



**Fig. 42: Pushing Brushes In And Inserting Pin Or Drill Bit To Hold**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Install the brush holder, and pull out the pin.

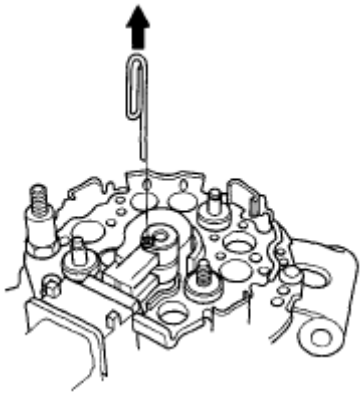


**Fig. 43: Installing Brush Holder And Removing Pin**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Install the end cover.
22. After assembling the alternator, turn the pulley by hand to make sure the rotor turns smoothly and without noise.
23. Install the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ) and drive belt (see **DRIVE BELT INSPECTION** ).

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# 2006-08 ELECTRICAL

## Charging System (R18A1) - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX

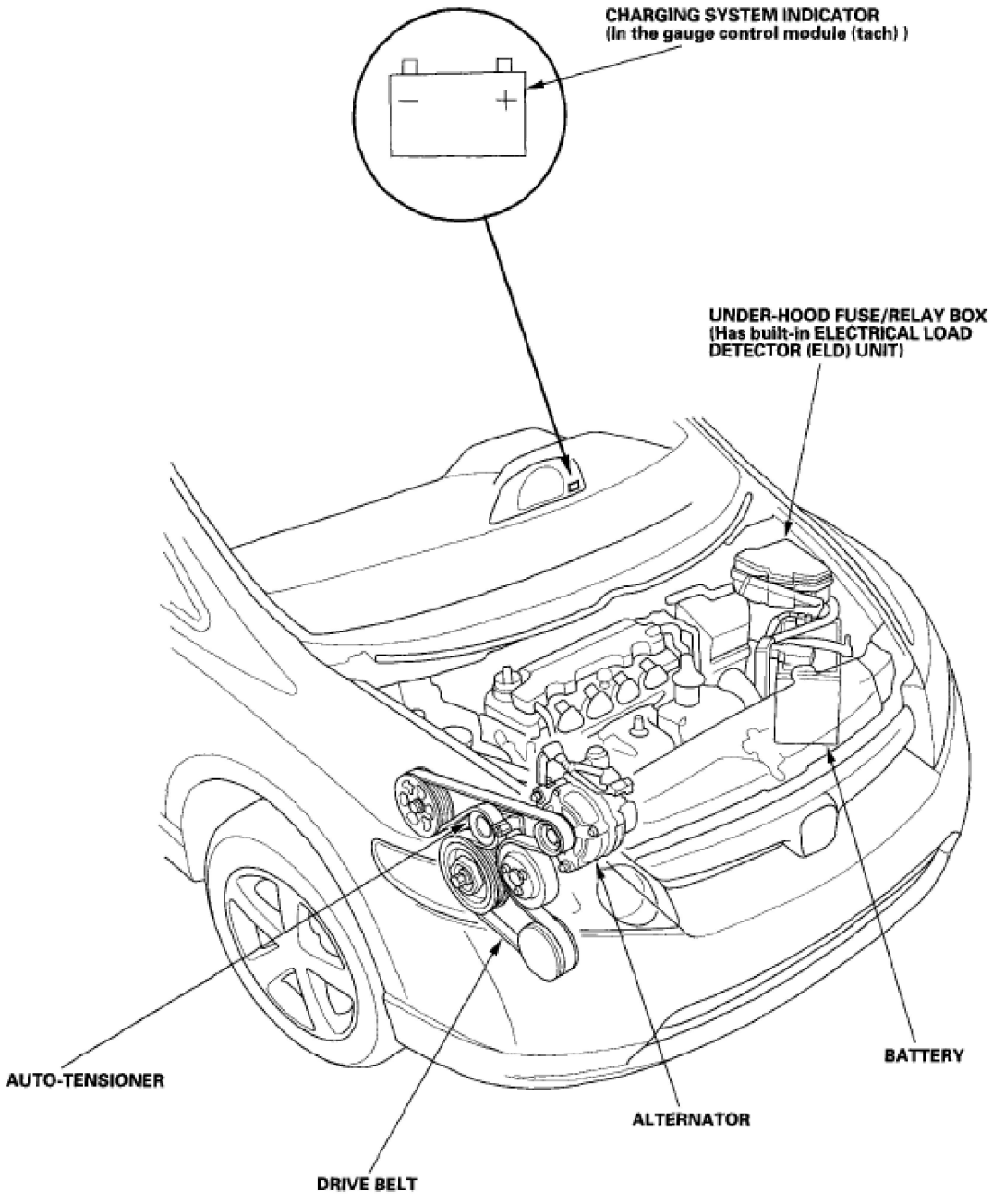



**Fig. 1: Identifying Charging System Component**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Charging system indicator does not come on with the ignition switch ON (II) | Troubleshoot the charging system indicator circuit (see **CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING** ). | |
| Charging system indicator stays on | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Troubleshoot the charging system indicator circuit (see **CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING** ).<br>3. Check for a broken drive belt (see **DRIVE BELT INSPECTION** ).<br>4. Check the drive belt auto-tensioner (see **DRIVE BELT AUTO-TENSIONER INSPECTION** ). | |
| Battery discharged | 1. Check for excessive parasitic electrical current draw with the ignition switch off, and the key removed. The multiplex control unit may take up to 10 minutes to turn off (sleep mode) for some models.<br>2. Check for a broken drive belt (see **DRIVE BELT INSPECTION** ).<br>3. Check the drive belt auto-tensioner (see **DRIVE BELT AUTO-TENSIONER INSPECTION** ).<br>4. Troubleshoot the alternator and regulator circuit (see **ALTERNATOR AND** | |

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| | | |
|---|---|---|
| | **REGULATOR CIRCUIT TROUBLESHOOTING** ).<br>5. Check for a poor connection at the battery terminal.<br>6. Test the battery (see **BATTERY TEST** ). | |
| Battery overcharged | 1. Troubleshoot the alternator and regulator circuit (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ).<br>2. Test the battery (see **BATTERY TEST** ). | |

## CIRCUIT DIAGRAM

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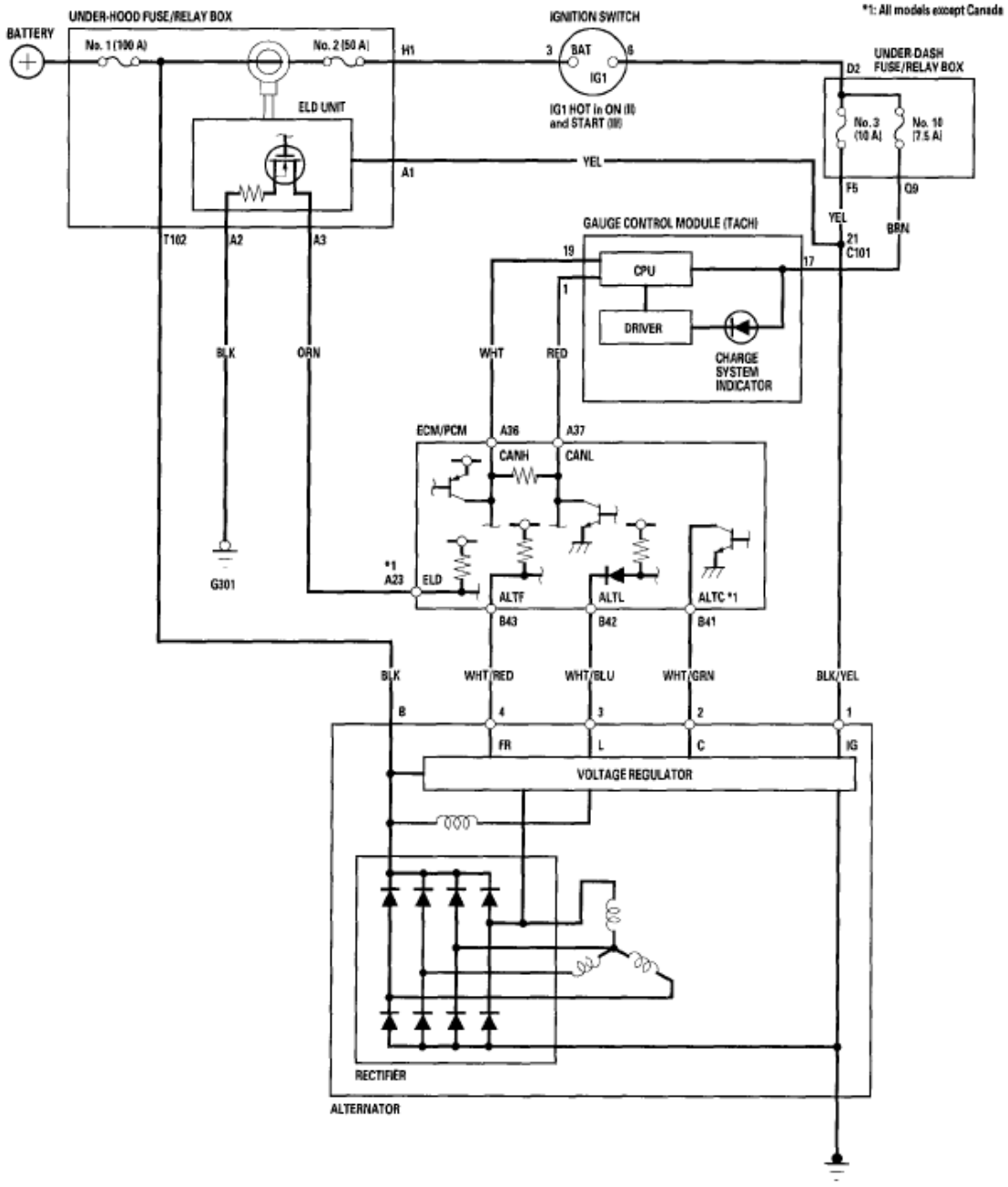



**Fig. 2: Charging System - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING

1. Turn the ignition switch ON (II).

   *Does the charging system indicator come on?*

**YES** -Go to step 2.

**NO** -Go to step 14.

2. Start the engine. Hold the engine speed at 2,000 rpm for 1 minute.

   *Does the charging system indicator go off?*

   **YES** -Charging system indicator circuit is OK. Go to the **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** .

   **NO** -Go to step 3.

3. Do the gauge control module self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION** ).

   *Does the charging system indicator flash?*

   **YES** -Go to step 4.

   **NO** -Replace the gauge control module (tach) (see **REPLACEMENT** ).

4. Turn the ignition switch to LOCK (0)
5. Disconnect the alternator 4P connector.
6. Turn the ignition switch ON (II).

   **NOTE: The charging system indicator may come on and then go off.**

   *Does the charging system indicator go off?*

   **YES** -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or repair the alternator (see **ALTERNATOR OVERHAUL** ).

   **NO** -Go to step 7.

7. Turn the ignition switch to LOCK (0).

8. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
9. Turn the ignition switch ON (II).
10. Make sure the HDS communicates with the vehicle and the engine control module (ECM)/powertrain control module (PCM). If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
11. Jump the SCS line with the HDS, then turn the ignition to LOCK (0).

**NOTE: This step must be done to protect the ECM/PCM from damage.**

12. Disconnect ECM/PCM connector B (44P).
13. Check for continuity between ECM/PCM connector terminal B42 and body ground.

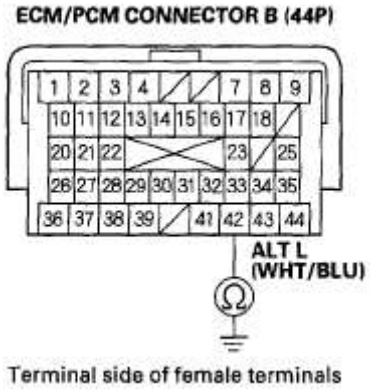



**Fig. 3: Checking For Continuity Between ECM/PCM Connector Terminal B42 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the alternator and the ECM/PCM.

**NO** -Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then recheck. If the

symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ).

14. Do the gauge control module self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION** ).

    *Does the charging system indicator flash?*

    **YES** -Go to step 15.

    **NO** -Replace the gauge control module (tach) (see **REPLACEMENT** ).

15. Turn the ignition switch OFF.
16. Disconnect the alternator 4P connector.
17. Connect alternator 4P connector terminal No. 3 and body ground with a jumper wire.

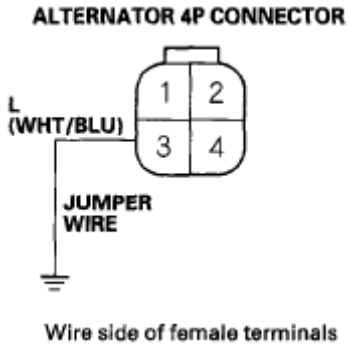



**Fig. 4: Connecting Alternator 4P Connector Terminal No. 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Turn the ignition switch ON (II).

    *Does the charging system indicator come on?*

    **YES** -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or repair the alternator (see **ALTERNATOR OVERHAUL** ).

**NO** -Go to step 19.

19. Turn the ignition switch to LOCK (0).
20. Connect the HDS to the DLC (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
21. Turn the ignition switch ON (II).
22. Make sure the HDS communicates with the vehicle and the ECM/PCM. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
23. Jump the SCS line with the HDS, then turn the ignition switch OFF.

**NOTE: This step must be done to protect the ECM/PCM from damage.**

24. Disconnect ECM/PCM connector B (44P).
25. Check for continuity between ECM/PCM connector terminal B42 and body ground.

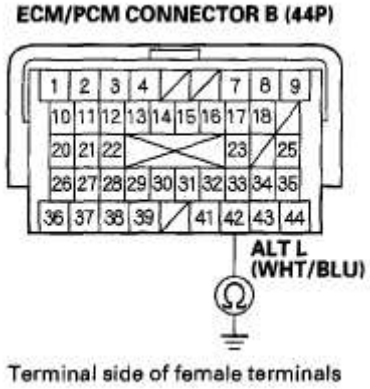



**Fig. 5: Checking For Continuity Between ECM/PCM Connector Terminal B42 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then recheck. If the

symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ).

**NO** -Repair open in the wire between the alternator and the ECM/PCM.

## ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING

1. Make sure the battery connections are good and the battery is sufficiently charged.
2. Connect a VAT-40 (or equivalent tester), and turn the selector switch to position 1 (starting).

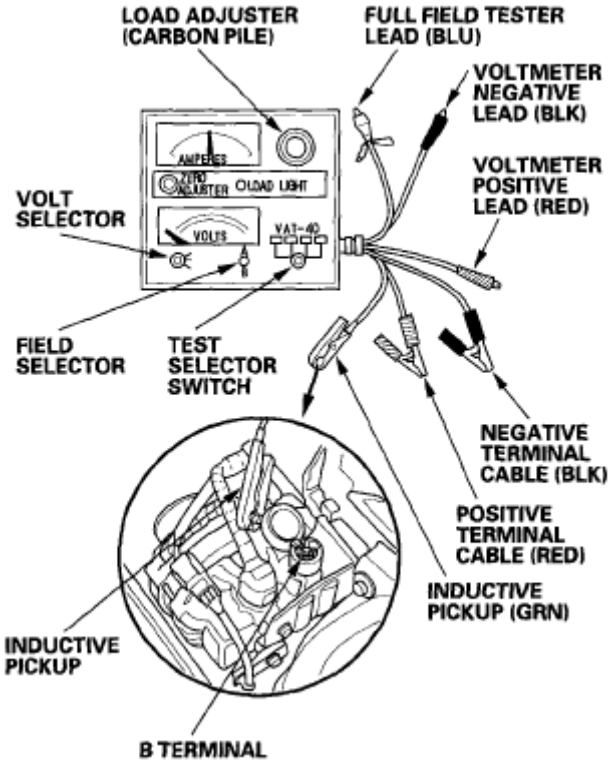



**Fig. 6: Identifying VAT-40 (Or Equivalent Tester)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Start the engine. Hold the engine speed at 3,000 rpm, with no load until the radiator fan comes on, then let it idle.
4. Raise the engine speed to 2,000 rpm, and hold it there.

*Is the voltage over 15.1 V?*

**YES** -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or rear housing assembly (see **ALTERNATOR OVERHAUL** ).

**NO** -Go to step 5.

5. Release the accelerator pedal, and let the engine idle.
6. Turn off all the accessories. Select the charging test on the tester.
7. Remove the inductive pickup, and zero the ammeter.
8. Place the inductive pickup over the B terminal wire of the alternator so the arrow points away from the alternator.
9. Raise the engine speed to 2,000 rpm, and hold it there.

   *Is the voltage less than 13.5 V?*

   **YES** -Go to **ALTERNATOR CONTROL CIRCUIT TROUBLESHOOTING** (see ).

   **NO** -Go to step 10.

10. Apply a load with the VAT-40 until the battery voltage drops within 12-13.5 V.

    *Is the amperage 87.5 A or more?*

    **YES** -The charging system is OK.

    **NOTE: If the charging system indicator is still on, replace the alternator (see ALTERNATOR REMOVAL AND INSTALLATION ).**

    **NO** -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or repair the alternator (see **ALTERNATOR OVERHAUL** ).

## ALTERNATOR CONTROL CIRCUIT TROUBLESHOOTING

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1. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the engine control module (ECM)/powertrain control module (PCM). If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Check for DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ). If a DTC is present, diagnose and repair the cause before continuing with this test.
5. Disconnect the alternator 4P connector from the alternator.
6. Start the engine, and turn on the headlights to high beam.
7. Measure the voltage between alternator 4P connector terminal No. 2 and the positive terminal of the battery.

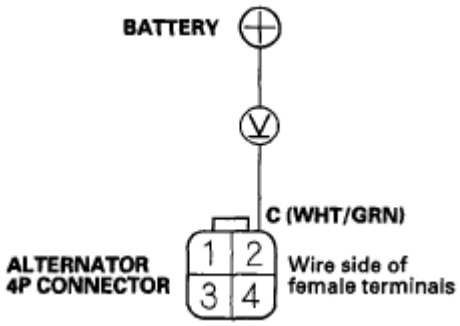



**Fig. 7: Identifying Voltage Between Alternator 4P Connector Terminal No. 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 1 V or less?*

**YES** -Go to step 11.

**NO** -Go to step 8.

8. Jump the SCS line with the HDS, then turn the ignition switch OFF.

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**NOTE: This step must be done to protect the ECM/PCM from damage.**

9. Disconnect ECM/PCM connector B (44P).
10. Check for continuity between ECM/PCM connector terminal B41 and body ground.

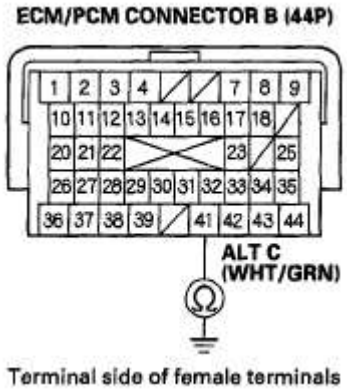



**Fig. 8: Checking Continuity Between ECM/PCM Connector Terminal B41 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between the alternator and the ECM/PCM.

**NO** -Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ).

11. Jump the SCS line with the HDS, then turn the ignition switch OFF.

**NOTE: This step must be done to protect the ECM/PCM from damage.**

12. Disconnect ECM/PCM connector B (44P).

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13. Check for continuity between ECM/PCM connector terminal B41 and alternator 4P connector terminal No. 2.

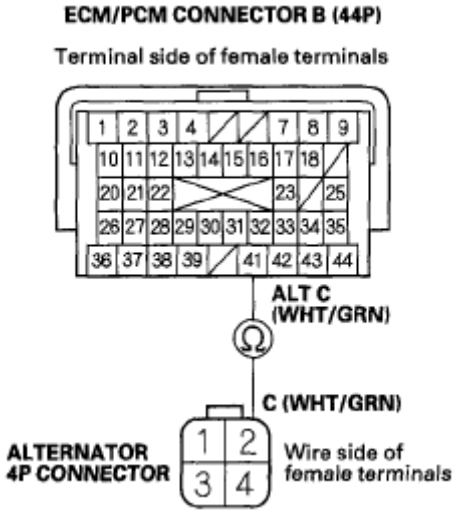



**Fig. 9: Checking Continuity Between ECM/PCM Connector Terminal B41 And Alternator 4P Connector Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ), or repair the alternator (see **ALTERNATOR OVERHAUL** ).

**NO** -Repair open in the wire between the alternator and the ECM/PCM.

## DRIVE BELT INSPECTION

1. Inspect the belt for cracks and damage. If the belt is cracked or damaged, replace it.
2. Check that the auto-tensioner indicator (A) is within the standard range (B) as shown. If it is out of the standard range, replace the drive belt (see **DRIVE BELT INSPECTION** ). After you inspected or replaced the drive belt, go to step 3.

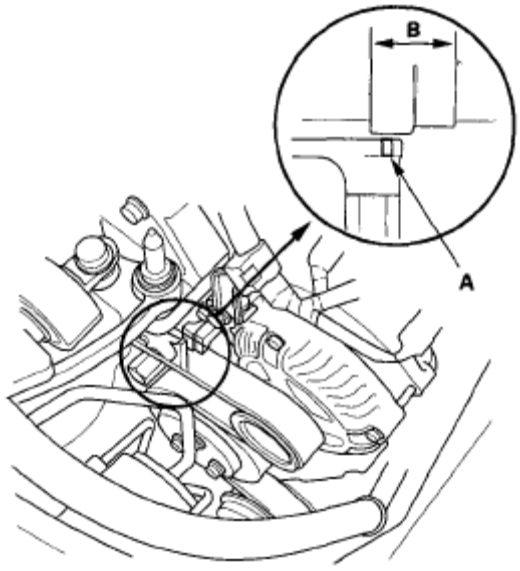



**Fig. 10: Checking Auto-Tensioner Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

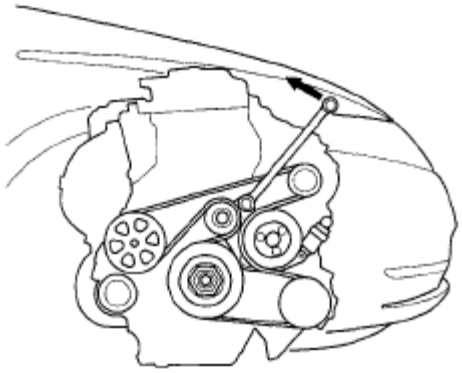
3. If the maintenance minder required to inspect the drive belt, reset the maintenance minder (see **RESETTING THE MAINTENANCE INFORMATION DISPLAY** ), and this procedure is complete.

## DRIVE BELT REMOVAL/INSTALLATION

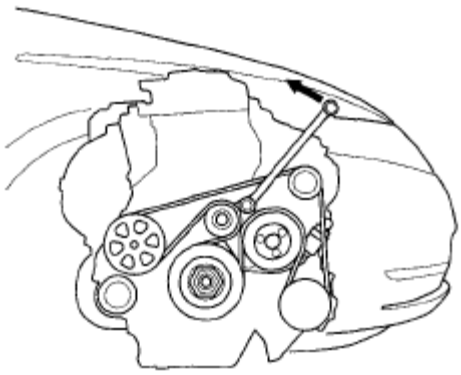
1. Set a long-handled, boxed-end wrench on the drive belt auto-tensioner from above the engine. Slowly turn the wrench in the direction shown, then remove the drive belt.

**NOTE: This is a hydraulic type auto-tensioner; you must turn the wrench slowly.**

With A/C '06 model



With A/C '07 model



Without A/C

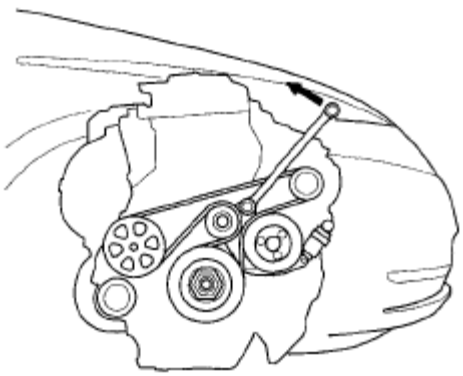


**Fig. 11: Identifying Drive Belt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the new belt in the reverse order of removal.

## DRIVE BELT AUTO-TENSIONER INSPECTION

1. Turn the ignition switch ON (II), and make sure to turn the A/C switch OFF.

Turn the ignition switch OFF.

2. Check the position of the auto-tensioner indicator's pointer (A). Start the engine then check the position again with the engine idling. If the position of the indicator moves or fluctuates a lot, replace the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).

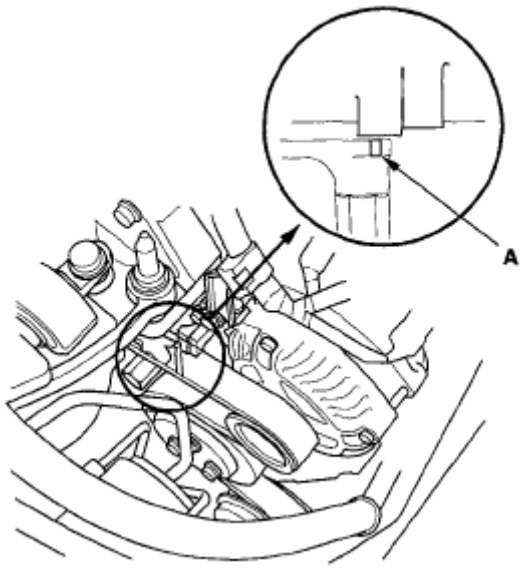



**Fig. 12: Identifying Drive Belt Auto-Tensioner Inspection**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for abnormal noise from the tensioner pulley. If you hear abnormal noise, replace the auto-tensioner pulley (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).
4. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
5. Set a long-handled, boxed-end wrench on the drive belt auto-tensioner from above the engine. Slowly turn the wrench in the direction shown. Check that the tensioner moves smoothly and without any abnormal noise. If the tensioner does not move smoothly, or you hear abnormal noise, replace the auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).

**NOTE: This is a hydraulic type auto-tensioner; you must turn the wrench slowly.**

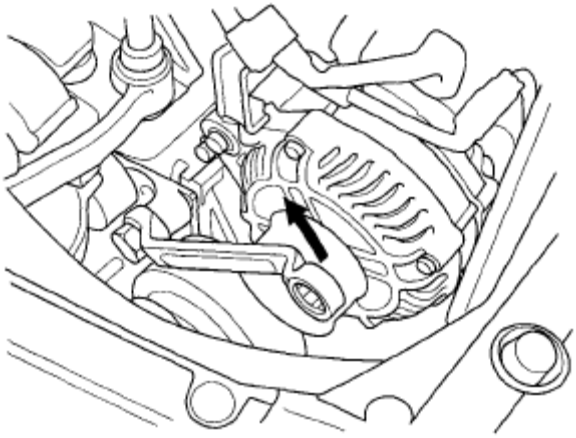


**Fig. 13: Identifying Long-Handled, Boxed-End Wrench**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION

1. Loosen the water pump pulley mounting bolts.

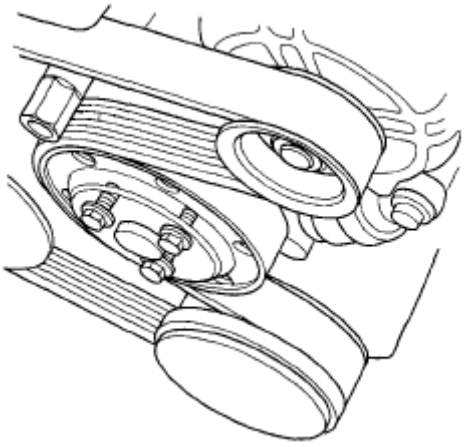


**Fig. 14: Identifying Water Pump Pulley Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
3. Remove the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ).
4. Remove the water pump pulley.

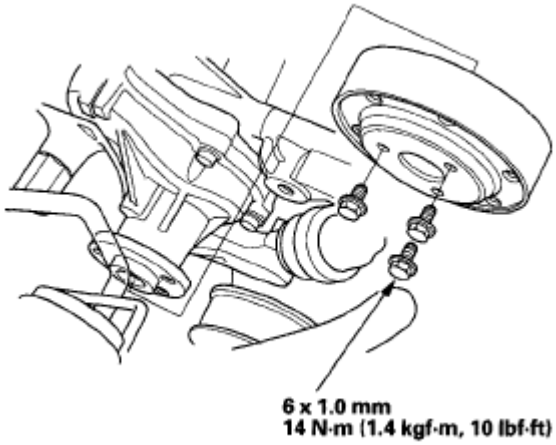



**Fig. 15: Identifying Water Pump Pulley (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the drive belt auto-tensioner.

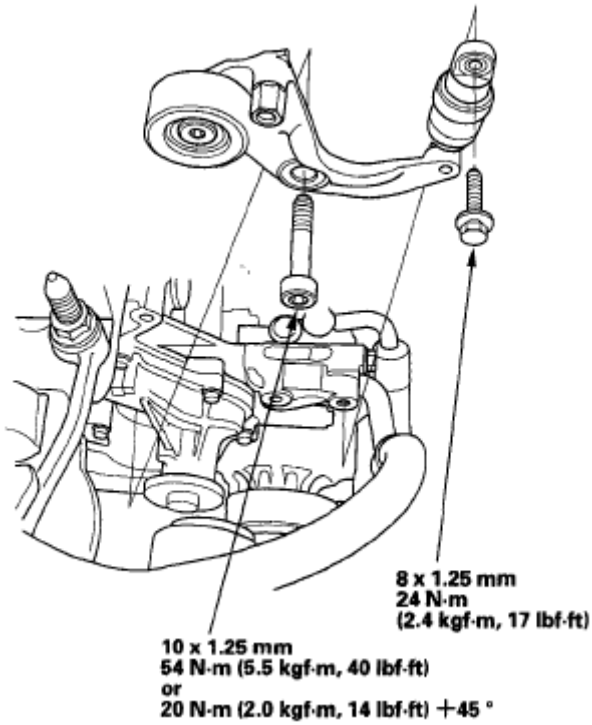



**Fig. 16: Identifying Drive Belt Auto-Tensioner (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the drive belt auto-tensioner in the reverse order of removal.

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## DRIVE BELT AUTO-TENSIONER AIR BLEEDING

1. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
2. Set a long-handled, boxed-end wrench on the drive belt auto-tensioner from the top of the engine. Apply slow and steady pressure (3 seconds or more to complete the stroke) to compress the drive belt auto-tensioner. Pull the wrench back, taking 3 or more seconds to complete the stroke. Do this action a total of 3 times to complete the air bleeding.

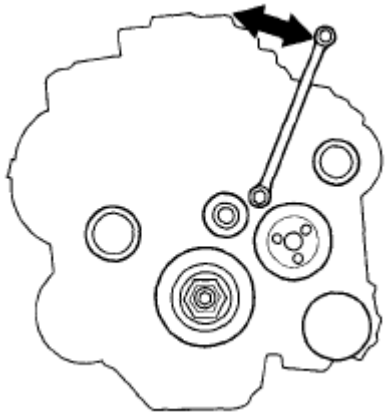


**Fig. 17: Identifying Drive Belt Auto-Tensioner Air Bleeding**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the drive belt (see **DRIVE BELT INSPECTION** ).

## ALTERNATOR REMOVAL AND INSTALLATION

### REMOVAL

1. Make sure you have the anti-theft code for the audio system and the navigation system (if equipped), then write down the audio presets.
2. Disconnect the negative cable from the battery first, then disconnect the positive cable.
3. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
4. Disconnect the alternator connector (A) and BLK wire (B) from the alternator.

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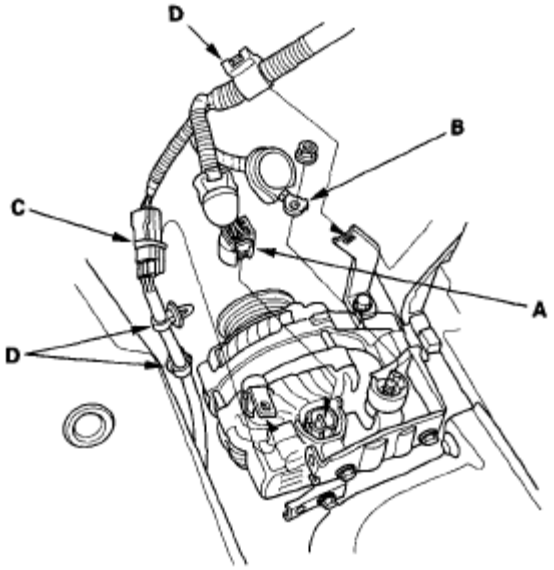



**Fig. 18: Identifying Alternator Components Description**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the harness connector (C) and harness clamps (D) from the alternator.
6. Remove the alternator.

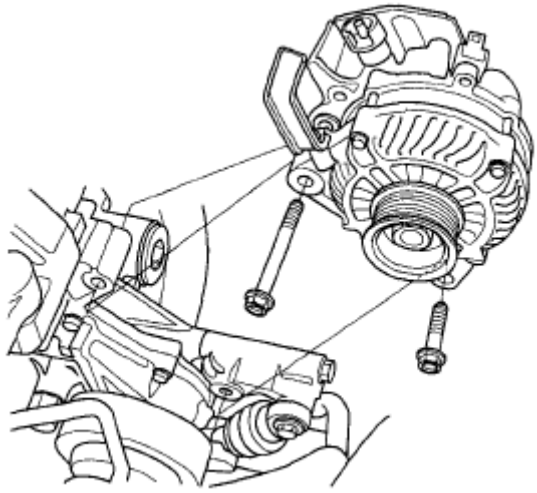


**Fig. 19: Identifying Alternator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Install the alternator.

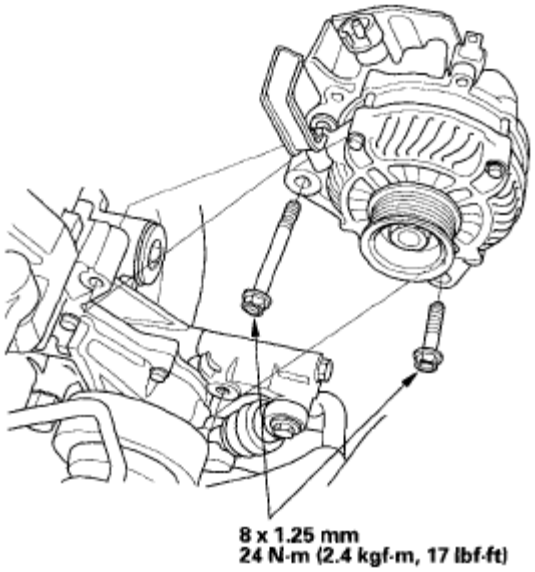



**Fig. 20: Identifying Alternator (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the alternator connector (A) and BLK wire (B) to the alternator.

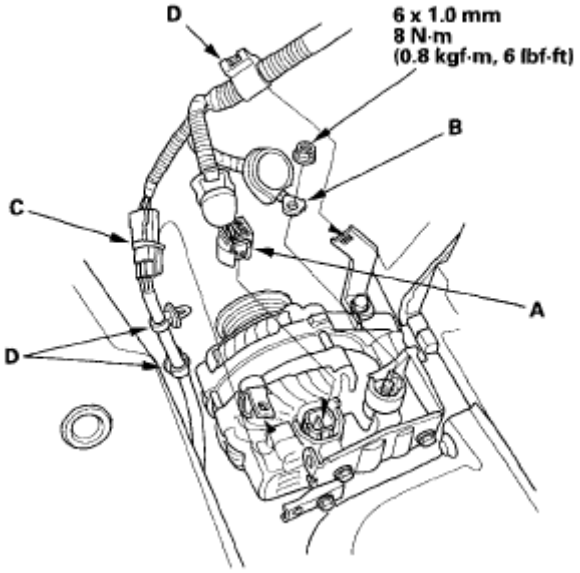



**Fig. 21: Identifying Alternator Connector And BLK Wire To Alternator (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the harness connector (C) and harness clamp (D) to the alternator.

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4. Install the drive belt (see **DRIVE BELT INSPECTION** ).
5. Connect the positive cable to the battery first, then connect the negative cable.
6. Enter the anti-theft code for the audio system and the navigation system (if equipped), then enter the audio presets.
7. Set the clock.

## ALTERNATOR OVERHAUL

### EXPLODED VIEW

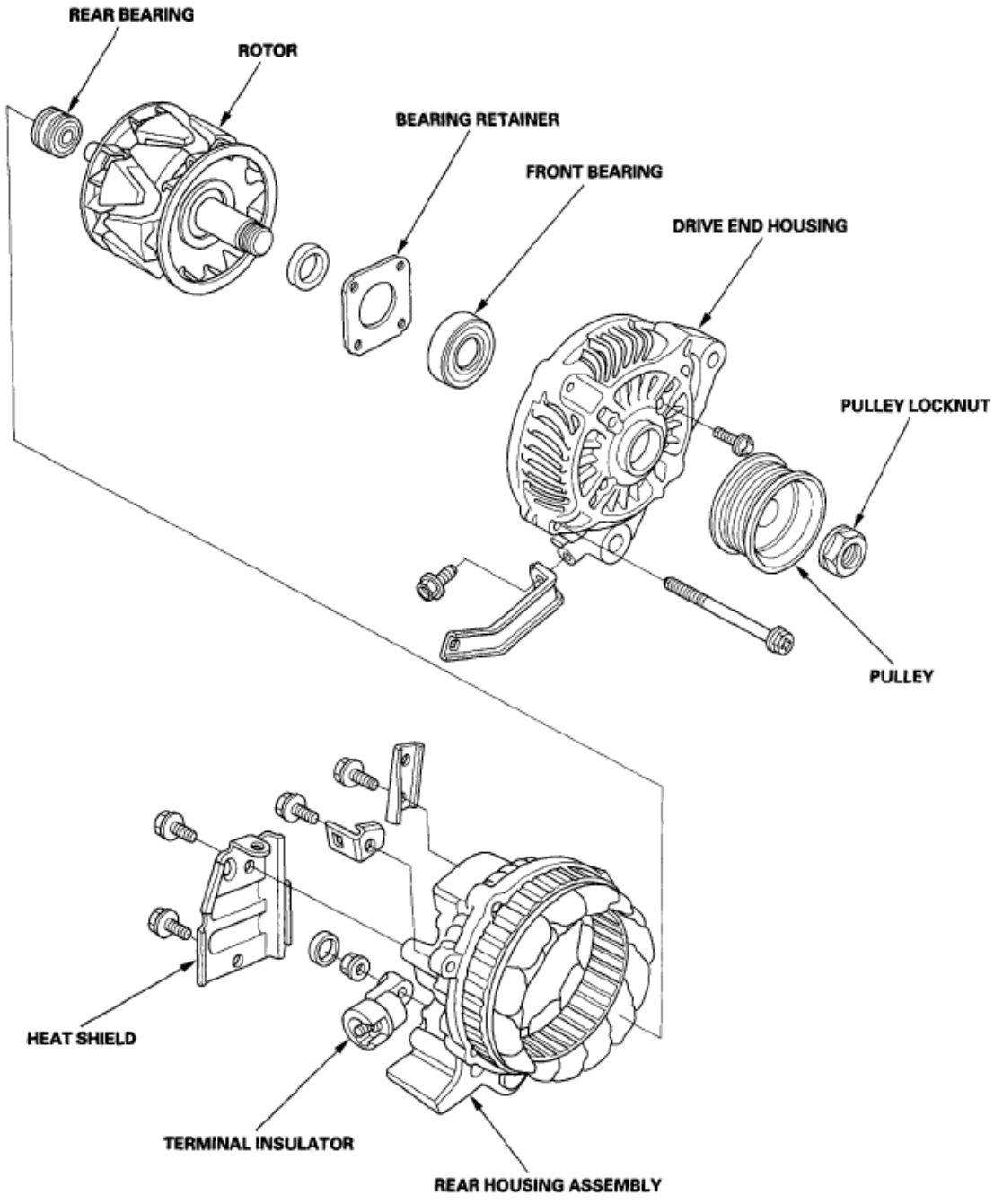



**Fig. 22: Exploded View Of Alternator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Driver 07749-0010000
- Attachment, 42 x 47 mm 07746-0010300

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**NOTE: Refer to the exploded view as needed during this procedure. See Fig. 22.**

### Alternator Disassembly

1. Test the alternator and regulator before you remove them (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ).
2. Remove the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ).
3. Remove the heat shield (A) and harness brackets (B).

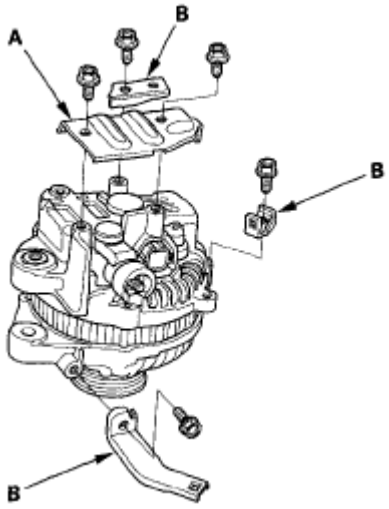



**Fig. 23: Removing Heat Shield And Harness Brackets**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the terminal insulator.

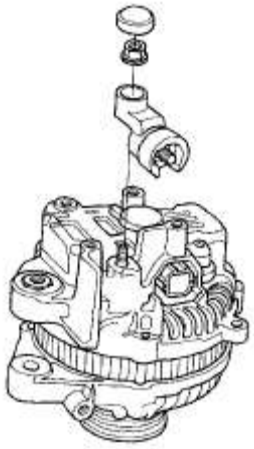


**Fig. 24: Removing Terminal Insulator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the four through bolts.

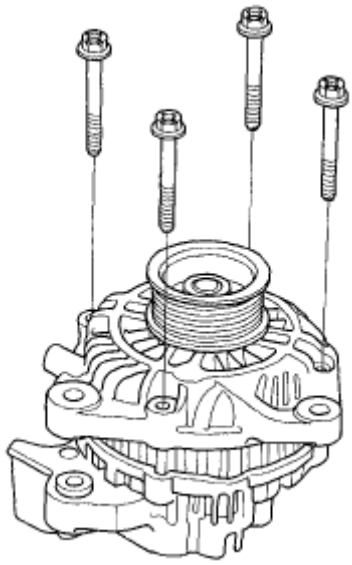


**Fig. 25: Removing Through Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Heat the rear bearing seat with a heat gun for about 5 minutes (129-140 °F, 50-60 °C).

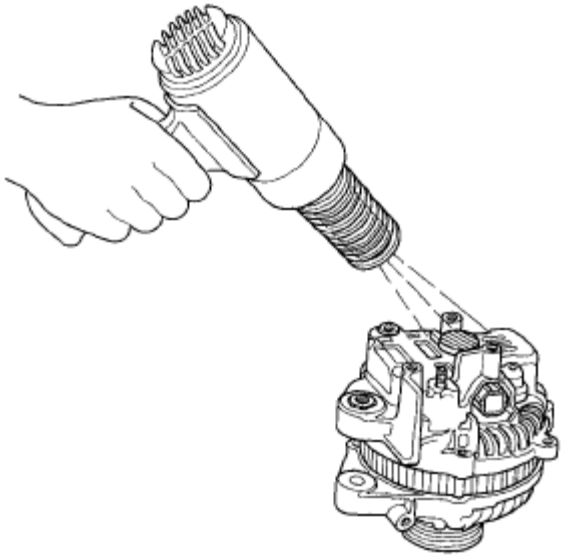


**Fig. 26: Identifying Heat Rear Bearing Seat With Heat Gun**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Separate the rear housing from the drive end housing by inserting a flat-tip screwdriver into the openings and prying them apart.

**NOTE: Be careful not to damage the stator with the tip of the screwdriver.**

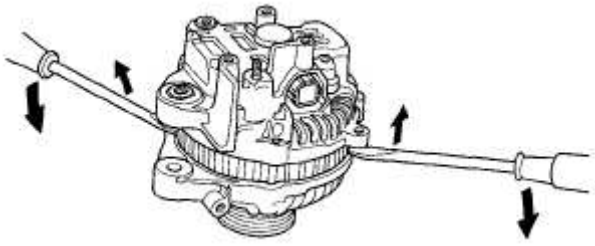


**Fig. 27: Identifying Rear Housing From Drive End Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Separate the rear housing (A) and drive end housing (B) with the stator (C) attached to the rear housing.

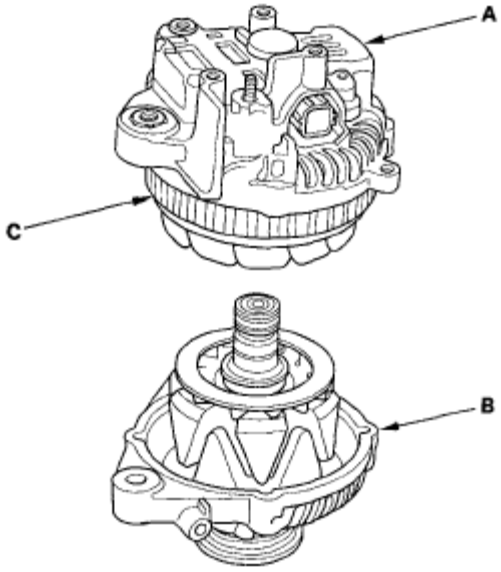



**Fig. 28: Separating Rear Housing And Drive End Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. If you are not replacing the front bearing and/or rear bearing, go to step 17. Clamp the rotor in a soft-jawed vise, then remove the pulley locknut.

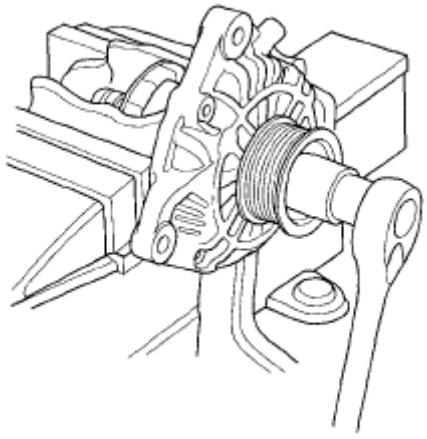


**Fig. 29: Removing Pulley Locknut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the rotor using a puller as shown.

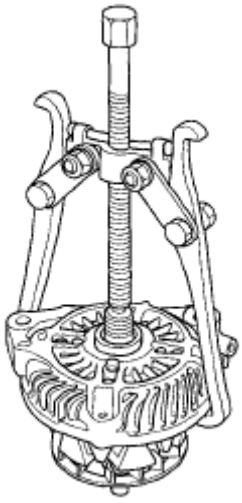


**Fig. 30: Removing Rotor Using Puller**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Inspect the rotor shaft for scoring, and inspect the bearing journal surface in the drive end housing for seizure marks.
    - If either the rotor or drive end housing is damaged, replace the alternator.
    - If both the rotor and the drive end housing are OK, go to step 12.
12. Remove the rear bearing using the puller as shown.

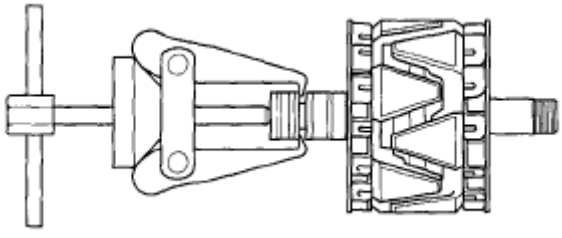


**Fig. 31: Removing Rear Bearing Using Puller**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Use a hand press to install the new rear bearing. Apply pressure only on the inner race to avoid damaging the bearing.

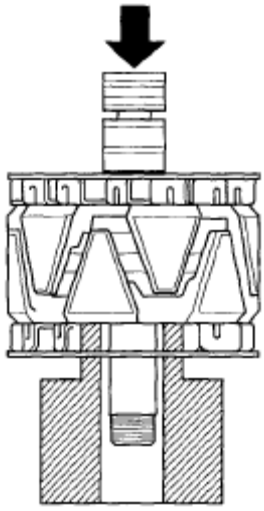


**Fig. 32: Applying Pressure On Inner Race Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Remove the front bearing retainer plate.

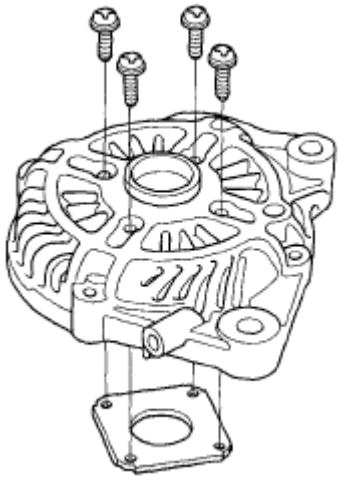


**Fig. 33: Removing Front Bearing Retainer Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Support the drive end housing in a vise, and drive out the front bearing with a brass drift and hammer.

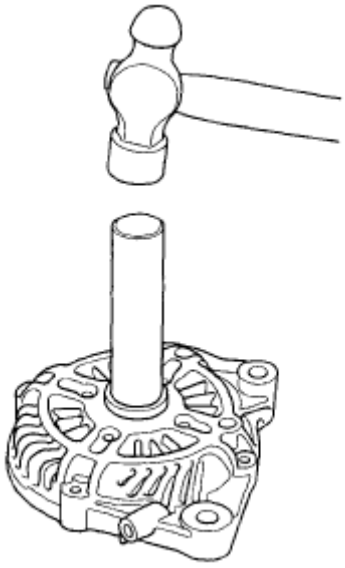


**Fig. 34: Identifying Support Drive End Housing In Vise**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. With a hammer and the special tools, install a new front bearing in the drive end housing.

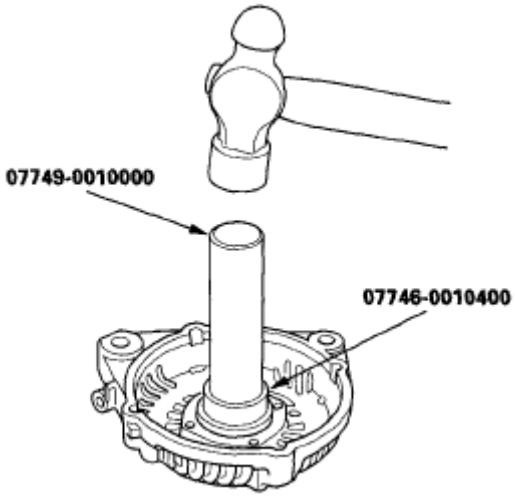



**Fig. 35: Installing Front Bearing In Drive End Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Alternator Brush Inspection

17. Measure the length of both brushes with a vernier caliper.

- If either brush is shorter than the service limit, replace the rear housing assembly.
- If the brush length is OK, go to step 18.

**Alternator Brush Length**

**Standard (New): 19.0 mm (0.75 in.)**

**Service Limit: 5.0 mm (0.2 in.)**

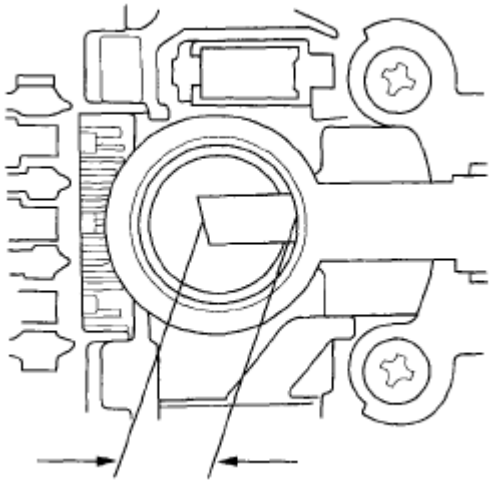


**Fig. 36: Measuring Length Of Both Brushes With Vernier Caliper**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Rotor Slip Ring Test**

18. Check for continuity between the slip rings (A).
    - If there is continuity, go to step 19.
    - If there is no continuity, replace the rotor assembly.

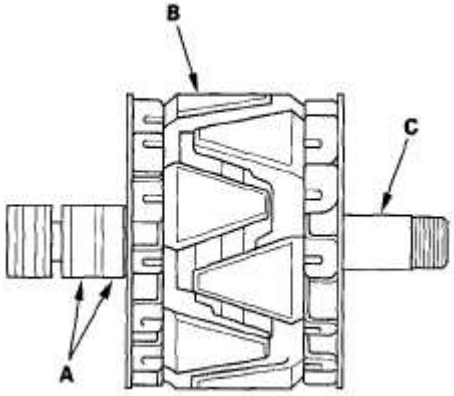



**Fig. 37: Checking Continuity Between Slip Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Check for no continuity between each slip ring (A) and the rotor (B) and the rotor shaft (C).
    - If there is no continuity, replace the rear housing assembly, and go to step 20.
    - If there is continuity, replace the rotor assembly.

### Alternator Reassembly

20. If you removed the pulley, put the rotor in the drive end housing, then tighten its locknut to 111 N.m (11.3 kgf-m, 81.7 lbf-ft).
21. Remove any grease or oil from the slip rings.
22. Push the brushes (A) in, then insert a pin or drill bit (B) (about 1.8 mm (0.77 in.) diameter) to hold them there.

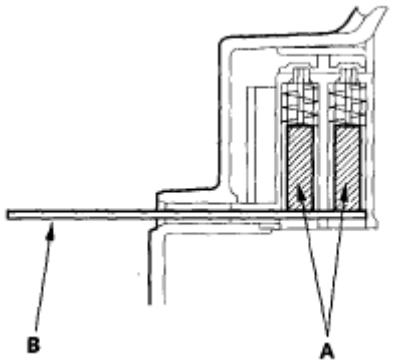



**Fig. 38: Removing Grease Or Oil From Slip Rings**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Heat the rear bearing seat with a heat gun for about 5 minutes (129-140 °F, 50-60 °C).
24. Put the rear housing assembly (A) and drive end housing/rotor assembly (B) together, tighten the four through bolts (C), and pull out the pin (D).

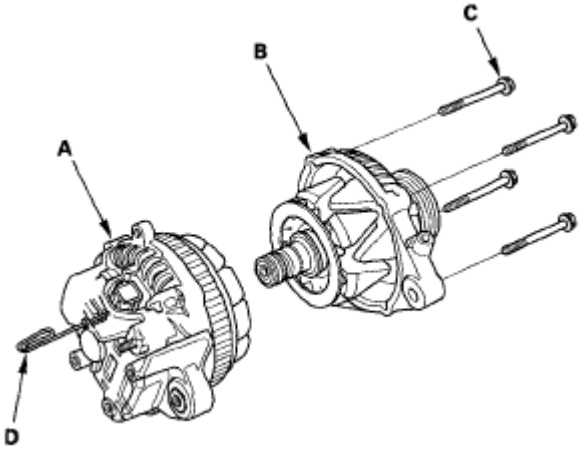



**Fig. 39: Identifying Heat Rear Bearing Seat With Heat Gun**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. After assembling the alternator, turn the pulley by hand to make sure the rotor turns smoothly and without noise.
26. Install the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ) and drive belt (see **DRIVE BELT INSPECTION** ).

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**2006-08 ACCESSORIES & EQUIPMENT**

**Consoles - Civic (All Except Hybrid)**

## CENTER CONSOLE REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

*Available through the American Honda Tool and Equipment Program; call 888-424-6857

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) before doing repairs or service.

**NOTE:**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to scratch the front seat, dashboard, and related parts.**

1. Remove the passenger's dashboard undercover (see **PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
2. Standard M/T model: Lower the shift lever boot (A) to release the hooks (B) from the boot, then remove the shift knob (C).

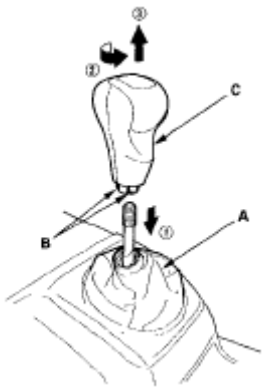



**Fig. 1: Removing Shift Knob**

3. Si model: Loosen the locknut (A), then remove the shift knob (B).

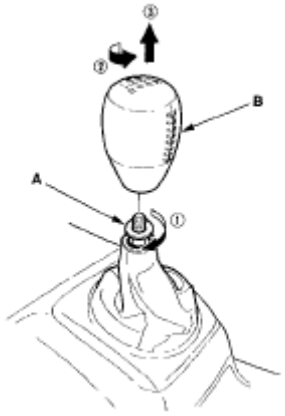



**Fig. 2: Removing Shift Knob (Si Model)**

4. Standard M/T model: Detach the clips by pulling the front inner panel (A) up.

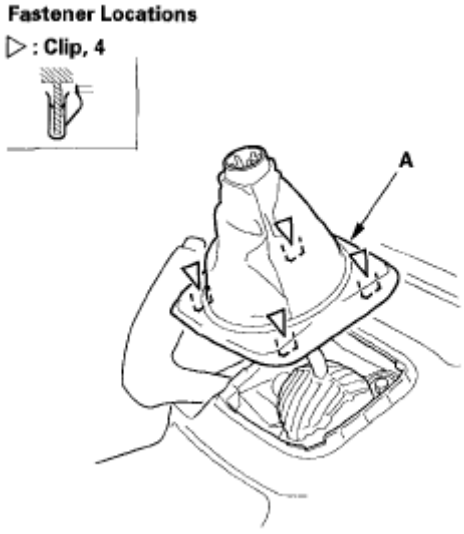



**Fig. 3: Pulling Front Inner Panel To Detach Clips**

5. Si model: Remove the locknut (A). Detach the clips by pulling the front inner panel (B) up.

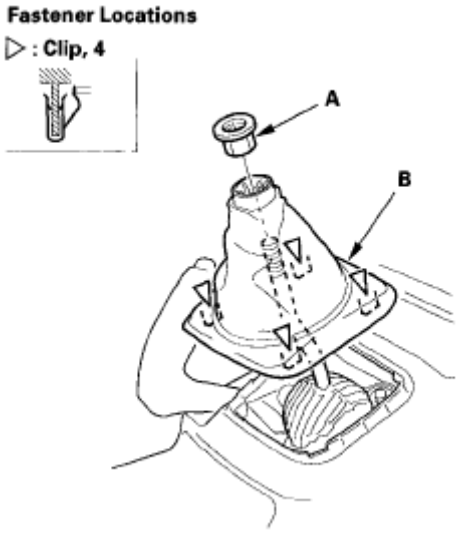



**Fig. 4: Pulling Front Inner Panel To Detach Clips (Si Model)**

6. Gently pull out along the rear of the center console panel (A) to release the clips (B, C).

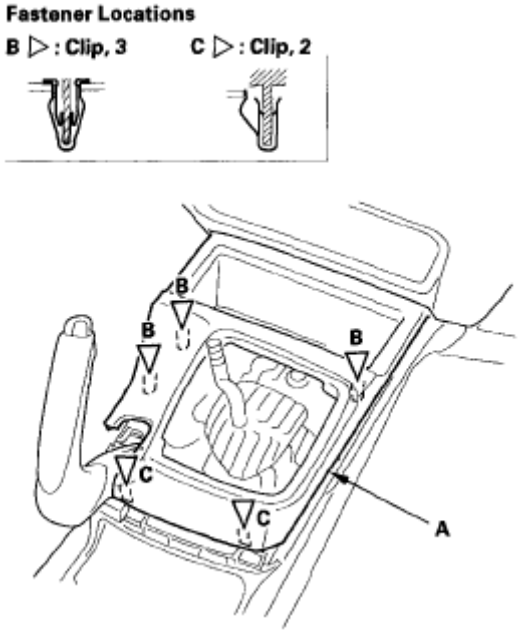



**Fig. 5: Releasing Clips By Pulling Rear Of Center Console Panel**

7. Pull the center console panel (A) up and rearward to release the tabs (B).

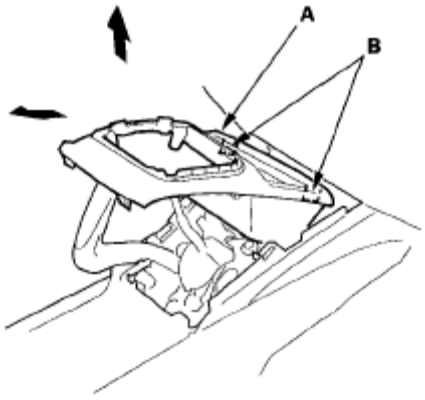



**Fig. 6: Releasing Tabs By Pulling Center Console Panel**

8. Open the armrest (A), then remove the console box mat (B) and bolts.

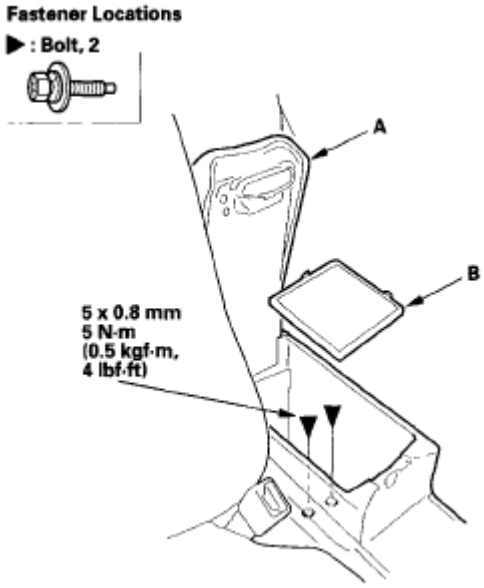



**Fig. 7: Removing Console Box Mat And Bolts (With Specifications)**

9. From the front portion of the center console, remove the bolts (A) and clips (B), and disconnect the console subharness connector (C), then detach the connector clip (D).

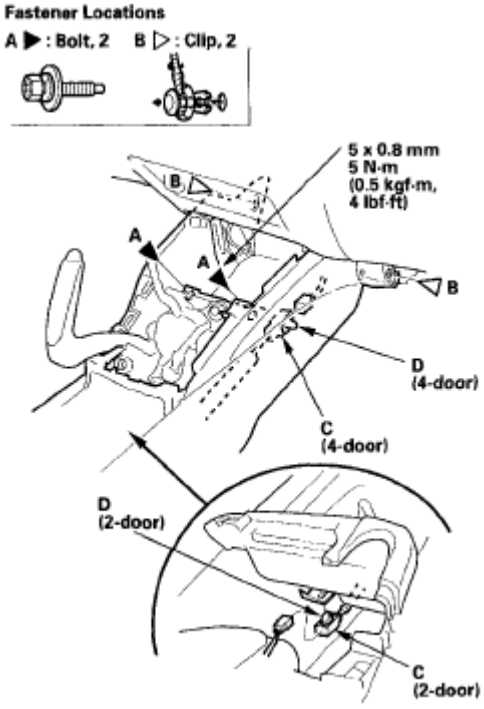



**Fig. 8: Disconnecting Console Subharness Connector (With Specifications)**

10. Slide both front seats all the way back, and recline the seat-back fully.
11. Slide the center console (A) rearward to release the pins (B) from the bracket (C).

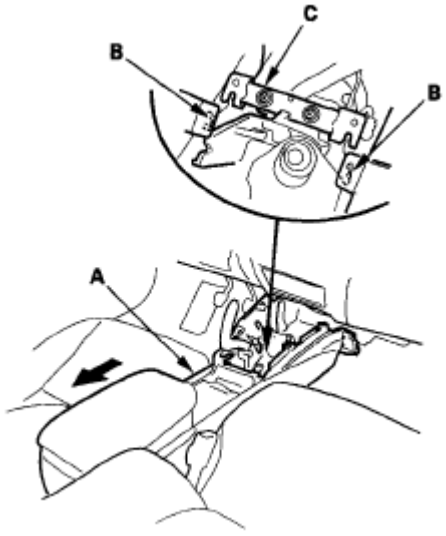



**Fig. 9: Sliding Center Console Rearward To Release Pins**

12. Lift up the rear of the console (A), and remove it from the dashboard.

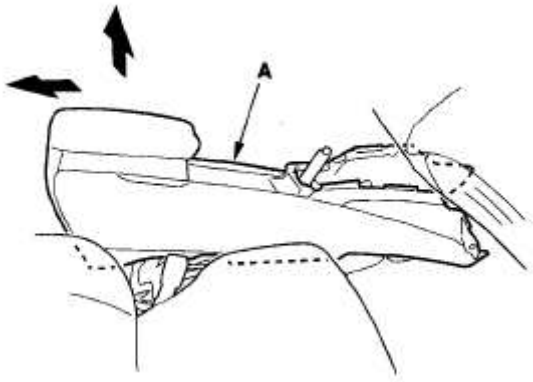



**Fig. 10: Removing Rear Of Console**

13. Install the console in the reverse order of removal, and note these items:
    - Make sure each connector is plugged in properly.
    - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
    - Push the clips and hooks into place securely.
    - When installing the center console panel, install the tabs (A) into the notch (B) of the parking brake base frame (C).

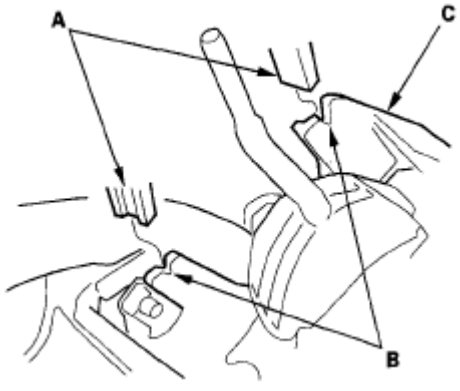



**Fig. 11: Installing Console**

14. Si model: Install the shift knob (A).
    - 1 By hand, thread the locknut (B) on to the shaft unit it bottoms out on the shaft.

- 2 By hand, thread the shift knob on the shaft.
- 3 Rotate the shift knob to proper position.
- 4 Tighten the locknut securely.

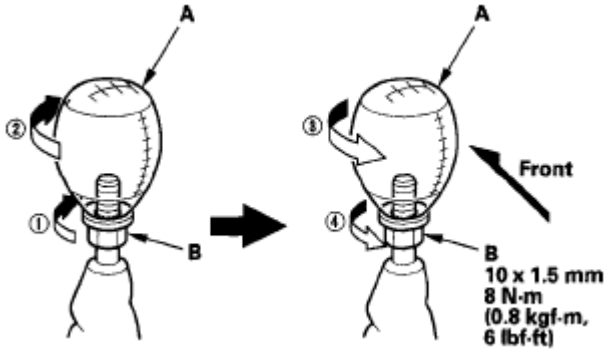



**Fig. 12: Installing Shift Knob (Si Model) (With Specifications)**

## CENTER CONSOLE DISASSEMBLY/REASSEMBLY

### Special Tools Required

KTC trim tool set SOJATP2014 *

*Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE:**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to scratch the center console, dashboard, and related parts.**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. If equipped, remove the center console armrest (see **CENTER CONSOLE ARMREST REPLACEMENT** ).
3. Using a T20 TORX bit, remove the screws, and disconnect the accessory socket connector (A).

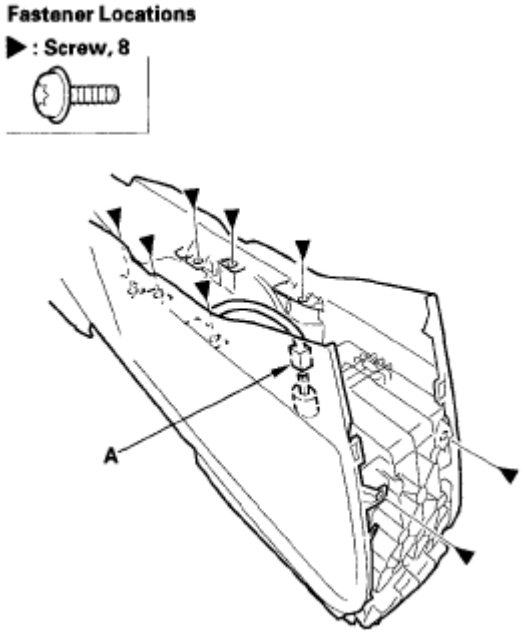



**Fig. 13: Identifying Accessory Socket Connector**

4. Release the hooks (A) and pins (B), then separate the left console side panel (C), right console side panel (D), console beverage holder (E) and console box (F). If equipped, detach the harness clips (G), then remove the console subharness (H) from the hooks (I). 4-door is shown; 2-door is similar.

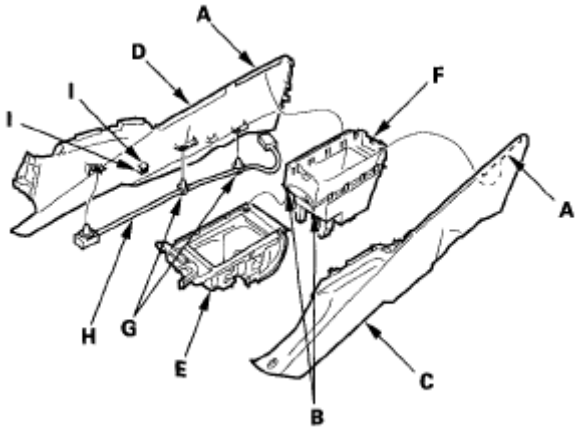



**Fig. 14: Removing Console Subharness**

5. Release the hooks (A, B), then separate the console upper box (C) and console lower box (D).

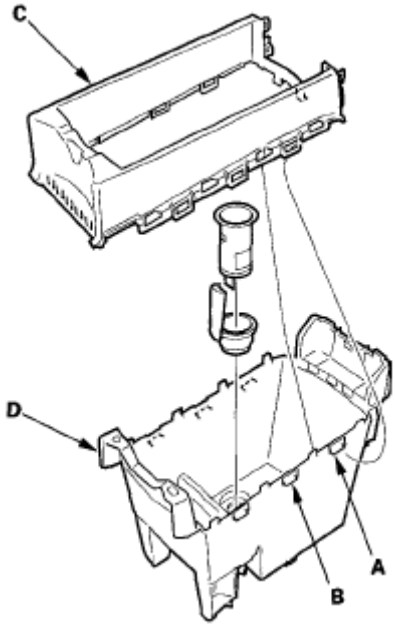



**Fig. 15: Separating Console Upper And Lower Box**

6. Assemble the console in the reverse order of removal, and make sure the console subharness connector is plugged in properly.

## CENTER CONSOLE ARMREST REPLACEMENT

**FOR SOME MODELS**

**NOTE: Take care not to scratch the armrest, center console, and related parts.**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Gently pull out the center console rear cover (A) to detach the clips.

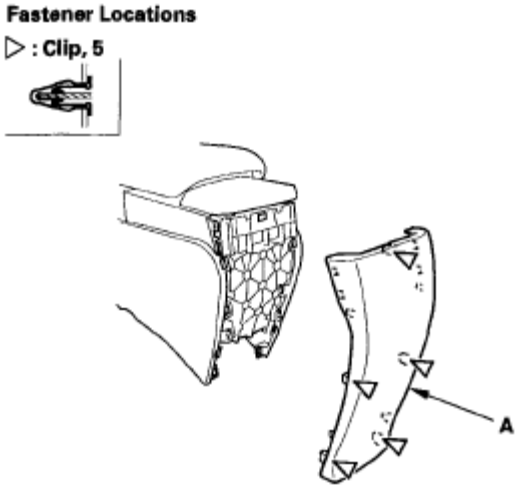



**Fig. 16: Removing Center Console Rear Cover**

3. Open the armrest (A), pull the pin (B) off the armrest, then separate the armrest and center console (C).

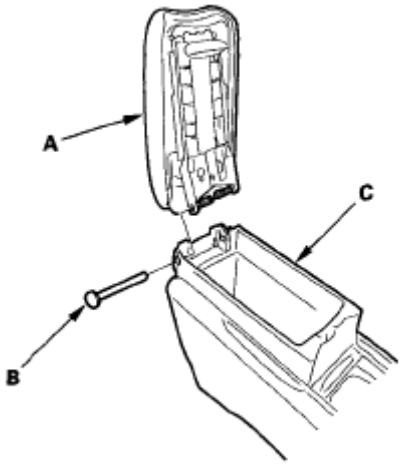



**Fig. 17: Separating Armrest And Center Console**

4. Install the center console armrest in the reverse order of removal and check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

## ARMREST LOCK REPLACEMENT

**FOR SOME MODELS**

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**NOTE: Take care not to scratch the armrest and related parts.**

1. Remove the center console armrest (see **CENTER CONSOLE ARMREST REPLACEMENT** ).
2. Using a T15 TORX bit, remove the screws. Slide the armrest liner (A) downward to release the hooks (B), then remove the armrest liner and armrest spring (C).

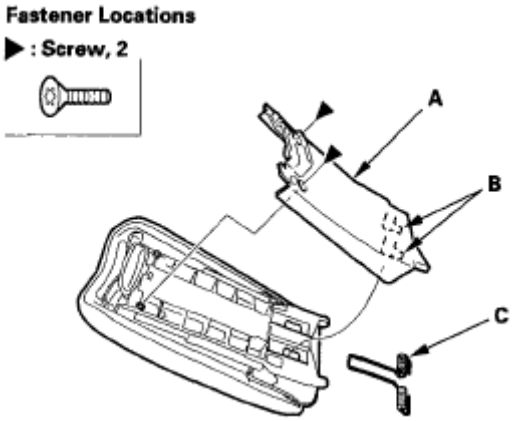



**Fig. 18: Removing Armrest Liner And Spring**

3. Using a T15 TORX bit, remove the screws.

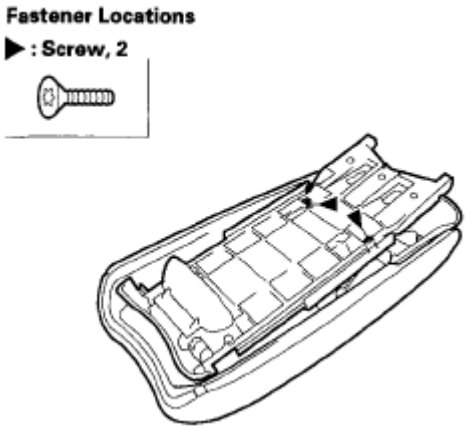



**Fig. 19: Removing Armrest Screw**

4. Slide the armrest (A) all the way forward, using a T15 TORX bit, remove the screws, then remove the armrest backbone (B).

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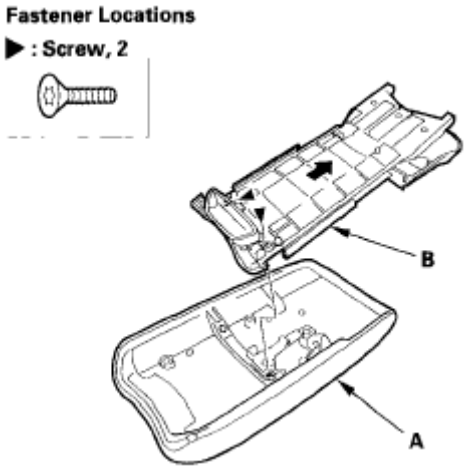



**Fig. 20: Removing Armrest Backbone**

5. From the back of the armrest backbone (A), push the edge of the armrest lock pin (B) with a flat-tip screwdriver, then slide the armrest lock pin fully.

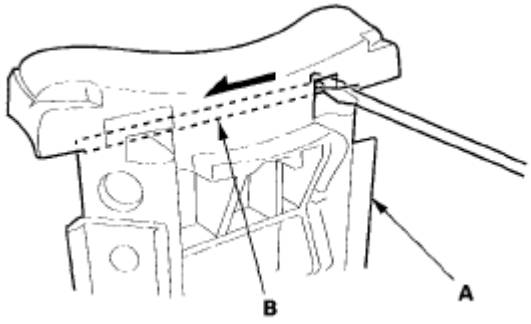



**Fig. 21: Sliding Armrest Lock Pin**

6. Remove the armrest lock (A) with the armrest lock pin (B) from the armrest backbone (C).

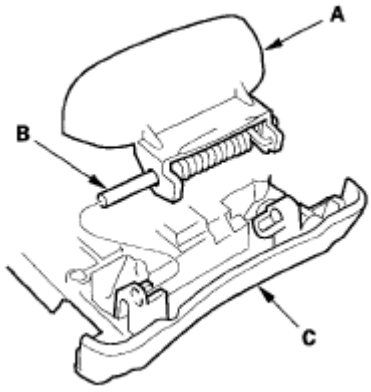



**Fig. 22: Removing Armrest Lock With Armrest Lock Pin**

7. Remove the armrest lock pin (A), then separate the armrest lock (B) and armrest lock spring (C).

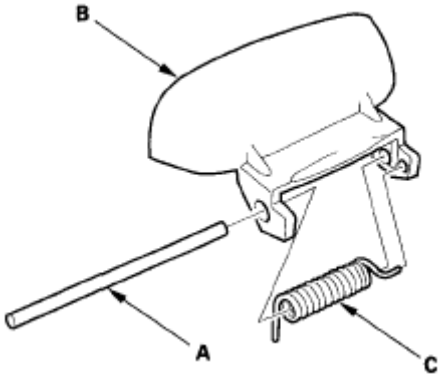



**Fig. 23: Removing Armrest Lock Pin**

8. Install the armrest lock in the reverse order of removal.

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**2006-08 ENGINE**

**Fan Controls (K20Z3) - Civic (All Except Si)**

## COMPONENT LOCATION INDEX

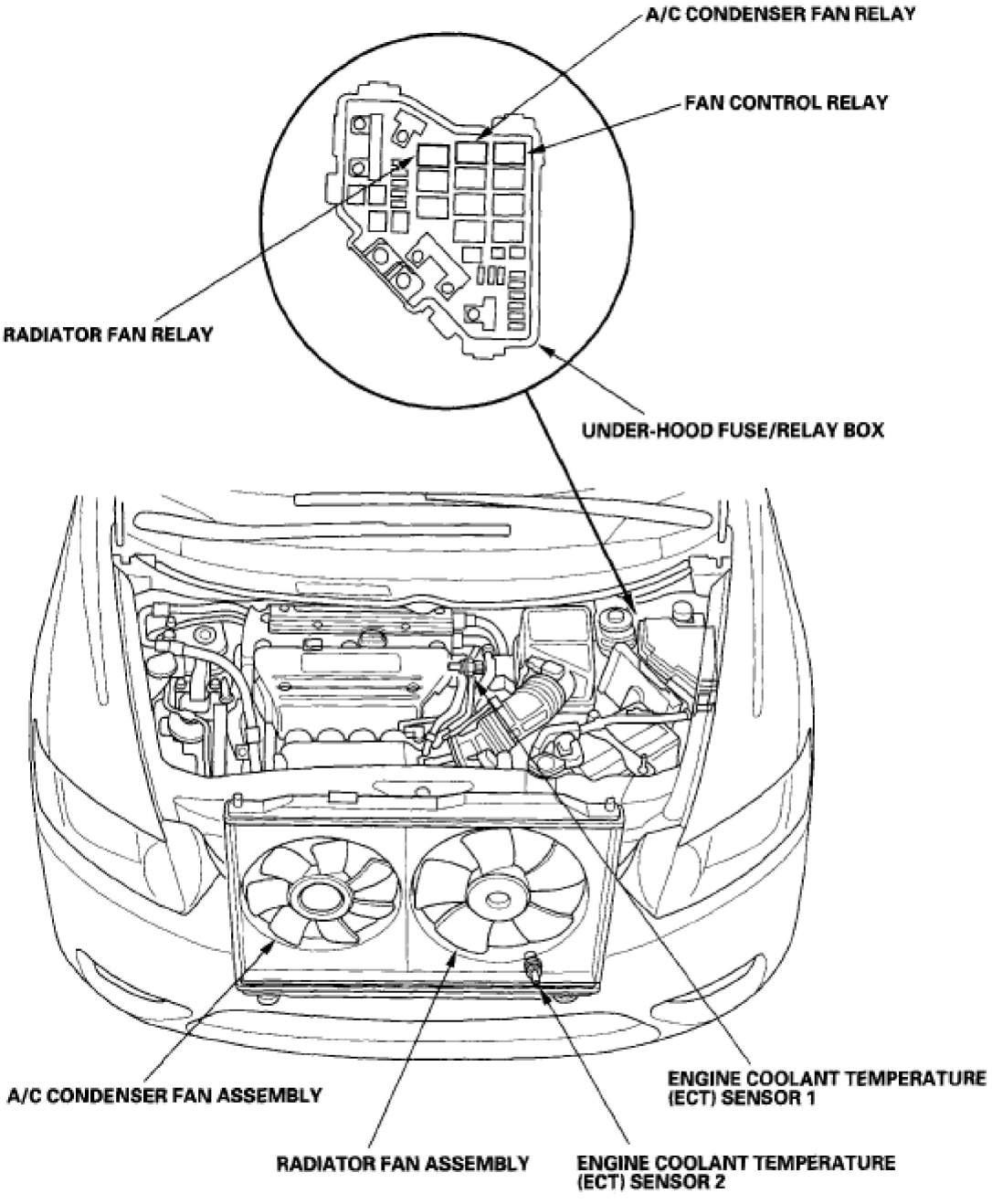



**Fig. 1: Identifying A/C Condenser Fan Relay And Radiator Fan Relay**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic Procedure | Also check for |
|---|---|---|
| Engine overheats | 1. Check the coolant level.<br>2. Check for any engine coolant leakage (from gaskets, hoses, O-rings, etc.).<br>3. Check for dirt, leaves, or insects on radiator and condenser.<br>4. Check for deteriorated coolant.<br>5. Check for a damaged or deformed fan shroud.<br>6. Inspect the fan motors (see **FAN MOTOR TEST** ) or fan relays (see **POWER RELAY TEST** ).<br>7. Check the radiator cap (see **RADIATOR CAP TEST** ).<br>8. Check the thermostat (see **FAN MOTOR TEST** ).<br>9. Inspect the water pump (see **WATER PUMP INSPECTION** ).<br>10. Check for a plugged or deteriorated radiator hoses.<br>11. Check for plugged heater core or hoses.<br>12. Check for a damaged cylinder head gasket. | |
| The A/C condenser fan runs at low speed, but it does not run at high speed | A/C condenser fan high speed circuit troubleshooting (see **A/C** | Cleanliness and tightness |

| | | |
|---|---|---|
| when the engine coolant temperature is above 199 ° F (93 °C) | **CONDENSER FAN HIGH SPEED CIRCUIT TROUBLESHOOTING** ). | of all connectors |
| With the A/C off and the engine coolant temperature at 199 °F (93 °C) or below, the radiator fan runs at high speed and the A/C condenser fan does not run. When the engine coolant temperature is above 199 °F (93 °C), both fans run at high speed | Remove the fan control relay, and test.<br>• If the relay is faulty, replace it.<br>• If the relay is OK, check for a short in the wire between the fan control relay 5P socket terminal No. 1 and radiator fan motor 2P connector terminal No. 1. | Cleanliness and tightness of all connectors |
| Both the radiator fan and the A/C condenser fan run at high speed with the ignition switch ON (II), the A/C off, and the engine coolant temperature below 194 °F (90 °C) | Check for short in the wire between A/C condenser fan relay 4P socket terminal No. 3 and ECM connector terminal A5. | Cleanliness and tightness of all connectors |
| Both the radiator fan and the A/C condenser fan run at low speed with the ignition switch ON (II) and the A/C off | Check for short in the wire between radiator fan relay 4P socket terminal No. 4 and ECM connector terminal A4. | Cleanliness and tightness of all connectors |
| Both the radiator fan and the A/C condenser fan do not run at low speed with the A/C on | Radiator and A/C condenser fans low speed circuit troubleshooting (see **RADIATOR AND A/C CONDENSER FAN LOW SPEED CIRCUIT TROUBLESHOOTING** ). | Cleanliness and tightness of all connectors |
| Both the radiator fan and the A/C condenser fan run at low speed, but the radiator fan does not run at | **RADIATOR FAN HIGH SPEED CIRCUIT TROUBLESHOOTING** | Cleanliness and tightness |

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| | | |
|---|---|---|
| high speed when the engine coolant temperature is above 199 °F (93 °C) | (see ). | of all connectors |
| Both the radiator fan and the A/C condenser fan do not run at high speed when the engine coolant temperature is above 199 T (93 °C) | Check for open in the wire between A/C condenser fan relay 4P socket terminal No. 3 and ECM connector terminal A5. | Cleanliness and tightness of all connectors |

## CIRCUIT DIAGRAM

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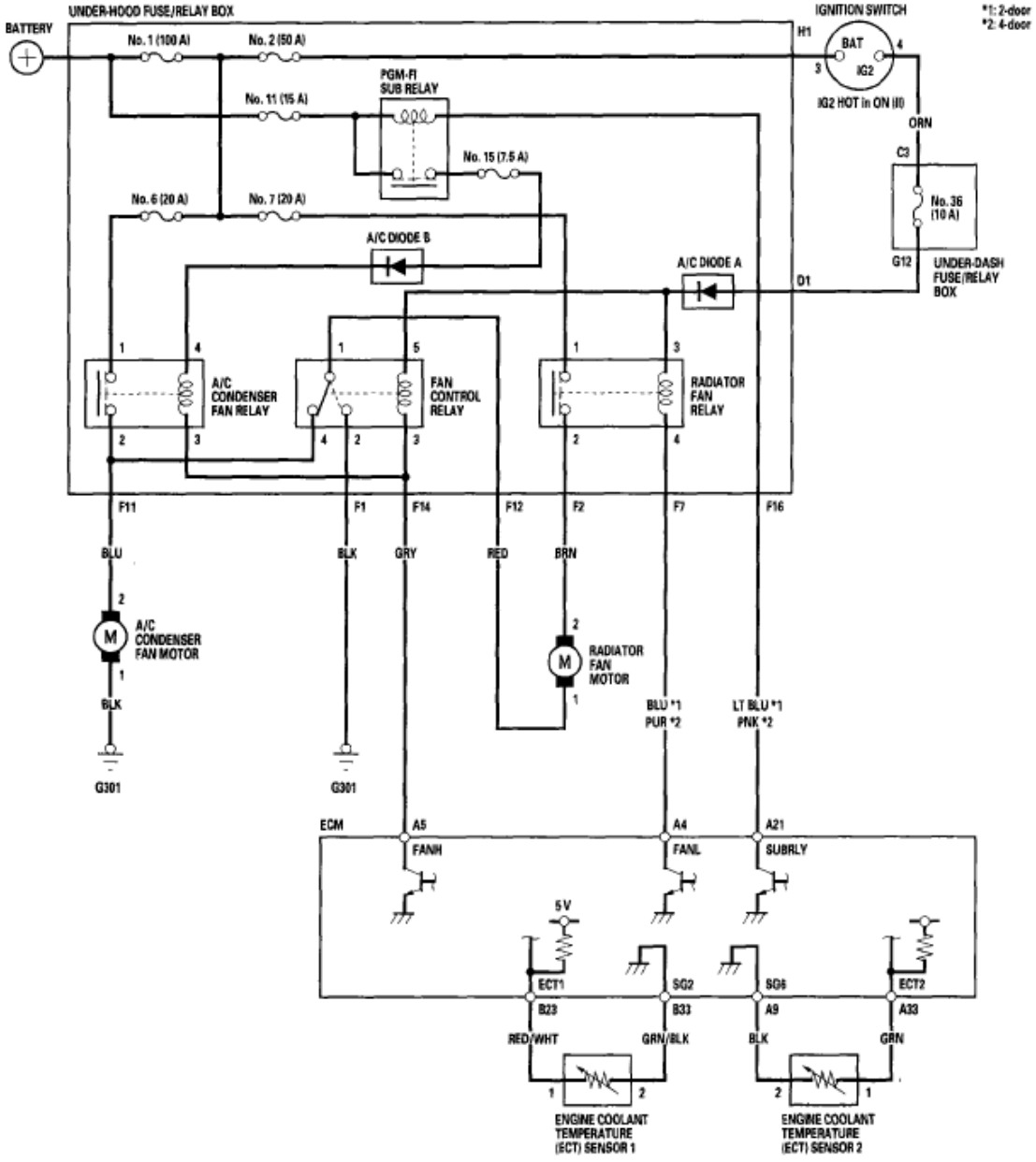



**Fig. 2: Fan Controls Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## RADIATOR FAN HIGH SPEED CIRCUIT TROUBLESHOOTING

1. Remove the fan control relay from the under-hood fuse/relay box, and test it (see **POWER RELAY TEST** ).

   *Is the relay OK?*

**YES** -Go to step 2.

**NO** -Replace the fan control relay.

2. Check the No. 36(10 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

   **YES** -Go to step 3.

   **NO** -Replace the fuse.

3. Turn the ignition switch ON (II).
4. Measure the voltage between the fan control relay 5P socket terminal No. 5 and body ground.

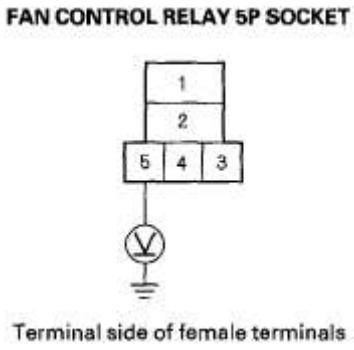



**Fig. 3: Measuring Voltage Between Fan Control Relay 5P Socket Terminal 5 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 5.

**NO** -Repair open in the wire between the under-hood fuse/relay box and the under-dash fuse/relay box.

5. Turn the ignition switch to LOCK (0).
6. Check for continuity between the fan control relay 5P socket terminal No. 2

and body ground.

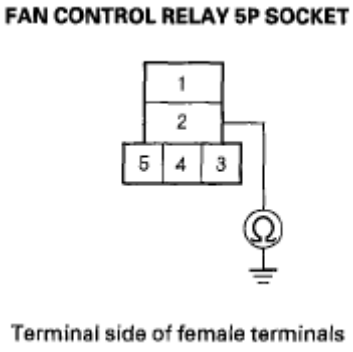



**Fig. 4: Checking For Continuity Between Fan Control Relay 5P Socket Terminal 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the under hood fuse/relay box.

**NO** -Repair open in the wire between the fan control relay 5P socket terminal No. 2 and body ground (G301). If the wire is OK, check for poor ground at G301.

**2006-08 ENGINE**

**Cooling System - Civic GX**

## COMPONENT LOCATION INDEX

**NOTE: Refer to the COOLING SYSTEM (R18A1) (EXCEPT HYBRID) article for items not shown in this article.**

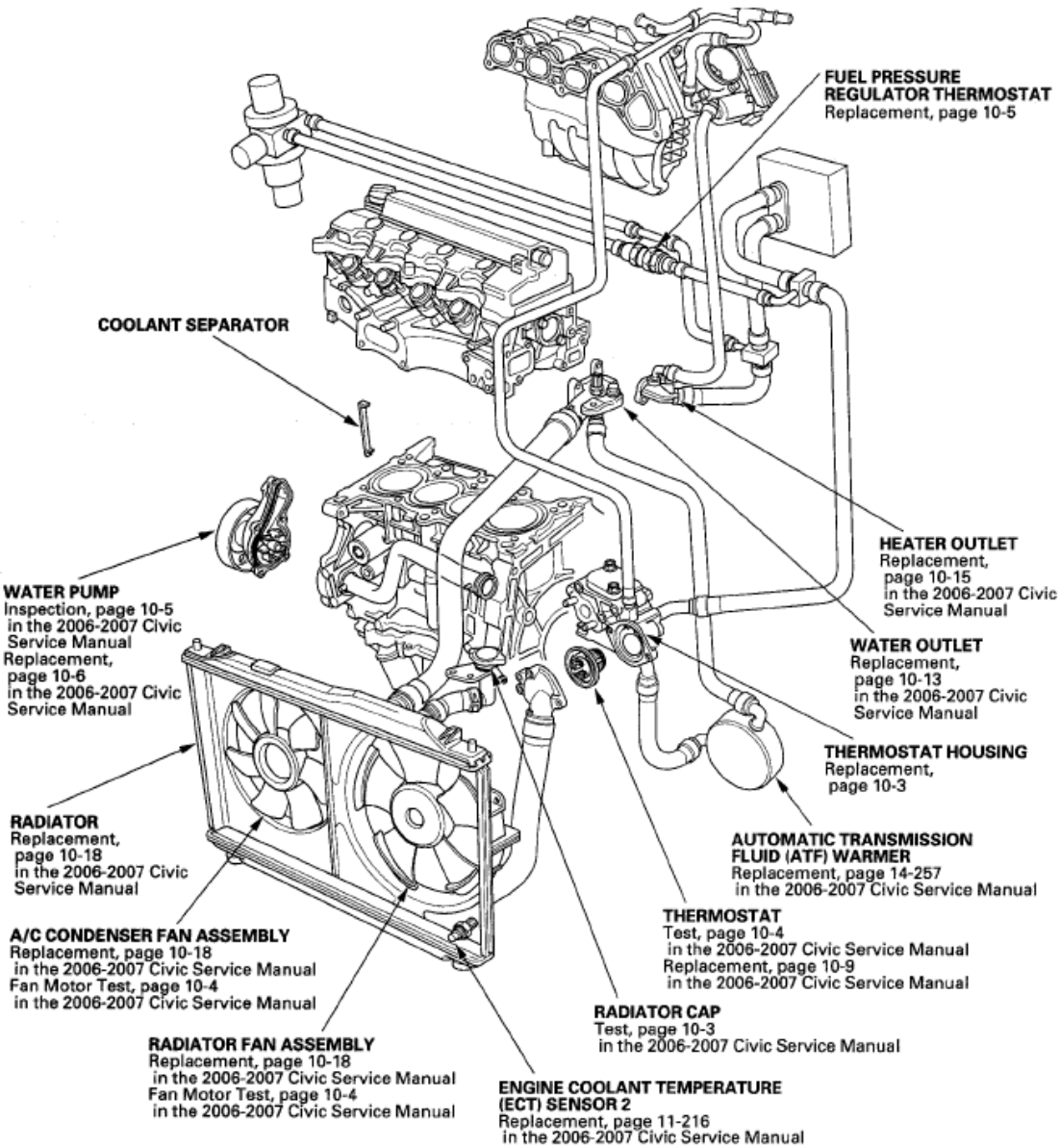



**Fig. 1: Identifying Cooling System Components**

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# THERMOSTAT HOUSING REMOVAL AND INSTALLATION

**REMOVAL**

1. Drain the engine coolant, refer to the **THERMOSTAT REPLACEMENT** .
2. Remove the air cleaner housing assembly, refer to the **AIR CLEANER REMOVAL/INSTALLATION** .
3. Remove the harness bracket (A), and cover the air fuel ratio (A/F) sensor connector and secondary heated oxygen sensor (secondary HO2S) connector with a tape to protect the connectors from engine coolant, then remove the lower radiator hose (B), the water bypass hoses (C), and the heater hose (D).

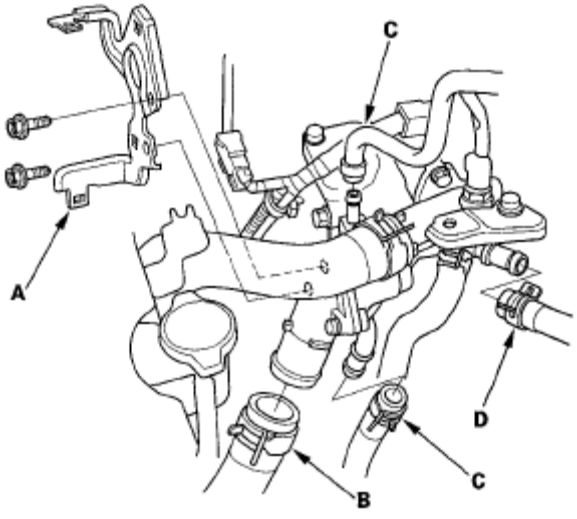



**Fig. 2: Identifying Harness Bracket, Radiator Hose, Water Bypass Hoses And Heater Hose**

4. Remove the thermostat housing.

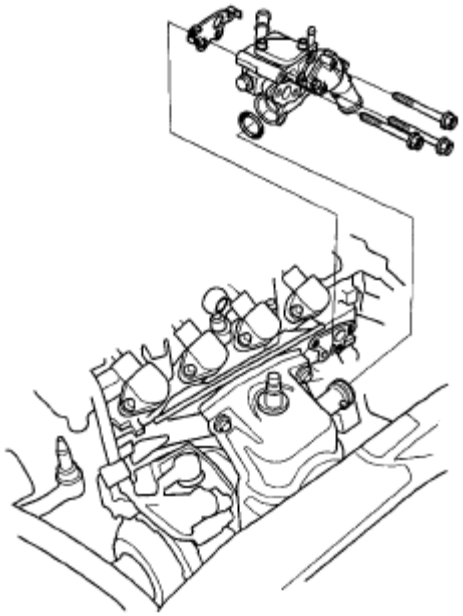


**Fig. 3: Identifying Thermostat Housing With Bolts**

5. Remove the exhaust gas recirculation (EGR) plate (A), thermostat cover (B), and thermostat (C).

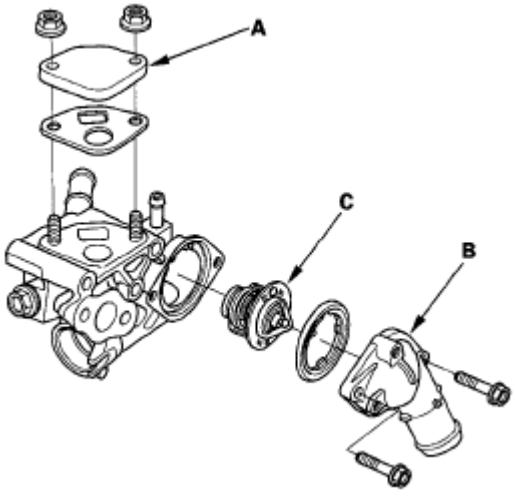



**Fig. 4: Identifying Exhaust Gas Recirculation (EGR) Plate, Thermostat Cover And Thermostat**

**INSTALLATION**

1. Install the new rubber seal (A) onto the thermostat, then install the thermostat (B) with pin (C) up, and install the thermostat cover (D).

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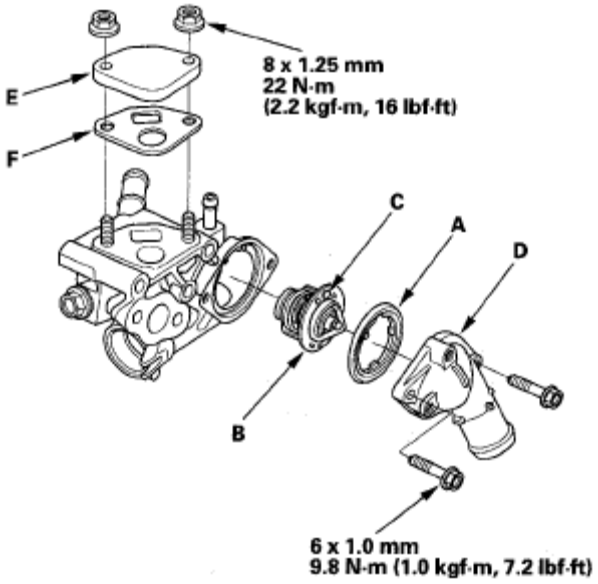



**Fig. 5: Identifying Rubber Seal, Thermostat, Pin And Thermostat Cover**

2. Install the EGR plate (E) with a new gasket (F).
3. Install the thermostat housing (A), using a new gasket (B) and new O-ring (C).

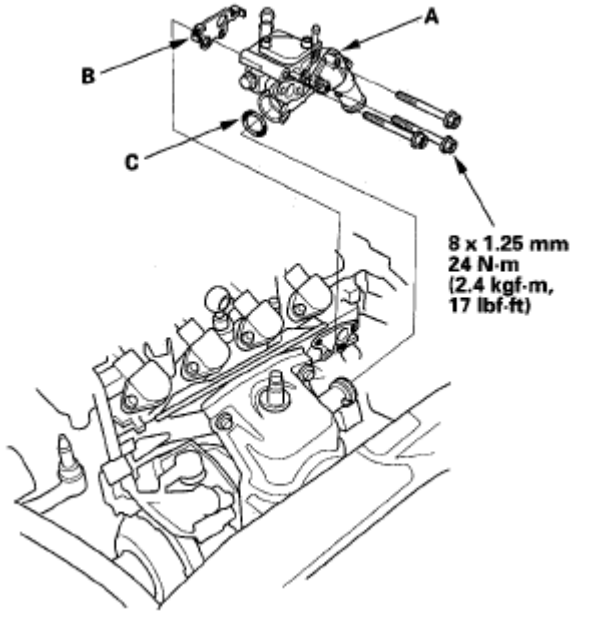



**Fig. 6: Identifying Thermostat Housing, Gasket And O-Ring**

4. Install the lower radiator hose (A), heater hose (B), and water bypass hoses (C), then install the harness bracket (D).

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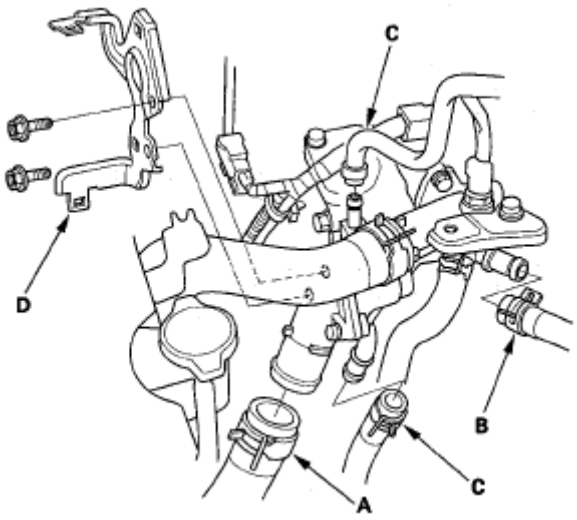



**Fig. 7: Identifying Lower Radiator Hose, Heater Hose And Water Bypass Hoses**

5. Install the air cleaner housing assembly, refer to the **AIR CLEANER REMOVAL/INSTALLATION** .
6. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open, refer to the **COOLANT REPLACEMENT** .

## FUEL PRESSURE REGULATOR THERMOSTAT REPLACEMENT

1. Remove the cowl panel and under-cowl cover, refer to the **COWL COVER REPLACEMENT** .
2. Remove the water bypass hoses (A) from the fuel pressure regulator thermostat, then plug the hoses.

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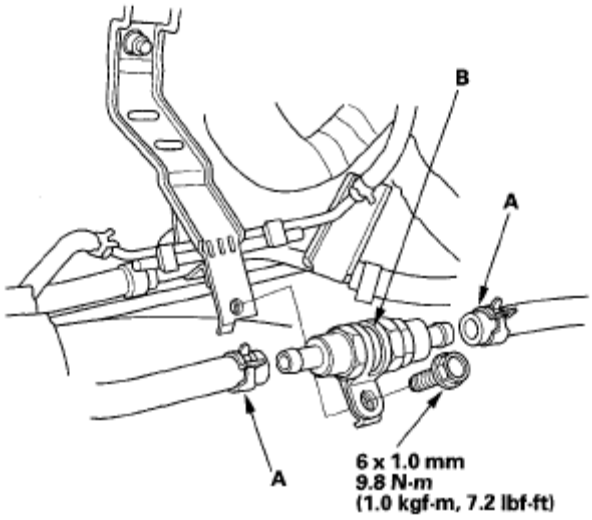



**Fig. 8: Identifying Water Bypass Hoses And Fuel Pressure Regulator Thermostat**

3. Remove the fuel pressure regulator thermostat (B).
4. Install the fuel pressure regulator thermostat in the reverse order of removal.
5. Install the cowl panel and under-cowl cover, refer to the **COWL COVER REPLACEMENT** .
6. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open, refer to the **COOLANT REPLACEMENT** .

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**2006-08 ENGINE**

**Cooling System (K20Z3) - Civic (All Except Si)**

## COMPONENT LOCATION INDEX

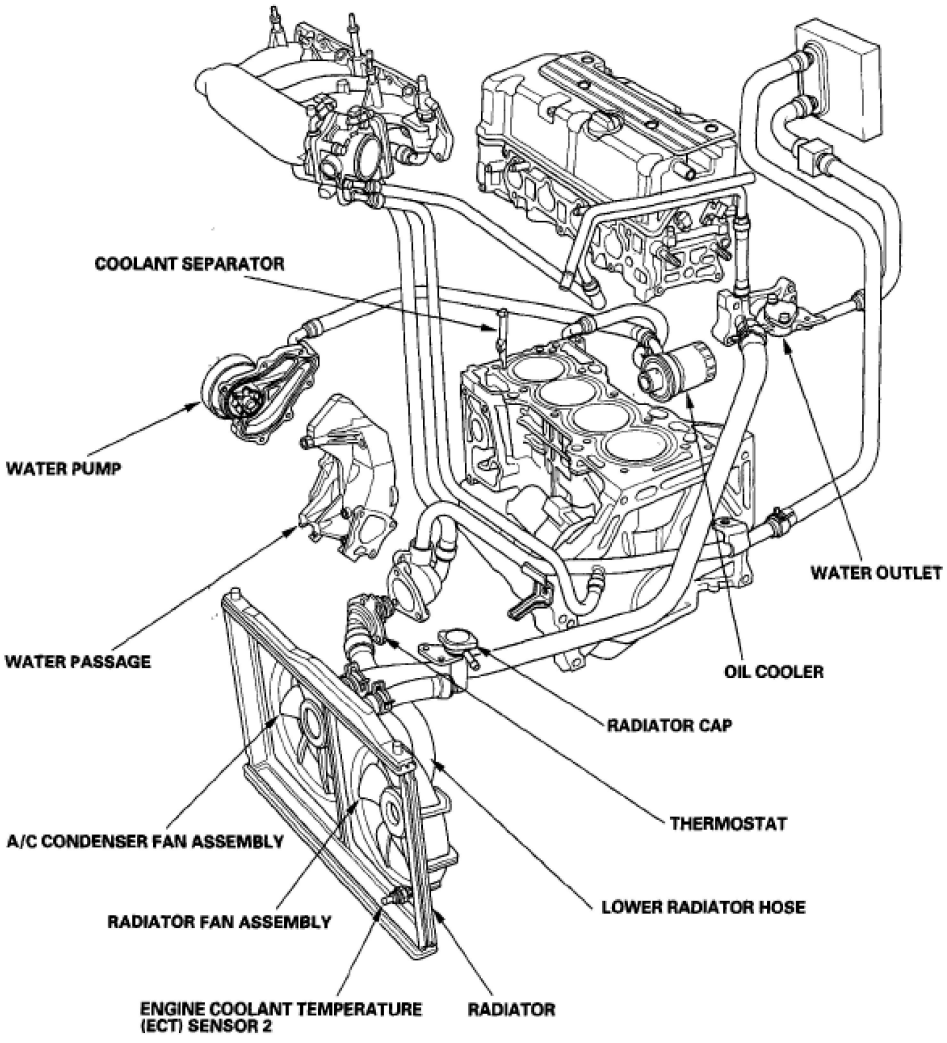



**Fig. 1: Identifying Cooling System Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## RADIATOR CAP TEST

1. Remove the radiator cap (A). Wet the seal with engine coolant, then install it on a commercially available pressure tester (B).

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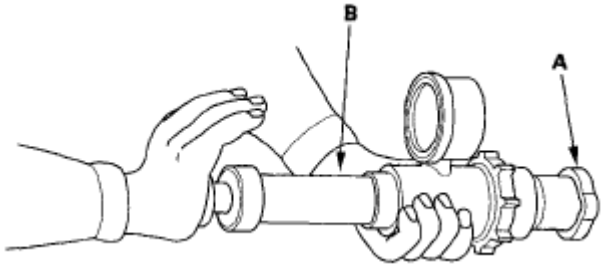



**Fig. 2: Installing Cap On Pressure Tester**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Apply a pressure of 93-123 kPa (0.95-1.25 kgf/cm$^2$ , 14-18 psi).
3. Check for a drop in pressure.
4. If the pressure drops, replace the cap.

## RADIATOR TEST

1. Wait until the engine is cool, then carefully remove the radiator cap, and fill the radiator with engine coolant to the top of the filler neck.
2. Attach a commercially available pressure tester (A) to the radiator, and apply a pressure of 93-123 kPa (0.95-1.25 kgf/cm$^2$ , 14-18 psi).

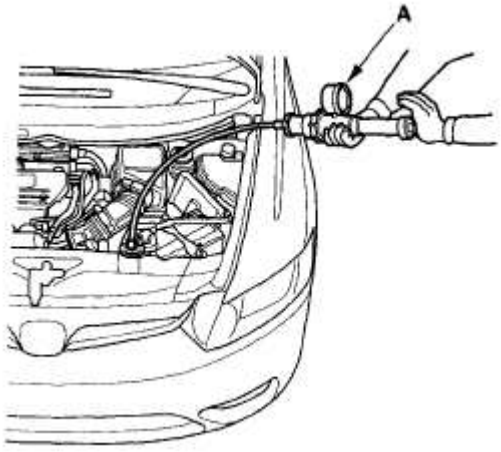



**Fig. 3: Attaching Pressure Tester To Radiator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Inspect for engine coolant leaks, and a drop in pressure.

4. Remove the tester, then reinstall the radiator cap.
5. Check for engine oil in the coolant and/or coolant in the engine oil.

## FAN MOTOR TEST

1. Disconnect the 2P connectors from the radiator fan motor and condenser fan motor.

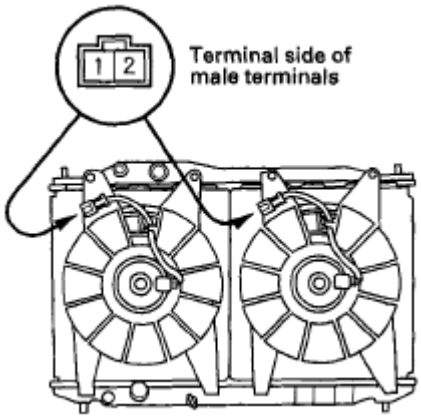



**Fig. 4: Identifying 2P Connectors From Radiator Fan Motor And Condenser Fan Motor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Test the motor by connecting battery power to the terminal No. 2 and ground to the terminal No. 1.
3. If the motor fails to run, or does not run smoothly, replace it.

## THERMOSTAT TEST

Replace the thermostat if it is open at room temperature.

To test a closed thermostat:

1. Suspend the thermostat (A) in a container of water. Do not let the thermometer (B) touch the bottom of the hot container.

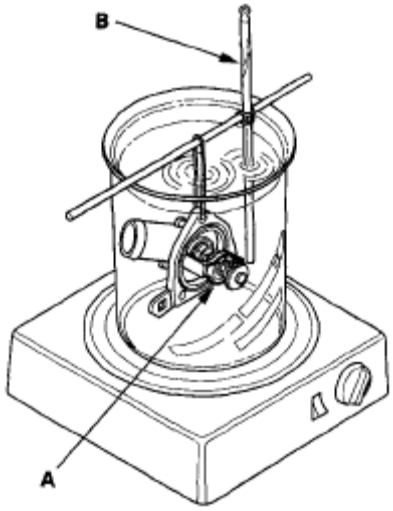



**Fig. 5: Identifying Thermostat In Container Of Water**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Heat the water, and check the temperature with a thermometer. Check the temperature when the thermostat first opens, then check the temperature when the thermostat is fully open.
3. Measure the lift height of the thermostat when it is fully open. If the thermostat is not within the specification, replace it.

**Standard Thermostat**

**Lift Height: Above 8.0 mm (0.31 in.)**

**Starts Opening: 169-176 °F (76-80 °C)**

**Fully Open: 194 °F (90 °C)**

## WATER PUMP INSPECTION

1. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
2. Turn the water pump pulley counterclockwise. Check that it turns freely. If it doesn't turn smoothly, replace the water pump (see **WATER PUMP INSPECTION** ).

**NOTE: When you check the water pump, you may see a small**

**amount of "weeping" from the bleed holes (A). This it is normal.**

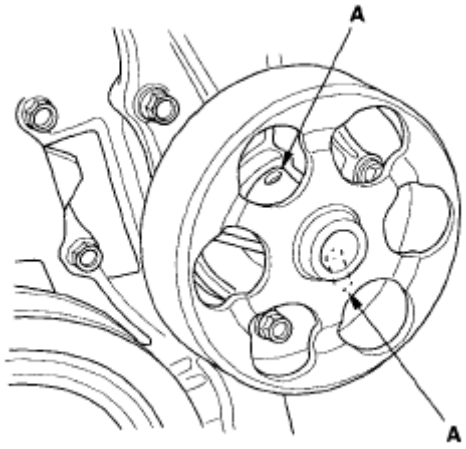



**Fig. 6: Identifying Bleed Holes**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the drive belt (see **DRIVE BELT INSPECTION** ).

## WATER PUMP REPLACEMENT

1. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
2. Drain the engine coolant (see **COOLANT CHECK** ).
3. Remove the drive belt auto-tensioner pulley (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).
4. Remove the crankshaft pulley (see **CRANKSHAFT PULLEY REMOVAL AND INSTALLATION** ).
5. Remove the oil cooler joint pipe (A), then remove the seven bolts securing the water pump. Remove the water pump (B).

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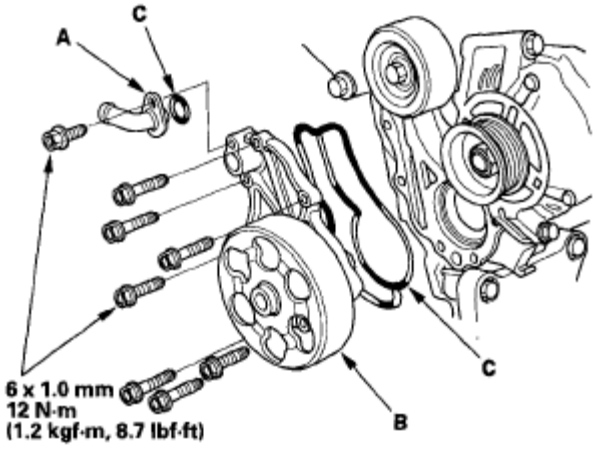



**Fig. 7: Identifying Water Pump Components (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Inspect, and clean the O-ring groove and mating surface with the water passage.
7. Install the water pump with new O-rings (C) in the reverse order of removal.
8. Clean up any spilled engine coolant.
9. Install the drive belt auto-tensioner pulley (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).
10. Install the crankshaft pulley (see **INSTALLATION** ).
11. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 6 ).

## COOLANT CHECK

1. Look at the coolant level in the coolant reservoir. Make sure it is between the MAX mark (A) and MIN mark (B).

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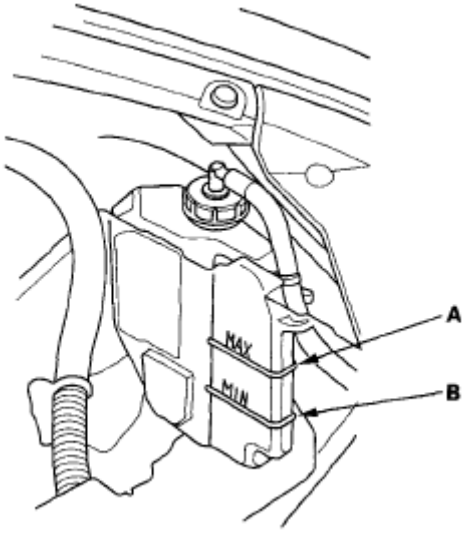



**Fig. 8: Identifying MAX Mark And MIN Mark**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. If the coolant level in the coolant reservoir is at or below the MIN mark, add coolant to bring it up to the MAX mark, and inspect the cooling system for leaks.

## COOLANT REPLACEMENT

1. Start the engine. Set the heater temperature control dial to maximum heat, then turn off the ignition switch. Make sure the engine and radiator are cool to the touch.
2. Remove the radiator cap.
3. Loosen the drain plug (A), and drain the coolant.

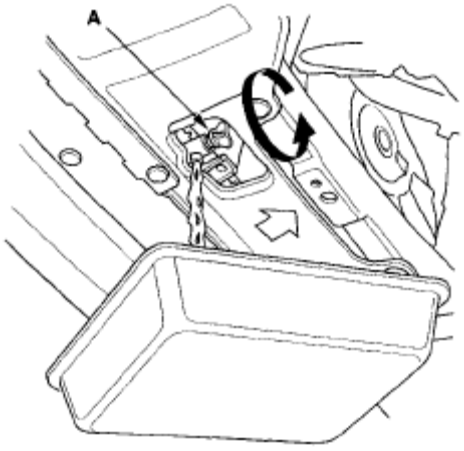



**Fig. 9: Loosening Drain Plug**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. After the coolant has drained, tighten the radiator drain plug.
5. Remove the coolant reservoir, and drain the coolant, then reinstall the coolant reservoir.
6. Fill the coolant reservoir to the MAX mark (A) with Honda Long Life Antifreeze/Coolant Type 2 (P/N OL999-9001).

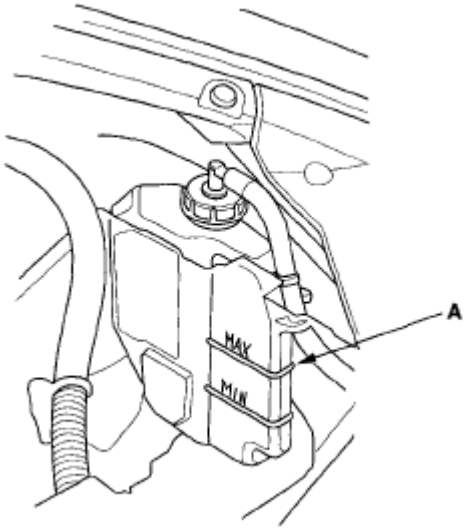



**Fig. 10: Identifying MAX Mark**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Pour Honda Long Life Antifreeze/Coolant Type 2 (P/N OL999-9001) into the radiator up to the base of the filler neck.

**NOTE:**

- **Always use Honda Long Life Antifreeze/Coolant Type 2 (P/N OL999-9001). Using a non-Honda coolant can result in corrosion, causing the cooling system to malfunction or fail.**
- **Honda Long Life Antifreeze/Coolant Type 2 is a mixture of 50 % antifreeze and 50 % water. Do not add water.**

**Engine Coolant Capacities (Including the reserve tank capacity of 0.4 L (0.11 US gal))**

**At Coolant Change: 4.5 L (1.19 US gal)**

**After Engine Overhaul: 6.8 L (1.80 US gal)**

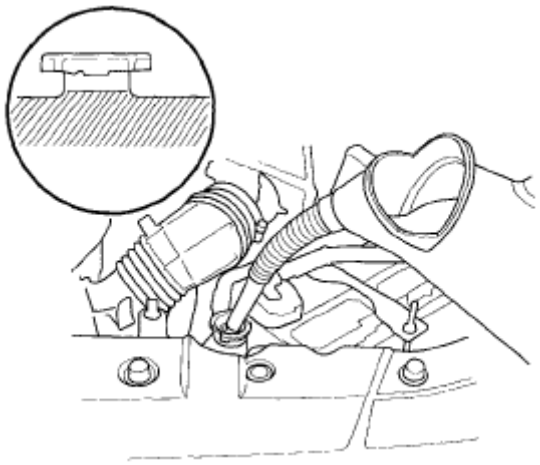


**Fig. 11: Identifying Engine Coolant Capacities**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Loosely install the radiator cap.
9. Start the engine, and let it run until it warms up (the radiator fan comes on at least twice).
10. If the maintenance minder indicated to replace the engine coolant, reset the maintenance minder (see **RESETTING THE MAINTENANCE INFORMATION DISPLAY** ), then go to step 19. If the maintenance minder did not indicate to replace the engine coolant, go to step 11.

11. Turn the ignition switch to LOCK (0).
12. Connect the HDS to the data link connector (DLC) (see **GENERAL TROUBLESHOOTING INFORMATION** ).
13. Turn the ignition switch to ON (II).
14. Make sure the HDS communicates with the vehicle and the ECM. If it doesn't communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
15. Select BODY ELECTRICAL with he HDS.
16. Select ADJUSTMENT in the GAUGES MENU with the HDS.
17. Select RESET in the MAINTENANCE MINDER with the HDS.
18. Select MAINTENANCE SUB ITEM 5 RESET with the HDS.
19. Turn off the engine. Check the level in the radiator, and add Honda Long Life Antifreeze/Coolant Type 2, if needed.
20. Put the radiator cap on tightly, then run the engine again, and check for leaks.
21. Clean up any spilled engine coolant.
22. Reset the maintenance information display (see**RESETTING THE MAINTENANCE INFORMATION DISPLAY** ).

## THERMOSTAT REPLACEMENT

1. Drain the engine coolant (see **COOLANT CHECK** ).
2. Remove the splash shield .
3. Remove the lower hose, then remove the thermostat.

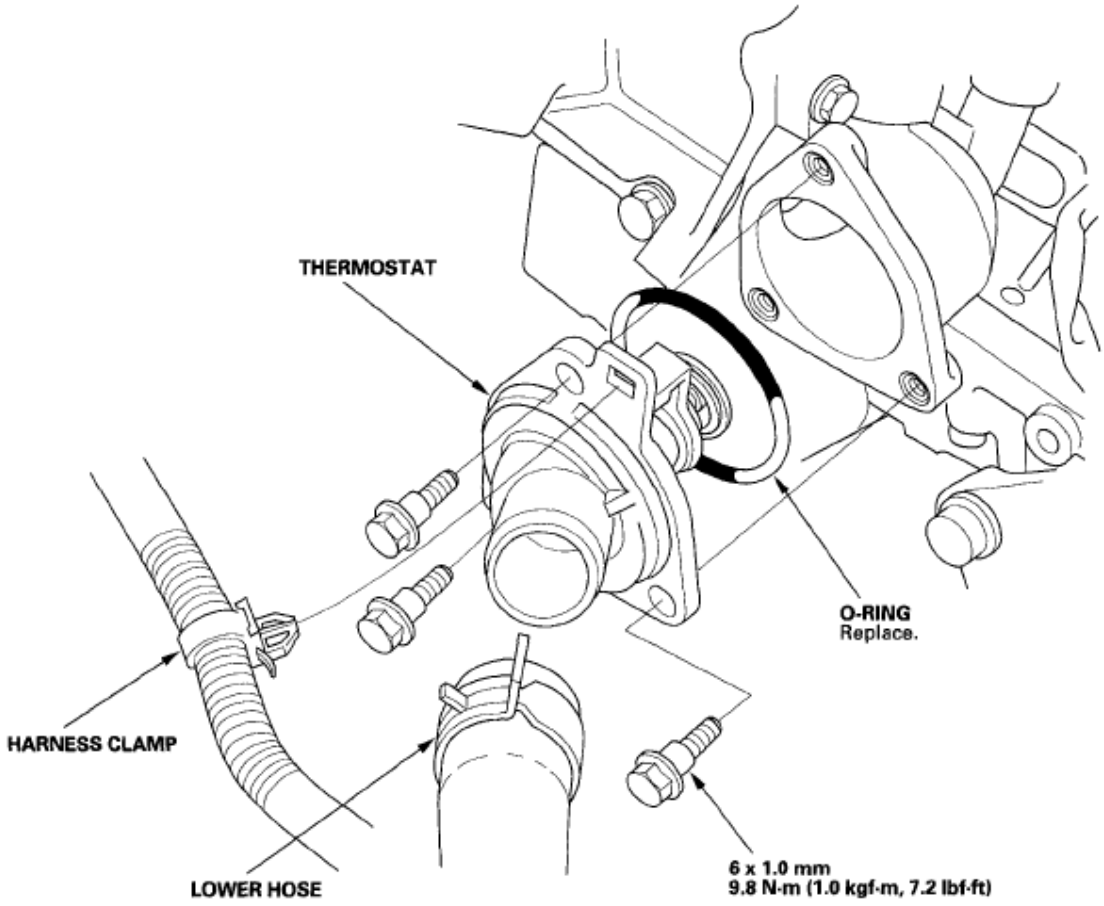



**Fig. 12: Identifying Thermostat, Harness Clamp And Lower Hose (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the thermostat with a new O-ring, then install the lower hose.
5. Install the splash shield .
6. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 6 ).

## WATER PASSAGE REPLACEMENT

1. Drain the engine coolant (see **COOLANT CHECK** ).
2. Remove the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ).
3. Remove the condenser fan shroud assembly.

4. Remove the A/C compressor without disconnecting the A/C hoses (see step 38 on **ENGINE REMOVAL** ).
5. Remove the intake manifold (see **REMOVAL** ).
6. Remove a bolt (A) securing the connecting pipe.

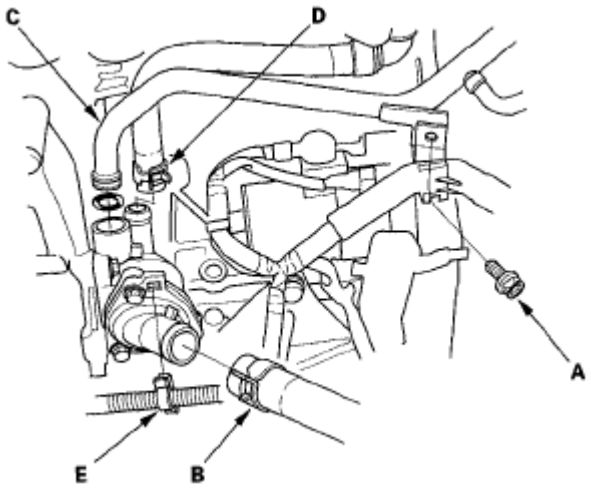



**Fig. 13: Identifying Lower Radiator Hose, Connecting Pipe And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the lower radiator hose (B), connecting pipe (C), water bypass hose (D), and harness clamp (E).
8. Remove the positive crankcase ventilation (PCV) hose (A), then remove the water passage (B).

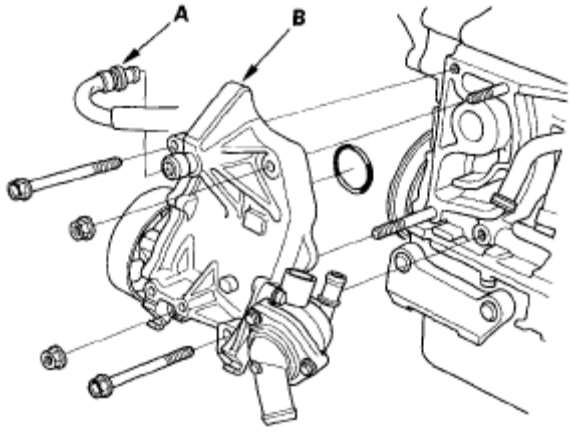



**Fig. 14: Identifying Positive Crankcase Ventilation (PCV) Hose And**

**Water Passage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the thermostat housing.

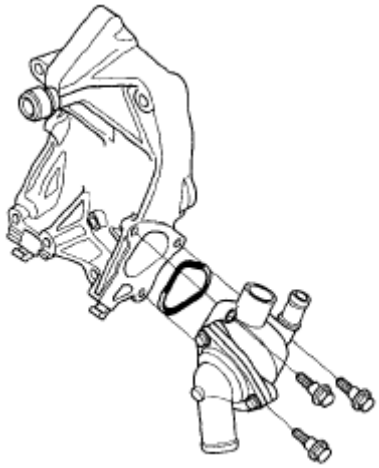


**Fig. 15: Identifying Thermostat Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the water pump (see **WATER PUMP INSPECTION** ).
11. Install the water pump (see **WATER PUMP INSPECTION** ).
12. Install the thermostat housing (A) with a new O-ring (B).

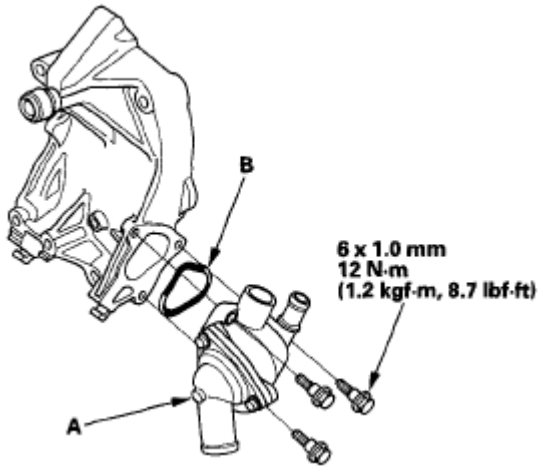



**Fig. 16: Identifying Thermostat Housing With New O-Ring (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Clean, and dry the water passage mating surfaces.
14. Apply liquid gasket, P/N 08717-0004,08718-0001, 08718-0002,08718-0003, or 08718-0009, evenly to the engine block mating surface of the water passage.

**NOTE: Do not install components if too much time has passed after applying the liquid gasket (for P/N 08718-0002, no more than 4 minutes, for all others, no more than 5 minutes). Instead, remove the old residue and reapply the liquid gasket.**

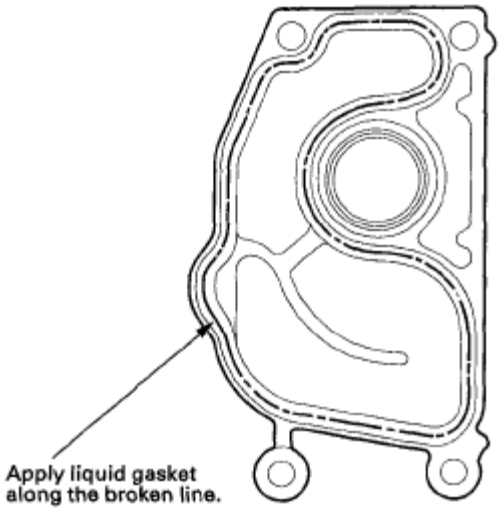



**Fig. 17: Identifying Engine Block Mating Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the water passage (A) with a new O-ring (B).

**NOTE:**

- **Wait at least 30 minutes to allow liquid gasket to cure before filling the engine with oil.**
- **Do not run the engine for at least 3 hours to allow liquid gasket to cure after installing the water passage.**

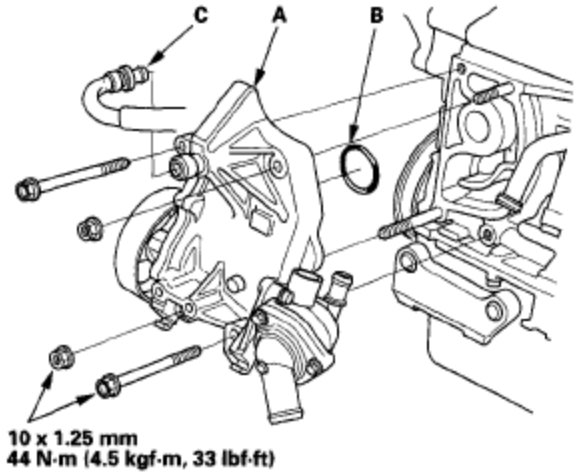



**Fig. 18: Identifying Water Passage With New O-Ring (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Install the PCV hose (C).
17. Install the connecting pipe (A) with a new O-ring (B).

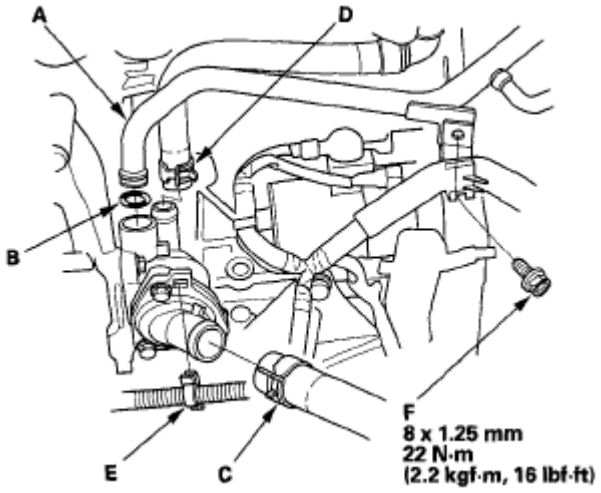



**Fig. 19: Identifying Connecting Pipe With New O-Ring (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Install the lower radiator hose (C), water bypass hose (D), and harness clamp (E).
19. Tighten a bolt (F) securing the connecting pipe.

20. Install the intake manifold (see **INSTALLATION** ).
21. Install the A/C compressor (see step 24 on **ENGINE INSTALLATION** ).
22. Install the condenser fan shroud assembly.
23. Install the alternator (see **INSTALLATION** ).
24. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 6 on ).

## WATER OUTLET REMOVAL AND INSTALLATION

### REMOVAL

1. Drain the engine coolant (see **COOLANT CHECK** ).
2. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
3. Remove the harness holder (A) from the bracket, then remove the harness holder bracket (B).

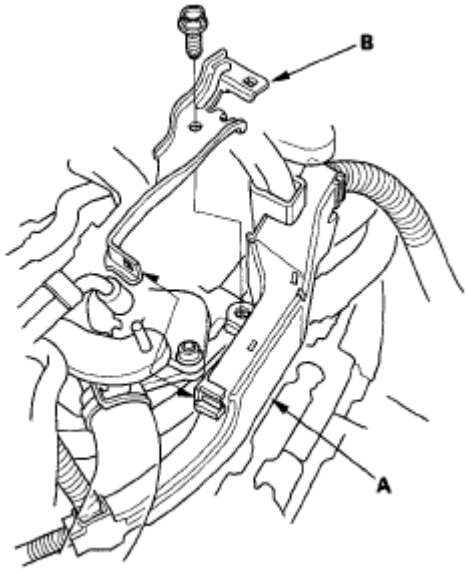



**Fig. 20: Identifying Harness Holder Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the upper radiator hose (A), heater hose (B), and water bypass hose (C).

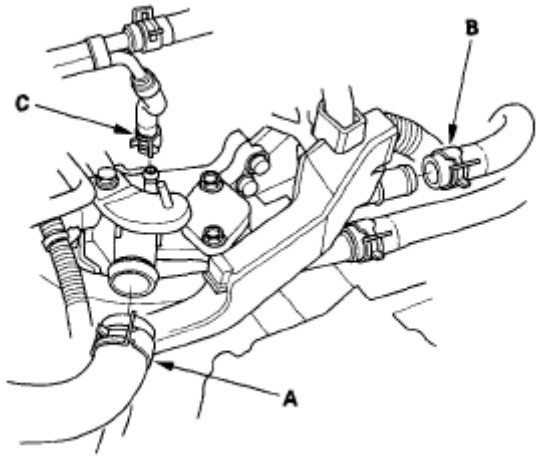



**Fig. 21: Identifying Upper Radiator Hose, Heater Hose, And Water Bypass Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the air cleaner housing brackets.

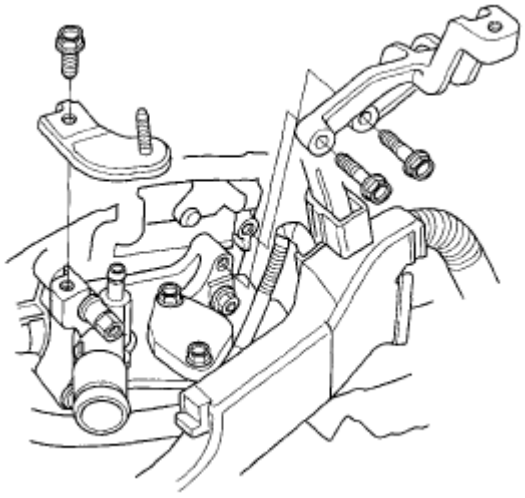


**Fig. 22: Identifying Air Cleaner Housing Brackets**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the water outlet.

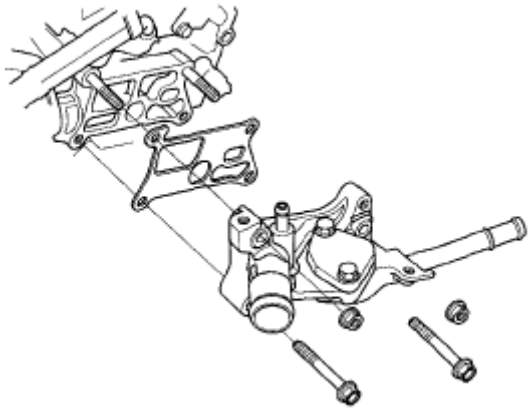


**Fig. 23: Identifying Water Outlet**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the EGR plate.

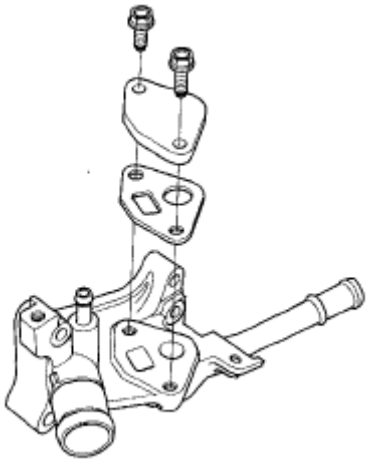


**Fig. 24: Identifying EGR Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Install the EGR plate (A) with a new gasket (B).

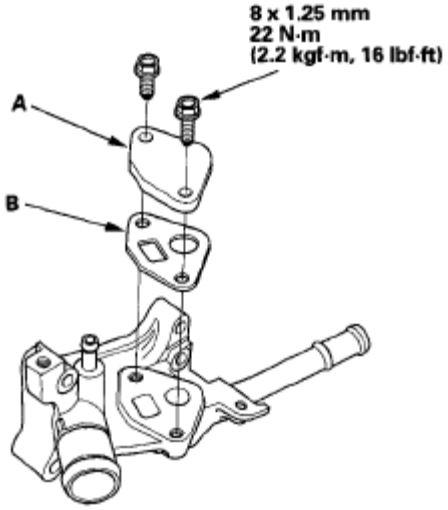



**Fig. 25: Identifying EGR Plate With Gasket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the water outlet (A) with a new gasket (B).

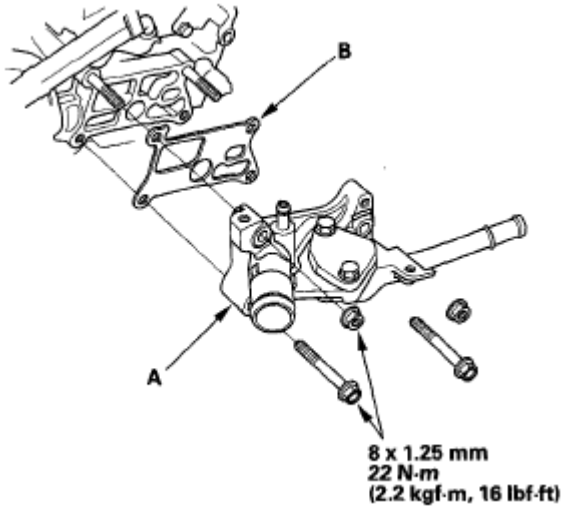



**Fig. 26: Identifying Water Outlet With New Gasket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the air cleaner housing brackets.

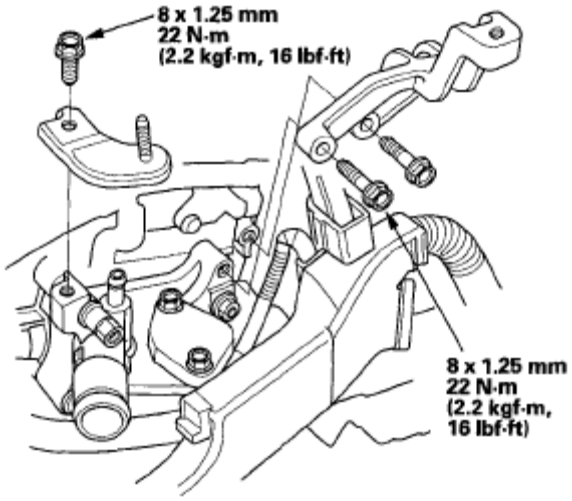



**Fig. 27: Identifying Air Cleaner Housing Brackets (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the upper radiator hose (A), heater hose (B), and water bypass hose (C).

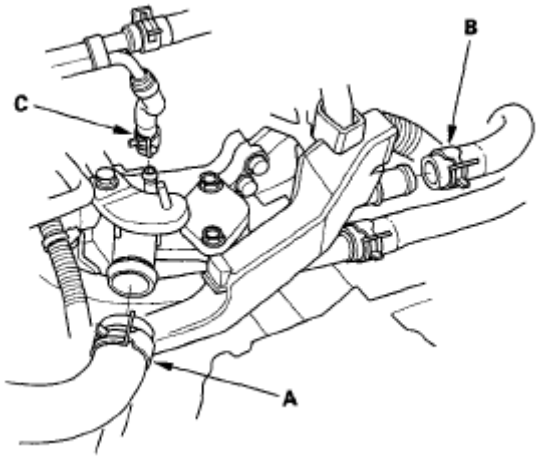



**Fig. 28: Identifying Upper Radiator Hose, Heater Hose , And Water Bypass Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the harness holder bracket (A), then install the harness holder (B).

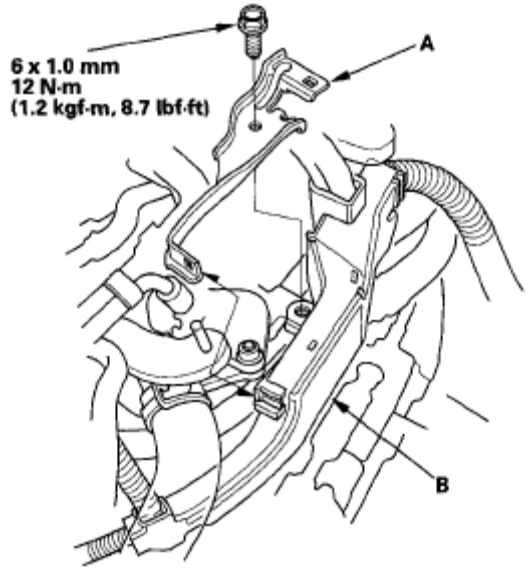



**Fig. 29: Identifying Harness Holder Bracket And Harness Holder (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
7. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 6 ).

## RADIATOR AND FAN REPLACEMENT

1. Make sure you have the anti-theft code for the audio system and the navigation system (if equipped), then write down the audio presets.
2. Disconnect the negative cable from the battery first, then disconnect the positive cable.
3. Remove the battery.
4. Drain the engine coolant (see **COOLANT CHECK** ).
5. Remove the bulkhead cover (see **FRONT BUMPER REMOVAL/INSTALLATION** ).
6. Disconnect the fan motor connectors (A) and hood switch connector (B), then remove the harness clamps (C).

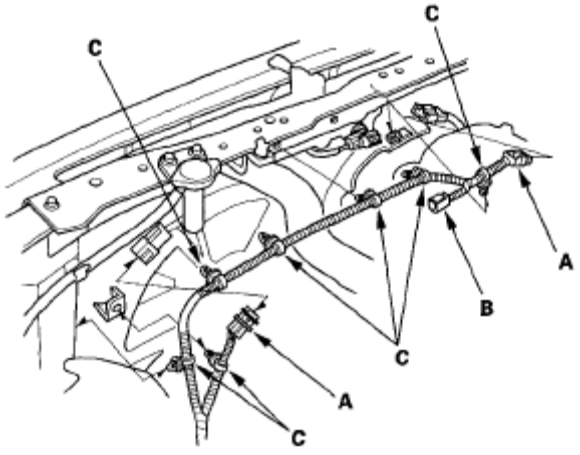



**Fig. 30: Identifying Fan Motor Connectors And Hood Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the reservoir hose (A), radiator cap base mounting bolts (B), clips (C), and radiator upper brackets (D).

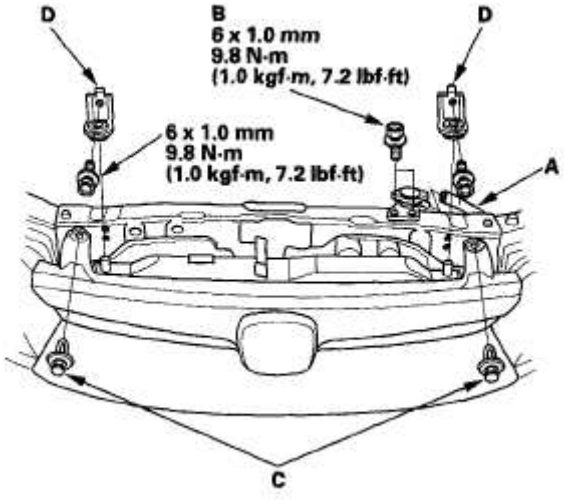



**Fig. 31: Identifying Reservoir Hose, Radiator Cap Base Mounting Bolts And Clips (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Remove the upper radiator hose.

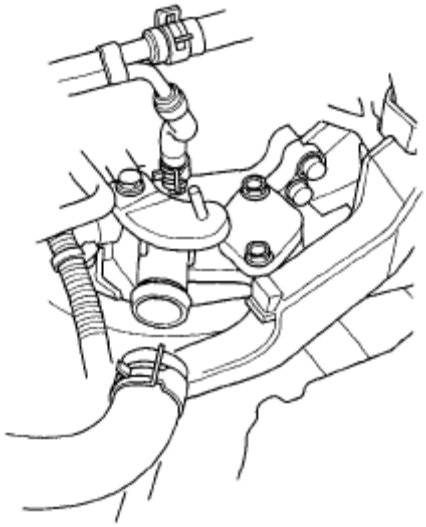


**Fig. 32: Identifying Upper Radiator Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the splash shield.

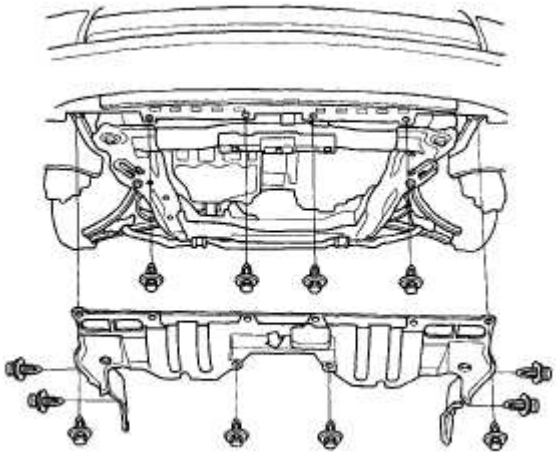


**Fig. 33: Identifying Splash Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Disconnect the engine coolant temperature (ECT) sensor 2 connector (A), and remove the harness clamp (B).

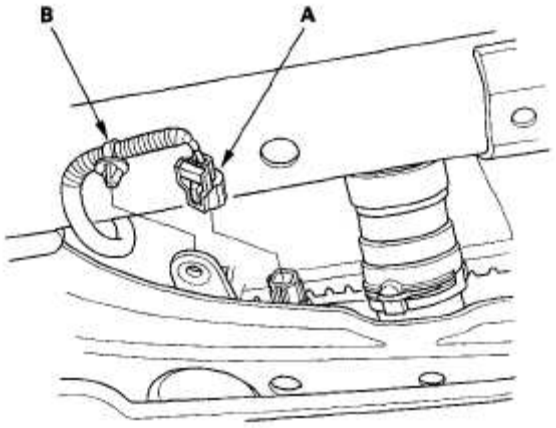



**Fig. 34: Identifying Engine Coolant Temperature (ECT) And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the lower radiator hose from the radiator.
12. Remove the condenser bracket mounting bolts (A), then remove the bulkhead (B).

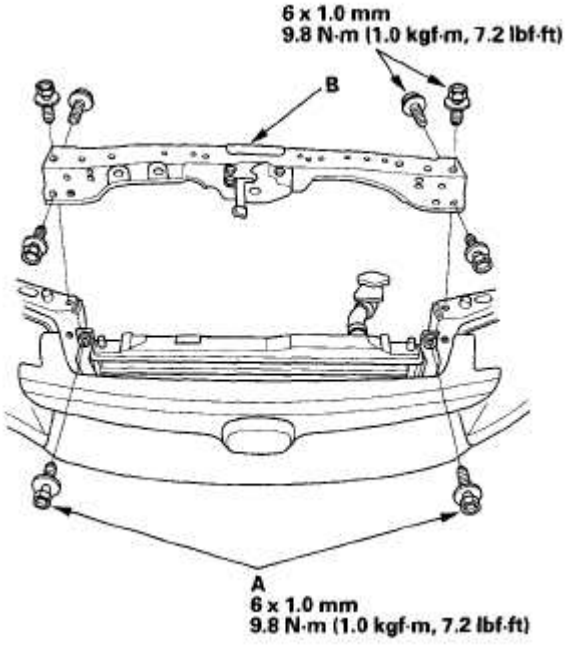



**Fig. 35: Identifying Condenser Bracket Mounting Bolts And Bulkhead (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Pull up the radiator, then remove the fan shroud assemblies and other parts from the radiator.

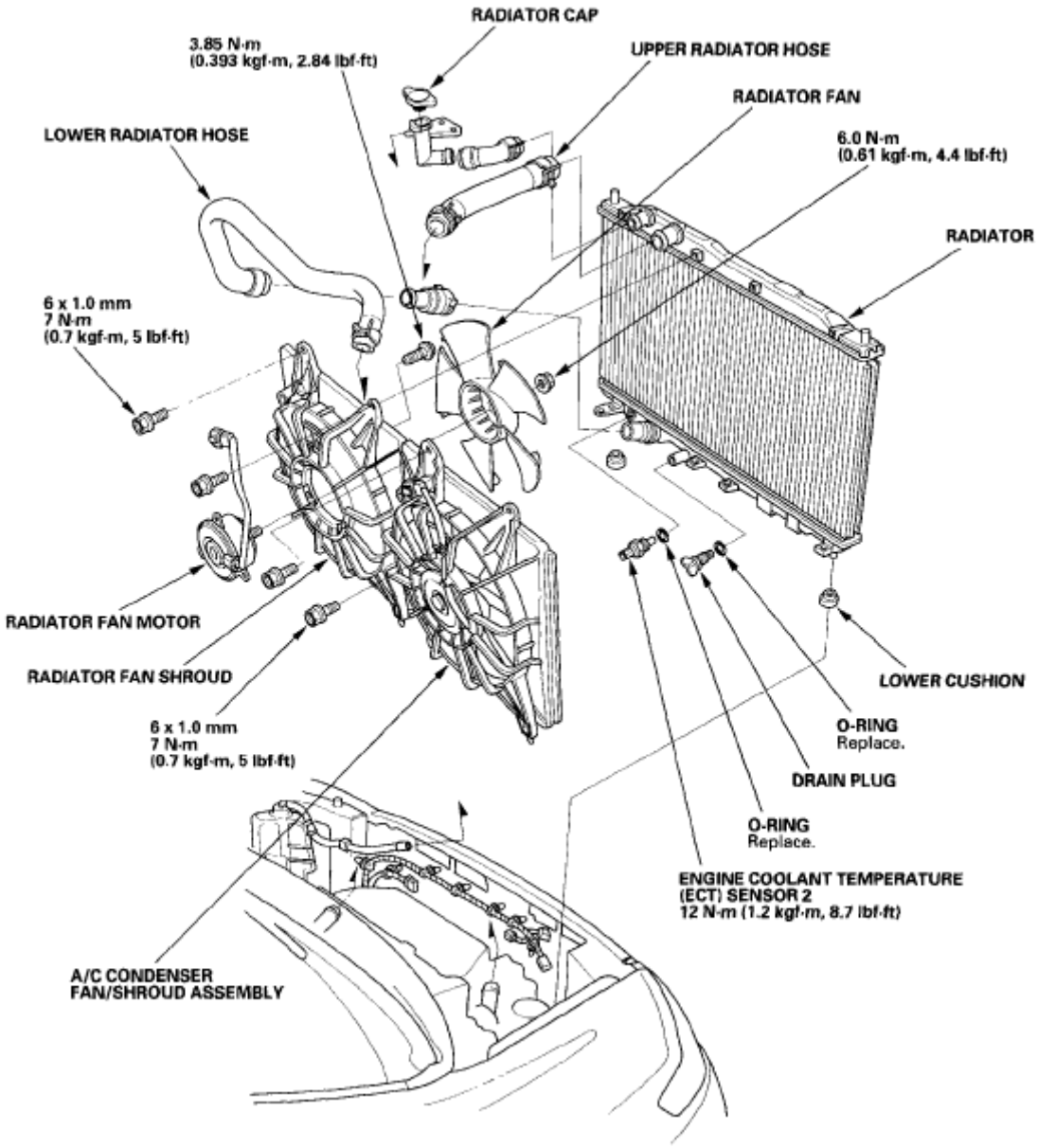



**Fig. 36: Identifying Fan Shroud Assemblies And Parts From Radiator (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the radiator in the reverse order of removal. Make sure the upper and lower cushions are set securely.

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15. Install the bulkhead in the reverse order of removal. Apply body paint to the bulkhead mounting bolts.
16. Install the battery, and connect the positive cable to the battery first, then connect the negative cable.
17. Enter the anti-theft code for the audio system and the navigation system (if equipped), then enter the audio preset. Set the clock.
18. Fill the radiator with engine coolant and bleed the air (see step 6 ).

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**2006-08 ENGINE**

**Cooling System (R18A1) - Civic (Except Hybrid)**

## COMPONENT LOCATION INDEX

**NOTE: Refer to the COOLING SYSTEM (GX) (SUPPLEMENT) article for additional information for the GX model.**

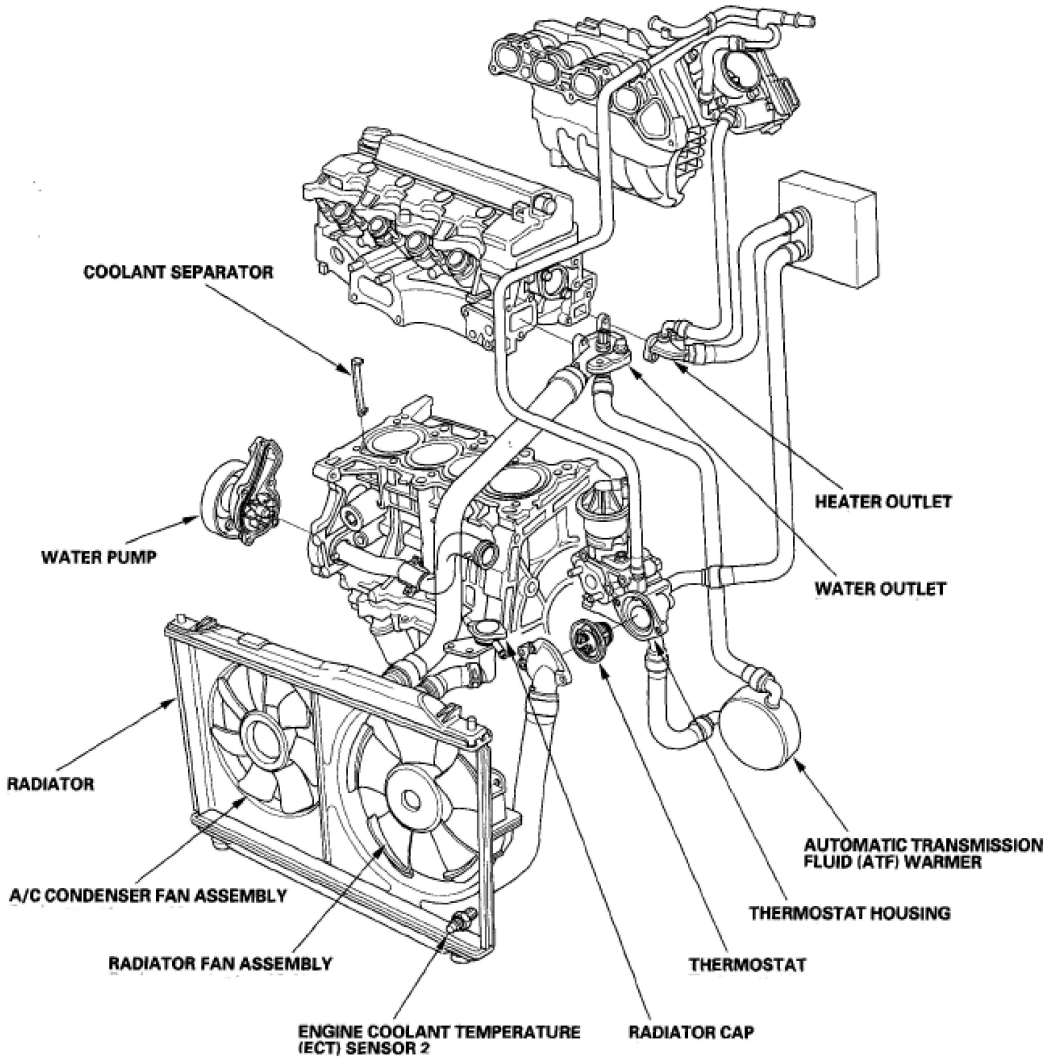



**Fig. 1: Identifying Component Location Index**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## RADIATOR CAP TEST

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1. Remove the radiator cap (A). Wet the seal with engine coolant, then install it on a commercially available pressure tester (B).

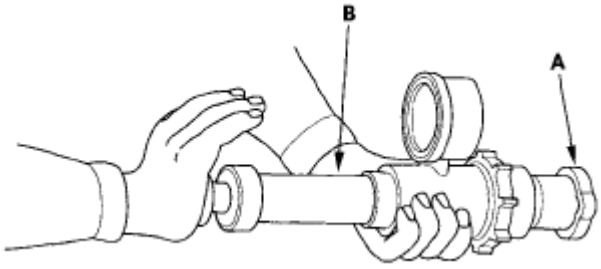



**Fig. 2: Testing Radiator Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Apply a pressure of 93-123 kPa (0.95-1.25 kgf/cm$^2$ , 14-18 psi).
3. Check for a drop in pressure.
4. If the pressure drops, replace the cap.

## RADIATOR TEST

1. Wait until the engine is cool, then carefully remove the radiator cap, and fill the radiator with engine coolant to the top of the filler neck.
2. Attach a commercially available pressure tester (A) to the radiator, and apply a pressure of 93-123 kPa (0.95-1.25 kgf/cm$^2$ , 14-18 psi).

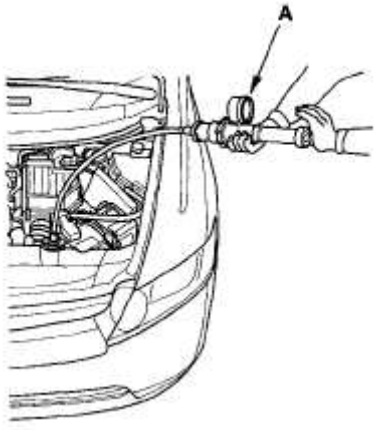



**Fig. 3: Testing Radiator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Inspect for engine coolant leaks, and a drop in pressure.
4. Remove the tester, then reinstall the radiator cap.
5. Check for engine oil in the coolant and/or coolant in the engine oil.

## FAN MOTOR TEST

1. Disconnect the 2P connectors from the radiator fan motor (A) and condenser fan motor (B).

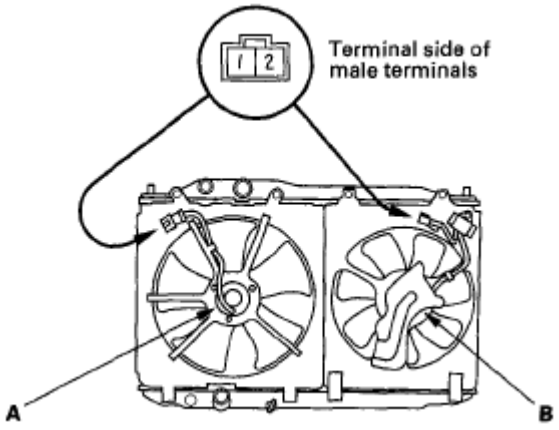



**Fig. 4: Identifying Radiator Fan Motor And Condenser Fan Motor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Test each motor by connecting battery power to the No. 2 terminal and ground to the No. 1 terminal.
3. If either motor fails to run, or does not run smoothly, replace it (see **RADIATOR AND FAN REPLACEMENT** ).

## THERMOSTAT TEST

Replace the thermostat if it is open at room temperature.

To test a closed thermostat:

1. Suspend the thermostat (A) in a container of water. Do not let the thermometer (B) touch the bottom of the hot container.

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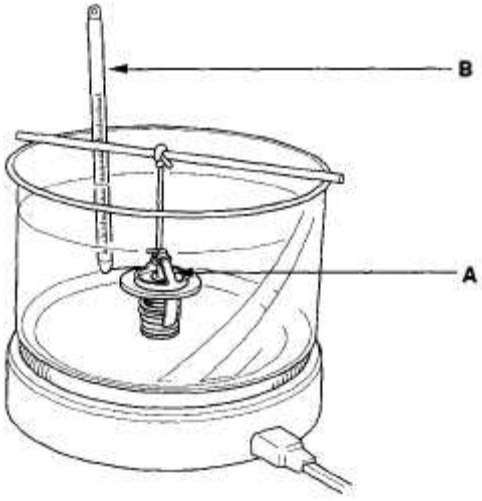



**Fig. 5: Checking Temperature When Thermostat Opens**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Heat the water and check the temperature with a thermometer. Check the temperature when the thermostat first opens, then check the temperature when the thermostat is fully open.
3. Measure the lift height of the thermostat when it is fully open.

**Standard Thermostat**

**Lift Height: Above 8.0 mm (0.31 in.)**

**Starts Opening: 176-183 °F (80-84 °C)**

**Fully Open: 203 °F (95 °C)**

## WATER PUMP INSPECTION

1. Loosen the water pump pulley mounting bolts.

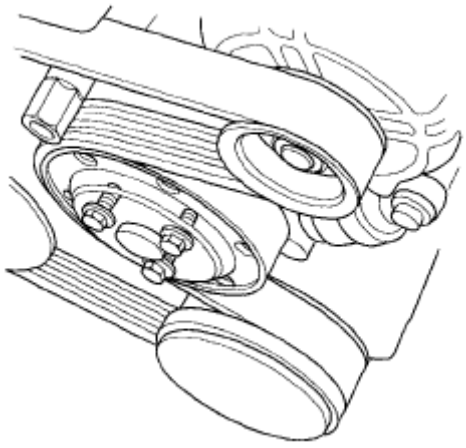


**Fig. 6: Identifying Water Pump Pulley Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
3. Remove the water pump pulley.

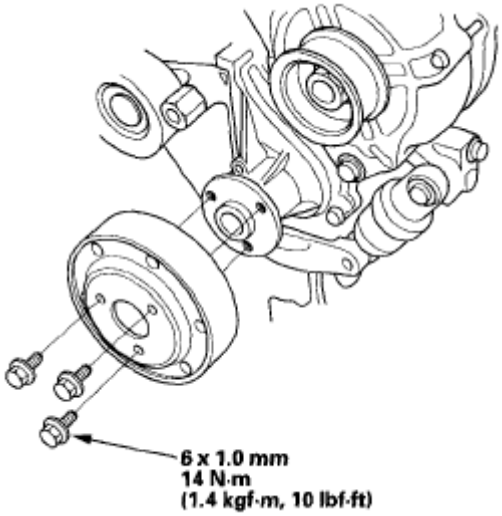



**Fig. 7: Identifying Torque Specifications Of Water Pump Pulley Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Turn the water pump counterclockwise. Check that it turns freely. If doesn't turn smoothly, replace the water pump (see **WATER PUMP REPLACEMENT** ).

**NOTE: When you check the water pump, you may see a small**

**amount of "weeping" from the bleed holes (A). This is normal.**

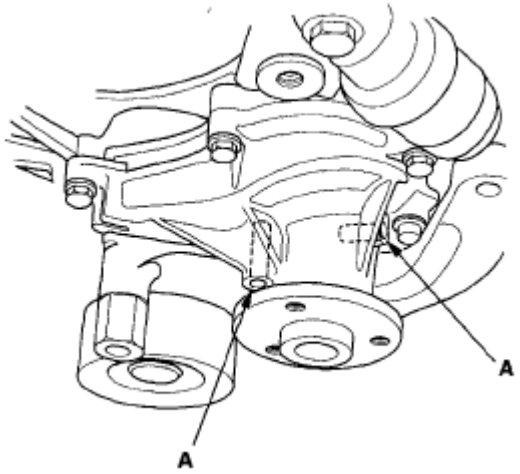



**Fig. 8: Identifying Bleed Holes**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the water pump pulley.
6. Install the drive belt (see **DRIVE BELT INSPECTION** ).
7. Tighten the water pump pulley mounting bolts to the specified torque.

## WATER PUMP REPLACEMENT

1. Drain the engine coolant (see **COOLANT REPLACEMENT** ).
2. Remove the drive belt auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).
3. Remove the water pump (A) by removing the five bolts.

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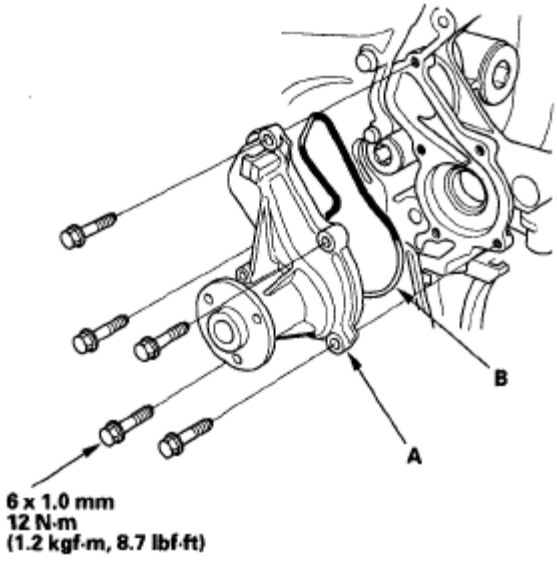



**Fig. 9: Identifying Torque Specifications Of Water Pump Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Inspect, and clean the O-ring groove and the mating surface of the engine block.
5. Install the water pump with a new O-ring (B) in the reverse order of removal.
6. Clean up any spilled engine coolant.
7. Install the drive belt auto-tensioner (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).
8. Refill the radiator with engine coolant, then bleed the air from the cooling system (see step 8).

## COOLANT CHECK

1. Look at the coolant level in the coolant reservoir. Make sure it is between the MAX mark (A) and MIN mark (B).

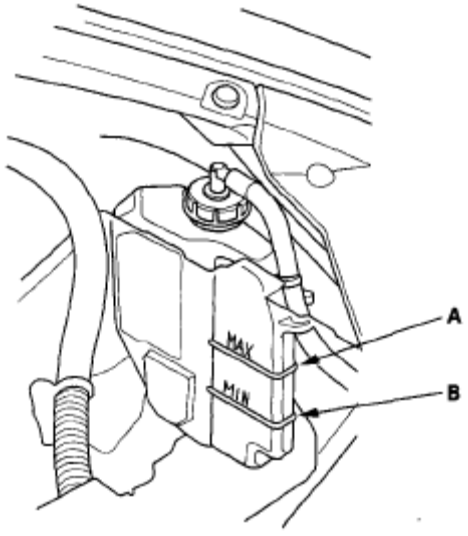



**Fig. 10: Identifying Coolant Reservoir MAX Mark And MIN Mark**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. If the coolant level in the coolant reservoir is at or below the MIN mark, add coolant to bring it between the MIN and MAX marks, then inspect the cooling system for leaks.

## COOLANT REPLACEMENT

1. Start the engine. Set the heater temperature control dial to maximum heat, then turn off the ignition switch. Make sure the engine and radiator are cool to the touch.
2. Remove the radiator cap.
3. Loosen the drain plug (A), and drain the coolant.

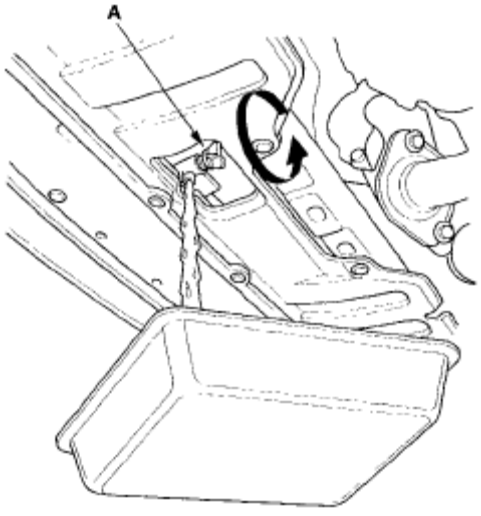



**Fig. 11: Identifying Drain Plug**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the drain bolt (A) located at the front of the engine block.

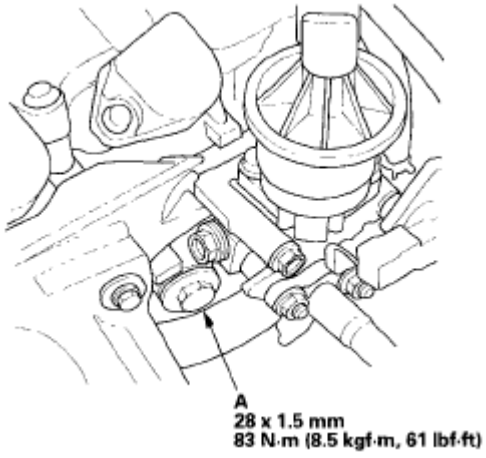



**Fig. 12: Identifying Torque Specifications Of Drain Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. After the coolant has drained, apply liquid gasket to the drain bolt threads, then reinstall the bolt with a new washer and tighten it securely.
6. Tighten the radiator drain plug securely.
7. Remove the coolant reservoir, then drain the coolant, and reinstall the reserve tank.
8. Fill the reserve tank to the MAX mark (A) with Honda Long Life

Antifreeze/Coolant Type 2 (P/N OL999-9001).

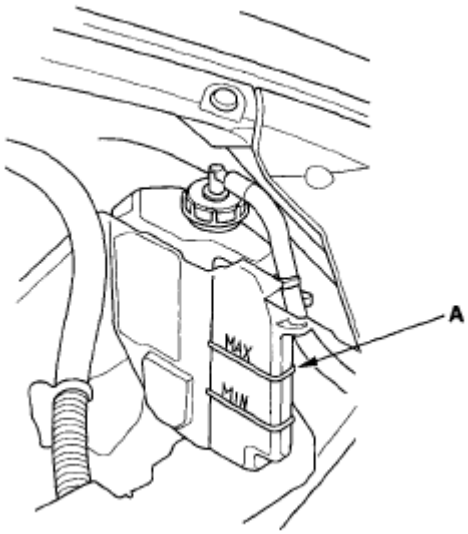



**Fig. 13: Identifying Reserve Tank MAX Mark**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Pour Honda Long Life Antifreeze/Coolant Type 2 into the radiator up to the base of the filler neck.

**NOTE:**

- **Always use Honda Long Life Antifreeze/Coolant Type 2 (P/N OL999-9001). Using a non-Honda coolant can result in corrosion, causing the cooling system to malfunction or fail.**
- **Honda Long Life Antifreeze/Coolant Type 2 is a mixture of 50 % antifreeze and 50 % water. Do not add water.**

**Engine Coolant Capacities (Including the reserve tank capacity of 0.4 L (0.11 US gal)):**

**4-door model:**

**M/T:**

**At Coolant Change: 5.2 L (1.37 US gal)**

**After Engine Overhaul: 6.5 L (1.72 US gal)**

**A/T:**

**At Coolant Change: 5.3 L (1.40 US gal)**

**After Engine Overhaul: 6.7 L (1.77 US gal)**

**2-door model:**

**M/T:**

**At Coolant Change: 5.2 L (1.37 US gal)**

**After Engine Overhaul: 6.5 L (1.72 US gal)**

**A/T:**

**At Coolant Change: 6.5 L (1.45 US gal)**

**After Engine Overhaul: 7.1 L (1.88 US gal)**

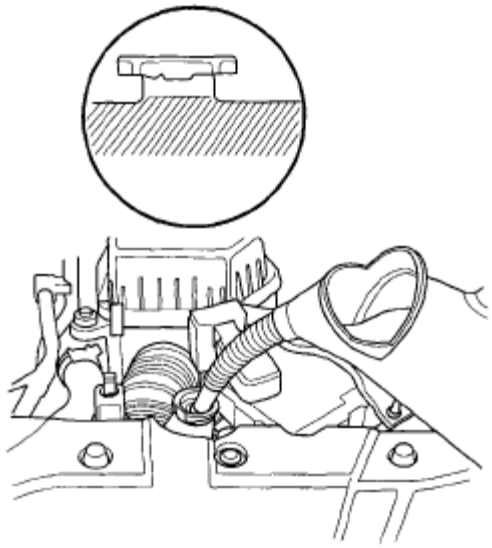


**Fig. 14: Pouring Honda Long Life Antifreeze/Coolant Type 2 Into Radiator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Loosely install the radiator cap.
11. Start the engine, and let it run until it warms up (the radiator fan comes on at least twice).
12. If the maintenance minder required to replace the engine coolant, reset the maintenance minder (see **RESETTING THE MAINTENANCE INFORMATION DISPLAY** ), then go to step 20. If the maintenance minder did not require to replace the engine coolant, go to next step.
13. Connect the HDS to the data link connector.
14. Turn the ignition switch ON (II).
15. Make sure the HDS communicates with the vehicle and the ECM/PCM. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
16. Select BODY ELECTRICAL with the HDS.
17. Select ADJUSTMENT in the GAUGES MENU with the HDS.
18. Select RESET in the MAINTENANCE MINDER with the HDS.
19. Select MAINTENANCE SUB ITEM 5 RESET with the HDS.
20. Turn off the engine. Check the level in the radiator, and add Honda Long Life Antifreeze/Coolant Type 2, if needed.
21. Put the radiator cap on tightly, then run the engine again, and check for leaks.
22. Clean up any spilled engine coolant.
23. Reset the maintenance information display (see **RESETTING THE MAINTENANCE INFORMATION DISPLAY** ).

## THERMOSTAT REPLACEMENT

1. Drain the engine coolant (see **COOLANT REPLACEMENT** ).
2. Remove the harness clamp bracket and thermostat cover, then remove the thermostat.

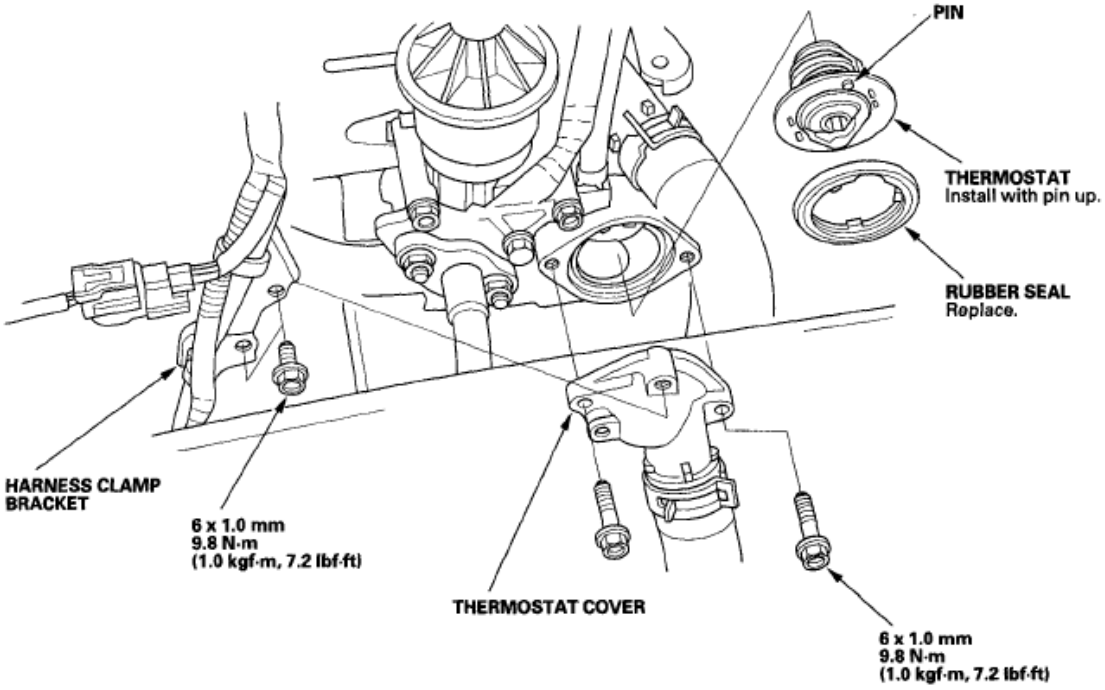



**Fig. 15: Identifying Thermostat Cover With Tightening Torque**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

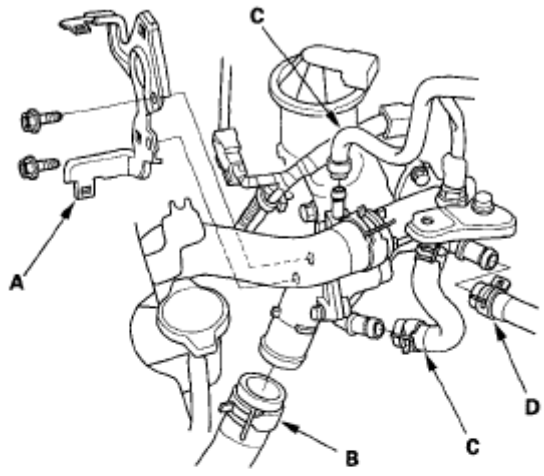
3. Install the thermostat with a new rubber seal.
4. Refill the radiator with engine coolant, then bleed air from the cooling system (see step 8).
5. Clean up any spilled engine coolant.

## THERMOSTAT HOUSING REMOVAL AND INSTALLATION

### REMOVAL

1. Drain the engine coolant (see **COOLANT REPLACEMENT** ).
2. Remove the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
3. Remove the harness bracket (A), and cover the air fuel ratio (A/F) sensor connector and secondary heated oxygen sensor (secondary H02S) connector with a tape to protect the connectors from engine coolant, then remove the lower radiator hose (B), the water bypass (C), and the heater hose (D).

M/T




A/T

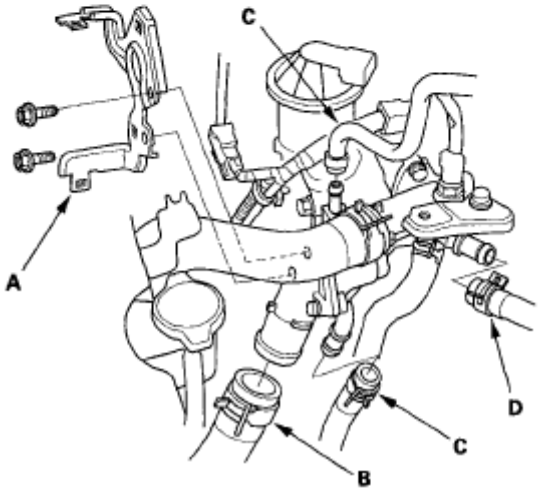



**Fig. 16: Identifying Harness Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the exhaust gas recirculation (EGR) pipe.

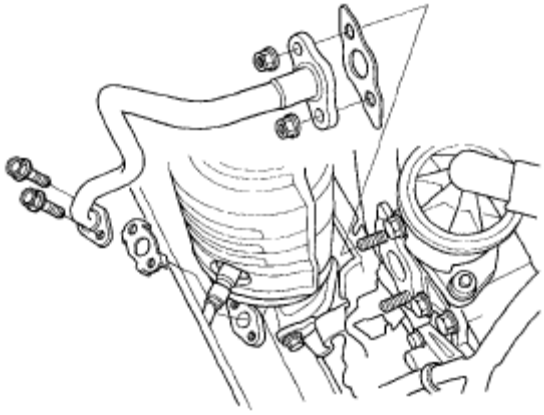


**Fig. 17: Identifying Exhaust Gas Recirculation Pipe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Disconnect the EGR connector.
6. Remove the thermostat housing.

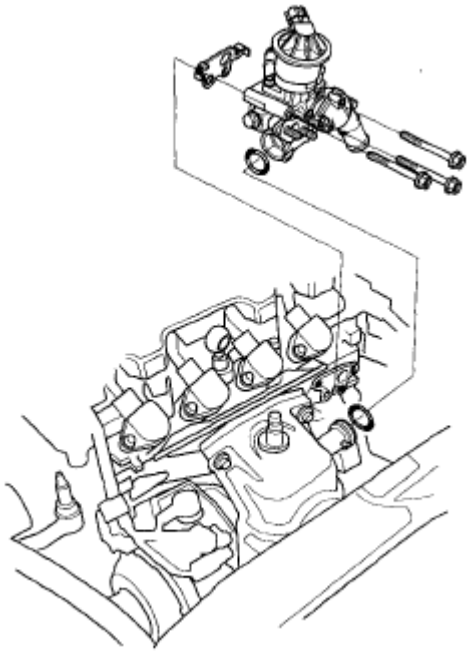


**Fig. 18: Identifying Thermostat Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the EGR valve (A), thermostat cover (B), and thermostat (C).

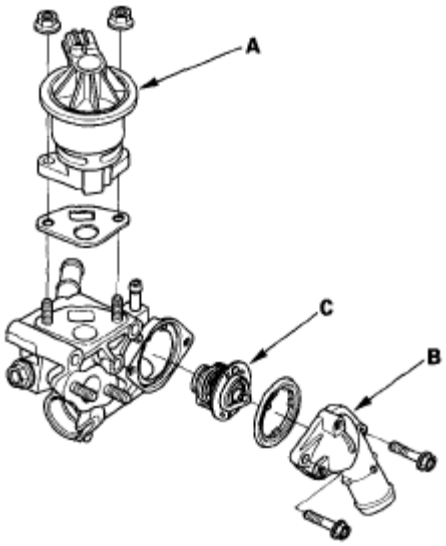



**Fig. 19: Identifying EGR Valve, Thermostat Cover And Thermostat**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Install the new rubber seal (A) onto the thermostat, then install the thermostat (B) with pin (C) up, and install the thermostat cover (D).

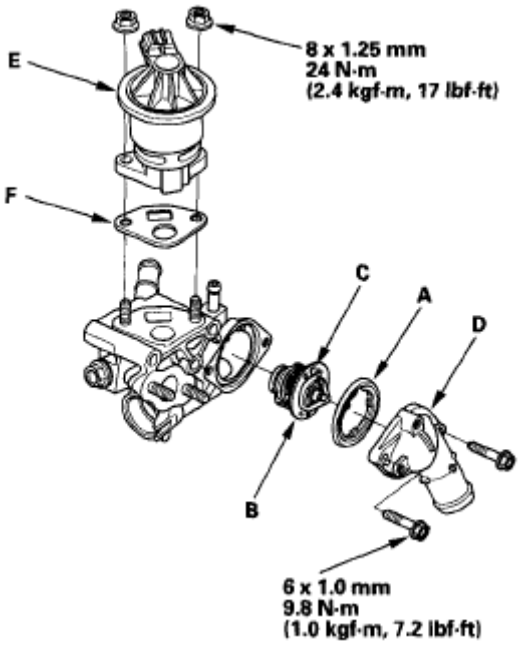



**Fig. 20: Identifying Thermostat, Pin And Thermostat Cover With Tightening Torque**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the EGR valve (E) with a new gasket (F).
3. Install the thermostat housing (A), using a new gasket (B) and new O-ring (C).

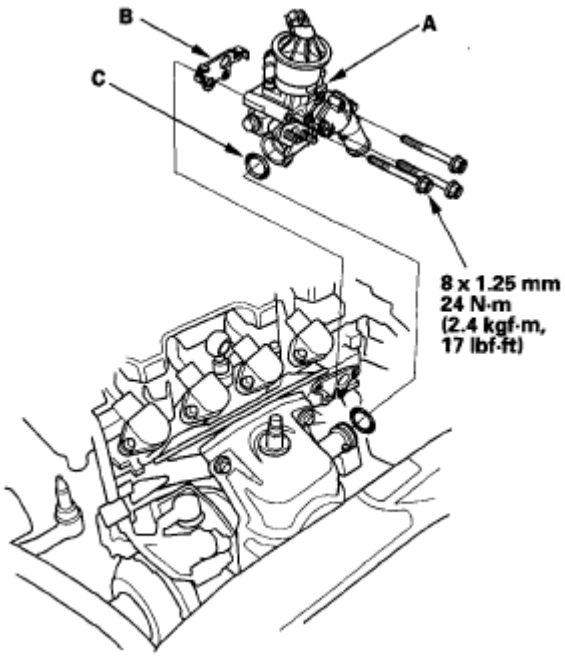



**Fig. 21: Identifying Thermostat Housing, Gasket And O-Ring With Tightening Torque**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Connect the EGR connector.
5. Install the EGR pipe (A), using the new gaskets (B).

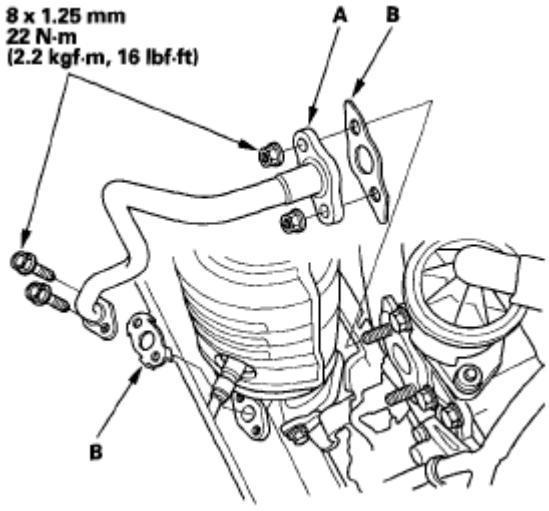



**Fig. 22: Identifying EGR Pipe And Gaskets With Tightening Torque**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the lower radiator hose (A), heater hose (B), and water bypass hoses (C), then install the harness bracket (D).

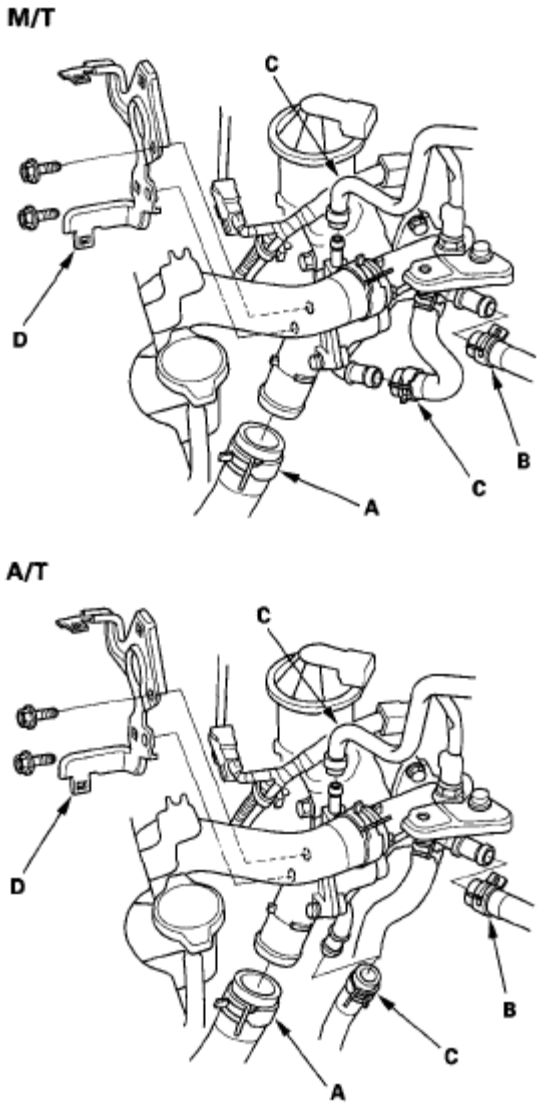



**Fig. 23: Identifying Lower Radiator Hose, Heater Hose, And Water Bypass Hoses**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
8. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 8).

## WATER OUTLET REMOVAL AND INSTALLATION

**REMOVAL**

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1. Drain the engine coolant (see **COOLANT REPLACEMENT** ).
2. Remove the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
3. Remove the air cleaner housing bracket (A), then remove the harness holder (B) from the cylinder head.

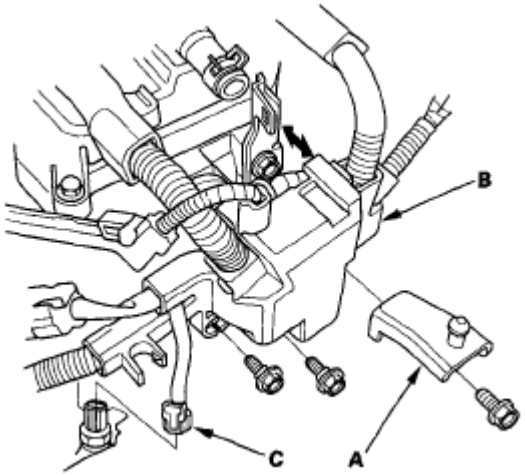



**Fig. 24: Identifying Air Cleaner Housing Bracket And Harness Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Disconnect the engine coolant temperature (ECT) sensor 1 connector (C).
5. Remove the air cleaner housing bracket (A), upper radiator hose (B), and water bypass hose (C).

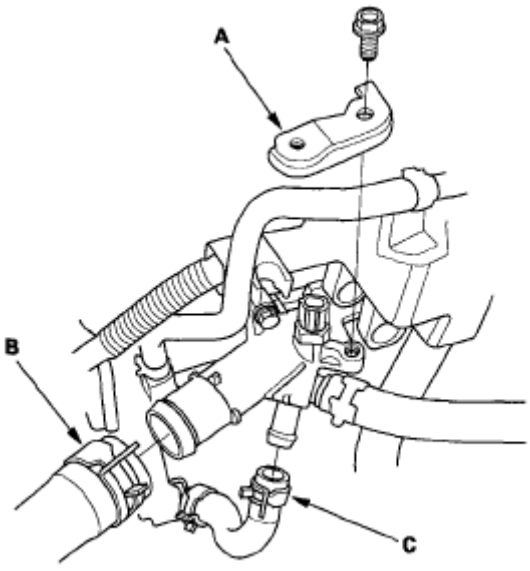


**Fig. 25: Identifying Air Cleaner Housing Bracket, Upper Radiator Hose And Water Bypass Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the water outlet (A) and ECT sensor 1 (B).

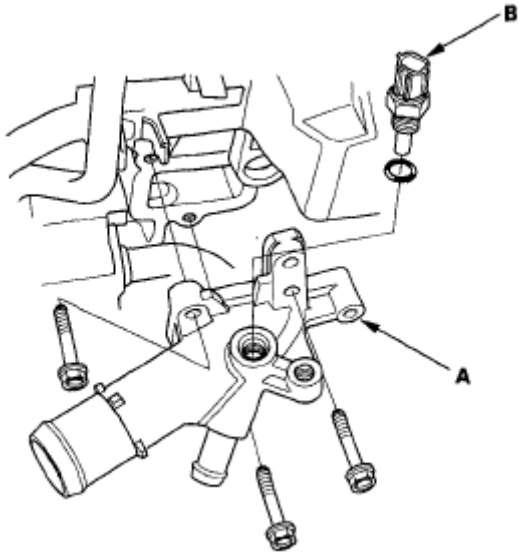



**Fig. 26: Identifying Water Outlet And ECT Sensor 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Remove all of the old liquid gasket from the water outlet mating surfaces, bolts, and bolt holes.
2. Clean, and dry the water outlet mating surfaces.
3. Apply liquid gasket, P/N 08717-0004,08718-0001, 08718-0002, 08718-0003, or 08718-0009, evenly to the cylinder head mating surface of the water outlet.

**NOTE: Do not install components if too much time has passed after applying the liquid gasket (for P/N 08718-0002, no more than 4 minutes, for all others, no more than 5 minutes). Instead, remove the old residue and reapply the liquid gasket.**

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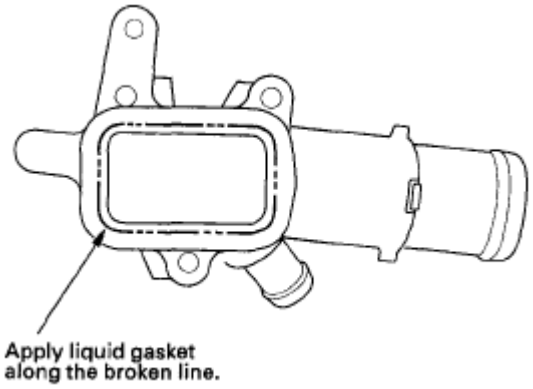



**Fig. 27: Identifying Liquid Gasket Applying Line**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the water outlet (A), then install the ECT sensor 1 (B) with a new O-ring (C).

**NOTE:**

- **Wait at least 30 minutes to allow liquid gasket to cure before filling the engine with coolant.**
- **Do not run the engine for at least 3 hours to allow liquid gasket to cure after installing the water outlet.**

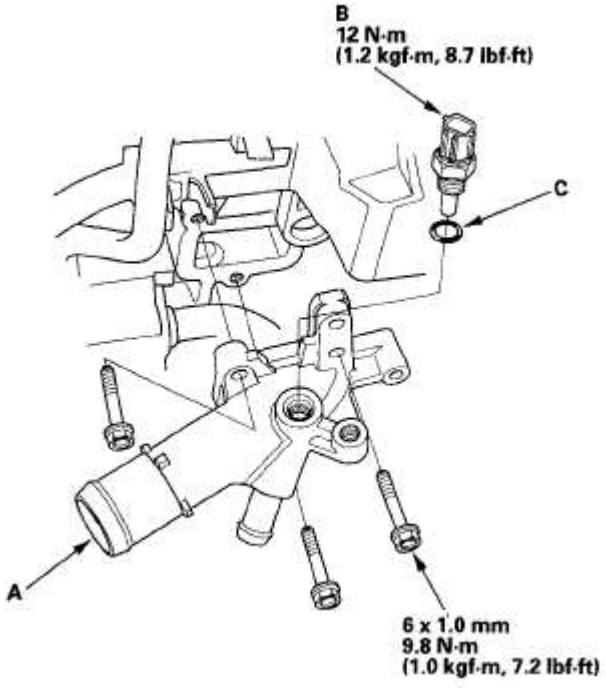


**Fig. 28: Identifying Torque Specifications Of Water Outlet Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the air cleaner housing bracket (A), upper radiator hose (B), and water bypass hose (C).

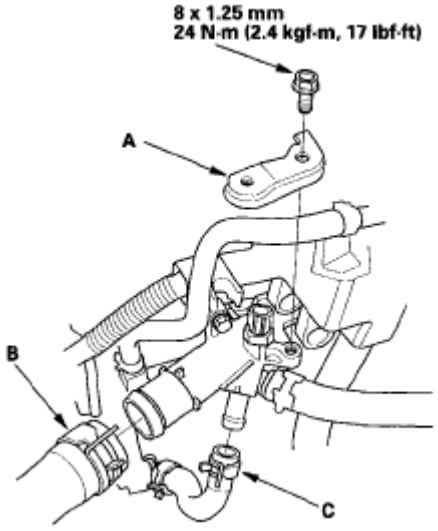



**Fig. 29: Identifying Torque Specifications Of Air Cleaner Housing Bracket Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Connect the engine temperature (ECT) sensor 1 connector (A).

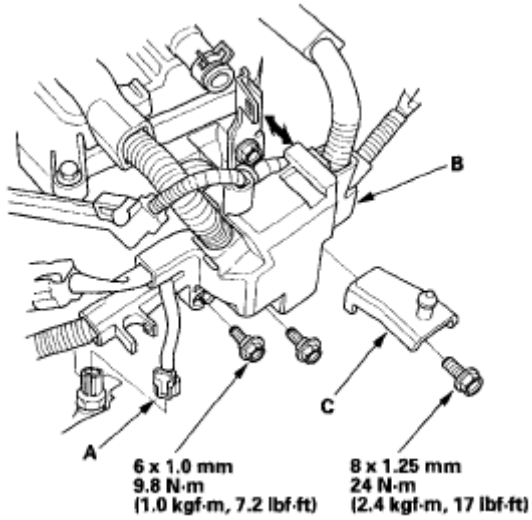


**Fig. 30: Identifying Engine Temperature Sensor 1 Connector With Tightening Torques**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the harness holder (B) on the cylinder head, then install the air cleaner housing bracket (C).
8. Install the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
9. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 8).

## HEATER OUTLET REPLACEMENT

1. Drain the engine coolant (see **COOLANT REPLACEMENT** ).
2. Remove the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
3. Remove the heater hose (A) from the clamp.

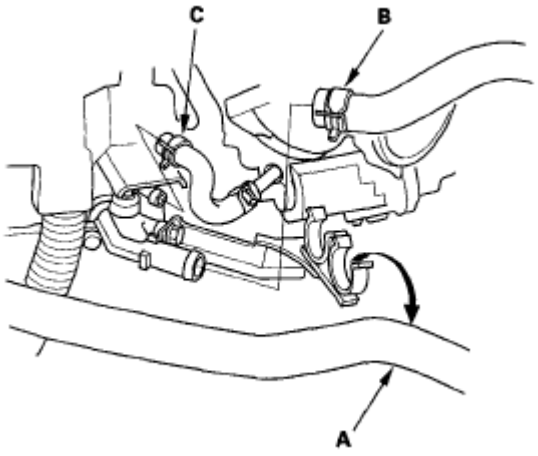



**Fig. 31: Identifying Heater Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the heater hose (B) and water bypass hose (C).
5. Remove the heater outlet (A).

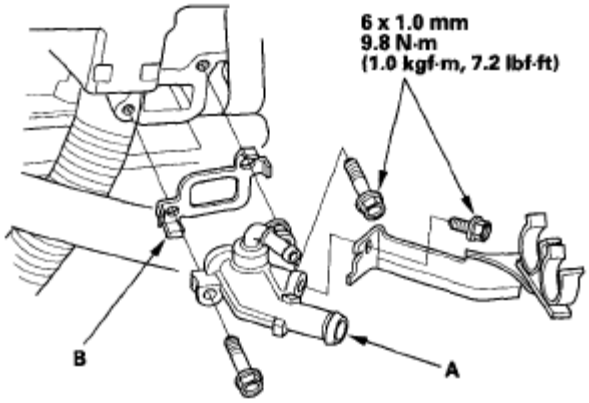



**Fig. 32: Identifying Heater Outlet With Tightening Torque**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the heater outlet with a new gasket (B).
7. Install the other parts in the reverse order of removal.
8. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 8).

## RADIATOR AND FAN REPLACEMENT

1. Make sure you have the anti-theft code for the audio system and the navigation system (if equipped), then write down the audio presets.
2. Disconnect the negative cable from the battery, then disconnect the positive cable.
3. Remove the battery.
4. Drain the engine coolant (see **COOLANT REPLACEMENT** ).
5. Remove the bulkhead cover.
6. Disconnect the fan motor connectors (A) and hood switch connector (B), then remove the harness clamps (C).

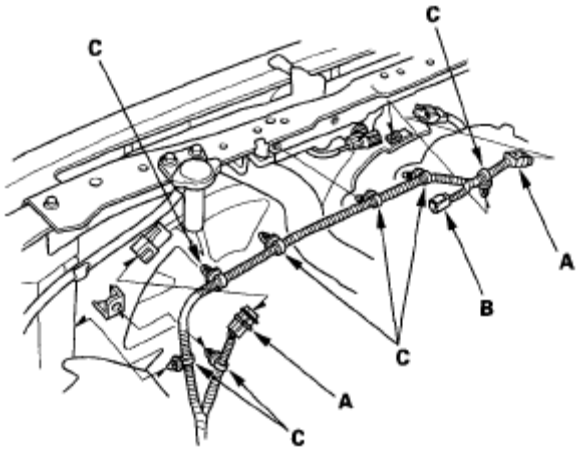



**Fig. 33: Identifying Fan Motor Connectors And Hood Switch Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the reservoir hose (A), radiator cap base mounting bolts (B), clips (C), and radiator upper brackets (D).

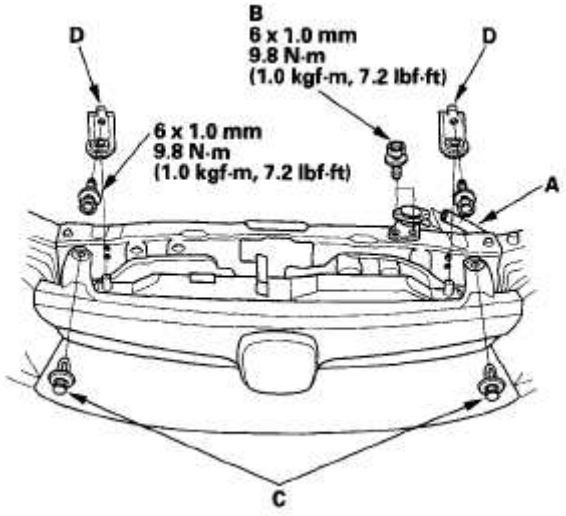



**Fig. 34: Identifying Torque Specifications Of Radiator Cap Base Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Remove the upper radiator hose (A) and lower radiator hose (B).

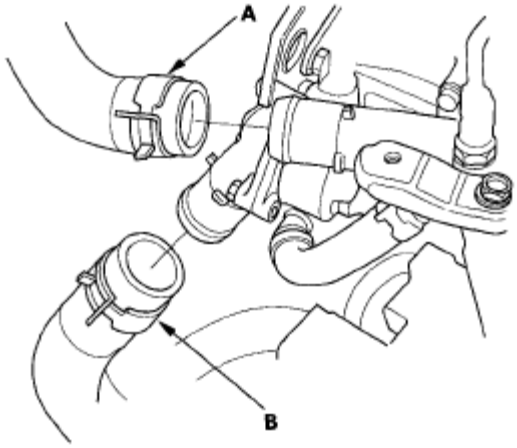



**Fig. 35: Identifying Upper Radiator Hose And Lower Radiator Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the splash shield.

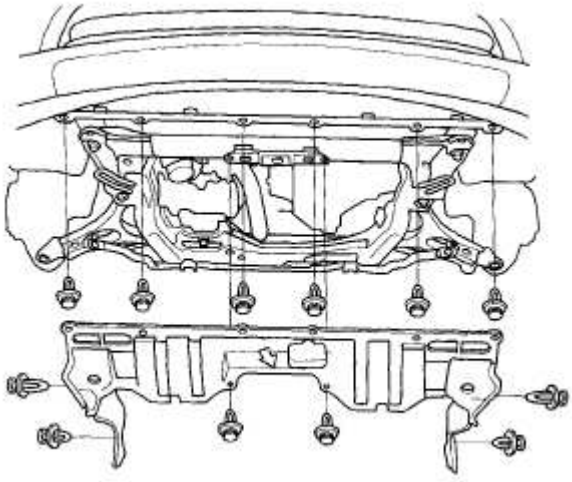


**Fig. 36: Identifying Splash Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Disconnect the engine coolant temperature (ECT) sensor 2 connector (A), and remove the harness clamp (B).

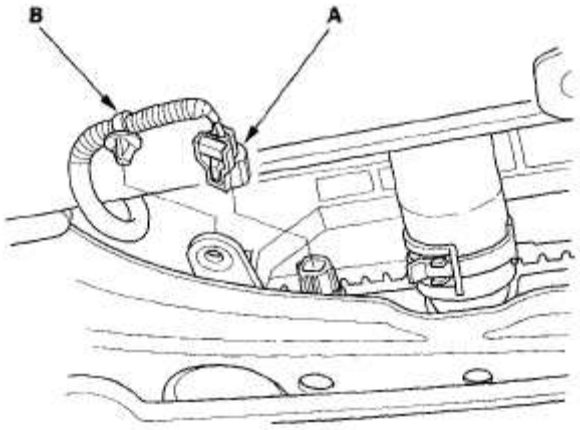



**Fig. 37: Identifying Engine Coolant Temperature Sensor 2 Connector And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the condenser bracket mounting bolts (A), then remove the bulkhead (B).

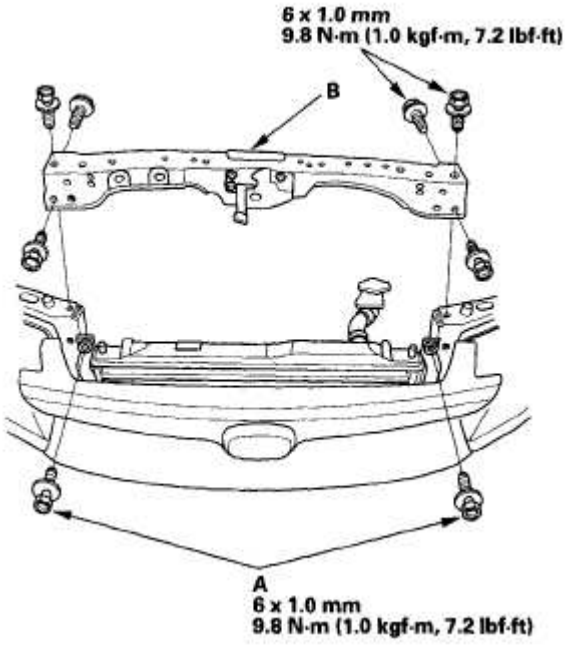



**Fig. 38: Identifying Condenser Bracket Mounting Bolts And Bulkhead With Tightening Torque**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Pull up the radiator, then remove the fan shroud assemblies and other parts

from the radiator.

**DENSO**

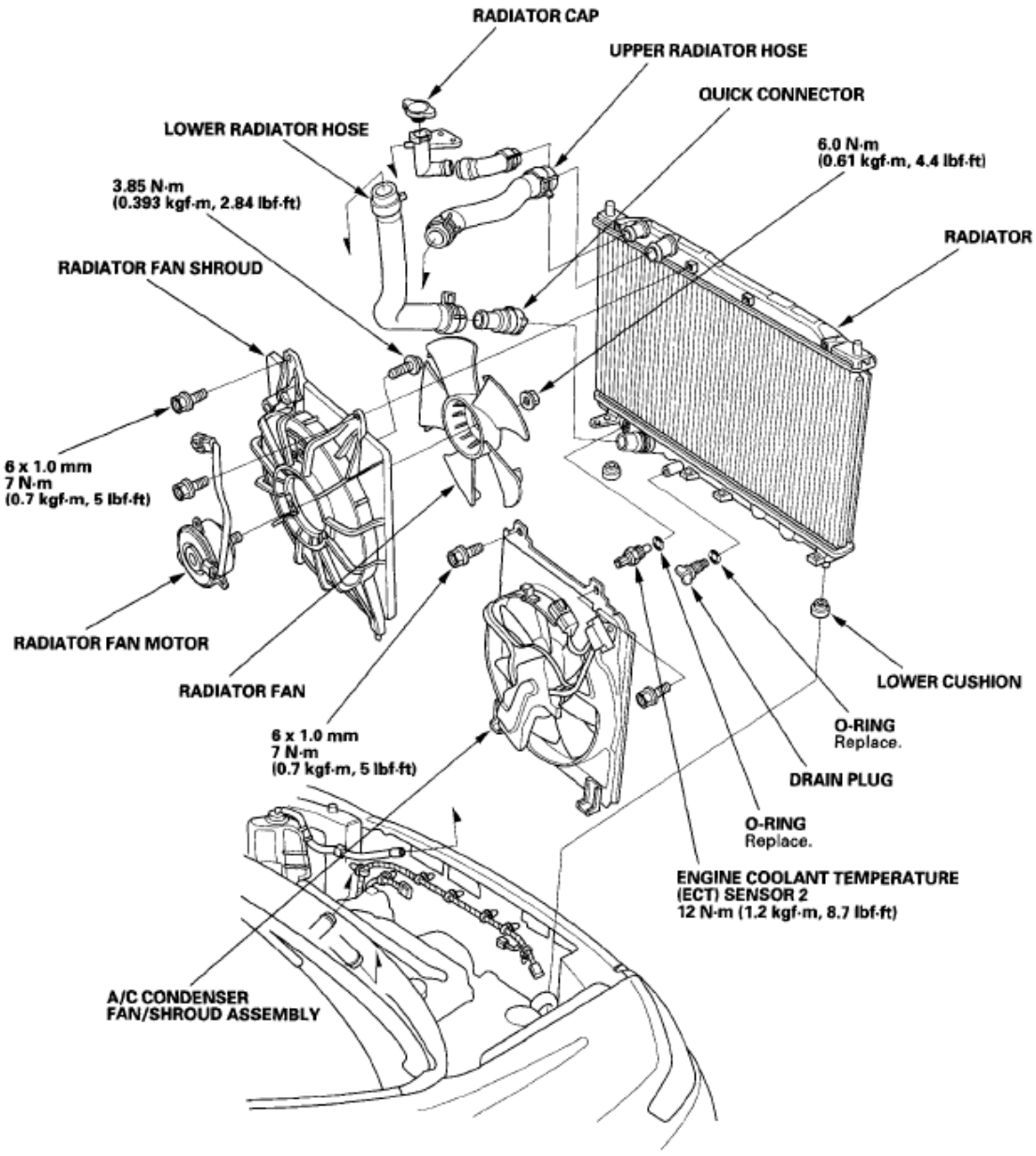



**Fig. 39: Identifying Radiator And Fan Components - DENSO - With Tightening Torque**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CoPAR**

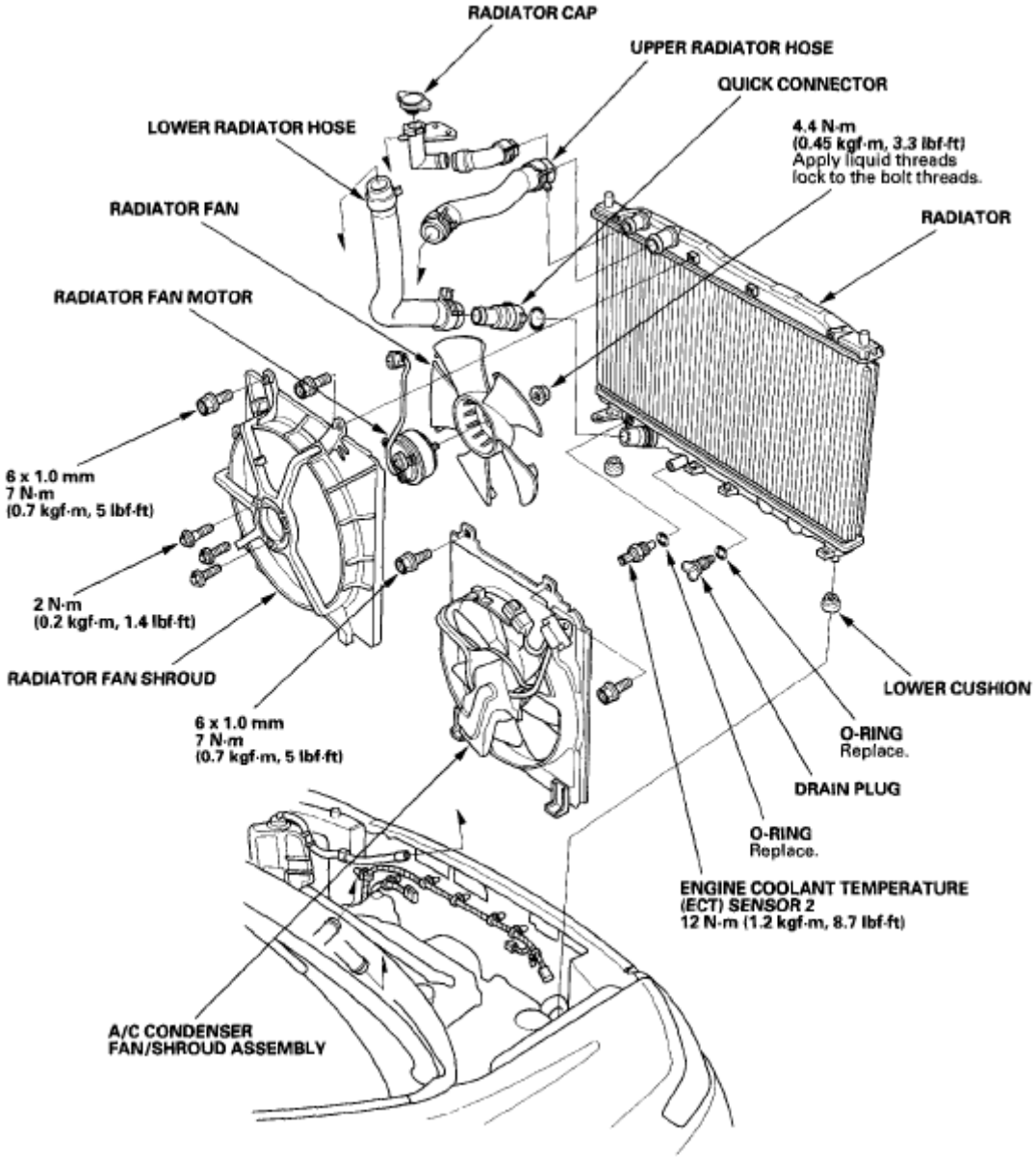



**Fig. 40: Identifying Radiator And Fan Components - COPAR - With Tightening Torque**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the radiator in the reverse order of removal. Make sure the upper and lower cushions are set securely.
14. Install the bulkhead in the reverse order of removal. Apply body paint to the bulkhead mounting bolts.
15. Install the battery, and connect the positive cable to the battery first, then

connect the negative cable.

16. Enter the anti-theft code for the audio system and the navigation system (if equipped), then enter the audio preset. Set the clock.
17. Fill the radiator with engine coolant and bleed the air (see step 8).

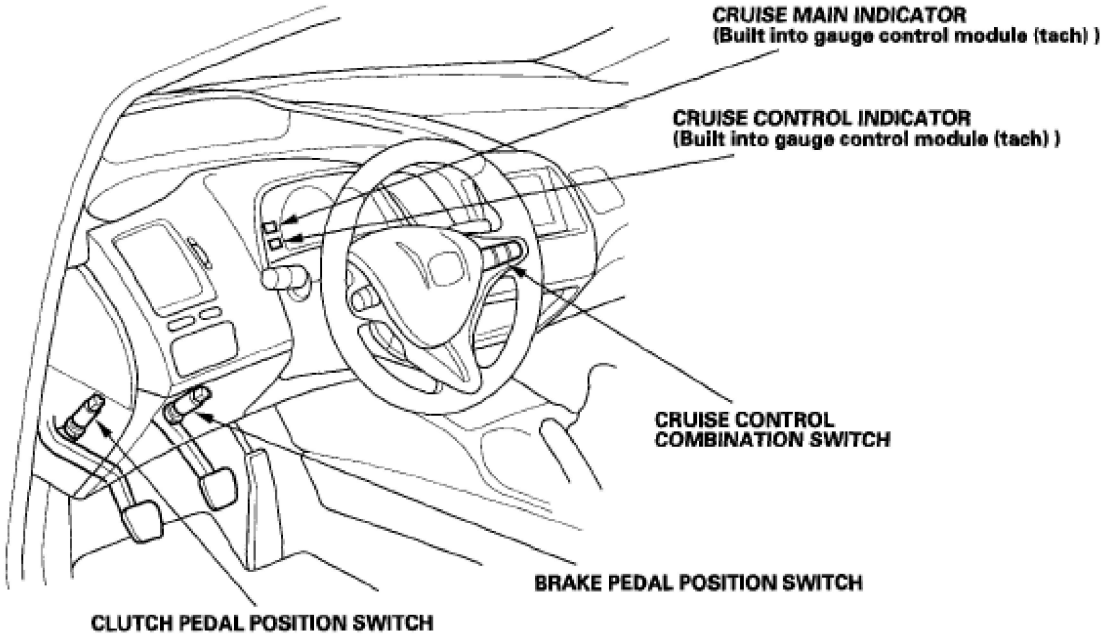
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# 2006-08 ACCESSORIES & EQUIPMENT

## Cruise Control (K20Z3) - Civic (All Except Si)

## COMPONENT LOCATION INDEX



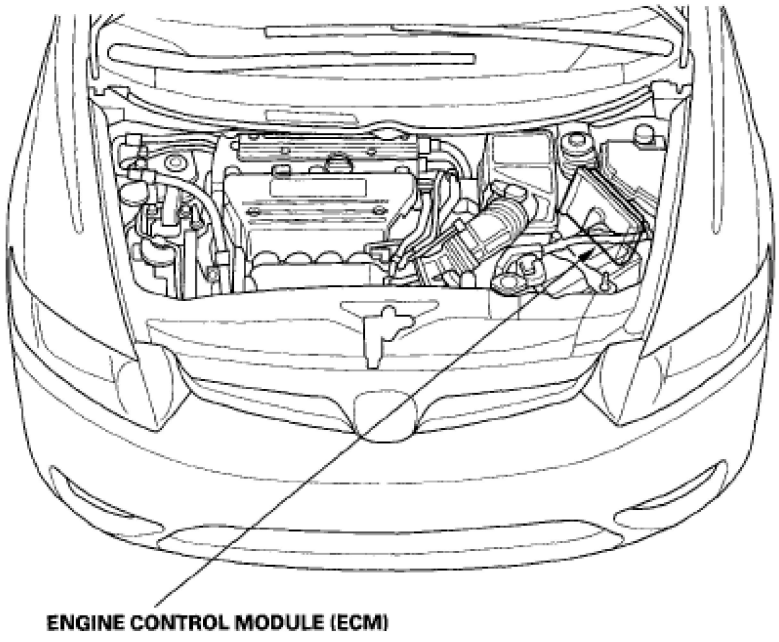




**Fig. 1: Locating Cruise Control Components**

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**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Cruise control cannot be set | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the No. 3 (10 A) fuse in the under-dash fuse/relay box.<br>3. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ).<br>4. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | |
| Cruise control can be set, but the cruise main indicator does not come on | Do the gauge control module self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION** ). | Faulty gauge control module (tach) |
| Cruise control can be set, but the cruise control indicator does not come on | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the gauge control module self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION** ).<br>3. Do the cruise control input test | Faulty gauge control module (tach) |

| | | |
|---|---|---|
| | (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control indicator signal input. | |
| Vehicle does not decelerate or accelerate accordingly when the set/decel or resume/accel switch is pressed | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control set/decel, resume/accel switch signal input.<br>3. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | Open circuit, loose or disconnected terminals: YEL/RED, LT GRN or LT GRN/BLK, ORN |
| Set speed does not cancel when the brake pedal is pressed | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ).<br>3. Test the brake pedal position switch signal input. Do the brake pedal position switch test (see **BRAKE PEDAL POSITION SWITCH TEST** ). | • Short to power on the BRN wire<br>• Faulty brake pedal position switch |
| Set speed does not cancel (engine rpm stays high) when the clutch pedal | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ). | • Short in the LT BLU wire<br>• Faulty clutch pedal position |

| | | |
|---|---|---|
| is pressed | 2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the clutch pedal position switch signal input.<br>3. Do the clutch pedal position switch test (see **CLUTCH PEDAL POSITION SWITCH TEST** ). | switch |
| Set speed does not cancel when the cruise control main switch is pressed | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control main switch signal input.<br>3. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | Short to power on the PNK, YEL wire |
| Set speed does not cancel when the cancel switch is pressed | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control cancel switch signal input.<br>3. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | Open circuit, loose or disconnected terminals: YEL/RED, LT GRN or LT GRN/BLK, ORN |

| | | |
|---|---|---|
| Set speed will not resume when the resume/accel switch is pressed (with the cruise control main switch turned on, and set speed temporarily canceled by pressing the brake pedal) | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the brake pedal position switch adjustment (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).<br>3. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control resume/accel switch signal input. Test the brake pedal position switch signal input.<br>4. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | • Faulty brake pedal position switch<br>• Open circuit, loose or disconnected terminals: LT GRN/BLK, ORN |
| Set speed will not resume when the resume/accel switch is pressed (with the cruise control main switch turned on, and set speed temporarily canceled by pressing the clutch pedal) | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the clutch pedal position switch adjustment (see **CLUTCH PEDAL, CLUTCH PEDAL POSITION SWITCH, AND CLUTCH INTERLOCK SWITCH ADJUSTMENT** ).<br>3. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control resume/accel switch signal | • Faulty clutch pedal position switch<br>• Open circuit, loose or disconnected terminals: LT GRN/BLK, ORN |

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| | | |
|---|---|---|
| | input. Test the clutch pedal position switch signal input.<br>4. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | |
| With the ignition switch ON (II), and the lighting switch turned on, the cruise control combination switch illumination does not come on | Replace the cruise control combination switch (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | |

## CIRCUIT DIAGRAM

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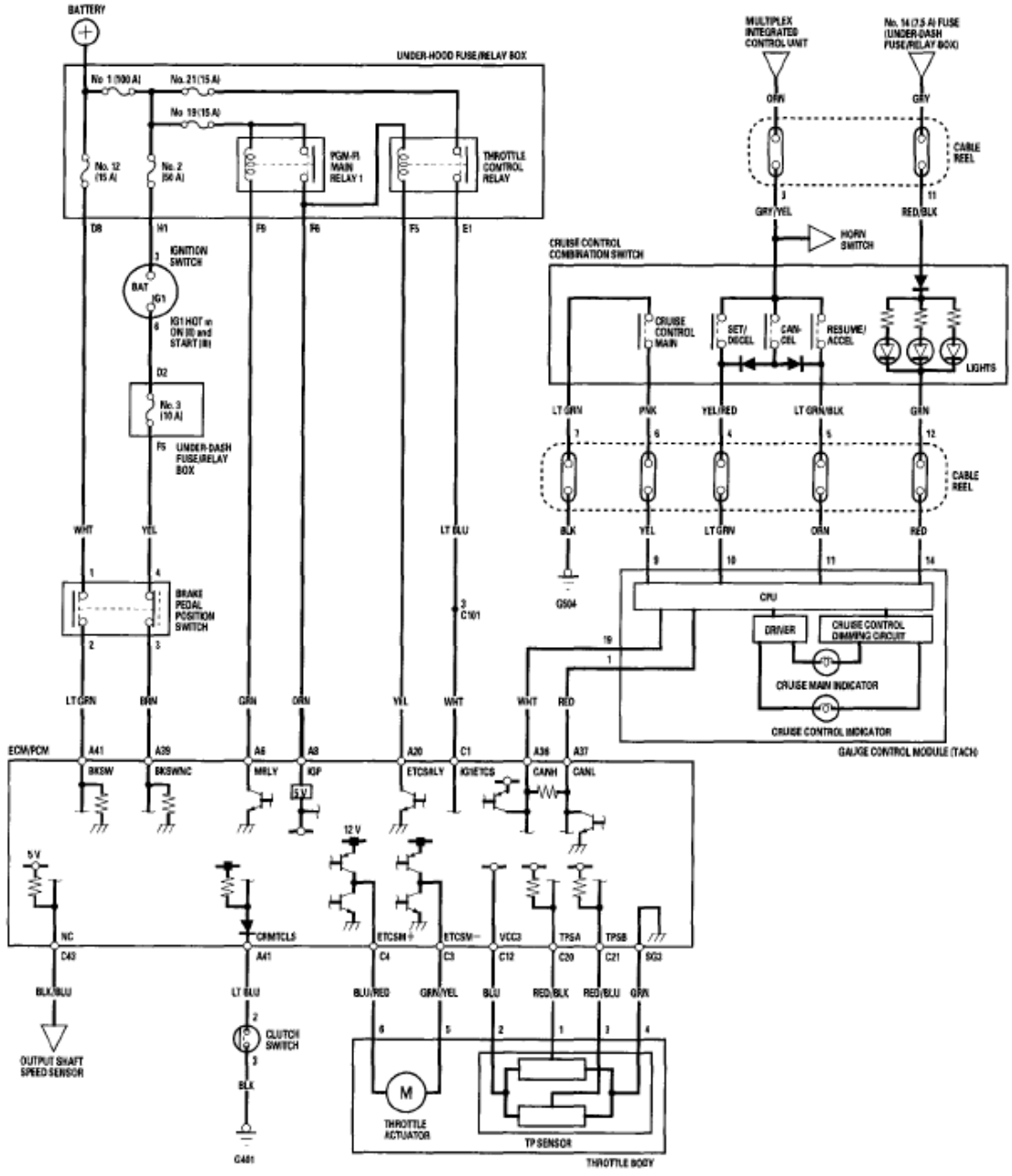



**Fig. 2: Cruise Control - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CRUISE CONTROL INPUT TEST

**NOTE: Always make sure you have the latest HDS software before doing the input tests.**

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1. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see **GENERAL TROUBLESHOOTING INFORMATION** ).
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the engine control module (ECM). If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Go to PGM-FI, and check for DTCs (see **DTC TROUBLESHOOTING INDEX** .
5. Do the following tests while monitoring parameters in the PGM-FI DATA LIST with the HDS.

**NOTE: Intermittent failures are often caused by loose circuit connections. While monitoring cruise control inputs, flex their circuits, and note if any of the test results change.**

**Cruise Control Input Test**

| Signal to be tested | Test condition | Parameter: Desired result | Possible cause if result is not obtained |
|---|---|---|---|
| Brake pedal position switch signal | Brake pedal pressed, then released | CRUISE BRAKE SW should indicate OFF when the brake pedal is pressed and ON when the brake pedal is released. | • Faulty brake pedal position switch<br>• Blown No. 3 (10 A) fuse in the under-dash fuse/relay box<br>• Open in the wire between the ECM and the brake pedal position switch<br>• A wire shorted to |

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| | | | |
|---|---|---|---|
| | | | ground between the ECM/PCM and the brake pedal position switch |
| Clutch pedal position switch signal | Clutch pedal pressed, then released | SHIFT/CLUTCH SW should indicate ON when the clutch pedal is pressed and OFF when the clutch pedal is released. | • Faulty clutch pedal position switch<br>• Open in the wire between the ECM and the clutch pedal position switch<br>• Short to ground in the wire between the ECM and the clutch pedal position switch<br>• Poor ground G401 |
| Cruise control main switch signal | Cruise control main switch ON and OFF | CRUISE MASTER (MAIN) SW should indicate ON when the cruise control main switch is turned ON and OFF when the cruise | • Faulty cruise control main switch<br>• Faulty gauge control module (tach)<br>• Open in the wire between the gauge control module (tach) and the cruise control main switch |

| | | | |
|---|---|---|---|
| | | control main switch is turned OFF. | • Short to ground in the wire between the gauge control module (tach) and the cruise control main switch |
| Set switch signal | Set/decel switch pressed and released | CRUISE SET SW should indicate ON when the set/decel switch is pressed and OFF when the set/decel switch is released. | • Faulty cruise control combination switch<br>• Faulty gauge control module (tach)<br>• Open in the wire between the gauge control module (tach) and the cruise control combination switch<br>• Short to ground in the wire between the gauge control module (tach) and the cruise control combination switch |
| | | | • Faulty cruise control |

| | | | |
|---|---|---|---|
| | | | combination switch<br>• Faulty gauge control module (tach)<br>• Open in the wire between the gauge control module (tach) and the cruise control combination switch<br>• Short to ground in the wire between the gauge control module (tach) and the cruise control combination switch |
| Resume switch signal | Resume/accel switch pressed and released | CRUISE RESUME SW should indicate ON when the resume/accel switch is pressed and OFF when the resume/accel switch is released. | |
| Cancel switch signal | Cancel switch pressed and released | CRUISE CANCEL SW should indicate ON when the cancel switch is pressed and OFF when the cancel switch is released. | • Faulty cruise control combination switch<br>• Faulty gauge control module (tach) |
| Cruise control indicator | Start the engine, turn the cruise control main switch on, and drive the vehicle above 25 | CRUISE INDICATOR should indicate ON when the cruise control is set and OFF when the | • Faulty ECM<br>• Cruise control was not set at the |

| | | | |
|---|---|---|---|
| signal | mph (40 km/h). Set and cancel the cruise control. | cruise control is canceled. | test by other malfunction |

## CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

1. Remove the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT** ).
2. Remove the steering wheel trim.

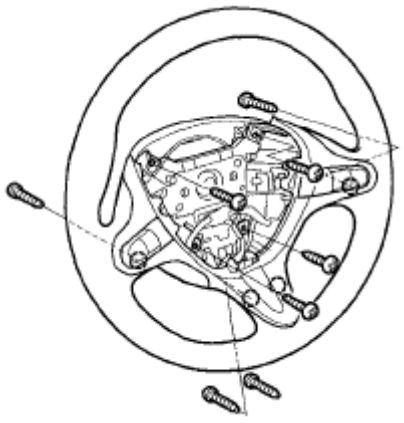


**Fig. 3: Removing Steering Wheel Trim**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the cruise control combination switch.

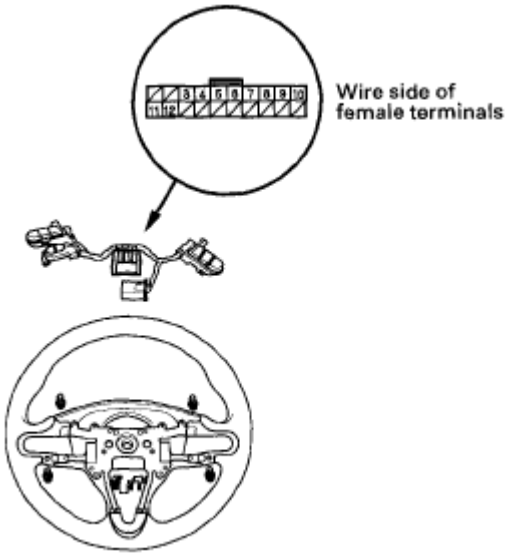



**Fig. 4: Removing Cruise Control Combination Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check for continuity between the terminals in each switch position according to **Fig. 5** .
   - If there is continuity, and it matches the table, but switch failure occurred on the cruise control input test, check and repair the wire harness on the switch circuit.
   - If there is no continuity in one or more positions, replace the switch.

| Terminal / Position | 6 | 7 | 3 | | 5 | 4 |
|---|---|---|---|---|---|---|
| Cruise control main switch (ON) | ○ | ○ | | | | |
| Cruise control main switch (OFF) | | | | | | |
| Set/decel (PRESSED) | | | ○ | | | ○ |
| Resume/accel (PRESSED) | | | ○ | | ○ | |
| Cancel (PRESSED) | | | ○ | ▶ | | ○ |
| | | | | ▶ | ○ | |

**Fig. 5: Checking Continuity Between Cruise Control Combination Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CLUTCH PEDAL POSITION SWITCH TEST

1. Disconnect the 3P connector from the clutch pedal position switch.

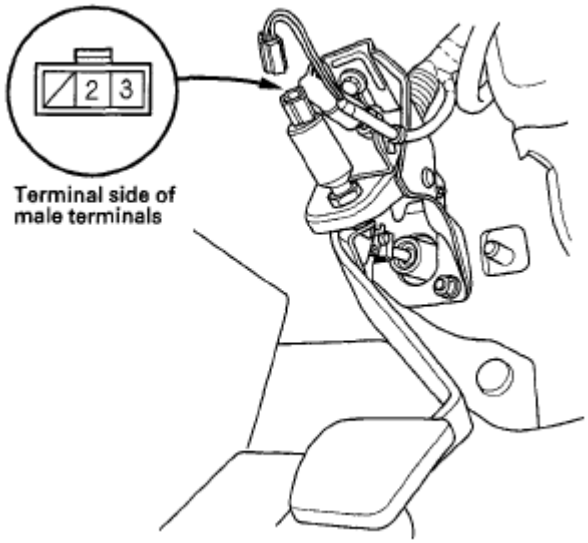



**Fig. 6: Disconnecting 3P Connector From Clutch Pedal Position Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the clutch pedal position switch.
3. Check for continuity between the terminals according to **Fig. 7** .
   - If the continuity is not as specified, replace the clutch pedal position switch.
   - If OK, install the clutch pedal position switch, and adjust the pedal height (see **CLUTCH PEDAL, CLUTCH PEDAL POSITION SWITCH, AND CLUTCH INTERLOCK SWITCH ADJUSTMENT** ).

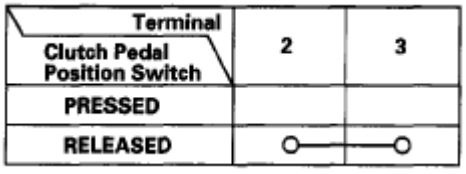



**Fig. 7: Checking Continuity Between Clutch Pedal Position Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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# 2006-08 ACCESSORIES & EQUIPMENT

## Cruise Control (R18A1) - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX

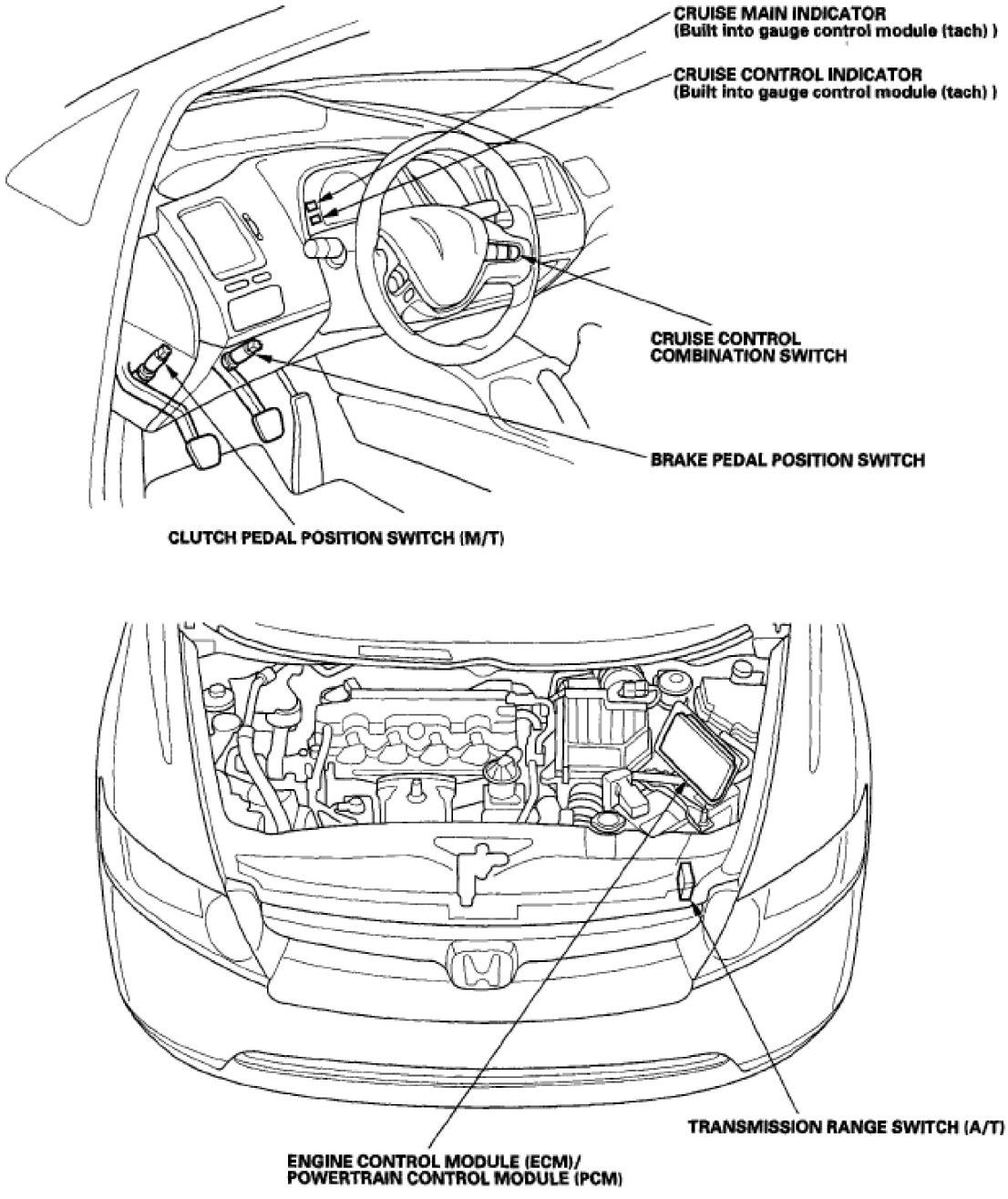



**Fig. 1: Locating Cruise Control Components**
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## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Cruise control cannot be set | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the No. 3(10 A) fuse in the under-dash fuse/relay box.<br>3. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ).<br>4. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | |
| Cruise control can be set, but the cruise main indicator does not come on | Do the gauge control module self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION** ). | Faulty gauge control module (tach) |
| Cruise control can be set, but the cruise control indicator does not come on | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the gauge control module self-diagnostic function procedure (see **SELF-DIAGNOSTIC FUNCTION** ).<br>3. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise | Faulty gauge control module (tach) |

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| | | |
|---|---|---|
| | control indicator signal input. | |
| Vehicle does not decelerate or accelerate accordingly when the set/decel or resume/accel switch is pressed | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control set/decel, resume/accel switch signal input.<br>3. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | Open circuit, loose or disconnected terminals: YEL/RED, LT GRN or LT GRN/BLK, ORN |
| Set speed does not cancel when the brake pedal is pressed | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the brake pedal position switch signal input.<br>3. Do the brake pedal position switch test (see **BRAKE PEDAL POSITION SWITCH TEST** ). | • Short to power on the BRN wire<br>• Faulty brake pedal position switch |
| Set speed does not cancel (engine rpm stays high) when the clutch pedal is | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the clutch | • Short in the LT BLU wire<br>• Faulty clutch pedal position |

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| | | |
|---|---|---|
| pressed (M/T) | pedal position switch signal input.<br>3. Do the clutch pedal position switch test (see **CLUTCH PEDAL POSITION SWITCH TEST** ). | switch |
| Set speed does not cancel when the cruise control main switch is pressed | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control main switch signal input.<br>3. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | Short to power on the PNK, YEL wire |
| Set speed does not cancel when the cancel switch is pressed | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control cancel switch signal input.<br>3. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | Open circuit, loose or disconnected terminals: YEL/RED, LT GRN or LT GRN/BLK, ORN |
| | 1. Check for PGM-FI DTCs (see **GENERAL** | |

| | | |
|---|---|---|
| Set speed will not resume when the resume/accel switch is pressed (with the cruise control main switch turned on, and set speed temporarily canceled by pressing the brake pedal) | **TROUBLESHOOTING INFORMATION** ).<br>2. Check the brake pedal position switch adjustment (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).<br>3. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control resume/accel switch signal input. Test the brake pedal position switch signal input.<br>4. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | • Faulty brake pedal position switch<br>• Open circuit, loose or disconnected terminals: LT GRN/BLK, ORN |
| Set speed will not resume when the resume/accel switch is pressed (with the cruise control main switch turned on, and set speed temporarily canceled by pressing the clutch pedal) (M/T) | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the clutch pedal position switch adjustment (see **CLUTCH PEDAL, CLUTCH PEDAL POSITION SWITCH, AND CLUTCH INTERLOCK SWITCH ADJUSTMENT** ).<br>3. Do the cruise control input test (see **CRUISE CONTROL INPUT TEST** ). Test the cruise control resume/accel switch signal input. Test the clutch pedal position switch signal input. | • Faulty clutch pedal position switch<br>• Open circuit, loose or disconnected terminals: LT GRN/BLK, ORN |

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| | | |
|---|---|---|
| | 4. Do the cruise control combination switch test (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | |
| With the ignition switch ON (II), and the lighting switch turned on, the cruise control combination switch illumination does not come on | Replace the cruise control combination switch (see **CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT** ). | |

## CIRCUIT DIAGRAM

# 2008 Honda Civic LX

2006-08 ACCESSORIES & EQUIPMENT Cruise Control (R18A1) - Civic (All Except Hybrid)

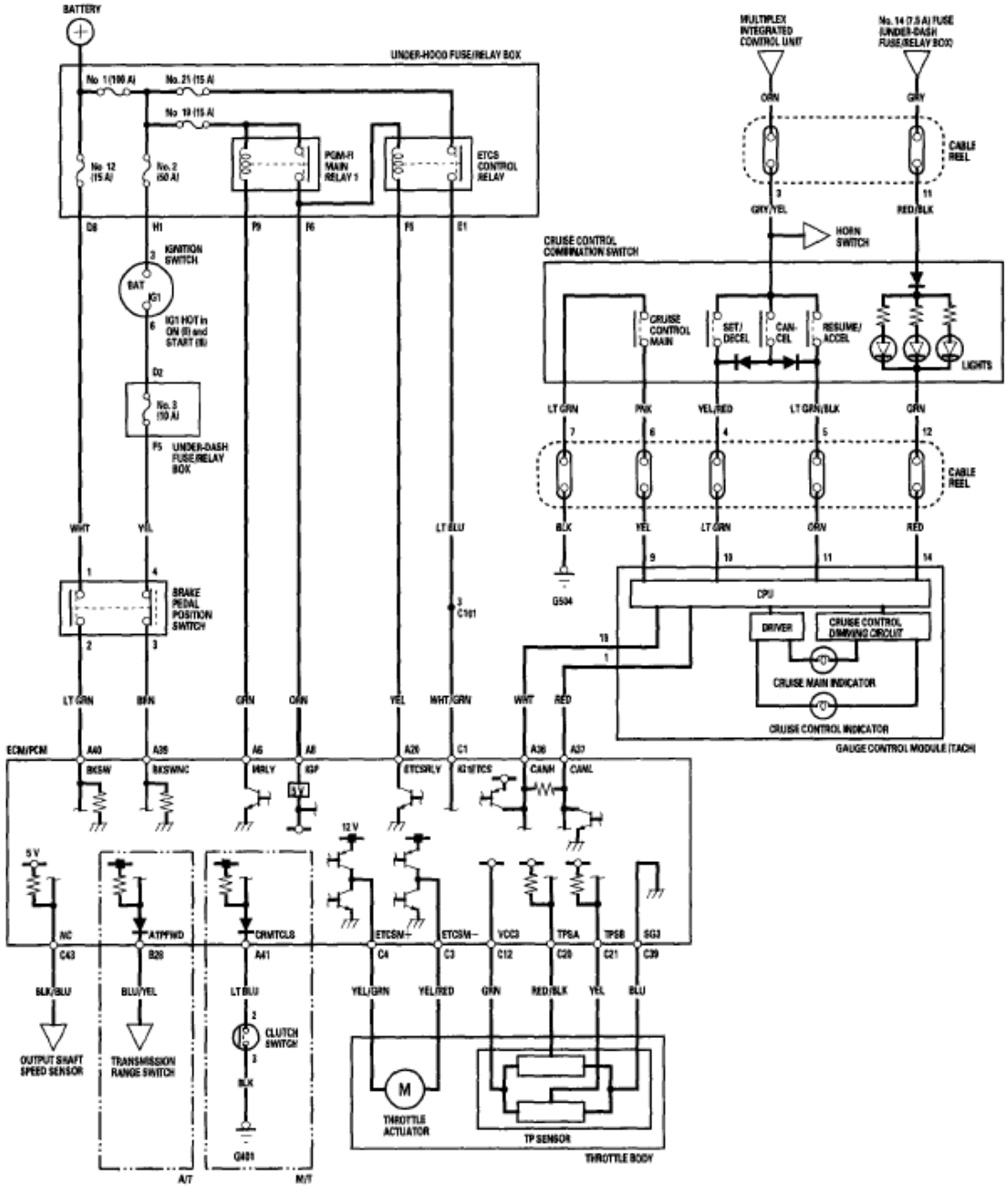



**Fig. 2: Cruise Control - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CRUISE CONTROL INPUT TEST

**NOTE: Always make sure you have the latest HDS software before doing the input tests.**

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1. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 in **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the ECM/PCM. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Go to PGM-FI, and check for DTCs (see **DTC TROUBLESHOOTING** ).
5. Do the following tests while monitoring parameters in the PGM-FI DATA LIST with the HDS.

**NOTE: Intermittent failures are often caused by loose circuit connections. While monitoring cruise control inputs, flex their circuits, and note if any of the test results change.**

**Cruise Control Input Test**

| Signal to be tested | Test condition | Parameter: Desired result | Possible cause if result is not obtained |
|---|---|---|---|
| Brake pedal position switch signal | Brake pedal pressed, then released | CRUISE BRAKE SW should indicate OFF when the brake pedal is pressed and ON when the brake pedal is released. | • Faulty brake pedal position switch<br>• Blown No. 3 (10 A) fuse in the under-dash fuse/relay box<br>• Open in the wire between the engine control module (ECM/powertrain control module (PCM) and the brake pedal position switch<br>• A wire shorted to ground between the |

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| | | | |
|---|---|---|---|
| | | | ECM/PCM and the brake pedal position switch |
| Clutch pedal position switch signal | Clutch pedal pressed, then released | SHIFT/CLUTCH SW should indicate ON when the clutch pedal is pressed and OFF when the clutch pedal is released. | • Faulty clutch pedal position switch<br>• Open in the wire between the ECM and the clutch pedal position switch<br>• Short to ground in the wire between the ECM and the clutch pedal position switch<br>• Poor ground G401 |
| Transmission range switch signal | Shift lever in D, D3, and 2 | SHIFT/CLUTCH SW should indicate ON in P, R, N, and 1 and OFF in D, D3, and 2. | • Faulty transmission range switch<br>• Open in the wire between the PCM and the transmission range switch<br>• Short to in the wire ground between the PCM and the transmission range switch<br>• Poor ground G101 |
| | | CRUISE MASTER (MAIN) SW should indicate ON when | • Faulty cruise control main switch<br>• Faulty gauge control module (tach)<br>• Open in the wire between the gauge |

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| | | | |
|---|---|---|---|
| Cruise control main switch signal | Cruise control main switch ON and OFF | the cruise control main switch is turned ON and OFF when the cruise control main switch is turned OFF. | control module (tach) and the cruise control main switch<br>• Short to ground in the wire between the gauge control module (tach) and the cruise control main switch |
| Set switch signal | Set/decel switch pressed and released | CRUISE SET SW should indicate ON when the set/decel switch is pressed and OFF when the set/decel switch is released. | • Faulty cruise control combination switch<br>• Faulty gauge control module (tach)<br>• Open in the wire between the gauge control module and the cruise control combination switch<br>• Short to ground in the wire between the gauge control module and the cruise control combination switch |
| Resume switch signal | Resume/accel switch pressed and released | CRUISE RESUME SW should indicate ON when the resume/accel switch is pressed and OFF when the | • Faulty cruise control combination switch<br>• Faulty gauge control module (tach)<br>• Open in the wire between the gauge control module (tach) and the cruise control combination |

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| | | | |
|---|---|---|---|
| | | resume/accel switch is released. | switch<br>• Short to ground in the wire between the gauge control module (tach) and the cruise control combination switch |
| Cancel switch signal | Cancel switch pressed and released | CRUISE CANCEL SW should indicate ON when the cancel switch is pressed and OFF when the cancel switch is released. | • Faulty cruise control combination switch<br>• Faulty gauge control module (tach) |
| Cruise control indicator signal | Start the engine, turn the cruise control main switch on, and drive the vehicle above 25 mph (40 km/h). Set and cancel the cruise control. | CRUISE INDICATOR should indicate ON when the cruise control is set and OFF when the cruise control is canceled. | • Faulty ECM/PCM<br>• Cruise control was not set at the test by other malfunction |

## CRUISE CONTROL COMBINATION SWITCH TEST/REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

1. Remove the driver's airbag (see **DRIVER'S AIRBAG REPLACEMENT** ).
2. Disconnect the connectors (A), then remove the steering wheel trim (B).

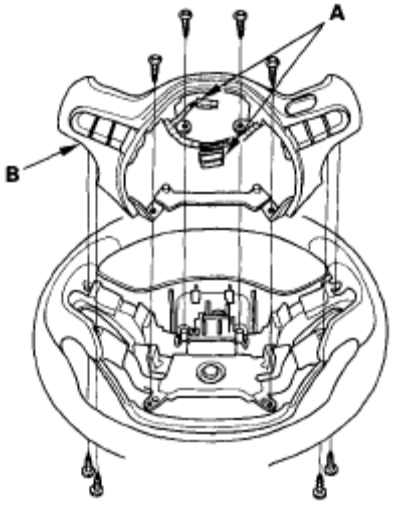



**Fig. 3: Removing Steering Wheel Trim**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the cruise control combination switch.

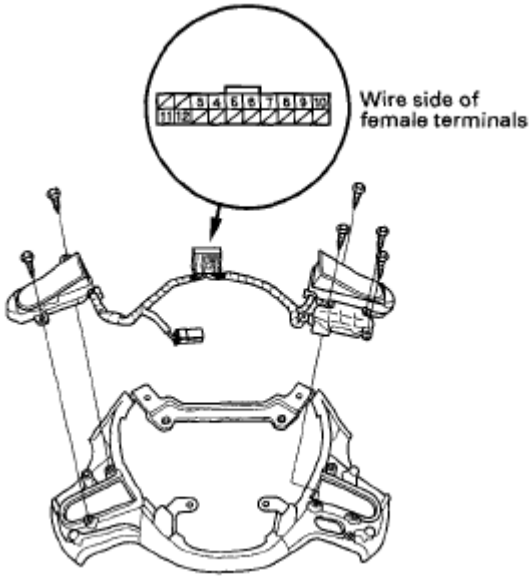



**Fig. 4: Removing Cruise Control Combination Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check for continuity between the terminals in each switch position according to **Fig. 5** .
    - If there is continuity, and it matches the table, but switch failure occurred on the cruise control input test, check and repair the wire harness on the

switch circuit.

- If there is no continuity in one or more positions, replace the switch.

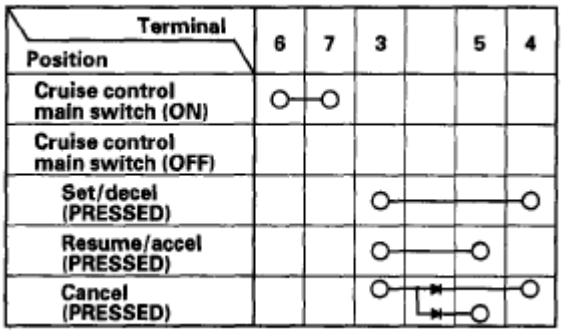



**Fig. 5: Checking Continuity Between Cruise Control Combination Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CLUTCH PEDAL POSITION SWITCH TEST

1. Disconnect the 3P connector from the clutch pedal position switch.

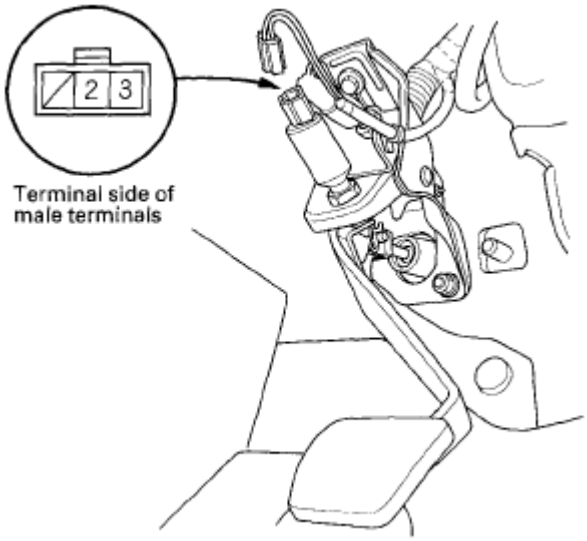



**Fig. 6: Disconnecting 3P Connector From Clutch Pedal Position Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check for continuity between the terminals according to **Fig. 7** .
   - If the continuity is not as specified, replace the clutch pedal position

switch.

- If OK, install the clutch pedal position switch, and adjust the pedal height (see **CLUTCH PEDAL, CLUTCH PEDAL POSITION SWITCH, AND CLUTCH INTERLOCK SWITCH ADJUSTMENT** ).

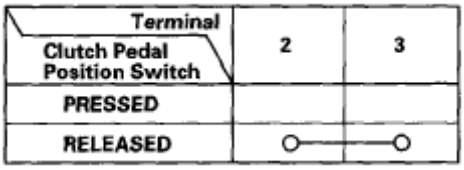



**Fig. 7: Checking Continuity Between Clutch Pedal Position Switch Test**
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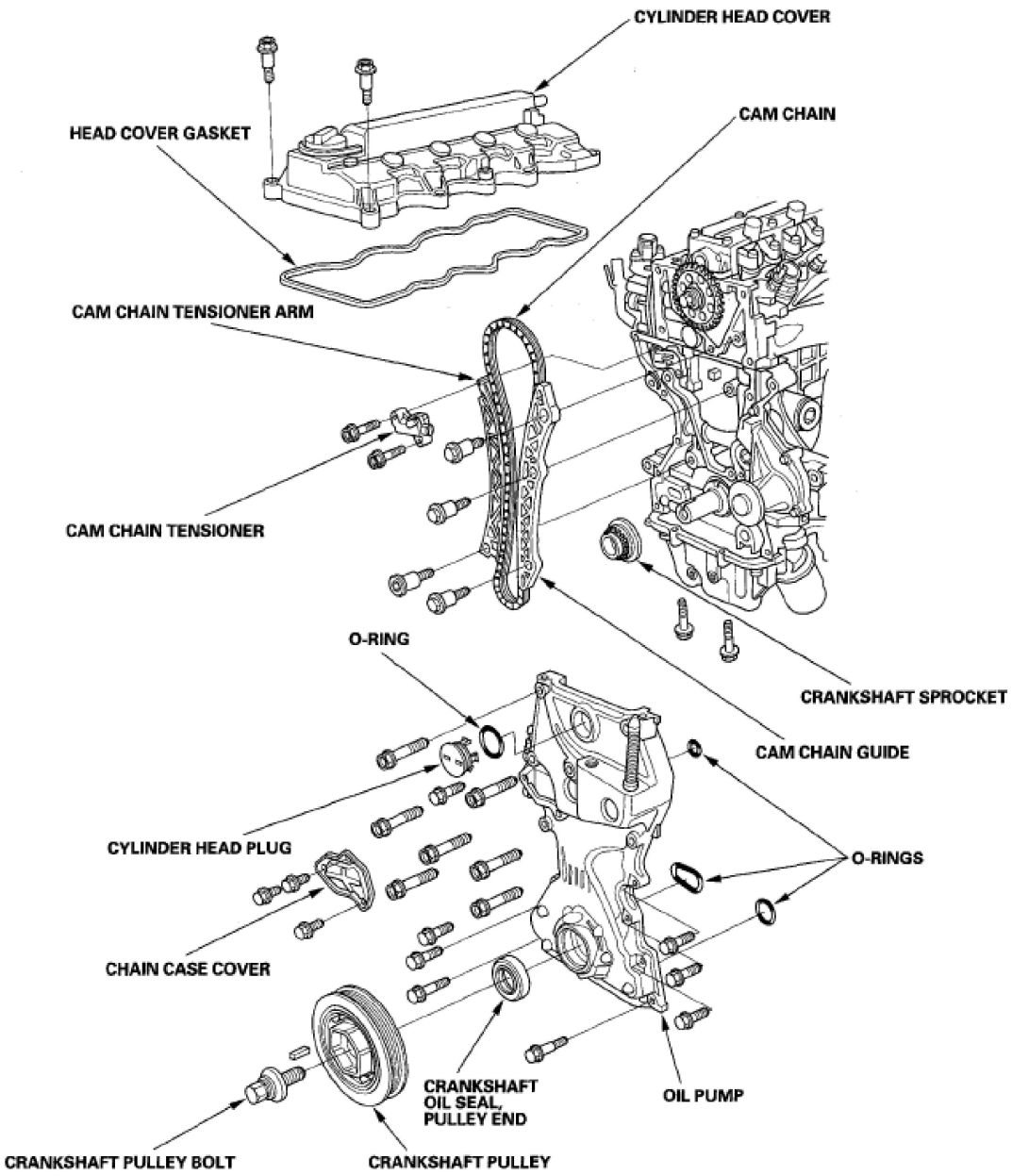


# 2006-08 ENGINE

## Cylinder Head - Civic GX

## COMPONENT LOCATION INDEX

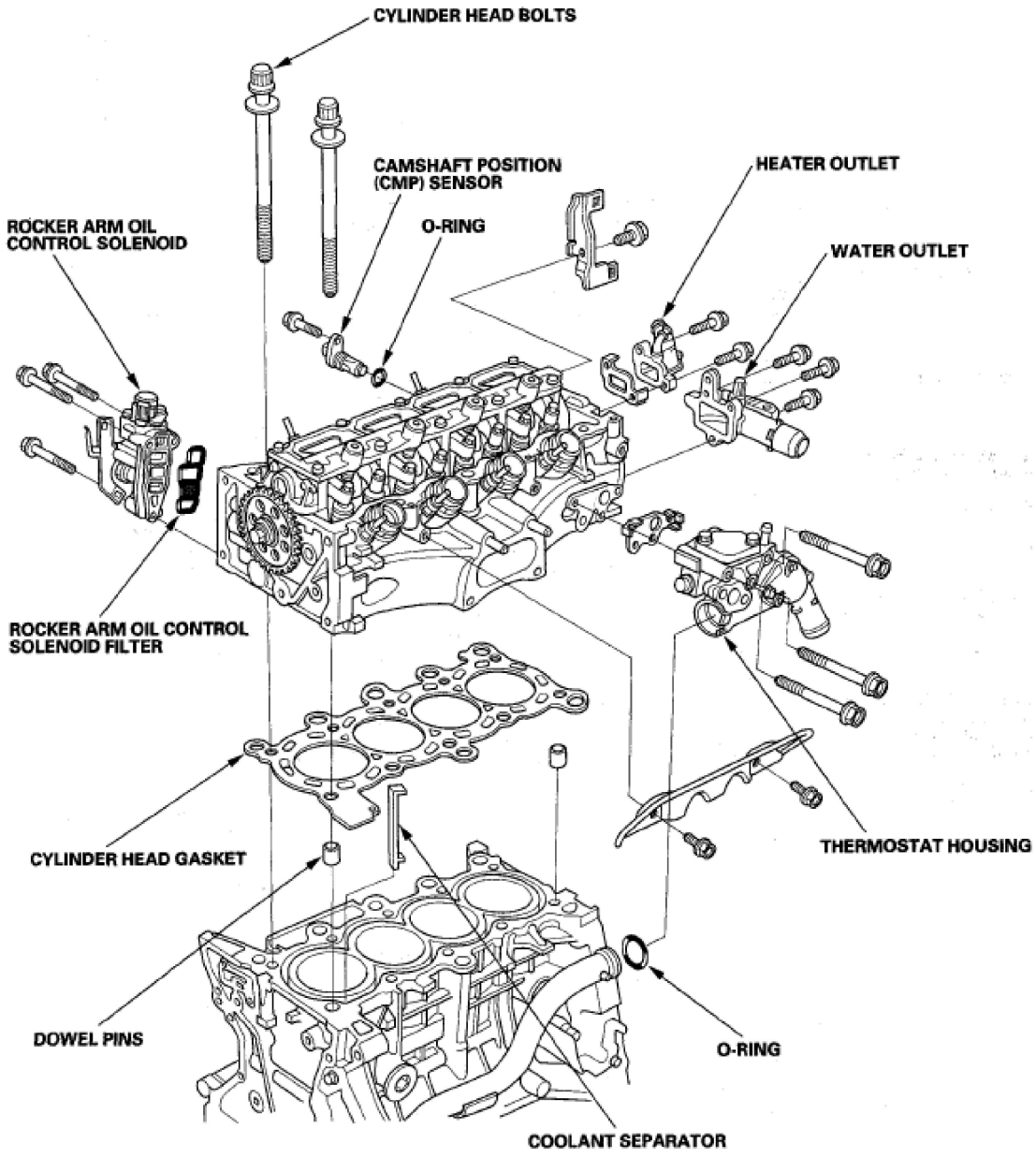
**NOTE: Refer to the CYLINDER HEAD (EXCEPT HYBRID) article for items not shown in this article.**



# 2008 Honda Civic GX

2006-08 ENGINE Cylinder Head - Civic GX

## Fig. 1: Identifying Cylinder Head Components (1 Of 3)




## Fig. 2: Identifying Cylinder Head Components (2 Of 3)

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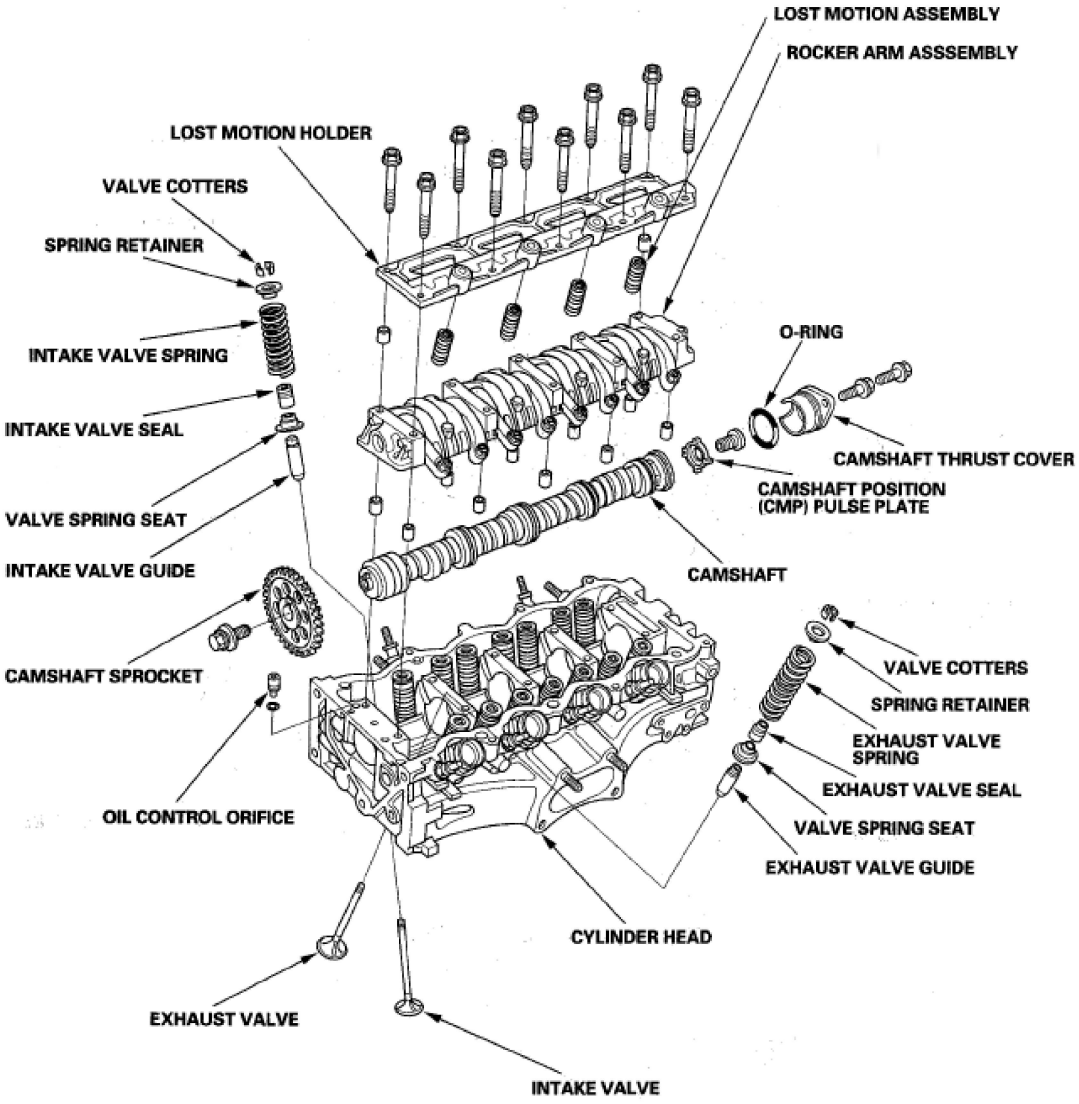



**Fig. 3: Identifying Cylinder Head Components (3 Of 3)**

## CYLINDER HEAD REMOVAL

**NOTE:**

- **Use fender covers to avoid damaging painted surfaces.**
- **To avoid damage, unplug the wiring connectors carefully while holding the connector portion.**
- **To avoid damaging the cylinder head, wait until the engine coolant temperature drops below 100 ℉ (38 ° C) before loosening the cylinder head bolts.**
- **Mark all wiring and hoses to avoid misconnection. Also,**

**be sure that they do not contact other wiring or hoses, or interfere with other parts.**

1. Make sure you have anti-theft codes for the audio system and navigation system (if equipped), then write down the audio presets.
2. Turn off the manual shut-off valve, (see **ENGINE REMOVAL** ).
3. To reduce pressure in the lines, start the engine, and run it until it stalls.
4. Disconnect the negative cable from the battery.
5. Drain the engine coolant, refer to the **COOLANT REPLACEMENT** .
6. Remove the drive belt, refer to the **DRIVE BELT REMOVAL/INSTALLATION** .
7. Remove the intake manifold (see **REMOVAL** ).
8. Remove the harness clamps (A), and remove the positive crankcase ventilation (PCV) hose from the clamp (B).

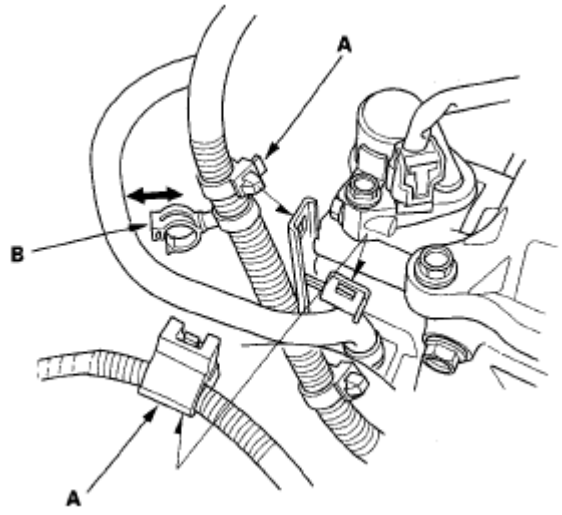



**Fig. 4: Removing Harness Clamps**

9. Remove the air cleaner housing bracket (A), then remove the harness holder (B) from the cylinder head.

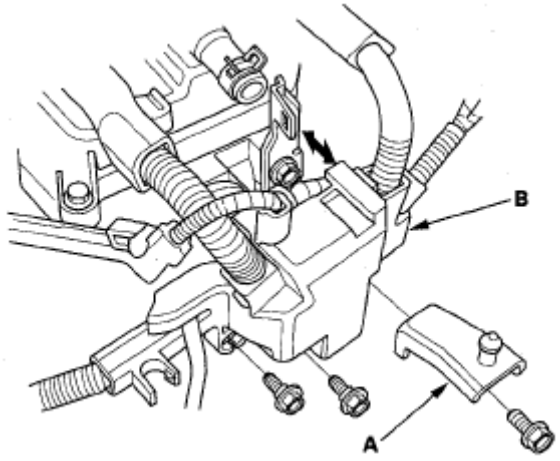



**Fig. 5: Identifying Air Cleaner Housing Bracket**

10. Remove the upper radiator hose (A), heater hose (B), and water bypass hose (C).

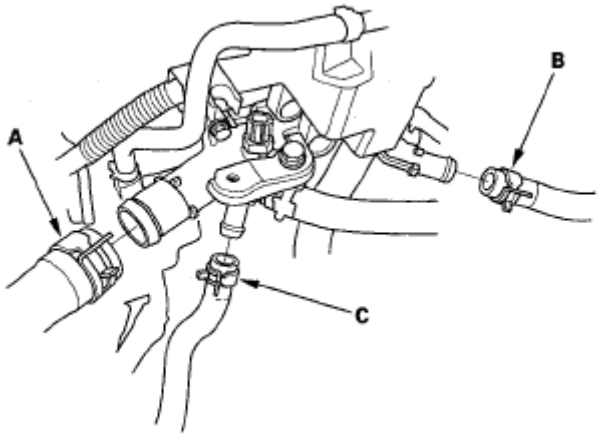



**Fig. 6: Identifying Upper Radiator Hose, Heater Hose And Water Bypass Hose**

11. Remove the engine wire harness connectors and wire harness clamps from the cylinder head.
    - Four fuel injector connectors
    - Engine coolant temperature (ECT) sensor 1 connector
    - Air fuel ratio (A/F) sensor connector
    - Secondary heated oxygen sensor (secondary HO2S) connector
    - Rocker arm oil control solenoid connector

- Rocker arm oil pressure switch connector

12. Remove the four ignition coils, refer to the **IGNITION COIL REMOVAL/INSTALLATION** .
13. Remove the three way catalytic converter (TWC) (see **CATALYTIC CONVERTER REMOVAL/INSTALLATION** ).
14. Remove the thermostat housing, refer to the **THERMOSTAT HOUSING REMOVAL AND INSTALLATION** .
15. Remove the cam chain, refer to the **CAM CHAIN REMOVAL** .
16. Remove the cylinder head bolts. To prevent warpage, unscrew the bolts, in sequence, 1/3 of a turn at a time; repeat the sequence until all bolts are loosened.

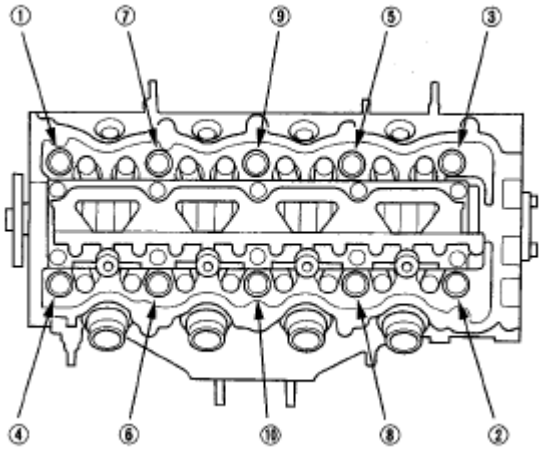



**Fig. 7: Identifying Loosening Sequence Of Cylinder Head Bolts**

17. Remove the cylinder head.

## CAMSHAFT INSPECTION

1. Remove the camshaft sprocket, refer to the **CAMSHAFT SPROCKET REMOVAL AND INSTALLATION** .
2. Remove the rocker arm assembly, refer to the **ROCKER ARM ASSEMBLY REMOVAL** .
3. Put the rocker shaft holders on the cylinder head, then tighten the bolts, in sequence, to the specified torque.

**Specified Torque:**

**6 x 1.0 mm**

**15 N.m (1.5 kgf.m, 11 Ibf.ft)**

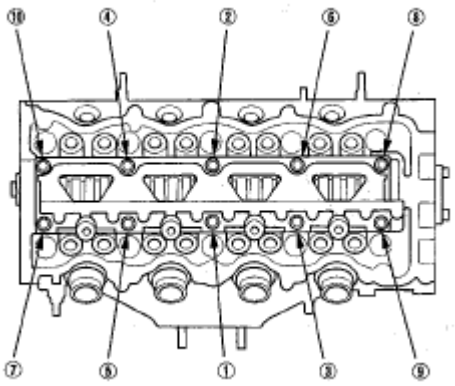


**Fig. 8: Identifying Tightening Sequence Of Cylinder Head Bolts**

4. Seat the camshaft by pushing it toward the rear of the cylinder head.
5. Zero the dial indicator against the end of the camshaft. Push the camshaft back and forth, and read the end play. If the end play is beyond the service limit, replace the thrust cover and recheck. If it is still beyond the service limit, replace the camshaft.

**Camshaft End Play**

**Standard (New): 0.050-0.250 mm**

**(0.002-0.010 in.)**

**Service Limit: 0.4 mm (0.02 in.)**

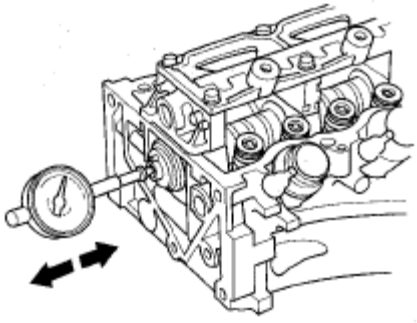


**Fig. 9: Measuring Camshaft End Play**

6. Remove the camshaft, refer to the **CAMSHAFT REMOVAL** .
7. Wipe the camshaft clean, then inspect the lift ramps. Replace the camshaft if any lobes are pitted, scored, or excessively worn.
8. Measure the diameter of each camshaft journal.

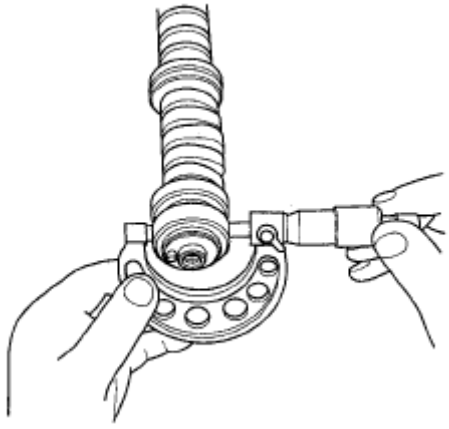


**Fig. 10: Measuring Diameter Of Camshaft Journal**

9. Zero the gauge to the journal diameter.

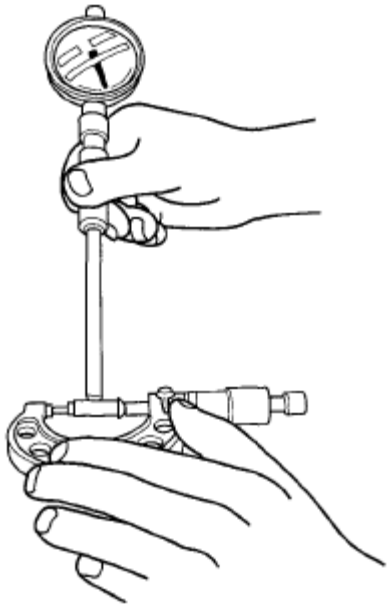


**Fig. 11: Checking Zero Gauge To Journal Diameter**

10. Clean the camshaft bearing surfaces in the cylinder head. Measure the inside diameter of each camshaft bearing surface, and check for an out-of-round condition.
    - If the camshaft-to-holder clearance is within limits, go to step 12.
    - If the camshaft-to-holder clearance is beyond the service limit, and the camshaft has been replaced, replace the cylinder head.
    - If the camshaft-to-holder clearance is beyond the service limit, and the camshaft has not been replaced, go to step 11.

**Camshaft-to-Holder Oil Clearance**

**Standard (New): 0.045-0.084 mm**

**(0.0018-0.0033 in.)**

**Service Limit: 0.15 mm (0.006 in.)**

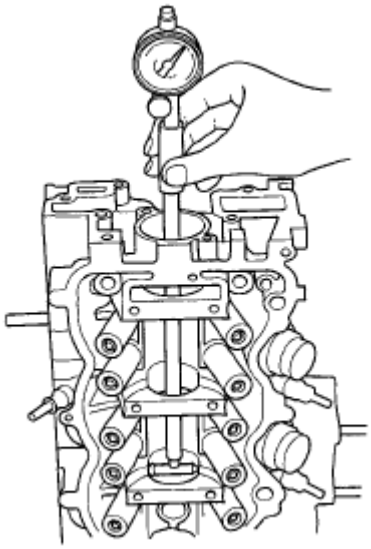


**Fig. 12: Checking Camshaft-To-Holder Oil Clearance**

11. Check the total runout with the camshaft supported on V-blocks.
    - If the total runout of the camshaft is within the service limit, replace the cylinder head.
    - If the total runout is beyond the service limit, replace the camshaft, and recheck the oil clearance. If the oil clearance is still out of tolerance, replace the cylinder head.

**Camshaft Total Runout**

**Standard (New): 0.03 mm (0.001 in.) max.**

**Service Limit: 0.04 mm (0.002 in.)**

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**Camshaft Total Runout**
**Standard (New): 0.03 mm (0.001 in.) max.**
**Service Limit: 0.04 mm (0.002 in.)**

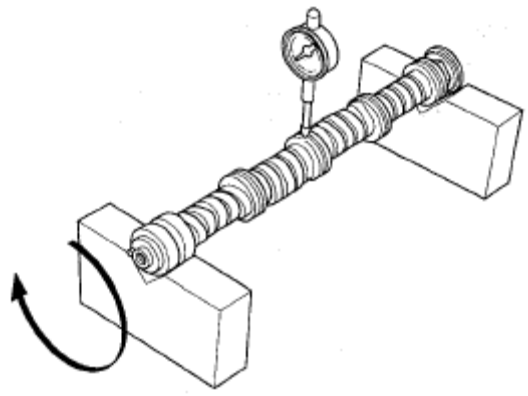


**Fig. 13: Measuring Camshaft Total Runout**

12. Measure cam lobe height.

**Cam Lobe Height Standard (New):**

| | INTAKE | EXHAUST |
|---|---|---|
| PRI | 34.222 mm (1.3473 in.) | 34.387 mm (1.3538 in.) |
| SEC A | 33.879 mm (1.3338 in.) | |
| SEC B | 34.384 mm (1.3537 in.) | |

PRI: Primary SEC: Secondary IN: Intake
EX: Exhaust C/C: Cam Chain

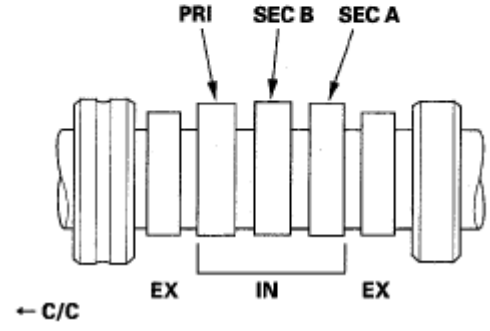



**Fig. 14: Measuring Cam Lobe Height**

## VALVE SEAT RECONDITIONING

1. Inspect the valve stem-to-guide clearance, refer to the **VALVE STEM-TO-GUIDE CLEARANCE INSPECTION** . If the valve guides are worn, replace them, refer to the **VALVE GUIDE REPLACEMENT** before cutting the

valve seats.

2. Renew the valve seats in the cylinder head using a valve seat cutter.

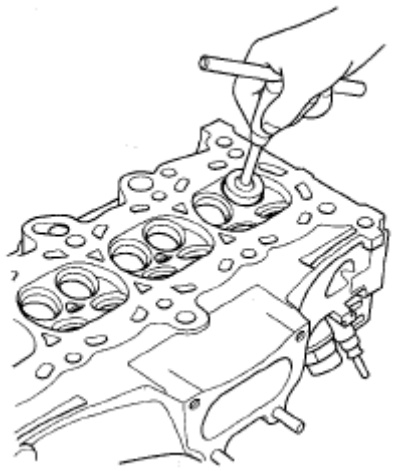


**Fig. 15: Making Valve Seats In Cylinder Head**

3. Carefully cut a 45 °seat, removing only enough material to ensure a smooth and concentric seat.
4. Bevel the upper edge of the seat with the 30° cutter and the lower edge of the seat with the 60° cutter. Check the width of the seat and adjust accordingly.

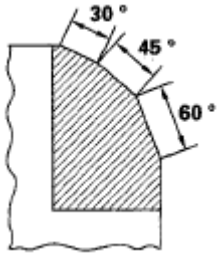



**Fig. 16: Identifying Upper And Lower Edge Angle Of Seat**

5. Make one more very light pass with the 45° cutter to remove any possible burrs caused by the other cutters.

**Valve Seat Width**

**Intake:**

**Standard (New): 1.25-1.55 mm (0.049-0.061 in.)**

**Service Limit: 2.0 mm (0.08 in.)**

**Exhaust:**

**Standard (New): 1.45-1.75 mm (0.057-0.069 in.)**

**Service Limit: 2.2 mm (0.09 in.)**

6. After resurfacing the seat, inspect it for even valve seating. Apply Prussian Blue compound (A) to the valve face. Insert the valve in its original location in the head, then lift it and snap it closed against the seat several times.

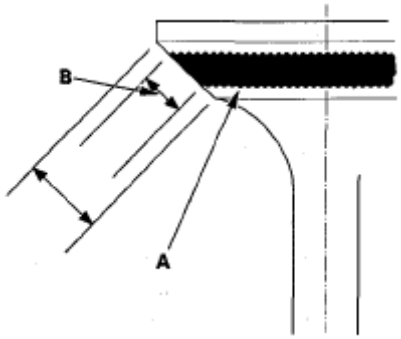



**Fig. 17: Identifying Valve Seat Width**

7. The actual valve seating surface (B), as shown by the blue compound, should be centered on the seat.
   - If it is too high (closer to the valve stem), you must make a second cut with the 60° cutter to move it down, then one more cut with the 45° cutter to restore seat width.
   - If it is too low (closer to the valve edge), you must make a second cut with the 30° cutter to move it up, then one more cut with the 45° cutter to restore seat width.

**NOTE: The final cut should always be made with the 45° cutter.**

8. Insert the intake and exhaust valves in the head, and measure the valve stem installed height (A).

**Intake Valve Stem Installed Height**

**Standard (New): 67.2-67.4 mm**

**(2.646-2.654 in.)**

**Service Limit: 67.7 mm (2.665 in.)**

**Exhaust Valve Stem Installed Height**

**Standard (New): 58.4-58.6 mm**

**(2.299-2.307 in.)**

**Service Limit: 58.9 mm (2.319 in.)**

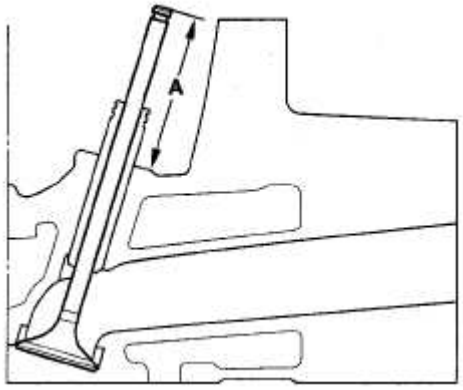



**Fig. 18: Identifying Valve Stem Installed Height**

9. If the valve stem installed height is beyond the service limit, replace the valve and recheck. If it is still beyond the service limit, replace the cylinder head; the valve seat in the head is too deep.

## CYLINDER HEAD INSTALLATION

1. Clean the cylinder head and block surface.
2. Install the new coolant separator (A) in the engine block when replacing the engine block.

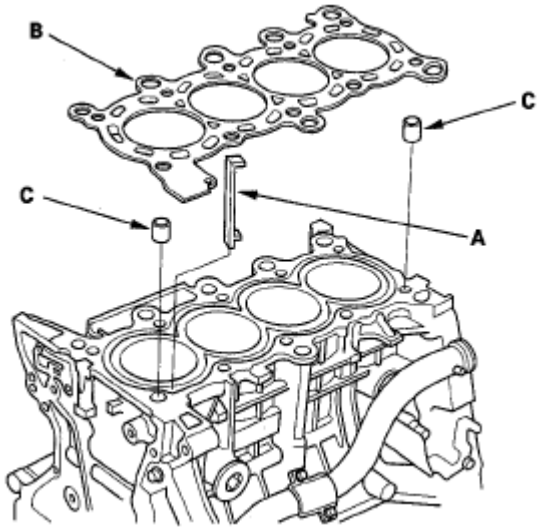



**Fig. 19: Identifying Cylinder Head Gasket And Dowel Pins**

3. Install the new cylinder head gasket (B) and dowel pins (C) on the engine block. Always use a new cylinder head gasket.
4. Set the crankshaft to top dead center (TDC). Align the TDC mark (A) on the crankshaft sprocket with the pointer (B) on the engine block.

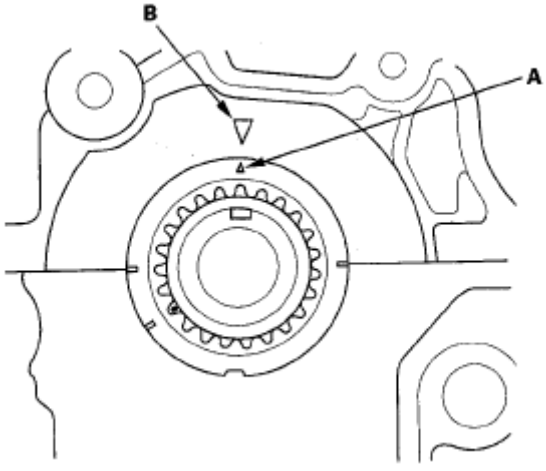



**Fig. 20: Aligning TDC Mark On Crankshaft Sprocket With Pointer**

5. Set the camshaft TDC. The "UP" mark (A) on the camshaft sprocket should be at the top, and the TDC grooves (B) on the camshaft sprocket should line up with the top edge of the head.

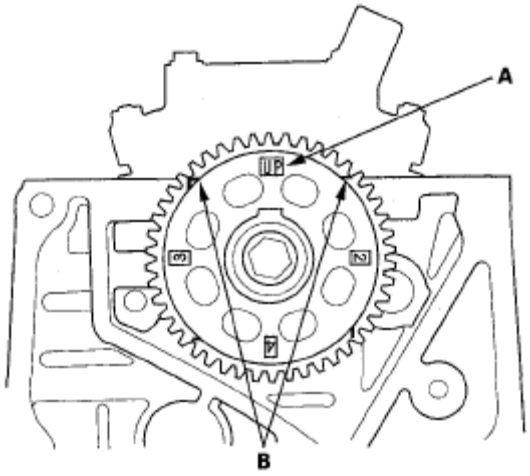



**Fig. 21: Identifying Camshaft TDC Up Mark On Camshaft Sprocket**

6. Install the cylinder head on the block.
7. Measure the diameter of each cylinder head bolt at point A and point B.

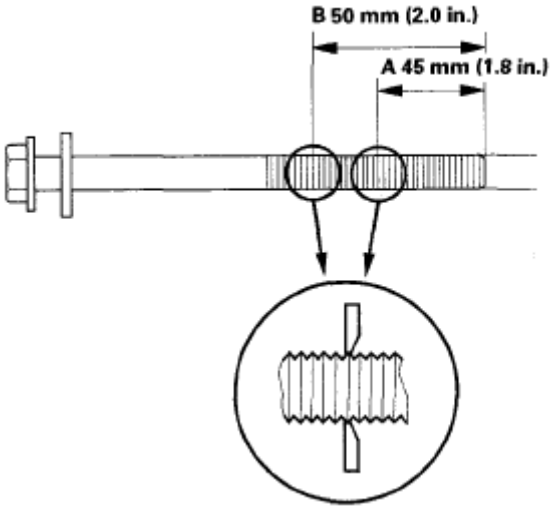



**Fig. 22: Measuring Diameter Of Cylinder Head Bolt**

8. If either diameter is less than 10.6 mm (0.42 in.), replace the cylinder head bolt.
9. Apply new engine oil to the threads and under the bolt heads of all cylinder head bolts.
10. Tighten the cylinder head bolts in sequence to 39 N.m (4.0 kgf-m, 29 Ibf-ft). Use a beam-type torque wrench. When using a preset-type torque wrench, be

sure to tighten slowly and do not overtighten. If a bolt makes any noise while you are torquing it, loosen the bolt and retighten it from the first step.

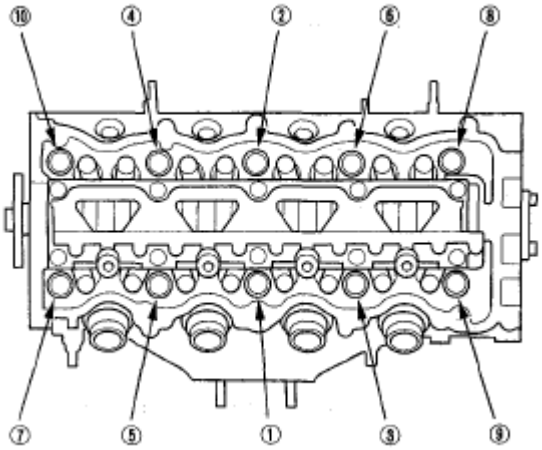



**Fig. 23: Identifying Tightening Sequence Of Cylinder Head Bolts**

11. After torquing, tighten all cylinder head bolts in two steps (90° per step). If you are using a new cylinder head bolt, tighten the bolt an extra 60°.

**NOTE: Remove the cylinder head bolt if you tightened it beyond the specified angle, and go back to step 7 of the procedure. Do not loosen it back to the specified angle.**

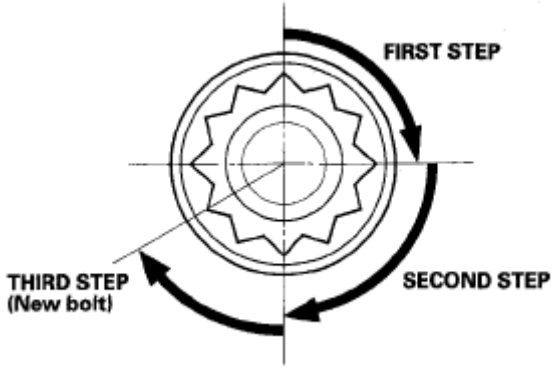



**Fig. 24: Identifying Cylinder Head Bolt Tightening Steps**

12. Install the cam chain, refer to the **CAM CHAIN INSTALLATION** .
13. Adjust the valve clearance, refer to the **VALVE CLEARANCE ADJUSTMENT** .

14. Install the cylinder head cover, refer to the **CYLINDER HEAD COVER INSTALLATION** .
15. Install the thermostat housing (see **INSTALLATION** ).
16. Install the three way catalytic converter (TWC) (see **CATALYTIC CONVERTER REMOVAL/INSTALLATION** ).
17. Connect the engine wire harness connectors, and install the wire harness clamps to the cylinder head.
    - Four fuel injector connectors
    - Engine coolant temperature (ECT) sensor 1 connector
    - Air fuel ratio (A/F) sensor connector
    - Secondary heated oxygen sensor (secondary HO2S) connector
    - Rocker arm oil control solenoid connector
    - Rocker arm oil pressure switch connector
18. Install the upper radiator hose (A), heater hose (B), and water bypass hose (C).

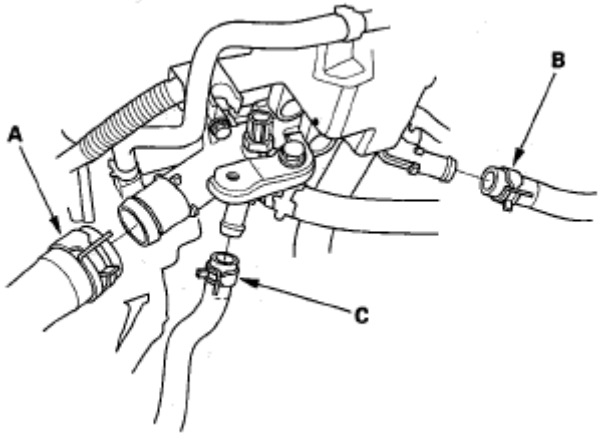



**Fig. 25: Identifying Upper Radiator Hose, Heater Hose And Water Bypass Hose**

19. Install the harness holder (A) on the cylinder head, then Install the air cleaner housing bracket (B).

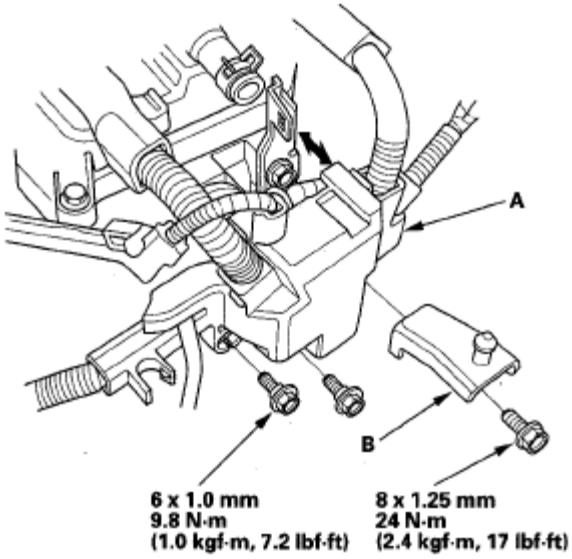



**Fig. 26: Identifying Air Cleaner Housing Bracket (With Torque Specifications)**

20. Install the harness clamps (A), and remove the positive crankcase ventilation (PCV) hose from the clamp (B).

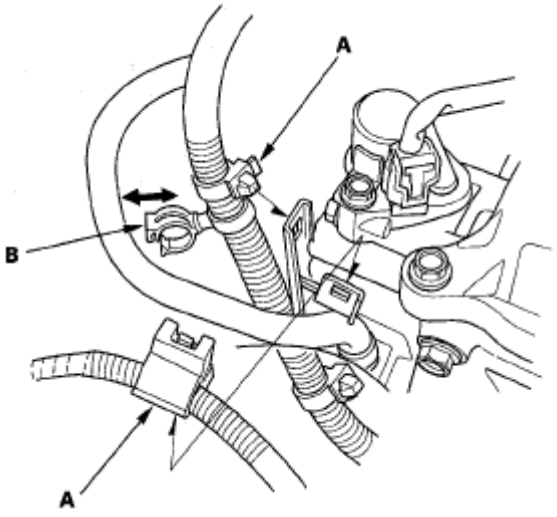



**Fig. 27: Identifying Positive Crankcase Ventilation (PCV) Hose Clamp**

21. Install the intake manifold (see **INSTALLATION** ).
22. Install the drive belt, refer to the **DRIVE BELT REMOVAL/INSTALLATION** .
23. Clean the battery posts and cable terminals with sandpaper. Assemble them,

and apply grease to prevent corrosion.

24. After installation, check that all tubes, hoses and connectors are installed correctly.
25. Do the leak Inspection (see **LEAK INSPECTION** ).
26. Refill the radiator with engine coolant, and bleed air from the cooling system with the heater valve open, refer to the step 8 on **COOLANT REPLACEMENT** .
27. Do the crankshaft position (CKP) pattern clear/CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN** ).
28. Do the power window control unit reset procedure, refer to the **RESETTING THE POWER WINDOW CONTROL UNIT** .
29. Inspect the idle speed, refer to the **IDLE SPEED INSPECTION** .
30. Inspect the ignition timing, refer to the **IGNITION TIMING INSPECTION** .
31. Enter the anti-theft codes for the audio system and navigation system (if equipped).
32. Set the clock.

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**2006-08 ACCESSORIES & EQUIPMENT**

**Dashboard - Civic (All Except Hybrid)**

## INSTRUMENT PANEL REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE:**

- **Take care not to scratch the dashboard and related parts.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Remove these items:
   - Subdisplay visor (see **SUBDISPLAY VISOR REMOVAL/INSTALLATION** )
   - Navigation unit, with navigation system (see **NAVIGATION UNIT REMOVAL/INSTALLATION** )
   - Audio unit, without navigation system (see **AUDIO UNIT REMOVAL/INSTALLATION** )
2. Remove the screws.

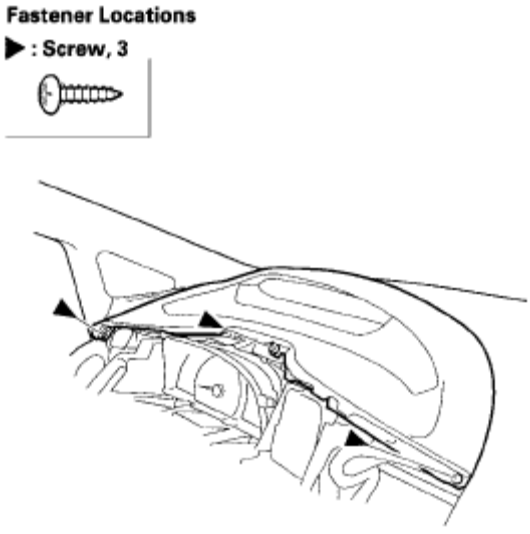



**Fig. 1: Removing Instrument Panel Screws**

3. Detach the clips along the lower edge of the instrument panel (A).

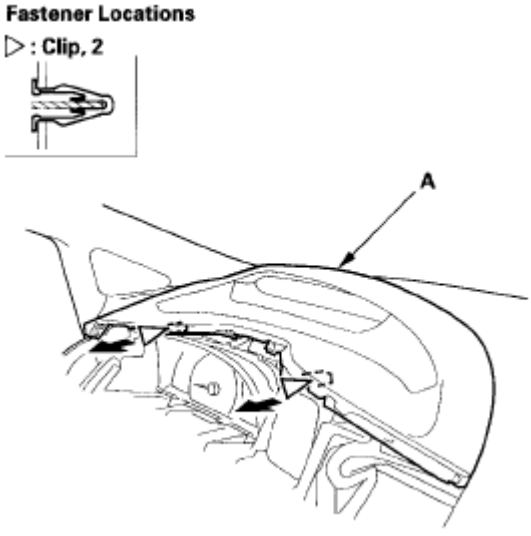



**Fig. 2: Detaching Clips Along Lower Edge Of Instrument Panel**

4. Detach the clips along the upper edge of the instrument panel (A). Gently pull out the instrument panel to release the hooks (B) from the holder (C) of the gauge control module.

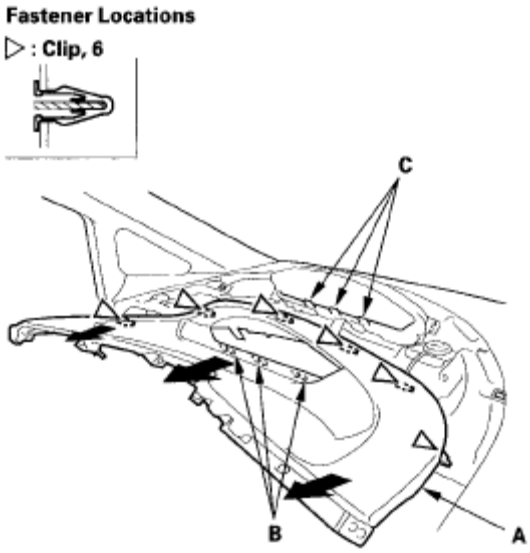



**Fig. 3: Detaching Clips Along Upper Edge Of Instrument Panel**

5. Install the instrument panel in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## GAUGE CONTROL MODULE (SPEEDO) TRIM REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE:**

- **Take care not to scratch the dashboard and related parts.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Pry up on the inside edge of the gauge control module (speedo) trim (A) with a trim tool to detach the clips.

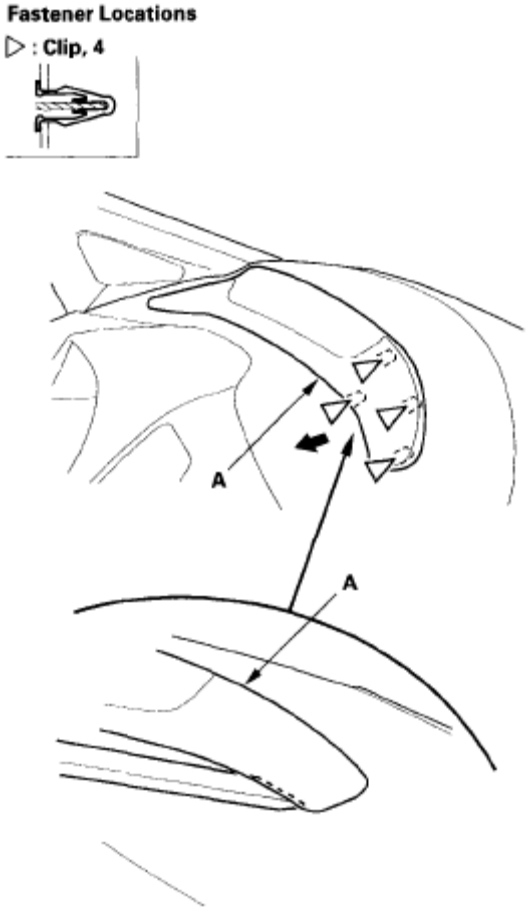



**Fig. 4: Detaching Clips Of Gauge Control Module (Speedo) Trim**

2. Using a trim tool, detach the clips, and release the hooks (A) and pins (B) along the edge of the gauge control module (speedo) trim (C), then remove the trim.

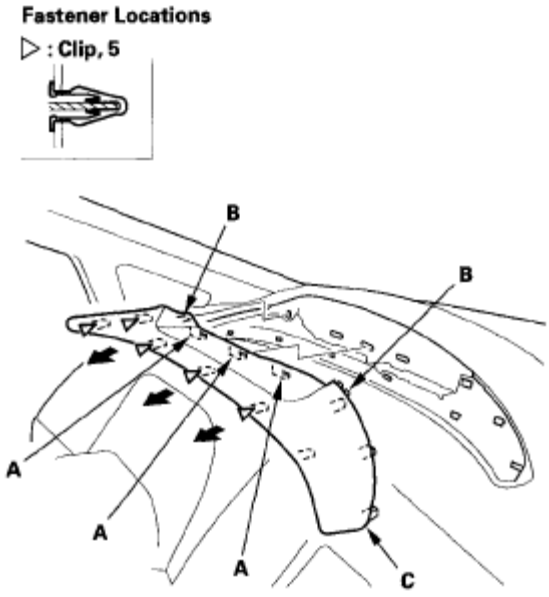



**Fig. 5: Releasing Hooks And Pins To Remove Trim**

3. Install the trim in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## SUBDISPLAY VISOR REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the dashboard and related parts.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

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1. Remove the driver's dashboard lower cover (see **DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ).
2. Tilt the steering column down, and telescope it out.
3. Remove the screw.

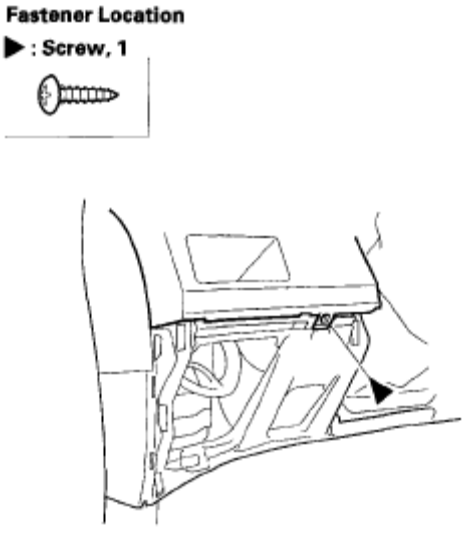



**Fig. 6: Removing Subdisplay Visor Screw**

4. Pull the back of the driver's pocket (A) (4-door) or switch panel (2-door) by hand from the driver's lower cover opening to release the clips (B) and hook (C) on the outside.

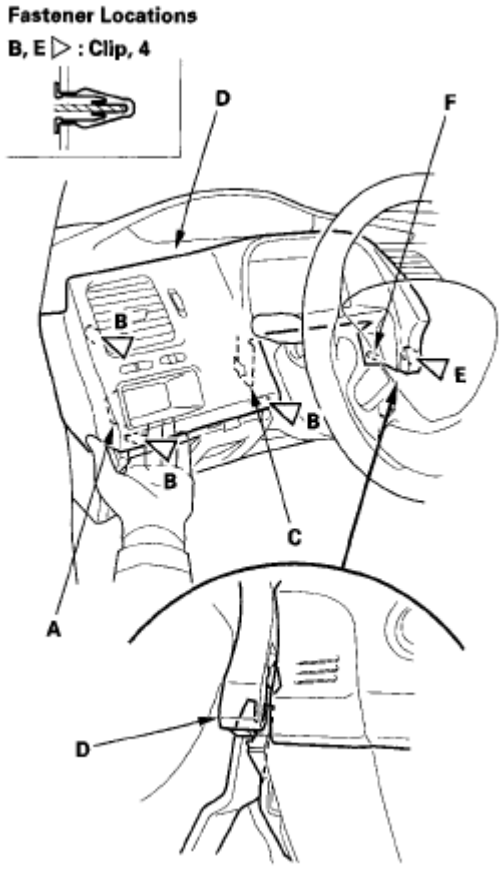



**Fig. 7: Releasing Clips And Hook Of Driver's Pocket (4-Door) Or Switch Panel (2-Door)**

5. Pry up on the inside edge of the subdisplay visor (D) with a trim tool to detach the clip (E), and release the pin (F).
6. Detach the clips along the upper edge of the subdisplay visor (A). Gently pull out the visor to release the hooks (B).

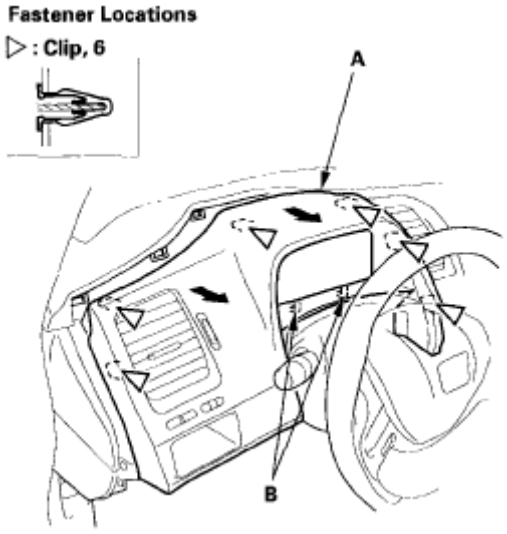



**Fig. 8: Detaching Clips Along Upper Edge Of Subdisplay Visor**

7. Disconnect the illumination control switch connector (A), and power mirror switch connector (B) (2-door).

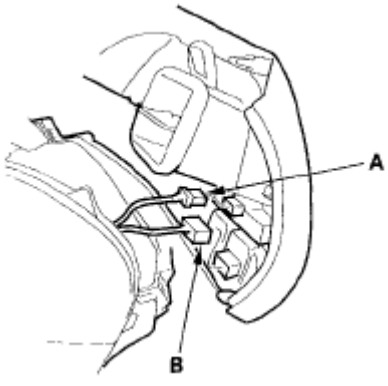



**Fig. 9: Disconnecting Illumination Control Switch Connector And Power Mirror Switch Connector (2-Door)**

8. If necessary, remove the screws, then remove the illumination control switch (A), and driver's pocket (B) (4-door) or the switch panel (2-door) from the subdisplay visor (C).

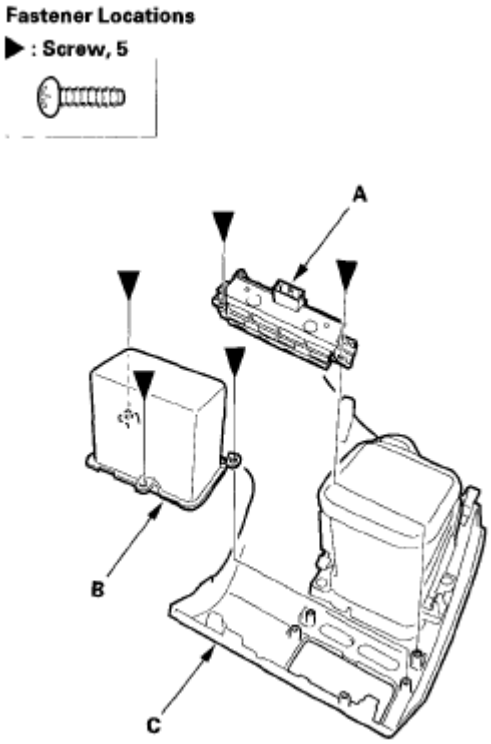



**Fig. 10: Removing Illumination Control Switch And Driver Pocket (4-Door) Or Switch Panel (2-Door)**

9. Install the subdisplay visor in the reverse order of removal, and note these items:
   - Make sure all connectors are plugged in properly.
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE:**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to scratch the dashboard and related parts.**

1. Adjust the steering column upward.
2. Gently pull out on the lower edge of the dashboard lower cover (A) to detach the lower clips.

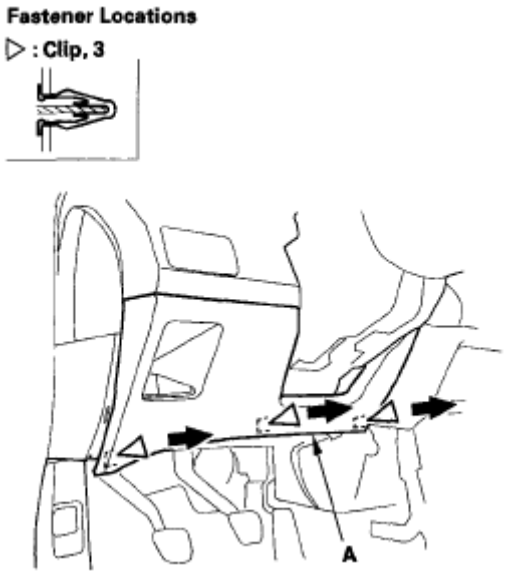



**Fig. 11: Detaching Lower Clips**

3. Detach the upper clips, and release the hook (A) and pin (B) by pulling the driver's dashboard lower cover (C) back.

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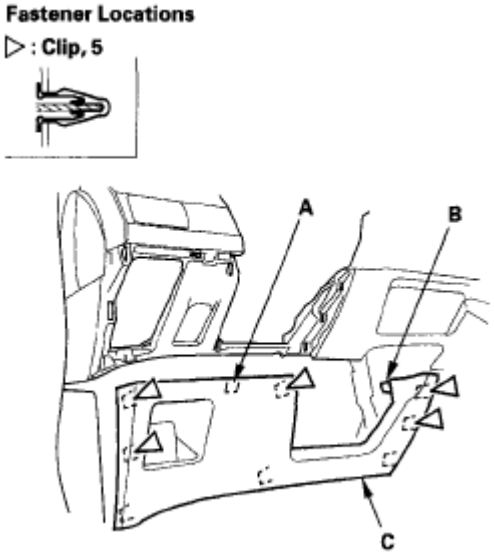



**Fig. 12: Detaching Upper Clips**

4. Install the cover in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION

**FOR SOME MODELS**

**NOTE: Take care not to scratch the dashboard and related parts.**

1. Remove the driver's dashboard undercover (A).
   - 1 Turn the lock knob (B) 90°.
   - 2 Gently pull down the rear edge to detach the clips.
   - 3 Pull the cover away to release the pin (C) from the holder (D).

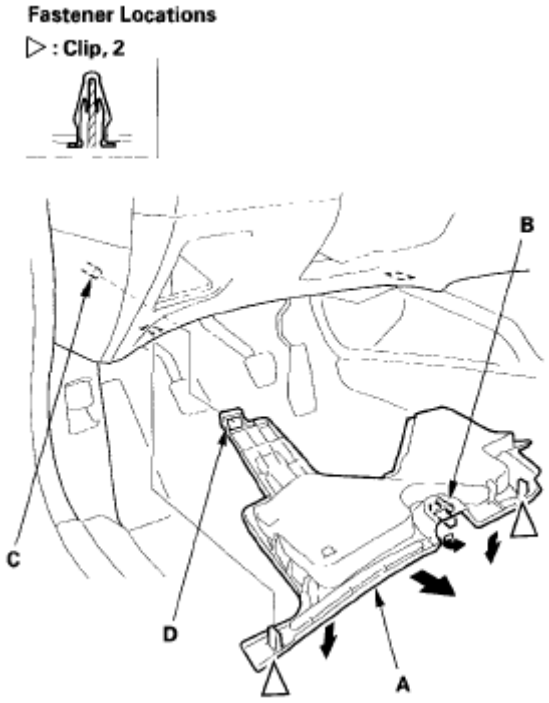



**Fig. 13: Removing Driver Dashboard Undercover**

2. Install the cover in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## CENTER POCKET REMOVAL/INSTALLATION

**NOTE: Take care not to scratch the dashboard and related parts.**

1. Disassemble the dashboard/steering hanger beam (see **DASHBOARD/STEERING HANGER BEAM DISASSEMBLY/REASSEMBLY** ).
2. Remove the screws, then remove the center pocket (A).

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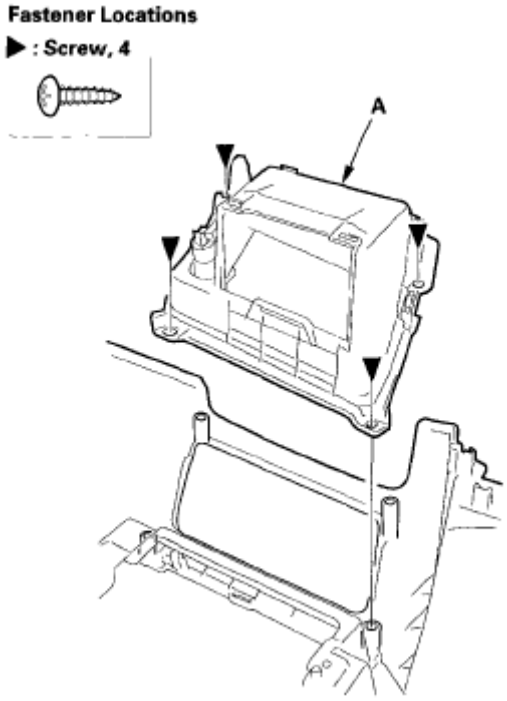



**Fig. 14: Removing Center Pocket**

3. Install the center pocket in the reverse order of removal.

## PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION

**FOR SOME MODELS**

**NOTE: Take care not to scratch the dashboard and related parts.**

1. Remove the passenger's dashboard undercover (A).
   - 1 Gently pull out the rear edge to detach the clips (B, C).
   - 2 Pull the cover away to release the pins (D) from the holders (E).

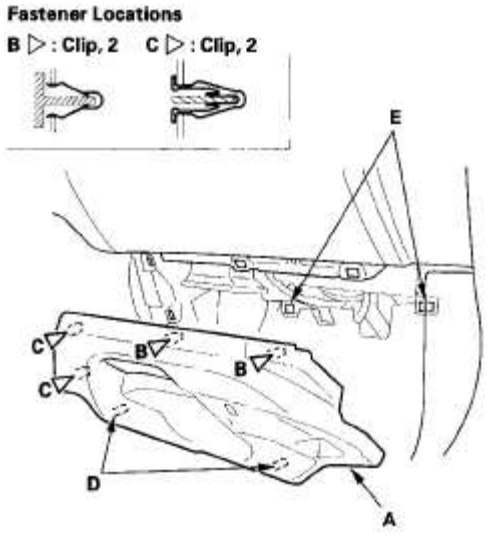



**Fig. 15: Removing Passenger's Dashboard Undercover**

2. Install the undercover in the reverse order of removal, and check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

## GLOVE BOX REMOVAL/INSTALLATION

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** **PRECAUTIONS AND PROCEDURES** ) and the precautions and procedures (see ) before doing repairs or service.

**NOTE: Take care not to scratch the dashboard and related parts.**

1. Remove the bolts.

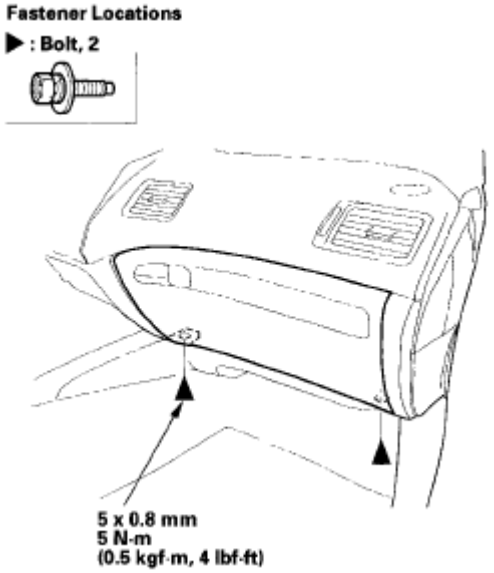



**Fig. 16: Removing Glove Box Bolts (With Specifications)**

2. While holding the glove box (A), release the glove box stop (B) on each side from the dashboard by pushing them in, then remove the glove box.

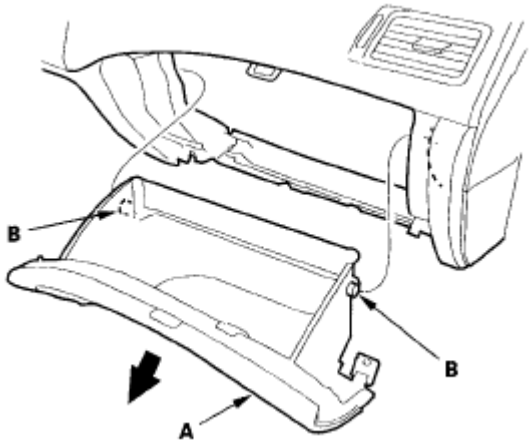



**Fig. 17: Removing Glove Box**

3. Install the glove box in the reverse order of removal.

## DASHBOARD VENT REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**DRIVER'S OUTER VENT**

**NOTE: Take care not to scratch the dashboard and related parts.**

1. Remove the subdisplay visor (see **SUBDISPLAY VISOR REMOVAL/INSTALLATION** ).
2. Remove the screws securing the driver's outer vent (A), then remove the driver's outer vent from the subdisplay visor (B).

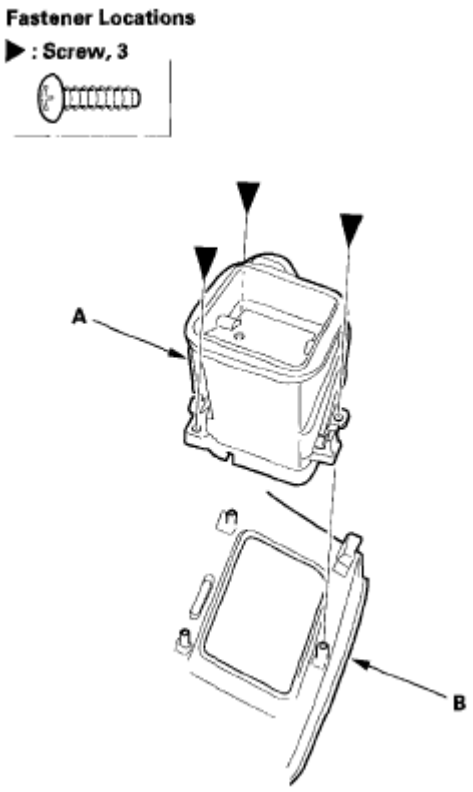



**Fig. 18: Removing Driver's Outer Vent**

3. Install the outer vent in the reverse order of removal.

**DRIVER'S CENTER VENT**

**NOTE: Take care not to scratch the dashboard and related parts.**

1. Remove these items:
   - Navigation unit, with navigation system (see **NAVIGATION UNIT REMOVAL/INSTALLATION** )
   - Audio unit, without navigation system (see **AUDIO UNIT REMOVAL/INSTALLATION** )
2. Remove the screws securing the driver's center vent (A), then remove the driver's center vent from the center panel (B).

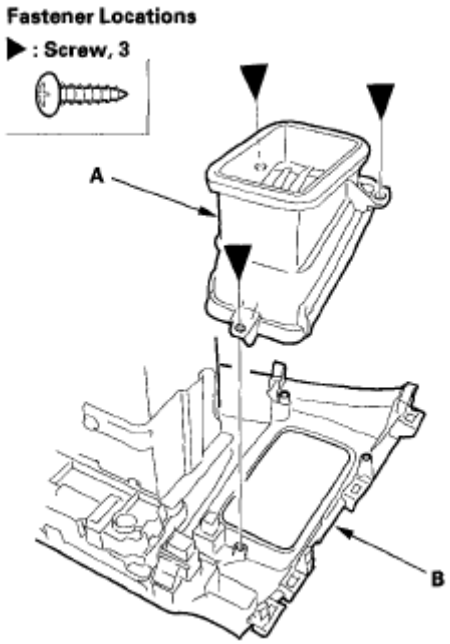



**Fig. 19: Removing Driver's Center Vent**

3. Install the center vent in the reverse order of removal.

**PASSENGER'S VENT**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** before doing repairs or service.

**NOTE:**

- **Take care not to scratch the dashboard and related parts.**
- **Use the appropriate tool from the KTC trim tool set to**

**avoid damage when prying components.**

- **Put on gloves to protect your hands.**

1. While holding the glove box (A), release the glove box stop (B) on each side from the dashboard by pushing them inside.

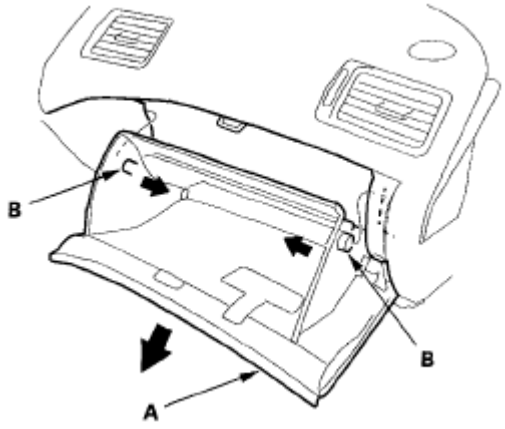



**Fig. 20: Releasing Glove Box Stop On Each Side**

2. Push on the side hooks (A) by hand to release them. Gently pull out the side vent (B) to release the other hooks (C), then remove the passenger's vent.

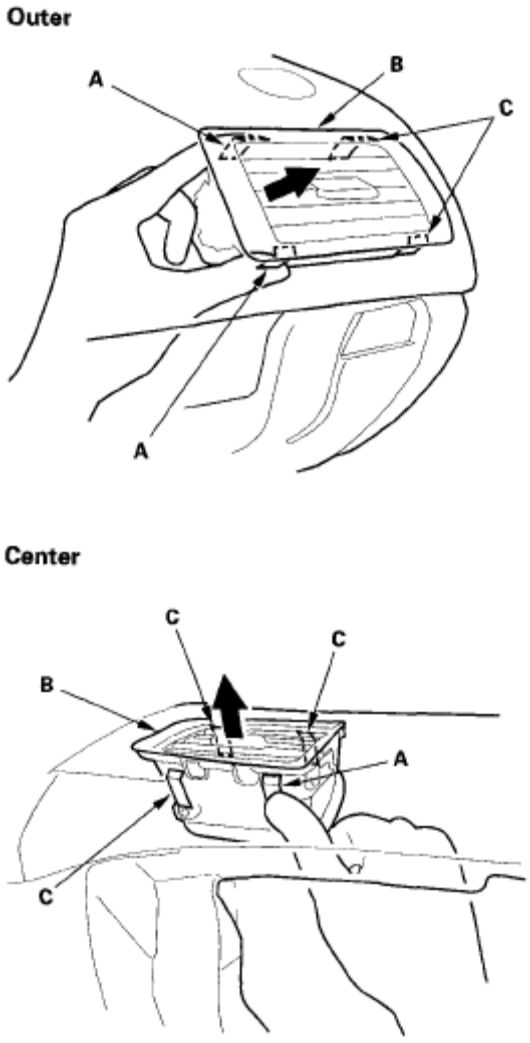



**Fig. 21: Removing Passenger's Vent**

3. Install the passenger's vents in the reverse order of removal.

## GLOVE BOX STRIKER REPLACEMENT

SRS components are located in this area. Review the SRS component locations, 2-door (see ), 4-door (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) before doing repairs or service.

**NOTE: Take care not to scratch the dashboard and related parts.**

1. While holding the glove box, release the glove box stop on each side from the

dashboard by pushing them inside (see step 1 in **PASSENGER'S VENT** ).

2. Remove the screws, then remove the glove box striker (A).

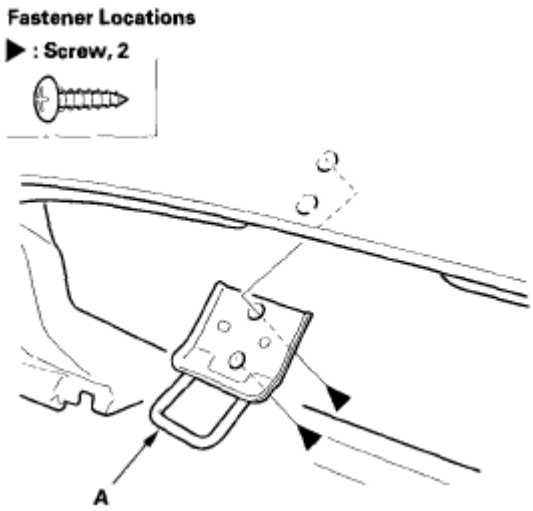



**Fig. 22: Removing Glove Box Striker**

3. Install the striker in the reverse order of removal.

## DASHBOARD SIDE TRIM REMOVAL/INSTALLATION

**NOTE: Take care not to scratch the dashboard and related parts.**

1. Remove the dashboard side trim (A).
   - 1 Gently pull up the rear edge to release the rear hooks (B).
   - 2 Pull the trim away to release the front hook (C) from the A-pillar trim (D).

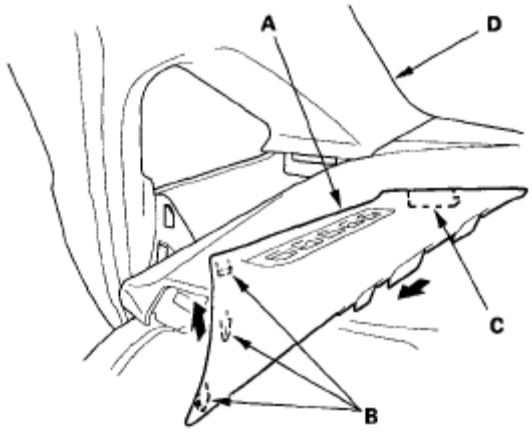



**Fig. 23: Removing Dashboard Side Trim**

2. Install the side trim in the reverse order of removal.

## SIDE DEFOGGER VENT TRIM REMOVAL/INSTALLATION

**NOTE: Take care not to scratch the dashboard and related parts.**

1. Insert the trim tool into a gap between the side defogger vent trim (A) and the dashboard (B), and release the hook (C).

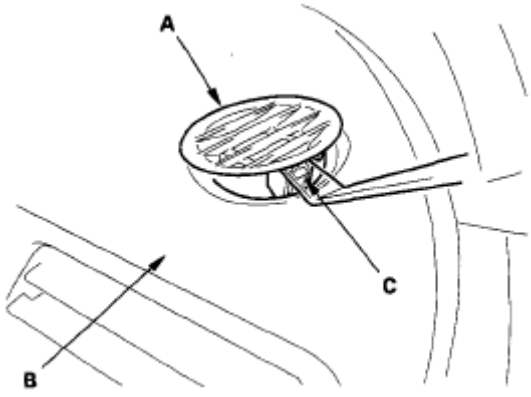



**Fig. 24: Removing Side Defogger Vent Trim**

2. Install the side defogger vent trim in the reverse order of removal.

## DASHBOARD/STEERING HANGER BEAM REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) before doing repairs or service.

**NOTE:**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Have an assistant help you when removing and installing the dashboard/steering hanger beam.**
- **Take care not to scratch the dashboard, body and other related parts.**
- **Put on gloves to protect your hands.**

1. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets.
2. Disconnect the negative cable from the battery, and wait at least 3 minutes before beginning work.
3. Remove these items:
   - Driver's dashboard lower cover (see **DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION** )
   - Driver's dashboard undercover (see **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** )
   - Passenger's dashboard undercover (see **PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** )
   - Center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** )
   - Glove box (see **GLOVE BOX REMOVAL/INSTALLATION** )
   - Kick panel, both sides:
     - 2-door (see **DOOR SILL AREA - 2-DOOR** )

    - 4-door (see **FRONT DOOR SILL AREA - 4-DOOR** )
  - A-pillar trim, both sides (see **A-PILLAR TRIM** )
  - Steering column (see **STEERING COLUMN REMOVAL AND INSTALLATION** )
  - Stereo amplifier, with premium sound system (see **STEREO AMPLIFIER REMOVAL/INSTALLATION** )

**Driver's side**

4. Remove the bolt securing the under-dash fuse/relay box (A). Disconnect the roof wire harness connector (B), then lower the box.

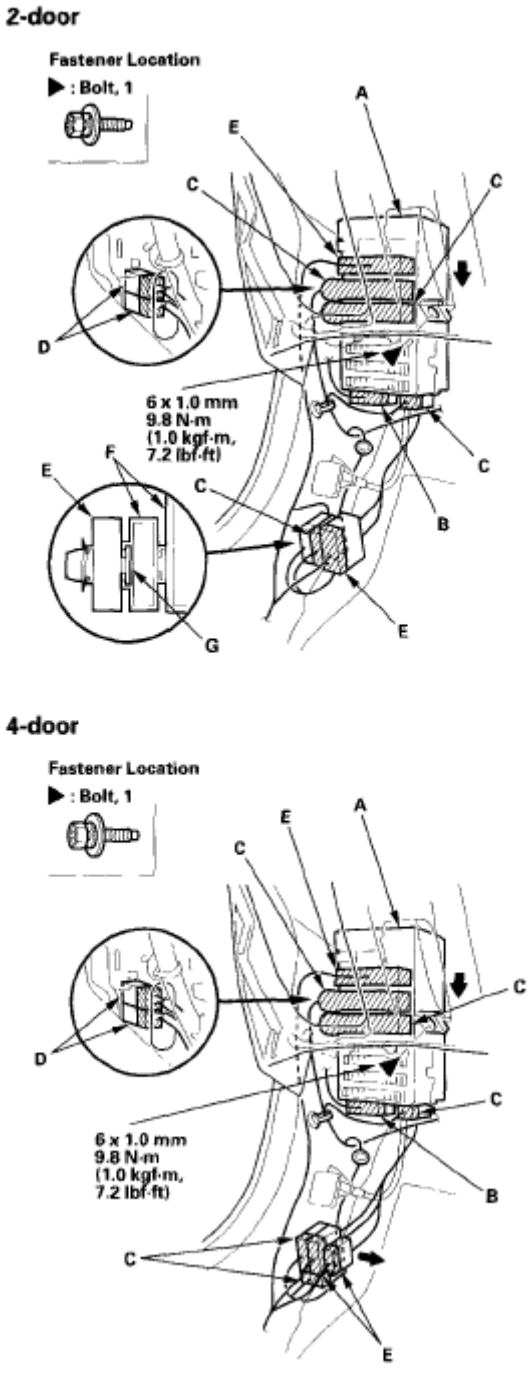



**Fig. 25: Removing Under-Dash Fuse/Relay Box (With Specifications)**

5. From under the dash, disconnect the cabin wire harness connectors (C), driver's door wire harness connectors (D), and floor wire harness connectors (E) from the dashboard wire harness connectors (F) or the under-dash fuse/relay box. On 2-door, release the joint (G) to remove the dashboard wire harness connectors

from the floor wire harness connector.

**Middle portion**

6. Disconnect the SRS unit connector (A), antenna connector (B), and detach the wire harness clips (C). Using a T30 TORX bit, remove the ground bolt (D).

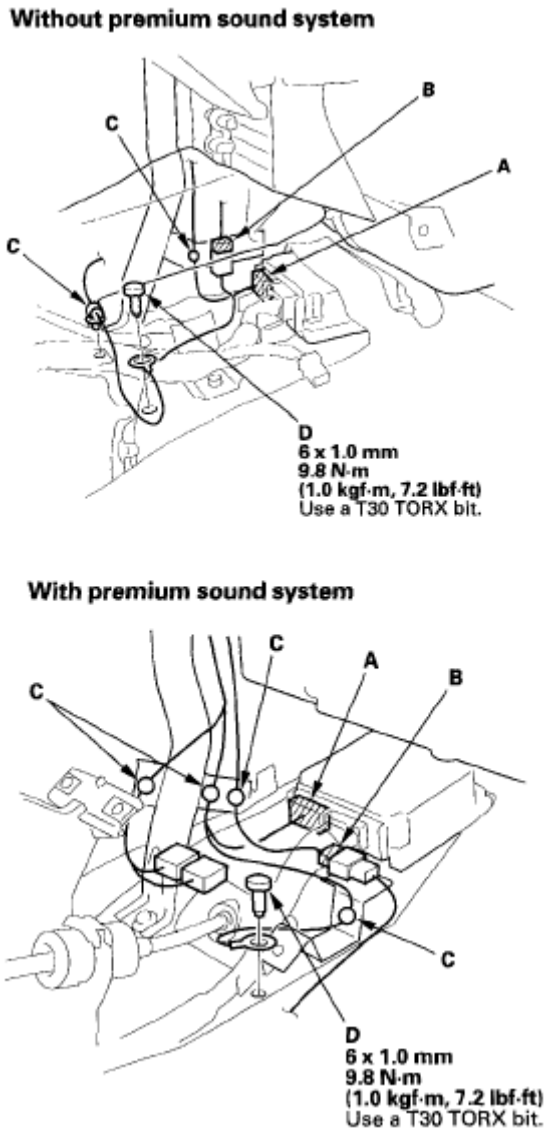



**Fig. 26: Disconnecting SRS Unit Connector, Antenna Connector And Wire Harness Clips (With Specifications)**

7. Disconnect the A/C subharness connector (A) in the glove box opening.

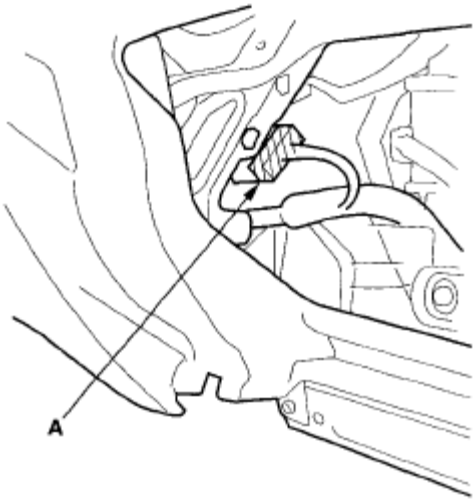



**Fig. 27: Disconnecting A/C Subharness Connector In Glove Box Opening**

**Passenger's side**

8. From under the dash, disconnect the passenger's door wire harness connectors (A).

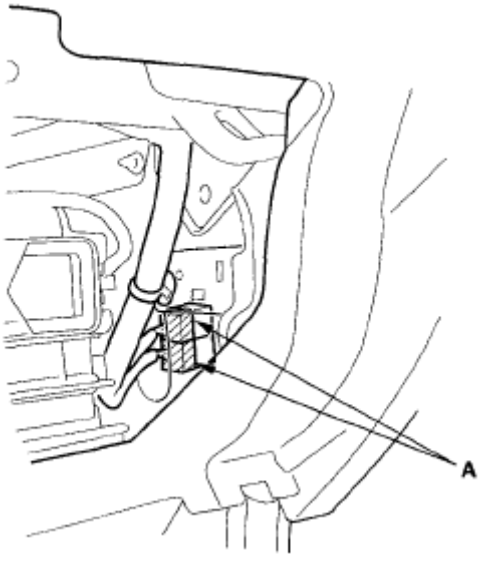



**Fig. 28: Disconnecting Passenger Door Wire Harness Connectors**

9. Remove the special bolts (A) from outside the passenger's door.
   - 1 4-door: Remove the caps (B).
   - 2 Loosen the special bolt until its threads have come off the sleeve (C).

The bolt will be screwed into the inside female screw of the adjusting nut (D) by loosening the bolt. Because of the thread locks on the thread of the bolt, the bolt and adjusting nut will be fixed.

- 3 Loosen the bolt again to screw the externally threaded nut into the sleeve fully, then the gap (E) will be between the nut and body.
- 4 Remove the bolt.

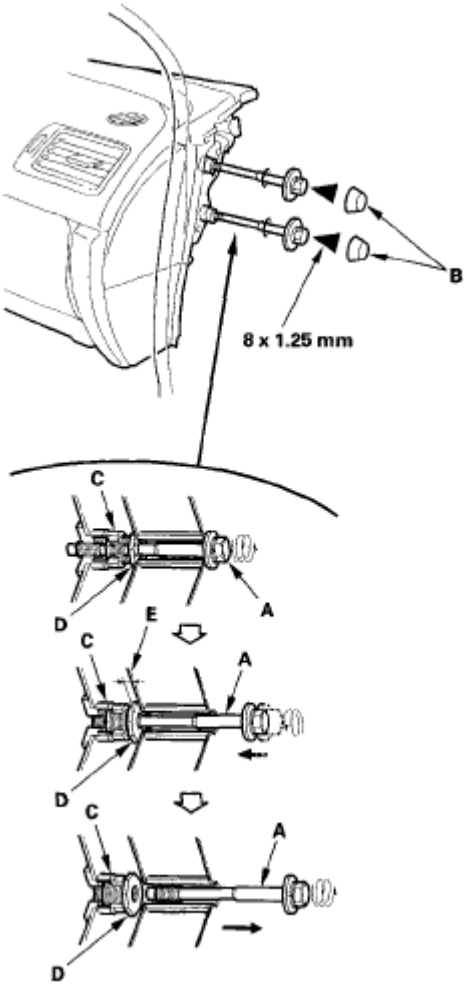



**Fig. 29: Removing Special Bolts From Outside Passenger Door**

10. If necessary, remove the dashboard side cover (A).
    - 1 Gently pull out along the rear edge to release the hooks (B).
    - 2 Gently pull out on the side cover to release the hooks (C), then remove the side cover.

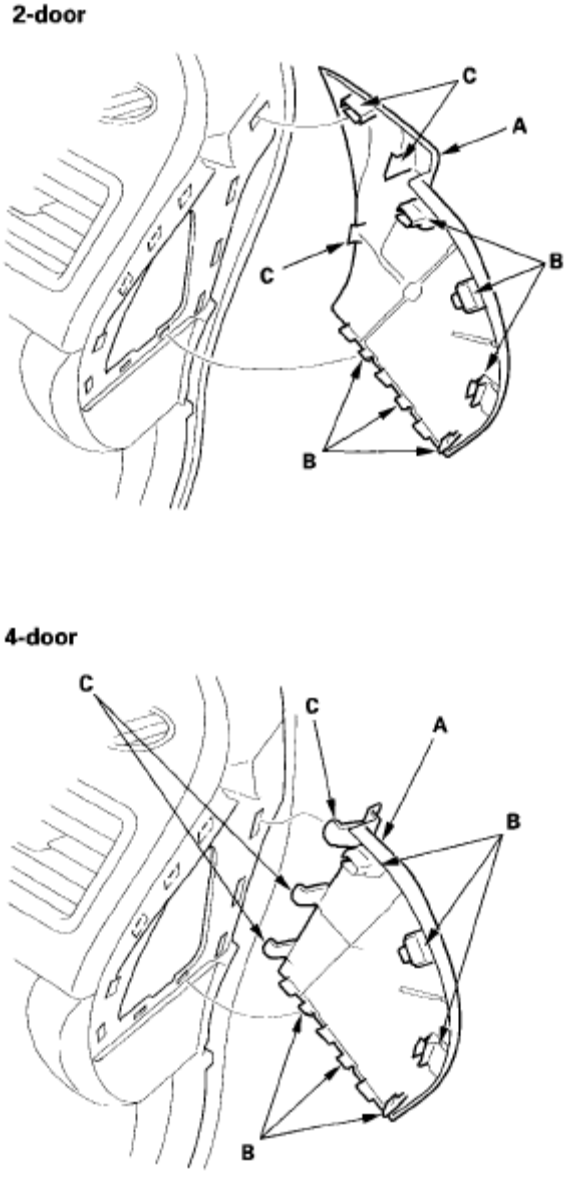



**Fig. 30: Removing Dashboard Side Cover**

11. If the adjusting nuts (A) are not screwed fully into the sleeve when removing the special bolts, screw externally threaded nuts into the sleeve with a 21 mm open-end wrench. In this case, the special bolt should be replaced with a new one because its thread locks were worn out.

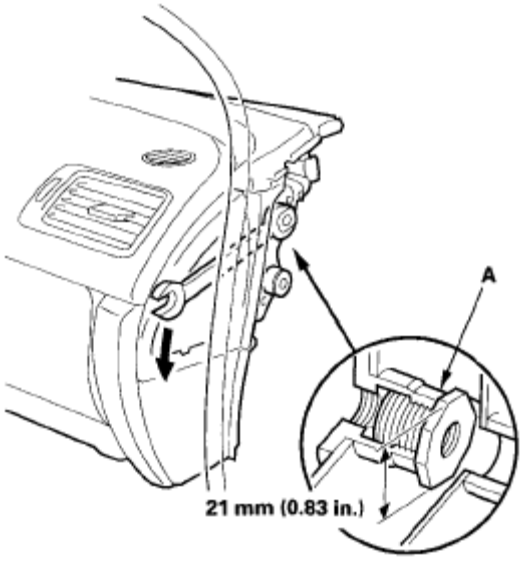



**Fig. 31: Screwing Externally Threaded Nuts Into Sleeve (With Specifications)**

12. Remove the caps (A) (4-door only), then remove the bolts (B, C, D, E, F) from outside the driver's door.

# 2008 Honda Civic EX

2006-08 ACCESSORIES & EQUIPMENT Dashboard - Civic (All Except Hybrid)

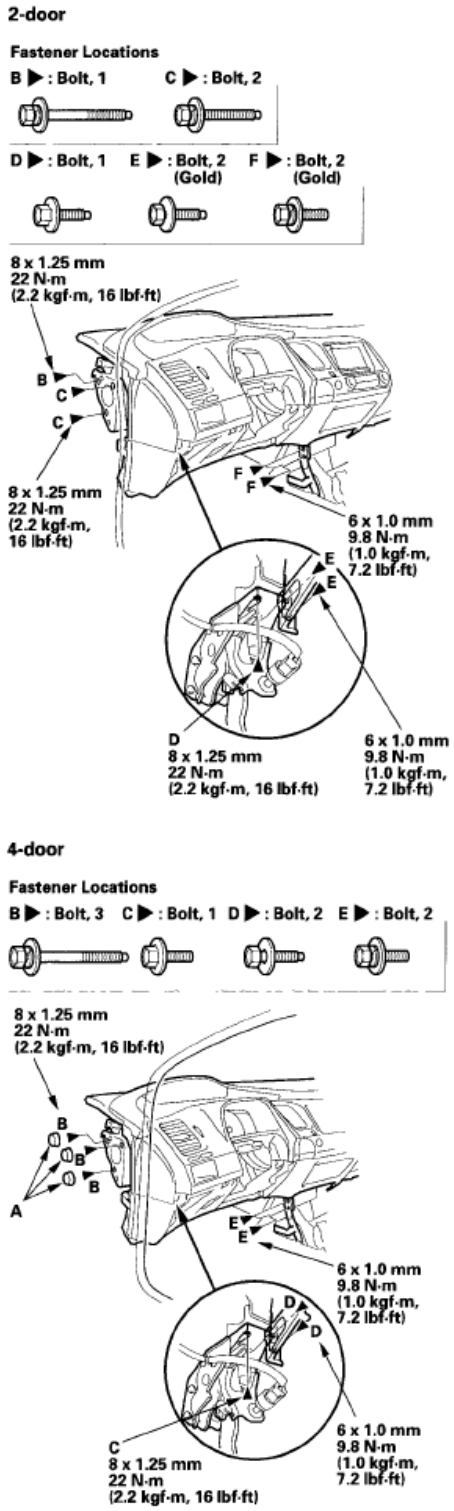



**Fig. 32: Removing Caps (4-Door Only) And Outside Driver's Door (With Specifications)**

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13. Lift upon the dashboard (A) to release it from the guide pins (B). Carefully remove the dashboard through the front door opening. Take care not to scratch the body with the adjusting nuts on the passenger's side.

**NOTE: Do not rest the dashboard on its lower center cover opening, or it may be damaged. Lay it on its front or back.**

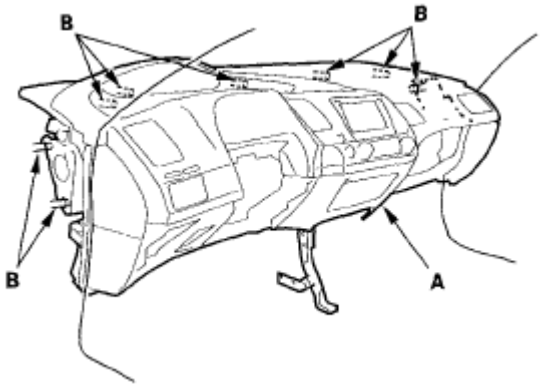



**Fig. 33: Releasing Dashboard From Guide Pins**

14. Remove the bolt and detach the connector clip (A), then remove the center pipe extension (B).

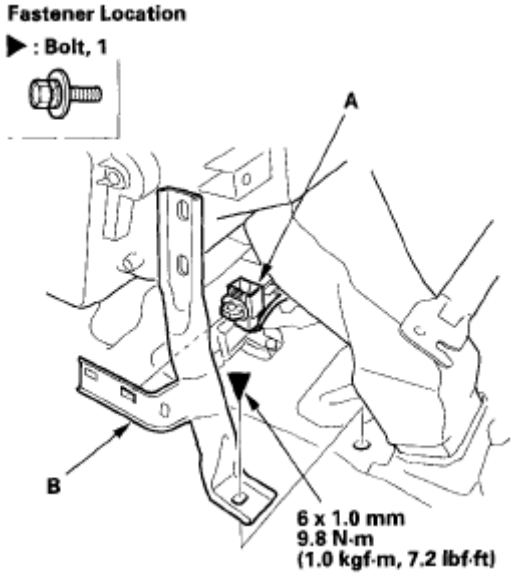



**Fig. 34: Removing Center Pipe Extension (With Specifications)**

15. Install the dashboard in the reverse order of removal, and note these items:
    - Before tightening the bolts, make sure the wire harnesses are not pinched.
    - Make sure the connectors are plugged in properly, and the antenna lead and each cable are connected properly.
    - If you screwed the adjusting nut into the sleeve with an open end wrench to remove the dashboard, and either of the special bolts came off the adjusting nut before having screwed the adjusting nut fully into the sleeve, replace the special bolt with a new one.
    - Before reinstalling the dashboard, screw all of the adjusting nuts into the sleeves fully by hand, reinstall the floor joint bracket on the center frame, and slightly tighten the mounting bolts.
    - After setting the dashboard on the body, reinstall all of the mounting bolts to the dashboard, tighten the driver's side bracket to the specified torque, then torque the special bolt (A) on the passenger's side.
        - First screw the special bolt into the adjusting nut (B), they will be fixed because of the thread lock on the bolt. Go on tightening the bolt with the adjusting nut, the externally threaded nut is loosened from the sleeve (C) until the nut contacts the inside face of the body. Then tighten the bolts again to the specified torque.
        - If the adjusting nut doesn't contact the body while tightening the special bolt fully, the nut shouldn't be loosen with an open-end wrench. In this case, replace this special bolt with a new one.
    - Apply medium strength type liquid thread lock to the bolts securing the center bracket and the dashboard before reinstallation.
    - Reconnect the negative cable to the battery.
    - Enter the anti-theft code for the audio or the navigation system, then enter the audio presets.
    - Set the clock.
    - Check for any DTCs that may have been set during repairs, and clear them.

**Special bolt tightening on passenger's side**

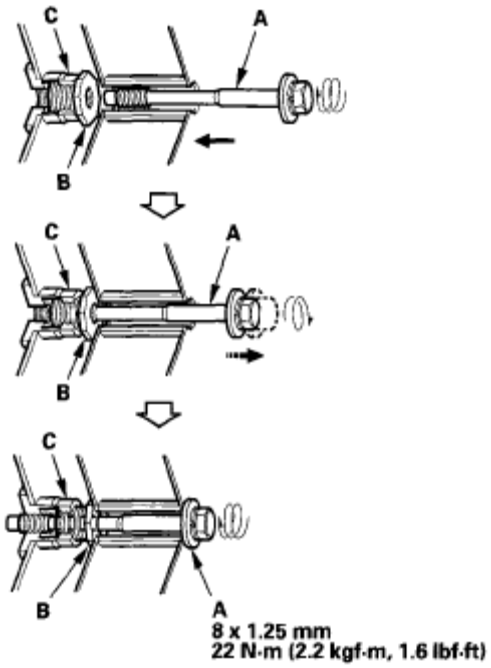



**Fig. 35: Identifying Special Bolts On Passenger's Side (With Specifications)**

## DASHBOARD/STEERING HANGER BEAM DISASSEMBLY/REASSEMBLY

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the dashboard and related parts.**
- **Take care not to bend the brackets.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Remove the dashboard/steering hanger beam (see **DASHBOARD/STEERING HANGER BEAM**

**REMOVAL/INSTALLATION** ).

2. Remove these items from the dashboard:
   - Instrument panel (see **INSTRUMENT PANEL REMOVAL/INSTALLATION** )
   - Gauge control module (speedo) trim (see **GAUGE CONTROL MODULE (SPEEDO) TRIM REMOVAL/INSTALLATION** )
   - Subdisplay visor (see **SUBDISPLAY VISOR REMOVAL/INSTALLATION** )
   - Navigation unit, with navigation system (see **NAVIGATION UNIT REMOVAL/INSTALLATION** )
   - Audio unit, without navigation system (see **AUDIO UNIT REMOVAL/INSTALLATION** )
   - Passenger's airbag (see **FRONT PASSENGER'S AIRBAG REPLACEMENT** )
   - Gauge control module (speedo) (see **SPEEDOMETER** )
   - Gauge control module (tach) (see **TACHOMETER** )
3. Remove the bolts.

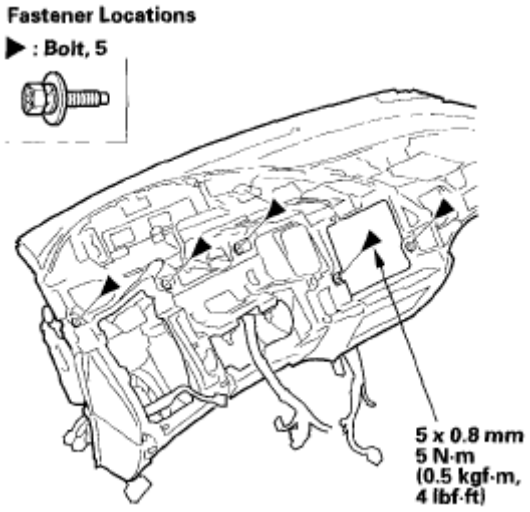



**Fig. 36: Removing Dashboard/Steering Hanger Beam Bolts (With Specifications)**

4. From the back of the dashboard, release the hooks (A), then remove the center

joint duct (B).

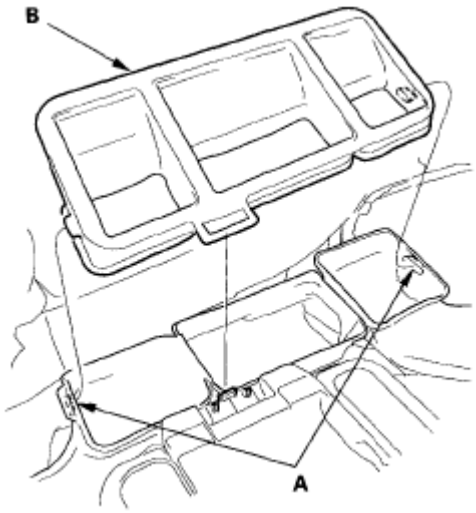



**Fig. 37: Removing Center Joint Duct**

5. From the back of the dashboard, disconnect the tweeter connectors (A) and the accessory socket connector (B), then detach the harness clips (C).

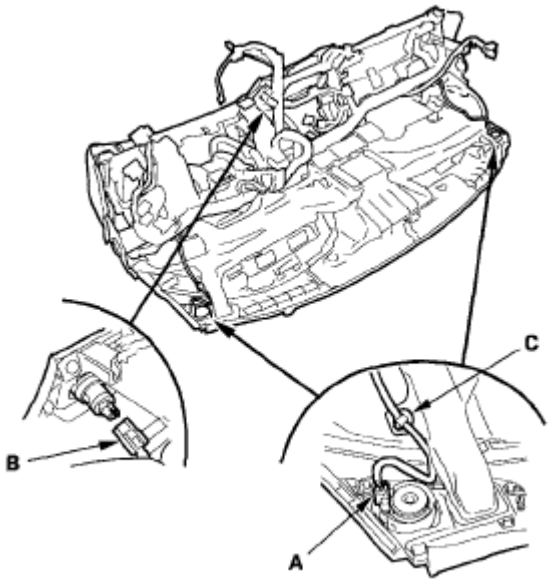



**Fig. 38: Disconnecting Tweeter Connectors And Accessory Socket Connector**

6. From the back of the dashboard, remove the screws (A, B), then separate the dashboard (C) from the steering hanger beam (D).

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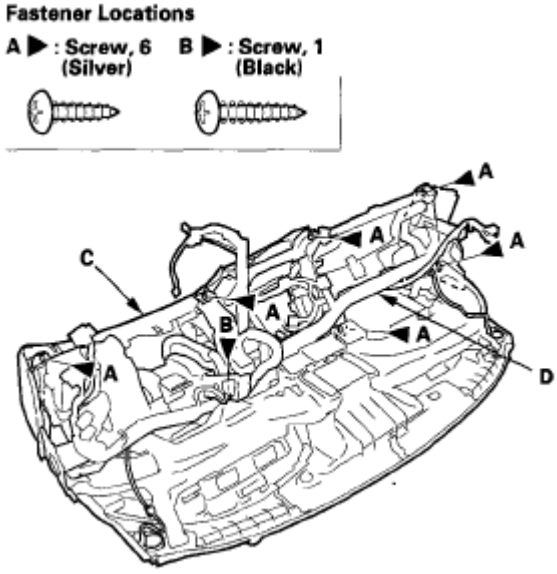



**Fig. 39: Separating Dashboard From Steering Hanger Beam**

7. Assemble the dashboard and steering hanger beam in the reverse order of removal, and note these items:
   - Make sure the dashboard wire harness is not pinched.
   - Make sure the connectors are plugged in properly.

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# 2006-08 ACCESSORIES AND EQUIPMENT

## Rear Window Defogger - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX

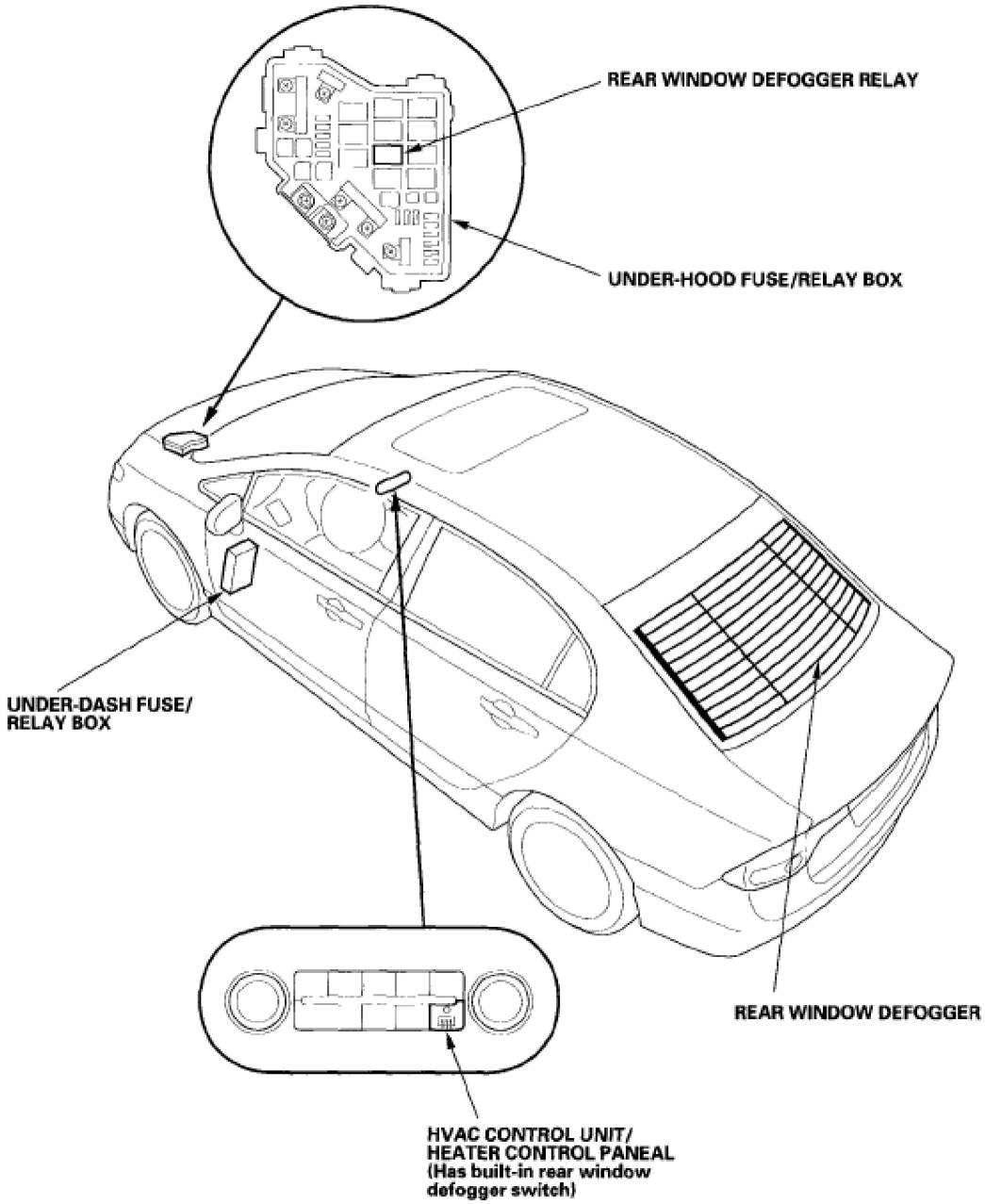
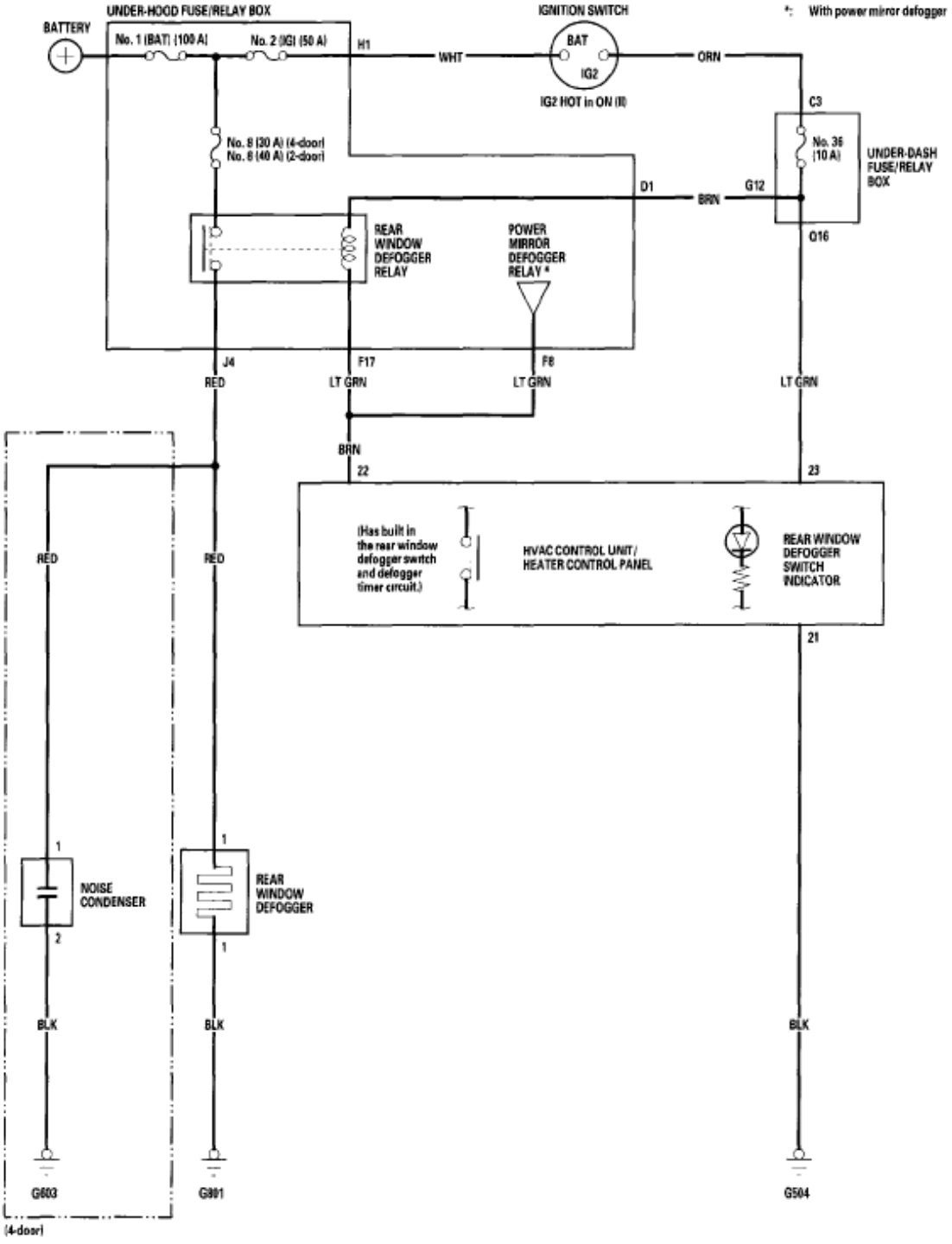



**Fig. 1: Identifying Rear Window Defogger Component Locations**

## CIRCUIT DIAGRAM

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## Fig. 2: Rear Window Defogger Circuit Diagram

## FUNCTION TEST

**NOTE:**

- **Be careful not to scratch or damage the defogger wires**

**with the tester probe.**

- **Before testing, check the No. 8 (30 A) [No. 8 (40 A)] fuse in the under-hood fuse/relay box and the No. 36 (10 A) fuse in the under-dash fuse/relay box.**

[ ] : 2-door

1. Check for voltage between the positive terminal (A) and body ground with the ignition switch and the defogger switch ON.

   There should be battery voltage.

   - If there is no voltage, check for:
     - Faulty rear window defogger relay.
     - Faulty HVAC control unit/heater control panel.
     - An open in the RED wire to the positive terminal.
   - If there is voltage, go to step 2.

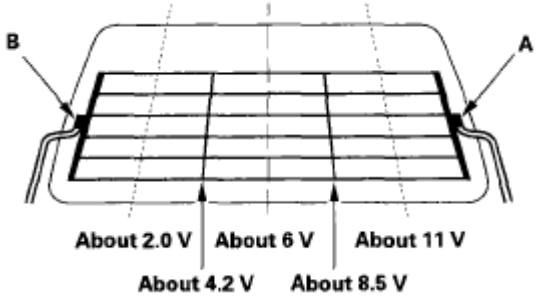



**Fig. 3: Function Test Defogger Wires With Tester Probe**

2. Disconnect the negative terminal (B) from the rear window defogger.
3. Check for continuity between the negative terminal (B) and body ground.

   If there is no continuity, check for an open in the wire or poor ground (G801). If there is continuity, go to step 4.

4. Reconnect the negative terminal to the rear window defogger.
5. Turn the ignition switch ON (II) and the rear window defogger switch ON.

6. Touch the voltmeter positive probe to each point on each defogger wire, and the negative probe to the negative terminal.
   - If the voltage is as specified, the defogger wire up to that point is OK.
   - If the voltage is not as specified, repair the defogger wire.
     - If it is more than specified at one of the points, there is a break in the negative half of the wire.
     - If it is less than specified at one of the points, there is a break in the positive half of the wire.

## DEFOGGER WIRE REPAIR

**NOTE: To make an effective repair, the broken section must be no longer than 1 inch (2.5 mm).**

1. Lightly rub the area around the broken section (A) with fine steel wool, then clean it with isopropyl alcohol.

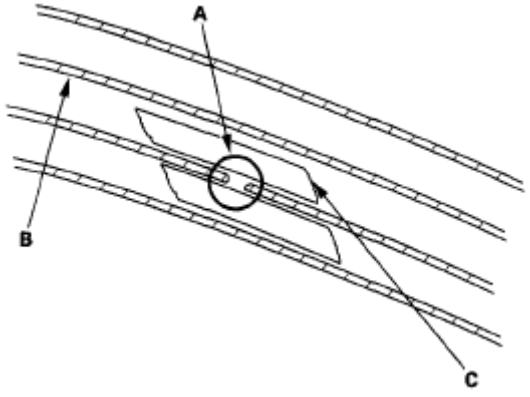



**Fig. 4: Identifying Defogger Wire Broken Section**

2. Carefully mask above and below the broken portion of the defogger wire (B) with cellophane tape (C).
3. Using a small brush, apply a heavy coat of silver conductive paint (commercially available) (A) extending about 1/8 " on both sides of the break. Allow 25 minutes to dry.

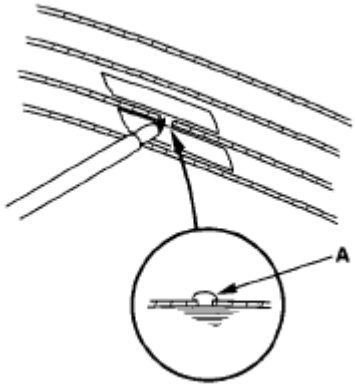



**Fig. 5: Applying Heavy Coat Of Silver Conductive Paint On Both Sides Of Defogger Wire Break**

4. Do the function test to confirm that the wire is repaired (see **FUNCTION TEST** ).
5. Apply a second coat of paint in the same way. Let it dry 3 hours before removing the tape.

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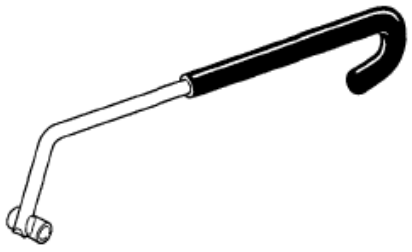


# 2006-08 ACCESSORIES & EQUIPMENT

## Doors - Civic (All Except Hybrid)

## SPECIAL TOOLS

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAF-SNAA100 | Torsion Bar Assembly Tool | 1 |



①

**Fig. 1: Identifying Body Special Tools**

## COMPONENT LOCATION INDEX

### 2-door

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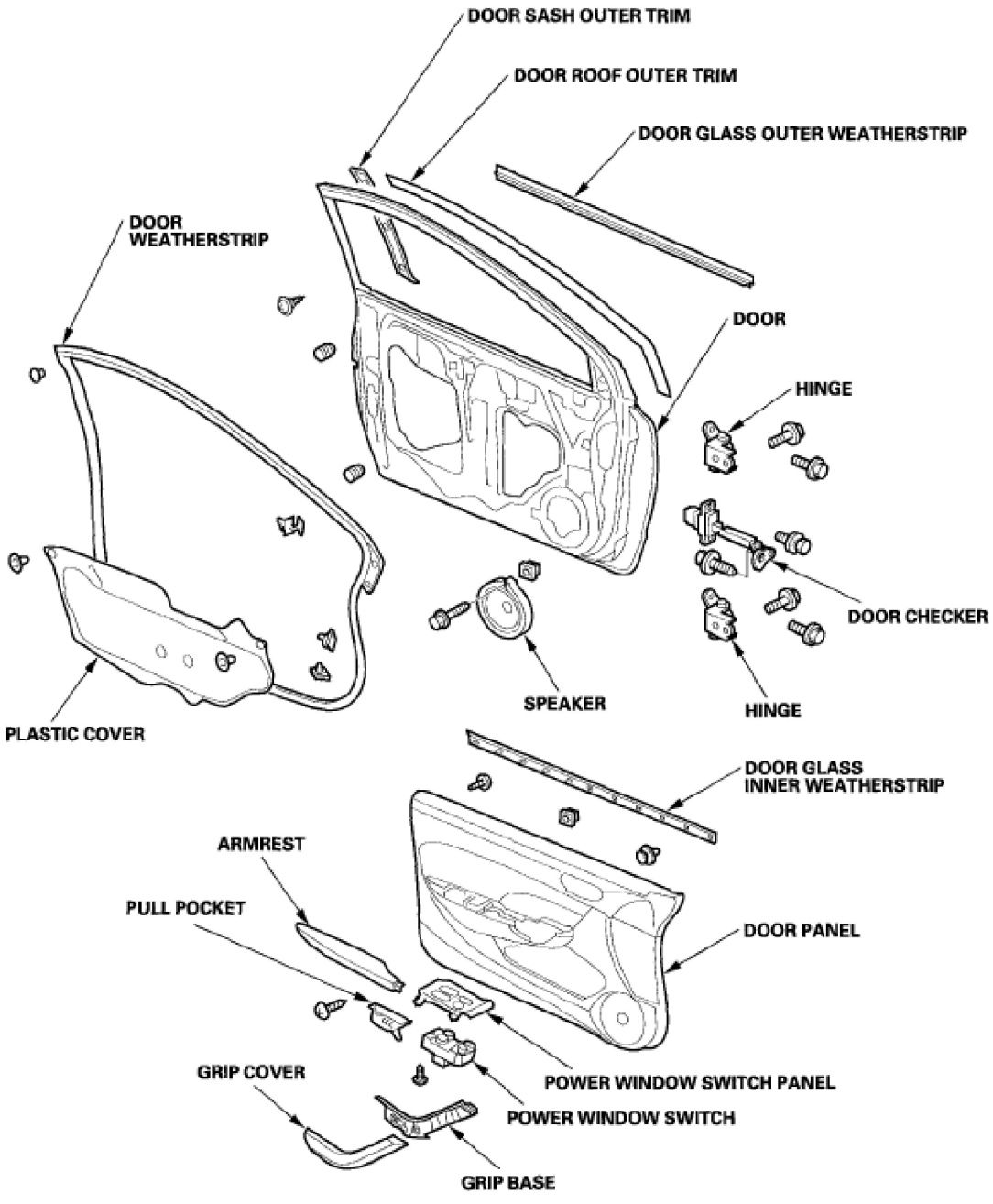



**Fig. 2: Exploded View Of Doors (2-Door - 1 Of 2)**

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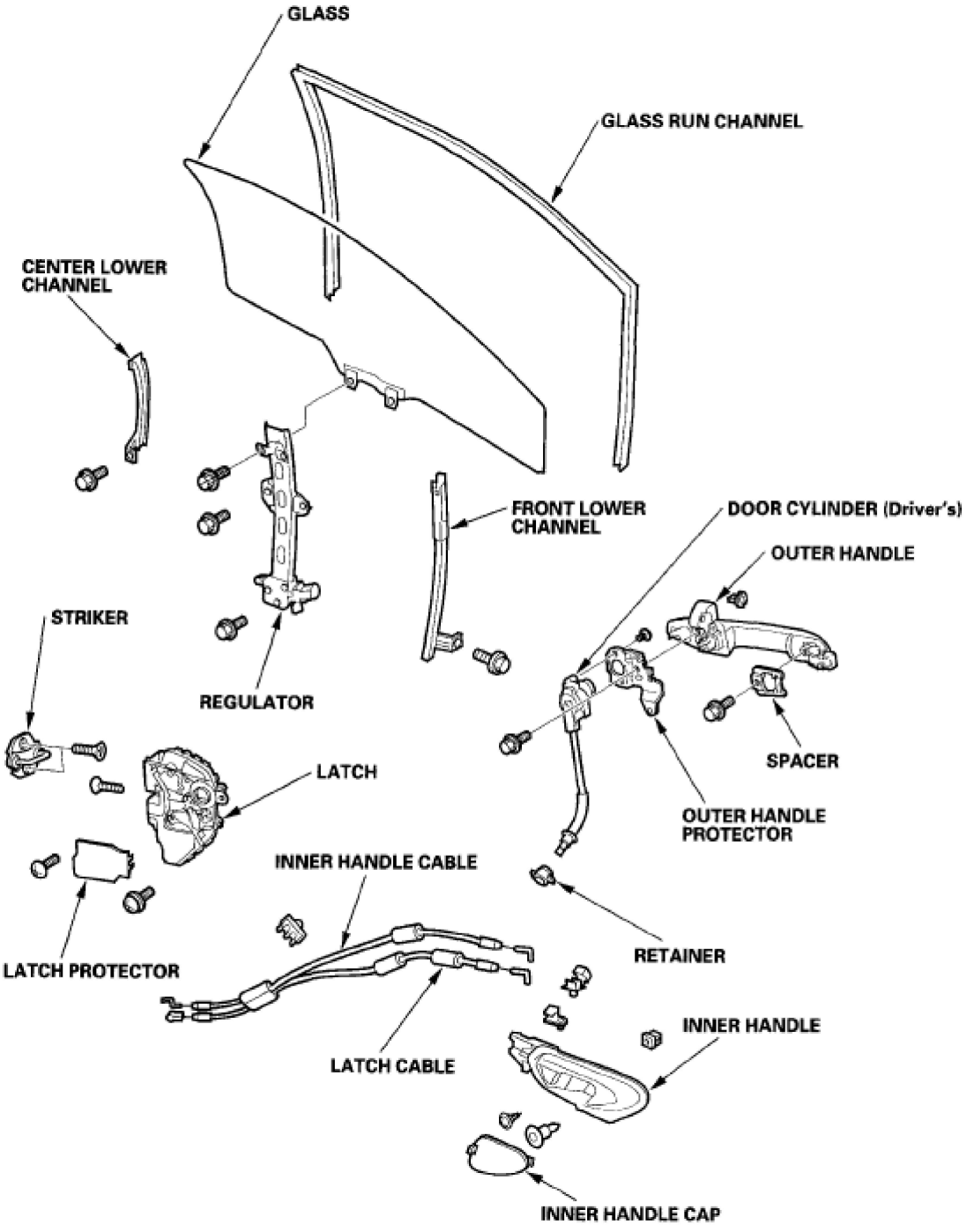



**Fig. 3: Exploded View Of Doors (2-Door - 2 Of 2)**

## 4-door Front Door

# 2008 Honda Civic LX

2006-08 ACCESSORIES & EQUIPMENT Doors - Civic (All Except Hybrid)

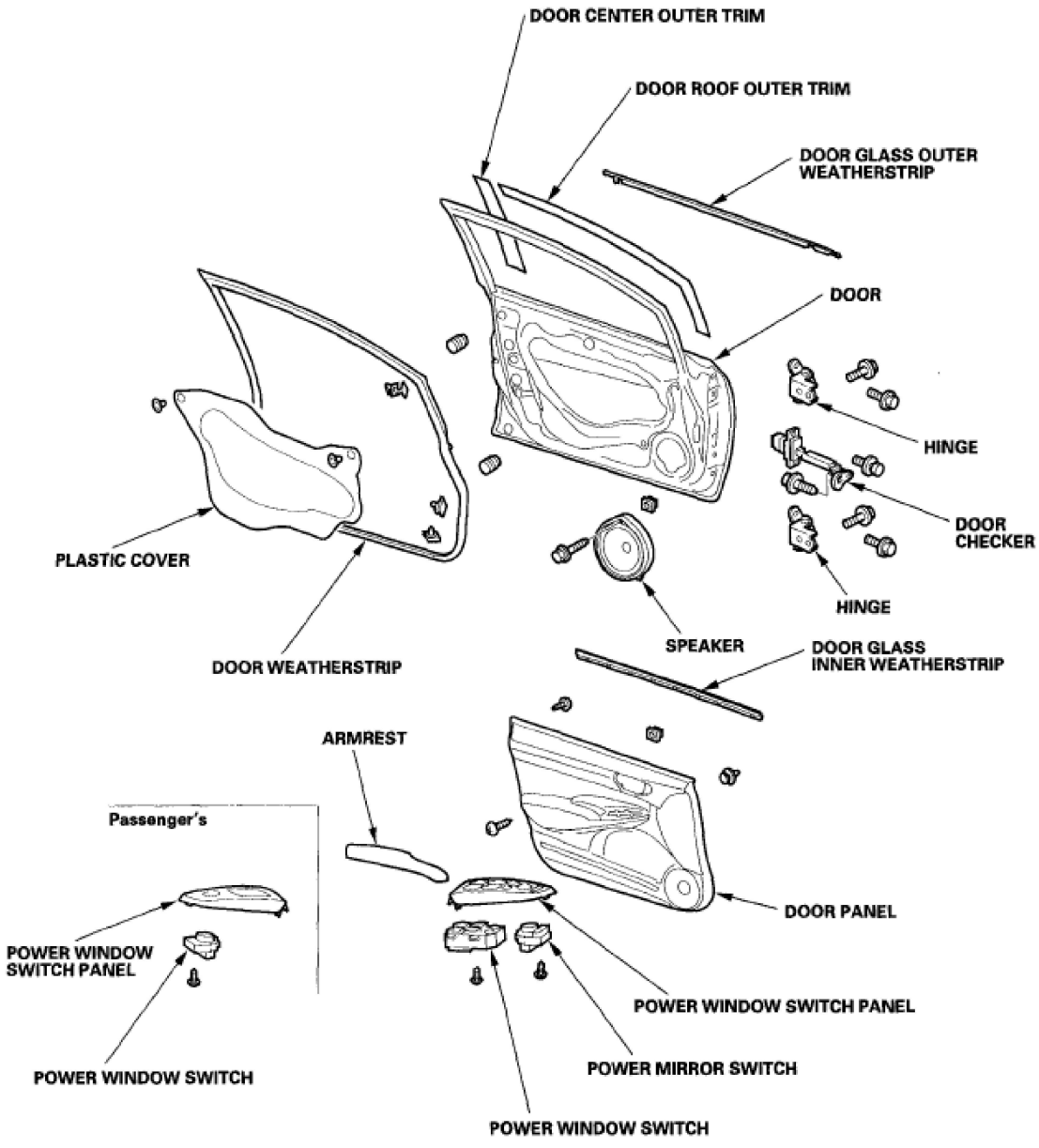



**Fig. 4: Exploded View Of Front Door (4-Door - 1 Of 2)**

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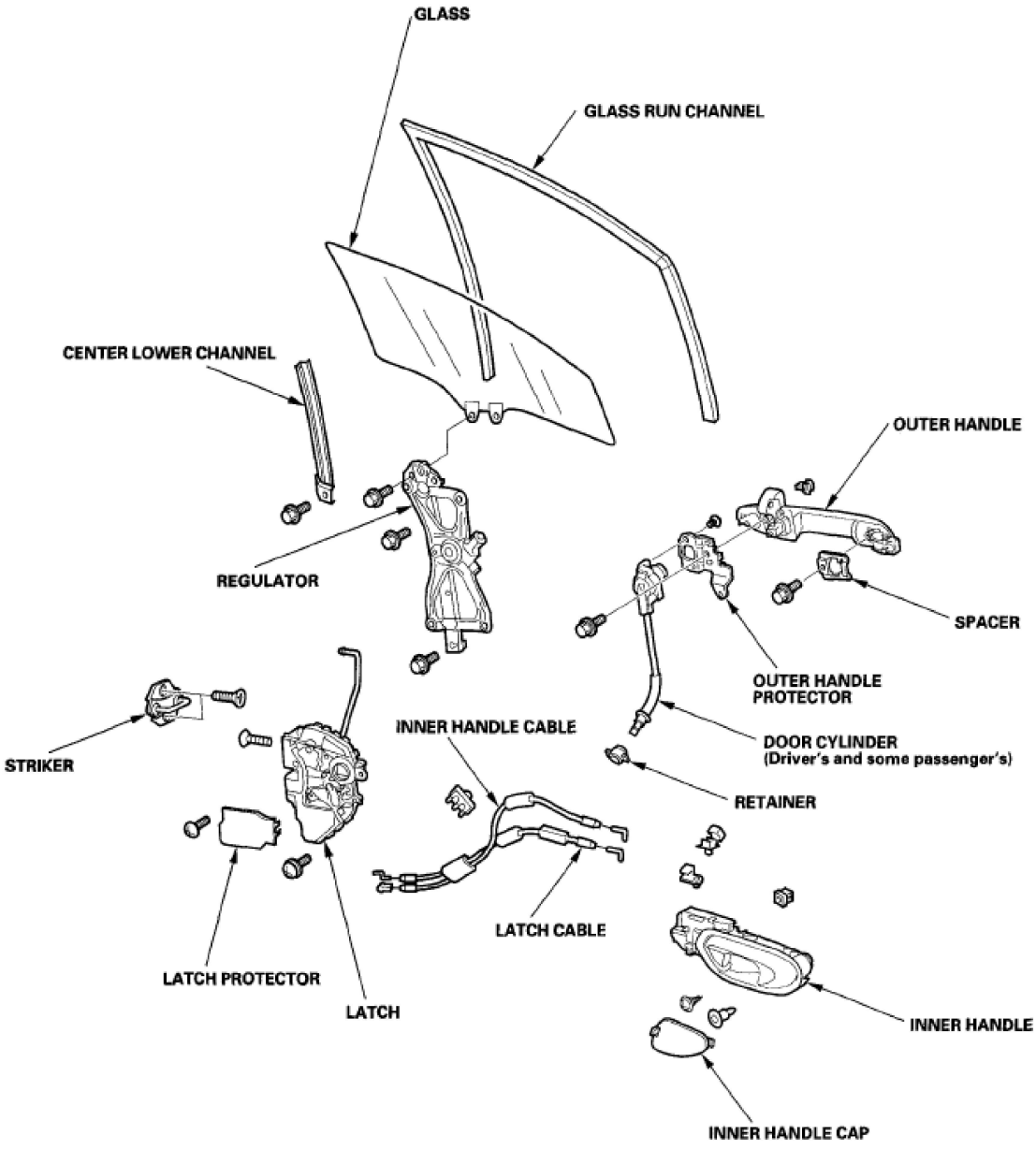



**Fig. 5: Exploded View Of Front Door (4-Door - 2 Of 2)**

## 4-door Rear Door

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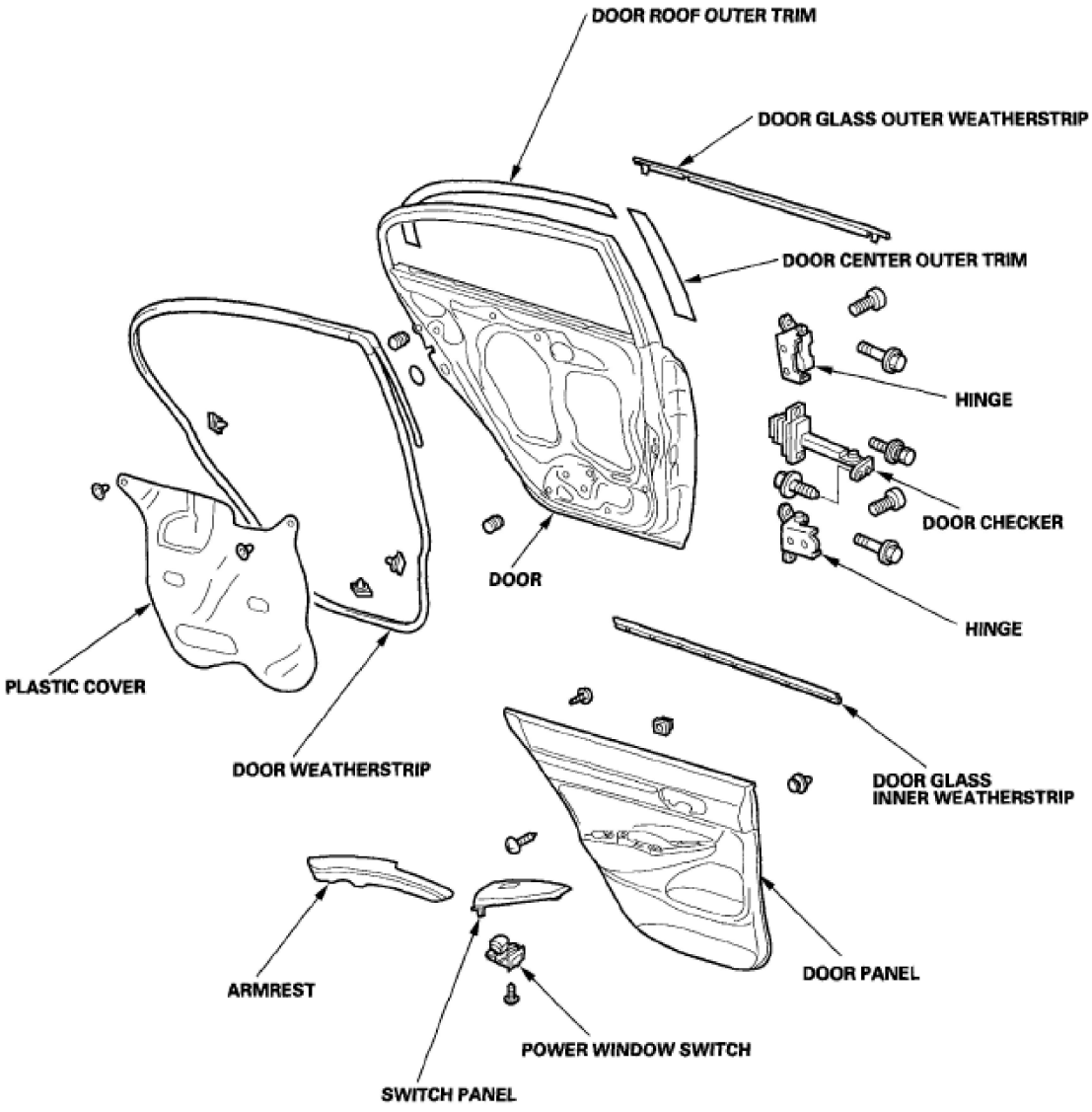



**Fig. 6: Exploded View Of Rear Door (4-Door - 1 Of 2)**

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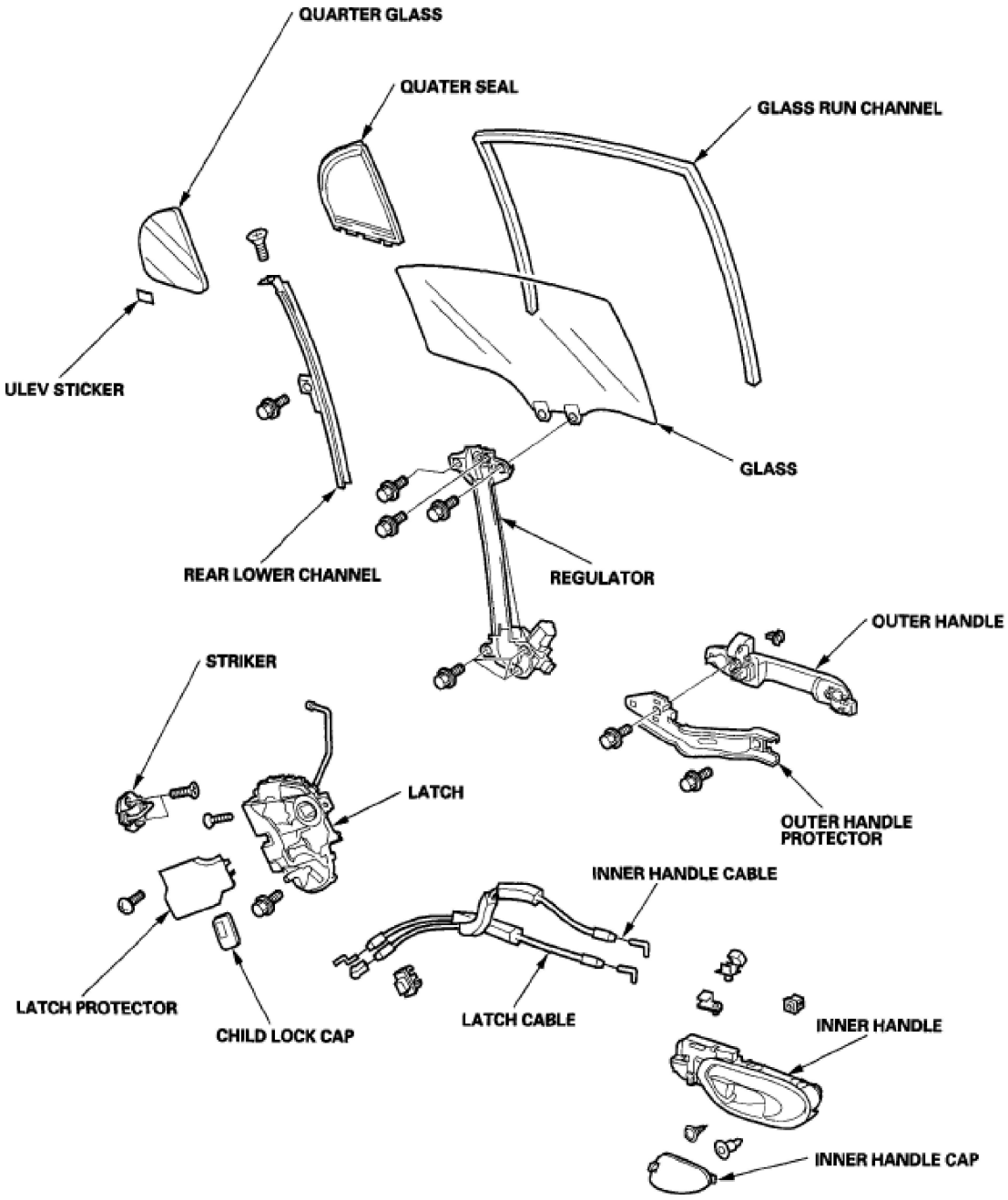



**Fig. 7: Exploded View Of Rear Door (4-Door - 2 Of 2)**

## DOOR PANEL REMOVAL/INSTALLATION

### Special Tools Required

- KTC trim tool set SOJATP2014 *
- Trim pad remover. Snap-on A 177A or equivalent, commercially available

*Available through the American Honda Tool and Equipment Program; call 888-424-6857

**2-DOOR**

**NOTE:**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to scratch the door and related parts.**

1. Raiser the glass fully.
2. Remove the mirror mount cover (see step 2 in **2-DOOR** ).
3. Using the appropriate trim tool, pry out on the rear portion of the inner handle cap (A) to release the hooks (B, C).

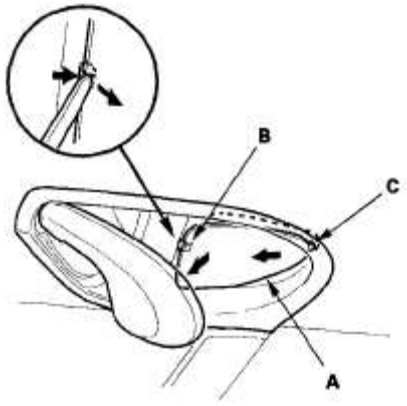



**Fig. 8: Releasing Hooks Prying Out On Rear Portion Of Inner Handle Cap**

4. Remove the screw (A) and clip (B) securing the inner handle (C).

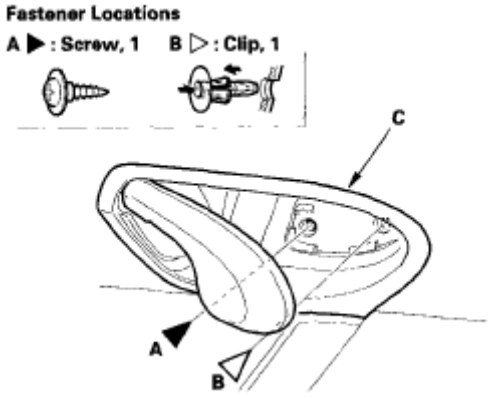



**Fig. 9: Removing Screw And Clip Of Inner Handle**

5. Pry out the bottom edge of the grip cover (A) at the notch (B) with the trim tool to release the hooks (C). Then remove the cover and the screw.

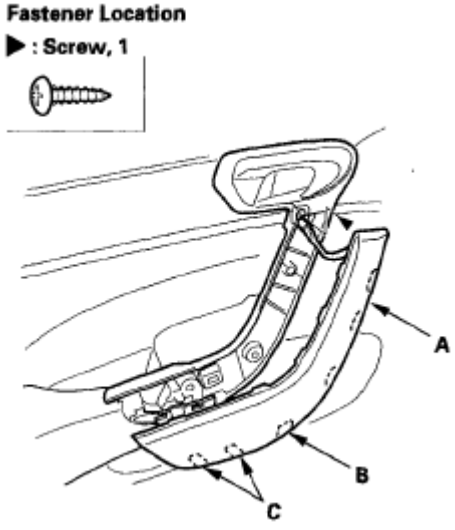



**Fig. 10: Releasing Hooks Prying Bottom Edge Of Grip Cover**

6. Remove the screws.

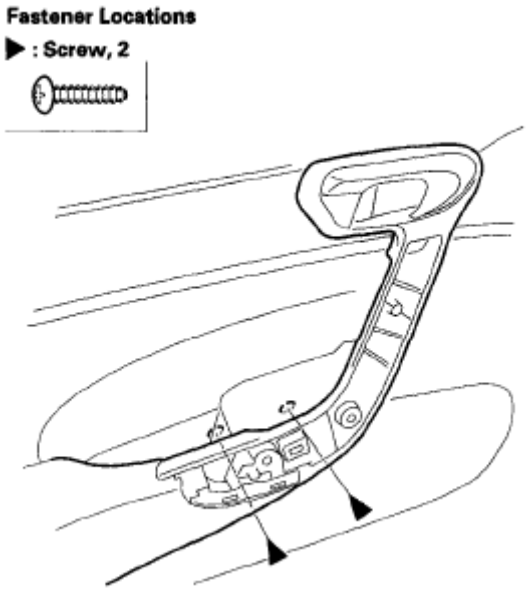



**Fig. 11: Removing Door Panel Screws**

7. Remove the door panel (A) with as little bending as possible to avoid creasing or breaking it.
   - 1 Start at the bottom edge of the door panel, release the clips (B, C) with a commercially available trim pad remover.
   - 2 Detach the upper clips.
   - 3 Starting at the rear, pull the door panel upward.
   - 4 Disconnect the power window switch connector (D).

**NOTE: The inner handle cable (E) and latch cable (F) are connected to the inner handle (G). Do not pull the door panel up too far, or these cables will be damaged.**

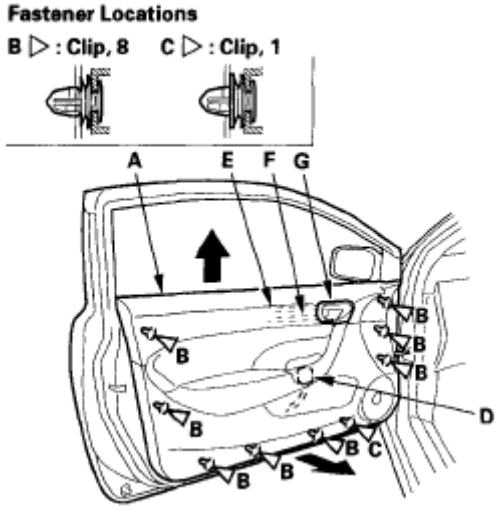



**Fig. 12: Removing Door Panel**

8. While holding the door panel (A) away from the door, remove the inner handle (B) from the door panel by releasing the hooks (C).

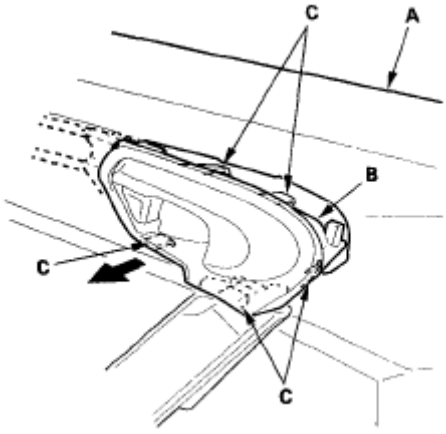



**Fig. 13: Removing Inner Handle By Releasing Hooks**

9. Remove the door panel (A) while pulling the inner handle (B) out through the hole in the door panel.

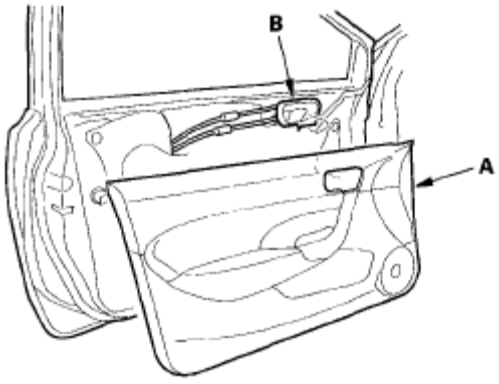



**Fig. 14: Removing Door Panel Pulling Inner**

10. If necessary, disconnect the inner handle cable (A) and the latch cable (B) from the inner handle (C), then remove the handle.
    - 1 Detach the inner handle cable fastener (D), then disconnect the inner handle cable from the cable fastener (E).
    - 2 Detach the latch cable fastener (F) with a flat-tip screwdriver, then disconnect the latch cable from the cable fastener (G).

**NOTE: Check for damaged or stress-whitened cable fasteners.**

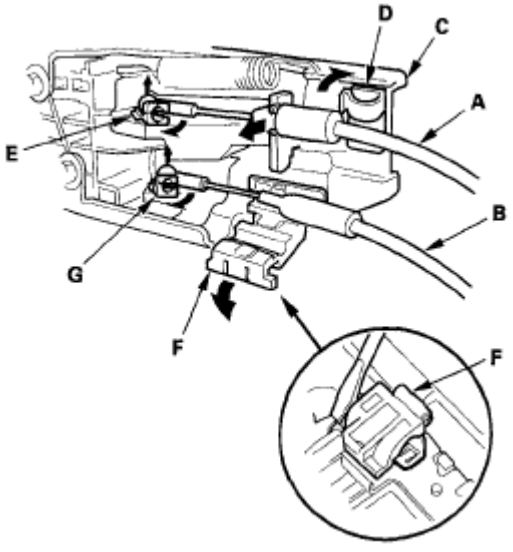



**Fig. 15: Disconnecting Inner Handle Cable And Latch Cable**

11. Remove the power window switch panel (A).

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- 1 Remove the screws (B, C), then remove the grip base (D).
- 2 Remove the screws (E), and release the hooks (F) from the pull pocket (G), then remove the power window switch panel.

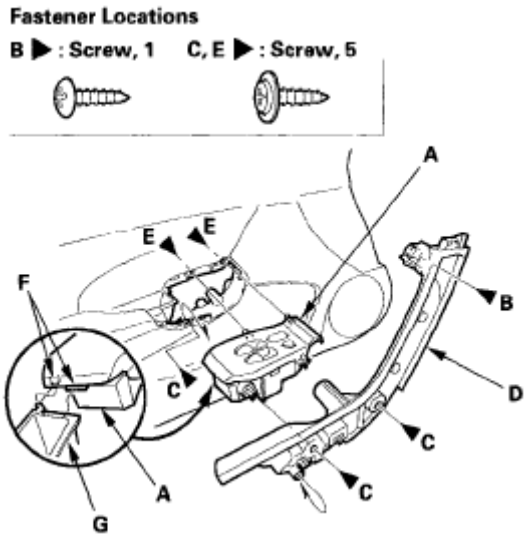



**Fig. 16: Removing Power Window Switch Panel**

12. Install the door panel in the reverse order of removal, and note these items:
    - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
    - Replace any damaged cable fasteners with new ones.
    - The latch cable (A) should be fixed to the cable fastener (B) with the latch in lock position as shown.
    - Make sure the power window switch connector is plugged in properly, and the cable is connected securely.
    - Make sure the window and power door lock operate properly.
    - When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
    - Check for water leaks (see step 7 in **FRONT AND REAR DOOR GLASS ADJUSTMENT** ).

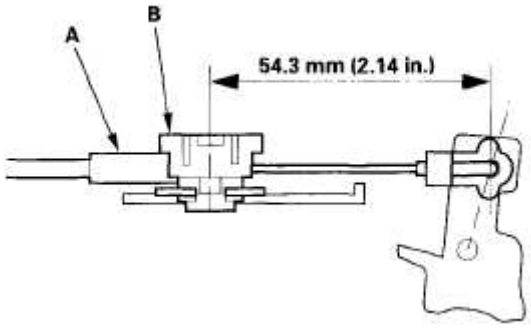



**Fig. 17: Installing Door Panel**

## FRONT DOOR PANEL REMOVAL/INSTALLATION

### Special Tools Required

- KTC trim tool set SOJATP2014 *
- Trim pad remover. Snap-on A 177A or equivalent, commercially available

*Available through the American Honda Tool and Equipment Program; call 888-424-6857

**4-DOOR**

**NOTE: Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Raise the glass fully.
2. Using the appropriate trim tool, pry out on the rear portion of the inner handle cap (A) to release the hooks (B, C).

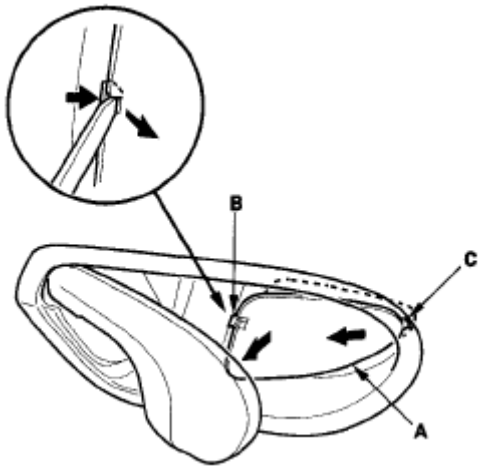



**Fig. 18: Releasing Hooks Prying Out On Rear Portion Of Inner Handle Cap**

3. Remove the screw (A) and clip (B) securing the inner handle (C).

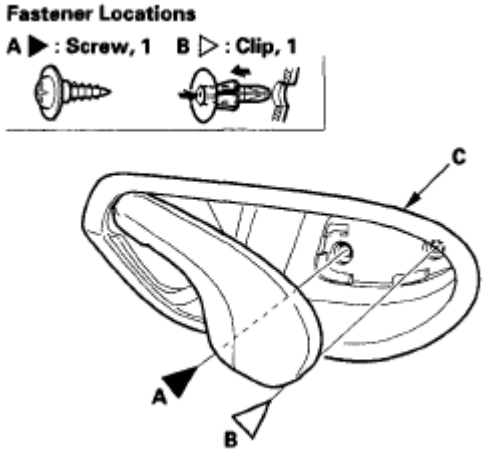



**Fig. 19: Removing Inner Handle Screw And Clip**

4. Remove the power window switch panel (A).
   - 1 Using the appropriate trim tool, pry up on the rear edge of the switch panel to release the rear clip.
   - 2 Pull out along the edge of the panel to release all of the hooks (B).
   - 3 Pull the switch panel rearward to release the front hook (C).
   - 4 Disconnect the power mirror switch connector (D) (driver's) and the power window switch connector (E).

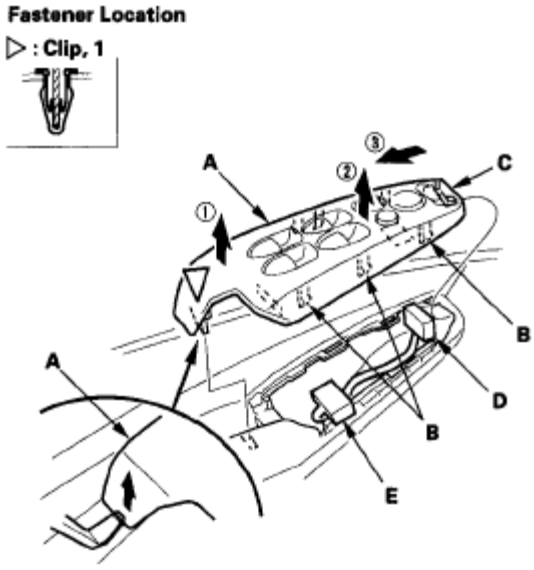



**Fig. 20: Removing Power Window Switch Panel**

5. Remove the screw.

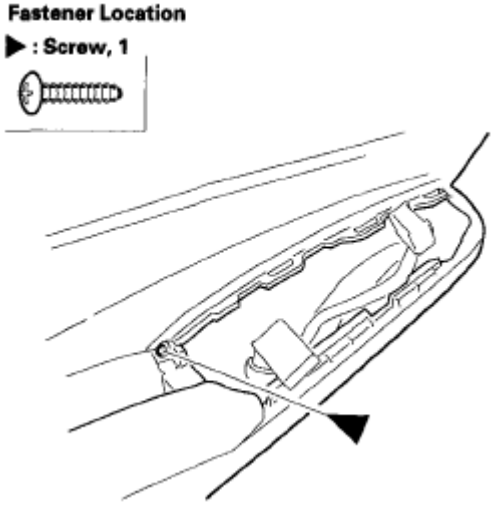



**Fig. 21: Removing Front Door Panel Screw**

6. Remove the door panel (A) with as little bending as possible to avoid creasing or breaking it.
   - 1 Start at the bottom edge of the door panel, release the clips (B, C) that are just above the marks (D) on the edge of the panel with a commercially available trim pad remover.
   - 2 Detach the upper clips.

- 3 Starting at the rear, pull the door panel upward.

**NOTE: The inner handle cable (E) and latch cable (F) are connected to the inner handle (G). Do not pull the door panel up too far, or these cables will be damaged.**

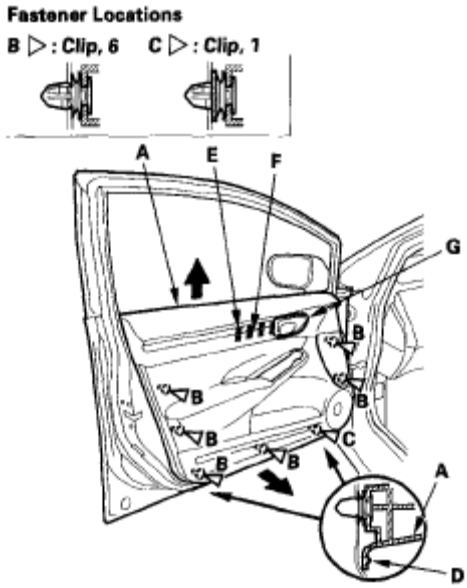



**Fig. 22: Removing Door Panel**

7. While holding the door panel (A) away from the door, remove the inner handle (B) from the door panel by releasing the hooks (C).

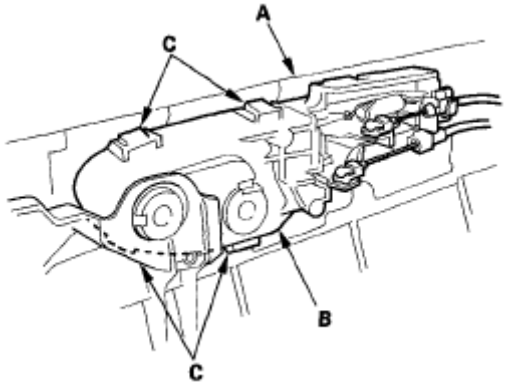



**Fig. 23: Removing Inner Handle**

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8. Remove the door panel (A) while pulling the inner handle (B) out through the hole in the door panel.

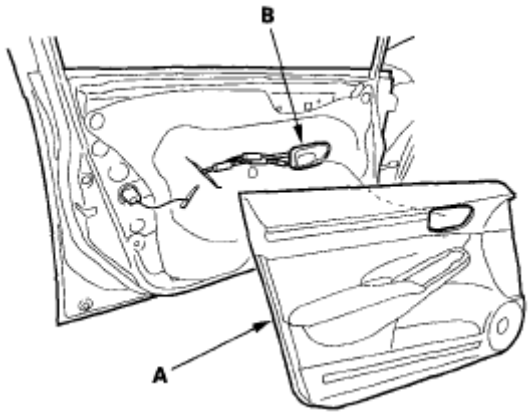



**Fig. 24: Removing Door Panel Pulling Inner Handle**

9. If necessary, disconnect the inner handle cable (A) and the latch cable (B) from the inner handle (C), then remove the handle.
   - 1 Detach the inner handle cable fastener (D), then disconnect the inner handle cable from the cable fastener (E).
   - 2 Detach the latch cable fastener (F) with a flat-tip screwdriver, then disconnect the latch cable from the cable fastener (G).

**NOTE: Check for damaged or stress-whitened cable fasteners.**

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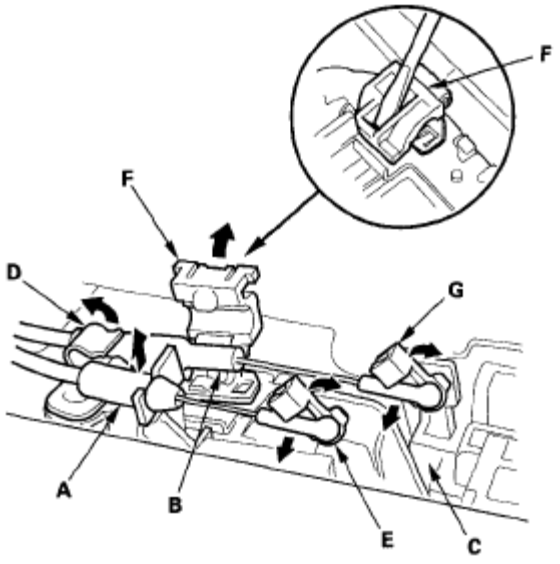



**Fig. 25: Disconnecting Inner Handle Cable And Latch Cable**

10. Install the door panel in the reverse order of removal, and note these items:
    - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
    - Replace any damaged cable fasteners with new ones.
    - The latch cable (A) should be fixed to the cable fastener (B) with the latch in lock position as shown.
    - Make sure the connectors are plugged in properly, and the cables are connected securely.
    - Make sure the window and power door lock operate properly.
    - When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
    - Check for water leaks (see step 7 in **FRONT AND REAR DOOR GLASS ADJUSTMENT** ).

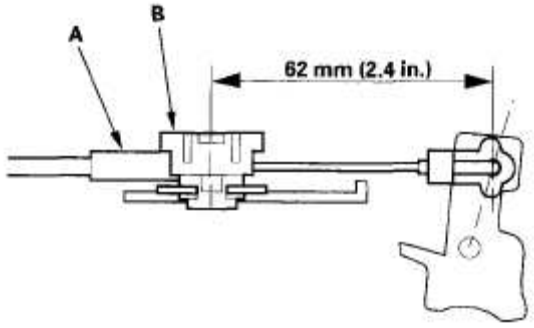



**Fig. 26: Installing Door Panel**

## FRONT DOOR OUTER HANDLE REPLACEMENT

**NOTE: Put on gloves to protect your hands.**

1. Raise the glass fully.
2. Remove the door panel:
   - 2-door (see **2-door** )
   - 4-door (see **4-door** )
3. Disconnect the power door lock actuator connector (A).

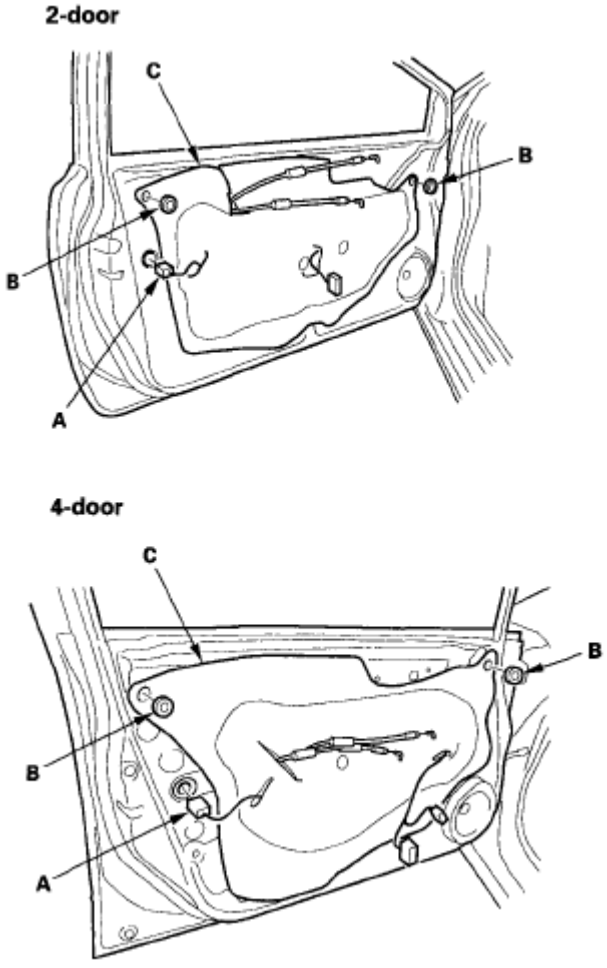



**Fig. 27: Disconnecting Power Door Lock Actuator Connector**

4. Remove the plug caps (B), then remove the plastic cover (C), as needed.
5. Detach the rod fastener (A).

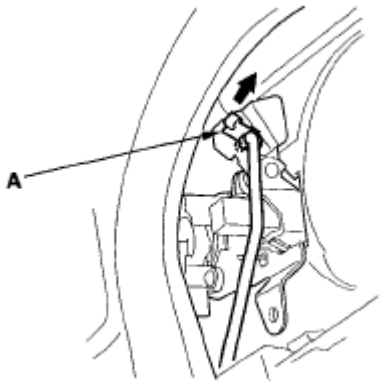



**Fig. 28: Detaching Rod Fastener**

6. Remove the hole seal (A) (2-door) or maintenance cap (B) (4-door). With a clip remover, disconnect the outer handle rod (C).

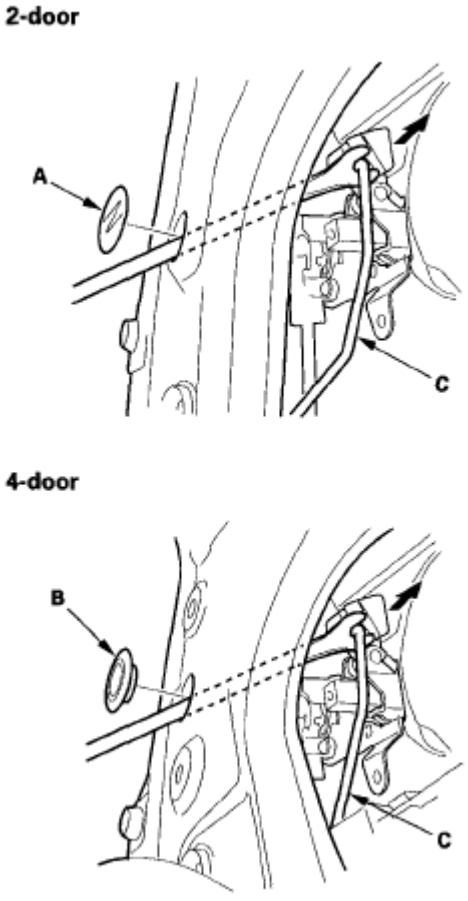



**Fig. 29: Removing Hole Seal (2-Door) Or Maintenance Cap (4-Door)**

7. Driver's and some passenger's: Pull both side flanges (A) of the retainer (B) outward, and pull the middle flange portion (C) of the outer casing cover (D) out, then disconnect the cylinder cable (E) from the latch.

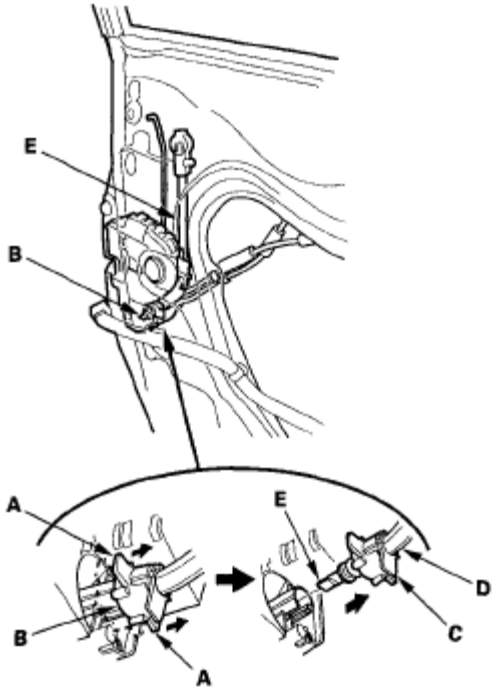



**Fig. 30: Disconnecting Cylinder Cable**

8. Remove the bolt, then remove the spacer (A).

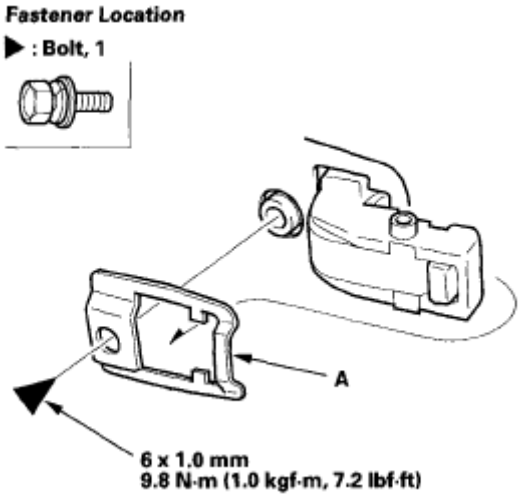



**Fig. 31: Removing Spacer (With Specifications)**

9. Remove the bolt securing the outer handle protector (A), then remove the protector by releasing the hook (B).

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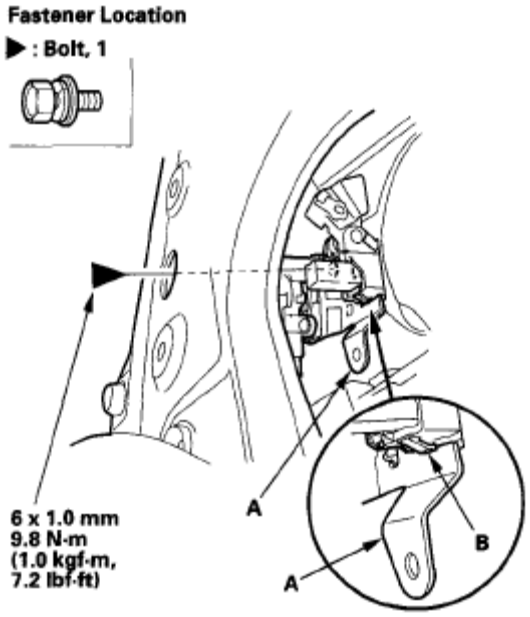



**Fig. 32: Removing Protector (With Specifications)**

10. If necessary; remove the special screws, then separate the door cylinder (A) and outer handle protector (B). If the retainer (C) is damaged, release the hooks (D), and replace it.

**NOTE: If removed, the special screws must be replaced.**

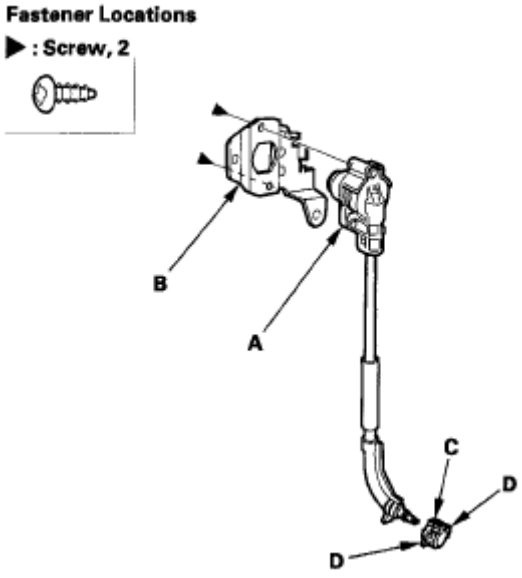



**Fig. 33: Separating Door Cylinder And Outer Handle Protector**

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11. While pulling the outer handle (A), remove the handle from the holes in the door panel. Take care not to scratch the door.

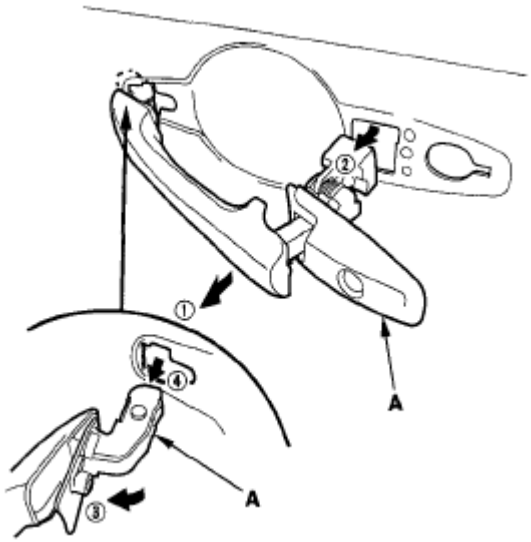



**Fig. 34: Removing Handle**

12. Remove the rod fastener (A) from the outer handle (B), then replace it with a new one.

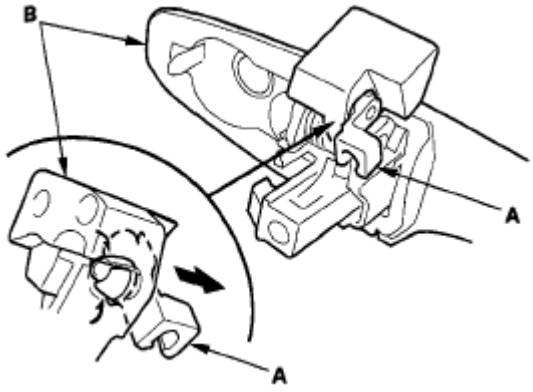



**Fig. 35: Removing Rod Fastener**

13. Install the handle in the reverse order of removal, and note these items:
    - Make sure the cylinder cable and each rod is connected securely.
    - Make sure the door key cylinder/door locks operate properly.
    - Make sure the door handle works properly.

- When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
- Check for water leaks.

## FRONT DOOR LATCH REPLACEMENT

**NOTE: Put on gloves to protect your hands.**

1. Raise the glass fully.
2. Remove the door panel and inner handle:
   - 2-door (see **2-door** )
   - 4-door (see **4-door** )
3. Remove the plastic cover, as needed (see step 4 in **FRONT DOOR OUTER HANDLE REPLACEMENT** ).
4. Detach the rod fastener (see step 5 in **FRONT DOOR OUTER HANDLE REPLACEMENT** ).
5. Disconnect the outer handle rod from the outer handle (see step 6 in **FRONT DOOR OUTER HANDLE REPLACEMENT** ).
6. Disconnect the cylinder cable from the latch (see step 7 in **FRONT DOOR OUTER HANDLE REPLACEMENT** ).
7. Pull the glass run channel (A) away as needed, and remove the bolt, then remove the center lower channel (B) by pulling it downward.

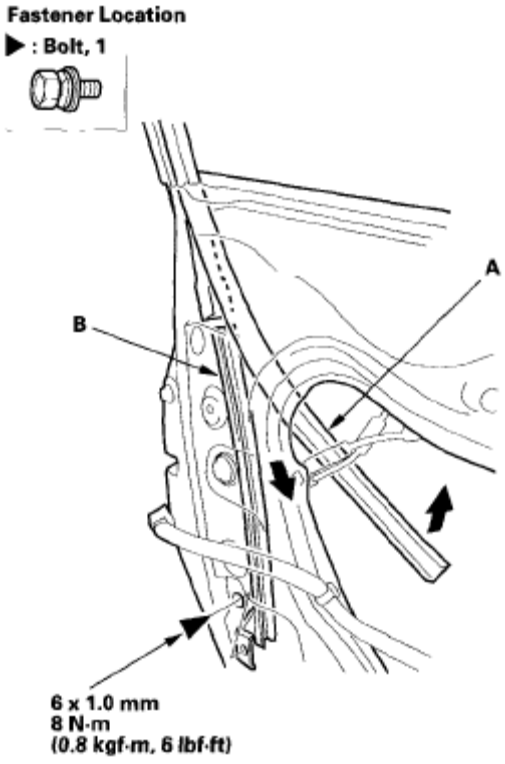



**Fig. 36: Removing Center Lower Channel (With Specifications)**

8. Detach the latch cable (A) and inner handle cable (B) from the holder (C), then remove the screws (D, E) securing the latch (F), then remove the latch through the hole in the door. Take care not to bend the outer handle rod (G), latch cable, and inner handle cable.

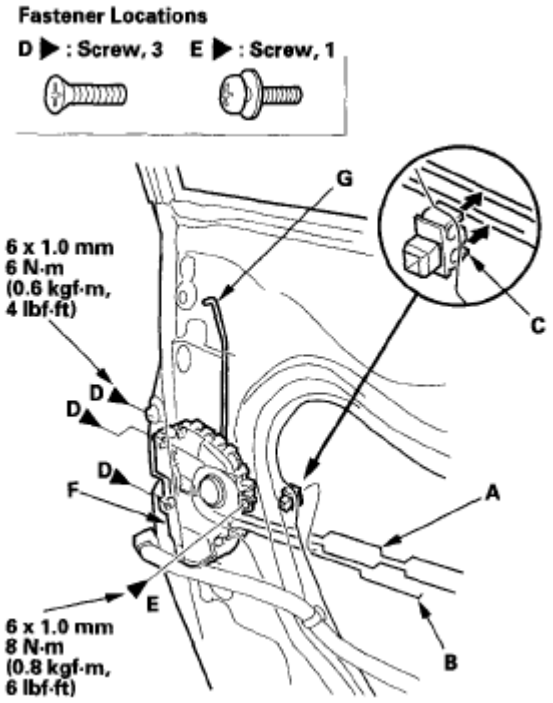



**Fig. 37: Detaching Latch Cable And Inner Handle Cable**

9. Remove the screw, then remove the latch protector (A) by releasing the hook (B).

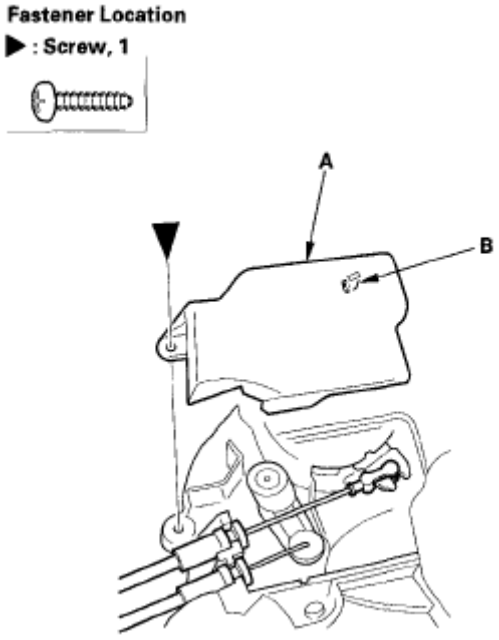



**Fig. 38: Removing Latch Protector**

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10. Detach the latch cable (A) and the inner handle cable (B) from the latch (C).

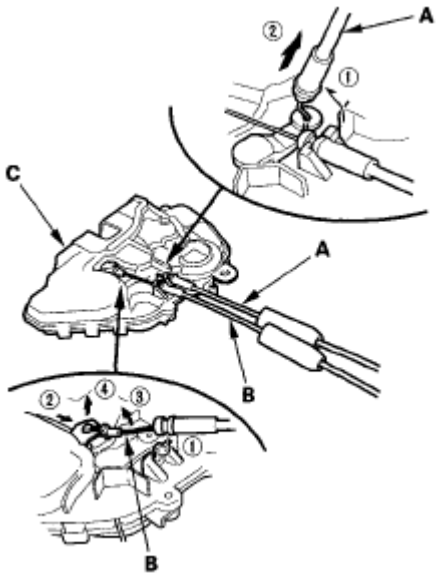



**Fig. 39: Detaching Latch Cable And Inner Handle Cable**

11. Install the latch in the reverse order of removal, and note these items:
    - Make sure the actuator connector is plugged in properly and each rod is connected securely.
    - Make sure the door locks and opens properly.
    - When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
    - Check for water leaks.

## FRONT DOOR GLASS AND REGULATOR REPLACEMENT

**NOTE: Put on gloves to protect your hands.**

1. Remove the door panel:
    - 2-door (see **2-door** )
    - 4-door (see **4-door** )
2. Disconnect the power door lock actuator connector (A), and remove the plug caps (B).

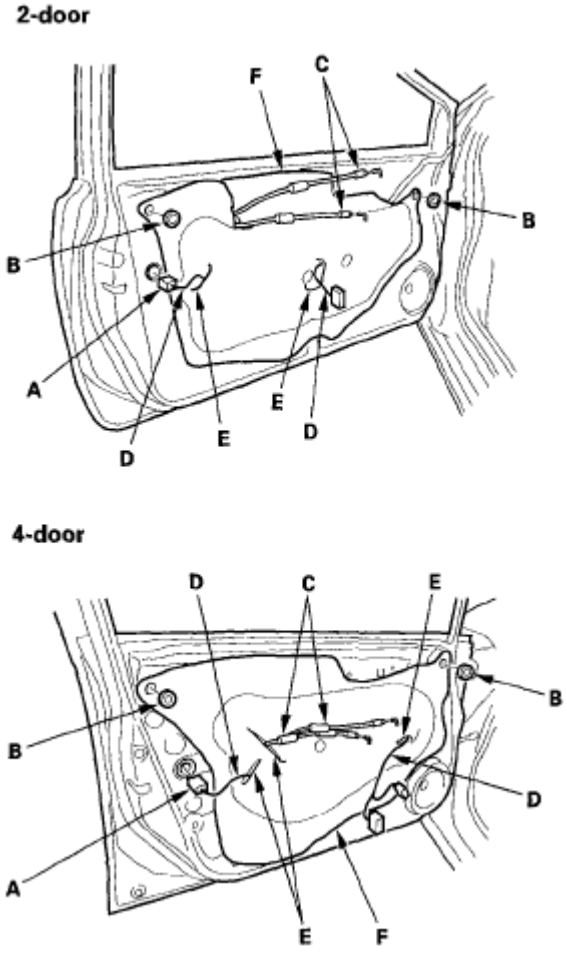



**Fig. 40: Disconnecting Power Door Lock Actuator Connector**

3. Pass the cables (C) and the harnesses (D) through the slits (E) in the plastic cover (F), then remove them.
4. Carefully raise the glass (A) until you can see the bolts, then remove them. Carefully pull the glass out through the window slot. Take care not to drop the glass inside the door.

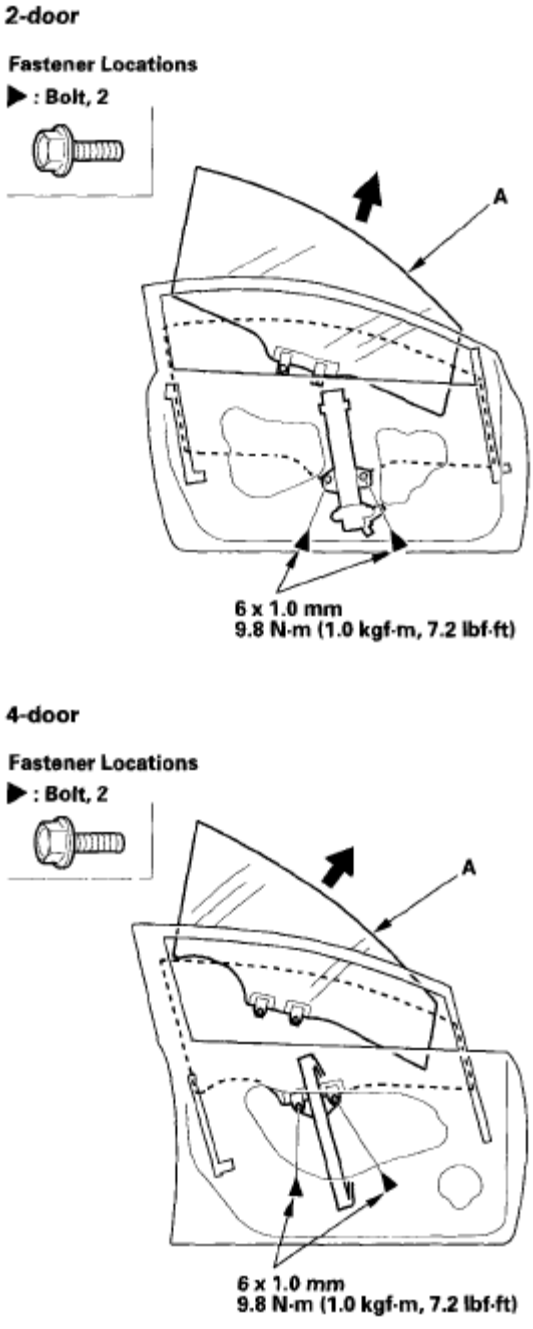



**Fig. 41: Removing Front Door Glass (With Specifications)**

5. Disconnect the connector (A), and detach the harness clip (B) from the regulator (C).

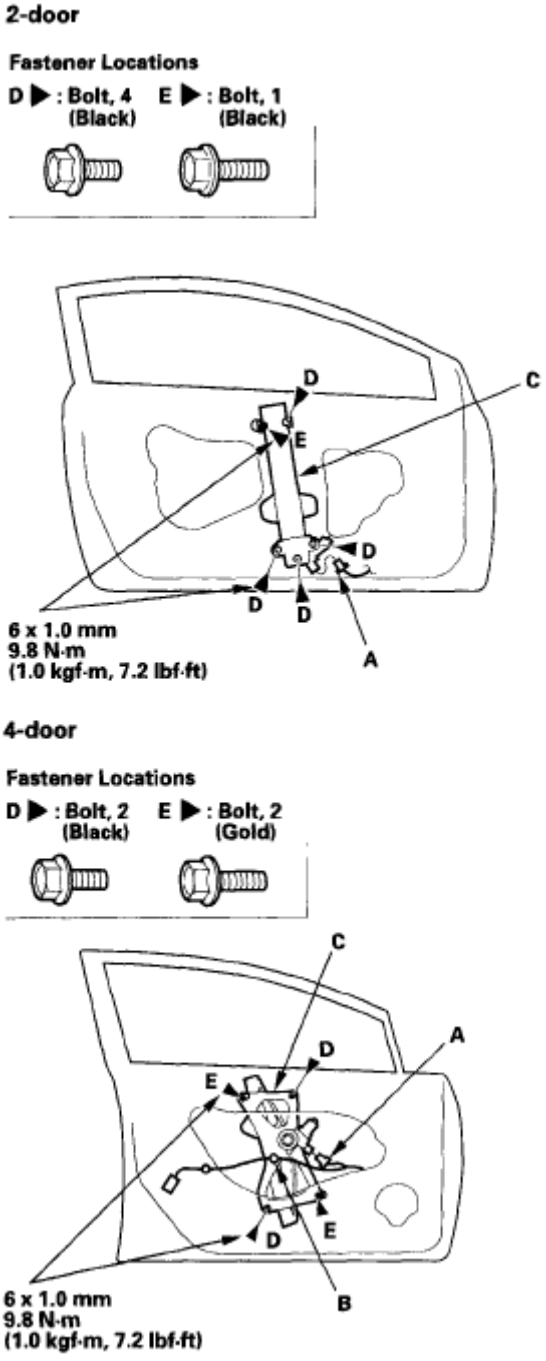



**Fig. 42: Disconnecting Connector And Detaching Harness Clip (With Specifications)**

6. Remove the bolts (D), and loosen the bolts (E), then remove the regulator through the hole in the door.
7. Apply multipurpose grease to all the sliding surfaces of the regulator (A) where

shown.

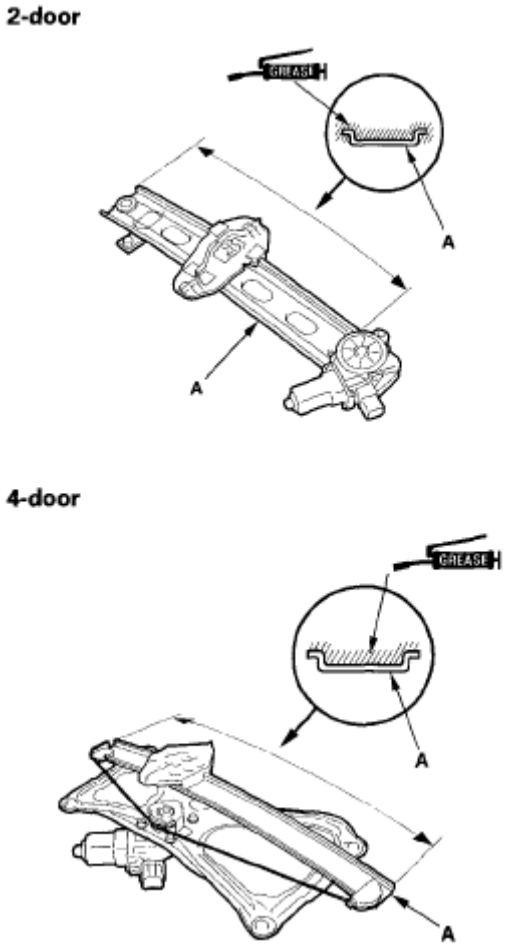



**Fig. 43: Applying Multipurpose Grease To Sliding Surfaces**

8. Install the glass and regulator in the reverse order of removal, and note these items:
   - Roll the glass up and down to see if it moves freely without binding.
   - Make sure that there is no clearance between the glass and glass run channel when the glass is closed.
   - Adjust the position of the glass as necessary (see **FRONT AND REAR DOOR GLASS ADJUSTMENT** ).
   - Do the power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT** ).
   - When reinstalling the door panel, make sure the plastic cover is installed

properly and sealed around its outside perimeter to seal out water.

- Check for water leaks (see step 7 in **FRONT AND REAR DOOR GLASS ADJUSTMENT** ).
- Test-drive and check for wind noise and rattles.
- Make sure the power door locks, windows, and power mirror operate properly.

## DOOR SASH OUTER TRIM REPLACEMENT

**2-DOOR**

**NOTE: Take care not to scratch the door.**

1. Lower the glass fully.
2. From inside the door, remove the screw.
3. Pull up the door sash outer rim (A) to release the hooks (B), then remove it from the door.

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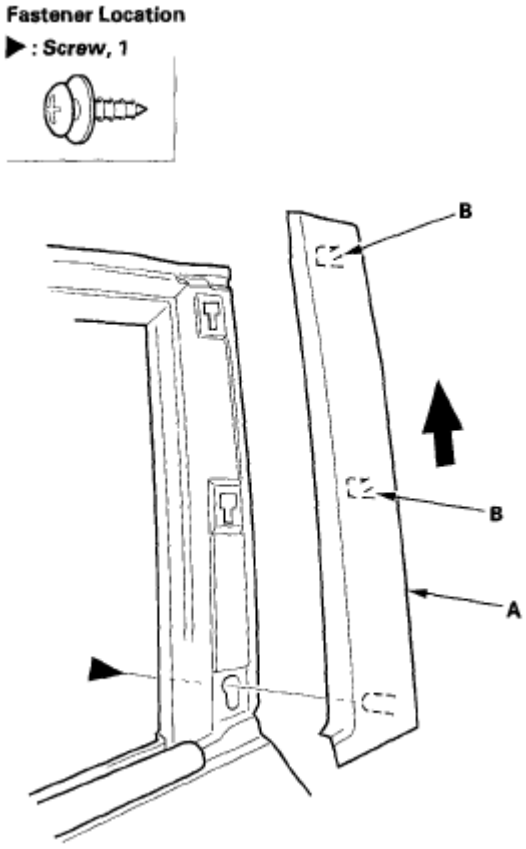



**Fig. 44: Removing Door Sash Outer Trim**

4. Install the trim in the reverse order of removal.

## DOOR GLASS OUTER WEATHERSTRIP REPLACEMENT

**2-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the door.**

1. Lower the glass fully.
2. Remove the door sash outer trim (see **DOOR SASH OUTER TRIM REPLACEMENT** ).
3. Starting at the rear, slowly pull up the door glass outer weatherstrip (A).

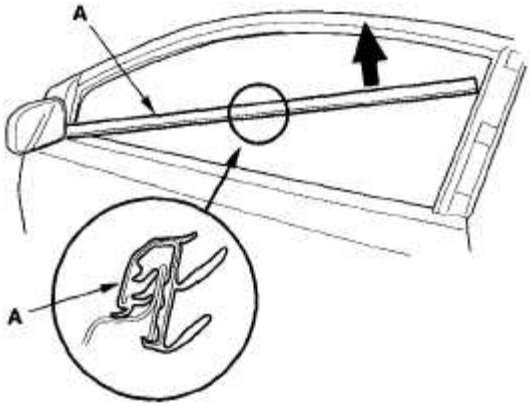



**Fig. 45: Pulling Up Door Glass Outer Weatherstrip**

4. Release the front portion of the glass outer molding (A) from the power mirror (B).

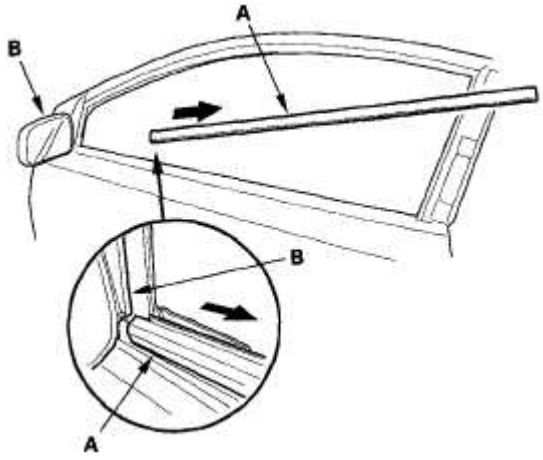



**Fig. 46: Releasing Front Portion Of Glass Outer Molding**

5. Install the trim in the reverse order of removal.

## FRONT DOOR GLASS OUTER WEATHERSTRIP REPLACEMENT

**4-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the door.**

1. Lower the glass fully.

2. Release the front hook (A) from inside of the door, then pull up the front door glass outer weatherstrip (B).

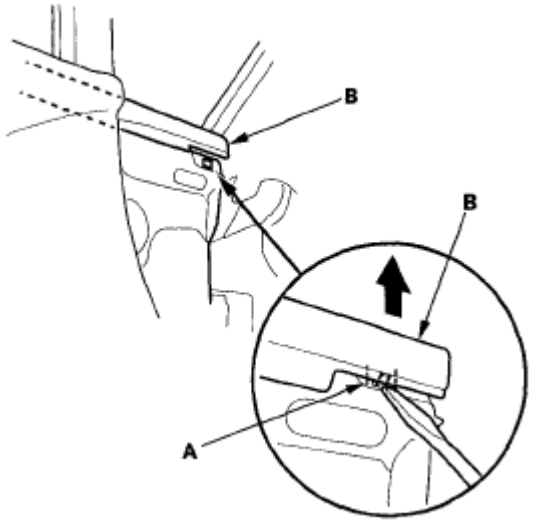



**Fig. 47: Pulling Up Front Door Glass Outer Weatherstrip**

3. Starting at the front, slowly pull up the front door glass outer weatherstrip (A).

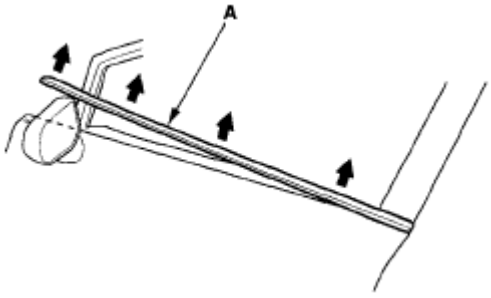



**Fig. 48: Pulling Front Door Outer Weatherstrip**

4. Slide the front door glass outer weatherstrip (A) forward.

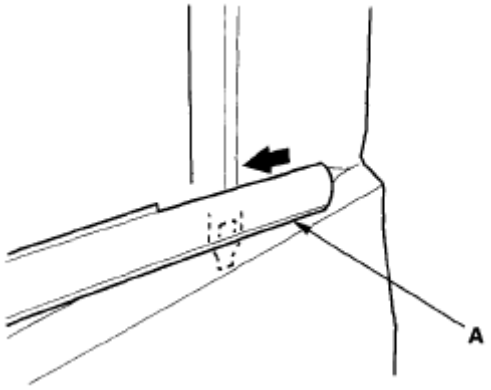



**Fig. 49: Sliding Front Door Glass Outer Weatherstrip**

5. Twist the front door glass outer weatherstrip (A) to pull the rear hook (B) out from the inside of the door, then remove the weatherstrip.

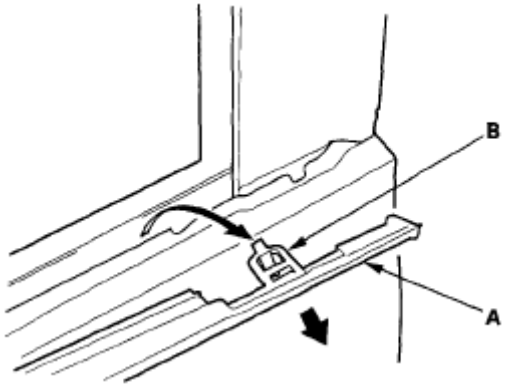



**Fig. 50: Removing Weatherstrip**

6. Push the clip portions of new front door glass outer weatherstrip into place securely.

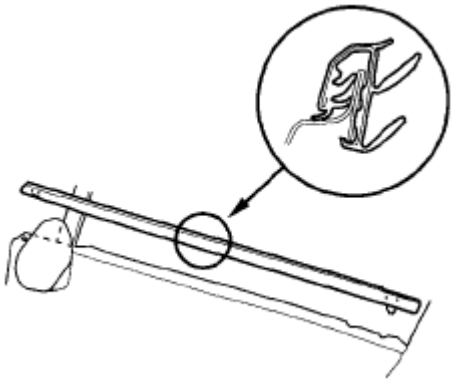


**Fig. 51: Pushing Clips Of Front Door Glass Outer Weatherstrip Into Place**

## FRONT DOOR WEATHERSTRIP REPLACEMENT

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the door.**
- **Use a clip remover to remove the clips.**

1. At the A-pillar, remove the door checker mounting bolt (A).

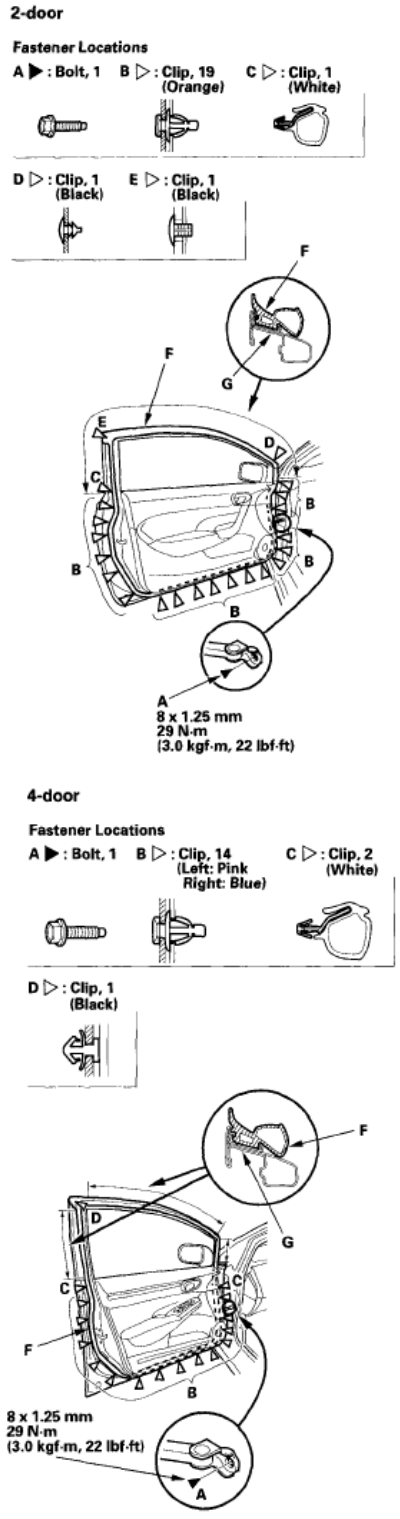



**Fig. 52: Removing Door Checker Mounting Bolt (With Specifications)**

2. Detach the clips (B, C, D, E), then remove the door weatherstrip (F).

3. Install the weatherstrip in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Make sure the weatherstrip is installed in the holder (G) securely.
   - Apply medium strength type liquid thread lock to door checker mounting bolt before installation.
   - When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
   - Check for water leaks.

## REAR DOOR PANEL REMOVAL/INSTALLATION

### Special Tools Required

- KTC trim tool set SOJATP2014 *
- Trim pad remover. Snap-on A 177A or equivalent, commercially available

*Available through the American Honda Tool and Equipment Program; call 888-424-6857

**4-DOOR**

**NOTE: Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Raise the glass fully.
2. Using the appropriate trim tool, pry out on the rear portion of the inner handle cap (A) to release the hooks (B, C).

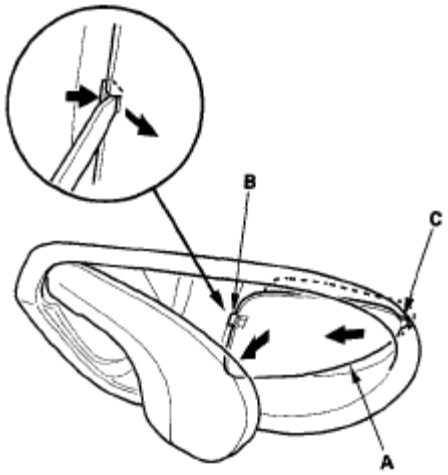



**Fig. 53: Releasing Hooks Prying Out Rear Portion Of Inner Handle Cap**

3. Remove the screw (A) and clip (B) securing the inner handle (C).

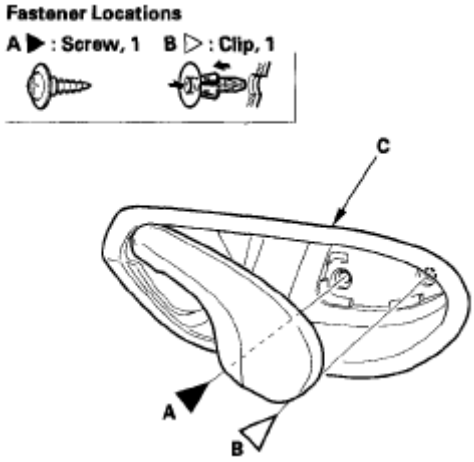



**Fig. 54: Removing Inner Handle Screw And Clip**

4. Remove the power window switch panel (A).
   - 1 Using the appropriate trim tool, pry up on the rear edge of the switch panel to release the rear clip.
   - 2 Pull out along the edge of the panel to release the hooks (B).
   - 3 Pull the switch panel rearward to release the front hook (C).
   - 4 Disconnect the power window switch connector (D).

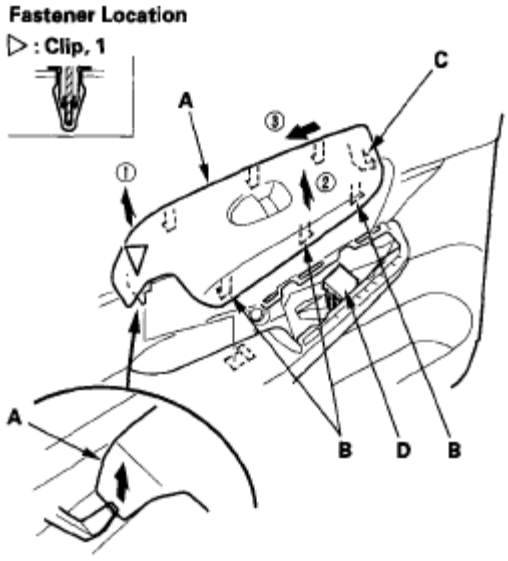



**Fig. 55: Removing Power Window Switch Panel**

5. Remove the screw.

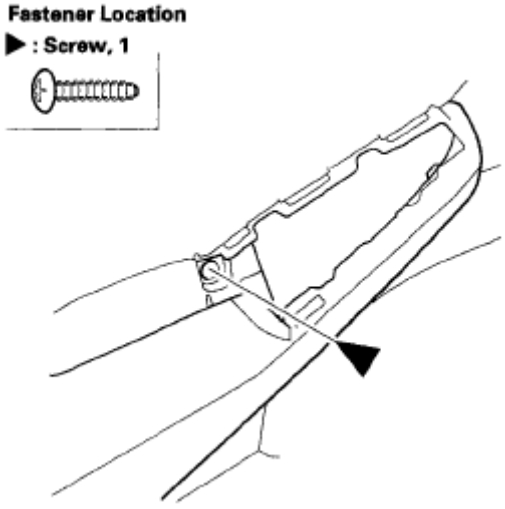



**Fig. 56: Removing Rear Door Panel Screw**

6. Remove the door panel (A) with as little bending as possible to avoid creasing or breaking it.
   - 1 Start at the bottom edge of the door panel, release the clips that are just above the marks (B) on the edge of the panel with a commercially available trim pad remover.
   - 2 Detach the upper clips (C, D).

- 3 Stating at the rear, pull the door panel upward.

**NOTE: The inner handle cable (E) and latch cable (F) are connected to the inner handle (G). Do not pull the door panel up too far, or these cables will be damaged.**

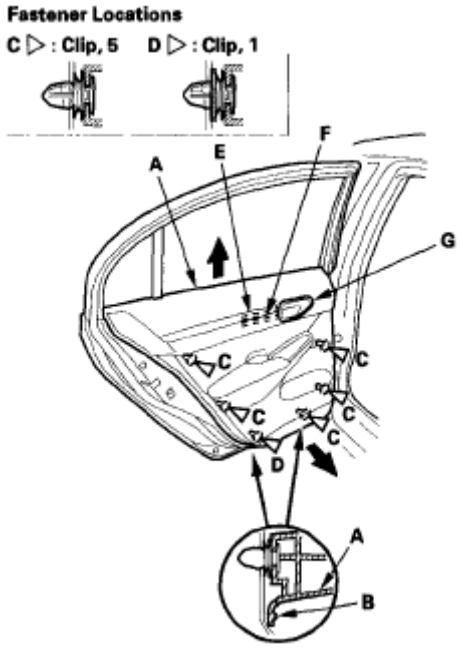



**Fig. 57: Removing Door Panel**

7. While holding the door panel (A) away from the door, remove the inner handle (B) from the door panel by releasing the hooks (C), if necessary.

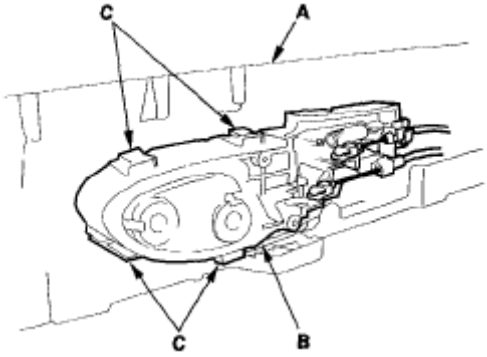



**Fig. 58: Removing Inner Handle**

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8. Remove the door panel (A) while pulling the inner handle (B) out through the hole in the door panel.

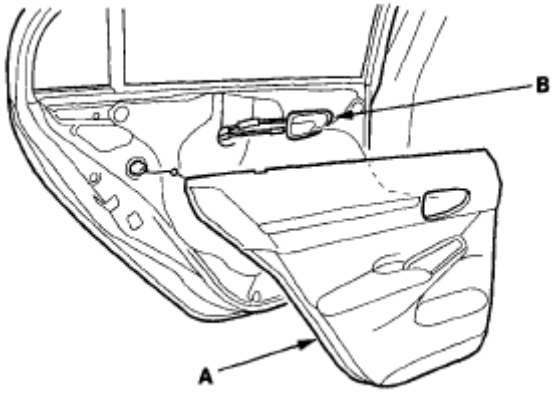



**Fig. 59: Removing Door Panel Pulling Inner Handle**

9. If necessary, disconnect the inner handle cable (A) and the latch cable (B) from the inner handle (C).
   - 1 Detach the inner handle cable fastener (D), then disconnect the inner handle cable from the cable fastener (E).
   - 2 Detach the latch cable fastener (F) with a flat-tip screwdriver, then disconnect latch cable from the cable fastener (G).

**NOTE: Check for damaged or stress-whitened cable fasteners.**

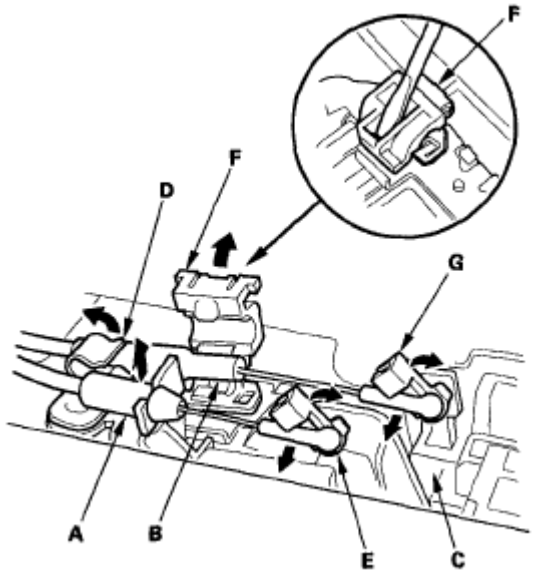



**Fig. 60: Disconnecting Inner Handle Cable And Latch Cable**

10. Install the door panel in the reverse order of removal, and note these items:
    - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
    - Replace any damaged cable fasteners with new ones.
    - The latch cable (A) should be fixed to the cable fastener (B) with the latch in lock position as shown.
    - Make sure the connector is plugged in properly, and the cables are connected securely.
    - Make sure the window and power door lock operate properly.
    - When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
    - Check for water leaks (see step 7 in **FRONT AND REAR DOOR GLASS ADJUSTMENT** ).

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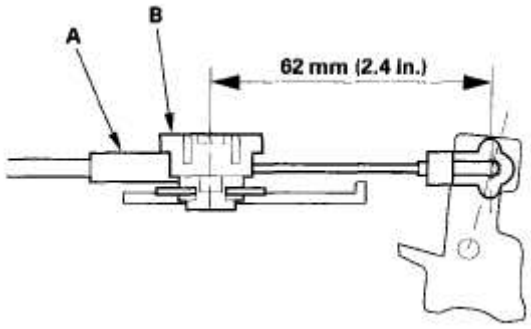



**Fig. 61: Installing Door Panel**

## REAR DOOR OUTER HANDLE REPLACEMENT

**4-DOOR**

**NOTE: Put on gloves to protect your hands.**

1. Raise the glass fully.
2. Remove the door panel (see **REAR DOOR PANEL REMOVAL/INSTALLATION** ).
3. Detach the harness clip (A), and disconnect the power door lock actuator connector (B).

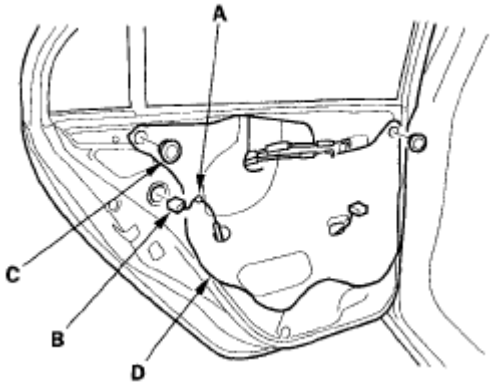



**Fig. 62: Disconnecting Power Door Lock Actuator Connector**

4. Remove the rear portion of the plug cap (C), then remove the plastic cover (D), as needed.
5. Remove the latch mounting screws, then lower the latch (see step 4 in **REAR DOOR LATCH REPLACEMENT** ).

6. Detach the rod fastener (A).

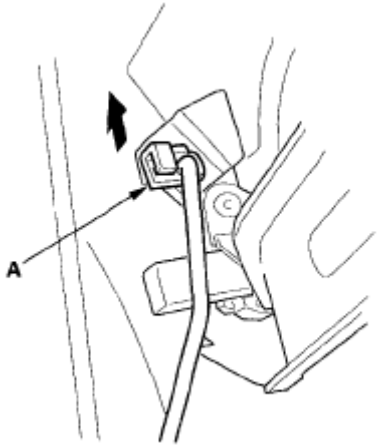



**Fig. 63: Detaching Rod Fastener**

7. With a clip remover, disconnect the outer handle rod (A) from the outer handle (B).

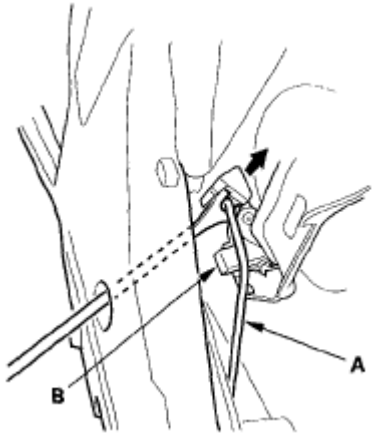



**Fig. 64: Identifying Outer Handle Rod From Outer Handle**

8. Remove the maintenance seal (A). Remove the bolts securing the outer handle protector (B), then remove the protector by releasing the hook (C).

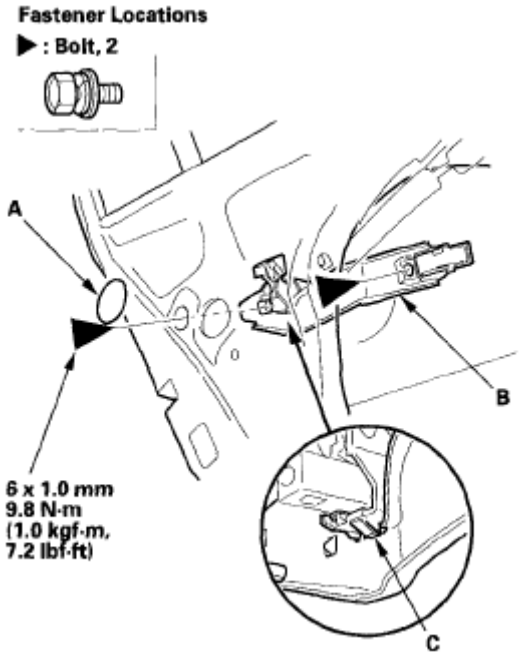



**Fig. 65: Removing Maintenance Seal (With Specifications)**

9. While pulling the outer handle (A), remove the handle from the holes in the door panel. Take care not to scratch the door.

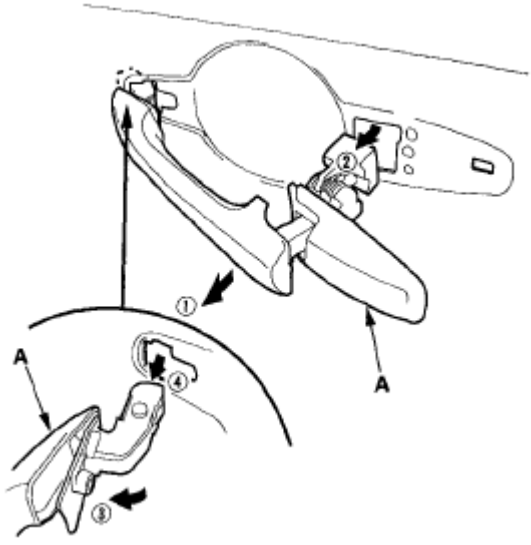



**Fig. 66: Removing Handle**

10. Remove the rod fastener (A) from the outer handle (B), then replace it with a new one.

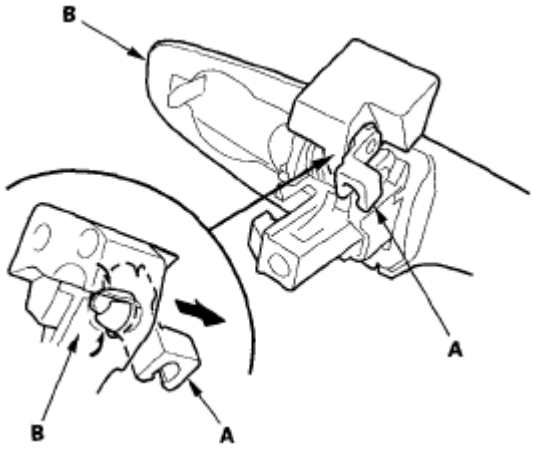



**Fig. 67: Removing Rod Fastener**

11. Install the handle in the reverse order of removal, and note these items:
    - Make sure the door locks and opens properly.
    - When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
    - Check for water leaks.

## REAR DOOR LATCH REPLACEMENT

**4-DOOR**

**NOTE: Put on gloves to protect your hands.**

1. Raise the glass fully.
2. Remove the door panel (see **REAR DOOR PANEL REMOVAL/INSTALLATION** ).
3. Remove the plastic cover, as needed (see step 4 in **REAR DOOR OUTER HANDLE REPLACEMENT** ).
4. Remove the screws (A, B) securing the latch (C), then lower it.

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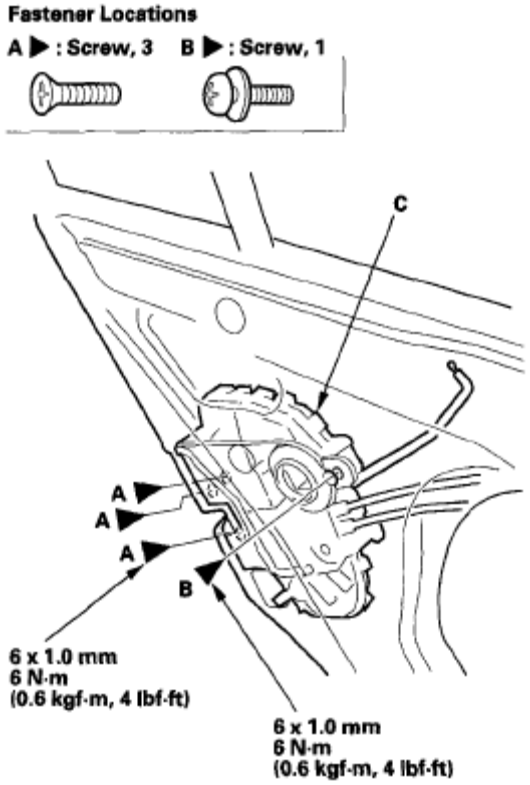



**Fig. 68: Removing Rear Door Latch Screws (With Specifications)**

5. Detach the rod fastener (see step 6 in **REAR DOOR OUTER HANDLE REPLACEMENT** ).
6. Disconnect the outer handle rod from the outer handle (see step 7 in **REAR DOOR OUTER HANDLE REPLACEMENT** ).
7. Detach the latch cable (A) and inner handle cable (B) from the holder (C), then remove the latch (D) out from between the rear lower channel (E) and the door. Take care not to bend the outer handle rod (F), latch cable, and inner handle cable.

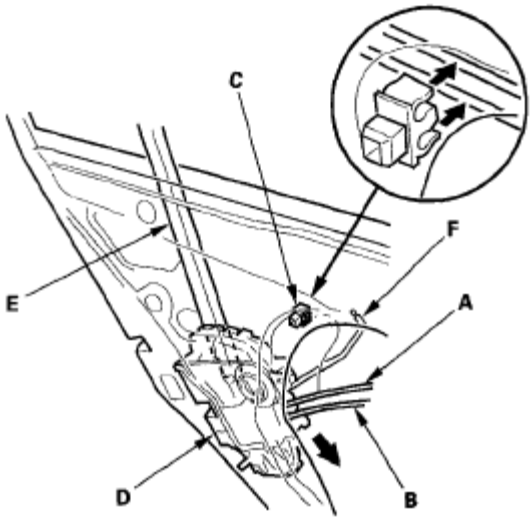



**Fig. 69: Detaching Latch Cable And Inner Handle Cable From Holder**

8. Remove the screw, then remove the latch protector (A) by releasing the hook (B).

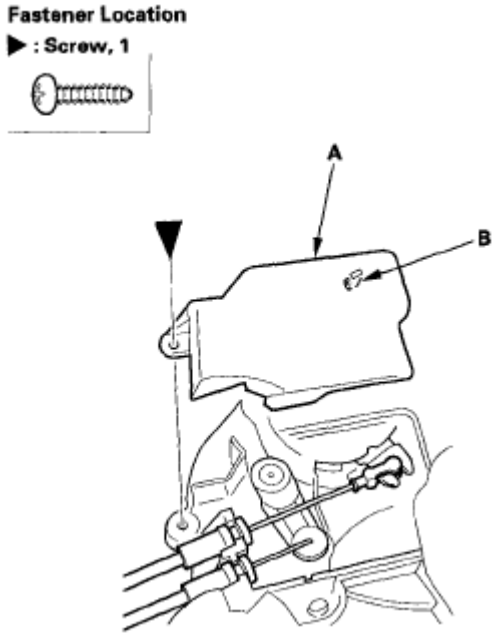



**Fig. 70: Removing Latch Protector**

9. Detach the latch cable (A) and the inner handle cable (B) from the latch (C).

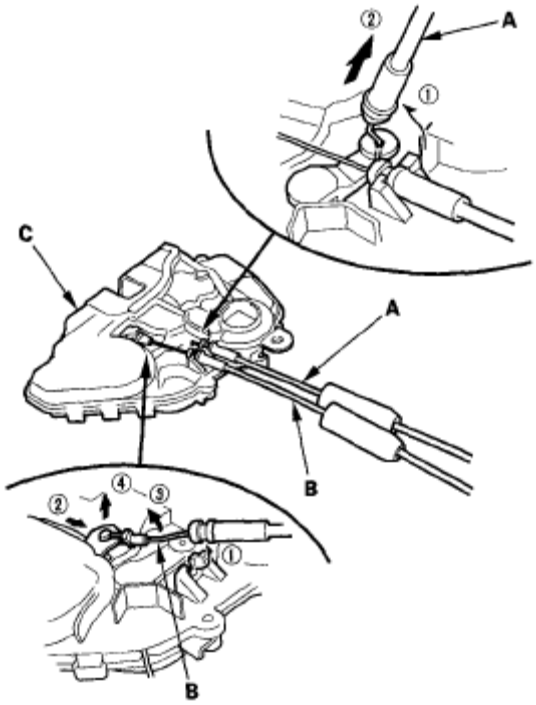



**Fig. 71: Detaching Latch And Inner Handle Cable From Latch**

10. Install the latch in the reverse order of removal, and note these items:
    - Make sure the connector is plugged in properly, and each rod is connected securely.
    - Make sure the door locks and opens properly.
    - When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
    - Check for water leaks.

## REAR DOOR GLASS AND REGULATOR REPLACEMENT

**4-DOOR**

**NOTE: Put on gloves to protect your hands.**

1. Remove the door panel (see **REAR DOOR PANEL REMOVAL/INSTALLATION** ).
2. Detach the harness clip (A), and disconnect the power door lock actuator connector (B). Remove the plug caps(C).

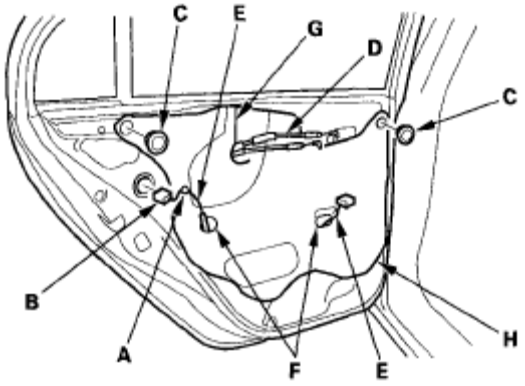



**Fig. 72: Detaching Harness Clip And Disconnecting Power Door Lock Actuator Connector**

3. Pass the cable (D) and the harnesses (E) through the holes (F) and slit (G) in the plastic cover (H), then remove it.
4. Carefully move the glass (A) until you can see the bolts, then remove them. Release the glass from the holder (B), then remove it from the regulator (C), and carefully lower the glass. Take care not to drop the glass inside the door.

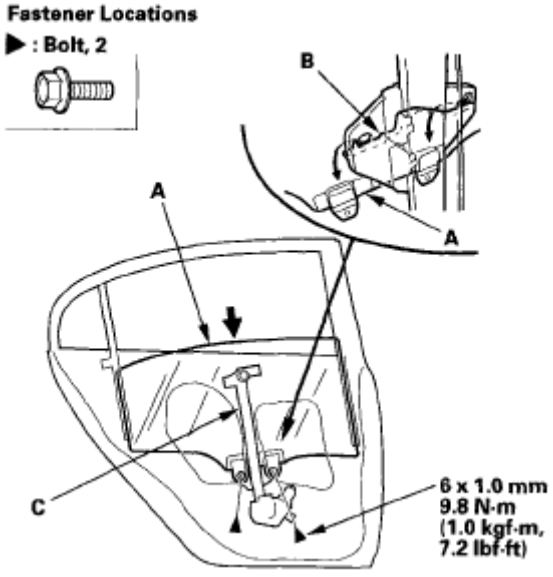



**Fig. 73: Removing Glass And Bolts (With Specifications)**

5. Remove the bolt (A) from the rear lower channel (B). Pull the glass run channel (C) away as needed, and remove the screw (D).

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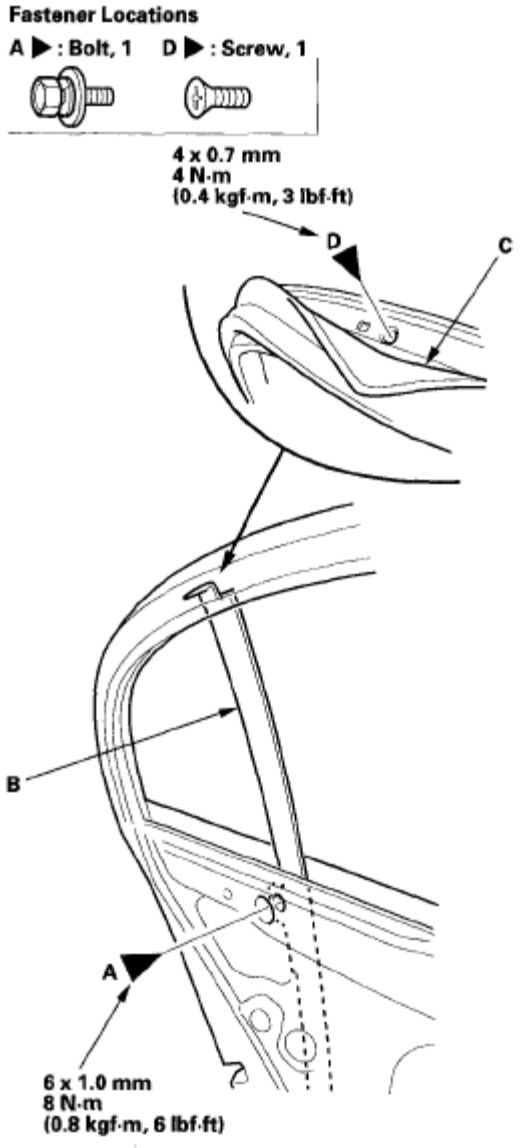



**Fig. 74: Removing Rear Lower Channel Bolt (With Specifications)**

6. Pull the glass run channel (A) away as needed. Pull the rear lower channel (B) forward from the quarter glass seal (C) then release the upper hook (D) from the door. Remove the rear lower channel from the rear door glass (E), then pull the channel up to remove it.

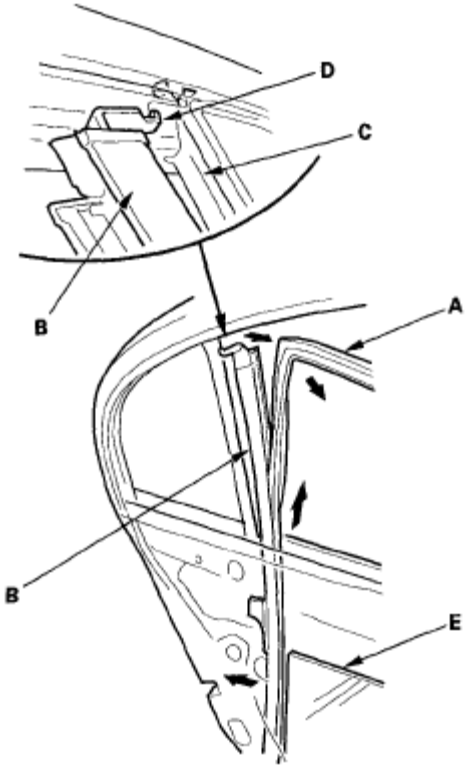



**Fig. 75: Removing Rear Lower Channel From Rear Door Glass**

7. Remove the rear lower channel (A) from the glass run channel (B).

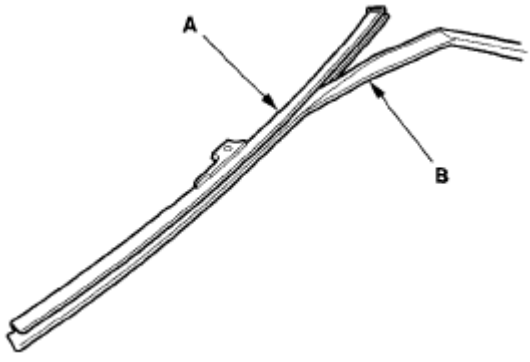



**Fig. 76: Removing Rear Lower Channel From Glass Run Channel**

8. Carefully remove the glass (A) out through the window slot. Take care not to drop the glass inside the door.

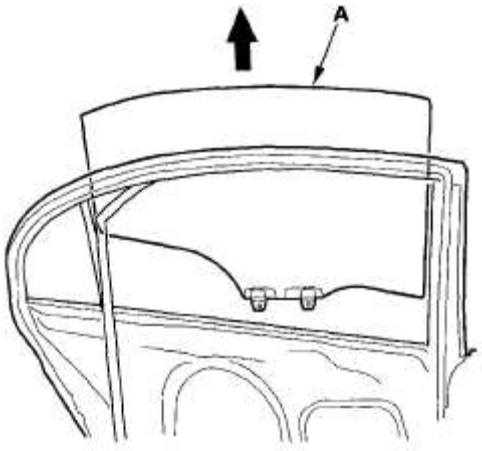



**Fig. 77: Removing Glass Out Through Window Slot**

9. Remove the quarter glass (A). Take care not to damage the outer weatherstrip (B).

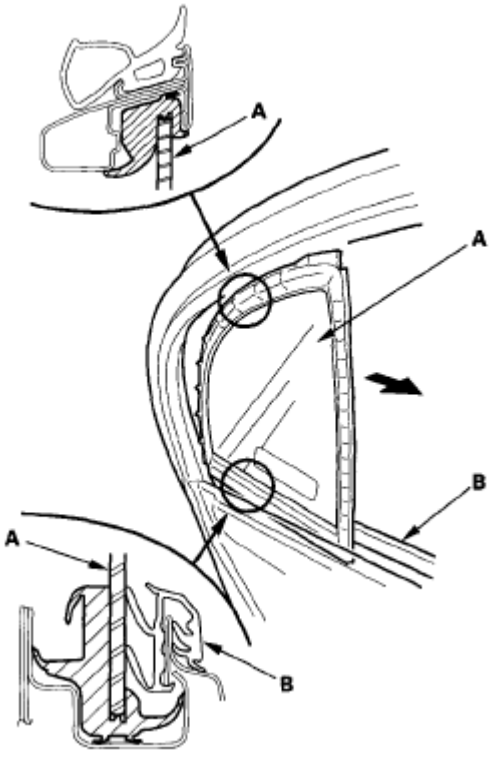



**Fig. 78: Removing Quarter Glass**

10. Disconnect the connector (A) from the regulator (B).

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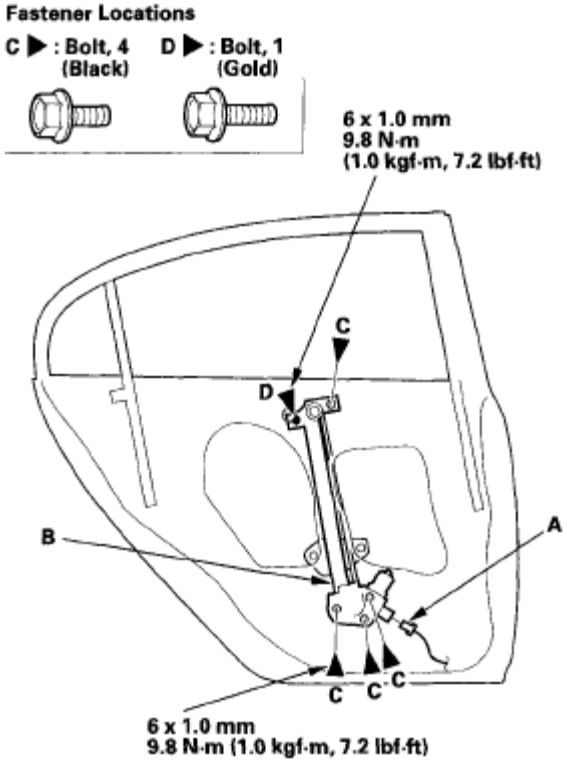



**Fig. 79: Disconnecting Connector From Regulator**

11. Remove the bolts (C), and loosen the bolt (D), then remove the regulator through the hole in the door.
12. Grease all the sliding surfaces of the regulator (A) where shown.

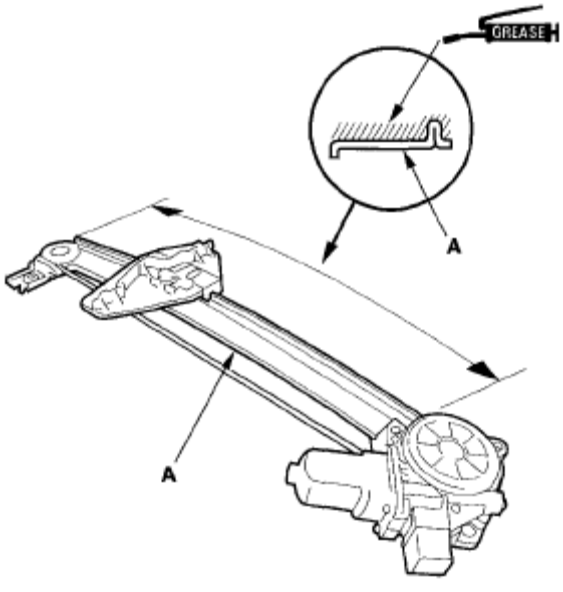


**Fig. 80: Applying Grease To Sliding Surfaces Of Regulator**

13. Install the glass and regulator in the reverse order of removal, and note these items:
    - Roll the glass up and down to see if it moves freely without binding.
    - Make sure that there is no clearance between the glass and glass run channel when the glass is closed.
    - Adjust the position of the glass as necessary (see **FRONT AND REAR DOOR GLASS ADJUSTMENT** ).
    - When reinstalling the door panel, make sure the plastic cover is installed properly and sealed around its outside perimeter to seal out water.
    - Check for water leaks (see step 7 in **FRONT AND REAR DOOR GLASS ADJUSTMENT** ).

## REAR DOOR GLASS OUTER WEATHERSTRIP REPLACEMENT

**4-DOOR**

**NOTE:**
- **Put on gloves to protect your hands.**
- **Take care not to scratch the door.**

1. Remove these items:
    - Door panel (see **REAR DOOR PANEL REMOVAL/INSTALLATION** )
    - Plastic cover (see step 4 in **REAR DOOR OUTER HANDLE REPLACEMENT** )
    - Rear door glass (see **REAR DOOR GLASS AND REGULATOR REPLACEMENT** )
    - Quarter glass (see step 9 in **REAR DOOR GLASS AND REGULATOR REPLACEMENT** )
2. Release the front hook (A) from inside of the door, then pull up the front portion of the rear door glass outer weatherstrip (B).

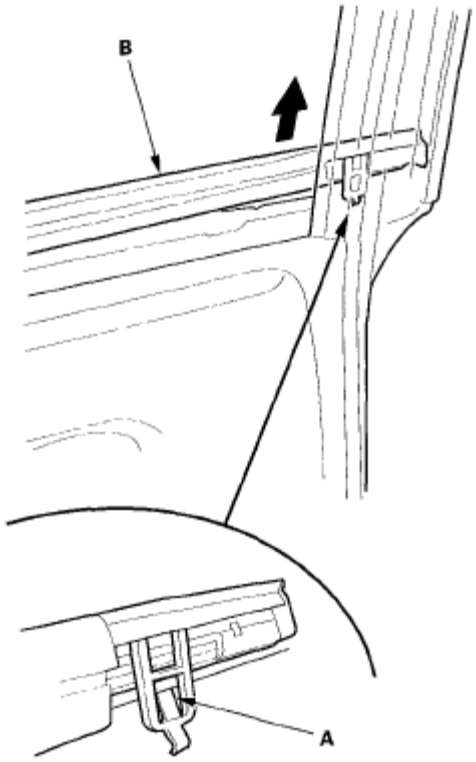



**Fig. 81: Releasing Front Hook From Inside Of Door**

3. Starting at the front, slowly pull up the rear door glass outer weatherstrip (A).

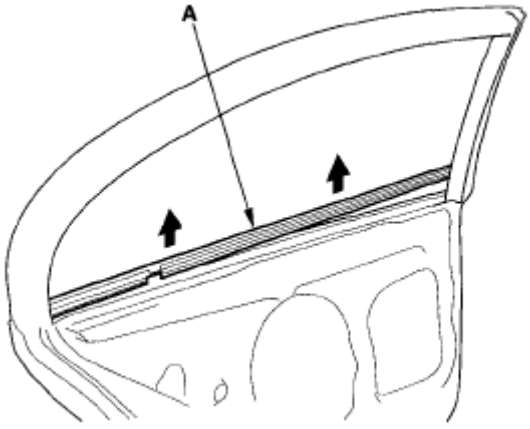



**Fig. 82: Pulling Rear Door Glass Outer Weatherstrip**

4. Push the rear hook (A) out from inside of the door, then remove the rear door glass outer weatherstrip (B).

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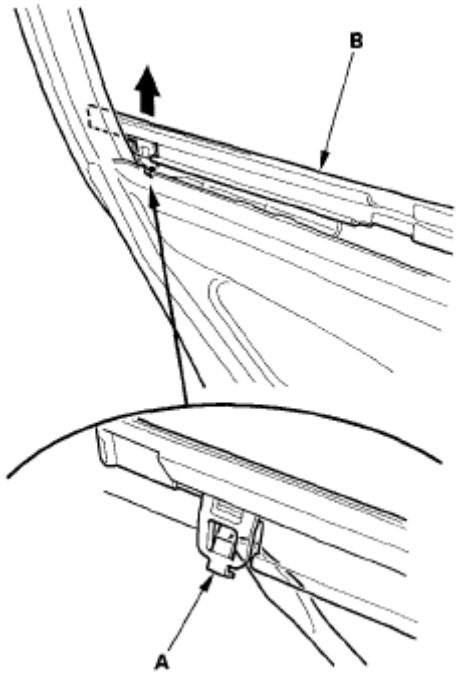



**Fig. 83: Removing Rear Door Glass Outer Weatherstrip**

5. Push the clip portions of the rear door glass outer weatherstrip into place securely.

## REAR DOOR WEATHERSTRIP REPLACEMENT

**4-DOOR**

**NOTE:**

- **Put on glove to protect your hands.**
- **Take care not to scratch the door.**
- **Use a clip remover to remove the clips.**

1. At the B-pillar, remove the door checker mounting bolt (A).

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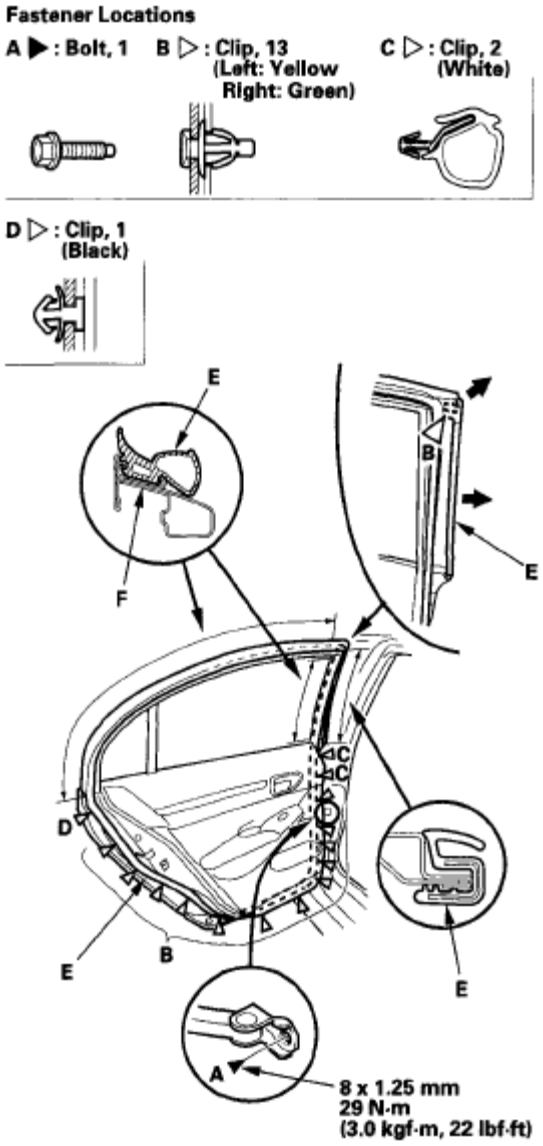



**Fig. 84: Removing Door Checker Mounting Bolt (With Specifications)**

2. Detach the clips (B, C, D), then remove the door weatherstrip (E).
3. Install the weatherstrip in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Make sure the weatherstrip is installed in the holder (F) securely.
   - Apply medium strength type liquid thread lock to the door checker mounting bolt before installation.
   - Check for water leaks.

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## FRONT AND REAR DOOR GLASS ADJUSTMENT

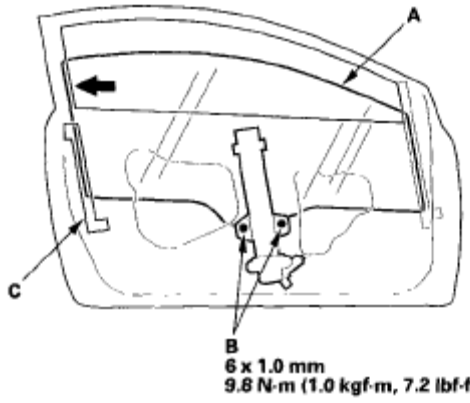
**NOTE: Check the weatherstrip and glass run channel for damage or deterioration, and replace them if necessary.**

1. Place the vehicle on a firm, level surface.
2. Remove these items:
   - Door panel:
     - 2-door (see **2-door** )
     - 4-door front door (see **4-door** )
     - 4-door rear door (see **4-door** )
   - Plastic cover:
     - Front door (see step 4 in **FRONT DOOR OUTER HANDLE REPLACEMENT** )
     - Rear door (see step 4 in **REAR DOOR OUTER HANDLE REPLACEMENT** )
3. Carefully move the glass (A) until you can see the glass mounting bolts (B), then loosen them.

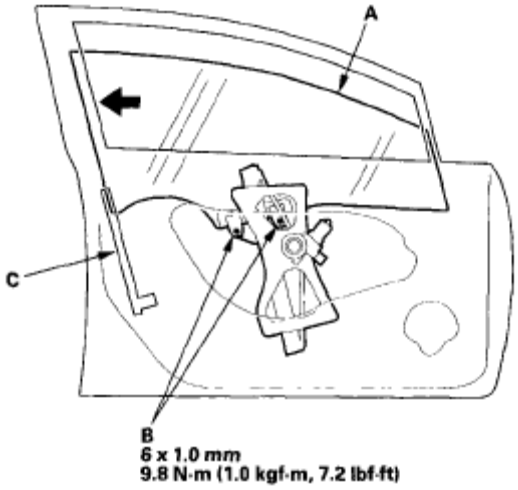
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**2-door**




**4-door front**




**4-door rear**

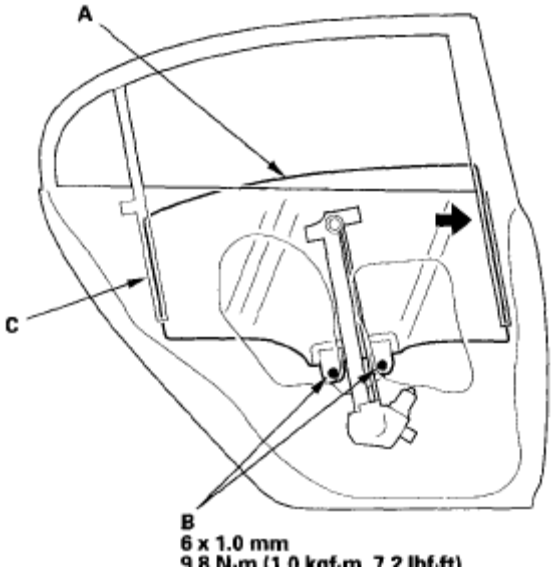


**Fig. 85: Moving Glass (With Specifications)**

4. Push the glass against the channel (C), then tighten the glass mounting bolts.
5. Check that the glass moves smoothly.
6. Raise the glass fully, and check for gaps. Also make sure that the glass (A) contacts the glass run channel (B) evenly.

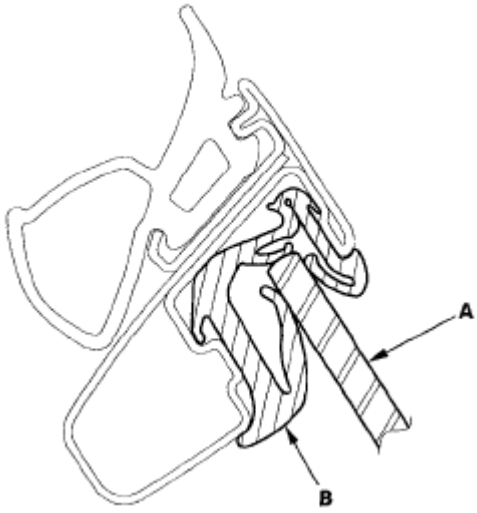



**Fig. 86: Checking Glass Contacts Glass Run Channel**

7. Check for water leaks. Run water over the roof and on the sealing area as shown, and note these items:
   - Use a 12 mm (0.47 in.) diameter hose (A).
   - Adjust the rate of water flow as shown (B).
   - Do not use a nozzle.
   - Hold the hose about 300 mm (12 in.) away from the door (C).

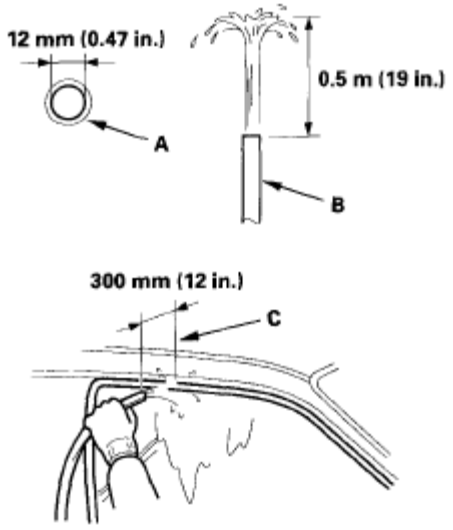



**Fig. 87: Checking For Water Leaks (With Specifications)**

8. Attach the plastic cover making sure it is sealed around its outside perimeter to seal out water. Recheck for water leaks, then install the door panel
   - 2-door (see **2-door** )
   - 4-door front door (see **4-door** )
   - 4-door rear door (see **4-door** )

## FRONT AND REAR DOOR POSITION ADJUSTMENT

**NOTE: Check for a flush fit with the body, then check for equal gaps between the front, rear, and bottom door edges and the body. Check that the door and body edges are parallel. Before adjusting, replace the mounting bolts.**

1. Place the vehicle on a firm, level surface when adjusting the doors.
2. Adjust at the hinges (A):
   - Pad a floor jack (B) with shop towels (C), then use the jack to support the door to prevent damage to the door while adjusting it.
   - On the front door: Remove the front inner fender, 2-door (see **FRONT INNER FENDER REPLACEMENT** ), 4-door (see **4-DOOR** ). Loosen the hinge mounting bolts (D) slightly, and move the door backward or forward, up or down as necessary to equalize the gaps.

- On the rear door: Loosen the hinge mounting bolts (E) slightly, and move the door backward or forward, up or down as necessary to equalize the gaps.
- Attach the plastic cover making sure it is sealed around its outside perimeter to seal out water. Recheck for water leaks, then install the door panel.

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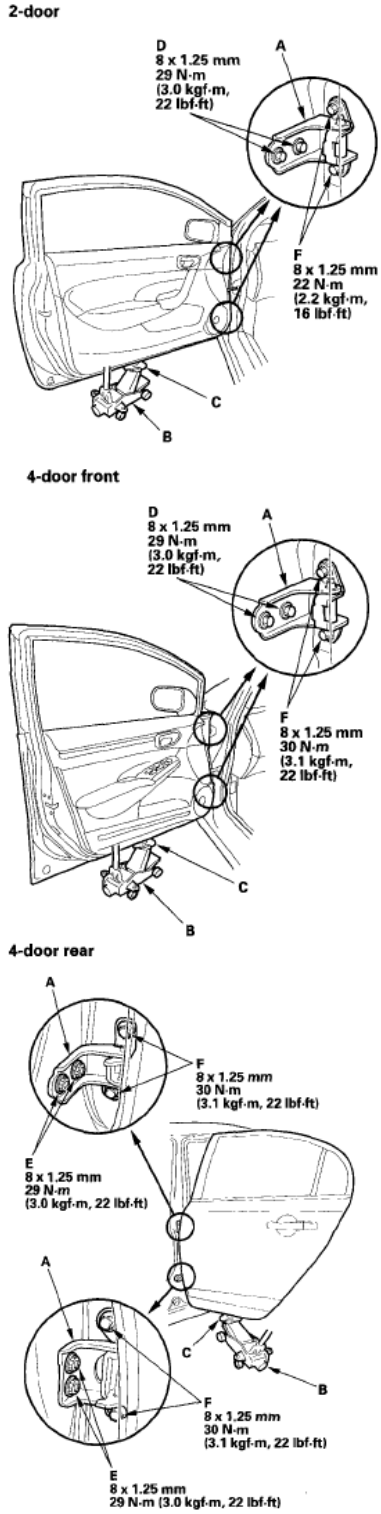



**Fig. 88: Adjusting Front And Rear Door Hinges (With Specifications)**

3. If necessary, replace the door mounting bolts with the adjusting bolts (P/N

90102-SFA-305) made specifically for door adjustment, then adjust at the door: Loosen the door mounting bolts (F) slightly, and move the door up or down as necessary to equalize the gaps, and move it in or out until it's flush with the body.

4. Check that the door and body edges are parallel. If necessary, adjust the door cushions (A) to make the rear of the doors flush with the body.

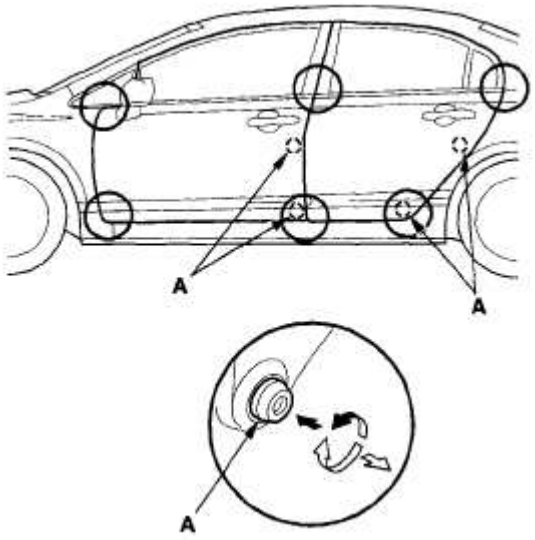



**Fig. 89: Adjusting Door Cushions**

5. Apply touch-up paint to the hinge mounting bolts, and around the hinges.
6. Check for water leaks (see step 7 in **FRONT AND REAR DOOR GLASS ADJUSTMENT** ).

## FRONT AND REAR DOOR STRIKER ADJUSTMENT

Make sure the door latches securely without slamming it. If necessary, adjust the striker (A): The striker nuts are fixed, but the striker can be adjusted slightly up or down, and in or out.

1. Loosen the screws (B).

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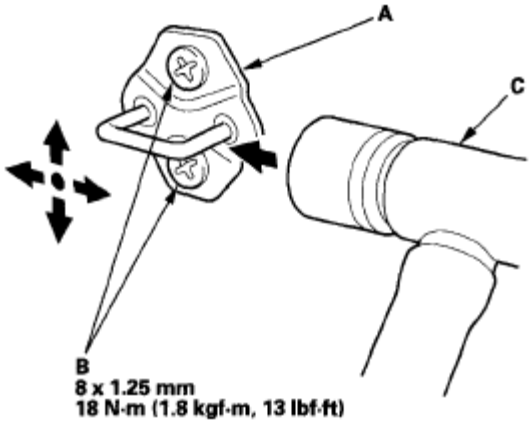



**Fig. 90: Loosening Screws Of Front And Rear Door Striker**

2. Wrap the striker with a shop towel, then adjust the striker by tapping it with a plastic hammer (C). Do not tap the striker too hard.
3. Lightly tighten the screws.
4. Hold the outer handle out, and push the door against the body to be sure the striker allows a flush fit. If the door latches properly, tighten the screws and recheck.

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# 2006-08 DRIVELINE/AXLES

## Driveline/Axle - Civic (All Except Hybrid)

## SPECIAL TOOLS

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07GAD-PH70201 | Oil Seal Driver | 1 |
| ② | 07NAF-SR30101 | Half Shaft Base | 1 |
| ③ | 07XAC-001010A | Threaded Adapter, 22 x 1.5 mm | 1 |
| ④ | 07XAC-001020A | Threaded Adapter, 24 x 1.5 mm | 1 |
| ⑤ | 07746-0010400 | Attachment, 52 x 55 mm | 1 |
| ⑥ | 07746-0030400 | Attachment, 35 mm I.D. | 1 |
| ⑦ | 07749-0010000 | Driver | 1 |
| ⑧ | 07947-SB00100 | Oil Seal Driver | 1 |

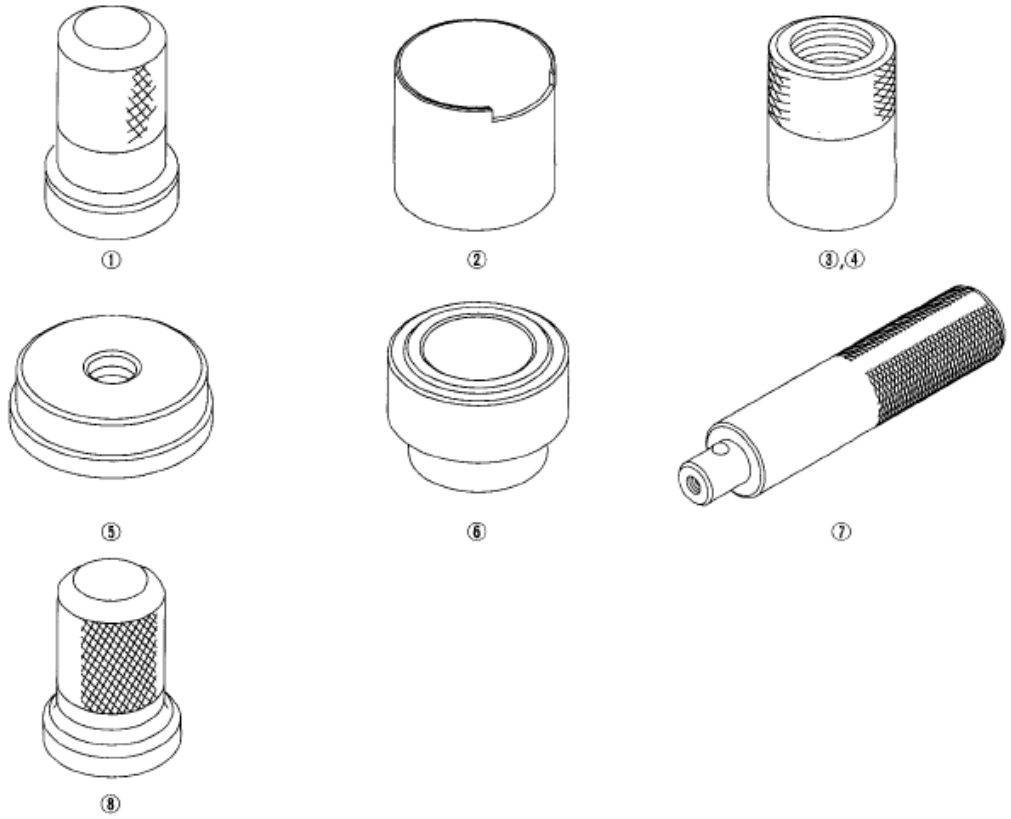



**Fig. 1: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## COMPONENT LOCATION INDEX

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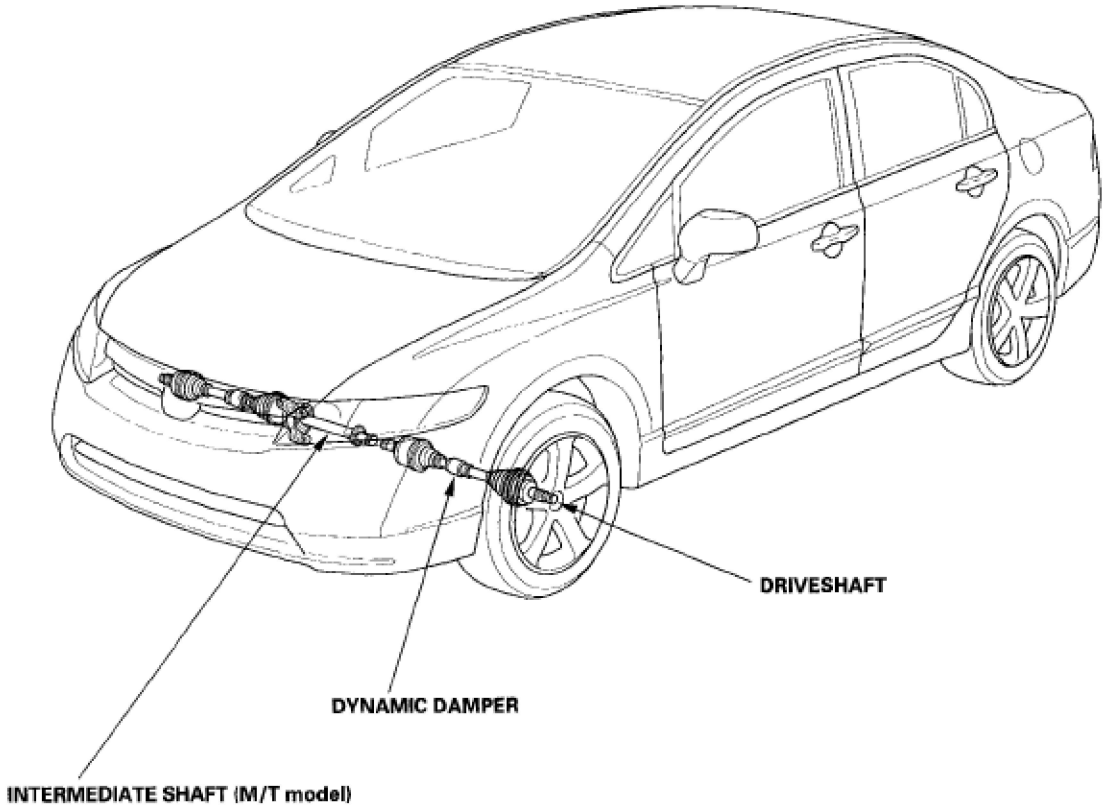



**Fig. 2: Identifying Driveline/Axle Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DRIVESHAFT INSPECTION

1. Check the inboard boot (A) and the outboard boot (B) for cracks, damage, leaking grease, and loose boot bands (C). If any damage is found, replace the boot and boot bands.

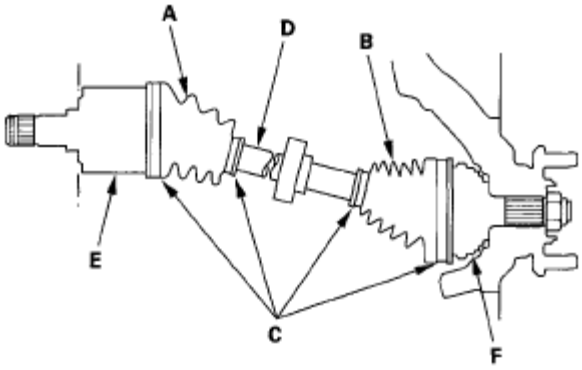



**Fig. 3: Checking Inboard Boot And Outboard Boot For Cracks, Damage, Leaking Grease**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check the driveshaft (D) for cracks and damage. If any damage is found, replace the driveshaft.
3. Check the inboard joint (E) and the outboard joint (F) for cracks and damage. If any damage is found, replace the inboard joint or the outboard joint as an assembly.
4. Hold the inboard joint and turn the front wheel by hand, then make sure the joint is not excessively loose. If necessary, replace the inboard joint or the outboard joint as an assembly.

## DRIVESHAFT REMOVAL

1. Raise the vehicle on the hoist.
2. Remove the front wheels.
3. Lift up the locking tab (A) on the spindle nut (B), then remove the nut.

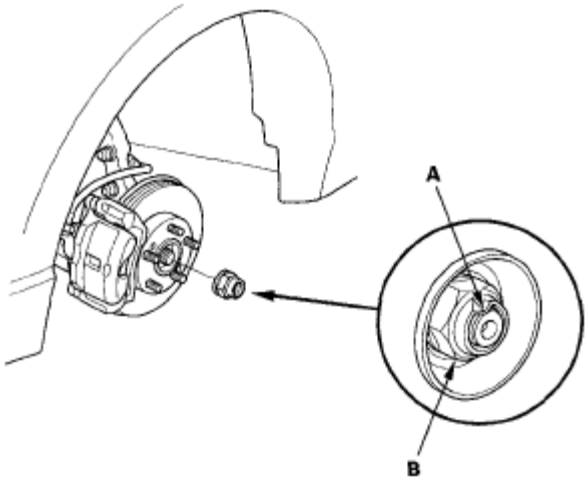



**Fig. 4: Identifying Driveshaft Spindle Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Drain the transmission fluid. Reinstall the drain plug with a new washer:
   - 5-speed Manual transmission (except Si) (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** )
   - 6-speed Manual transmission (Si) (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
   - Automatic transmission (see **ATF REPLACEMENT** )
5. Remove the nuts and bolt, then separate the lower arm with a prybar.

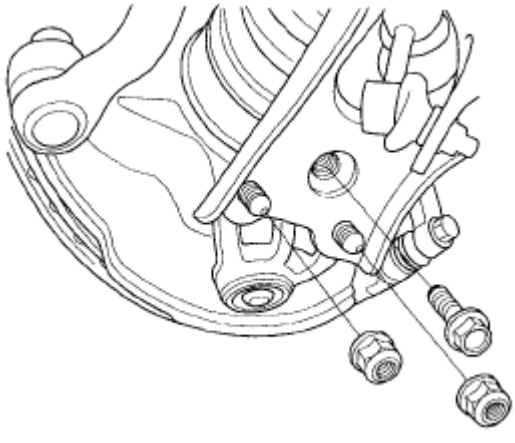


**Fig. 5: Identifying Lower Arm Nuts And Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the driveshaft outboard joint from the front wheel hub using a plastic

hammer.

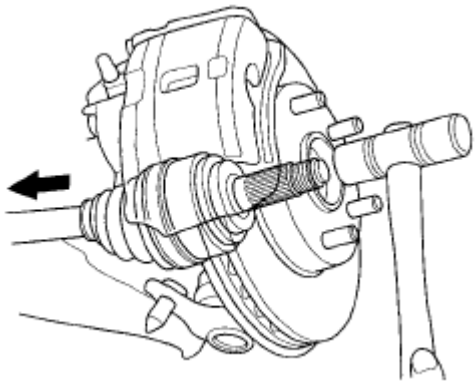


**Fig. 6: Taping Driveshaft Outboard Joint**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Pull the knuckle outward, and remove the driveshaft outboard joint from the front wheel hub.

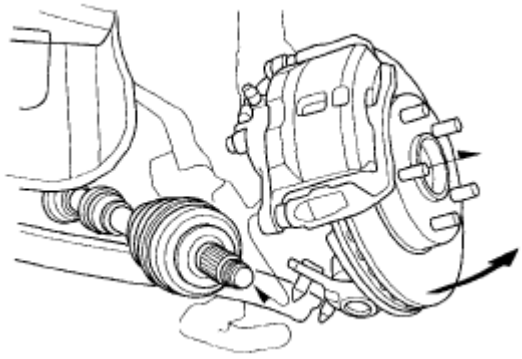


**Fig. 7: Identifying Driveshaft Outboard Joint**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Right driveshaft: Drive the inboard joint (A) off of the intermediate shaft using a drift and hammer (M/T model). Pry the inboard joint (B) from the transmission housing with a prybar (A/T model). Remove the driveshaft as an assembly.

**NOTE: Do not pull on the driveshaft (C) or the inboard joint may come apart. Pull the driveshaft straight out to avoid damaging the oil seal.**

**M/T model:**

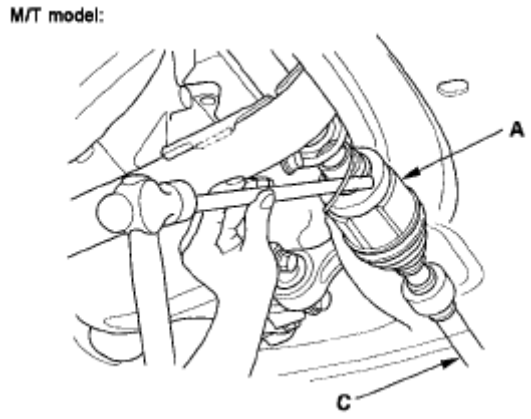



**Fig. 8: Taping Inboard Joint - M/T Model**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**A/T model:**

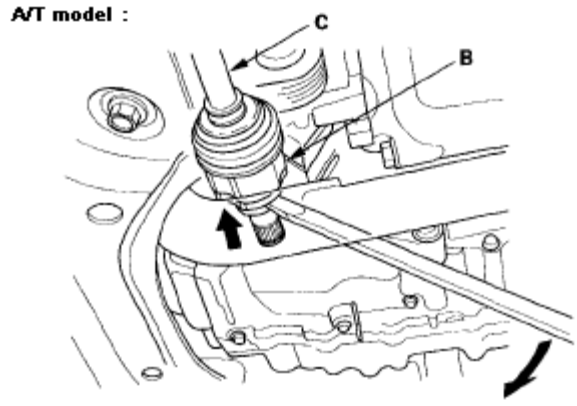



**Fig. 9: Prying Inboard Joint - A/T Model**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Left driveshaft: Pry the inboard joint (A) from the transmission housing with a prybar. Remove the driveshaft as an assembly.

**NOTE: Do not pull on the driveshaft (B) or the inboard joint may come apart. Pull the driveshaft straight out to avoid damaging the oil seal.**

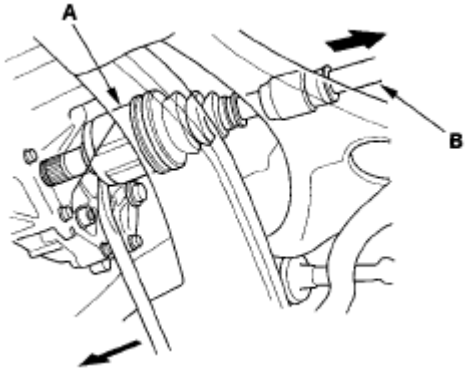



**Fig. 10: Pulling Driveshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DRIVESHAFT DISASSEMBLY

### Special Tools Required

- Threaded adapter, 22 x 1.5 mm 07XAC-001010A
- Threaded adapter, 24 x 1.5 mm 07XAC-001020A
- Slide hammer, 5/8"-18 UNF, commercially available

**INBOARD JOINT SIDE**

1. Remove the set ring (A) from the inboard joint.

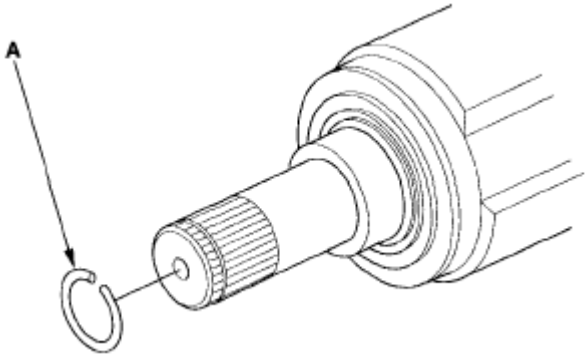



**Fig. 11: Identifying Set Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the boot bands. Be careful not to damage the boot.
   - If the boot band is a welded type (A), cut the boot band.

- If the boot band is a double loop type (B), lift up the band bend (C), and push it into the clip (D).
- If the boot band is a low profile type (E), pinch the boot band using the commercially available boot band pliers (F).

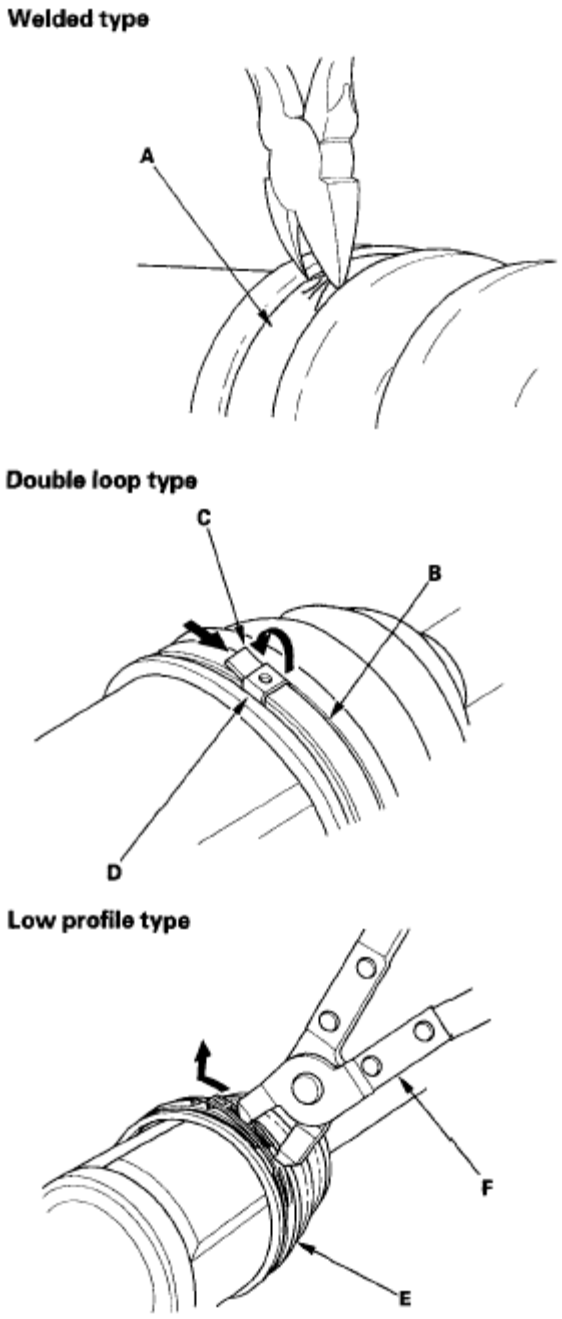



**Fig. 12: Identifying Boot Band - Welded Type**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Make marks (A) on each roller (B) and inboard joint (C) to identify the locations of rollers and grooves in the inboard joint. Then remove the inboard joint on the shop towel (D). Be careful not to drop the rollers when separating them from the inboard joint.

**NOTE: Do not engrave or scribe marks on the rolling surfaces.**

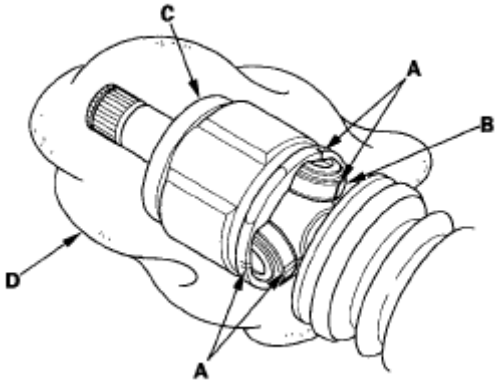



**Fig. 13: Identifying Scribe Marks On Rolling Surfaces**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Use a paint pen to make marks (A) on the rollers (B) and spider (C) to identify the locations of the rollers on the spider, then remove the rollers.

**NOTE: Do not engrave or scribe marks on the rolling surfaces.**

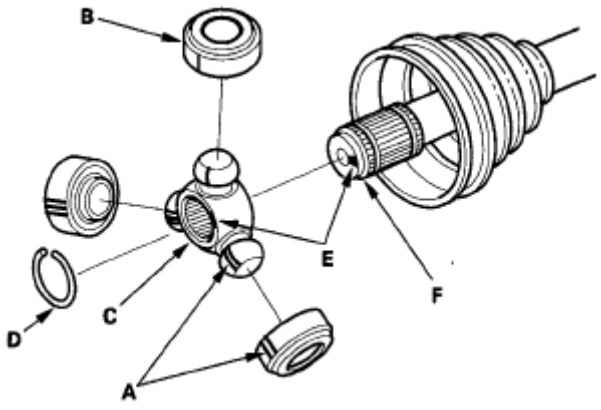



**Fig. 14: Identifying Driveshaft Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the circlip (D).
6. Mark (E) the spider and driveshaft (F) to identify the position of the spider on the shaft.
7. Remove the spider.
8. Wrap the splines on the driveshaft with vinyl tape (A) to prevent damaging to the boot.

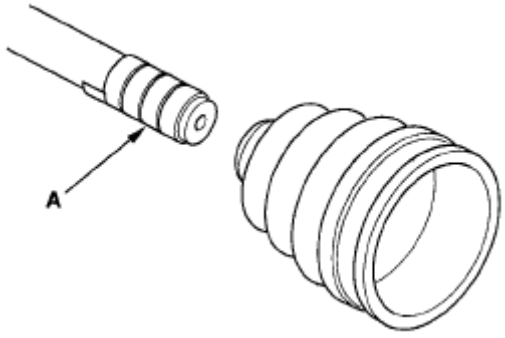



**Fig. 15: Identifying Driveshaft Vinyl Tape**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the inboard boot. Be careful not to damage the boot.
10. Remove the vinyl tape.

**Outboard Joint Side:**

1. Remove the boot bands (A). Lift up the three tabs (B) with a screwdriver. Be careful not to damage the boot.

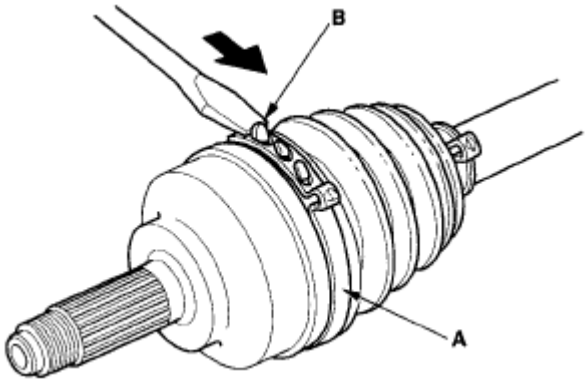



**Fig. 16: Identifying Boot Bands**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Slide the outboard boot (A) partially to the inboard joint side. Be careful not to damage the boot.

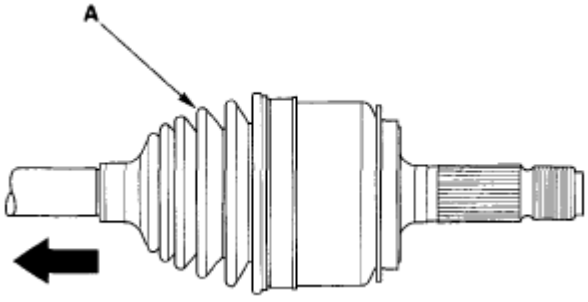



**Fig. 17: Identifying Outboard Boot**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Wipe off the grease to expose the driveshaft and the outboard joint inner race.
4. Make a mark (A) on the driveshaft (B) at the same level as the outboard joint rim (C).

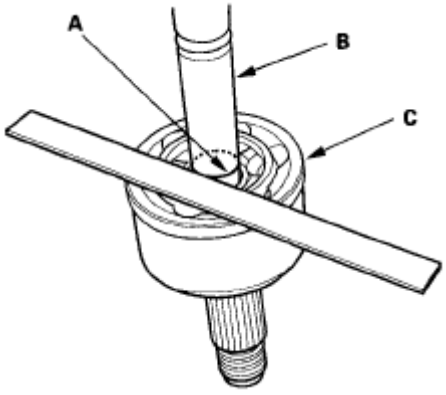



**Fig. 18: Identifying Make A Mark On Driveshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Securely clamp the driveshaft in a bench vise with a shop towel.

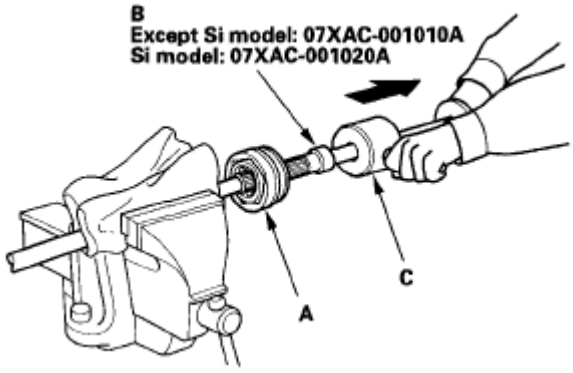



**Fig. 19: Clamping Driveshaft In Bench Vise**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the outboard joint (A) using the threaded adapter (B) and a commercially available 5/8"-18 UNF slide hammer (C).
7. Remove the driveshaft from the bench vise.
8. Remove the stop ring from the driveshaft.

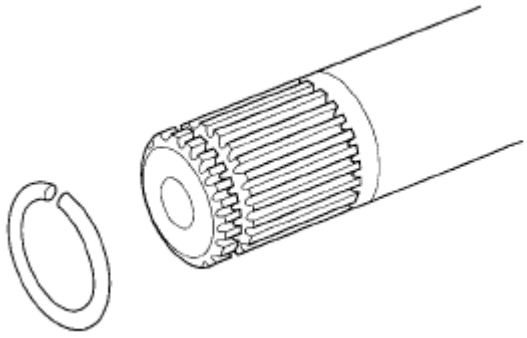


**Fig. 20: Identifying Stop Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Wrap the splines on the driveshaft with vinyl tape (A) to prevent damaging to the boot.

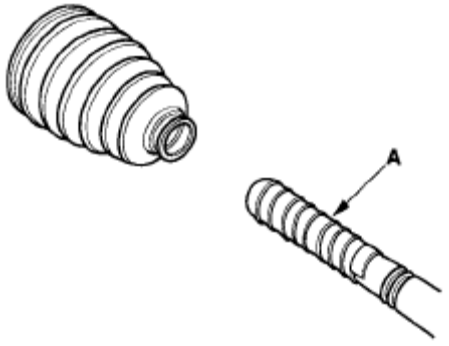



**Fig. 21: Identifying Driveshaft Vinyl Tape**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the outboard boot. Be careful not to damage the boot.
11. Remove the vinyl tape.

## DYNAMIC DAMPER REPLACEMENT

1. Remove the inboard joint (see **INBOARD JOINT SIDE** ).
2. Remove the double loop band or low profile bands (see step 2 ).
   - If the band is a welded type, cut the band.
   - If the band is a double loop type, lift up the band bend, and push it into the clip.
   - If the band is a low profile type, pinch the band using a commercially available boot band pliers.
3. Remove the dynamic damper. Type A

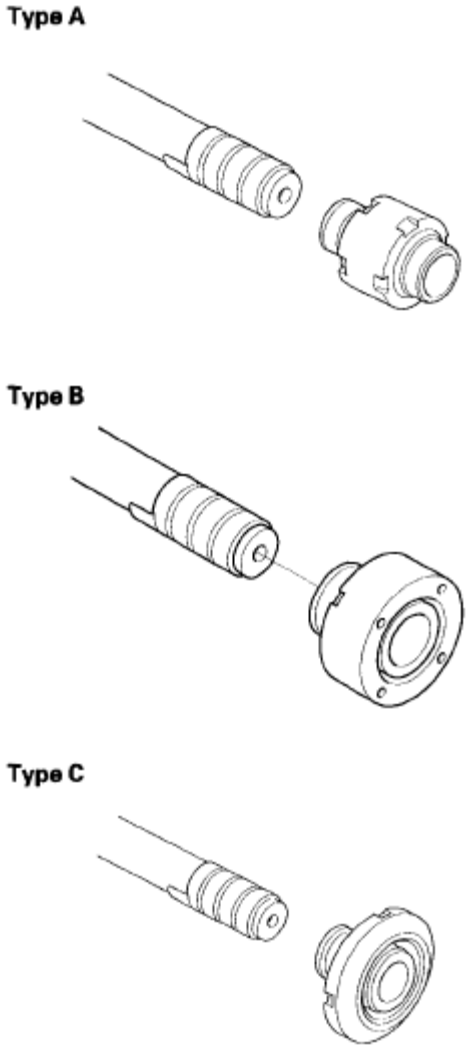



**Fig. 22: Identifying Dynamic Damper**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DYNAMIC DAMPER TYPE

| Model | Factory | | Type |
|---|---|---|---|
| 5-speed M/T Model (Except Si) | Suzuka Factory | Right | Type A |
| | | Left | Type A |
| | Except Suzuka Factory | Right | Type A |
| | | Left | Type A |
| 6-speed M/T Model (Si) | | Right | Type B |
| | | Left | Type B |
| | | Right | Type A |

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| | | | |
|---|---|---|---|
| A/T Model | Suzuka Factory | Left | Type C |
| | Except Suzuka Factory | Right | Type A |
| | | Left | Type C |

4. Install the new dynamic damper and adjust the position of the new dynamic damper to these measurements

**NOTE: Be careful not to swap the dynamic damper.**

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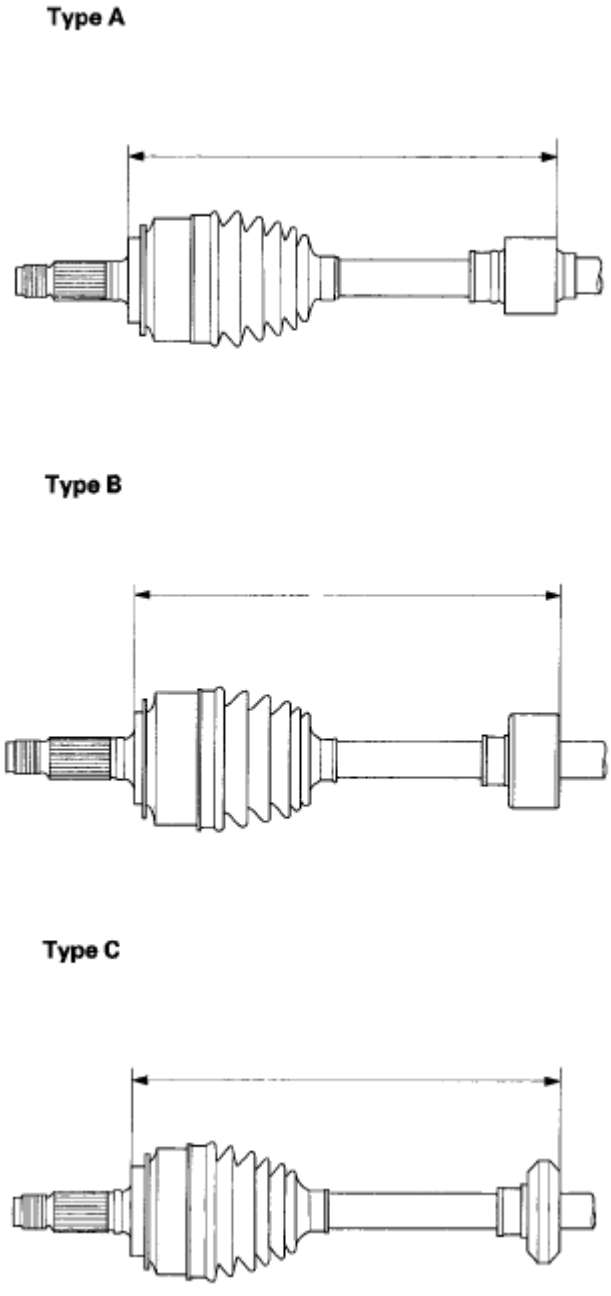



**Fig. 23: Identifying Dynamic Damper Dimension**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DYNAMIC DAMPER POSITION

| Model | Factory | | Type | Measurement |
|---|---|---|---|---|
| | Suzuka Factory | Right | Type A | 292.5-297.5 mm (11.70-11.90 in.) |
| | | | | |

| | | | | |
|---|---|---|---|---|
| 5-speed M/T Model (Except Si) | | Left | Type A | 292.5-297.5 mm (11.70-11.90 in.) |
| | Except Suzuka Factory | Right | Type A | 293.0-297.0 mm (11.72-11.88 in) |
| | | Left | Type A | 293.0-297.0 mm (11.72-11.88 in.) |
| 6-speed M/T Model (Si) | | Right | Type B | 284.0-288.0 mm (11.18-11.34 in.) |
| | | Left | Type B | 284.0-288.0 mm (11.18-11.34 in.) |
| A/T Model | Suzuka Factory | Right | Type A | 558.0-563.0 mm (22.32-22.52 in.) |
| | | Left | Type C | 274.5-279.5 mm (10.98-11.18 in.) |
| | Except Suzuka Factory | Right | Type A | 558.5-562.5 mm (22.34-22.50 in.) |
| | | Left | Type C | 275.0-279.0 mm (11.00-11.18 in.) |

5. Install the dynamic damper band (see step 10 ).
6. Install the inboard joint (see **INBOARD JOINT SIDE** ).

## DRIVESHAFT REASSEMBLY

### EXPLODED VIEW

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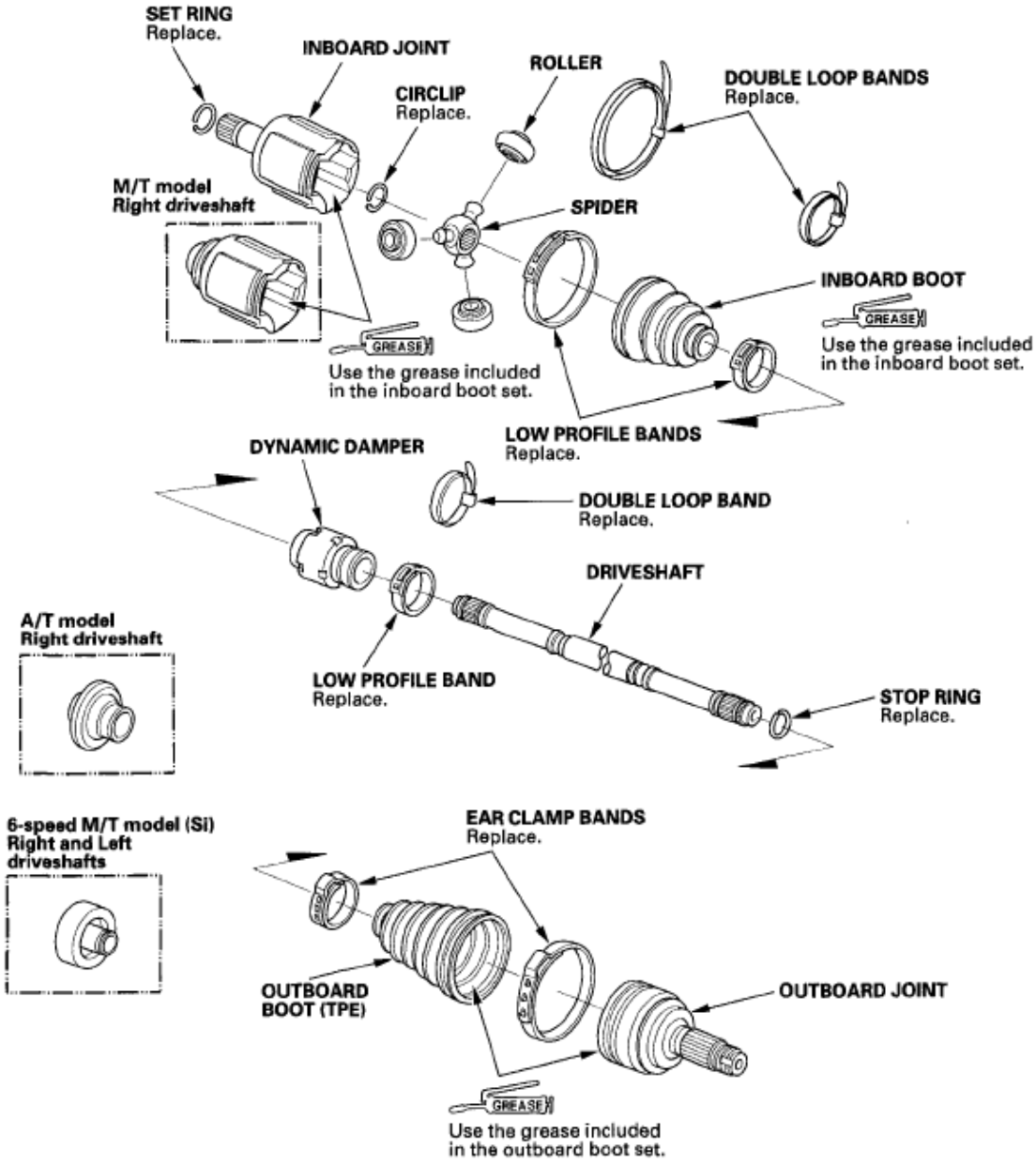



**Fig. 24: Exploded View Of Driveshaft Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Boot band tool, KD-3191 or equivalent commercially available
- Boot band pliers, Kent-Moore J-35910 or equivalent commercially available

**NOTE: Refer to the exploded view, as needed, during this**

**procedure. See Fig. 24.**

**INBOARD JOINT SIDE**

1. Wrap the splines with vinyl tape (A) to prevent damaging to the inboard boot.

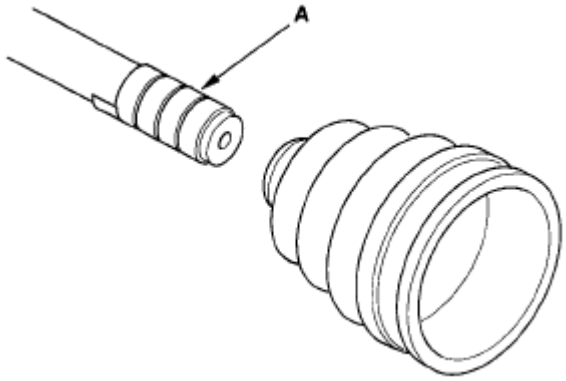



**Fig. 25: Identifying Splines With Vinyl Tape**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the inboard boot onto the driveshaft, then remove the vinyl tape. Be careful not to damage the inboard boot.
3. Install the spider (A) onto the driveshaft by aligning the marks (B) you made on the spider and the end of the driveshaft.

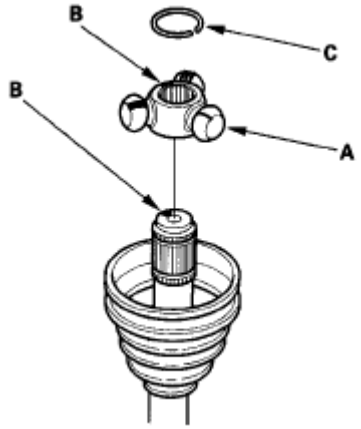



**Fig. 26: Aligning Marks On Spider Of Driveshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Fit the circlip (C) into the driveshaft groove. Always rotate the circlip in its

groove to make sure it is fully seated.

5. Fit the rollers (A) onto the spider (B) with the high shoulders facing outward, and note these items:
   - Reinstall the rollers in their original positions on the spider by aligning the marks (C) you made.
   - Hold the driveshaft pointed up to prevent the rollers from falling off.

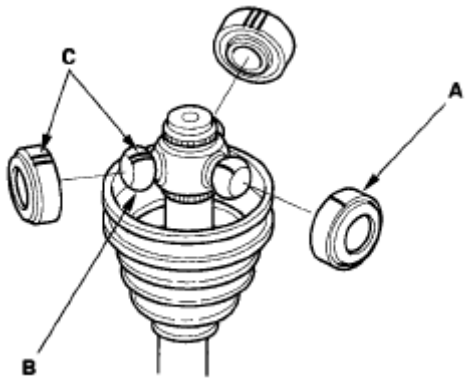



**Fig. 27: Identifying Marks Driveshaft Spider**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Pack the inboard joint with the joint grease included in the new in board boot set.

**Grease quantity**

**Inboard joint**

**5-speed M/T model (except Si):**

**130-140 g {4.6-4.9 oz)**

**6-speed M/T model(Si):**

**180-200 g (6.3-7.0 oz)**

**A/T model:**

**100-110 g (3.5-3.9 oz)**

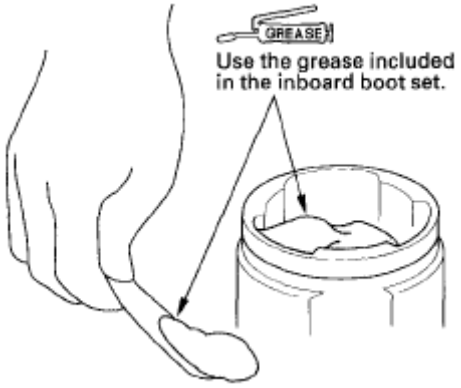



**Fig. 28: Identifying Area Applying Grease**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Fit the inboard joint onto the driveshaft and note these items:
   - Reinstall the inboard joint onto the driveshaft by aligning the marks (A) you made on the inboard joint and the rollers.
   - Hold the driveshaft so the inboard joint is pointing up to prevent it from falling off.

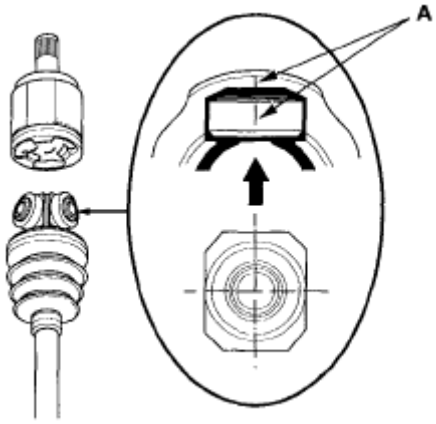



**Fig. 29: Identifying Marks On Inboard Joint And Rollers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Fit the boot (A) ends onto the driveshaft (B) and the inboard joint (C).

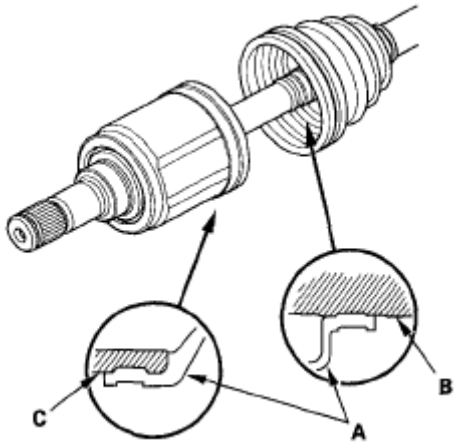



**Fig. 30: Locating Driveshaft And Inboard Joint**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Adjust the length of the driveshaft to the figure that is on the chart, then adjust the boots to halfway between full compression and full extension.

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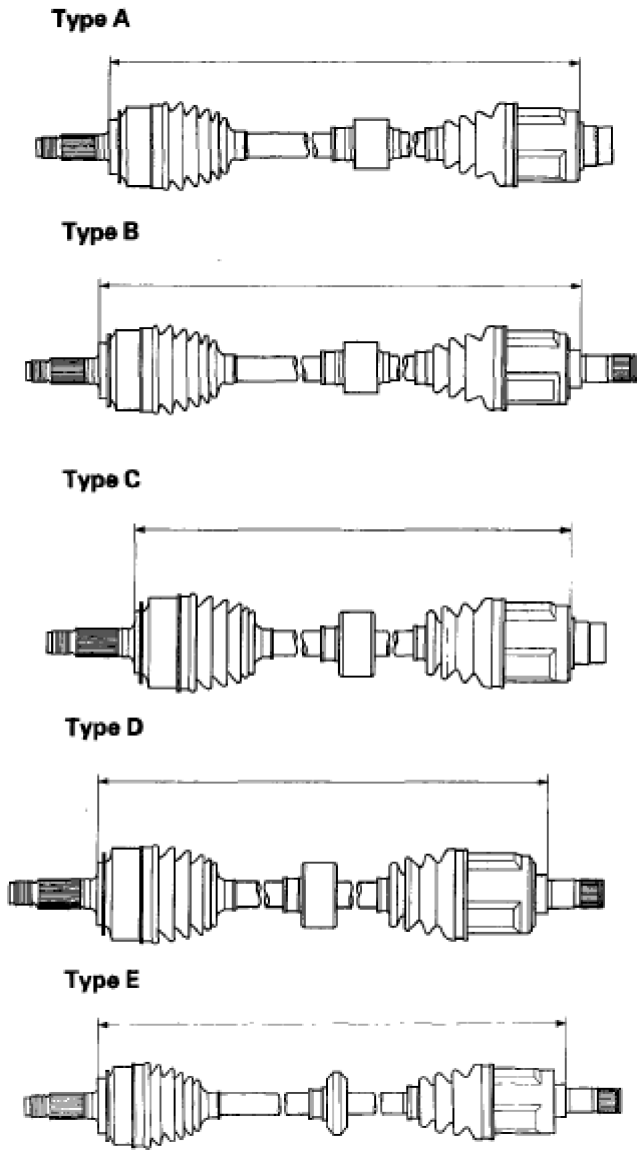



**Fig. 31: Identifying Driveshaft Length**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DRIVESHAFT LENGTH (5-SPEED M/T MODEL (EXCEPT SI))

| Factory | | Type | Measurement |
|---|---|---|---|
| Japan-Produced | Right | Type A | 487.0-502.0 mm (19.88-20.08 in.) |
| | Left | Type B | 509.0-514.0 mm (20.36-20.56 in.) |

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| | | | |
|---|---|---|---|
| North America-Produced | Right | Type A | 493.0-498.0 mm (19.72-19.92 in.) |
| | Left | Type B | 505.0-510.0 mm (20.20-20.40 in.) |

**DRIVESHAFT LENGTH (6-SPEED M/T MODEL (SI))**

| Factory | | Type | Measurement |
|---|---|---|---|
| | Right | Type C | 486.0-491.8 mm (19.17-19.36 in.) |
| | Left | Type D | 510.7-515.7 mm (20.11-20.30 in.) |

**DRIVESHAFT LENGTH (A/T MODEL)**

| Factory | | Type | Measurement |
|---|---|---|---|
| Japan-Produced | Right | Type B | 803.0-808.0 mm (32.12-32.32 in.) |
| | Left | Type E | 511.0-516.0 mm (20.44-20.64 in.) |
| North America-Produced | Right | Type B | 807.0-812.0 mm (32.28-32.48 in.) |
| | Left | Type E | 507.0-512.0 mm (20.28-20.48 in.) |

10. Install new double loop bands (replacement part only).
11. Fit the boot ends onto the driveshaft and the inboard joint, then install the new double loop band (A) onto the boot (B).

**NOTE: Pass the end of the new double loop band through the clip (C) twice in the direction of the forward rotation of the driveshaft.**

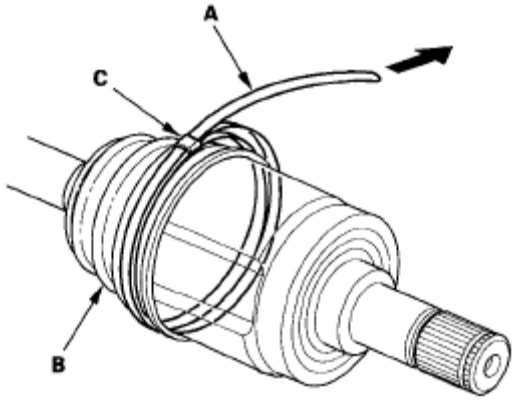



**Fig. 32: Twisting In Direction Of Forward Rotation Of Driveshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Pull up the slack in the band by hand.
13. Mark a position (A) on the band 10-14 mm (0.4-0.6 in.) from the clip (B).

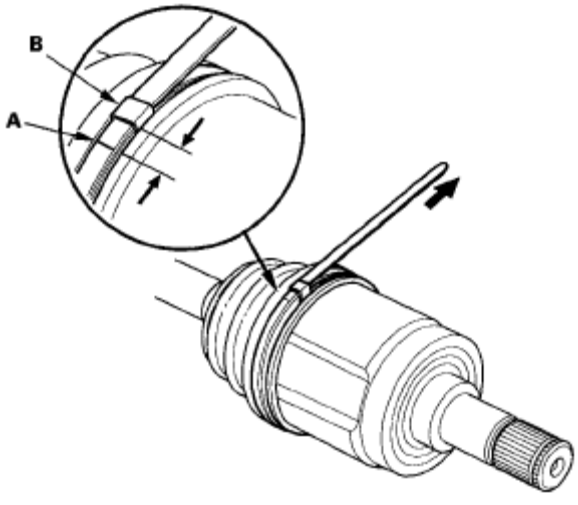



**Fig. 33: Identifying Mark Position On Band From Clip**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Thread the free end of the band through the nose section of the commercially available boot band tool (A), and into the slot on the winding mandrel

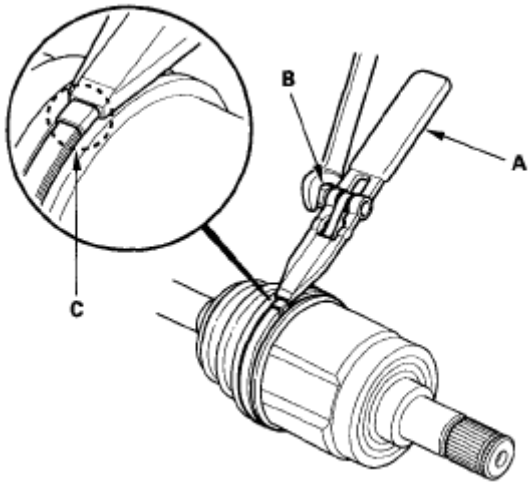



**Fig. 34: Tightening Band Until Marked Spot**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Using a wrench on the winding mandrel of the boot band tool, tighten the band until the marked spot (C) on the band meets the edge of the clip.
16. Lift up the boot band tool to bend the free end of the band 90 degrees to the clip. Center-punch the clip, then fold over the remaining tail onto the clip.

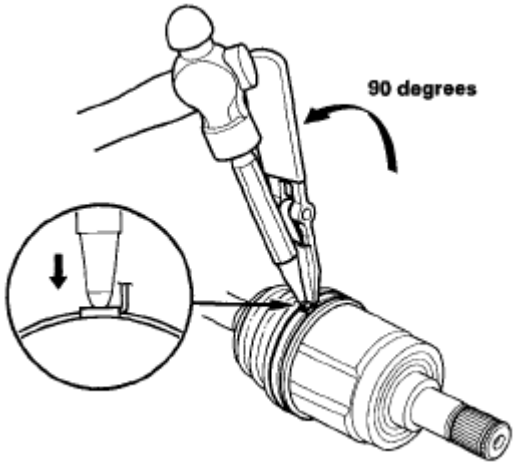



**Fig. 35: Lifting Up Boot Band Tool To Bend**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Unwind the boot band tool, and cut off the excess free end of the band to leave a 5-10 mm (0.2-0.4 in.) tail protruding from the clip.

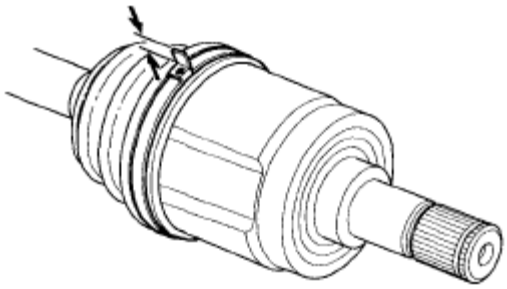


**Fig. 36: Identifying Band Tail Protruding**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Bend the band end (A) by tapping it down with a hammer.

**NOTE:**

- **Make sure the band and clip do not interfere with anything on the vehicle and the band does not move.**
- **Remove any grease remaining on the surrounding surfaces.**

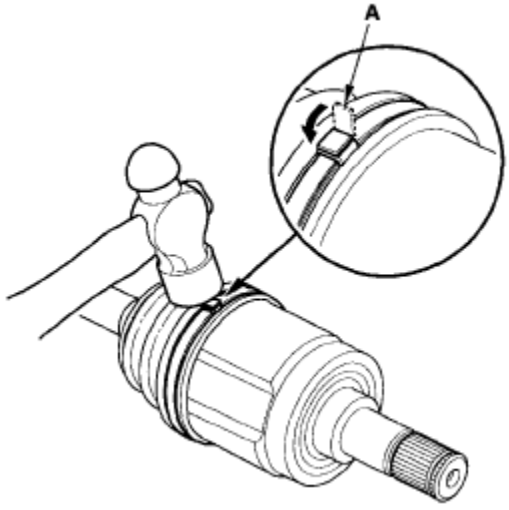



**Fig. 37: Tapping Band**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Repeat steps 11 through 18 for the band on the other end of the boot.

**OUTBOARD JOINT SIDE**

1. Wrap the splines with vinyl tape (A) to prevent damaging to the outboard boot.

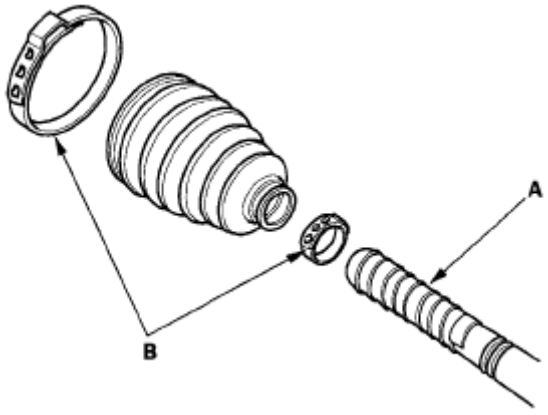



**Fig. 38: Identifying Clamp Bands And Splines With Vinyl Tape**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the new ear clamp bands (B) and outboard boot, then remove the vinyl tape. Be careful not to damage the outboard boot.
3. Install the new stop ring into the driveshaft groove (A).

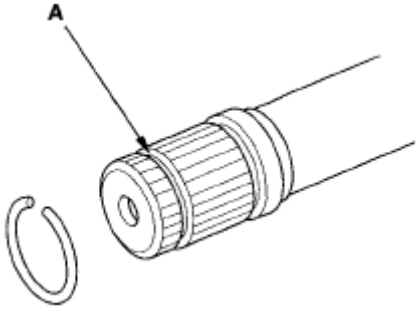



**Fig. 39: Identifying Stop Ring Into Driveshaft Groove**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Pack about 35 g (1.2 oz) grease included in the new outboard boot set into the driveshaft hole in the outboard joint.

**NOTE: If you are installing a new outboard joint, the grease is already installed.**

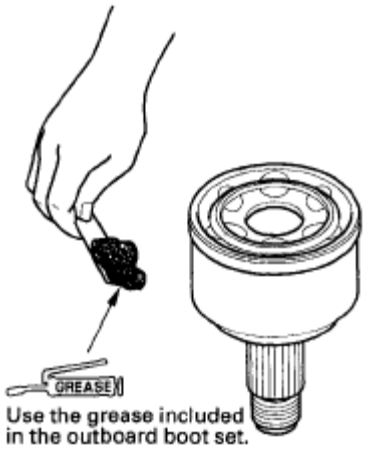



**Fig. 40: Identifying Area Applying Grease**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Insert the driveshaft (A) into the outboard joint (B) until the stop ring (C) is close to the joint.

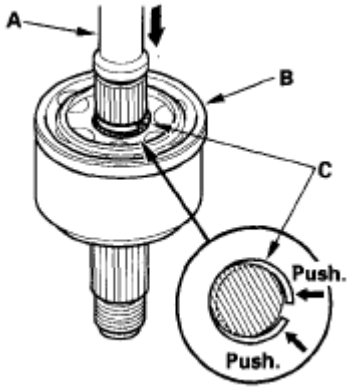



**Fig. 41: Locating Driveshaft Stop Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. To completely seat the outboard joint, pick up the driveshaft and joint, and tap or hit them from a height of about 10 cm (4 in.) onto a had surface.

**NOTE: Do not use a hammer as excessive force may damage the driveshaft. Be careful not to damage the threaded section (A) of the outboard joint.**

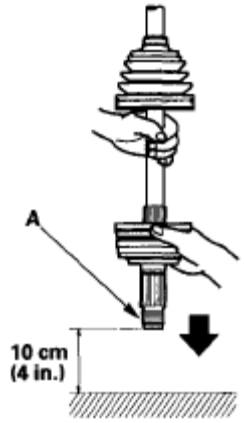



**Fig. 42: Locating Threaded Section Of Outboard Joint**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Check the alignment of the paint mark (A) you made with the outboard joint rim (B).

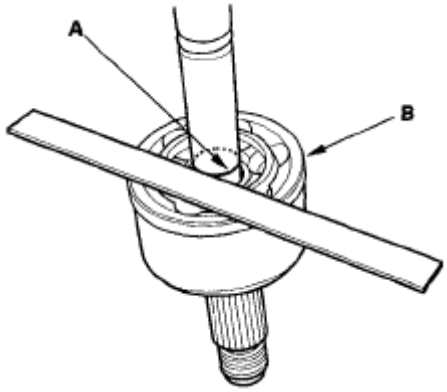



**Fig. 43: Checking Alignment Of Paint Mark**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Pack the outboard joint (A) with the remaining grease included in the new outboard boot set.

**Total grease quantity**

**Outboard joint**

**5-speed M/T model (except Si):**

**105-115 g (3.7-4.0 oz)**

**6-speed M/T model (Si):**

**110-130 g (3.8-4.5 oz)**

**A/T model:**

**95-105 g (3.4-3.7 oz)**

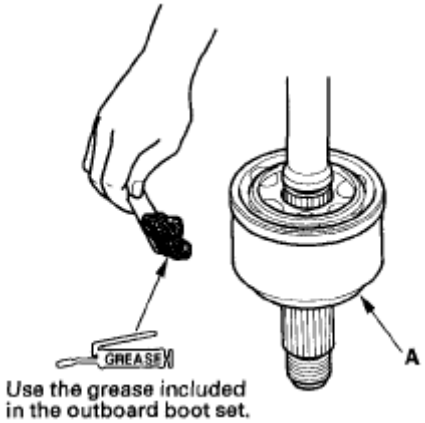



**Fig. 44: Identifying Area Applying Grease**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Fit the boot (A) ends onto the driveshaft (B) and outboard joint (C).

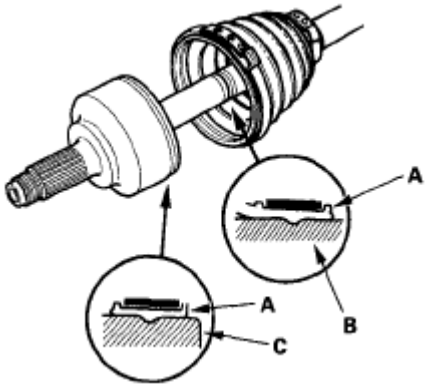



**Fig. 45: Identifying Outboard Joint Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Adjust the length of the driveshaft to the figure as shown, then adjust the boots

to halfway between full compression and full extension.

Doing this prevents a vacuum or too much air in the boot, preventing it from compressing or extending properly.

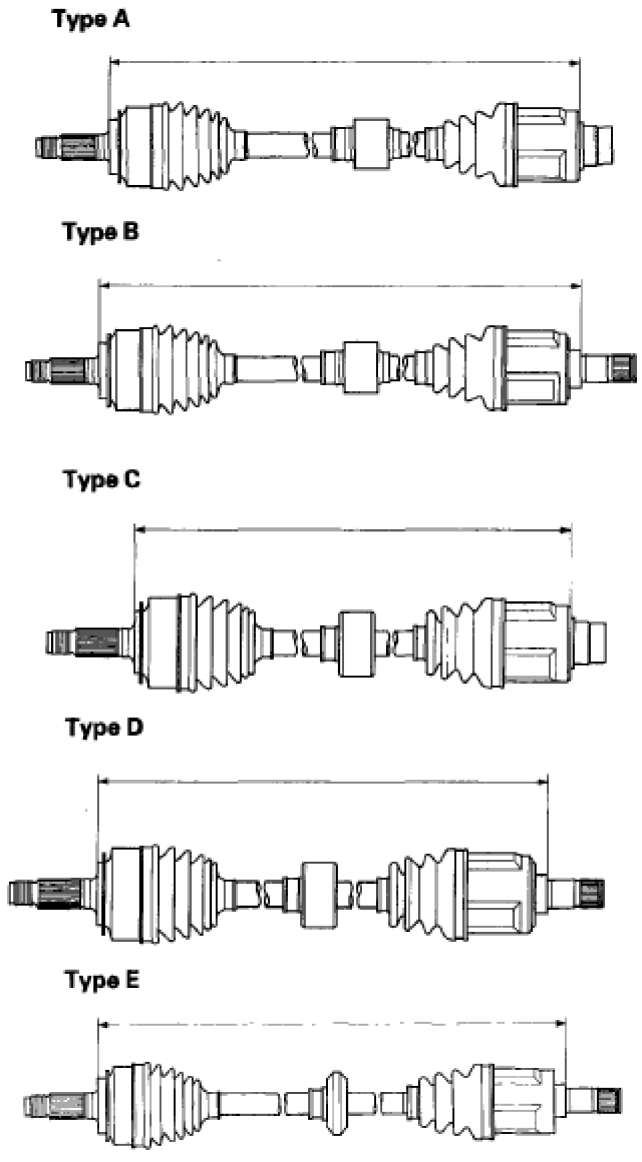



**Fig. 46: Identifying Driveshaft Length**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DRIVESHAFT LENGTH (5-SPEED M/T MODEL (EXCEPT SI))

| Factory | | Type | Measurement |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Japan-Produced | Right | Type A | 487.0-502.0 mm (19.88-20.08 in.) |
| | Left | Type B | 509.0-514.0 mm (20.36-20.56 in.) |
| North America-Produced | Right | Type A | 493.0-498.0 mm (19.72-19.92 in.) |
| | Left | Type B | 505.0-510.0 mm (20.20-20.40 in.) |

**DRIVESHAFT LENGTH (6-SPEED M/T MODEL (SI))**

| Factory | | Type | Measurement |
|---|---|---|---|
| | Right | Type C | 486.0-491.8 mm (19.17-19.36 in.) |
| | Left | Type D | 510.7-515.7 mm (20.11-20.30 in.) |

**DRIVESHAFT LENGTH (A/T MODEL)**

| Factory | | Type | Measurement |
|---|---|---|---|
| Japan-Produced | Right | Type B | 803.0-808.0 mm (32.12-32.32 in.) |
| | Left | Type E | 511.0-516.0 mm (20.44-20.64 in.) |
| North America-Produced | Right | Type B | 807.0-812.0 mm (32.28-32.48 in.) |
| | Left | Type E | 507.0-512.0 mm (20.28-20.48 in.) |

11. Close the ear portion (A) of the band with a commercially available boot band pliers Kent Moore J-35910 or equivalent (B).

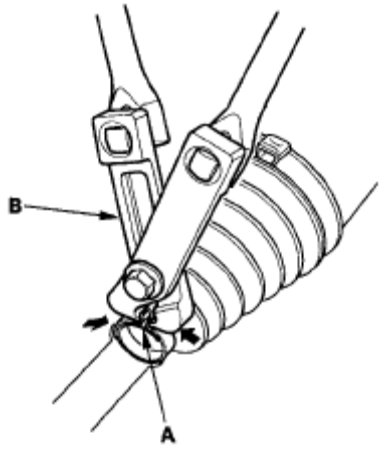



**Fig. 47: Closing Portion Of Band**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Check the clearance between the closed ear portion of the band. If the clearance is not within the standard, close the ear portion of the band tighter.

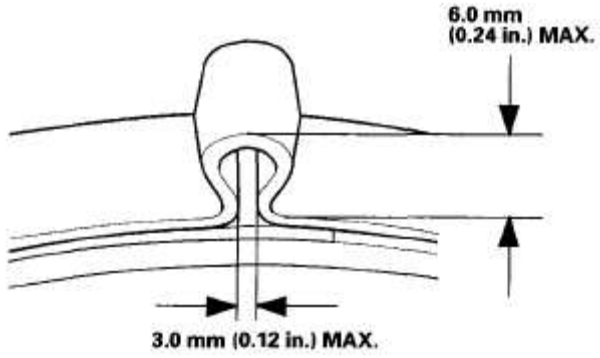



**Fig. 48: Identifying Clearance Between Closed Ear Portion Of Band**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Repeat steps 11 and 12 for the band on the other end of the boot.

## DRIVESHAFT INSTALLATION

**NOTE: Before starting installation, make sure the mating surfaces of the joint and the splined section are not dusty or dirty.**

1. Apply about 5 g (0.18 oz) moly 60 paste (P/N 08734-0001) to the contact area of the outboard joint and the front wheel bearing.

**NOTE: The paste helps to prevent noise and vibration.**

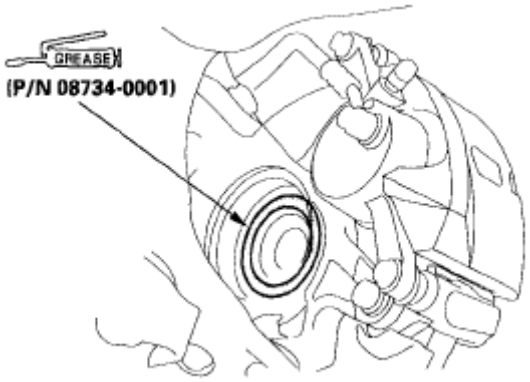



**Fig. 49: Identifying Area Applying Grease**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install a new set ring onto the set ring groove of the driveshaft.

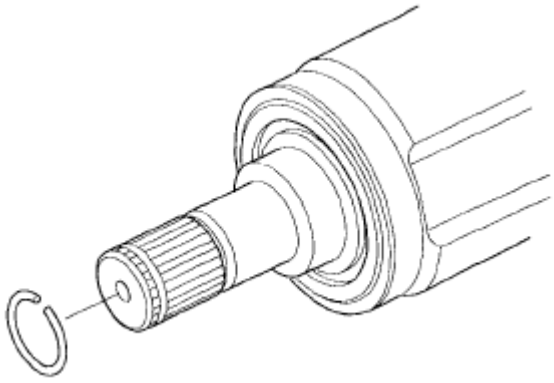


**Fig. 50: Identifying Driveshaft Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. M/T model: Apply specified grease to the whole splined surface (A) of the right driveshaft. After applying grease, remove the grease from the splined grooves at intervals of 2-3 splines and from the set ring groove (B) so that air can bleed from the intermediate shaft.

**Grease quantity**

**5-speed M/T model (except Si):**

**0.5-1.0 g (0.02-0.04 oz)**

**6-speed M/T model (Si):**

**2.0-3.0 g (0.08-0.12 oz)**

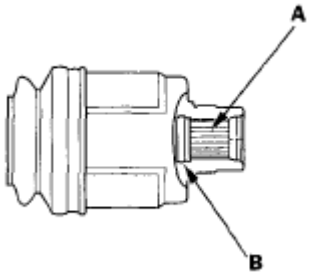



**Fig. 51: Identifying Area Applying Grease**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Clean the areas where the driveshaft contacts the differential thoroughly with solvent or brake cleaner, and dry with compressed air.

**NOTE: Do not wash the rubber parts with solvent.**

5. Insert the inboard end (A) of the driveshaft into the differential (B) or intermediate shaft (C) (M/T model) until the set ring (D) locks in the groove (E).

**NOTE: Insert the driveshaft horizontally to prevent damaging the differential oil seal.**

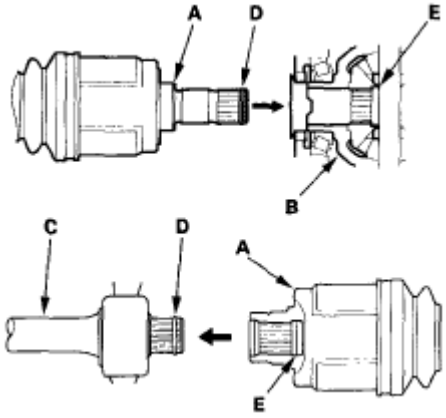


**Fig. 52: Inserting Inboard Of Driveshaft Into Differential**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the outboard joint (A) into the front hub (B).

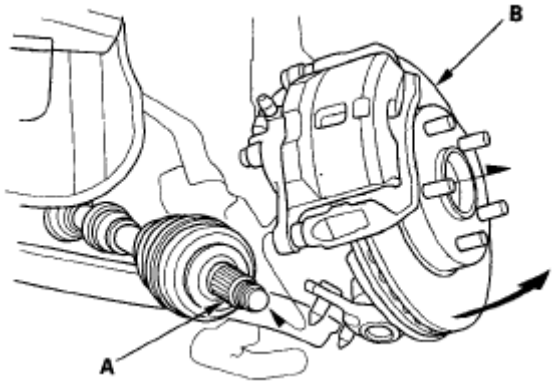



**Fig. 53: Identifying Outboard Joint And Front Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the knuckle (A) onto the lower arm (B). During installation, install a new flange bolt and new self-locking nuts. After lightly tightening all three fasteners, tighten them to the specified torque in the following order; the nut on the front (C), the nut on the rear (D), then the bolt (E).

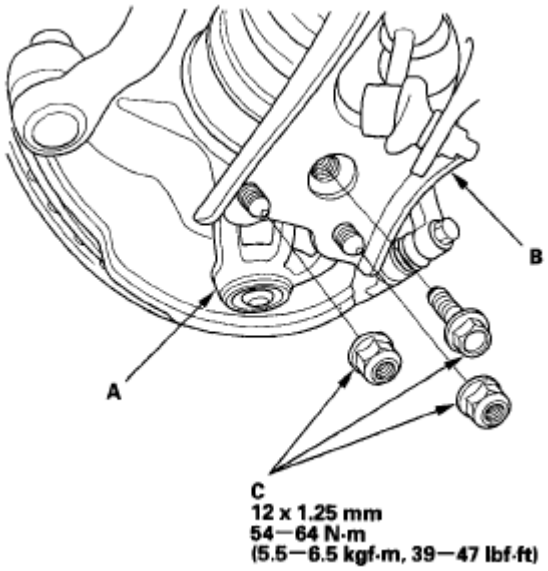



**Fig. 54: Identifying Nuts And Bolt With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Apply a small amount of engine oil to the seating surface of the new spindle nut (A).

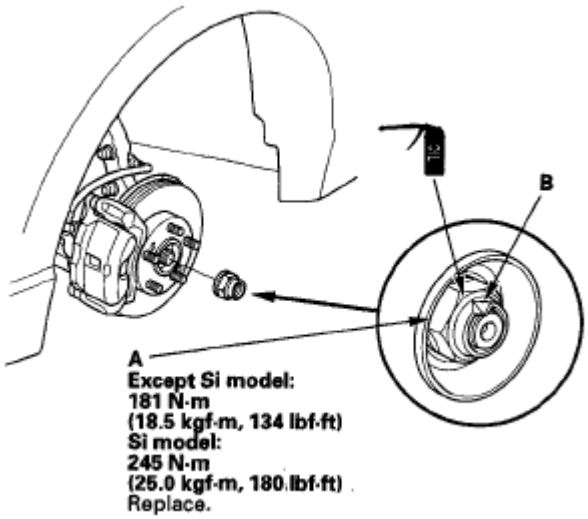



**Fig. 55: Identifying Spindle Nut With Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install a new spindle nut, then tighten the nut. After tightening, use a drift to stake the spindle nut shoulder (B) against the driveshaft.
10. Clean the mating surfaces of the brake discs and the front wheels, then install the front wheels.
11. Turn the front wheels by hand, and make sure there is no interference between the driveshaft and surrounding parts.
12. Refill the transmission with the recommended transmission fluid:
    - 5-speed Manual transmission (except Si) (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** )
    - 6-speed Manual transmission (Si) (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
    - Automatic transmission (see **ATF REPLACEMENT** )
13. Lower the vehicle on the lift.
14. Check the front wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).
15. Test-drive the vehicle.

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# INTERMEDIATE SHAFT REMOVAL

**5-SPEED M/T MODEL (EXCEPT SI)**

1. Drain the transmission fluid. Reinstall the drain plug with a new washer (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
2. Remove the right driveshaft (see **DRIVESHAFT REMOVAL** ).
3. Remove the lower torque rod bracket (A).

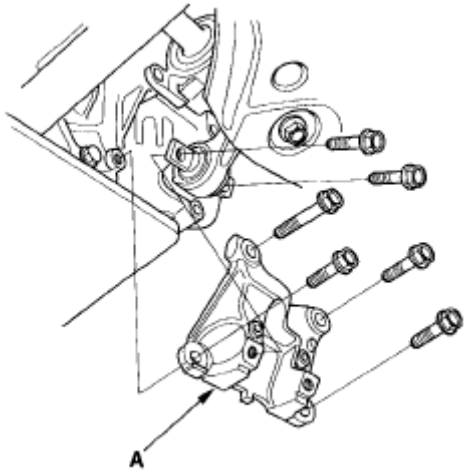



**Fig. 56: Identifying Lower Torque Rod Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the flange bolts.

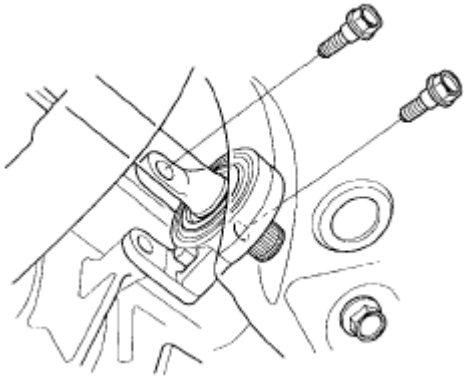


**Fig. 57: Identifying Flange Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the intermediate shaft (A) from the differential. Hold the intermediate shaft horizontal until it is clear of the differential to prevent damaging the differential oil seal (B).

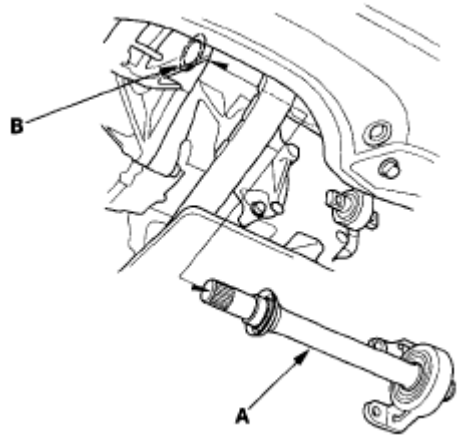



**Fig. 58: Identifying Intermediate Shaft And Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**6-SPEED M/T MODEL (SI)**

1. Drain the transmission fluid. Reinstall the drain plug with a new washer (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
2. Remove the right driveshaft (see **DRIVESHAFT REMOVAL** ).
3. Remove the heat shield (A).

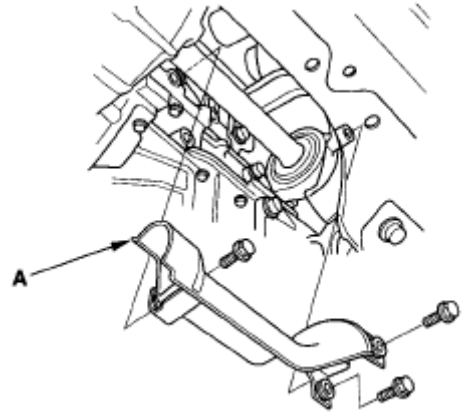



**Fig. 59: Identifying Heat Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the flange bolt (A) and the two shoulder bolts (B).

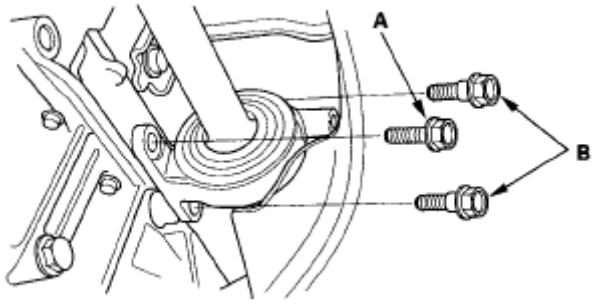



**Fig. 60: Identifying Shoulder Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the intermediate shaft (A) from the differential. Hold the intermediate shaft horizontal until it is clear of the differential to prevent damaging the differential oil seal (B).

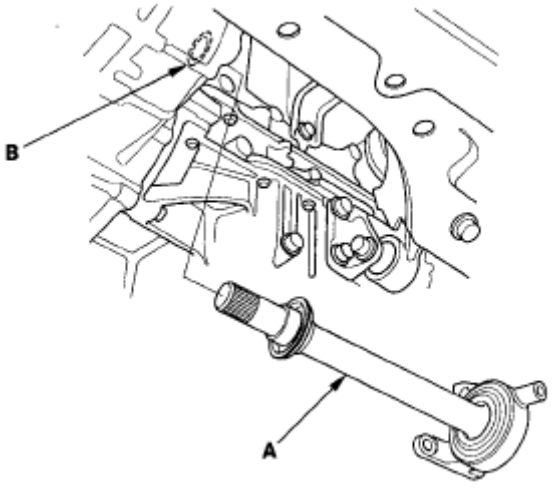



**Fig. 61: Identifying Intermediate Shaft And Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## INTERMEDIATE SHAFT DISASSEMBLY

### Special Tools Required

- Half shaft base 07NAF-SR30101
- Oil seal driver 07947-SB00100

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**5-SPEED M/T MODELS (EXCEPT SI)**

1. Remove the set ring (A), the outer seal (B), and the external snap ring (C).

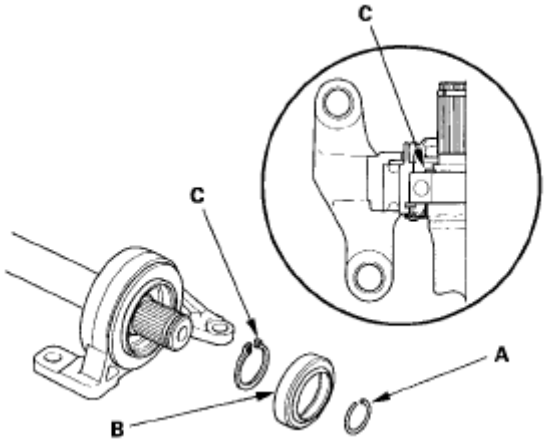



**Fig. 62: Identifying External Snap Ring - 5-Speed M/T Models (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Press the intermediate shaft (A) out of the intermediate shaft bearing (B) using a press. Be careful not to damage the bearing support ring (C) on the intermediate shaft during disassembly.

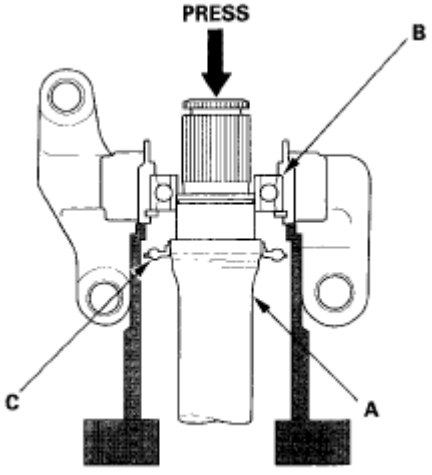



**Fig. 63: Pressing Intermediate Shaft Out Of Intermediate Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the internal snap ring.

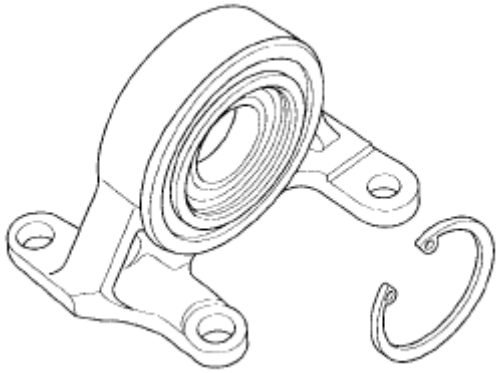


**Fig. 64: Identifying Internal Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Press the intermediate shaft bearing (A) out of the bearing support (B) using the half shaft base (C), oil seal driver (D), and a press.

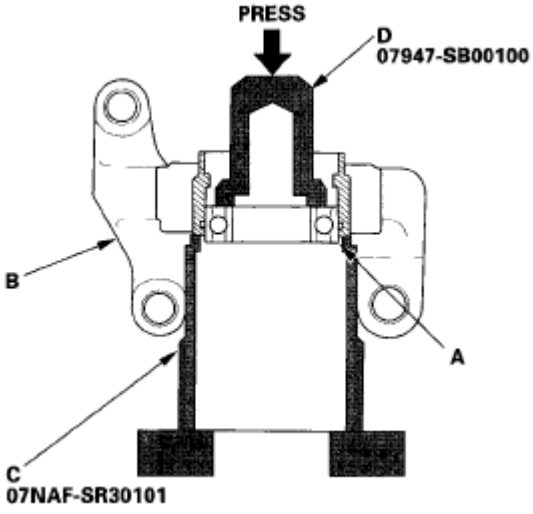



**Fig. 65: Pressing Intermediate Shaft Bearing Out Of Bearing Support**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**6-SPEED M/T MODEL (SI)**

1. Remove the set ring (A), the outer seal (B), and the external snap ring (C).

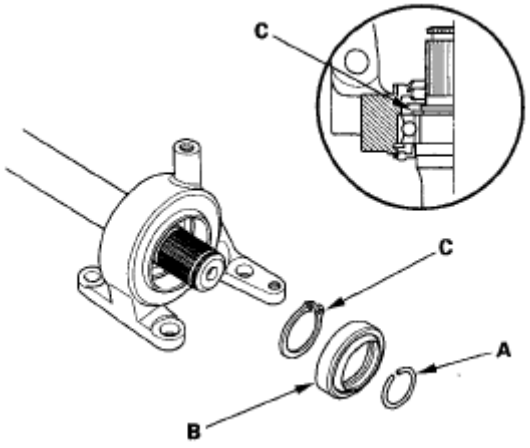



**Fig. 66: Identifying External Snap Ring - 6-Speed M/T Model (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Press the intermediate shaft (A) out of the intermediate shaft bearing (B) using a press. Be careful not to damage the bearing support ring (C) on the intermediate shaft during disassembly.

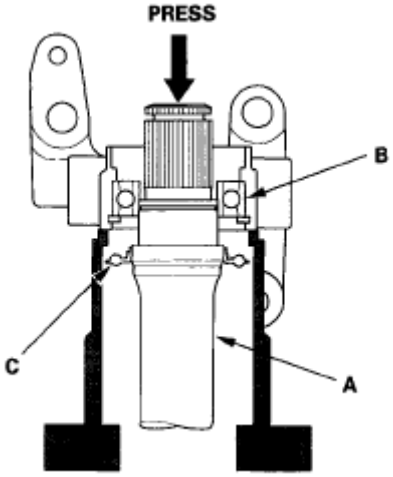



**Fig. 67: Pressing Intermediate Shaft Out Of Intermediate Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the internal snap ring.

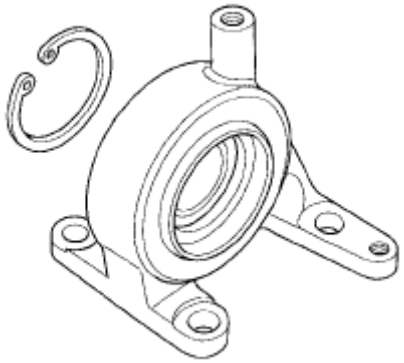


**Fig. 68: Identifying Internal Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Press the intermediate shaft bearing (A) out of the bearing support (B) using the half shaft base (C), oil seal driver (D) and a press.

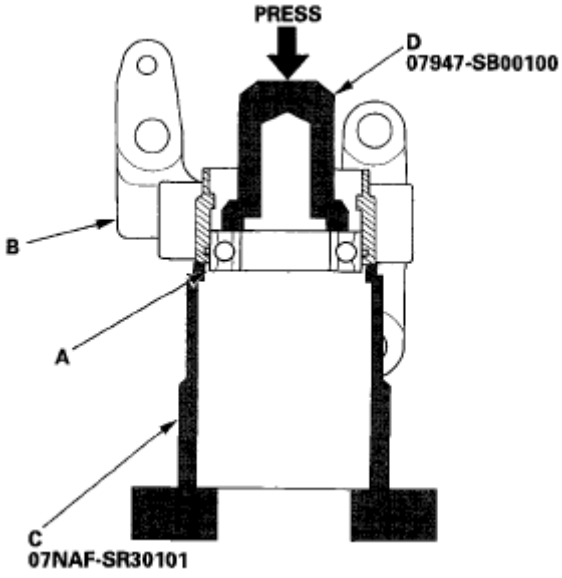



**Fig. 69: Pressing Intermediate Shaft Bearing Out Of Bearing Support**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## INTERMEDIATE SHAFT REASSEMBLY

**5-SPEED M/T MODEL (EXCEPT SI)**

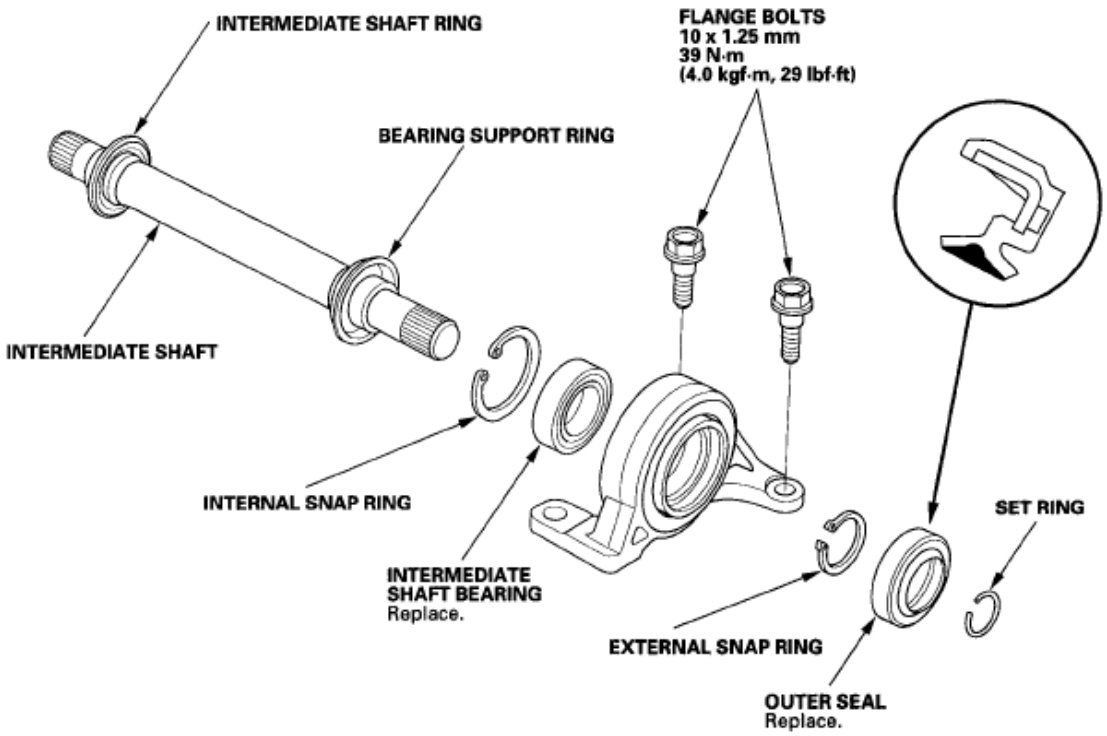



**Fig. 70: Exploded View Of Intermediate Shaft - 5-Speed M/T Model (Except Si) With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Oil seal driver 07GAD-PH70201
- Attachment, 52 x 55 mm 07746-0010400
- Attachment, 35 mm I.D. 07746-0030400
- Driver 07749-0010000

**NOTE: Refer to Fig. 70, as needed, during this procedure.**

## 5-speed M/T model (except Si)

1. Clean the disassembled parts with solvent, and dry them with compressed air.

   **NOTE: Do not wash the rubber parts with solvent.**

2. Press the intermediate shaft bearing (A) into the bearing support (B) using the

52 x 55 mm attachment (C), driver (D), and a press.

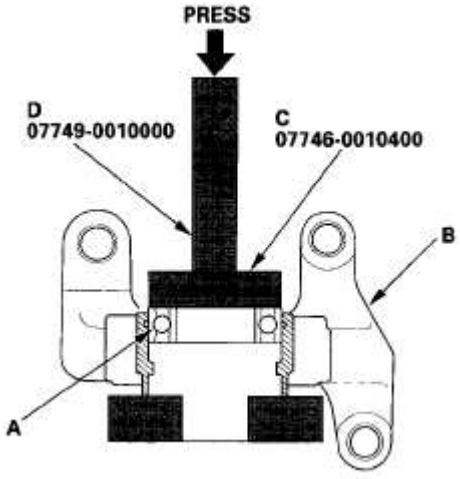



**Fig. 71: Pressing Intermediate Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Seat the internal snap ring into the groove of the bearing support.

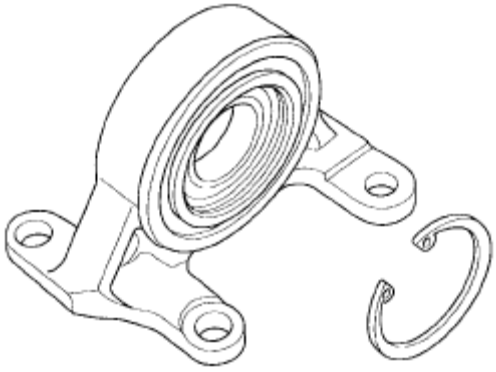


**Fig. 72: Identifying Internal Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Press the intermediate shaft (A) into the new shaft bearing (B) using the 35 mm I.D. attachment (C) and a press.

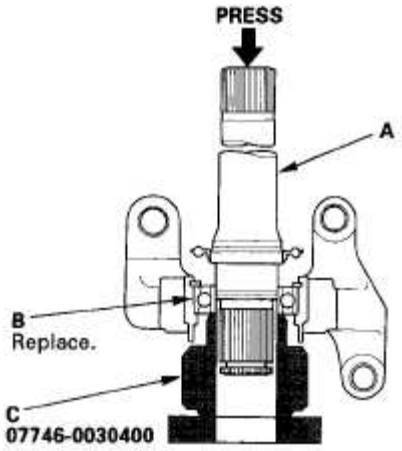



**Fig. 73: Pressing Intermediate Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Seat the external snap ring (A) into the groove of the intermediate shaft (B).

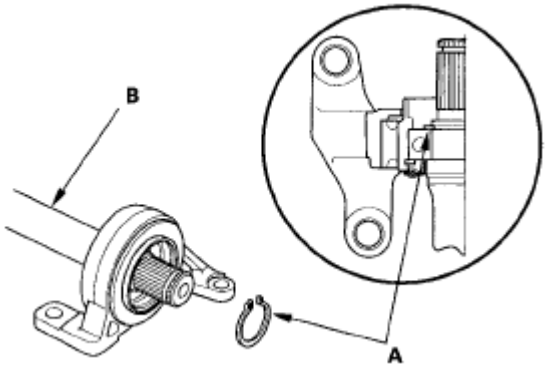



**Fig. 74: Identifying External Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the new outer seal (A) into the bearing support (B) using the oil seal driver (C) and a press.

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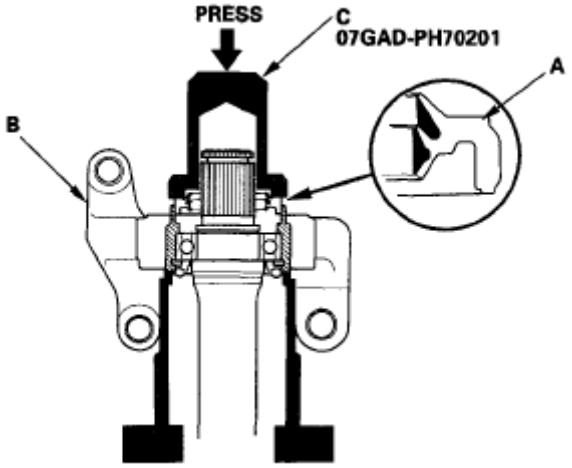



**Fig. 75: Identifying Outer Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**6-SPEED M/T MODEL (SI)**

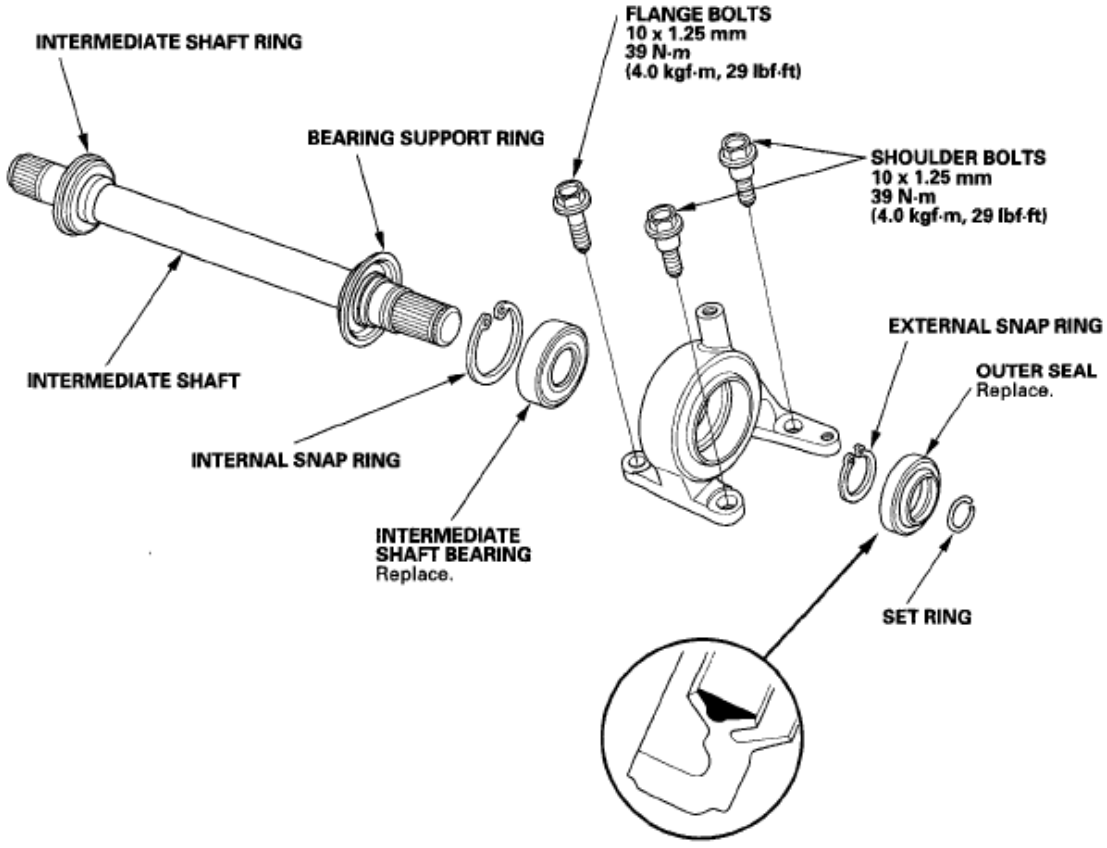



**Fig. 76: Exploded View Of Intermediate Shaft - 6-Speed M/T Model (Si) With Torque Specifications**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Oil seal driver 07GAD-PH70201
- Attachment, 52 x 55 mm 07746-0010400
- Attachment, 35 mm I.D. 07746-0030400
- Driver 07749-0010000

**NOTE: Refer to Fig. 76, as needed, during this procedure.**

1. Clean the disassembled parts with solvent, and dry them with compressed air.

   **NOTE: Do not wash the rubber parts with solvent.**

2. Press the intermediate shaft bearing (A) into the bearing support (B) using the 52 x 55 mm attachment (C), driver (D), and a press.

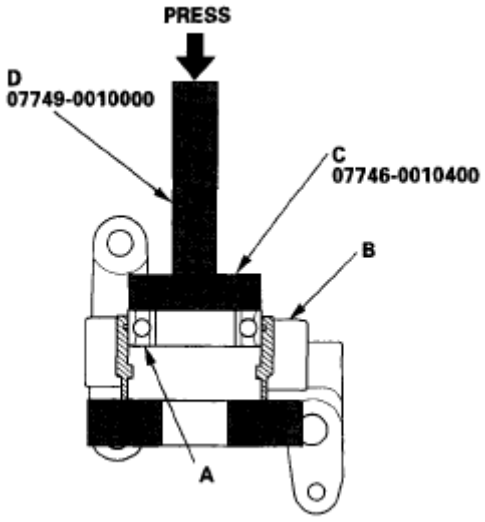



**Fig. 77: Pressing Intermediate Shaft Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Seat the internal snap ring into the groove of the bearing support.

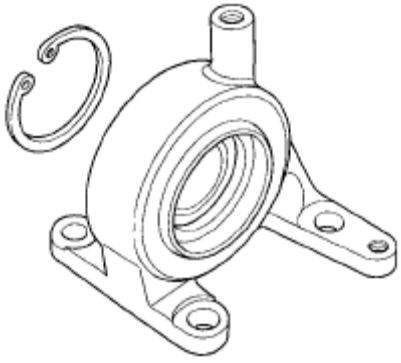


**Fig. 78: Identifying Internal Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Press the intermediate shaft (A) into the new shaft bearing (B) using the 35 mm I.D. attachment (C) and a press.

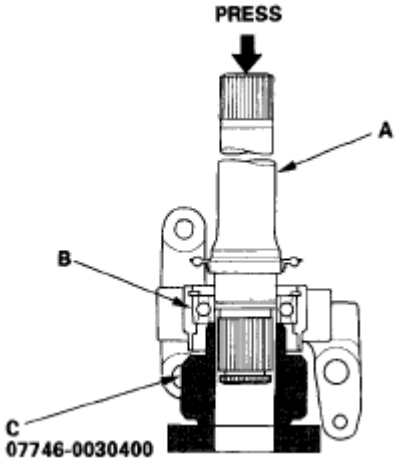



**Fig. 79: Pressing Intermediate Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Seat the external snap ring (A) into the groove of the intermediate shaft (B).

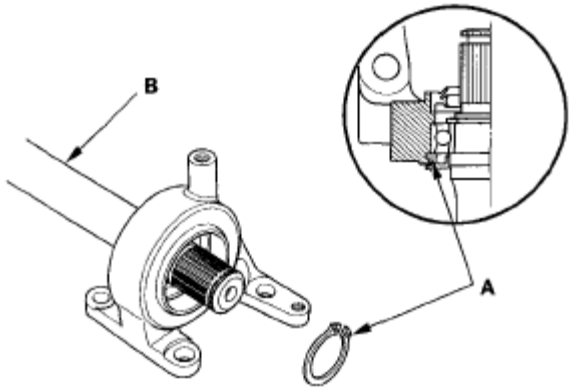



**Fig. 80: Identifying External Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the new outer seal (A) into the bearing support (B) using the oil seal driver (C) and a press.

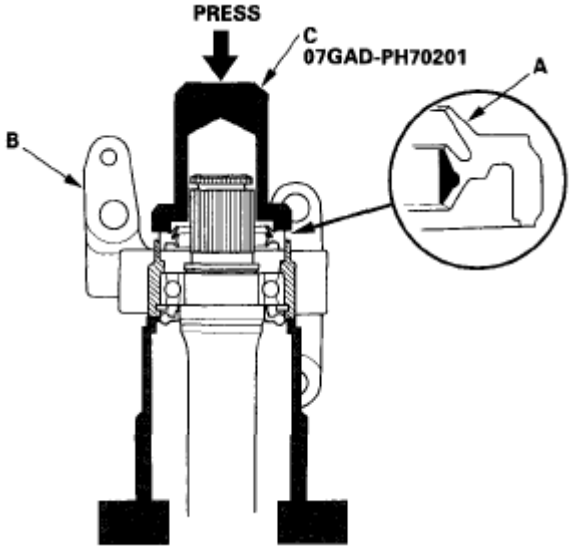



**Fig. 81: Identifying Outer Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## INTERMEDIATE SHAFT INSTALLATION

### 5-SPEED MODEL (EXCEPT SI)

1. Install the new set ring.

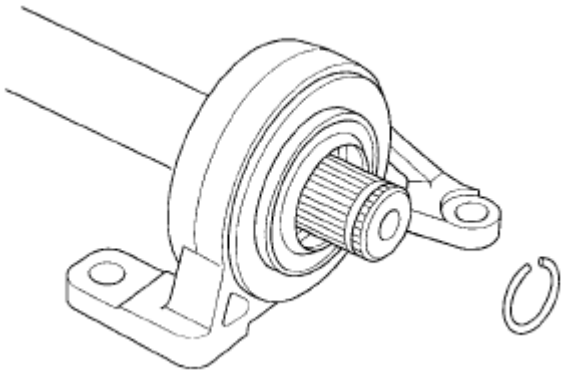


**Fig. 82: Identifying Set Ring - 5-Speed Model (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Clean the areas where the intermediate shaft contacts the differential thoroughly with solvent or brake cleaner, and dry with compressed air.

**NOTE: Do not wash the rubber parts with solvent.**

3. Insert the intermediate shaft assembly (A) into the differential until the set ring locks in the groove.

**NOTE: Insert the intermediate shaft horizontally to prevent damaging the differential oil seal (B).**

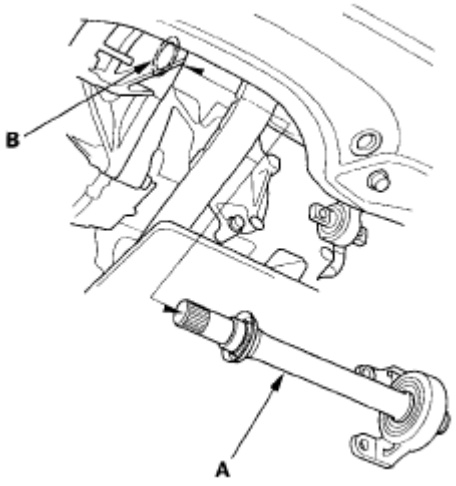



**Fig. 83: Identifying Intermediate Shaft Assembly And Differential Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the flange bolts (A).

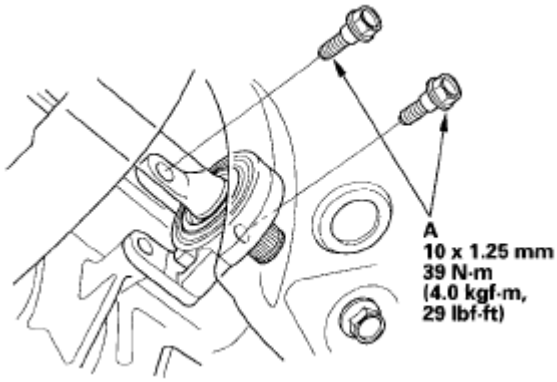



**Fig. 84: Identifying Flange Bolts With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the lower torque rod bracket (A), and tighten the flange bolts in the sequence shown.

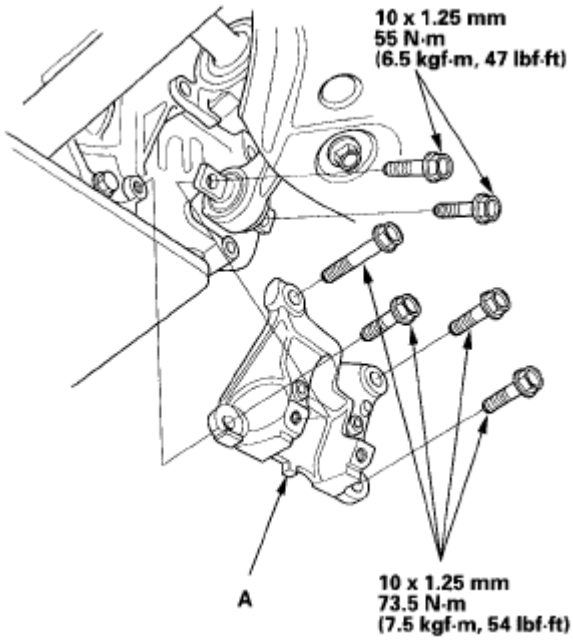



**Fig. 85: Identifying Lower Torque Rod Bracket With Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the right driveshaft (see **DRIVESHAFT INSTALLATION** ).

7. Refill the transmission with the recommended transmission fluid (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
8. Test-drive the vehicle.

**6-SPEED M/T MODEL (SI)**

1. Install the new set ring.

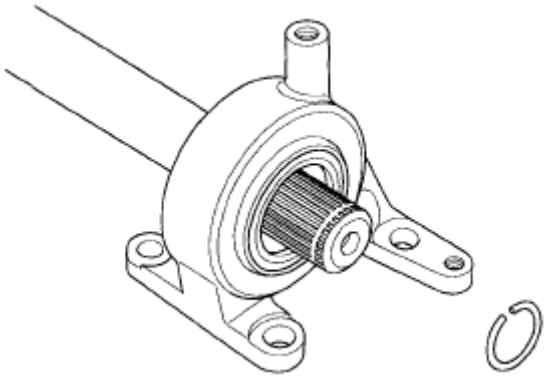


**Fig. 86: Identifying Set Ring - 6-Speed M/T Model (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Clean the areas where the intermediate shaft contacts the differential thoroughly with solvent or brake cleaner, and dry with compressed air.

**NOTE: Do not wash the rubber parts with solvent.**

3. Insert the inboard end (A) of the driveshaft into the differential (B) or intermediate shaft (C) until the set ring (D) locks in the groove (E).

**NOTE: Insert the driveshaft horizontally to prevent damaging the differential oil seal.**

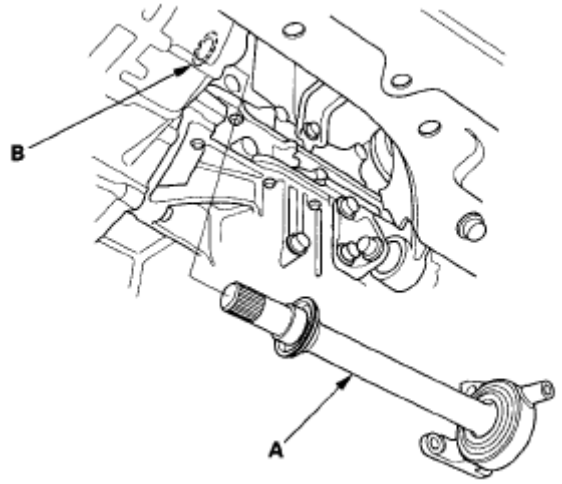



**Fig. 87: Identifying Intermediate Shaft Assembly And Differential Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the flange bolt (A) and the two shoulder bolts (B).

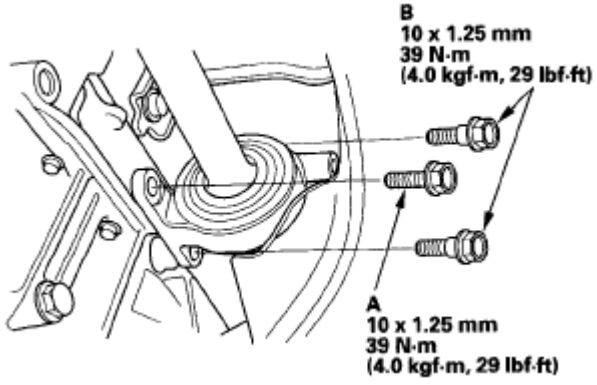



**Fig. 88: Identifying Shoulder Bolts With Torque Specifications**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the heat shield (A), and tighten the three bolts.

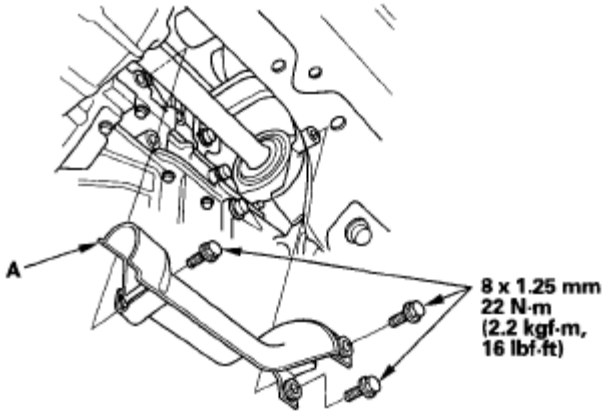



**Fig. 89: Identifying Heat Shield Bolts With Torque Specification**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the right driveshaft (see **DRIVESHAFT INSTALLATION** ).
7. Refill the transmission with the recommended transmission fluid (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
8. Test-drive the vehicle.

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**2006-08 ENGINE PERFORMANCE**

**EGR System (R18A1) - Civic (All Except Hybrid)**

## COMPONENT LOCATION INDEX

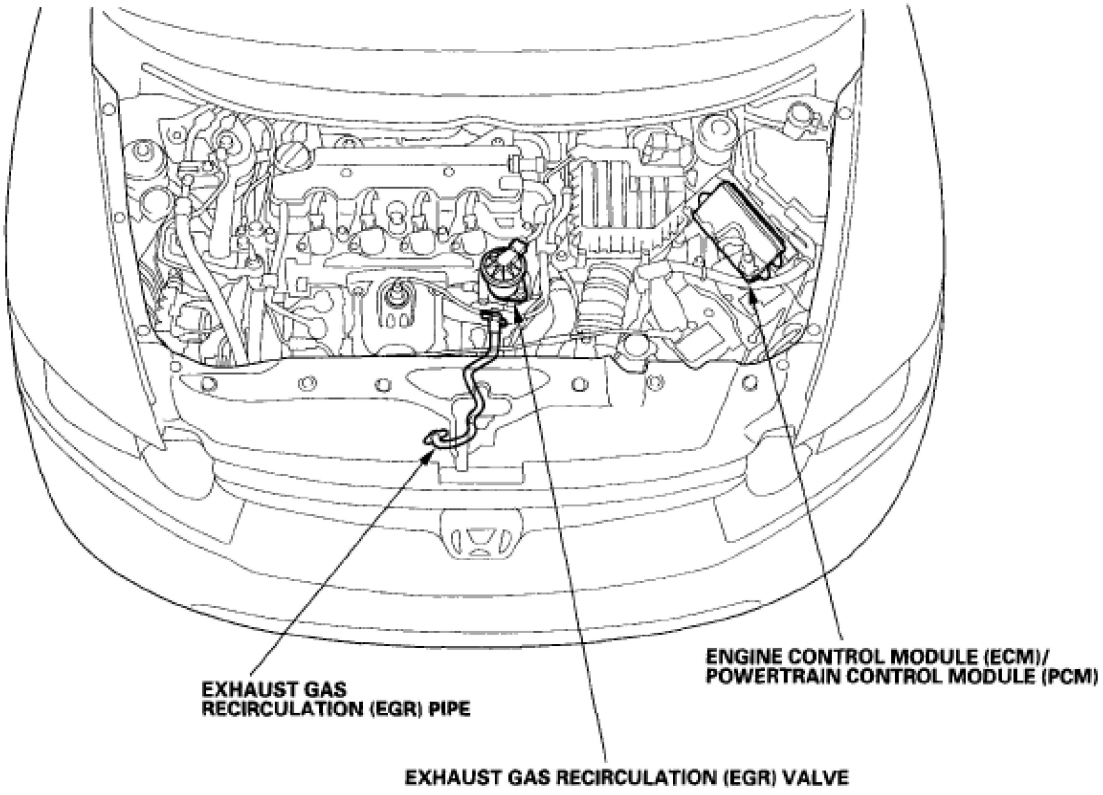



**Fig. 1: Locating EGR System Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DTC TROUBLESHOOTING

**DTC P0400: EGR SYSTEM LEAK DETECTED**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Check for a loose or damaged EGR pipe.

*Is the EGR pipe OK?*

**YES** - Go to step 2.

**NO** - Reconnect or replace the EGR pipe, then go to step 7.

2. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
3. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - A/T in D position (M/T in 4th gear)
   - Vehicle speed at 25 mph (40 km/h) for 5 minutes or more
   - Maintain the vehicle speed at 32 mph (50 km/h) for 5 minutes or more with cruise control set
4. Monitor the OBD STATUS for DTC P0400 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

   **YES** - Go to step 5.

   **NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the screen indicates NOT COMPLETED, go to step 3 and recheck.

5. Turn the ignition switch OFF.
6. Replace the EGR valve (see **EGR VALVE REPLACEMENT** ).
7. Turn the ignition switch ON (II).
8. Reset the ECM/PCM with the HDS.
9. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
10. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)

- A/T in D position (M/T in 4th gear)
- Vehicle speed at 25 mph (40 km/h) for 5 minutes or more
- Maintain the vehicle speed at 32 mph (50 km/h) for 5 minutes or more with cruise control set

11. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0400 indicated?*

    **YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM, then go to step 1.

    **NO** - Go to step 12.

12. Monitor the OBD STATUS for DTC P0400 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 11, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 10.

**DTC P0401: EGR INSUFFICIENT FLOW**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.

4. Do the EGR TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Go to step 5.

   **NO** - Go to step 7.

5. Test-drive under these conditions:
   - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
   - A/T in D position (M/T in 4th gear)
   - Drive at a steady speed between 55-75 mph (88-120 km/h) for at least 10 seconds
   - During the drive, decelerate (with the throttle fully closed) for 5 seconds
6. Monitor the OBD STATUS for DTC P0401 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

   **YES** - Clean the intake manifold EGR port and EGR pipe (see **EGR VALVE REPLACEMENT** ) with throttle plate and induction cleaner. Also, clean the passage inside the EGR valve with throttle plate and induction cleaner, then go to step 9.

   **NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 5 and recheck.

7. Turn the ignition switch OFF.
8. Replace the EGR valve (see **EGR VALVE REPLACEMENT** ).
9. Turn the ignition switch ON (II).
10. Reset the ECM/PCM with the HDS.
11. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN**

**PROCEDURE** ).

12. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 4th gear)
    - Drive at a steady speed between 55-75 mph (88-120 km/h) for at least 10 seconds
    - During the drive, decelerate (with the throttle fully closed) for 5 seconds
13. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0401 indicated?*

    **YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the connections are OK, go to step 15.

    **NO** - Go to step 14.

14. Monitor the OBD STATUS for DTC P0401 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 13, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 12.

15. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
16. Test-drive under these conditions:
    - Engine coolant temperature (ECT SENSOR 1) above 158°F (70°C)
    - A/T in D position (M/T in 4th gear)

- Drive at a steady speed between 55-75 mph (88-120 km/h) for at least 10 seconds
- During the drive, decelerate (with the throttle fully closed) for 5 seconds

17. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0401 indicated?*

    **YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 16. If the ECM/PCM was substituted, go to step 1.

    **NO** - Go to step 18.

18. Monitor the OBD STATUS for DTC P0401 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 17, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 16. If the ECM/PCM was substituted, go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 16.

**DTC P0404: EGR VALVE CIRCUIT RANGE/PERFORMANCE PROBLEM**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

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1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Do the EGR TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Clean any carbon build-up on the EGR valve with throttle plate and induction cleaner.

   **NO** - Go to step 5.

5. Turn the ignition switch OFF.
6. Disconnect the EGR valve 6P connector.
7. At the EGR valve side, measure resistance between EGR valve 6P connector terminals No. 1 and No. 2.

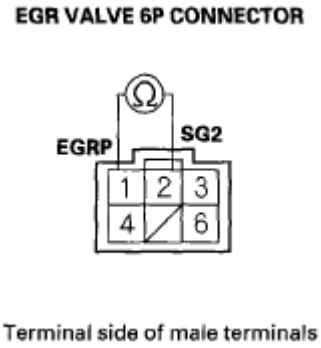



**Fig. 2: Measuring Resistance Between EGR Valve 6P Connector Terminals No. 1 And No. 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 100 kohms or more?*

**YES** - Go to step 25.

**NO** - Go to step 8.

8. At the EGR valve side, measure resistance between EGR valve 6P connector terminals No. 1 and No. 3.

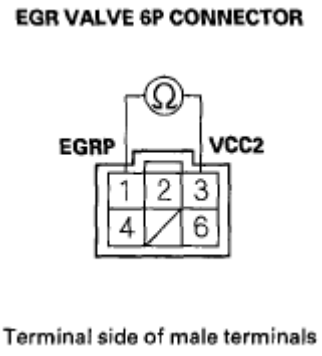



**Fig. 3: Measuring Resistance Between EGR Valve 6P Connector Terminals No. 1 And No. 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 100 k ohms or more?*

**YES** - Go to step 25.

**NO** - Go to step 9.

9. Check for continuity between EGR valve 6P connector terminal No. 6 and body ground.

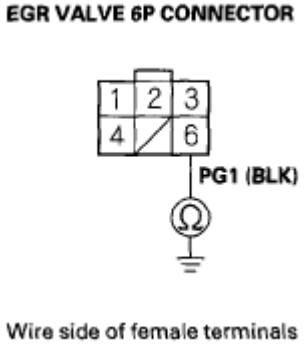



**Fig. 4: Checking Continuity Between EGR Valve 6P Connector Terminal No. 1 And No. 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 10.

**NO** - Repair open in the wire between the EGR valve and G101; A/T model (see **CONNECTOR TO HARNESS INDEX** ), M/T model (see **CONNECTOR TO HARNESS INDEX** ), then go to step 26.

10. Jump the SCS line with the HDS.
11. Disconnect ECM/PCM connector B (44P).
12. Check for continuity between ECM/PCM connector terminal B2 and body ground.

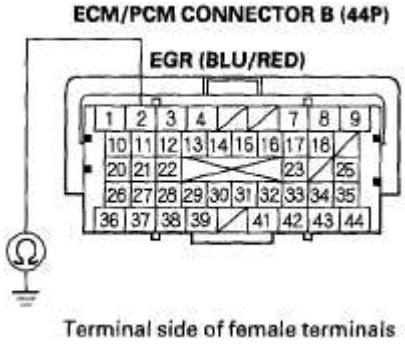



**Fig. 5: Checking Continuity Between ECM/PCM Connector Terminal B2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the ECM/PCM (B2) and the EGR valve, then go to step 26.

**NO** - Go to step 13.

13. Check for continuity between ECM/PCM connector terminal B2 and EGR valve 6P connector terminal No. 4.

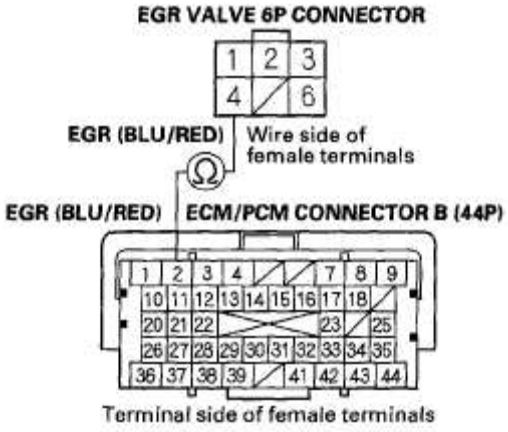



**Fig. 6: Checking Continuity Between ECM/PCM Connector Terminal B2 And EGR Valve 6P Connector Terminal No. 4**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 14.

**NO** - Repair open in the wire between the ECM/PCM (B2) and the EGR valve, then go to step 26.

14. Remove the EGR valve (see **EGR VALVE REPLACEMENT** ).
15. Clean the intake manifold EGR port and the EGR pipe (see **EGR VALVE REPLACEMENT** ) with throttle plate and induction cleaner. Also, clean the passage inside the EGR valve with throttle plate and induction cleaner.
16. Install the EGR valve (see **EGR VALVE REPLACEMENT** ).
17. Reconnect the EGR valve 6P connector.
18. Reconnect ECM/PCM connector B (44P).
19. Turn the ignition switch ON (II).
20. Reset the ECM/PCM with the HDS.
21. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
22. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
23. Do the EGR TEST in the INSPECTION MENU with the HDS.

*Is the result OK?*

**YES** - Go to step 32.

**NO** - Go to step 24.

24. Turn the ignition switch OFF.
25. Replace the EGR valve (see **EGR VALVE REPLACEMENT** ).
26. Reconnect all connectors.
27. Turn the ignition switch ON (II).
28. Reset the ECM/PCM with the HDS.
29. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
30. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
31. Do the EGR TEST in the INSPECTION MENU with the HDS.
32. Check for Temporary DTCs or DTCs with the HDS.

*Is DTC P0404 indicated?*

**YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM, then go to step 1. If the connections and terminals are OK, go to step 34.

**NO** - Go to step 33.

33. Monitor the OBD STATUS for DTC P0404 in the DTCs MENU with the HDS.

*Does the screen indicate PASSED?*

**YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 32, go to the indicated DTCs troubleshooting.

**NO** - If the screen indicates FAILED, go to step 1 and recheck. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen

indicates OUT OF CONDITION, go to step 30.

34. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
35. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
36. Do the EGR TEST in the INSPECTION MENU with the HDS.
37. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0404 indicated?*

    **YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 35. If the ECM/PCM was substituted, go to step 1.

    **NO** - Go to step 38.

38. Monitor the OBD STATUS for DTC P0404 in the DTCs MENU with the HDS.

*Does the screen indicate PASSED?*

**YES** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 37, go to the indicated DTCs troubleshooting.

**NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 35. If the ECM/PCM was substituted, go to step 1. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, go to step 35.

**DTC P0406: EGR VALVE POSITION SENSOR CIRCUIT HIGH VOLTAGE**

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check EGR VLS in the DATA LIST with the HDS. Is 4.88 V or more indicated?

   **YES** - Go to step 3.

   **NO** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EGR valve and the ECM/PCM.

3. Turn the ignition switch OFF.
4. Disconnect the EGR valve 6P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between EGR valve 6P connector terminals No. 2 and No. 3.

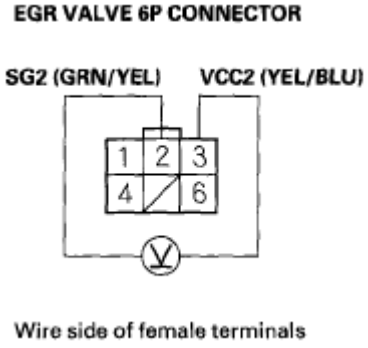



**Fig. 7: Measuring Voltage Between EGR Valve 6P Connector Terminals No. 2 And No. 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** - Go to step 11.

**NO** - Go to step 7

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7. Turn the ignition switch OFF.
8. Jump the SCS line with the HDS.
9. Disconnect ECM/PCM connector B (44P).
10. Check for continuity between EGR valve 6P connector terminal No. 2 and ECM/PCM connector terminal B33.

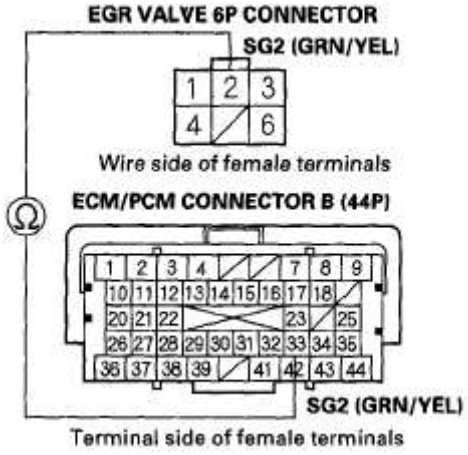



**Fig. 8: Checking Continuity Between EGR Valve 6P Connector Terminal No. 2 And ECM/PCM Connector Terminal B33**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 18.

**NO** - Repair open in the wire between the ECM/PCM (B33) and the EGR valve, then go to step 13.

11. Turn the ignition switch OFF.
12. Replace the EGR valve (see **EGR VALVE REPLACEMENT** ).
13. Reconnect all connectors.
14. Turn the ignition switch ON (II).
15. Reset the ECM/PCM with the HDS.
16. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).

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17. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0406 indicated?*

    **YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM, then go to step 1.

    **NO** - Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTCs troubleshooting.

18. Reconnect all connectors.
19. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
20. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0406 indicated?*

    **YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then recheck. If the ECM/PCM was substituted, go to step 1.

    **NO** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs are indicated, go to the indicated DTCs troubleshooting.

**DTC P2413: EGR SYSTEM MALFUNCTION**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.

3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Do the EGR TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EGR valve and the ECM/PCM.

   **NO** - Go to step 5.

5. Turn the ignition switch OFF.
6. Turn the ignition switch ON (II).
7. Check the EGR VLS in the DATA LIST with the HDS.

   *Is about 0 V indicated?*

   **YES** - Go to step 8.

   **NO** - Go to step 21.

8. Turn the ignition switch OFF.
9. Disconnect the EGR valve 6P connector.
10. Turn the ignition switch ON (II).
11. Measure voltage between EGR valve 6P connector terminal No. 3 and body ground.

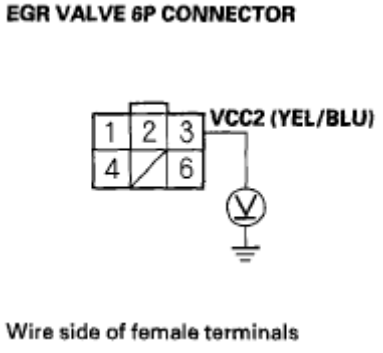



**Fig. 9: Measuring Voltage Between EGR Valve 6P Connector Terminal**

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**No. 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** - Go to step 16.

**NO** - Go to step 12.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect ECM/PCM connector B (44P).
15. Check for continuity between ECM/PCM connector terminal B18 and EGR valve 6P connector terminal No. 3.

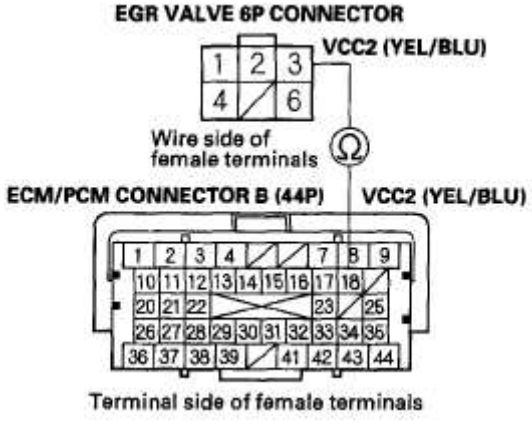



**Fig. 10: Checking Continuity Between ECM/PCM Connector Terminal B18 And EGR Valve 6P Connector Terminal No. 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 51.

**NO** - Repair open in the wire between the EGR valve and the ECM/PCM (B18), then go to step 44.

16. Turn the ignition switch OFF.

17. Jump the SCS line with the HDS.
18. Disconnect ECM/PCM connector B (44P).
19. Check for continuity between ECM/PCM connector terminal B29 and body ground.

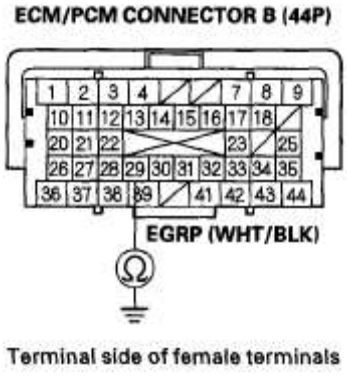



**Fig. 11: Checking Continuity Between ECM/PCM Connector Terminal B29 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the ECM/PCM (B29) and the EGR valve, then go to step 44.

**NO** - Go to step 20.

20. Check for continuity between ECM/PCM connector terminal B29 and EGR valve 6P connector terminal No. 1.

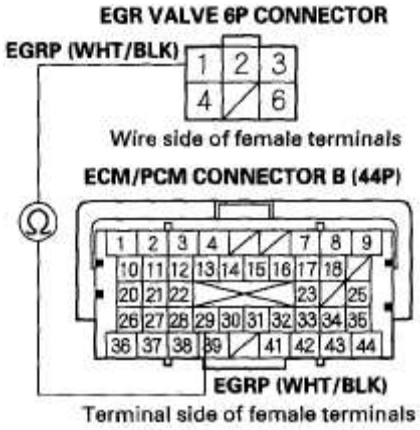



**Fig. 12: Checking Continuity Between ECM/PCM Connector Terminal B29 And EGR Valve 6P Connector Terminal No.1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 21.

**NO** - Repair open in the wire between the ECM/PCM (B29) and the EGR valve, then go to step 44.

21. Turn the ignition switch OFF.
22. If not already done, disconnect the EGR valve 6P connector.
23. At the EGR valve side, measure resistance between EGR valve 6P connector terminals No. 1 and No. 2.

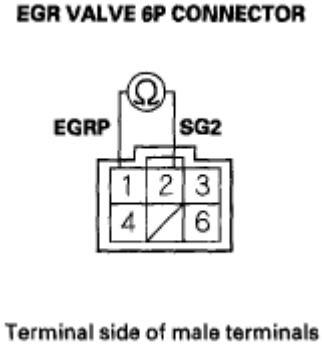



**Fig. 13: Measuring Resistance Between EGR Valve 6P Connector Terminals No. 1 And No. 2**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 100 kohms or more?*

**YES** - Go to step 43.

**NO** - Go to step 24.

24. At the EGR valve side, measure resistance between EGR valve 6P connector terminals No. 1 and No. 3.

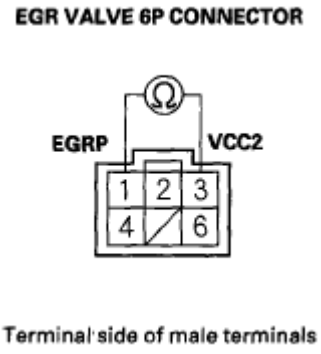



**Fig. 14: Measuring Resistance Between EGR Valve 6P Connector Terminals No. 1 And No. 3.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there 100 kohms or more?*

**YES** - Go to step 43.

**NO** - Go to step 25.

25. If not already done, jump the SCS line with the HDS.
26. If not already done, disconnect ECM/PCM connector B (44P).
27. Check for continuity between ECM/PCM connector terminal B2 and body ground.

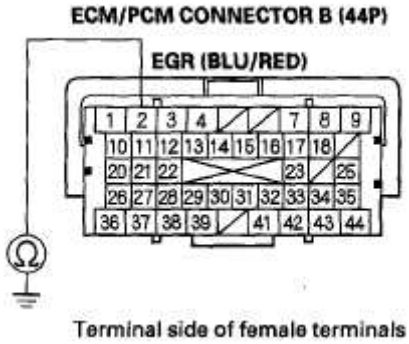



**Fig. 15: Checking For Continuity Between ECM/PCM Connector Terminal B2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the ECM/PCM (B2) and the EGR valve, then go to step 44.

**NO** - Go to step 28.

28. Check for continuity between ECM/PCM connector terminal B2 and EGR valve 6P connector terminal No. 4.

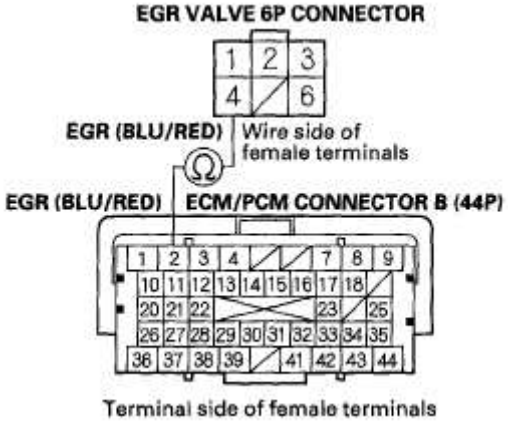



**Fig. 16: Checking Continuity Between ECM/PCM Connector Terminal B2 And EGR Valve 6P Connector Terminal 4**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 29.

**NO** - Repair open in the wire between the ECM/PCM (B2) and the EGR valve, then go to step 44.

29. Check for continuity between EGR valve 6P connector terminal No. 6 and body ground.

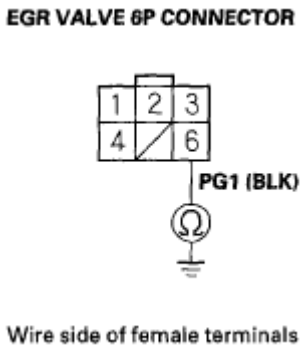



**Fig. 17: Checking Continuity Between EGR Valve 6P Connector Terminal No. 6 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 30.

**NO** - Repair open in the wire between the EGR valve and G101; A/T model (see **CONNECTOR TO HARNESS INDEX** ), M/T model (see **CONNECTOR TO HARNESS INDEX** ), then go to step 44.

30. Reconnect ECM/PCM connector B (44P).
31. Connect the battery positive terminal to EGR valve 6P connector terminal No. 4 with a jumper wire.

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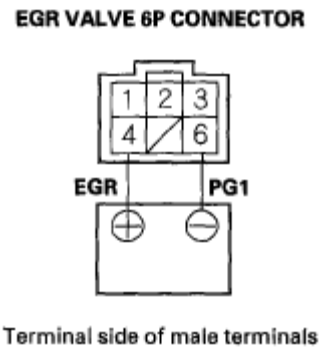



**Fig. 18: Connecting Battery Positive Terminal To EGR Valve 6P Connector Terminal No. 4 With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

32. Start the engine, and let it idle. Then connect the battery negative terminal to EGR valve 6P connector terminal No. 6 with a jumper wire.

    *Does the engine stall or run roughly?*

    **YES** - Go to step 51.

    **NO** - Go to step 33.

33. Turn the ignition switch OFF.
34. Remove the EGR valve (see **EGR VALVE REPLACEMENT** ).
35. Clean the intake manifold EGR port and the EGR pipe (see **EGR VALVE REPLACEMENT** ) with throttle plate and induction cleaner. Also, clean the passage inside the EGR valve with throttle plate and induction cleaner.
36. Install the EGR valve (see **EGR VALVE REPLACEMENT** ).
37. Reconnect all connectors.
38. Turn the ignition switch ON (II).
39. Reset the ECM/PCM with the HDS.
40. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
41. Do the EGR TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

**YES** - Go to step 49.

**NO** - Go to step 42.

42. Turn the ignition switch OFF.
43. Replace the EGR valve (see **EGR VALVE REPLACEMENT** ).
44. Reconnect all connectors.
45. Turn the ignition switch ON (II).
46. Reset the ECM/PCM with the HDS.
47. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
48. Do the EGR TEST in the INSPECTION MENU with the HDS.
49. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P2413 indicated?*

    **YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM, then go to step 1.

    **NO** - Go to step 50.

50. Monitor the OBD STATUS for DTC P2413 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 49, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, go to step 1 and recheck. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, go to step 47.

51. Turn the ignition switch OFF.
52. Reconnect all connectors.
53. Update the ECM/PCM if it does not have the latest software (see **UPDATING**

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**ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).

54. Do the EGR TEST in the INSPECTION MENU with the HDS.
55. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P2413 indicated?*

    **YES** - Check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 54. If the ECM/PCM was substituted, go to step 1.

    **NO** - Go to step 56.

56. Monitor the OBD STATUS for DTC P2413 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 55, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EGR valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 54. If the ECM/PCM was substituted, go to step 1. If the screen indicates EXECUTING, keep idling until a result comes on. If the screen indicates OUT OF CONDITION, go to step 54.

## EGR VALVE REPLACEMENT

1. Remove the injector cover (see step 8 in **ENGINE REMOVAL** ).
2. Disconnect the EGR valve 6P connector (A).

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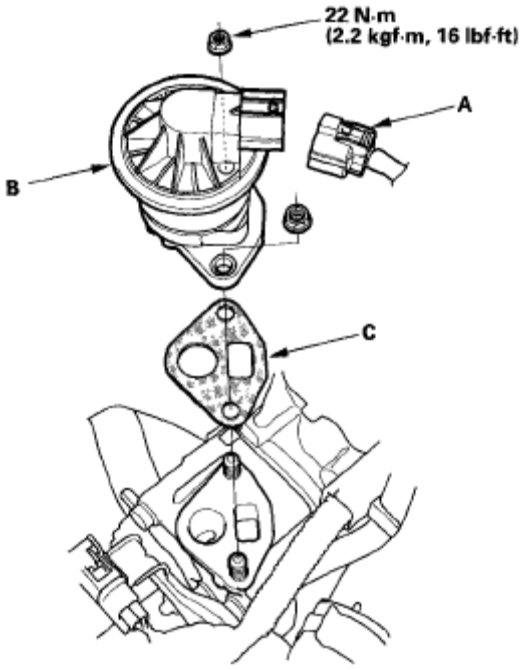



**Fig. 19: Disconnecting EGR Valve 6P Connector (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the EGR valve (B).
4. Install the parts in the reverse order of removal with a new gasket (C).
5. Install the injector cover (see step 48 in **ENGINE INSTALLATION** ).

## EGR PIPE REPLACEMENT

### REMOVAL

1. Remove the bolts (A) and nuts (B).



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**Fig. 20: Removing EGR Pipe Bolts And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the EGR pipe (C).

**INSTALLATION**

1. Install the EGR pipe on the water passage side, and tighten the nuts (A) by hand with a new gasket (B).

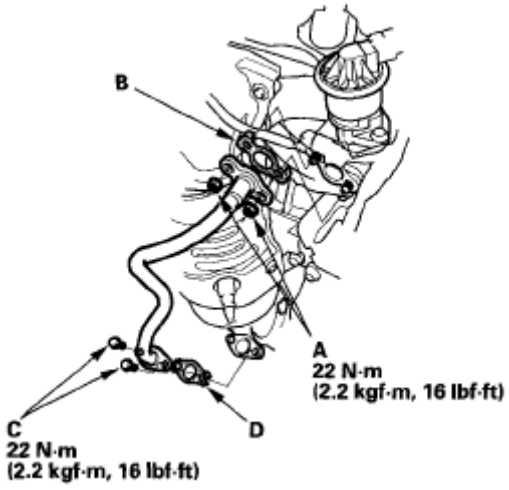



**Fig. 21: Installing EGR Pipe On Water Passage Side (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the EGR pipe on the TWC side, and tighten the bolts (C) with a new gasket (D).
3. Tighten the nuts on the water passage side.

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# BUZZERS, RELAYS & TIMERS

## BUZZERS, RELAYS & TIMERS LOCATION

| Component | Location |
|---|---|
| A/C Compressor Clutch Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| A/C Condenser Fan Relay | In underhood fuse/relay box. See **Fig. 2**. |
| Blower Motor Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| Console Accessory Power Socket Relay | Near under-dash junction box. See **Fig. 64**. |
| Driver's Seat Heater Relay (High) | Under driver's seat. See **Fig. 182**. |
| Driver's Seat Heater Relay (Low) | Under driver's seat. See **Fig. 183**. |
| ETCS Control Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| Fan Control Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| Front Accessory Power Socket Relay | Near under-dash junction box. See **Fig. 64**. |
| Front Passenger's Seat Heater Relay (High) | Under front passenger's seat. See **Fig. 183**. |
| Front Passenger's Seat Heater Relay (Low) | Under front passenger's seat. See **Fig. 183**. |
| Fuel Shut-Off Solenoid Valve Relay | Under left side of dash. See **Fig. 158**. |
| Ignition Coil Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| Injector Control Module Relay | Under left side of dash. See **Fig. 158**. |
| PGM-FI Main Relay 1 | In under-hood fuse/relay box. See **Fig. 2**. |

| | |
|---|---|
| PGM-FI Main Relay 2 | In under-dash fuse/relay box. See **Fig. 1**. |
| PGM-FI Sub-Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| Power Mirror Defogger Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| Power Window Relay | In under-dash fuse/relay box. See **Fig. 1**. |
| Radiator Fan Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| Rear Window Defogger Relay | In under-hood fuse/relay box. See **Fig. 2**. |
| Starter Control Relay | Under left side of dash. See **Fig. 158**. |
| Starter Cut Relay | In under-dash fuse/relay box. See **Fig. 1**. |

## CIRCUIT PROTECTION DEVICES

### CIRCUIT PROTECTION DEVICES LOCATION

| Component | Location |
|---|---|
| Under-Dash Fuse/Relay Box | Under left end of dash. See **Fig. 56**. |
| Under-Dash Junction Box | Under left side of dash. See **Fig. 63**. |
| Under-Hood Fuse/Relay Box | Left side of engine compartment. See **Fig. 41**. |

## CONTROL UNITS

### CONTROL UNITS LOCATION

| Component | Location |
|---|---|
| ABS Modulator-Control Unit | Right side of engine compartment. See **Fig. 3**. |
| ECM/PCM | Left side of engine compartment. See **Fig. 42**. |
| EPS Control Unit | Behind right kick panel. See **Fig. 82**. |

| | |
|---|---|
| Gauge Control Module (Speedo) | Left side of dash. See **Fig. 146**. |
| Gauge Control Module (Tach) | Left side of dash. See **Fig. 147**. |
| Immobilizer-Keyless Control Unit | On steering column. See **Fig. 54**. |
| Injector Control Module | Behind right kick panel. See **Fig. 159**. |
| Moonroof Control Unit | Center rear of roof. See **Fig. 112**. |
| ODS Unit | In front passenger' seat back. See **Fig. 89**. |
| SRS Unit | Under middle of dash. See **Fig. 74**. |
| TPMS Control Unit | Under left side of dash. See **Fig. 175**. |
| VSA Modulator Control Unit | Right side of engine compartment. See **Fig. 3**. |
| XM Receiver (2 Door) | Right side of trunk. See **Fig. 122**. |
| XM Receiver (4 Door) | Right side of trunk. See **Fig. 167**. |

## MOTORS

## MOTORS LOCATION

| Component | Location |
|---|---|
| A/C Condenser Fan Motor Connector | Top of A/C condenser fan motor. See **Fig. 14**. |
| Air Mix Control Motor | On left side of HVAC assembly. See **Fig. 66**. |
| Blower Motor | Under right side of dash. See **Fig. 81**. |
| Driver's Power Window Motor | In driver's door. See **Fig. 102**. |
| Front Passenger's Power Window Motor | In front passenger's door. See **Fig. 102**. |
| Fuel Tank Unit | In top of fuel tank. See **Fig. 119**. |
| Left Power Mirror Connector (4-Door) | Front of driver's door. See **Fig. 106**. |
| Left Power Mirror (2-Door) | Front of driver's door. See **Fig. 105**. |
| Left Rear Power Window Motor | In left rear door. See **Fig. 107**. |
| Mode Control Motor | Behind glove box, on HVAC assembly. See **Fig. 77**. |
| | Front of engine compartment. See **Fig.** |

| | |
|---|---|
| Radiator Fan Motor Connector | **15**. |
| Recirculation Control Motor | Behind glove box, on HVAC assembly. See **Fig. 78**. |
| Right Power Mirror | Front of front passenger's door. See **Fig. 105**. |
| Right Rear Power Window Motor | In right rear door. See **Fig. 107**. |
| Starter | Lower right rear of engine. See **Fig. 152**. |
| Windshield Washer Motor | Behind right side of front bumper. See **Fig. 127**. |
| Windshield Wiper Motor | Under right side of cowl cover. See **Fig. 49**. |

## SENDING UNITS & SENSORS

## SENDING UNITS & SENSORS LOCATION

| Component | Location |
|---|---|
| A/C Pressure Sensor | Right side of engine compartment. See **Fig. 3**. |
| A/F Sensor Connector (Except Si) | Top left rear of engine. See **Fig. 24**. |
| A/F Sensor Connector (Si) | Rear of engine compartment. See **Fig. 143**. |
| APP Sensor | Under left side of dash. See **Fig. 66**. |
| CKP Sensor (Except Si) | Top left rear of engine. See **Fig. 23**. |
| CKP Sensor (Si) | Lower front of engine. See **Fig. 131**. |
| CMP Sensor | Rear of engine. See **Fig. 30**. |
| CMP Sensor A | Right rear of engine. See **Fig. 32**. |
| CMP Sensor B | Right rear of engine. See **Fig. 32**. |
| Driver's Seat Position Sensor | Under driver's seat. See **Fig. 83**. |
| ECT Sensor 1 (Except Si) | Rear of engine. See **Fig. 27**. |
| ECT Sensor 1 (Si) | Right rear of engine. See **Fig. 33**. |
| ECT Sensor 2 | Lower left side of radiator. See **Fig. 135**. |

| | |
|---|---|
| EGR Valve & EGR Valve Position Sensor | Top left rear of engine. See **Fig. 25**. |
| EOP Sensor | Top right front of engine. See **Fig. 10**. |
| EPS Torque Sensor | Under left side of engine compartment. See **Fig. 168**. |
| Evaporator Temperature Sensor Connector | Under right side of dash. See **Fig. 80**. |
| Front Impact Sensor (Left/Right) | Behind respective side of front bumper. See **Fig. 130**. |
| Front Passenger's Weight Sensor (Front Inner Side) | Under left side of front passenger's seat. See **Fig. 90**. |
| Front Passenger's Weight Sensor (Front Outer Side) | Under right side of front passenger's seat. See **Fig. 91**. |
| Front Passenger's Weight Sensor (Rear Inner Side) | Under left side of front passenger's seat. See **Fig. 90**. |
| Front Passenger's Weight Sensor (Rear Outer Side) | Under right side of front passenger's seat. See **Fig. 91**. |
| FTP Sensor (Except GX) | Under left side of floor. See **Fig. 145**. |
| FTP Sensor (GX) | Behind rear seat (GX). See **Fig. 161**. |
| FTT Sensor | Behind rear seat (GX). See **Fig. 161**. |
| Fuel Pressure Sensor | Right rear of engine. See **Fig. 157**. |
| Fuel Temperature Sensor | Rear of engine. See **Fig. 154**. |
| Inner Side Front Passenger's Weight Sensor Connector (2-Door) | Under front passenger's seat. See **Fig. 88**. |
| Input Shaft (Mainshaft) Speed Sensor | On transmission housing. See **Fig. 35**. |
| Knock Sensor (Except Si) | Lower right rear of engine. See **Fig. 141**. |
| Knock Sensor (Si) | Left front side of engine. See **Fig. 22**. |
| Left Rear Wheel Speed Sensor Connector | Under left rear of vehicle (Right similar). See **Fig. 169**. |
| MAF/IAT Sensor (Except Si) | Left rear of engine compartment. See **Fig. 46**. |
| | Left side of engine compartment. See |

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| | |
|---|---|
| MAF/IAT Sensor (Si) | **Fig. 47**. |
| MAP Sensor (Except Si) | Rear of engine. See **Fig. 30**. |
| MAP Sensor (Si) | Left rear side of engine. See **Fig. 21**. |
| Motor Angle Sensor Connector | Under rear of engine. See **Fig. 133**. |
| Outer Side Front Passenger's Weight Sensor Connector (2-Door) | Under front passenger's seat. See **Fig. 88**. |
| Output Shaft (Countershaft) Speed Sensor (A/T) | On transmission housing. See **Fig. 36**. |
| Output Shaft (Countershaft) Speed Sensor (M/T) | On transmission housing. See **Fig. 140**. |
| Output Shaft (Countershaft) Speed Sensor (Si) | Under transmission housing (Si). See **Fig. 129**. |
| Outside Air Temperature Sensor | Behind left side of front bumper. See **Fig. 178**. |
| Rear Safing Sensor | Middle of floor. See **Fig. 96**. |
| Secondary HO2S Connector (Except Si) | Top left rear of engine. See **Fig. 24**. |
| Secondary HO2S Connector (Si) | Under center console. See **Fig. 93**. |
| Side Impact Sensor (Left/Right 1st) (2-Door) | At respective outer side of floor. See **Fig. 95**. |
| Side Impact Sensor (Left/Right 1st) (4-Door) | Base of respective "B" pillar. See **Fig. 99**. |
| Side Impact Sensor (Left/Right 2nd) (2-Door) | In respective "B" pillar. See **Fig. 98**. |
| Side Impact Sensor (Left/Right 2nd) (4-Door) | In respective "C" pillar. See **Fig. 116**. |
| Steering Angle Sensor | In steering column cover (Si). See **Fig. 165**. |
| TP Sensor/Throttle Actuator (Except Si) | On throttle body. See **Fig. 164**. |
| TP Sensor/Throttle Actuator (Si) | On throttle body. See **Fig. 174**. |
| Wheel Speed Sensor Connector (Left Front) | On left frame rail. See **Fig. 137**. |

| | |
|---|---|
| Wheel Speed Sensor Connector (Right Front) | On frame rail. See **Fig. 137**. |
| Wheel Speed Sensor Connector (Right Rear) | Under right rear of floor. See **Fig. 144**. |
| Wheel Speed Sensor (Left Rear) | Under left rear of floor. See **Fig. 144**. |
| Yaw Rate-Lateral Acceleration Sensor (Si) | Under middle of dash. See **Fig. 170**. |

## SOLENOIDS & SOLENOID VALVES

## SOLENOIDS & SOLENOID VALVES LOCATION

| Component | Location |
|---|---|
| A/C Compressor Connector (Except Si) | Left front of engine. See **Fig. 8**. |
| A/C Compressor Connector (Si) | Lower left front of engine. See **Fig. 134**. |
| A/T Clutch Pressure Control Solenoid Valve A | On transmission housing. See **Fig. 37**. |
| A/T Clutch Pressure Control Solenoid Valve B | On transmission housing. See **Fig. 37**. |
| A/T Clutch Pressure Control Solenoid Valve C | On transmission housing. See **Fig. 37**. |
| EGR Valve & EGR Valve Position Sensor | Top left rear of engine. See **Fig. 25**. |
| EVAP Canister Purge Valve | Right rear of engine. See **Fig. 31**. |
| EVAP Canister Vent Shut Valve | Under left side of floor. See **Fig. 145**. |
| Fuel Pressure Regulator Shut-Off Solenoid Valve | Right rear of engine. See **Fig. 155**. |
| Fuel Tank Internal Solenoid Valve (GX) | Left side of trunk (GX). See **Fig. 162**. |
| IMT Actuator | Right front of engine. See **Fig. 9**. |
| Injectors No. 1, 2, 3 & 4 (Except Si) | Top of engine, at respective cylinders. See **Fig. 19**. |
| | Top left side of engine, at respective |

| | |
|---|---|
| Injectors No. 1, 2, 3 & 4 (Si) | cylinders. See **Fig. 20**. |
| Reverse Lockout Solenoid | Top of transmission housing. See **Fig. 40**. |
| Rocker Arm Oil Control Solenoid (Except Si) | Top front of engine. See **Fig. 172**. |
| Rocker Arm Oil Control Solenoid (Si) | Top front of engine. See **Fig. 13**. |
| Shift Lock Solenoid Connector | Under center console. See **Fig. 92**. |
| Starter Solenoid (Except Si) | Lower right rear of engine. See **Fig. 152**. |
| Starter Solenoid (Si) | On starter motor. See **Fig. 173**. |
| Trunk Lid Opener Solenoid/Latch Switch | Middle of trunk lid. See **Fig. 124**. |
| VTC Oil Control Solenoid Valve | Front of engine. See **Fig. 12**. |

## SWITCHES

## SWITCHES LOCATION

| Component | Location |
|---|---|
| A/T Gear Position Indicator Panel Light/Park Pin Switch Connector (A/T) | Under center console. See **Fig. 92**. |
| Back-Up Light Switch (Except Si) | On transaxle housing. See **Fig. 38**. |
| Back-Up Light Switch (Si) | On transmission housing. See **Fig. 39**. |
| Brake Fluid Level Switch | On brake master cylinder reservoir. See **Fig. 44**. |
| Brake Pedal Position Switch | Under left side of dash. See **Fig. 61**. |
| Clutch Interlock Switch | Under left side of dash. See **Fig. 59**. |
| Clutch Pedal Position Switch | Under left side of dash. See **Fig. 59**. |
| Door Lock Actuator/Knob Switch (Driver's/Front Passenger's) | Rear of respective front door. See **Fig. 103**. |
| Door Lock Actuator/Knob Switch (Left/Right Rear) | Rear of respective rear door. See **Fig. 108**. |
| Driver's Door Switch | In left "B" pillar. See **Fig. 100**. |

| | |
|---|---|
| Driver's Seat Belt Switch Connector | Under driver's seat. See **Fig. 85**. |
| Front Passenger's Door Switch | In right "B" pillar. See **Fig. 100**. |
| Front Passenger's Seat Belt Switch Connector | Under front passenger's seat. See **Fig. 87**. |
| Fuel Fill Door Switch Connector | Left rear shelf (GX). See **Fig. 163**. |
| Fuel Pressure Regulator Switch | Right rear of engine. See **Fig. 156**. |
| Left Rear Door Switch | In left "C" pillar. See **Fig. 101**. |
| Oil Pressure Switch (Except Si) | Top left rear of engine. See **Fig. 23**. |
| Oil Pressure Switch (Si) | Near oil filter. See **Fig. 132**. |
| Parking Brake Switch | At base of parking brake lever. See **Fig. 92**. |
| PSP Switch | Right side of engine compartment. See **Fig. 6**. |
| Right Rear Door Switch | In right "C" pillar. See **Fig. 101**. |
| Rocker Arm Oil Pressure Switch | Top front of engine. See **Fig. 13**. |
| Security Hood Switch Connector | Front center of engine compartment. See **Fig. 16**. |
| Transmission Range Switch | On transmission housing. See **Fig. 137**. |
| Trunk Key Cylinder Switch (2-Door) | Right side of trunk lid, on key cylinder assembly. See **Fig. 126**. |
| Trunk Key Cylinder Switch (4-Door) | Right side of trunk lid. See **Fig. 151**. |
| Trunk Latch Switch Connector | Middle of trunk lid. See **Fig. 123**. |
| Trunk Lid Opener Solenoid/Latch Switch | Middle of trunk lid. See **Fig. 124**. |
| 2nd Clutch Transmission Fluid Pressure Switch | On transmission housing. See **Fig. 35**. |
| 3rd Clutch Transmission Fluid Pressure Switch | On transmission housing. See **Fig. 139**. |

## MISCELLANEOUS

## MISCELLANEOUS LOCATION

| Component | Location |
|---|---|

| | |
|---|---|
| Alternator (Except Si) | Left front of engine. See **Fig. 8**. |
| Alternator (Si) | Lower left front of engine. See **Fig. 11**. |
| AM/FM Antenna Amplifier | Right "C" pillar. See **Fig. 118**. |
| AM Signal Window Antenna (2-Door) | Top right side of rear window. See **Fig. 117**. |
| AM Signal Window Antenna (4-Door) | In right "C" pillar. See **Fig. 118**. |
| Antenna Lead Connector | Under front of center console. See **Fig. 76**. |
| Blower Power Transistor | Under right side of dash, near blower motor. See **Fig. 80**. |
| Cable Reel Connector A | On steering column. See **Fig. 53**. |
| Cable Reel Connector B | On steering column. See **Fig. 52**. |
| Cable Reel Connector C | In steering wheel. See **Fig. 51**. |
| DLC | Under left side of dash. See **Fig. 67**. |
| Driver's Airbag First & Second Inflators Connector | In steering wheel. See **Fig. 50**. |
| Driver's Seat Belt Buckle Tensioner Connector | Under driver's seat. See **Fig. 85**. |
| Driver's Seat Belt Tensioner Connector (4-Door) | Base of left "B" pillar. See **Fig. 99**. |
| Driver's Seat Belt Tensioner (2-Door) | At left "B" pillar. See **Fig. 98**. |
| Driver's Side Airbag Inflator Connector | Under driver's seat. See **Fig. 84**. |
| EPS Gearbox Connectors A & B | Under rear of engine. See **Fig. 133**. |
| FM Signal Window Antenna (2-Door) | Top right side of rear window. See **Fig. 117**. |
| FM Signal Window Antenna (4-Door) | In right "C" pillar. See **Fig. 118**. |
| Front Passenger's Airbag First & Second Inflators Connector | Behind right side of dash. See **Fig. 71**. |
| Front Passenger's Seat Belt Buckle Tensioner Connector | Under front passenger's seat. See **Fig. 87**. |
| Front Passenger's Seat Belt Tensioner Connector (4-Door) | Base of right "B" pillar. See **Fig. 99**. |

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| | |
|---|---|
| Front Passenger's Seat Belt Tensioner (2-Door) | At right "B" pillar. See **Fig. 98**. |
| Front Passenger's Side Airbag Inflator Connector | Under front passenger's seat. See **Fig. 86**. |
| Fuel Pressure Regulator Leak Check Connector | Front of engine compartment. See **Fig. 153**. |
| GPS Antenna | Under middle of dash. See **Fig. 70**. |
| Horn | Behind left side of front bumper. See **Fig. 178**. |
| Ignition Coils No. 1, 2, 3 & 4 (Except Si) | Top of engine. See **Fig. 18**. |
| Ignition Coils No. 1, 2, 3 & 4 (Si) | Top of engine. See **Fig. 171**. |
| Junction Connector C101 | Near brake master cylinder. See **Fig. 45**. |
| Junction Connector C105 | Top rear of engine. See **Fig. 26**. |
| Junction Connector C206 | Right side of engine compartment. See **Fig. 5**. |
| Junction Connector C207 | Right rear of engine compartment. See **Fig. 7**. |
| Junction Connector C753 | Front of driver's door. See **Fig. 177**. |
| Left Side Curtain Airbag Inflator Connector (2-Door) | In left "C" pillar. See **Fig. 113**. |
| Left Side Curtain Airbag Inflator Connector (4-Door) | In left "C" pillar. See **Fig. 114**. |
| MES Connector | On under-dash fuse/relay box. See **Fig. 148**. |
| Microphone (Navigation) | In roof console. See **Fig. 109**. |
| Noise Reduction Condenser Connector | In left "C" pillar. See **Fig. 116**. |
| Right Side Curtain Airbag Inflator Connector (2-Door) | In right "C" pillar. See **Fig. 113**. |
| Right Side Curtain Airbag Inflator Connector (4-Door) | In right "C" pillar. See **Fig. 114**. |
| Stereo Amplifier (2-Door) | Under middle of dash. See **Fig. 176**. |

| | |
|---|---|
| Stereo Amplifier (4-Door) | Under driver's seat. See **Fig. 94**. |
| Thermal Joint S1 (Except Si) | Rear of engine. See **Fig. 29**. |
| Thermal Joint S1 (Si) | Rear of engine. See **Fig. 34**. |
| Thermal Joint S2 | Rear of engine. See **Fig. 29**. |
| Thermal Joint S3 (Except Si) | Rear of engine. See **Fig. 29**. |
| Thermal Joint S3 (Si) | Rear of engine. See **Fig. 34**. |
| Thermal Joint S4 | Rear of engine. See **Fig. 29**. |
| Thermal Joint S11 | Rear of engine. See **Fig. 34**. |
| XM Antenna Lead Connector (2-Door) | Left rear of roof. See **Fig. 111**. |
| XM Antenna Lead Connector (4-Door) | Left rear of roof. See **Fig. 166**. |

## CONNECTORS

## CONNECTORS LOCATION

| Component | Location |
|---|---|
| C102 (Except Si) (Black, 1 Pin) | Near brake master cylinder. See **Fig. 45**. |
| C102 (Si) (Black, 1 Pin) | Left front of engine compartment. See **Fig. 48**. |
| C103 (Black, 1 Pin) | On lower rear of engine. See **Fig. 142**. |
| C106 (Black, 10 Pin) | Left side of engine. See **Fig. 17**. |
| C107 (Black, 10 Pin) | On transmission housing. See **Fig. 36**. |
| C109 (Black/Gray, 8 Pin) | Underside of transmission housing. See **Fig. 138**. |
| C201 (Blue, 14 Pin) | Behind left kick panel. See **Fig. 69**. |
| C202 (Blue, 20 Pin) | Behind left kick panel. See **Fig. 179**. |
| C203 (Yellow, 4 Pin) | Under under-dash fuse/relay box. See **Fig. 57**. |
| C204 (White, 14 Pin) | Behind left kick panel. See **Fig. 58**. |
| C205 (Brown, 2 Pin) | Under left side of dash. See **Fig. 65**. |
| C208 (2 Door, 4 Door) (White, 3 Pin) | Behind left kick panel. See **Fig. 58**. |
| C209 (White, 4 Pin) | Under right side of engine compartment. See **Fig. 133**. |

| | |
|---|---|
| C210 (Optional) (Brown, 1 Pin) | Under left end of dash. See **Fig. 61**. |
| C211 (Optional) (Brown, 1 Pin) | Behind right side of front bumper. See **Fig. 128**. |
| C501 (2-Door) (White, 23 Pin) | Behind left kick panel. See **Fig. 179**. |
| C501 (4-Door) (White, 23 Pin) | Behind left kick panel. See **Fig. 69**. |
| C502 (2 Door) (White, 4 Pin) | Behind left kick panel. See **Fig. 179**. |
| C502 (4-Door) (White, 20 Pin) | Behind left kick panel. See **Fig. 69**. |
| C504 (White, 3 Pin) | Behind left kick panel. See **Fig. 180**. |
| C505 (White, 20 Pin) | Under middle of dash. See **Fig. 71**. |
| C506 (White, 23 Pin) | Under front of center console. See **Fig. 76**. |
| C509 (Optional) (White, 6 Pin) | Under middle of dash. See **Fig. 72**. |
| C601 (2-Door) (White, 13 Pin) | Under front of center console. See **Fig. 73**. |
| C601 (4-Door) (White, 12 Pin) | Under front of center console. See **Fig. 73**. |
| C602 (White, 2 Pin) | Under driver's seat. See **Fig. 84**. |
| C603 (White, 12 Pin) | Under front of center console. See **Fig. 73**. |
| C604 (White, 8 Pin) | Under driver's seat. See **Fig. 84**. |
| C606 (Brown, 12 Pin) | Under center console. See **Fig. 181**. |
| C701 (2-Door) (White, 14 Pin) | In left "C" pillar. See **Fig. 113**. |
| C701 (4-Door) (White, 14 Pin) | In left "C" pillar. See **Fig. 115**. |
| C702 (Light Blue, 6 Pin) | Left "C" pillar. See **Fig. 115**. |
| C703 (Green, 2 Pin) | Middle of trunk lid. See **Fig. 125**. |
| C751 (Blue, 23 Pin) | Under left end of dash. See **Fig. 55**. |
| C752 (White, 18 Pin) | Under left end of dash. See **Fig. 55**. |
| C754 (White, 18 Pin) | In driver's door. See **Fig. 104**. |
| C761 (Blue, 23 Pin) | Under right end of dash. See **Fig. 55**. |
| C762 (White, 18 Pin) | Under right end of dash. See **Fig. 55**. |
| C763 (White, 18 Pin) | In front passenger's door. See **Fig. 104**. |
| C771 (White, 18 Pin) | At left "B" pillar. See **Fig. 100**. |

| | |
|---|---|
| C781 (White, 18 Pin) | At right "B" pillar. See **Fig. 100**. |
| C782 (2-Door) (White, 8 Pin) | Under front passenger's seat. See **Fig. 86**. |
| C782 (4-Door) (White, 4 Pin) | Under front passenger's seat. See **Fig. 86**. |
| C783 (White, 8 Pin) | Under front passenger's seat. See **Fig. 86**. |
| C801 (DX, DX-G, LX & GX) (Blue, 6 Pin) | Under under-dash fuse/relay box. See **Fig. 57**. |
| C801 (EX, EX-L & Si) (Blue, 20 Pin) | Under under-dash fuse/relay box. See **Fig. 57**. |
| C852 (Brown, 1 Pin) | In left "C" pillar. See **Fig. 113**. |
| C861 (Light Blue, 6 Pin) | Left side of rear seat back. See **Fig. 160**. |

## GROUNDS

## GROUNDS LOCATION

| Component | Location |
|---|---|
| G1 | Left side of engine compartment. See **Fig. 43**. |
| G2 | At top right front of engine. See **Fig. 4**. |
| G3 | Left side of engine compartment. See **Fig. 43**. |
| G101 (Except Si) | Right rear of engine. See **Fig. 28**. |
| G101 (Si) | Left rear of engine. See **Fig. 21**. |
| G201 | Behind right side of front bumper. See **Fig. 128**. |
| G202 | Behind right side of front bumper. See **Fig. 128**. |
| G301 | Lower left side of engine compartment. See **Fig. 136**. |
| G401 | Behind left kick panel. See **Fig. 68**. |

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| | |
|---|---|
| G402 | Behind glove box. See **Fig. 79**. |
| G403 (2 Door) | Behind right kick panel. See **Fig. 82**. |
| G403 (4-Door) | Behind glove box. See **Fig. 79**. |
| G501 | Under gauge assembly. See **Fig. 60**. |
| G502 | Behind glove box. See **Fig. 78**. |
| G503 | Under left side of dash. See **Fig. 62**. |
| G504 | Near under-dash junction box. See **Fig. 64**. |
| G505 | Behind glove box. See **Fig. 77**. |
| G506 | Under middle of dash. See **Fig. 75**. |
| G601 | Front left side of floor. See **Fig. 94**. |
| G602 | Front right side of floor. See **Fig. 97**. |
| G603 | In left "C" pillar. See **Fig. 115**. |
| G701 (2-Door) | Left side of trunk. See **Fig. 120**. |
| G701 (4-Door) | Left rear of trunk. See **Fig. 121**. |
| G801 | Left side of roof. See **Fig. 149**. |
| G801 | Right "C" pillar. See **Fig. 150**. |
| G851 | Base of right "C" pillar. See **Fig. 110**. |

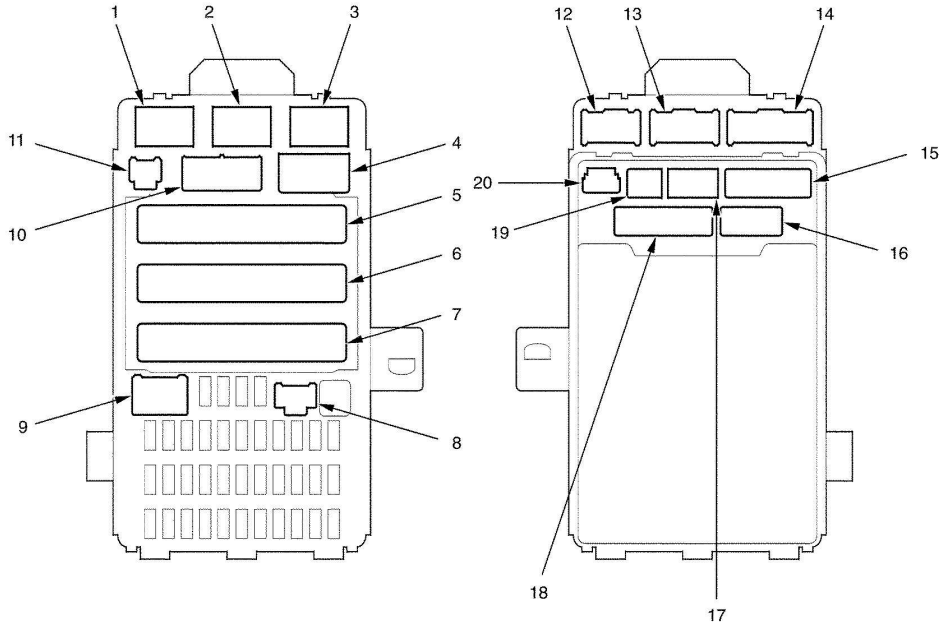
## COMPONENT LOCATION GRAPHICS

**NOTE: Figures may show multiple component locations. Refer to appropriate table for proper figure references.**

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## Under-dash Fuse/Relay Box




(View of Front Side) (View of Rear Side)

| Ref | Socket | Cavities | Connects to |
|---|---|---|---|
| 1 | Power Window Relay | 4 | |
| 2 | PGM-FI Main Relay 2 | 4 | |
| 3 | Starter Cut Relay | 4 | |
| 4 | D | 2 | Dashboard wire harness |
| 5 | E | 42 | Floor Wire Harness |
| 6 | F | 34 | Engine Compartment Wire Harness |
| 7 | G | 21 | Engine Compartment Wire Harness |
| 8 | H (MICU Service Check Connector) | 3 | |
| 9 | A (Optional Connector) | 6 | |
| 10 | C | 4 | Dashboard wire harness |
| 11 | B (MES Connector) | | Dashboard wire harness |
| 12 | K | 8 | Dashboard wire harness |
| 13 | M | 10 | Dashboard wire harness |
| 14 | N | 14 | Dashboard wire harness |
| 15 | R | 20 | Dashboard wire harness |
| 16 | S (MICU) | 20 | Dashboard wire harness |
| 17 | Q | 16 | Dashboard wire harness |
| 18 | T (MICU) | 34 | Dashboard wire harness |
| 19 | P | 10 | Dashboard wire harness |
| 20 | J | 4 | Dashboard wire harness |

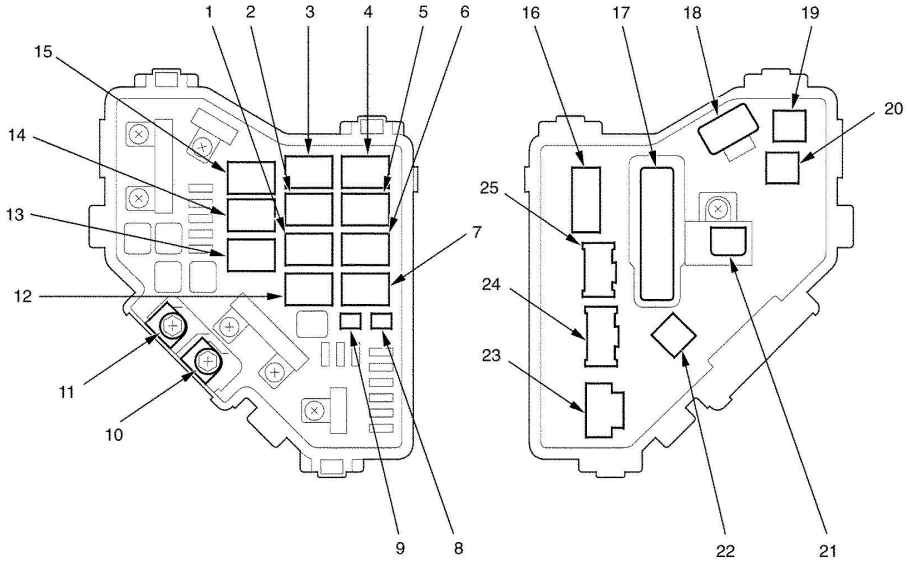
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**Fig. 1: Under-Dash Fuse/Relay Box**
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## Under-hood Fuse/Relay Box




| Ref | Socket | Cavities | Connects to |
|---|---|---|---|
| 1 | Rear Window Defogger Relay | 4 | |
| 2 | Blower Motor Relay | 4 | |
| 3 | A/C Condenser Fan Relay | 4 | |
| 4 | Fan Control Relay | 5 | |
| 5 | Power Mirror Defogger Relay (Canada: LX, EX, Si) | 5 | |
| 6 | PGM-FI Sub-relay | 4 | |
| 7 | Ignition Coil Relay | 4 | |
| 8 | Radiator Fan Diode | 2 | (Plugs directly into the fuse/relay box) |
| 9 | A/C Condenser Fan Diode | 2 | |
| 10 | T3 | | Engine Wire Harness (DX, DX-G, LX, EX) |
| 10 | T3 | | Starter Sub-harness (Si) |
| 11 | T101 | | Engine Wire Harness (DX, DX-G, LX, EX) |
| 11 | T101 | | Starter Sub-harness (Si) |
| 12 | A/C Compressor Clutch Relay | 4 | |
| 13 | PGM-FI Main Relay 1 | 4 | |
| 14 | ETCS Control Relay | 4 | |
| 15 | Radiator Fan Relay | 4 | |
| 16 | J | 4 | Engine Compartment Wire Harness |
| 17 | F | 20 | Engine Compartment Wire Harness |
| 18 | K | 2 | Engine Compartment Wire Harness |
| 19 | G | 1 | Engine Compartment Wire Harness |
| 20 | H | 1 | Engine Compartment Wire Harness |
| 21 | A (ELD Unit) (USA; Canada: Si) | 3 | Engine Compartment Wire Harness |
| 22 | B (Si) | 1 | Engine Compartment Wire Harness |
| 23 | C | 2 | Engine Compartment Wire Harness |
| 24 | E | 10 | Engine Compartment Wire Harness |
| 25 | D | 8 | Engine Compartment Wire Harness |

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**Fig. 2: Under-Hood Fuse/Relay Box**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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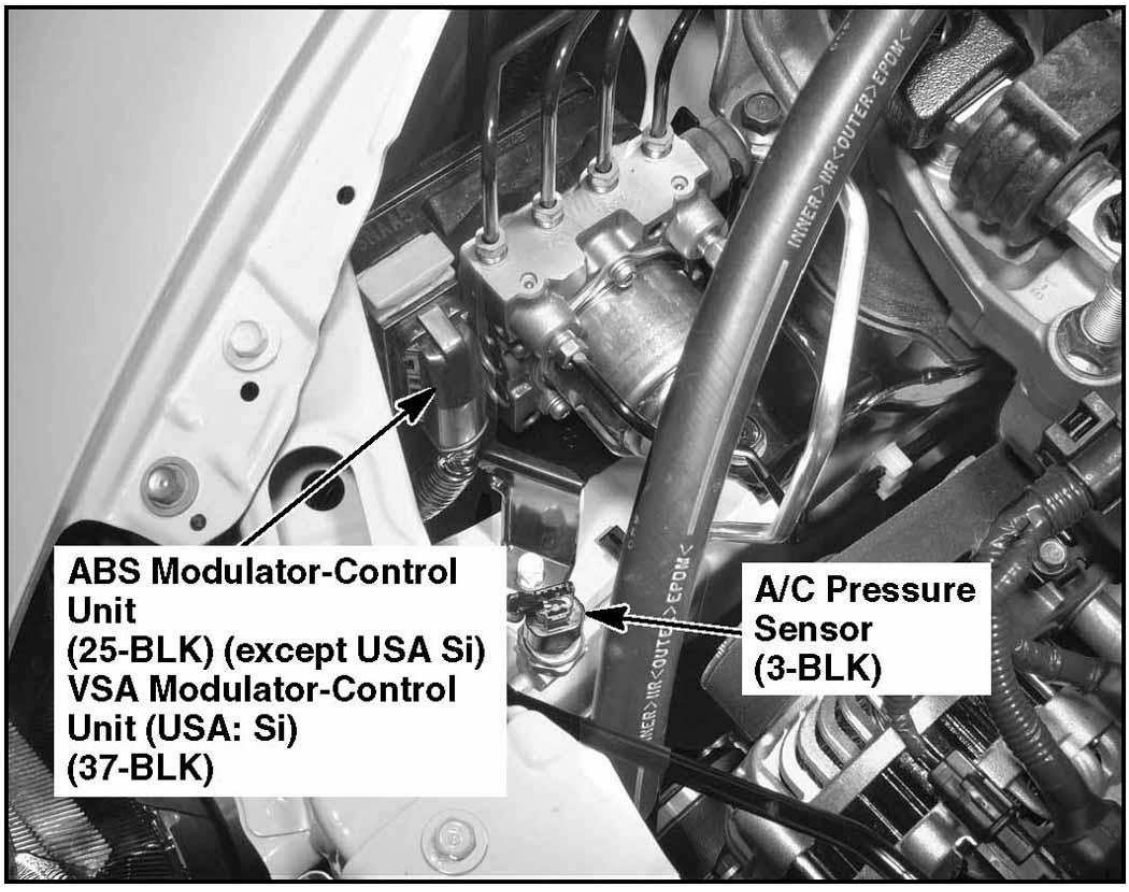
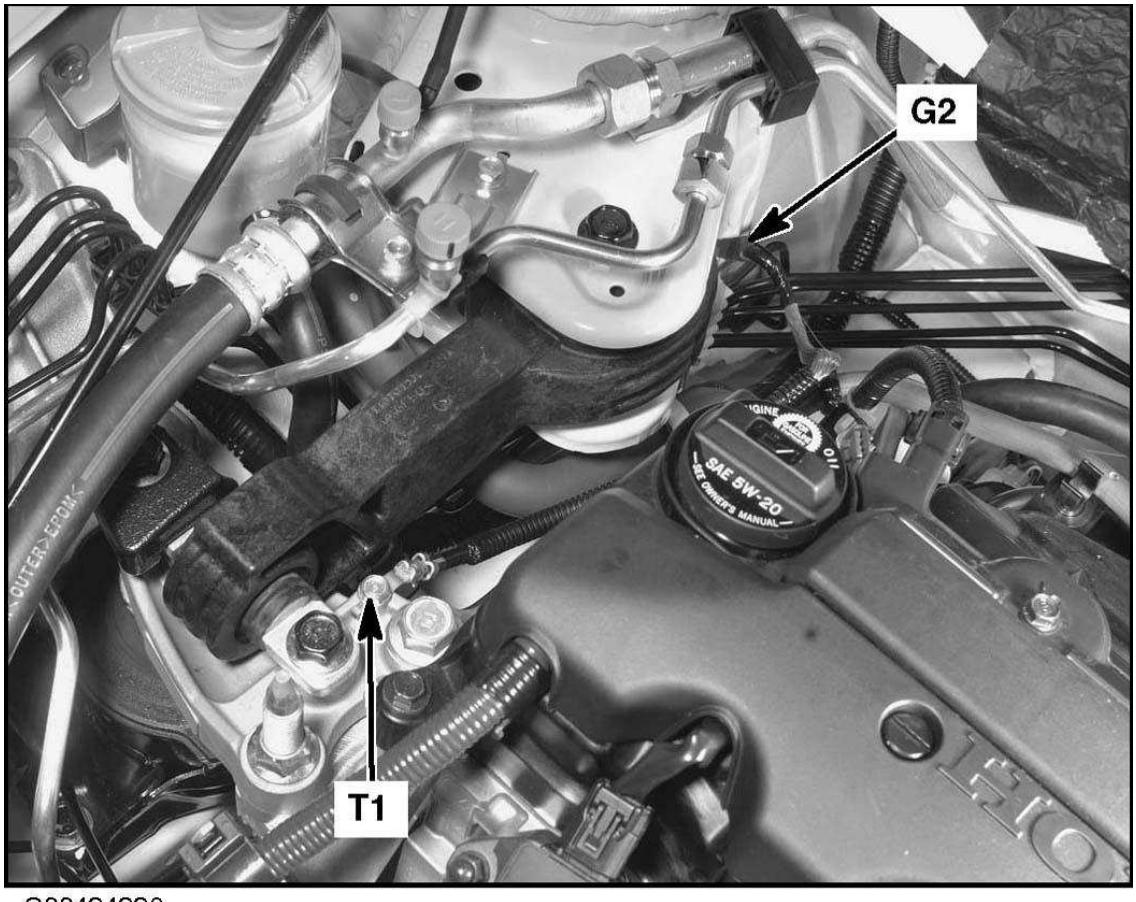



**Fig. 3: Right Side Of Engine Compartment**
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**Fig. 4: Right Side Of Engine Compartment**
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**Fig. 5: Right Side Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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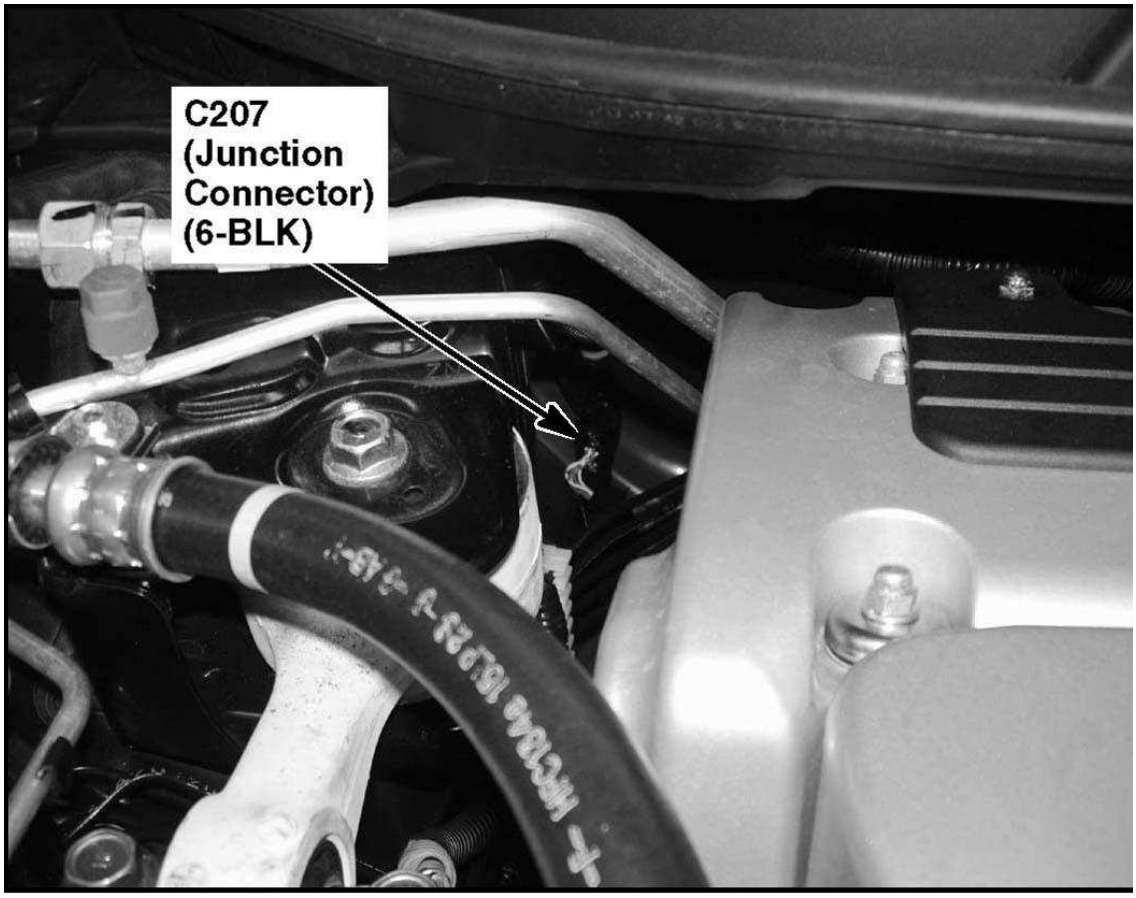



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**Fig. 6: Right Side Of Engine Compartment (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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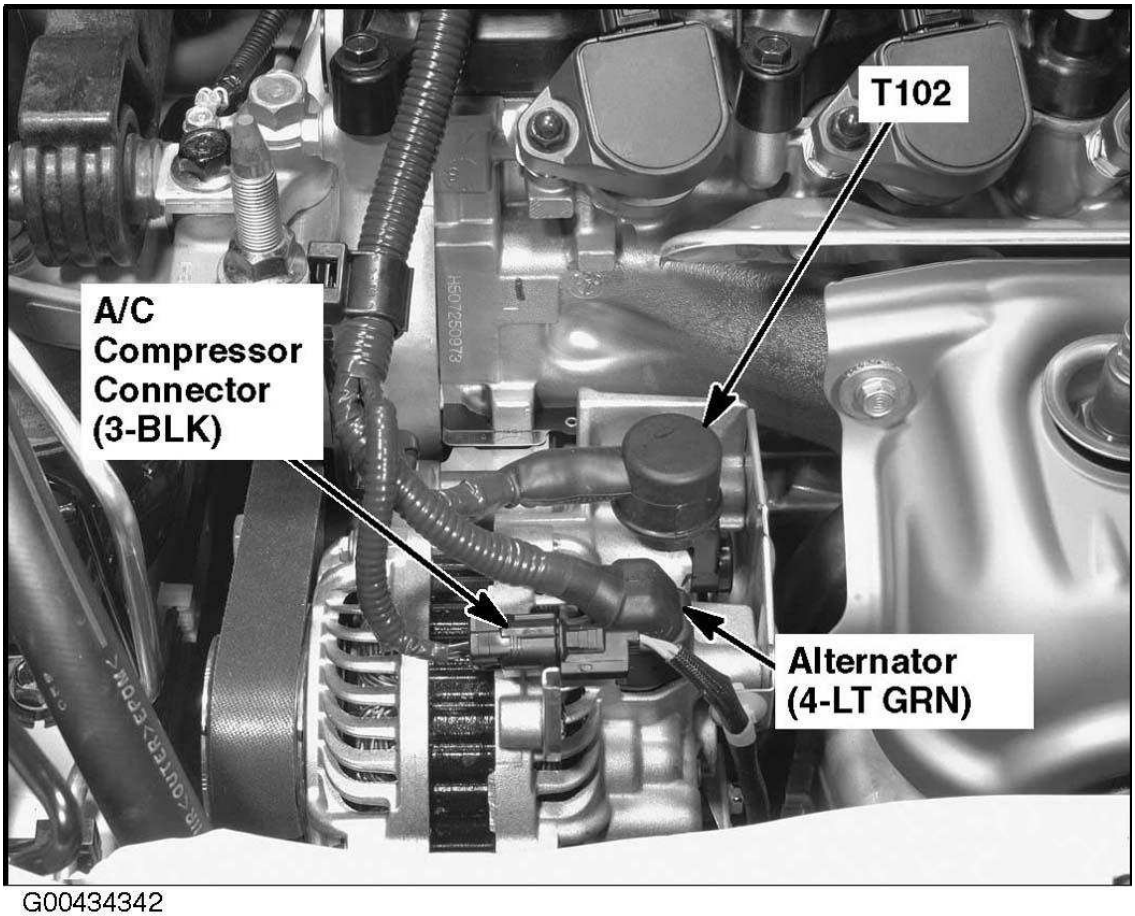



G00434341

**Fig. 7: Right Side Of Engine Compartment (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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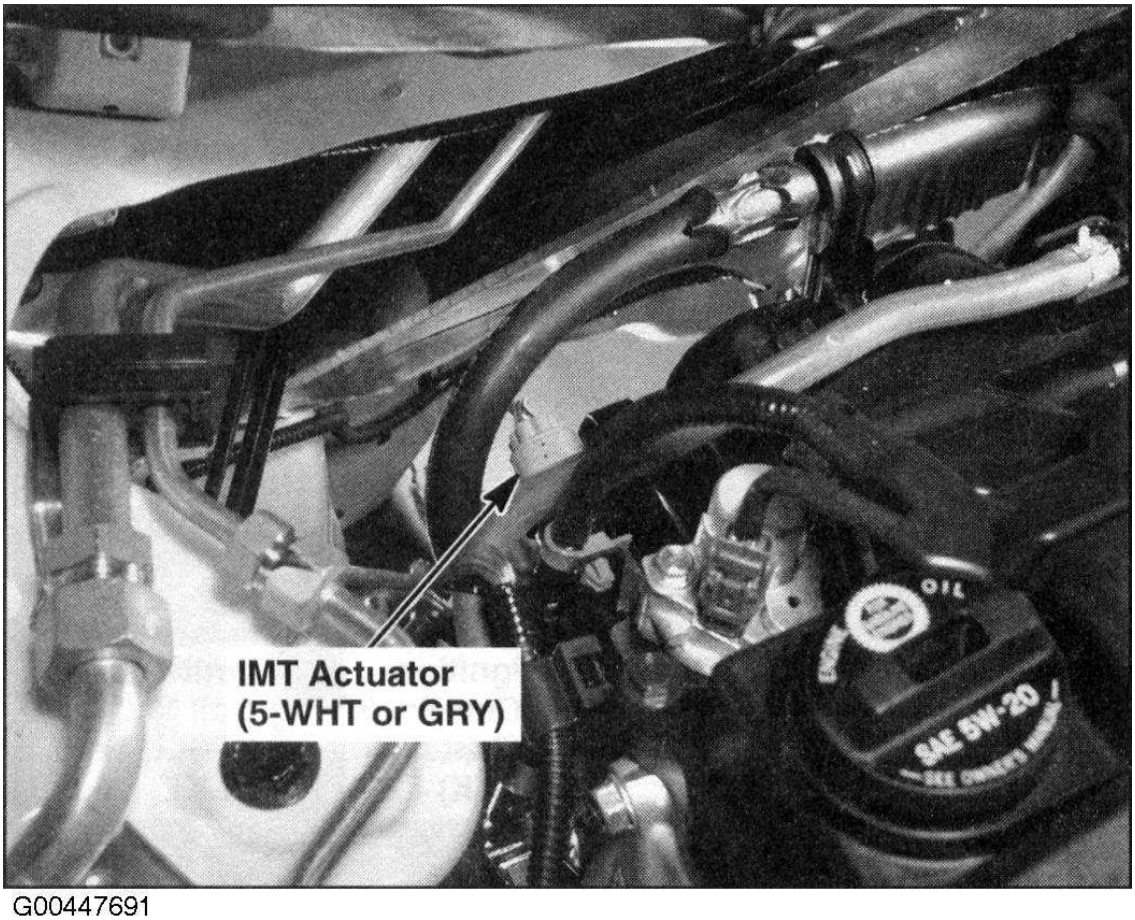



G00434342

**Fig. 8: Left Front Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

# 2008 Honda Civic GX

2008 HONDA Civic - Except Hybrid

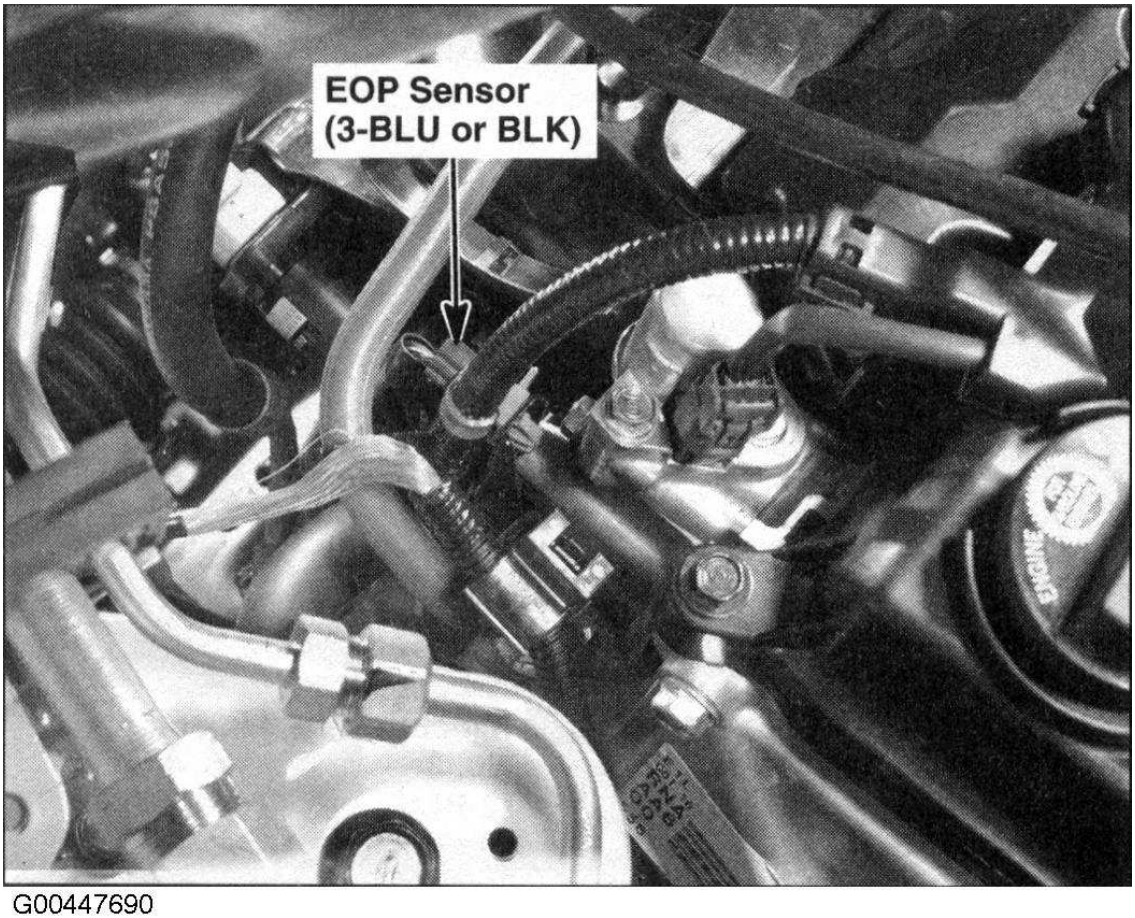



G00447691

**Fig. 9: Right Front Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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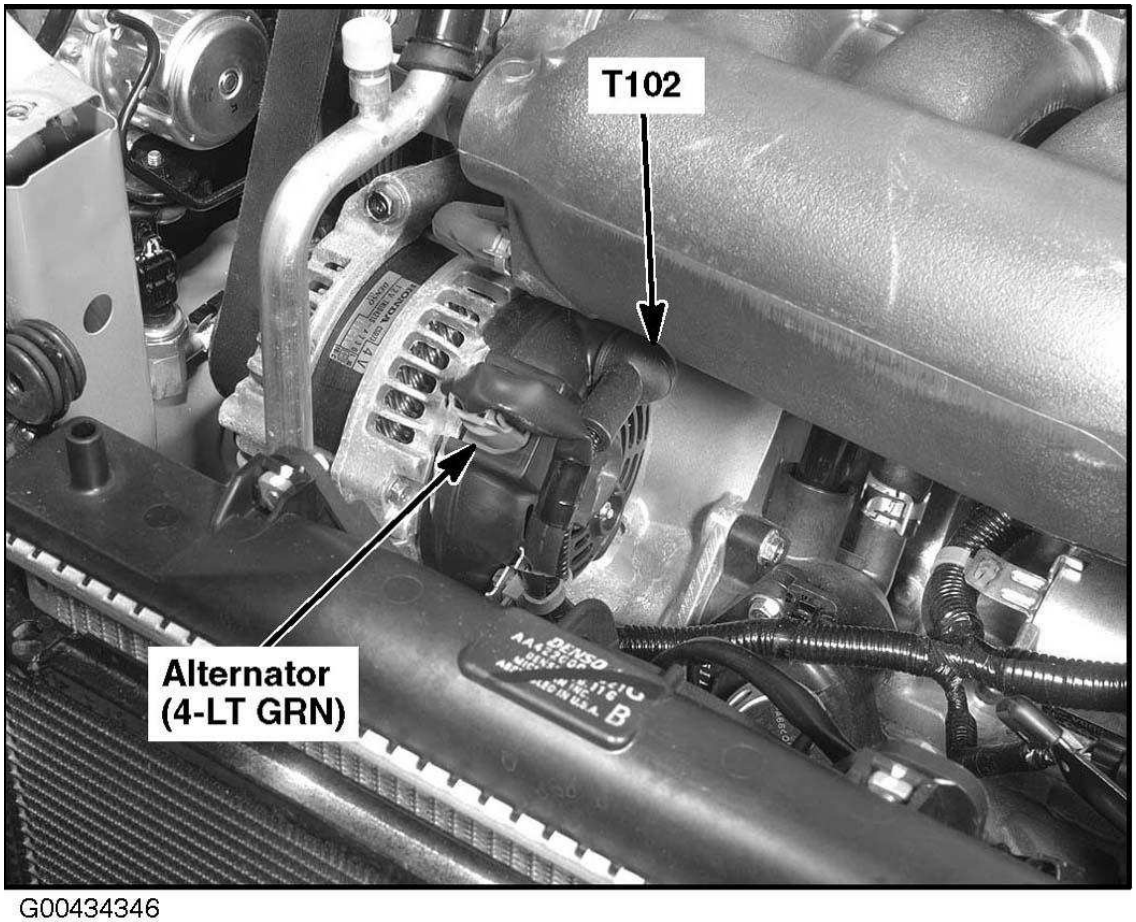



G00447690

**Fig. 10: Right Front Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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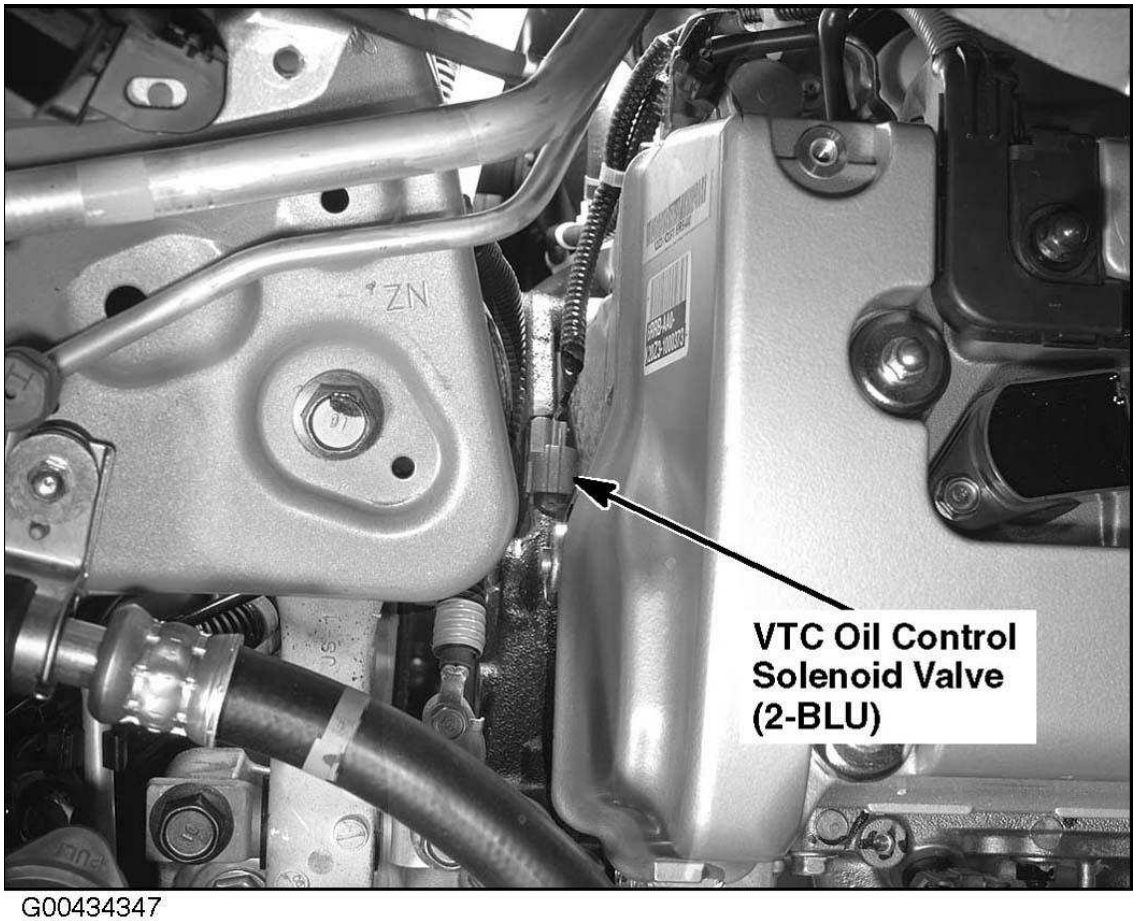



G00434346

**Fig. 11: Left Front Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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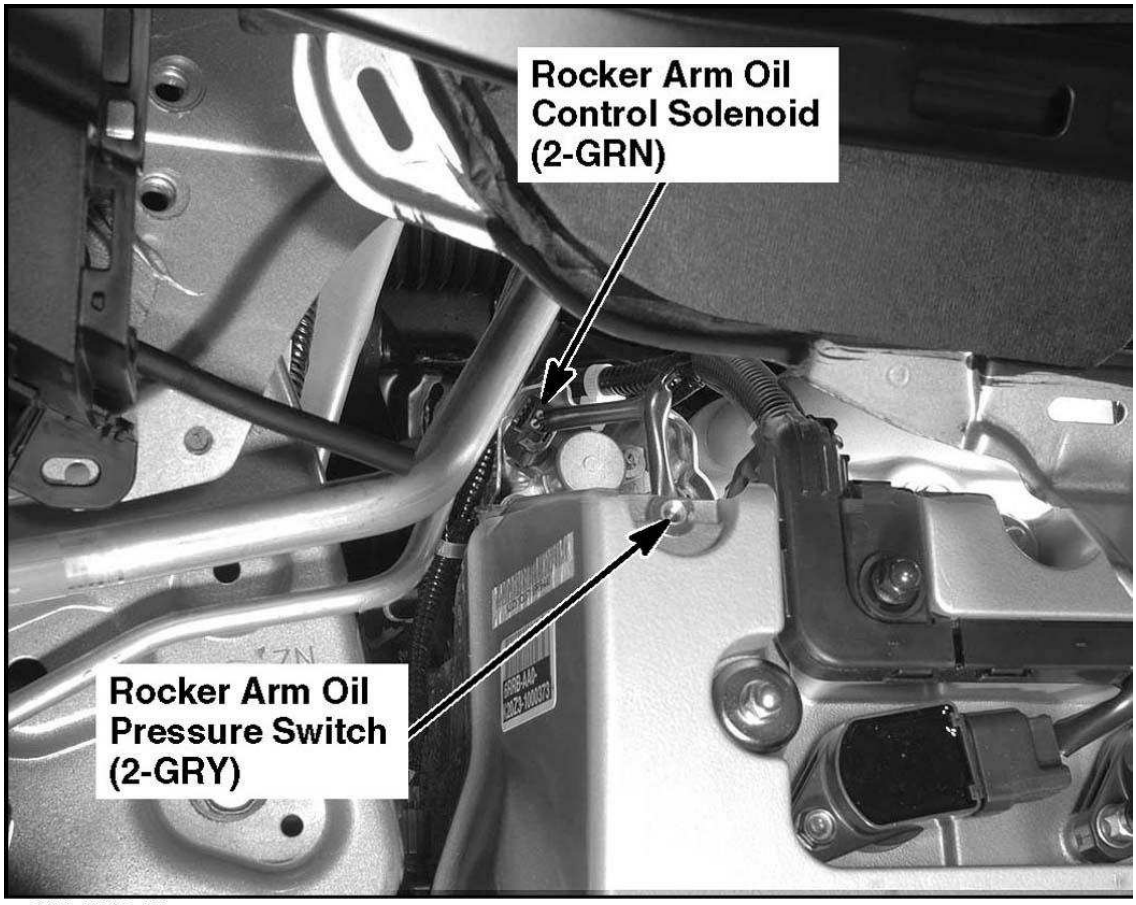



G00434347

**Fig. 12: Front Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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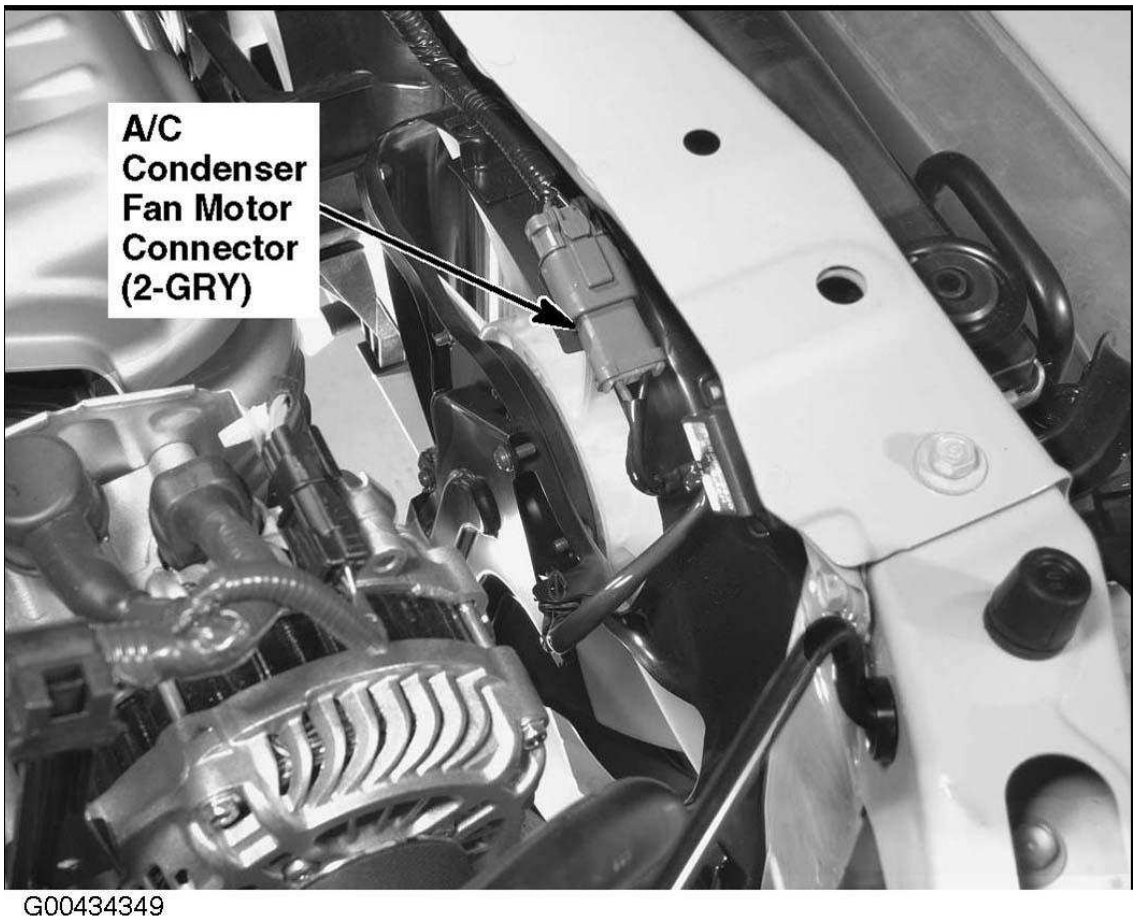



G00434348

**Fig. 13: Front Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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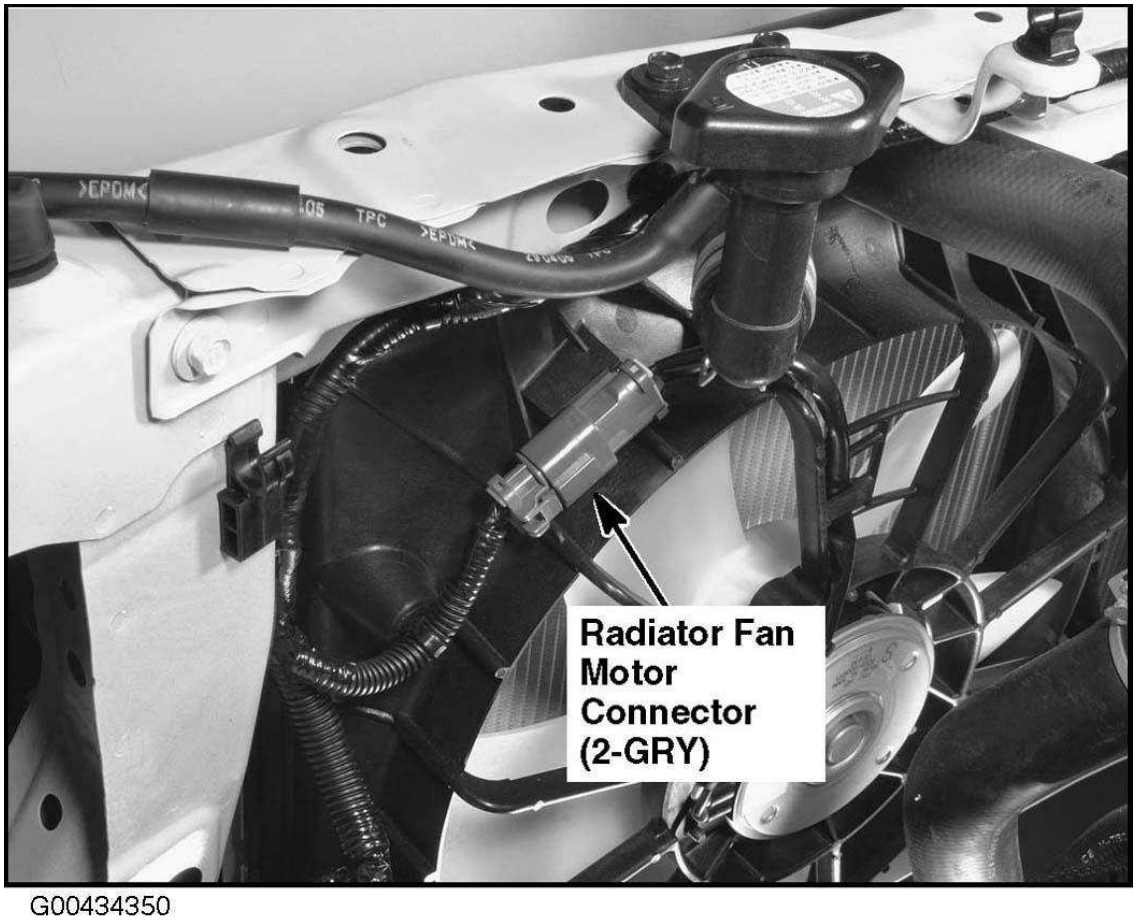



G00434349

**Fig. 14: Right Front Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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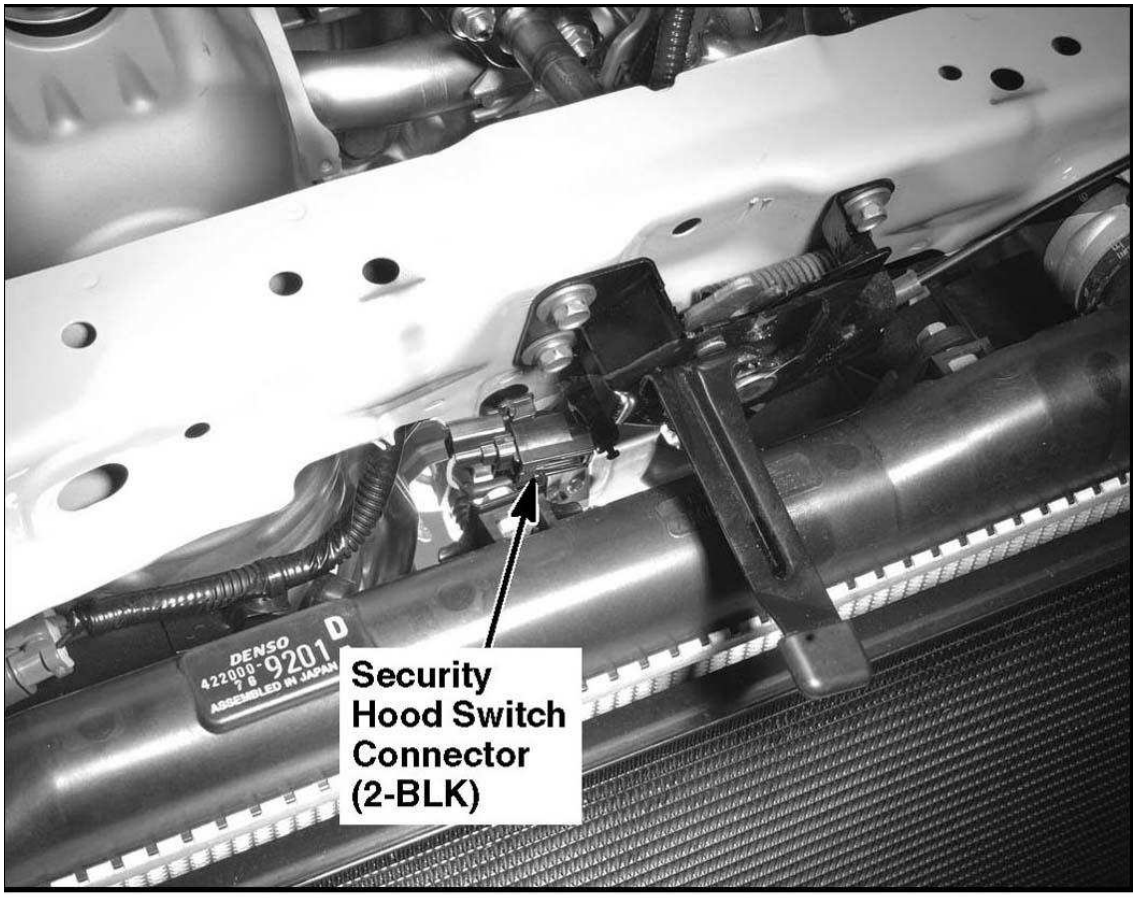



G00434350

**Fig. 15: Front Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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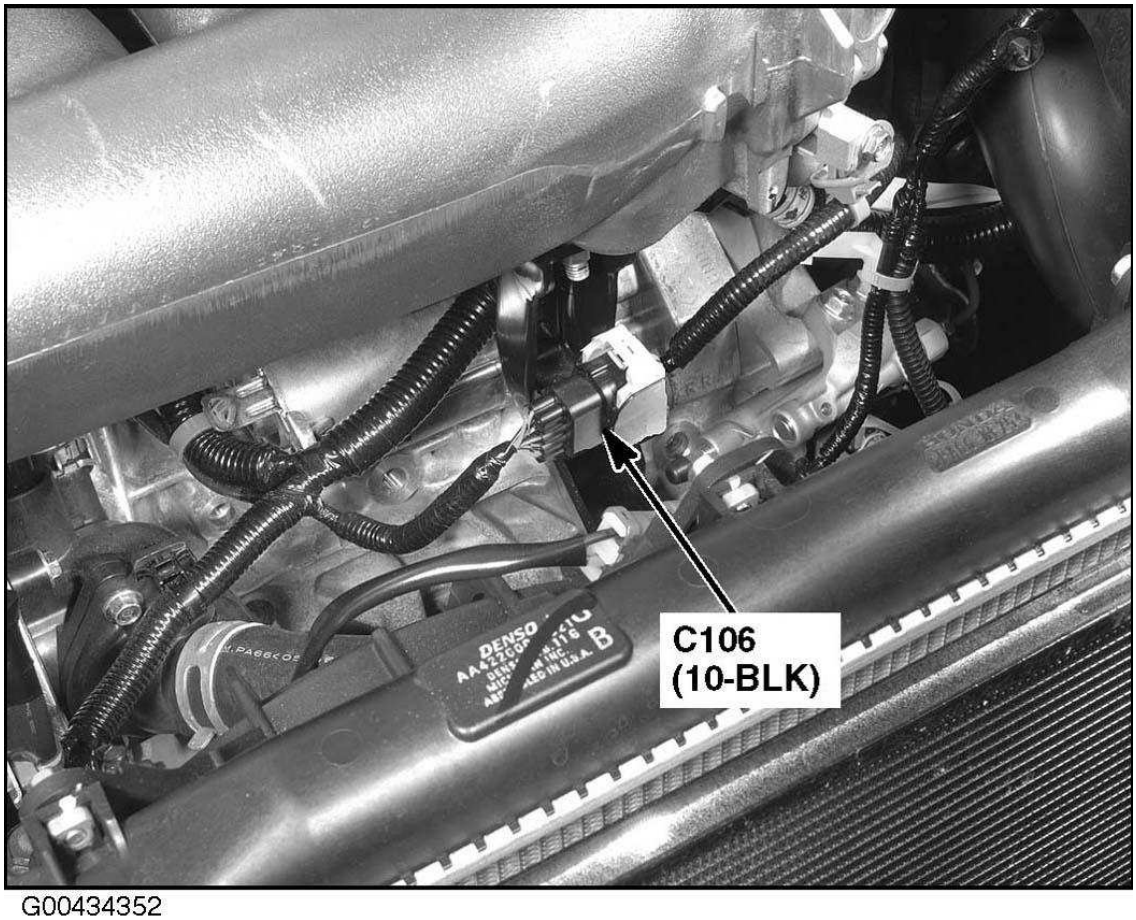



G00434351

**Fig. 16: Front Of Engine Compartment (USA: LX, EX & Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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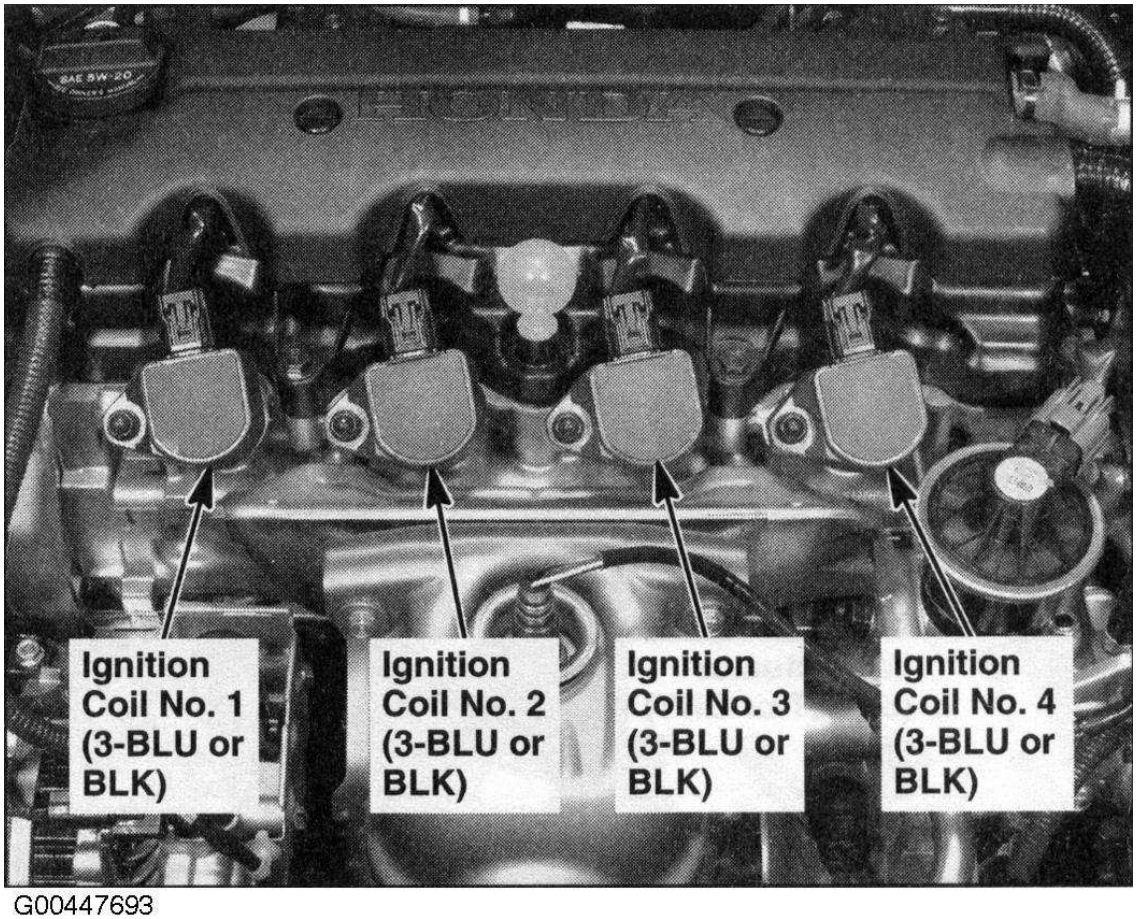



G00434352

**Fig. 17: Front Of Engine Compartment (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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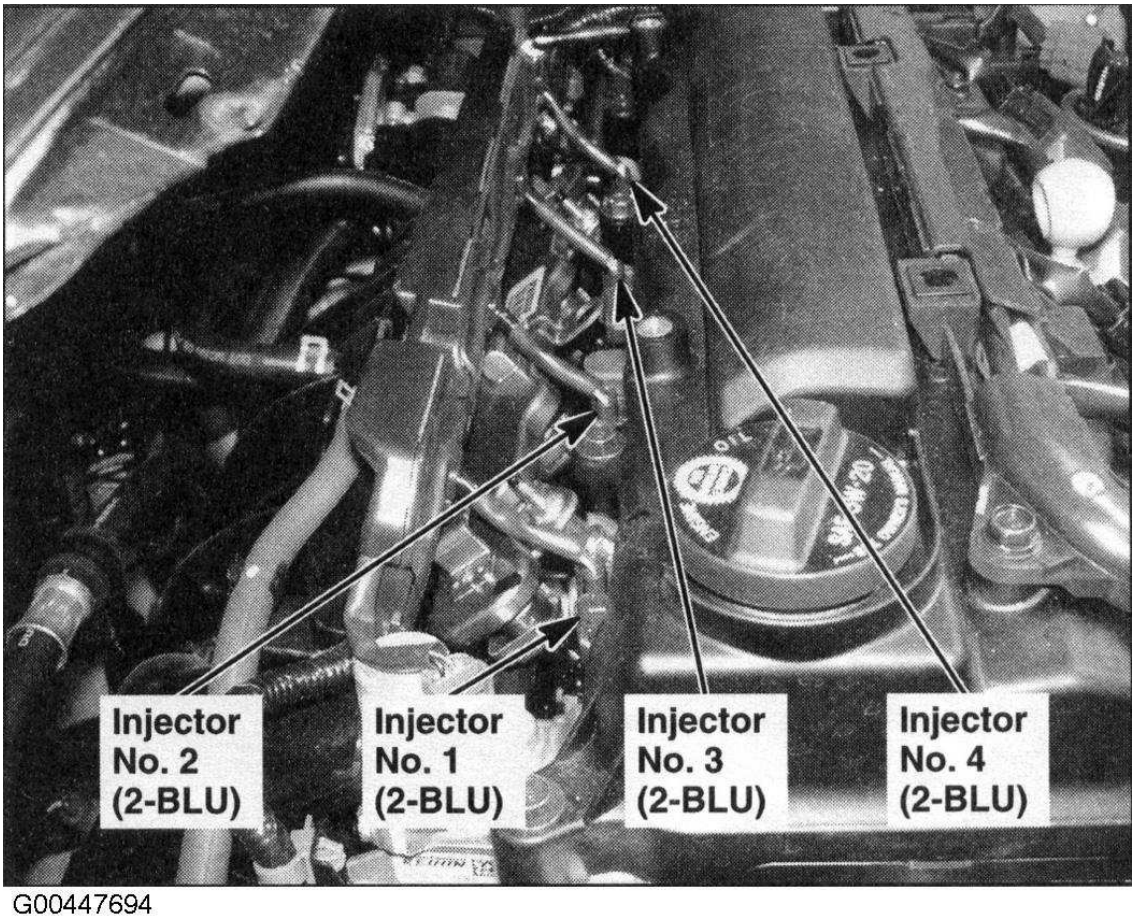



G00447693

**Fig. 18: Top Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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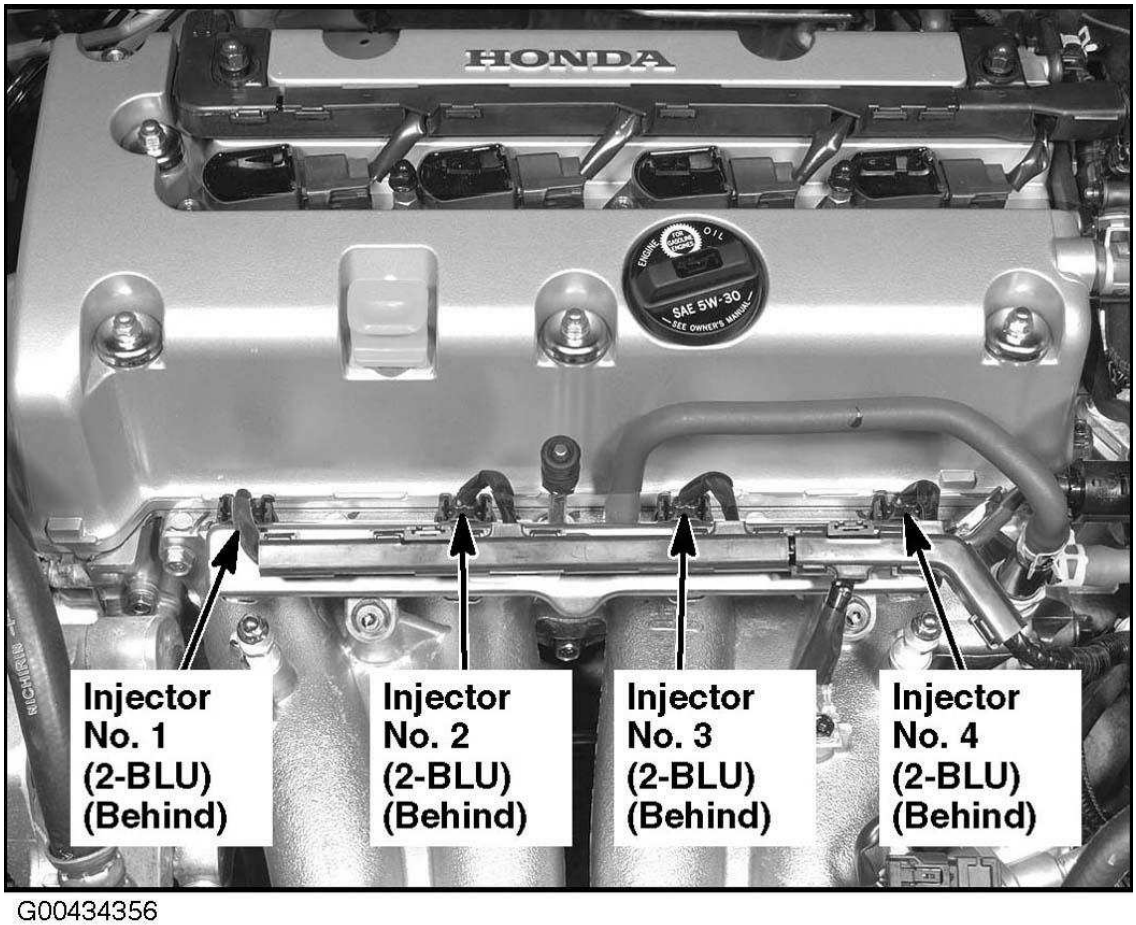



G00447694

**Fig. 19: Top Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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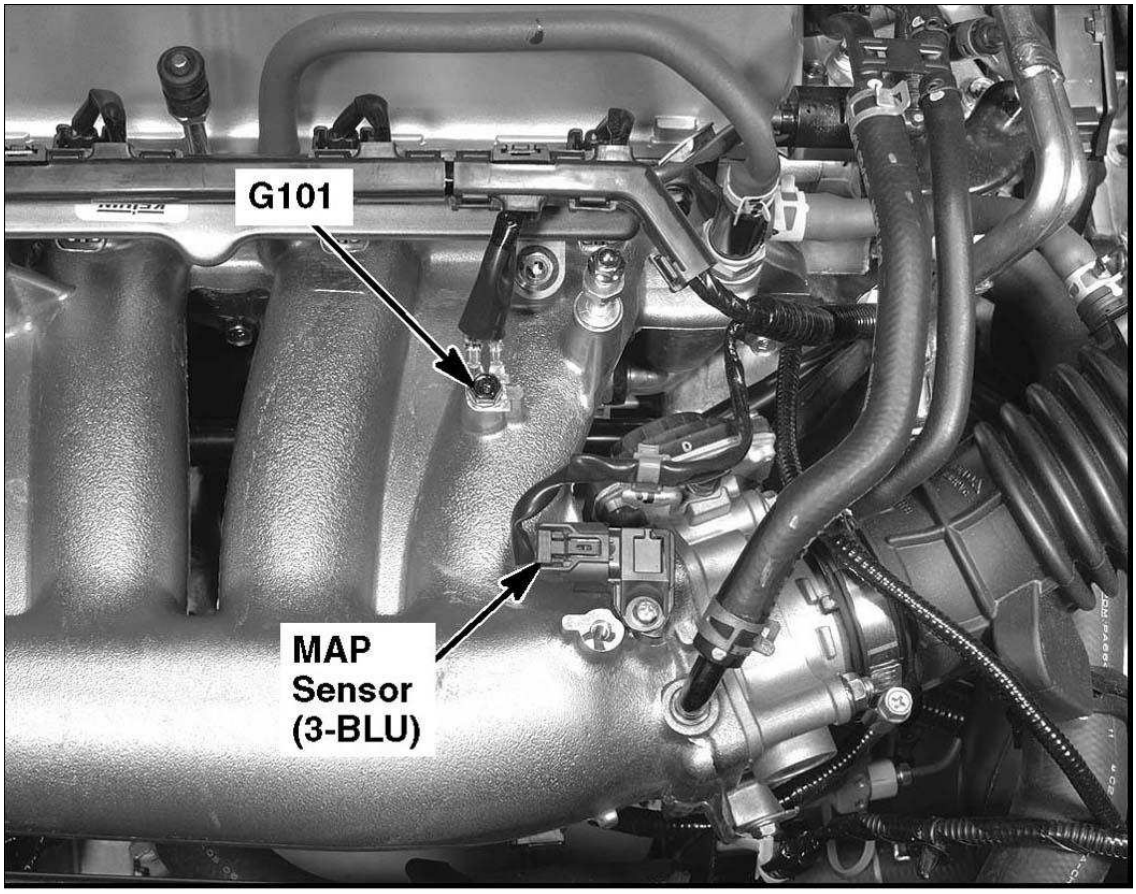



G00434356

**Fig. 20: Top Left Side Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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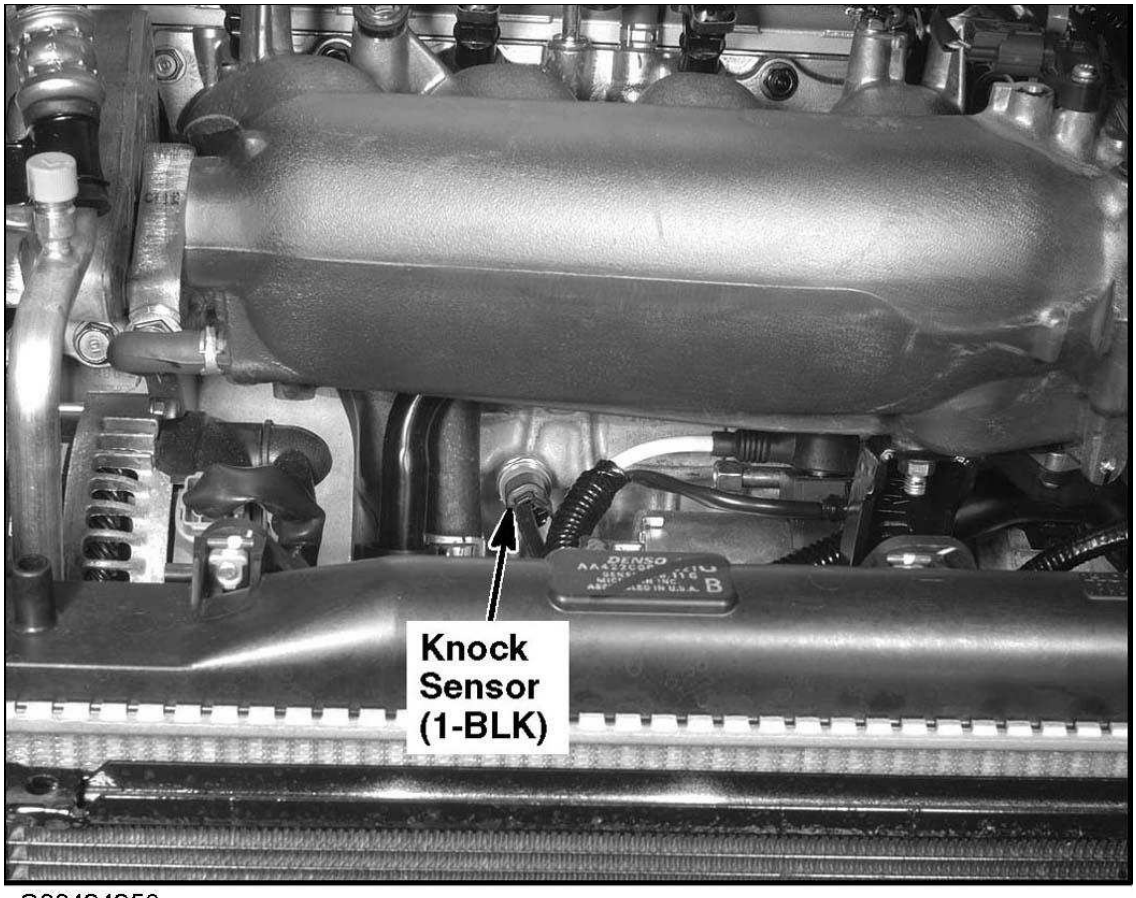



G00434357

**Fig. 21: Left Rear Of Engine (Si)**
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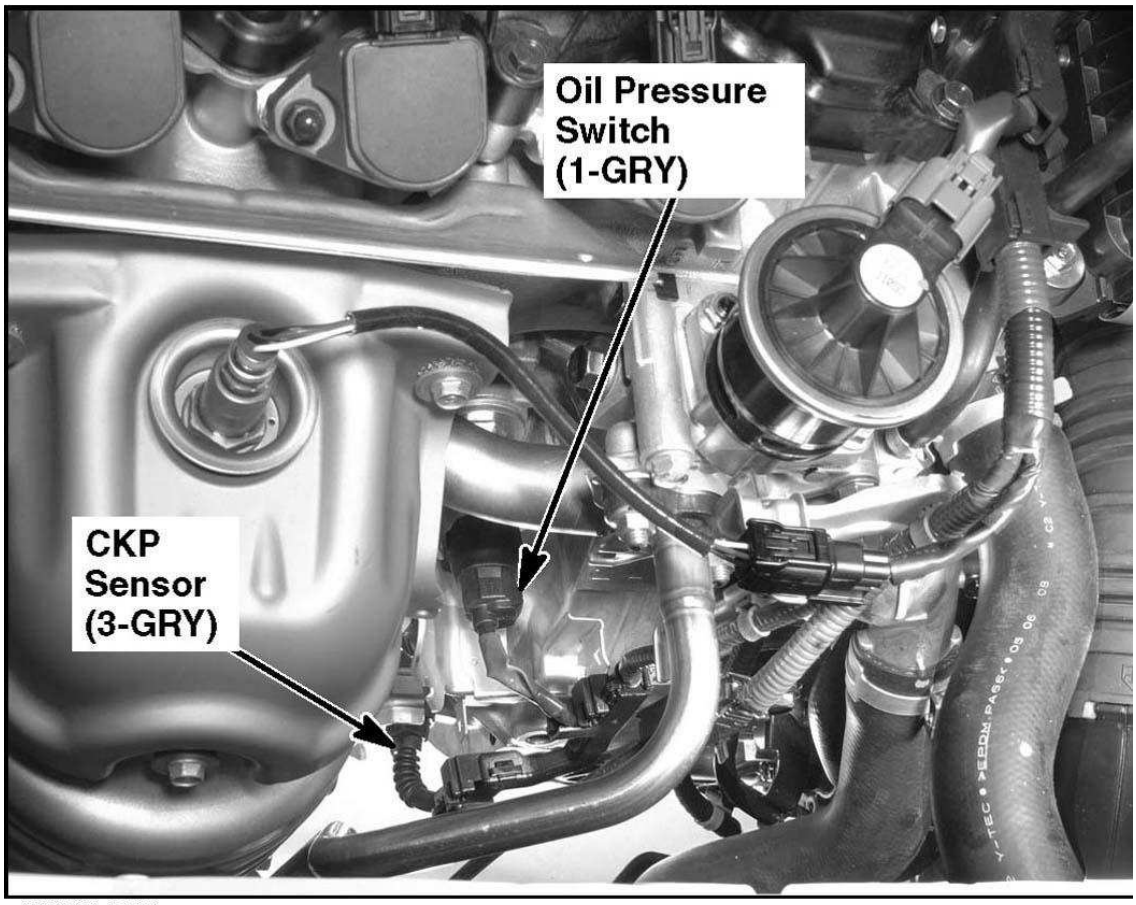



G00434358

**Fig. 22: Left Front Side Of Engine (Si)**
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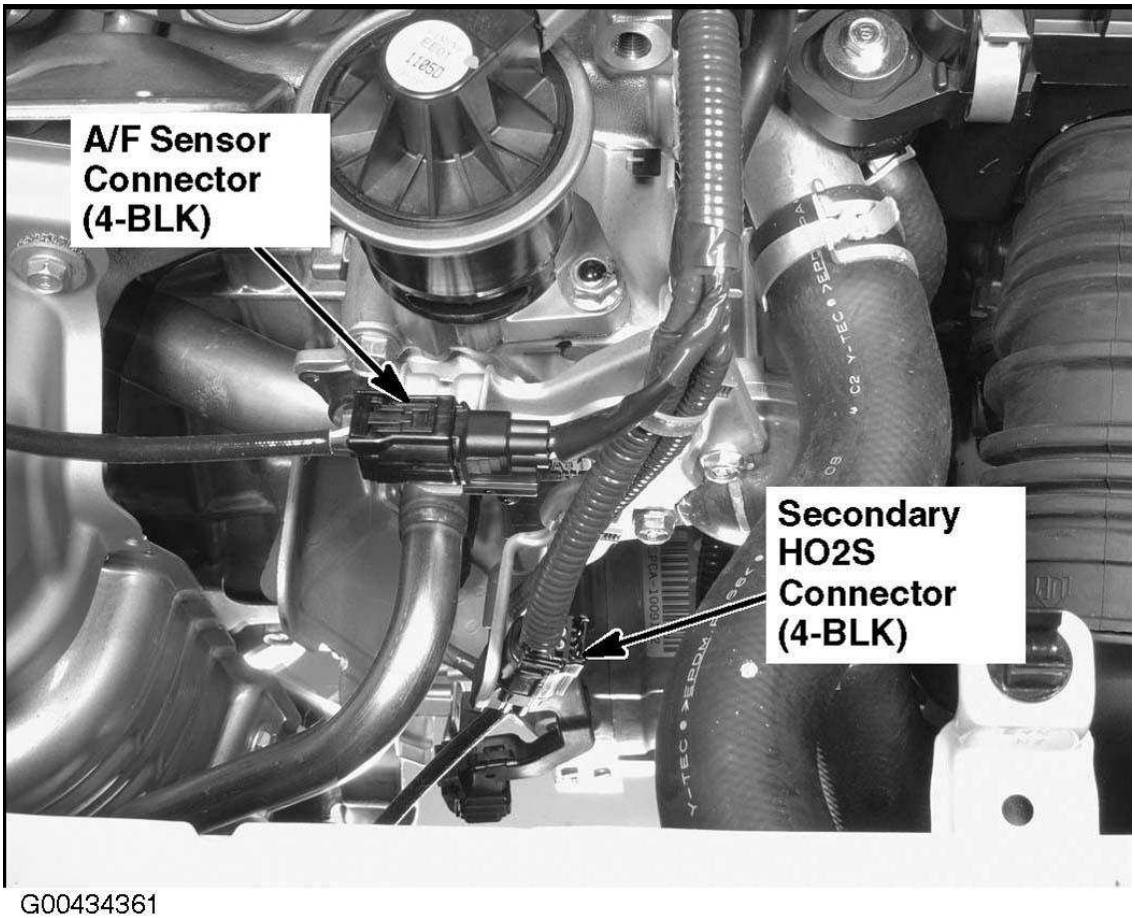



G00434360

**Fig. 23: Left Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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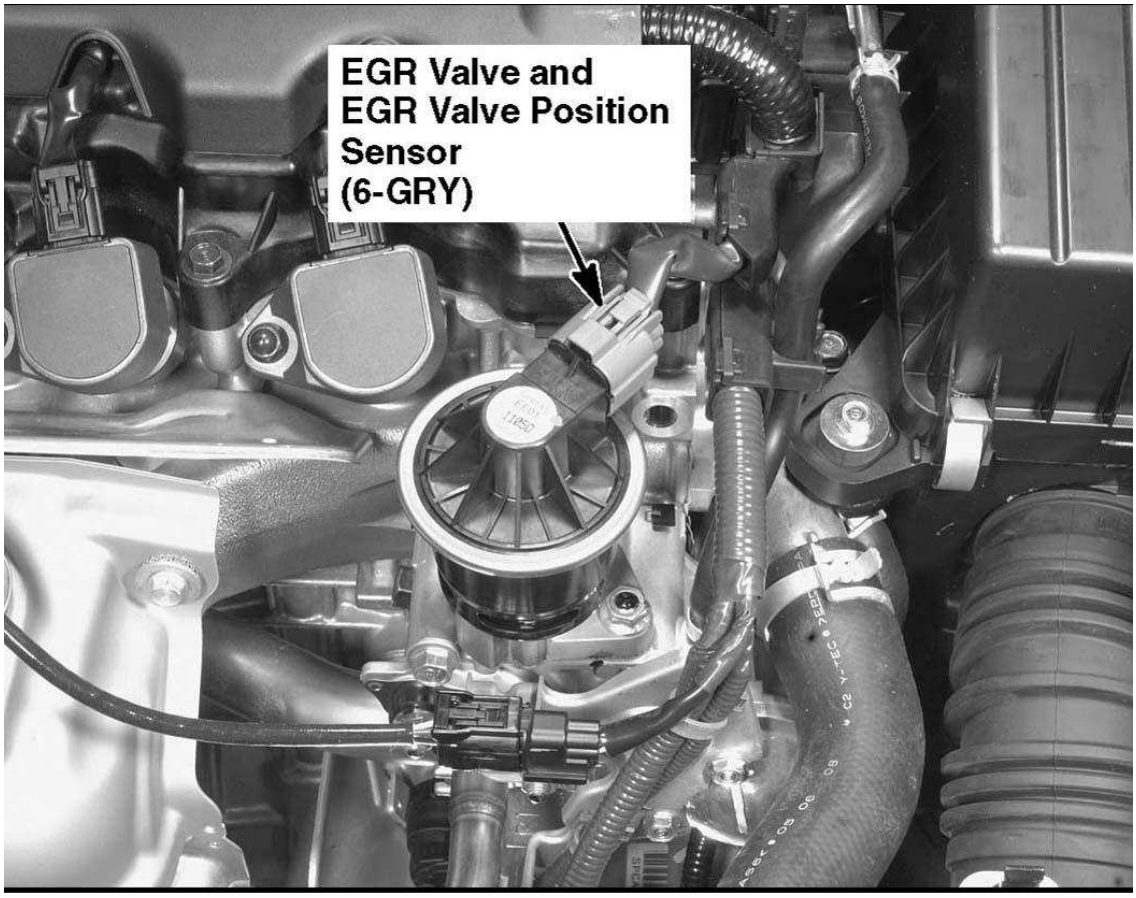



G00434361

**Fig. 24: Top Left Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

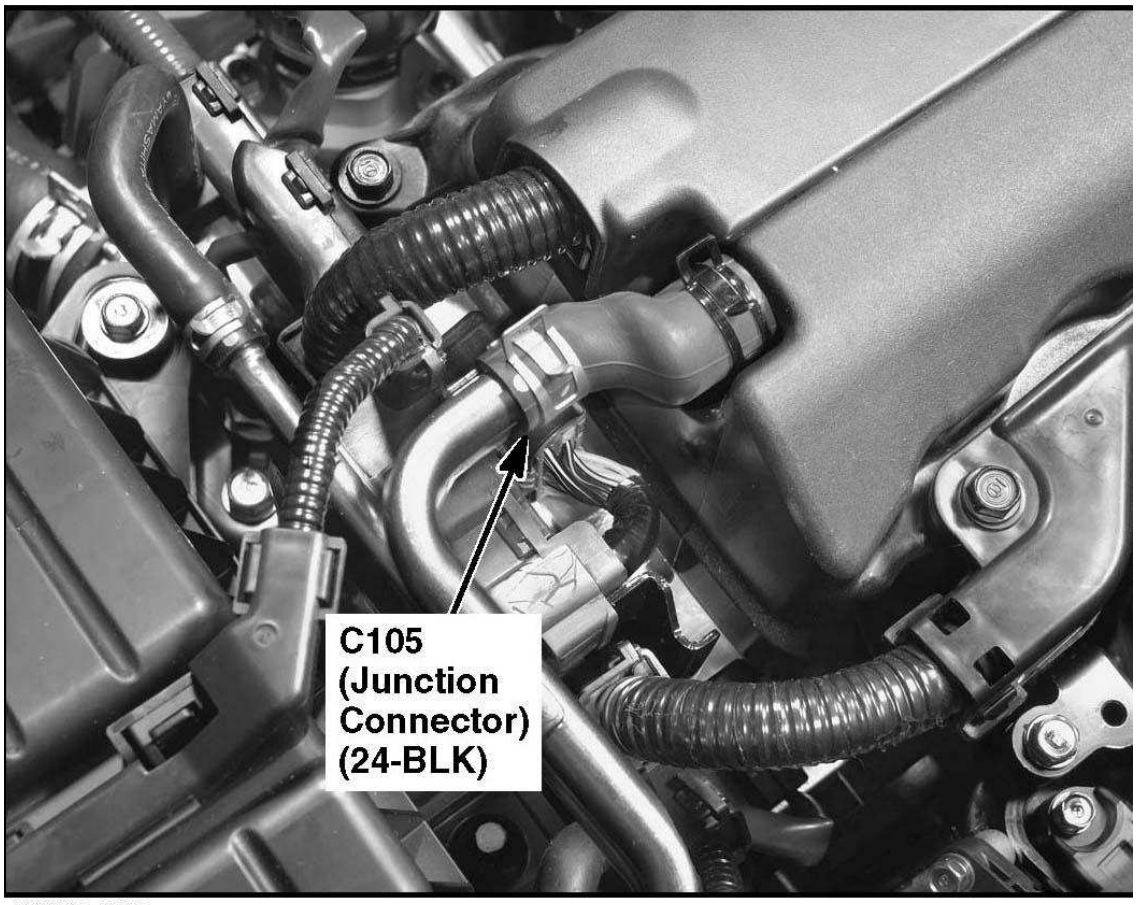
http://ReadManuals.com






G00434362

**Fig. 25: Top Left Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

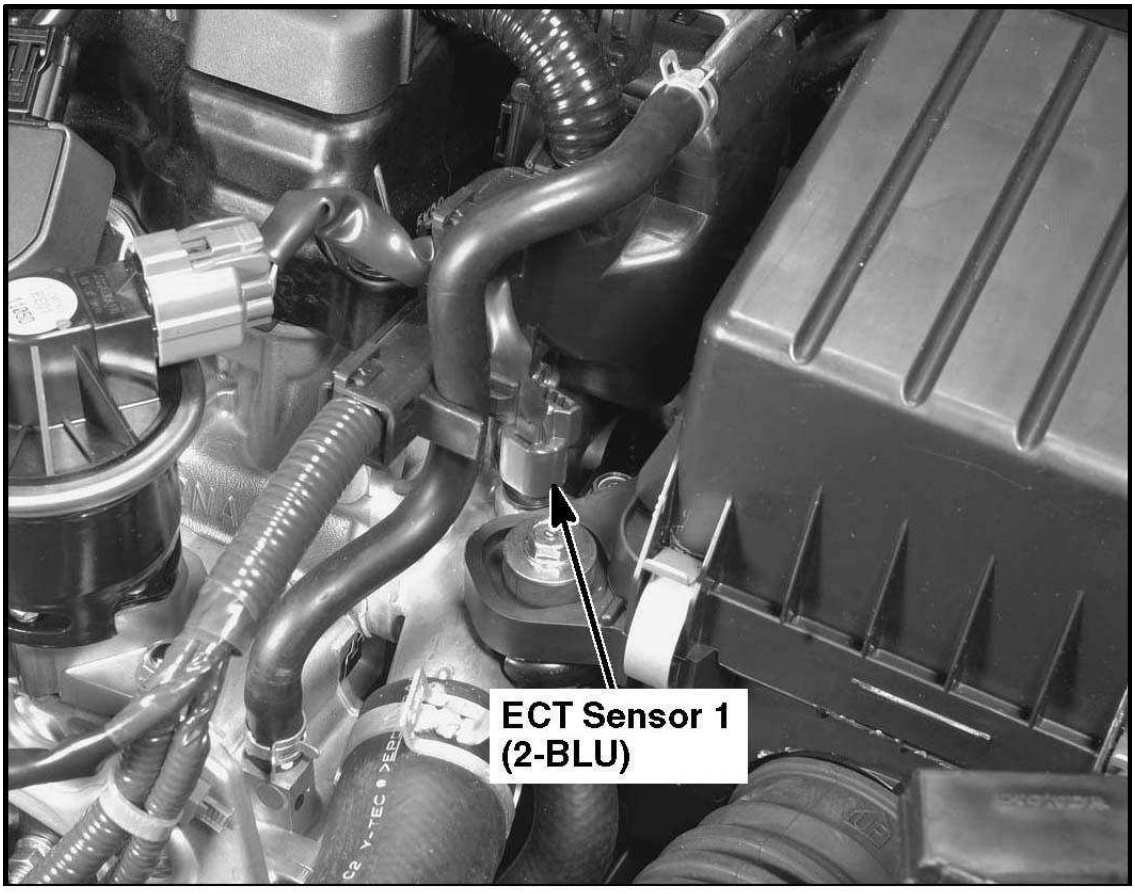



G00434363

**Fig. 26: Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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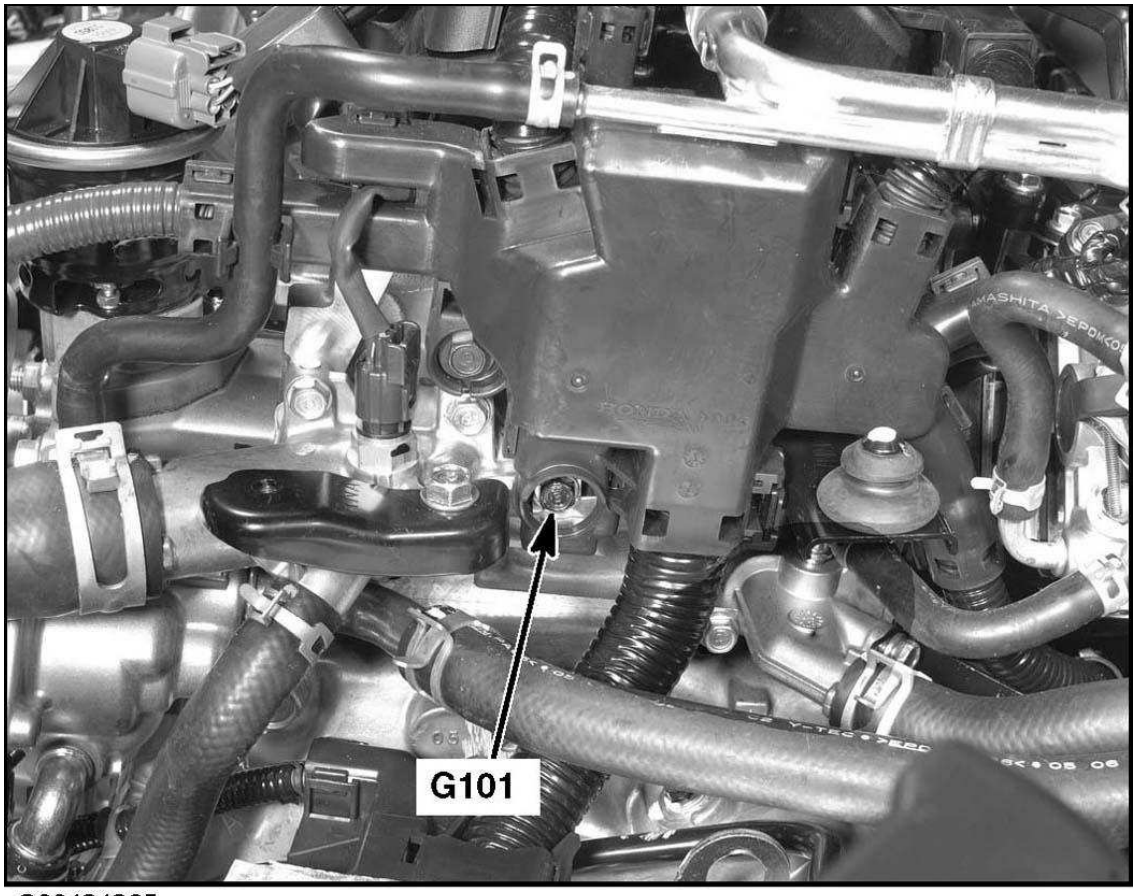



G00434364

**Fig. 27: Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

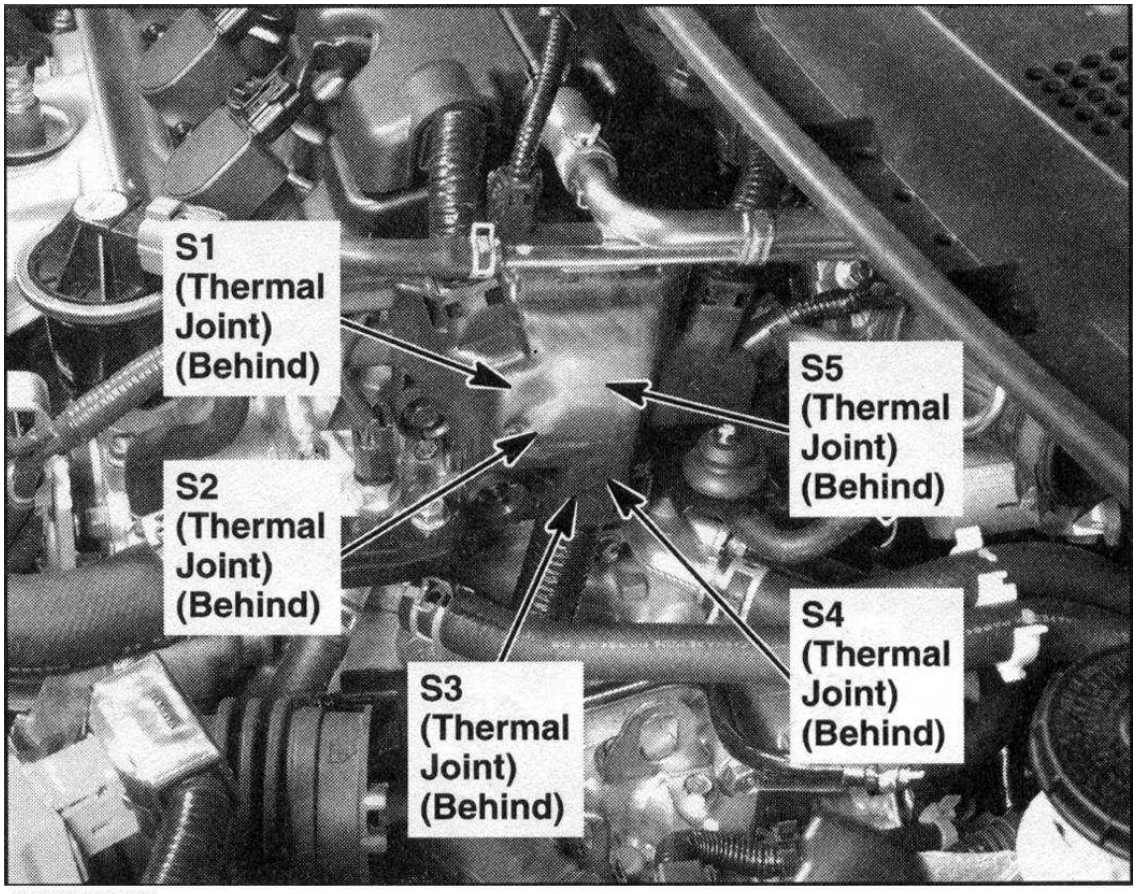
http://ReadManuals.com





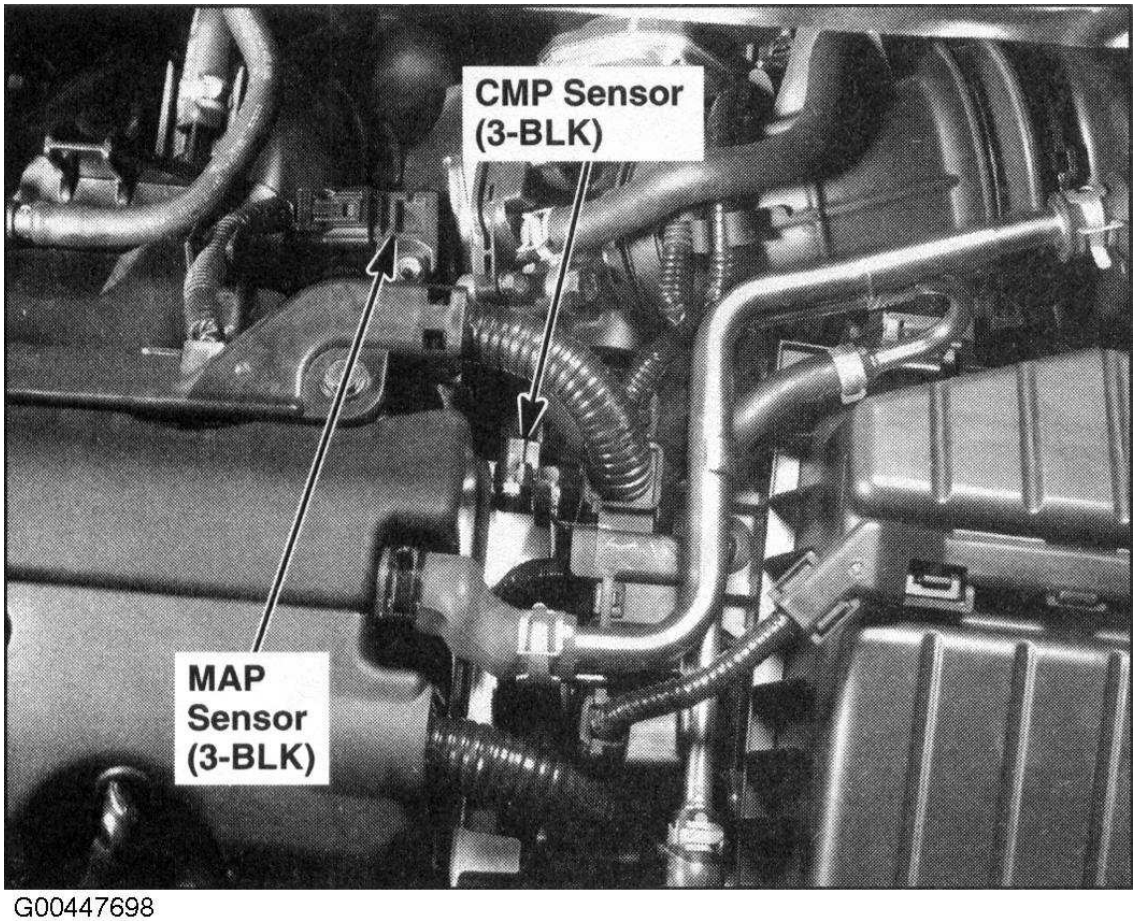

G00434365

**Fig. 28: Right Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**




G00447696

**Fig. 29: Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

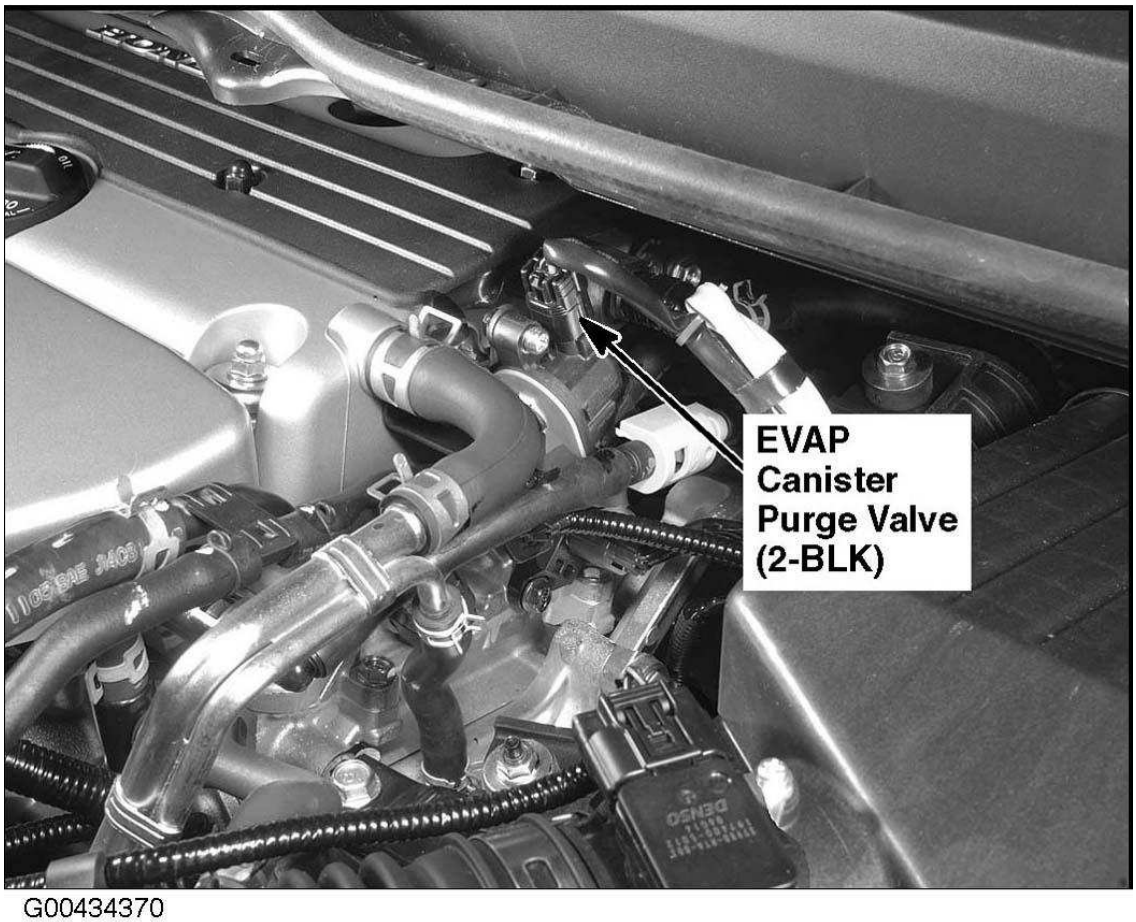



G00447698

**Fig. 30: Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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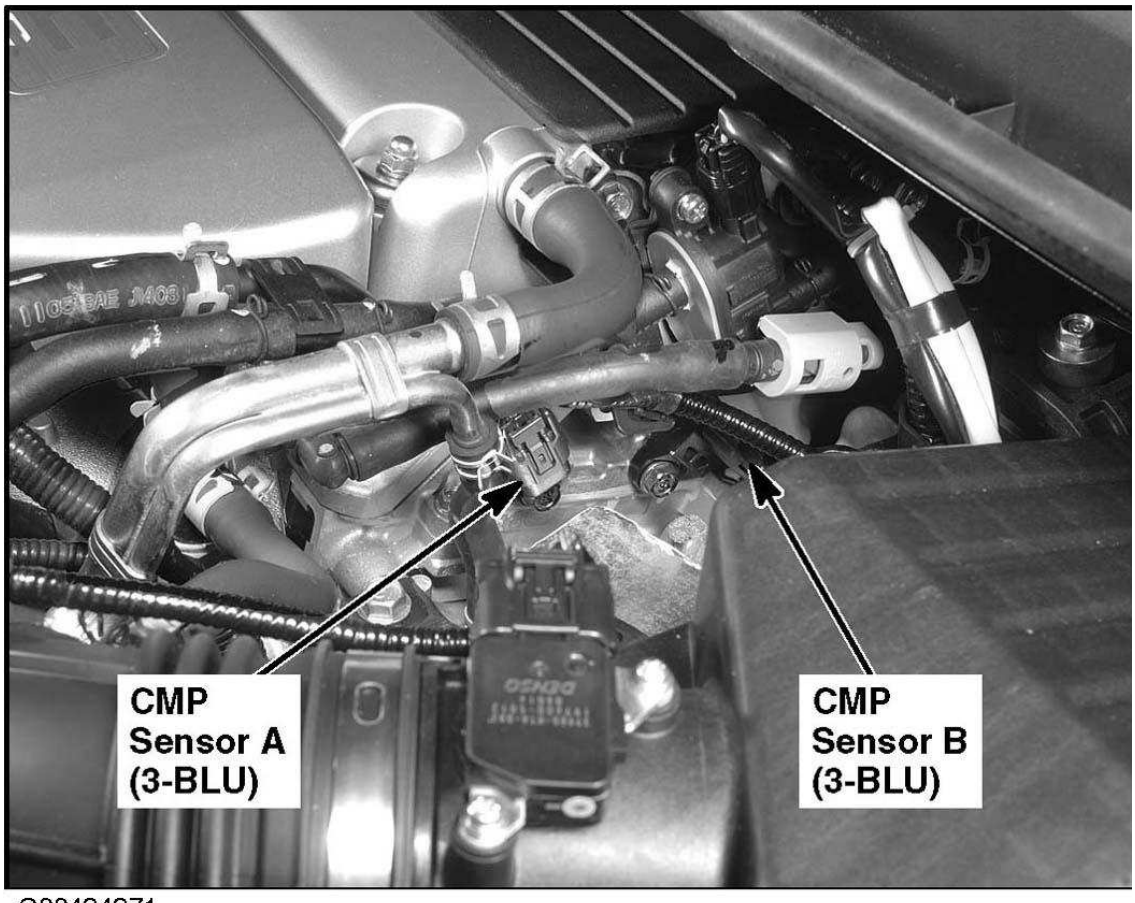



G00434370

**Fig. 31: Right Rear Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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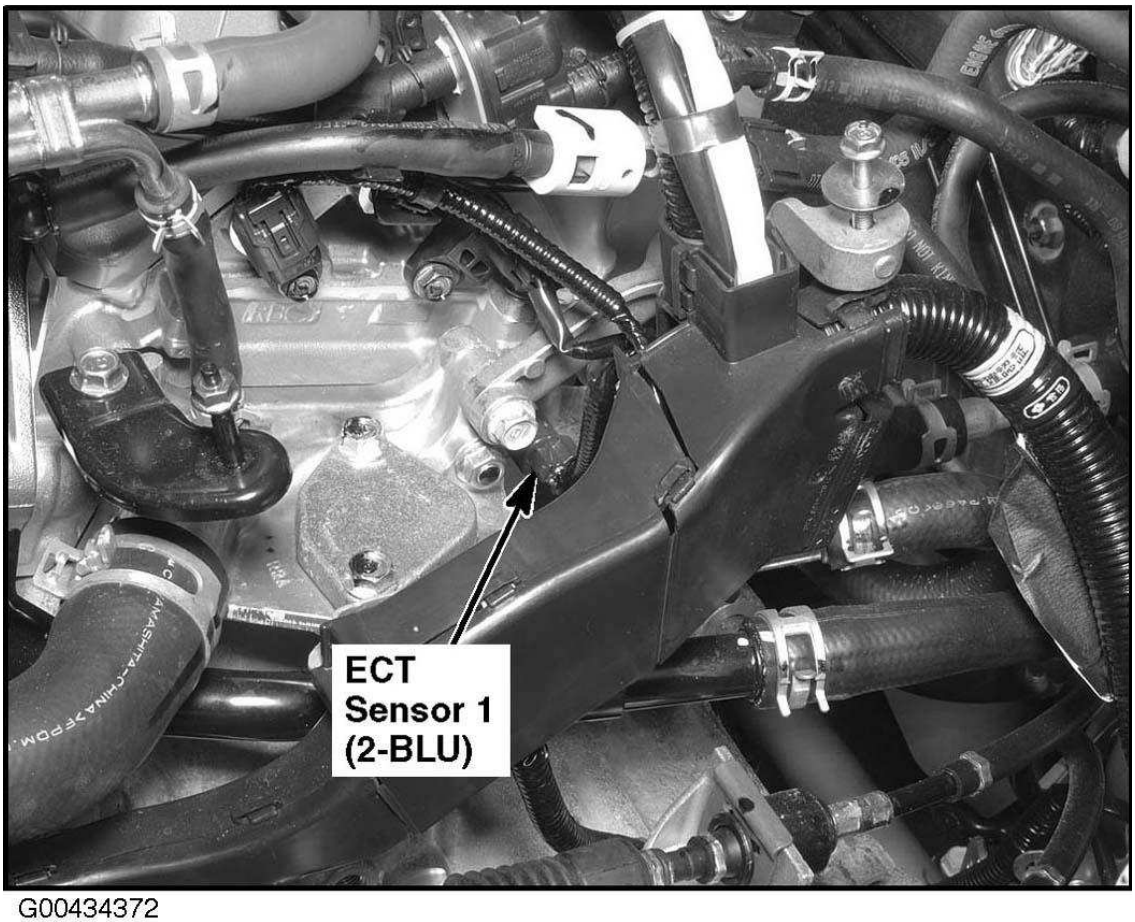



G00434371

**Fig. 32: Right Rear Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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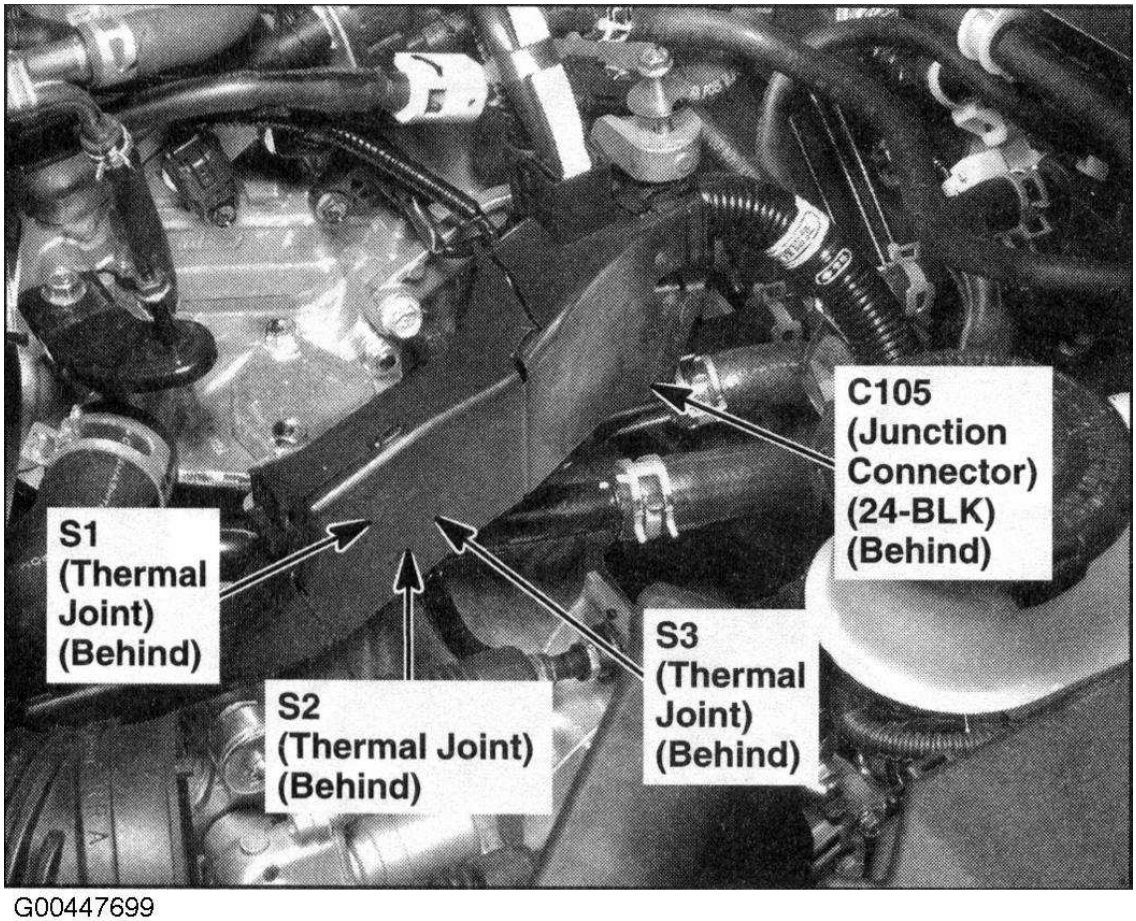



G00434372

**Fig. 33: Right Rear Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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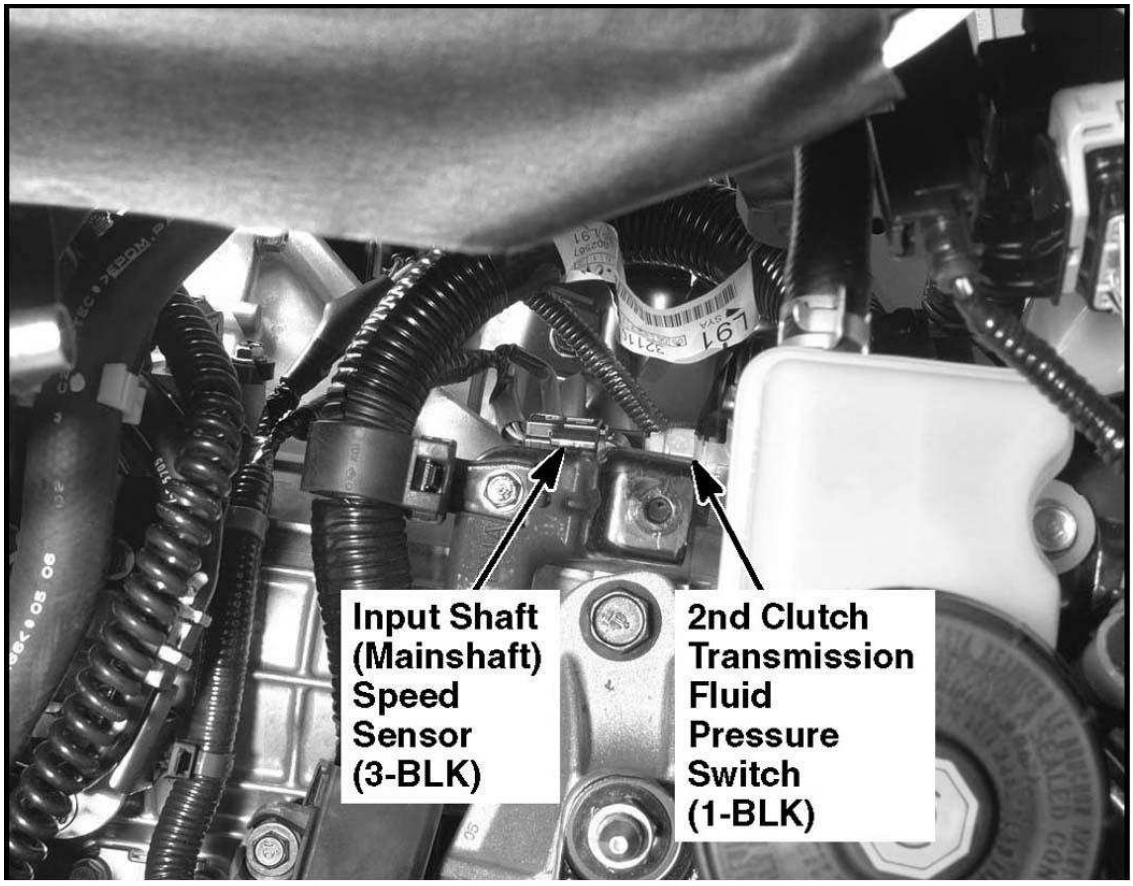



G00447699

**Fig. 34: Rear Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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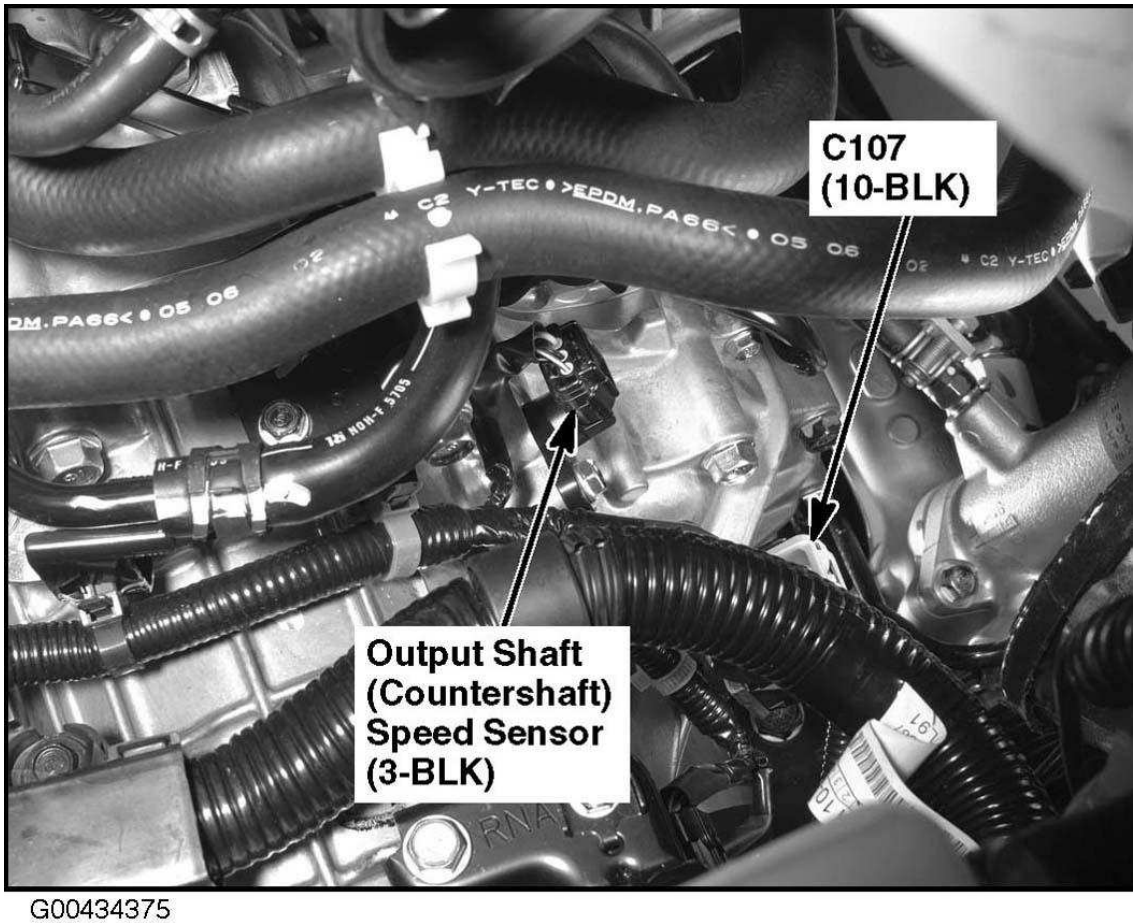



G00434374

**Fig. 35: Transmission Housing (A/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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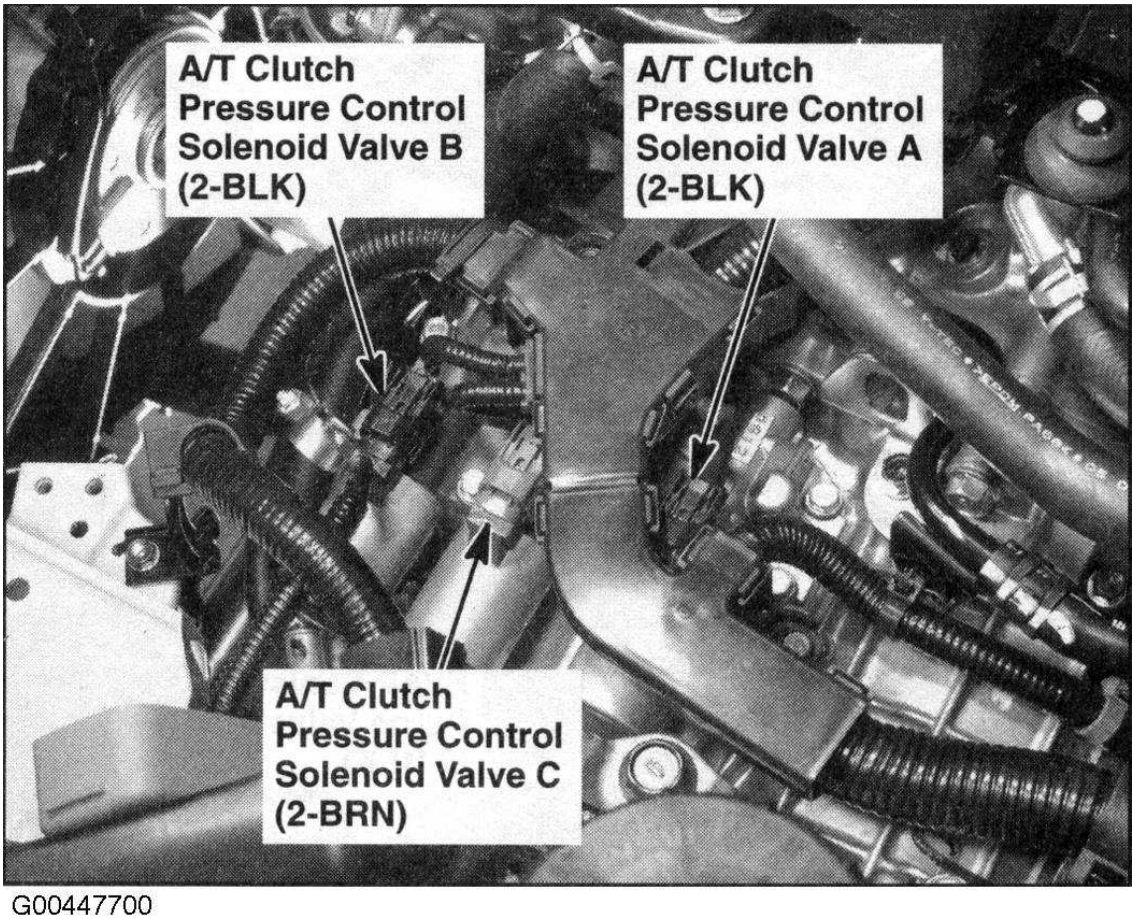



G00434375

**Fig. 36: Transmission Housing (A/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

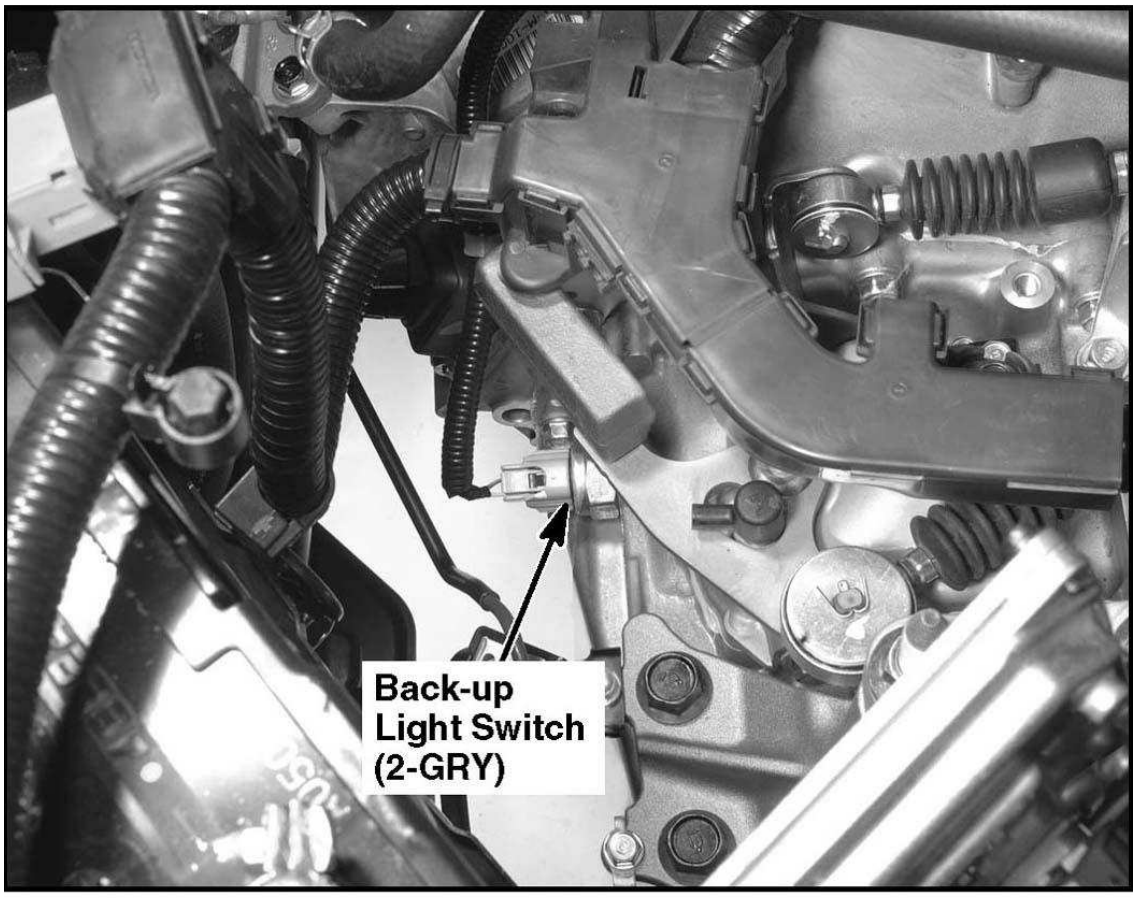
http://ReadManuals.com






G00447700

**Fig. 37: Transmission Housing (A/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

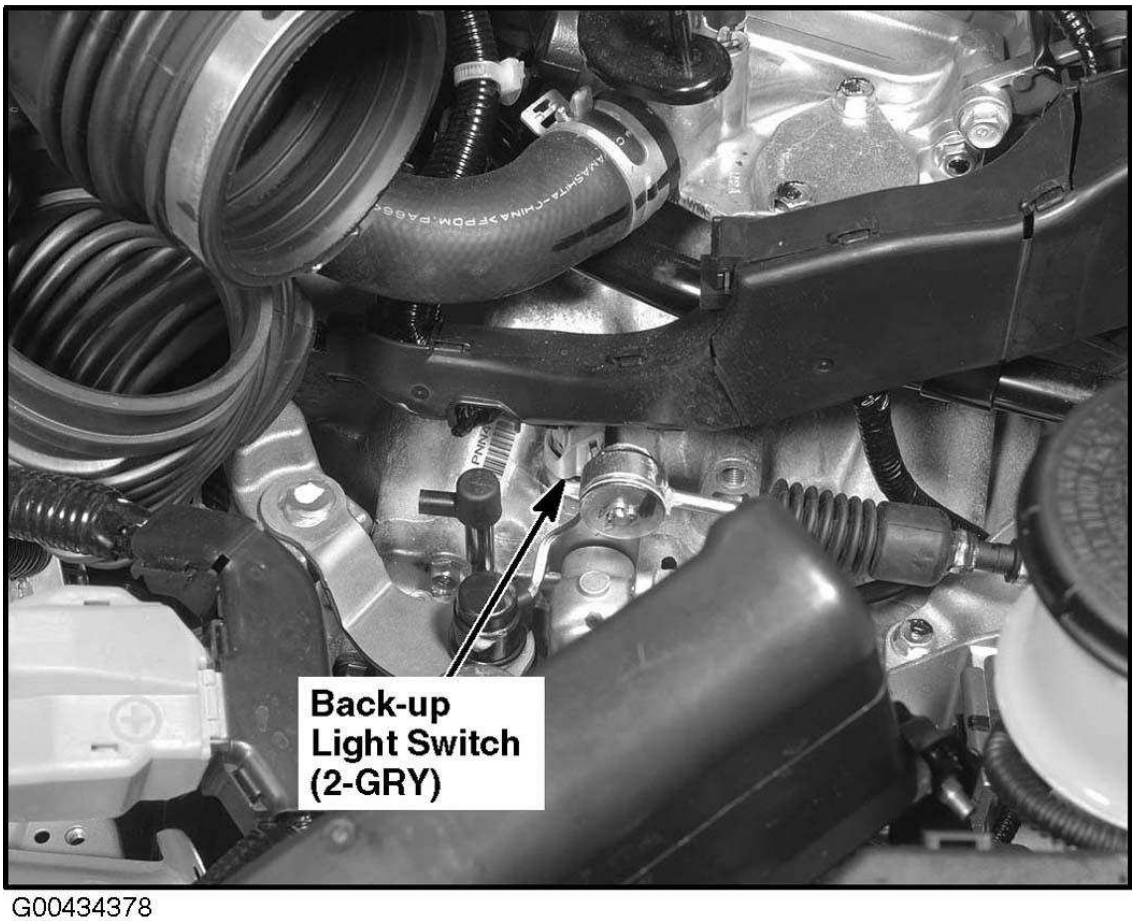



G00434377

**Fig. 38: Transaxle Housing (Except Si) (M/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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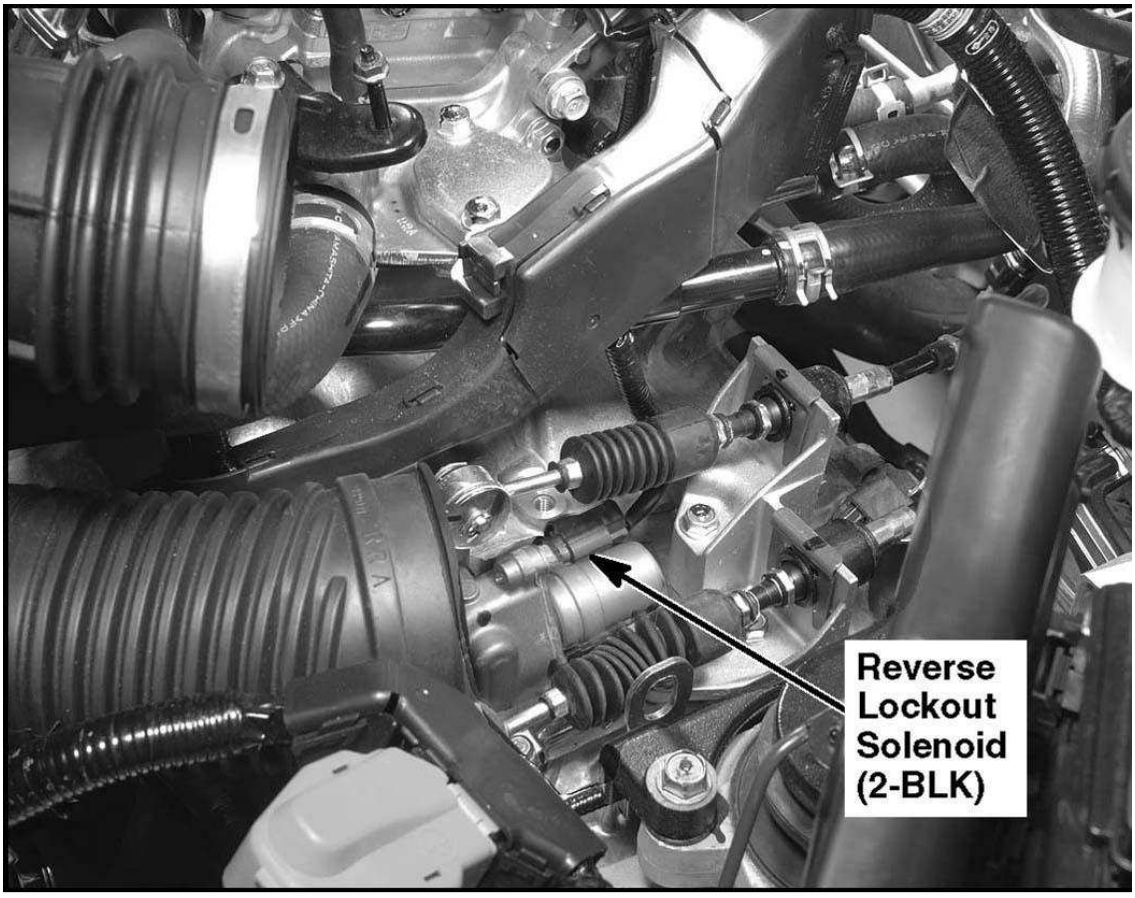



G00434378

**Fig. 39: Transmission Housing (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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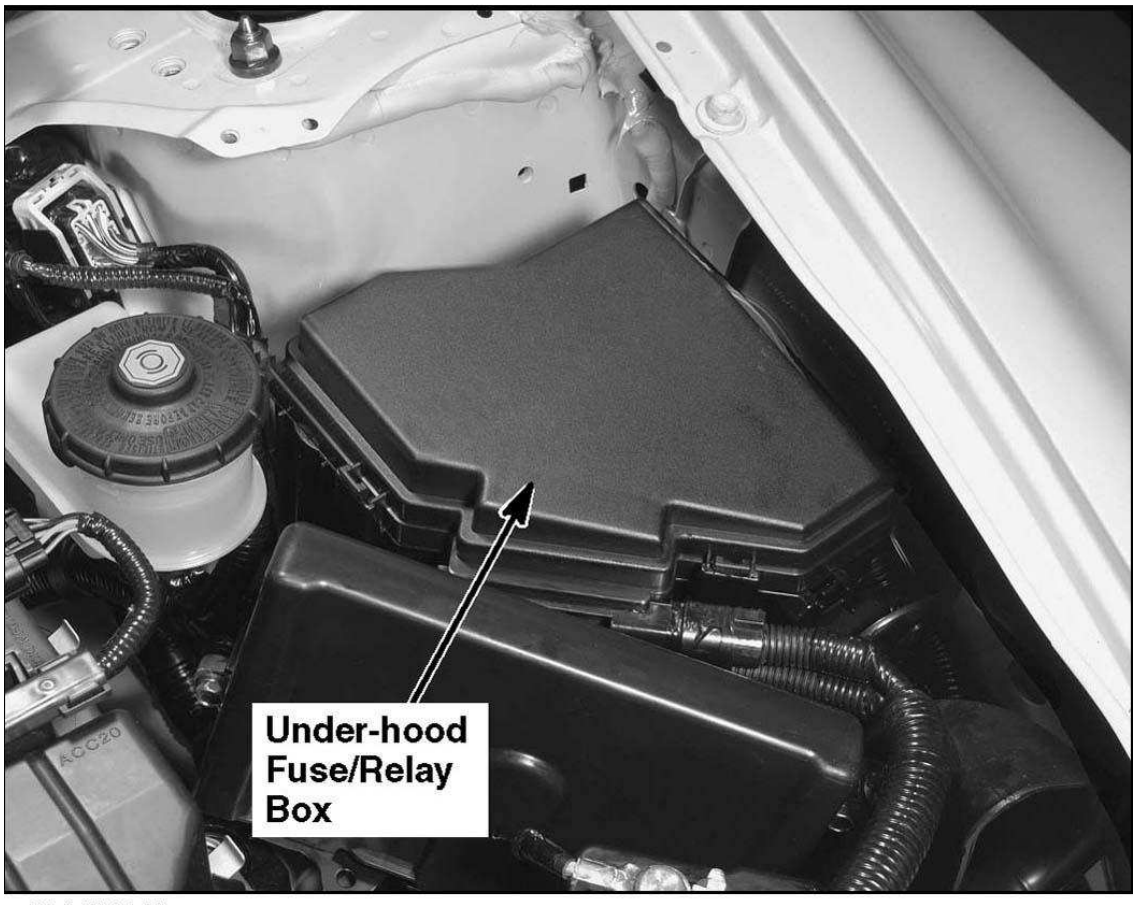



G00434379

**Fig. 40: Transmission Housing (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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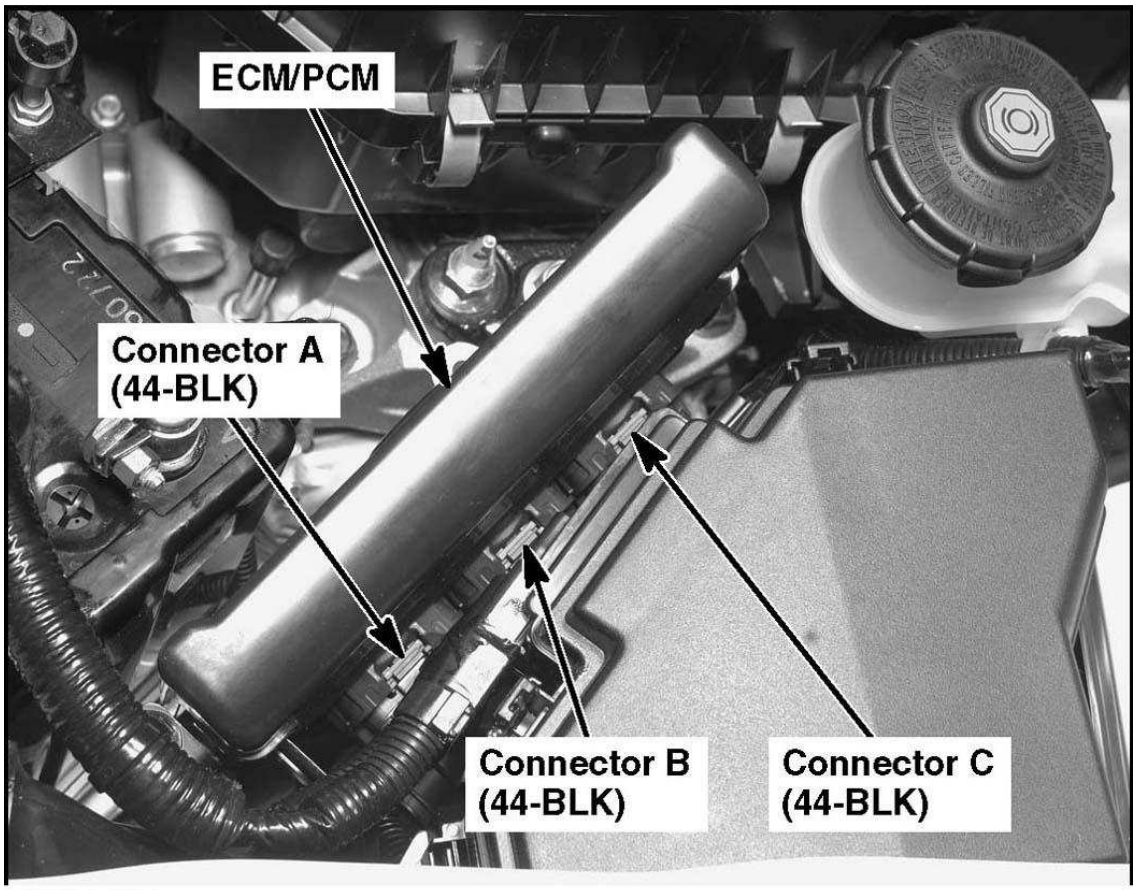



G00434380

**Fig. 41: Left Side Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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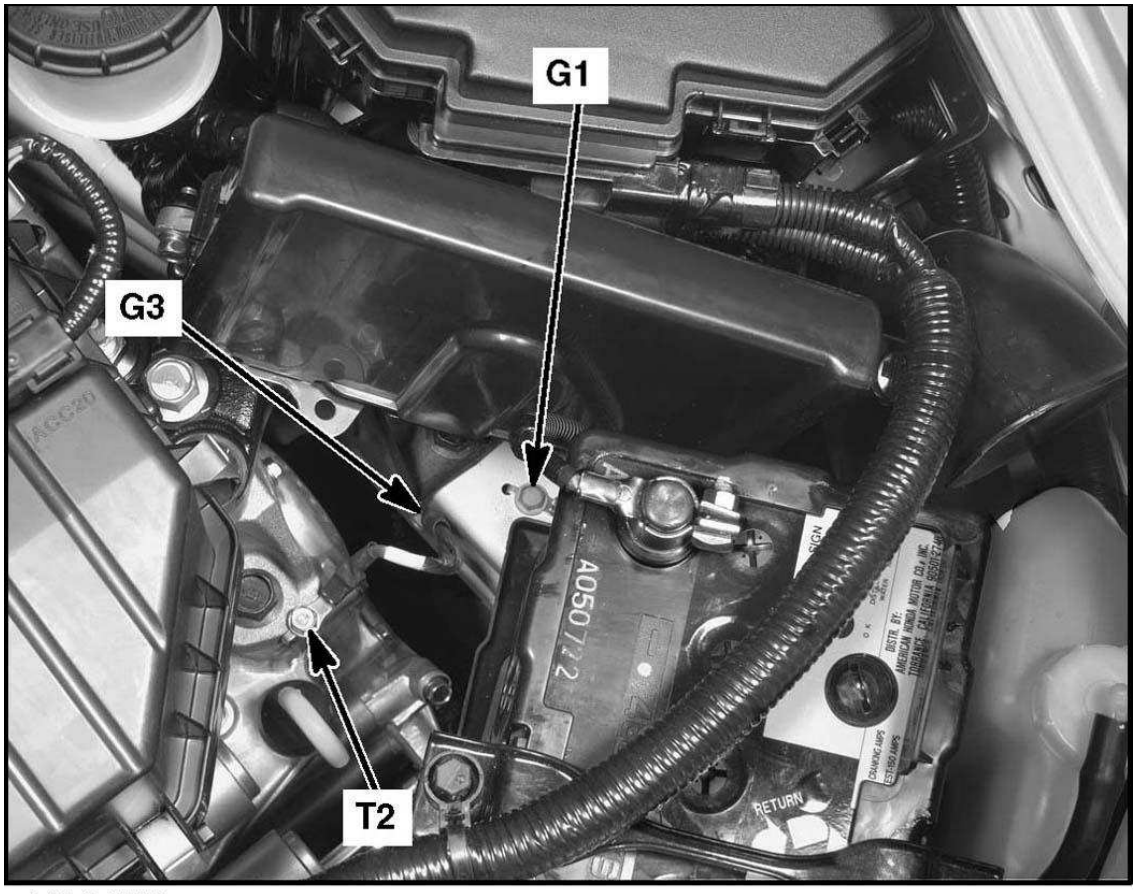



G00434381

**Fig. 42: Left Side Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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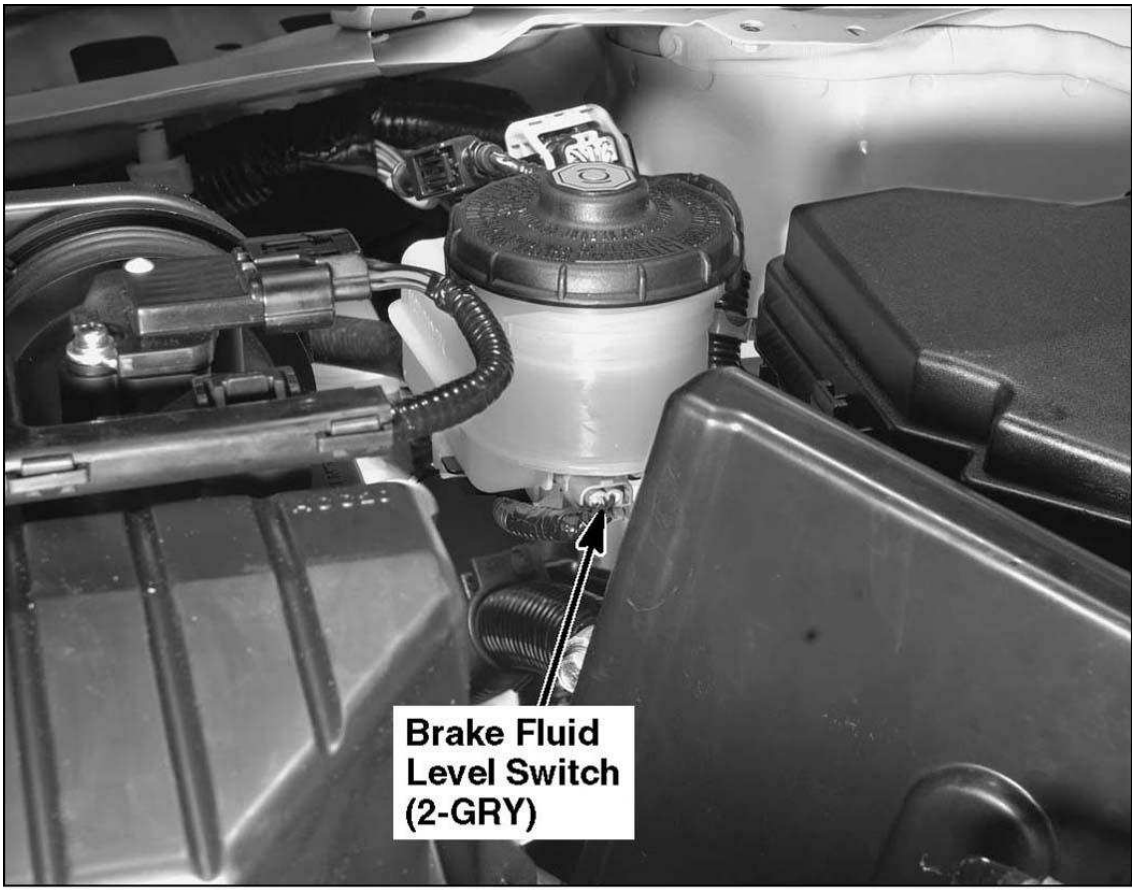



G00434382

**Fig. 43: Left Side Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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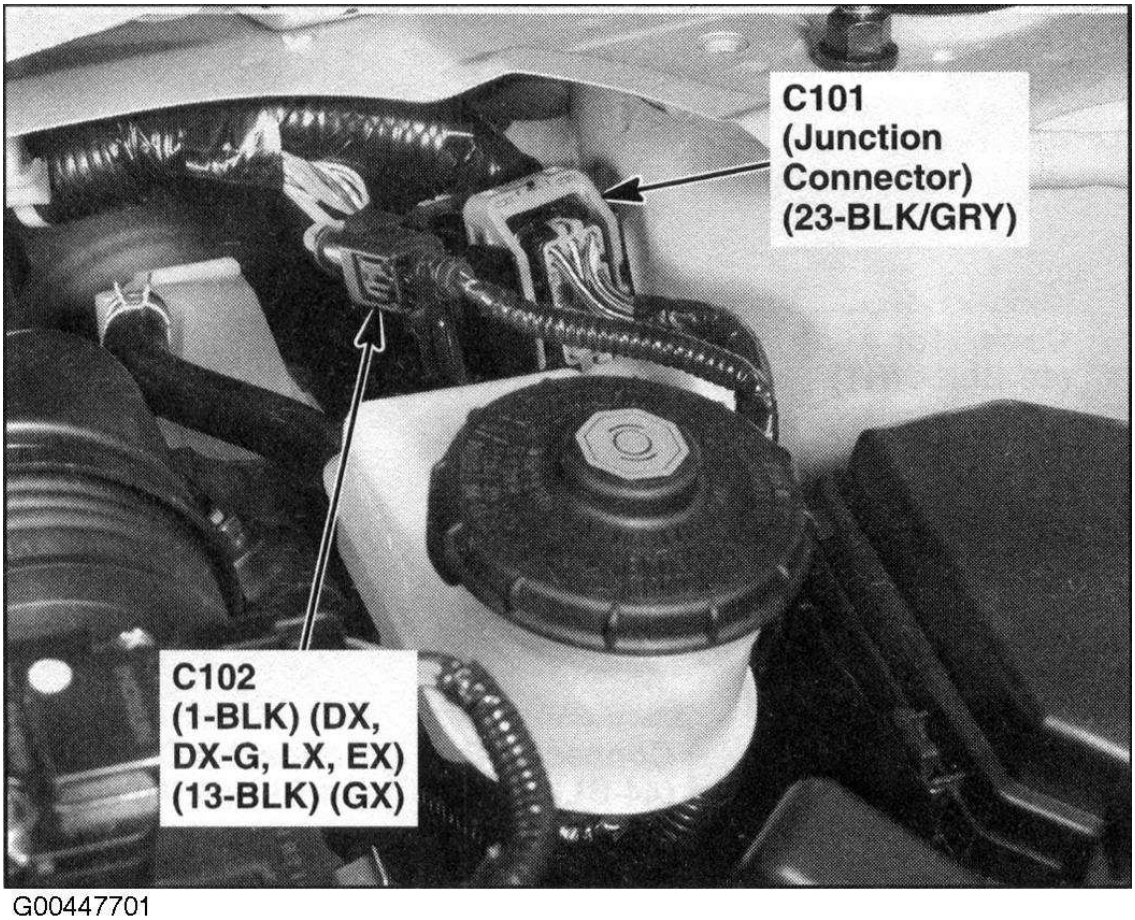



G00434383

**Fig. 44: Left Rear Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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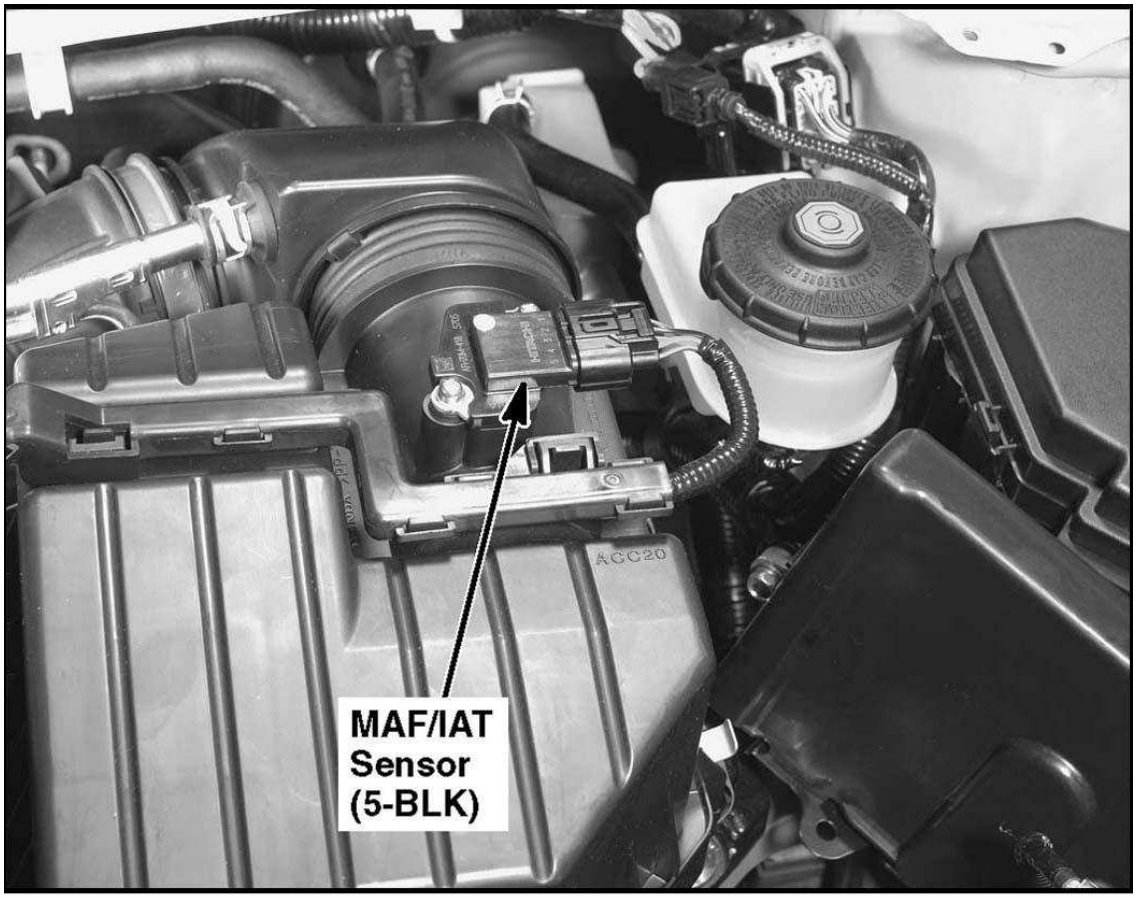



G00447701

**Fig. 45: Left Rear Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

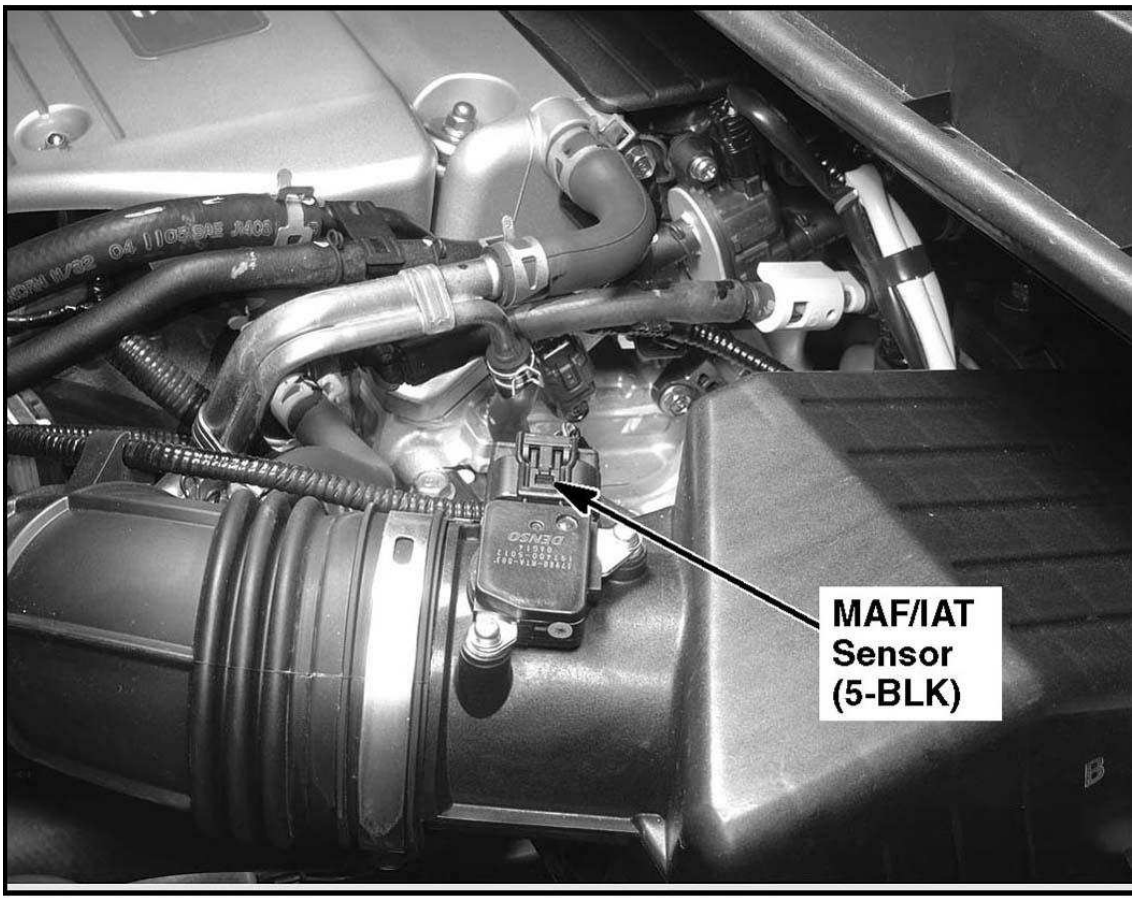
http://ReadManuals.com






G00434385

**Fig. 46: Left Rear Of Engine Compartment (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

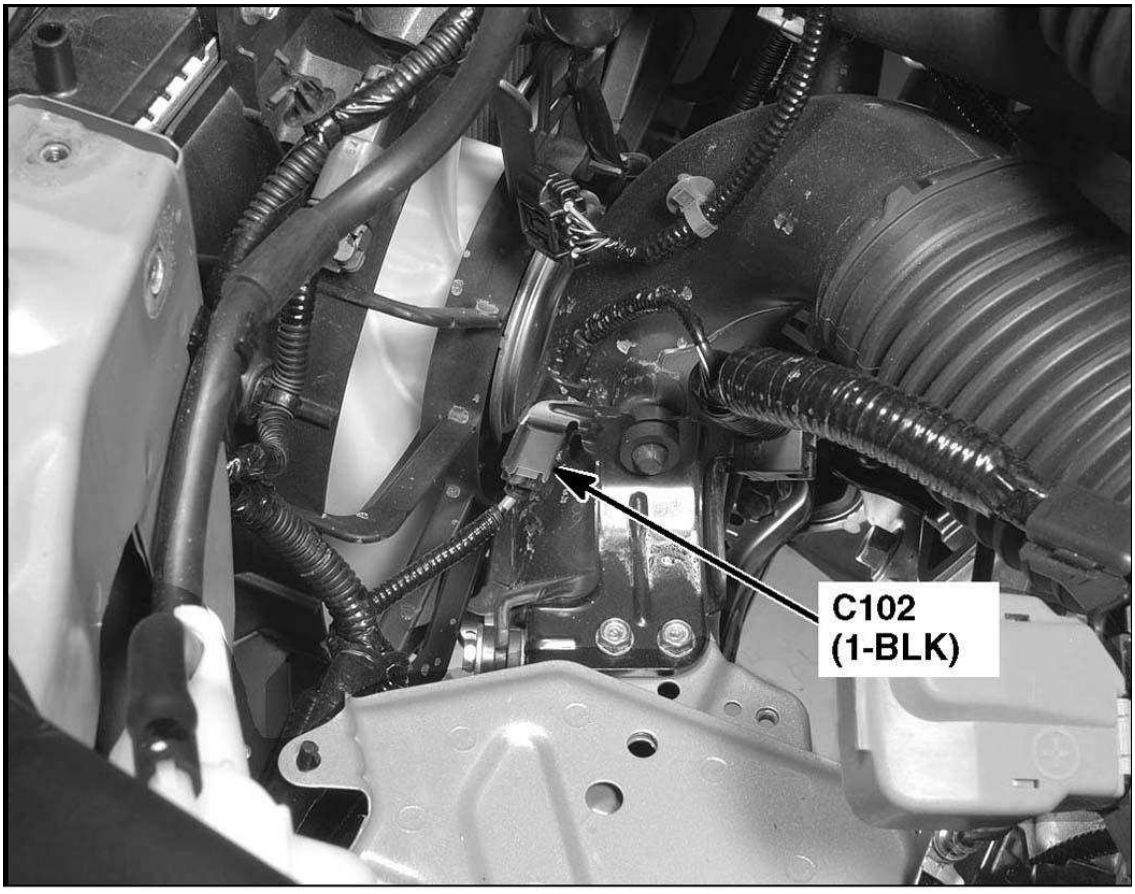



G00434386

**Fig. 47: Left Side Of Engine Compartment (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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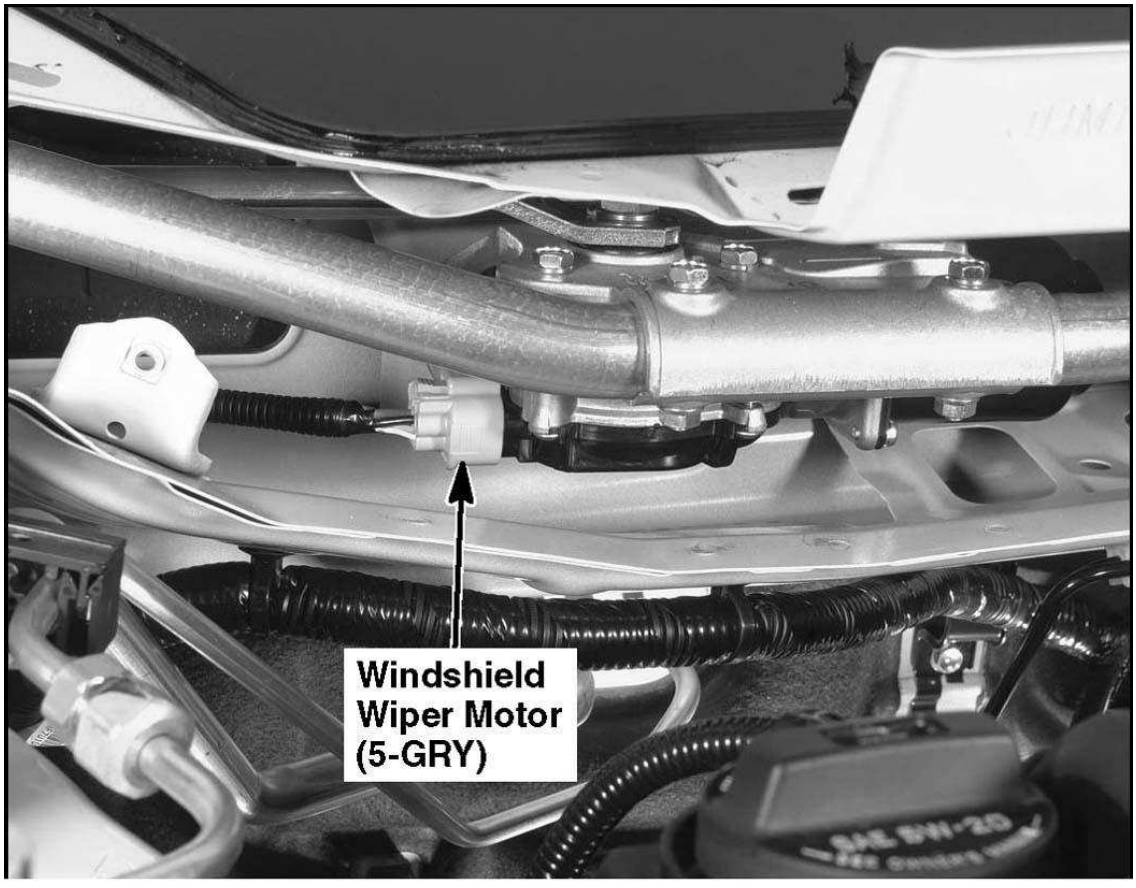



G00434387

**Fig. 48: Left Front Of Engine Compartment (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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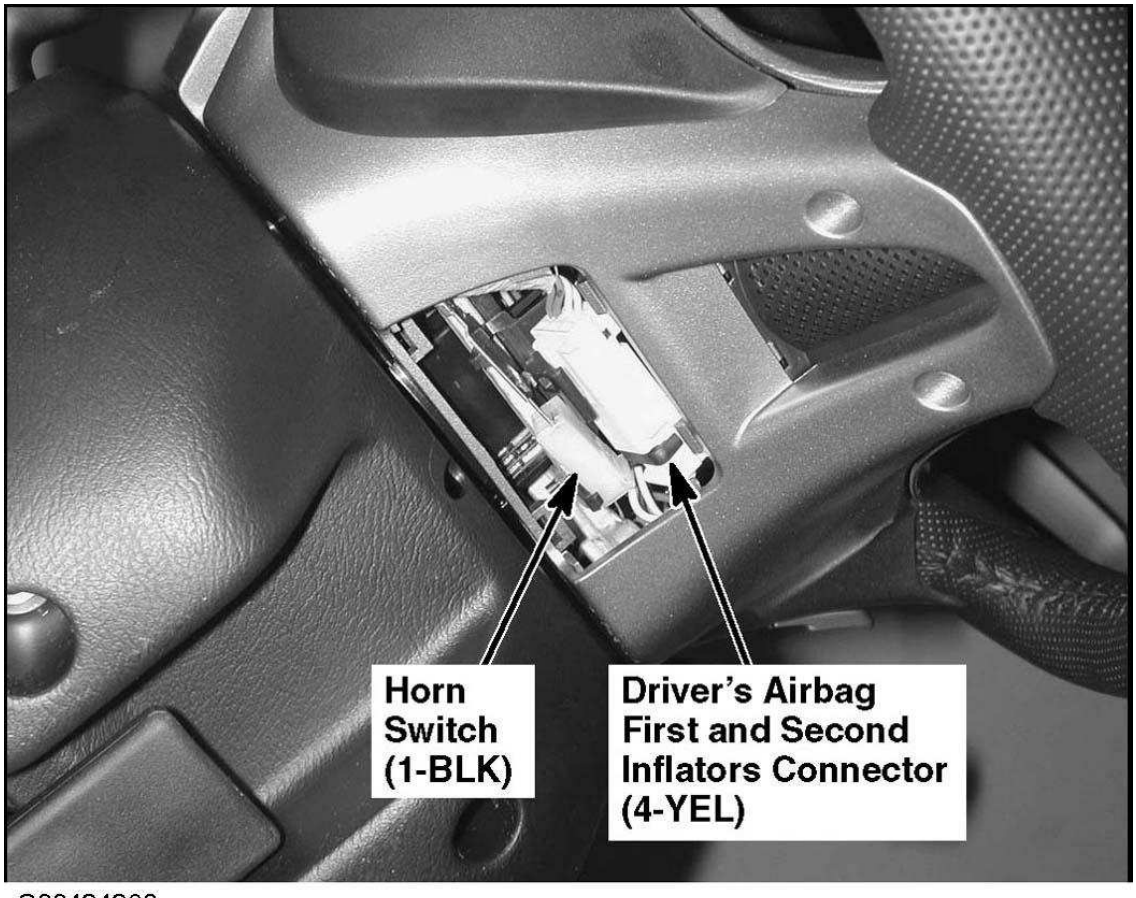



G00434388

**Fig. 49: Under Right Side Of Windshield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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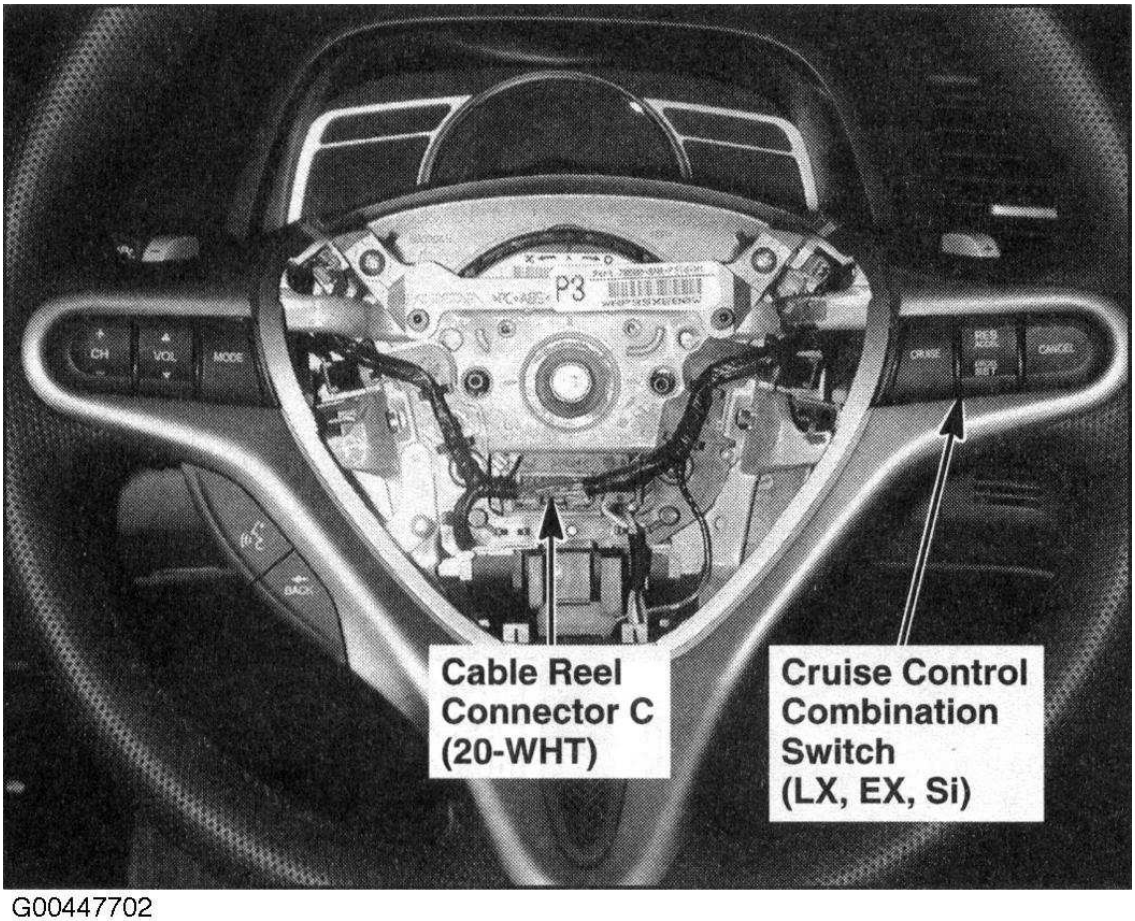



G00434389

**Fig. 50: Steering Wheel**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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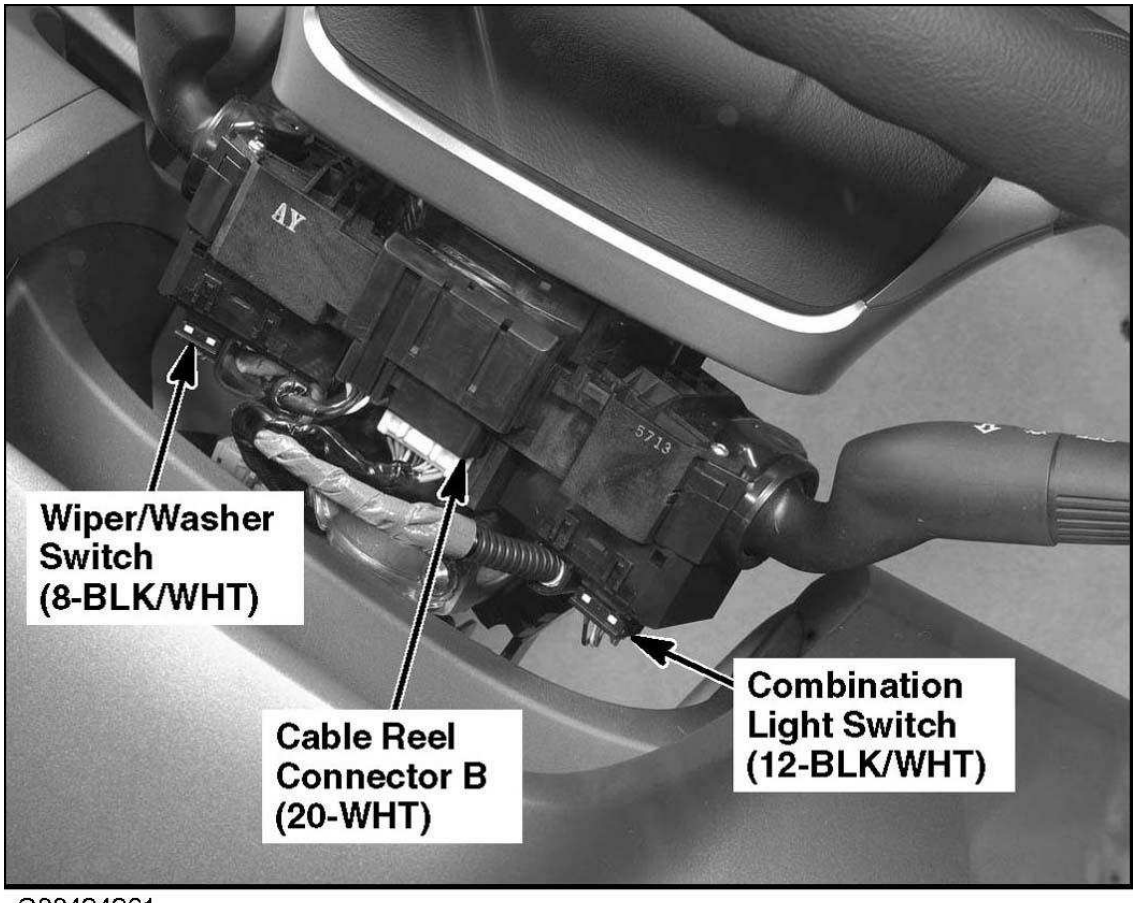



G00447702

**Fig. 51: Steering Wheel**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

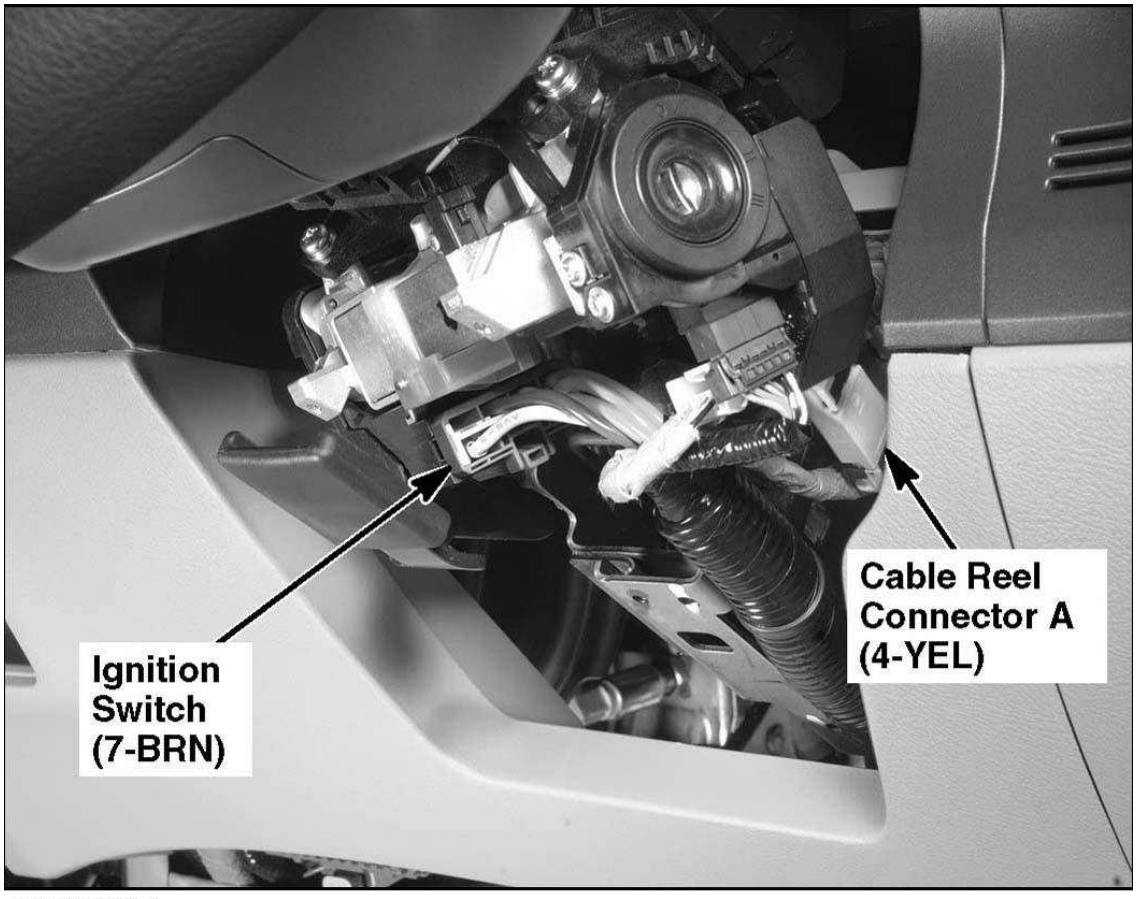
http://ReadManuals.com






G00434391

**Fig. 52: Steering Column**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

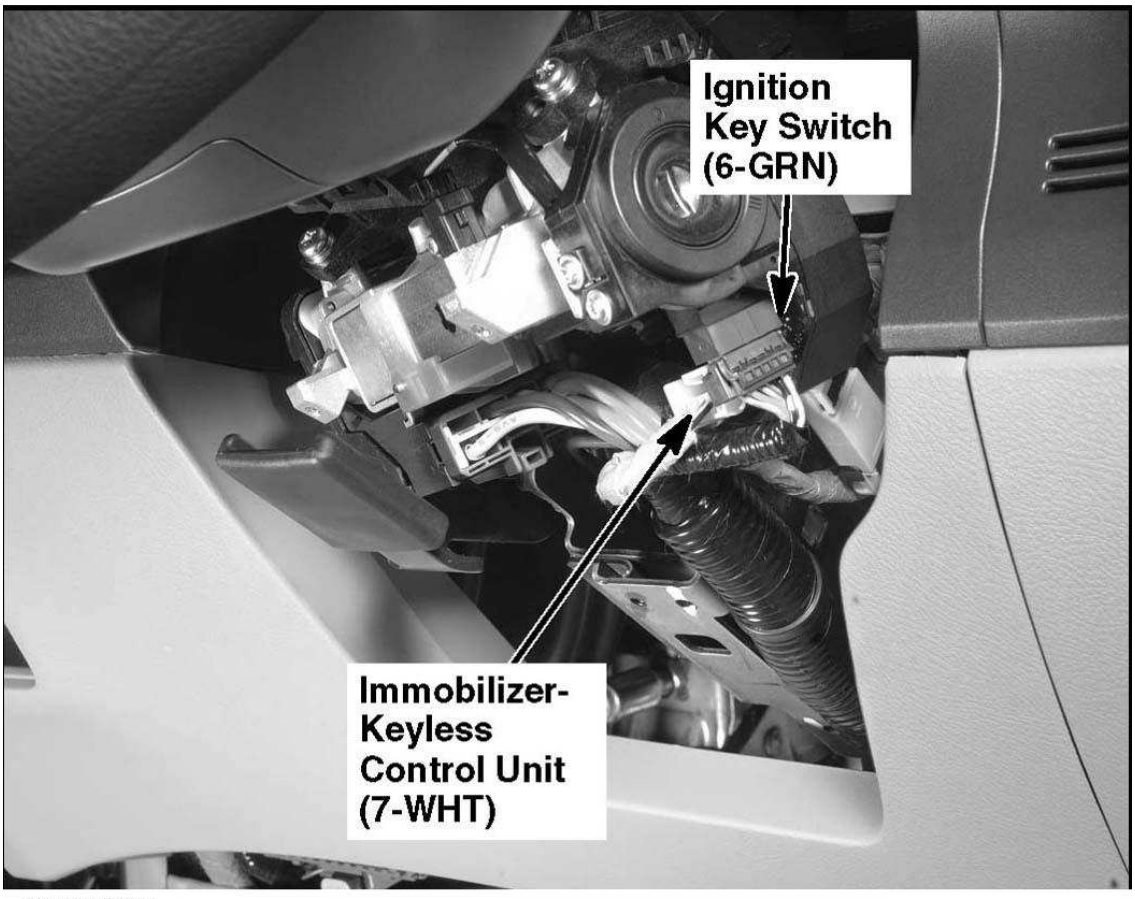



G00434392

**Fig. 53: Steering Column**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

http://ReadManuals.com



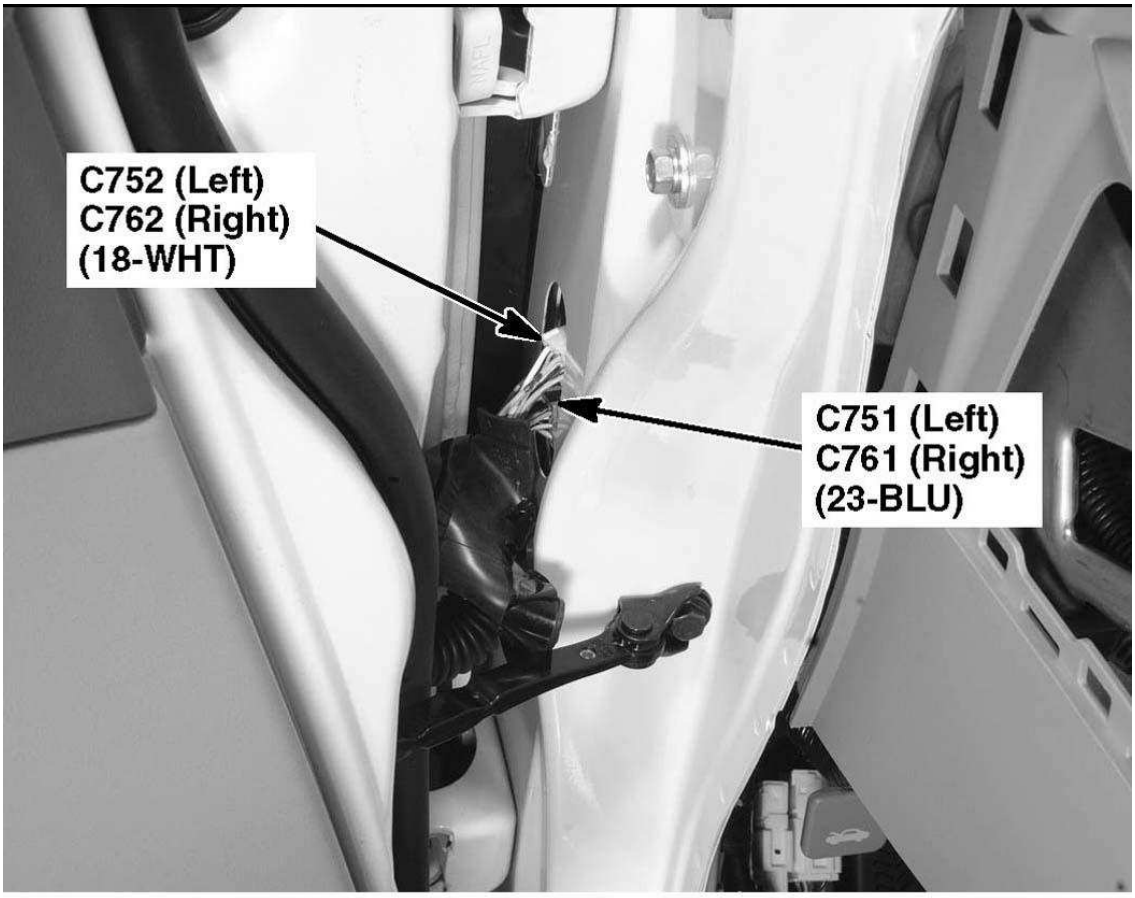



G00434393

**Fig. 54: Steering Column**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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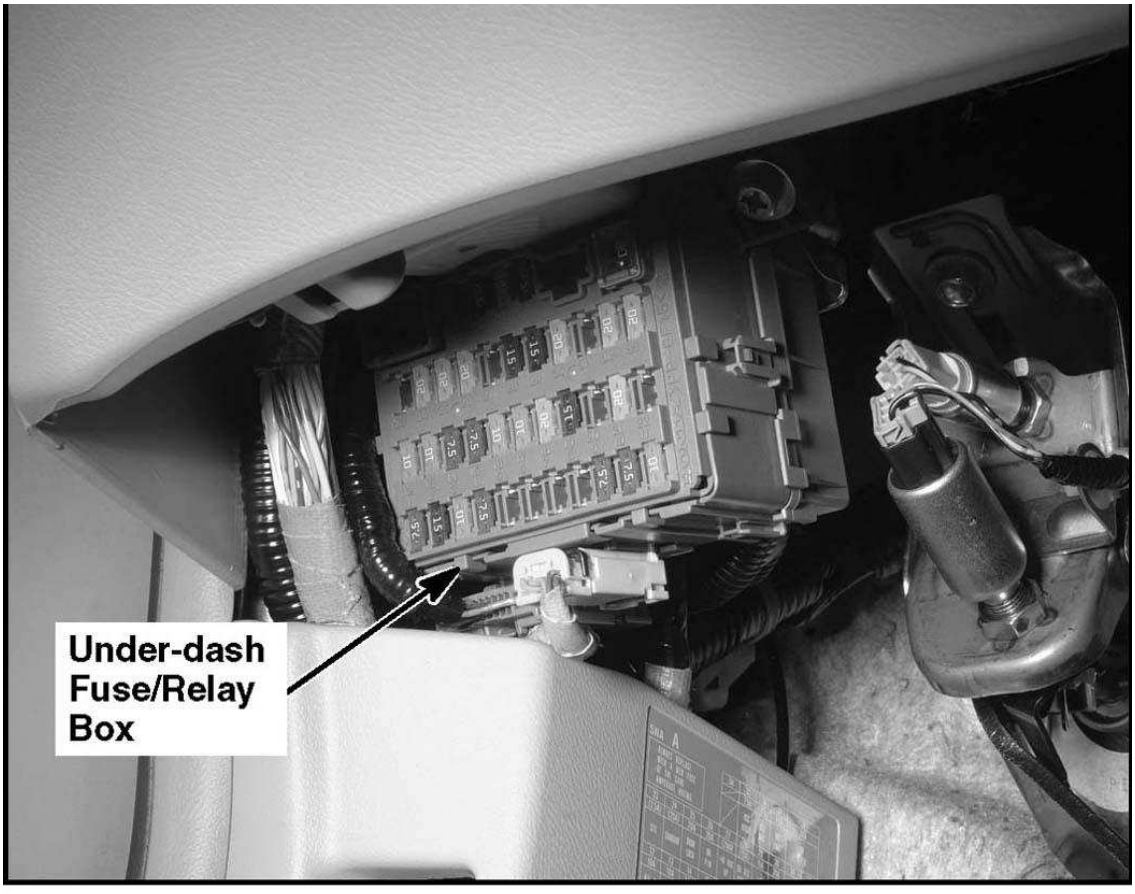



G00434394

**Fig. 55: Under Left End Of Dash (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434395

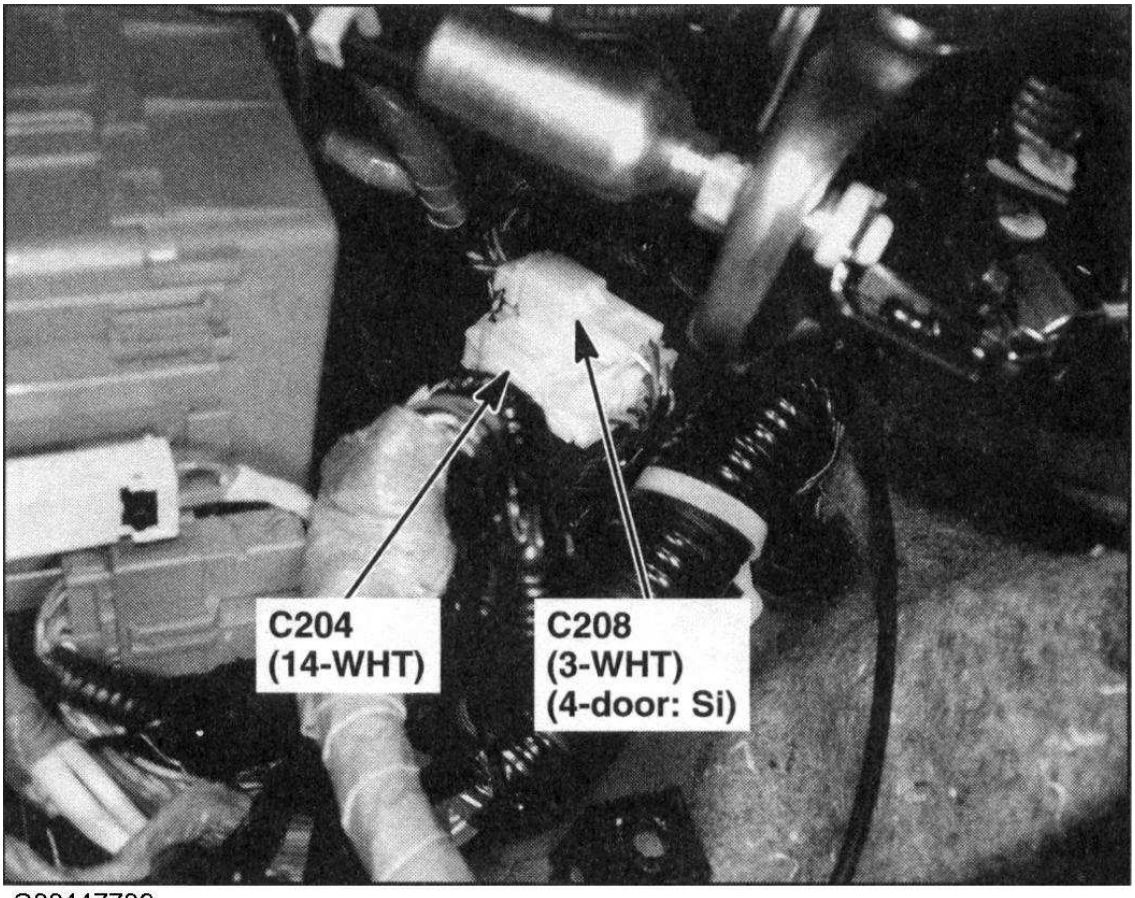
**Fig. 56: Under Left End Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**




**Fig. 57: Under Left End Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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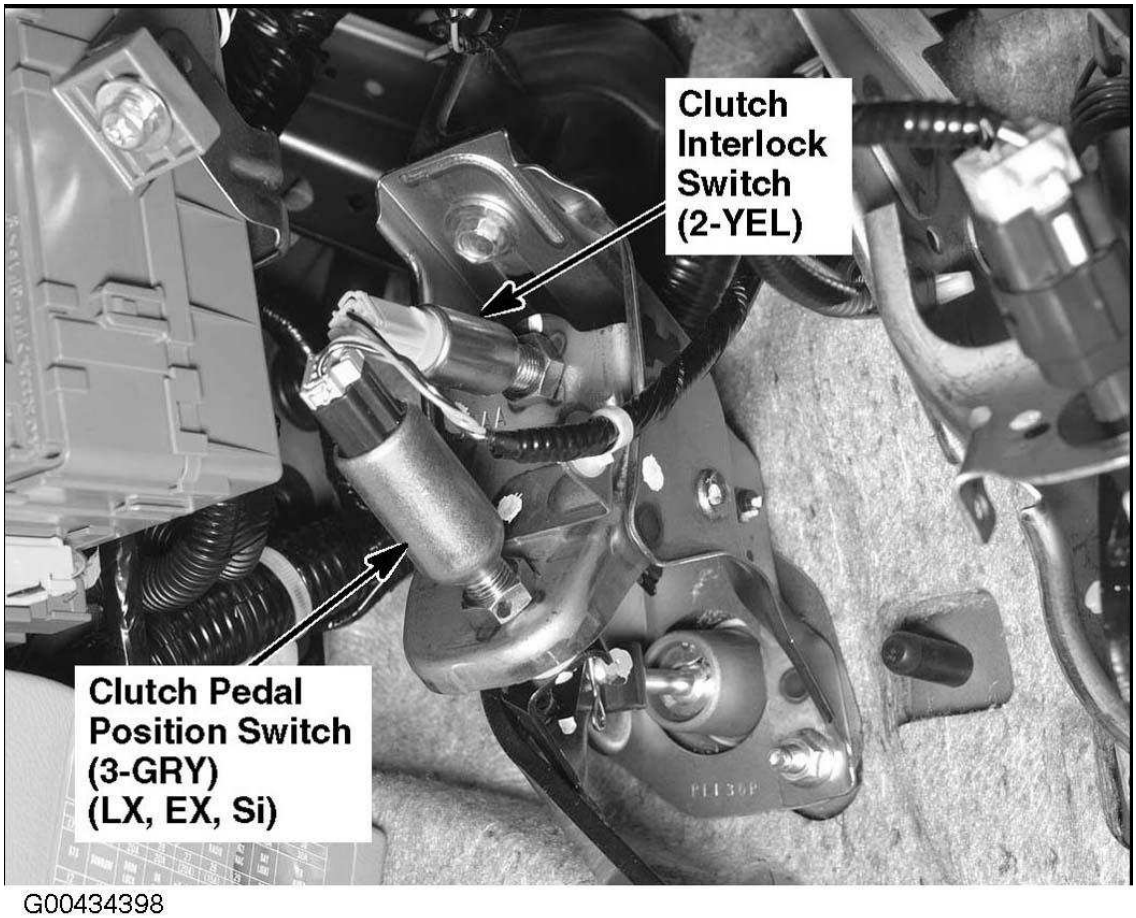



G00447706

**Fig. 58: Behind Left Kick Panel (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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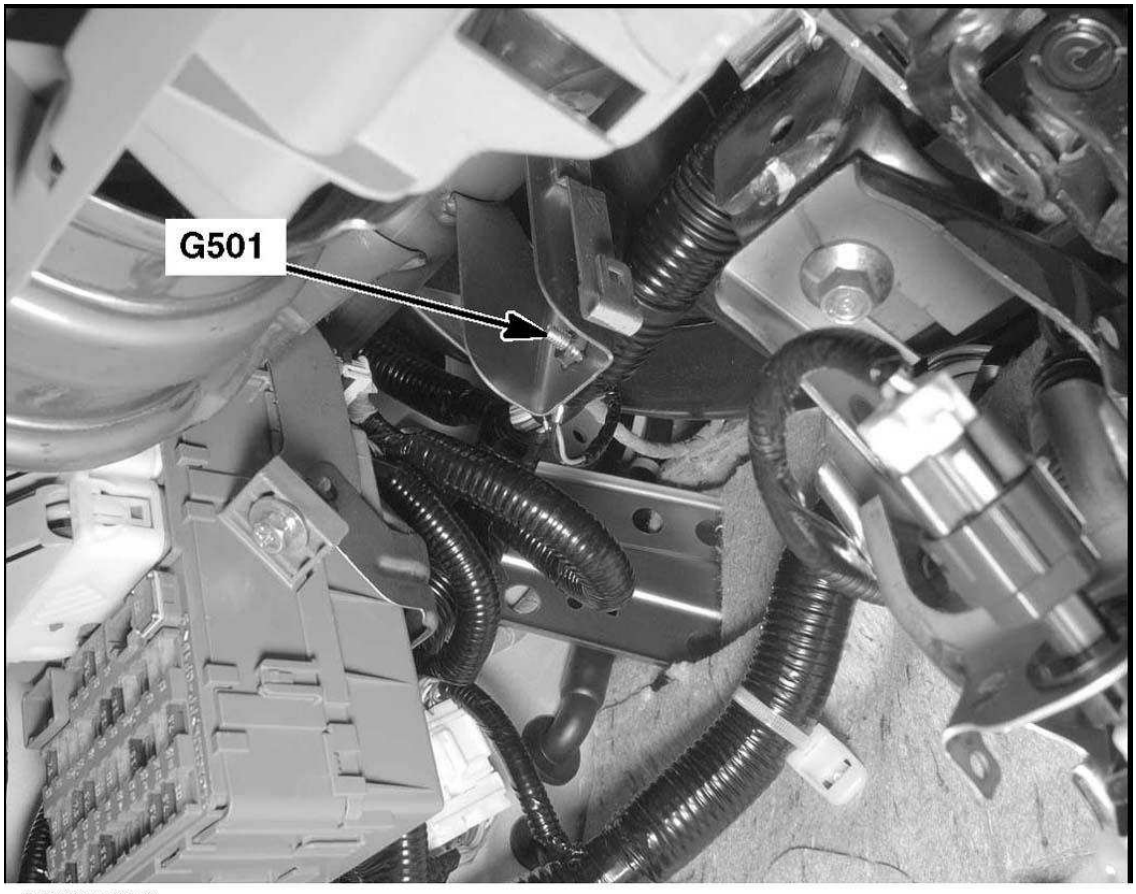



G00434398

**Fig. 59: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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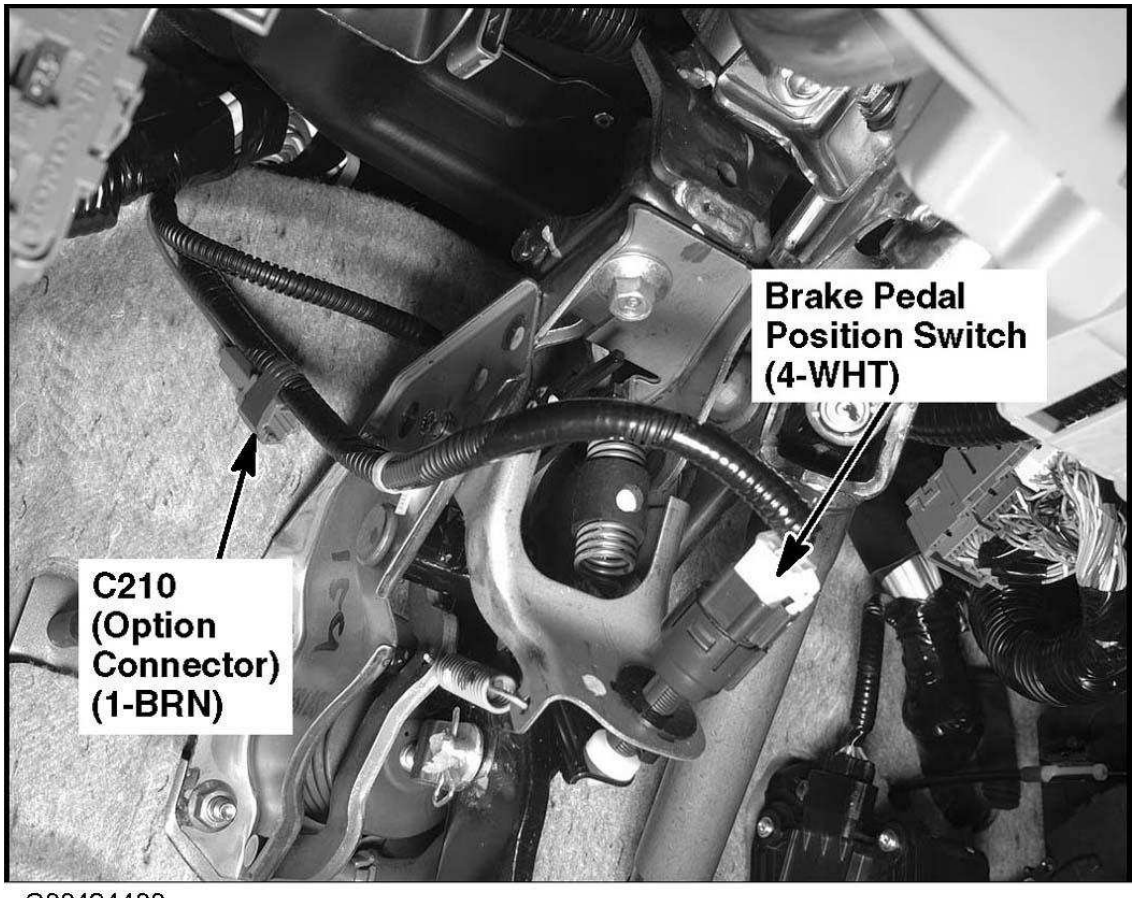



G00434399

**Fig. 60: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

http://ReadManuals.com



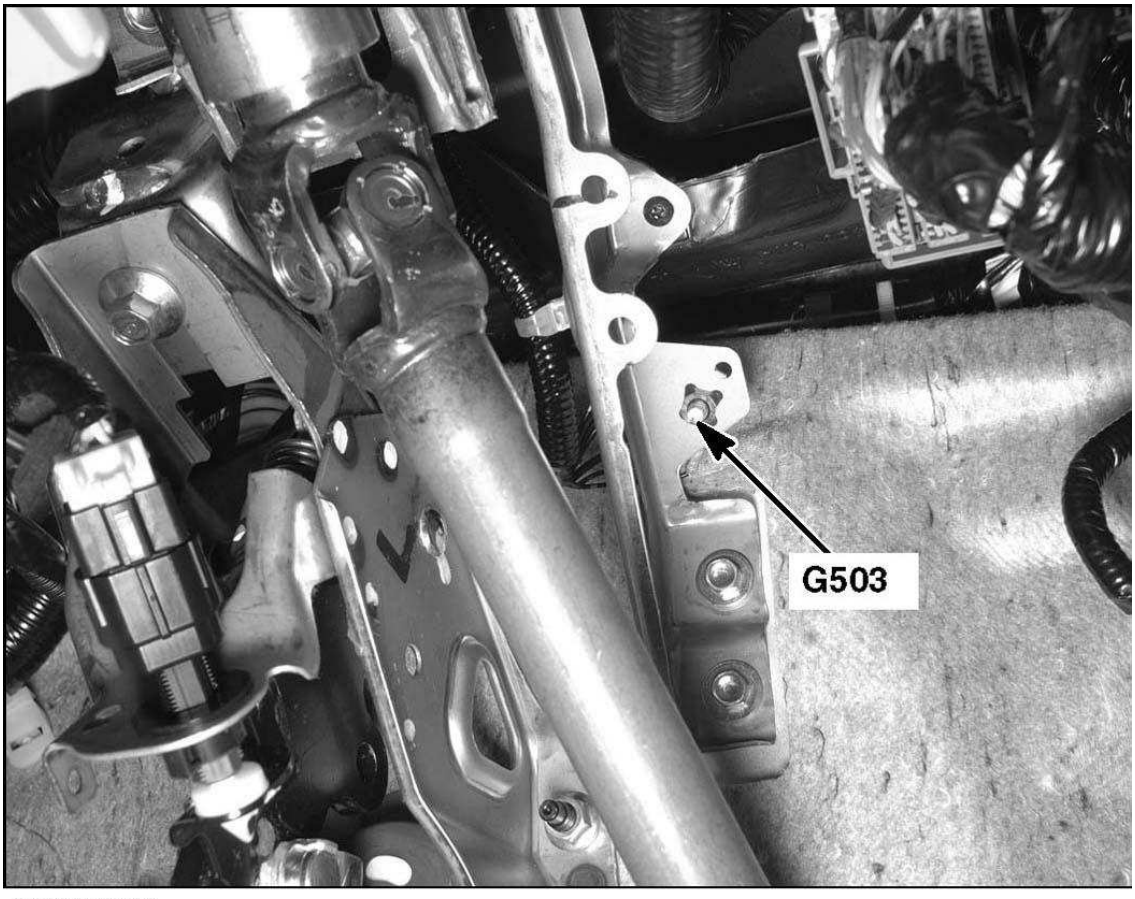



G00434400

**Fig. 61: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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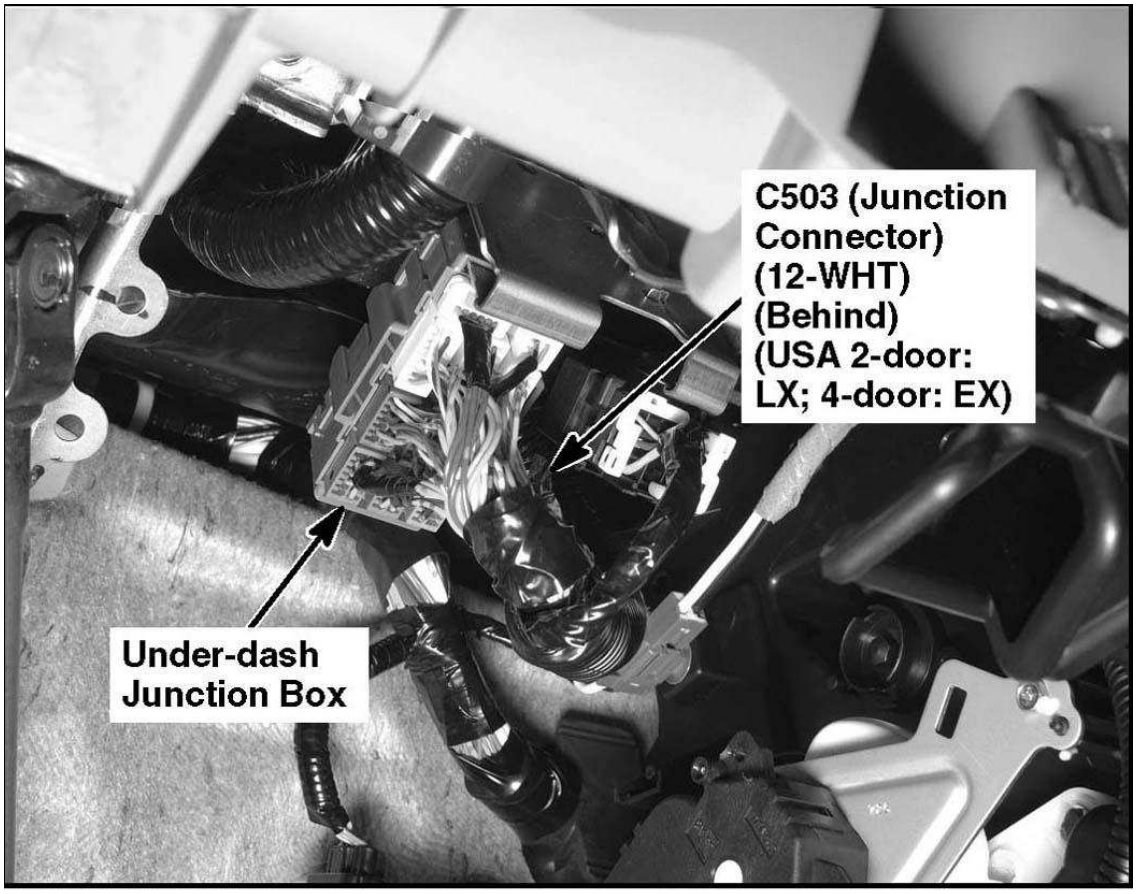



G00434401

**Fig. 62: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434402

**Fig. 63: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

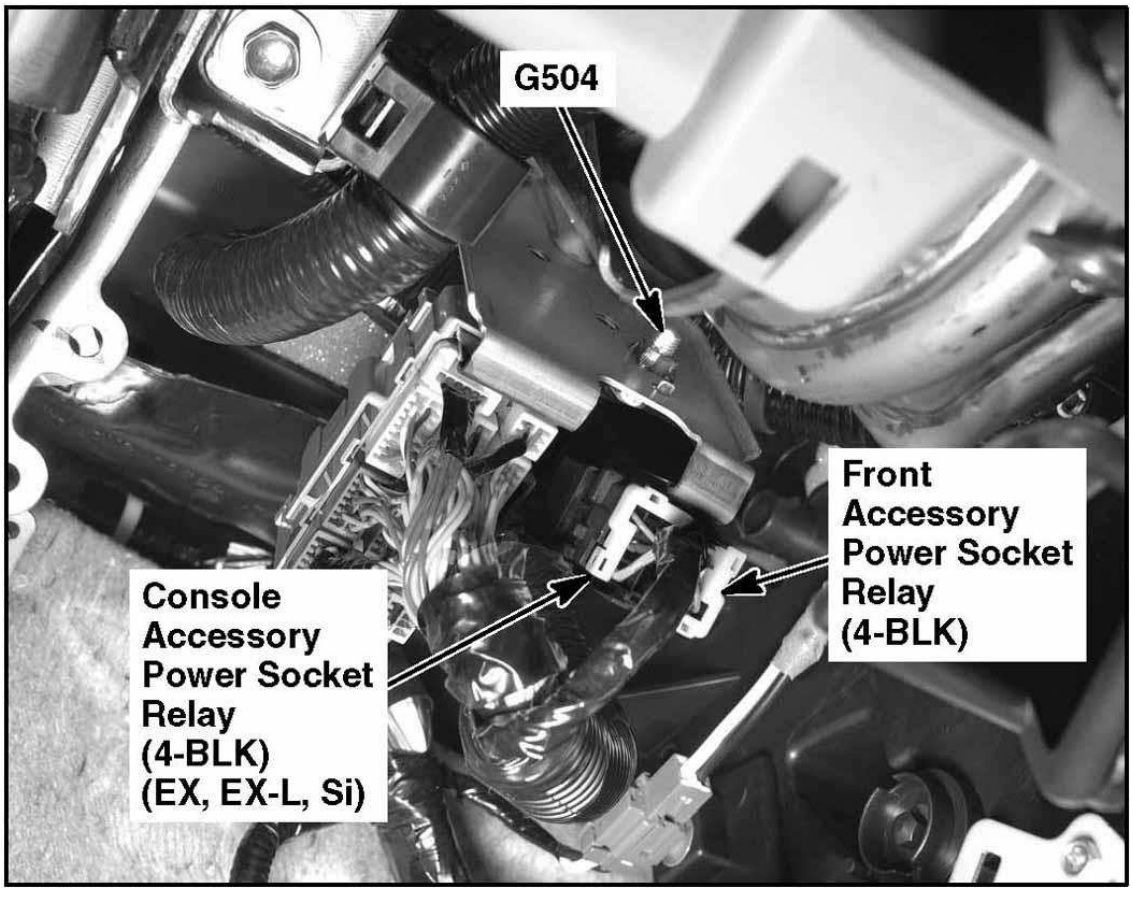
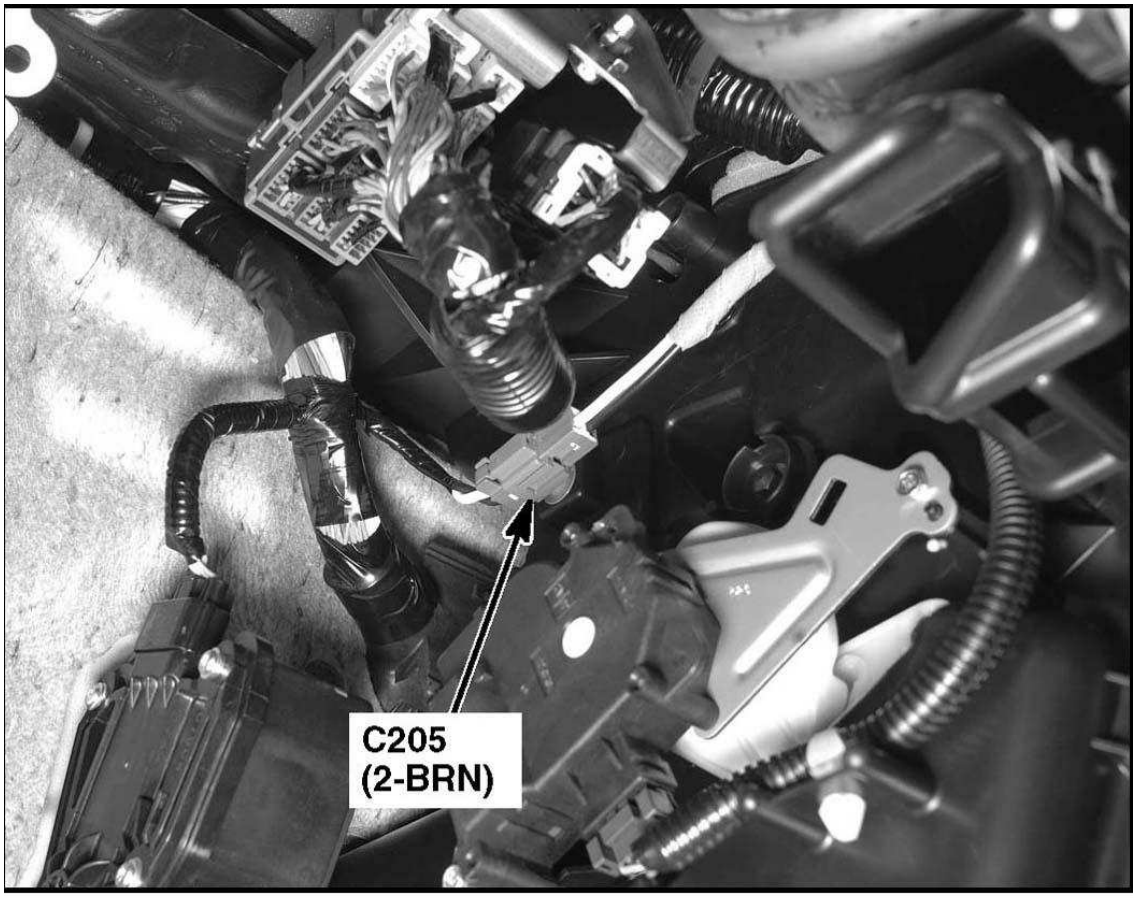



**Fig. 64: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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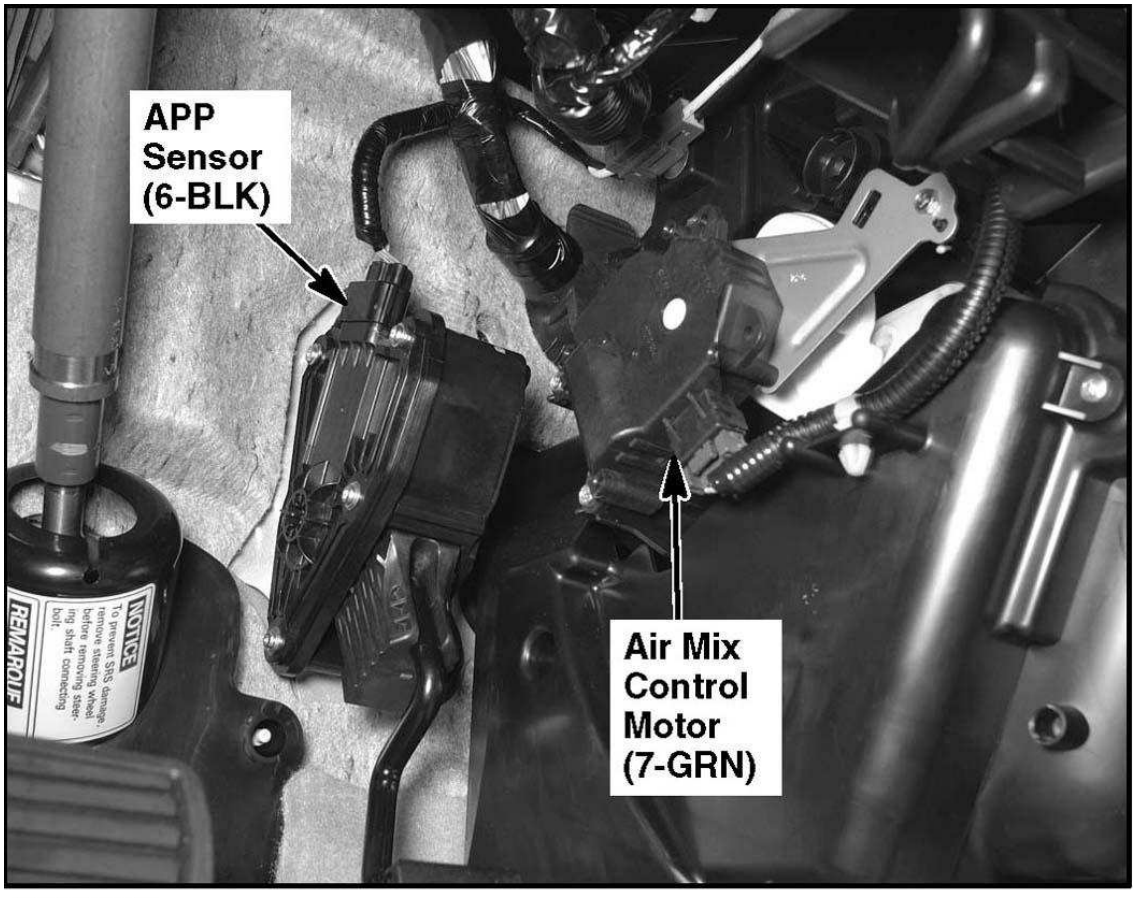



G00434404

**Fig. 65: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434405

**Fig. 66: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

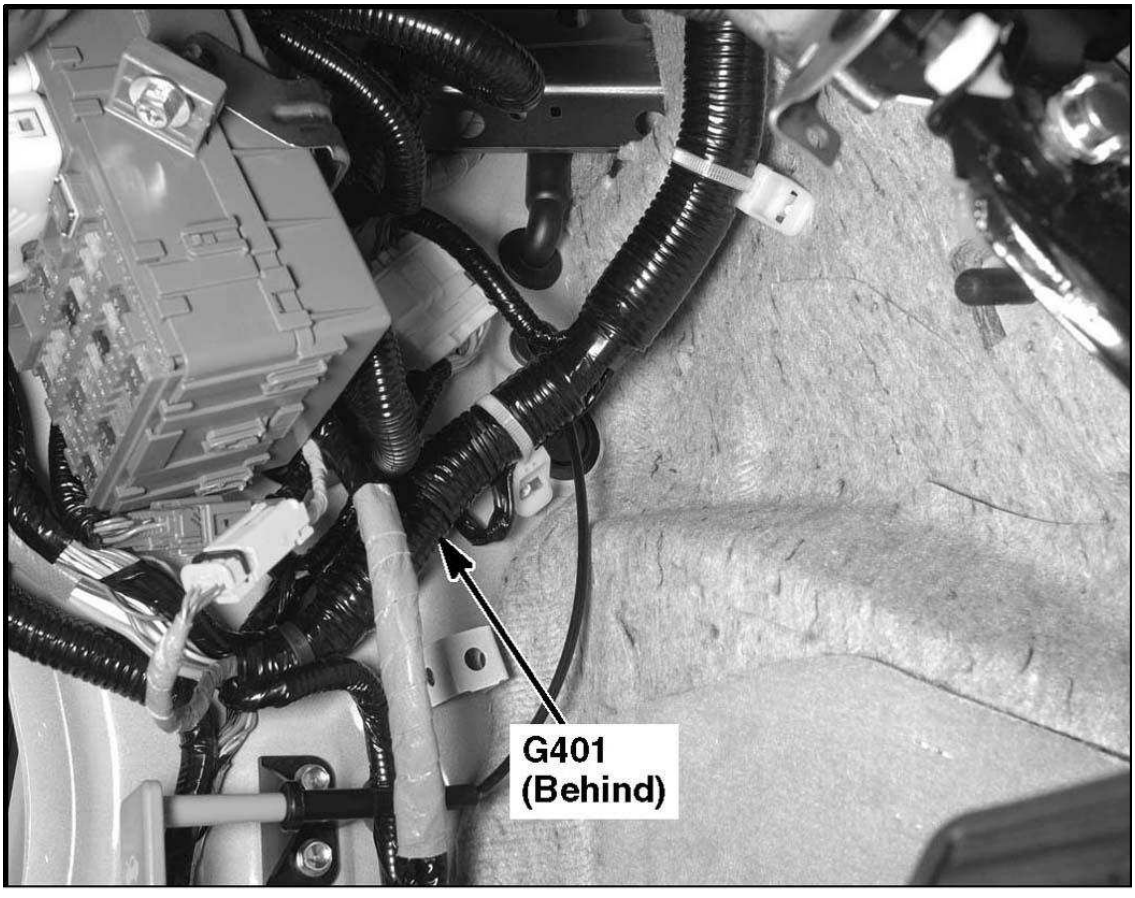



G00434406

**Fig. 67: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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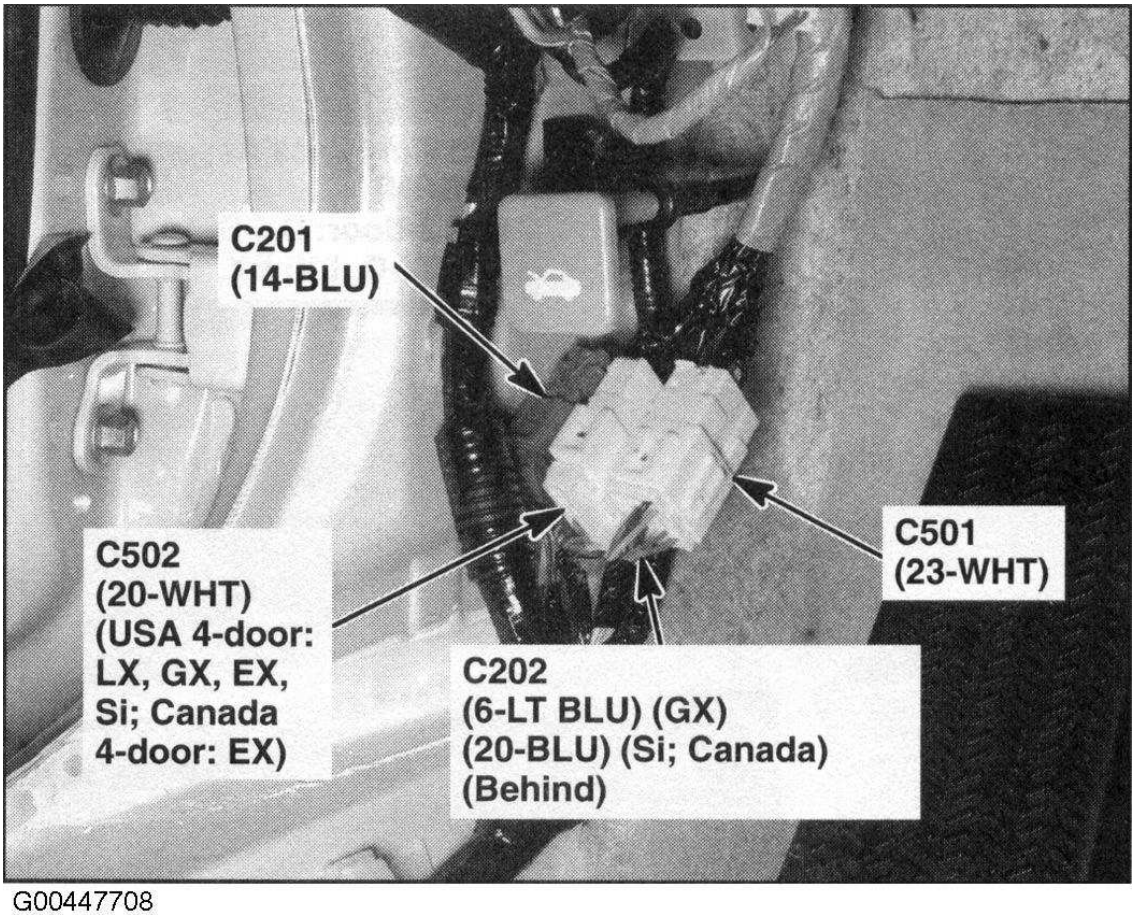



G00434407

**Fig. 68: Behind Left Kick Panel**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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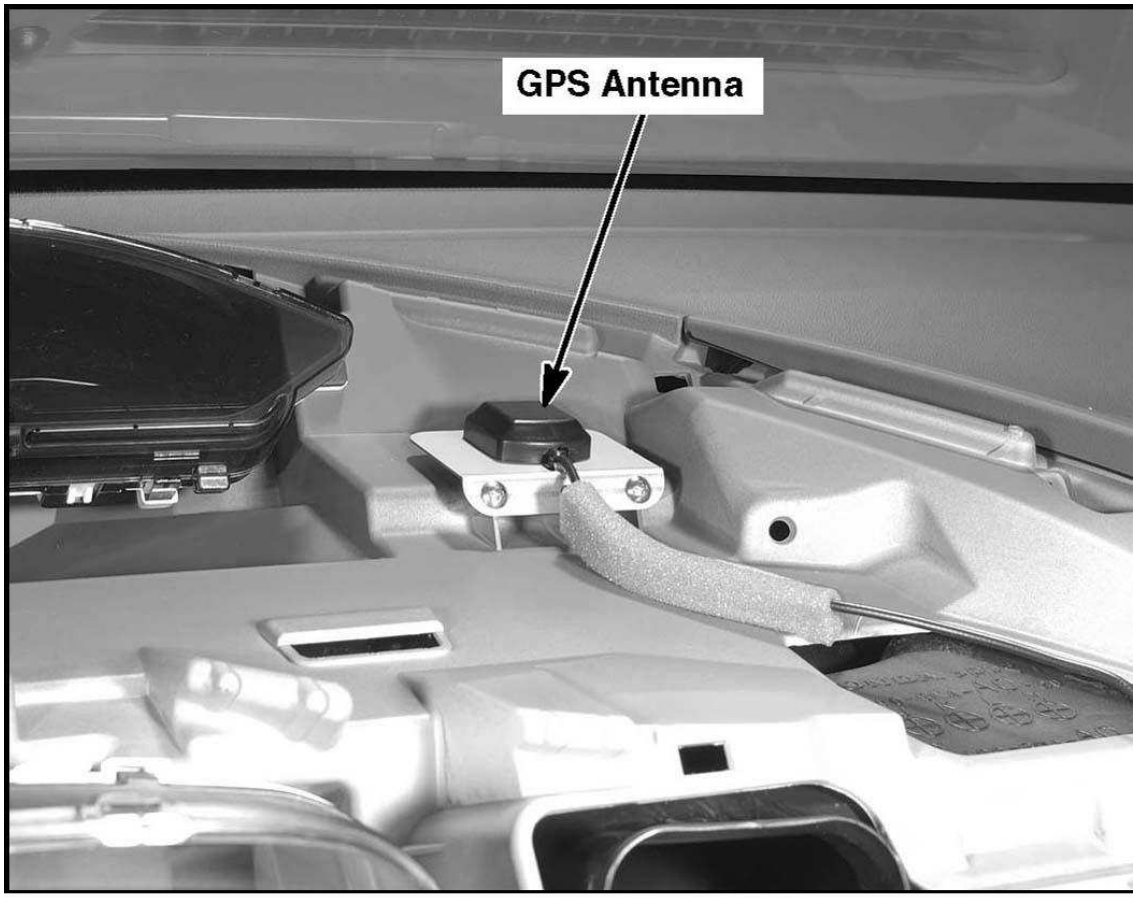



G00447708

**Fig. 69: Behind Left Kick Panel (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434410

**Fig. 70: Under Middle Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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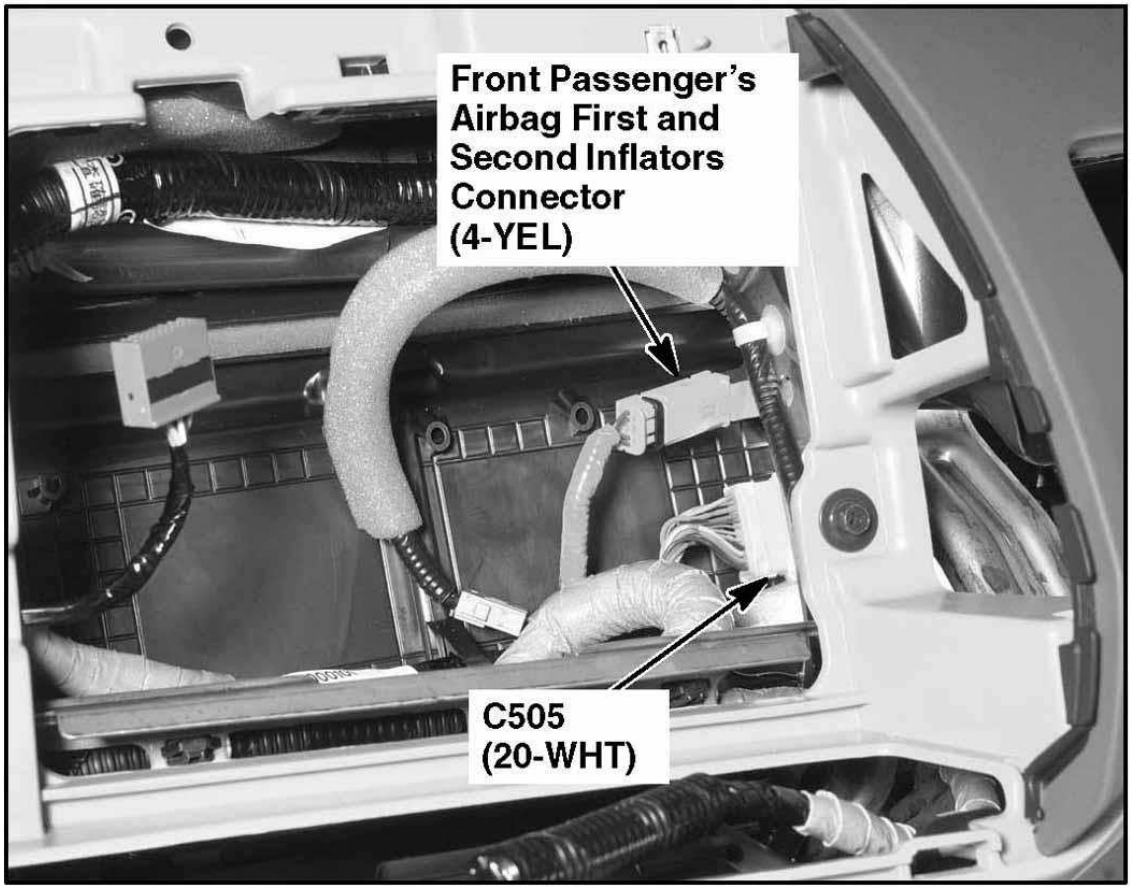
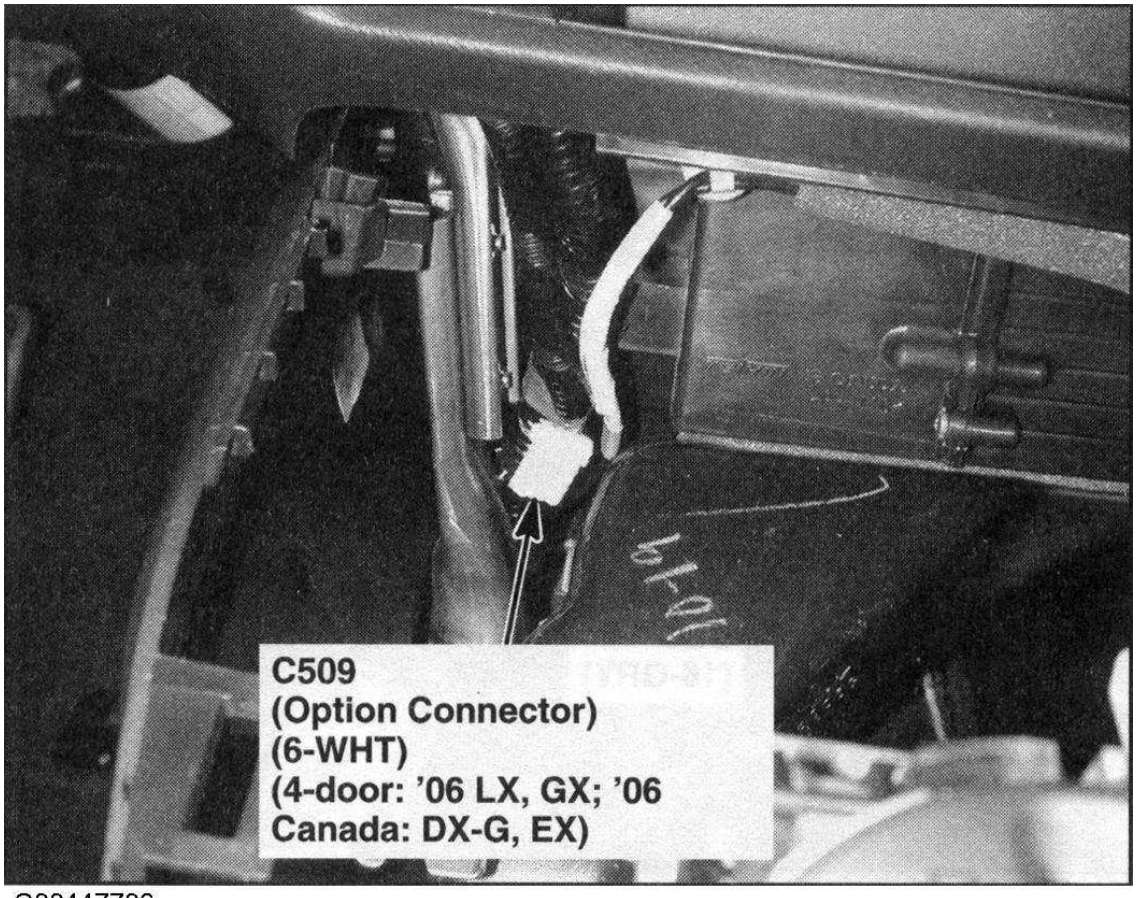



**Fig. 71: Behind Middle Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

# 2008 Honda Civic GX

2008 HONDA Civic - Except Hybrid




G00447709

**Fig. 72: Under Middle Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

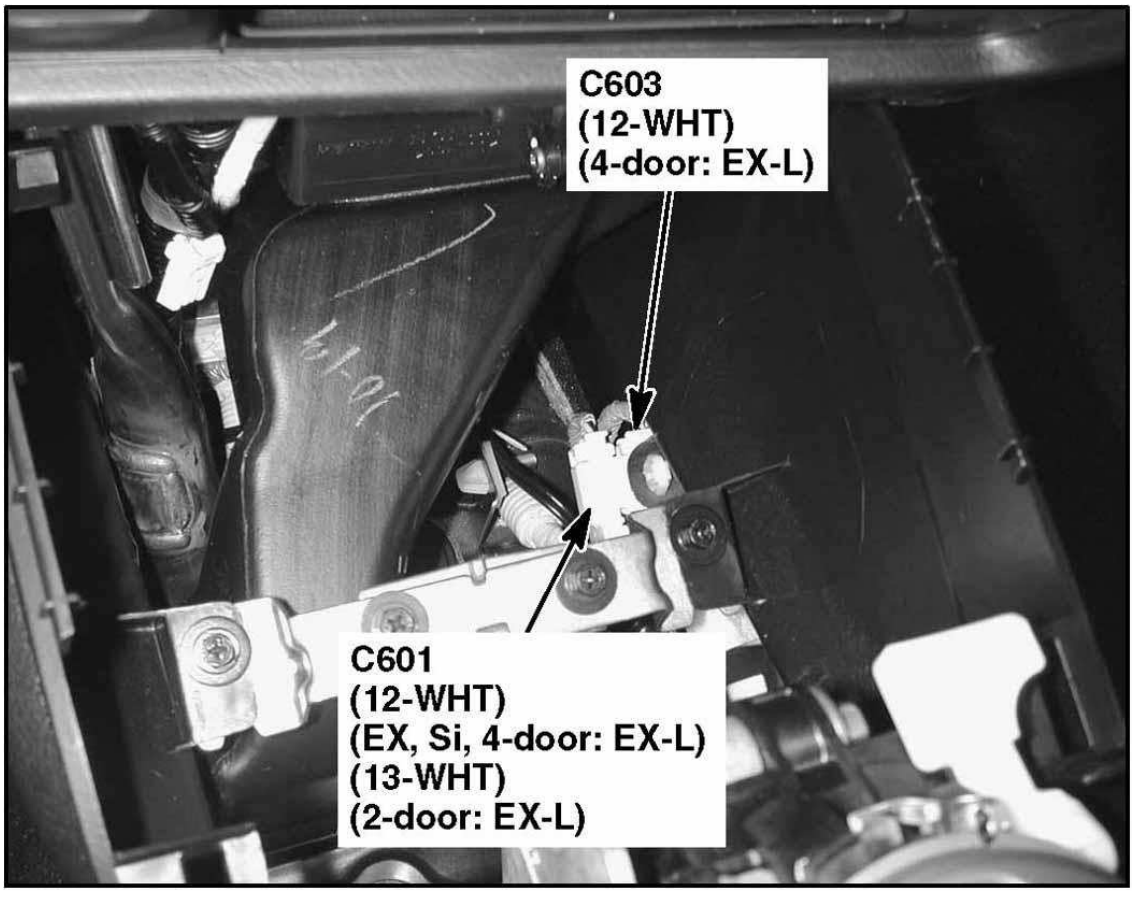
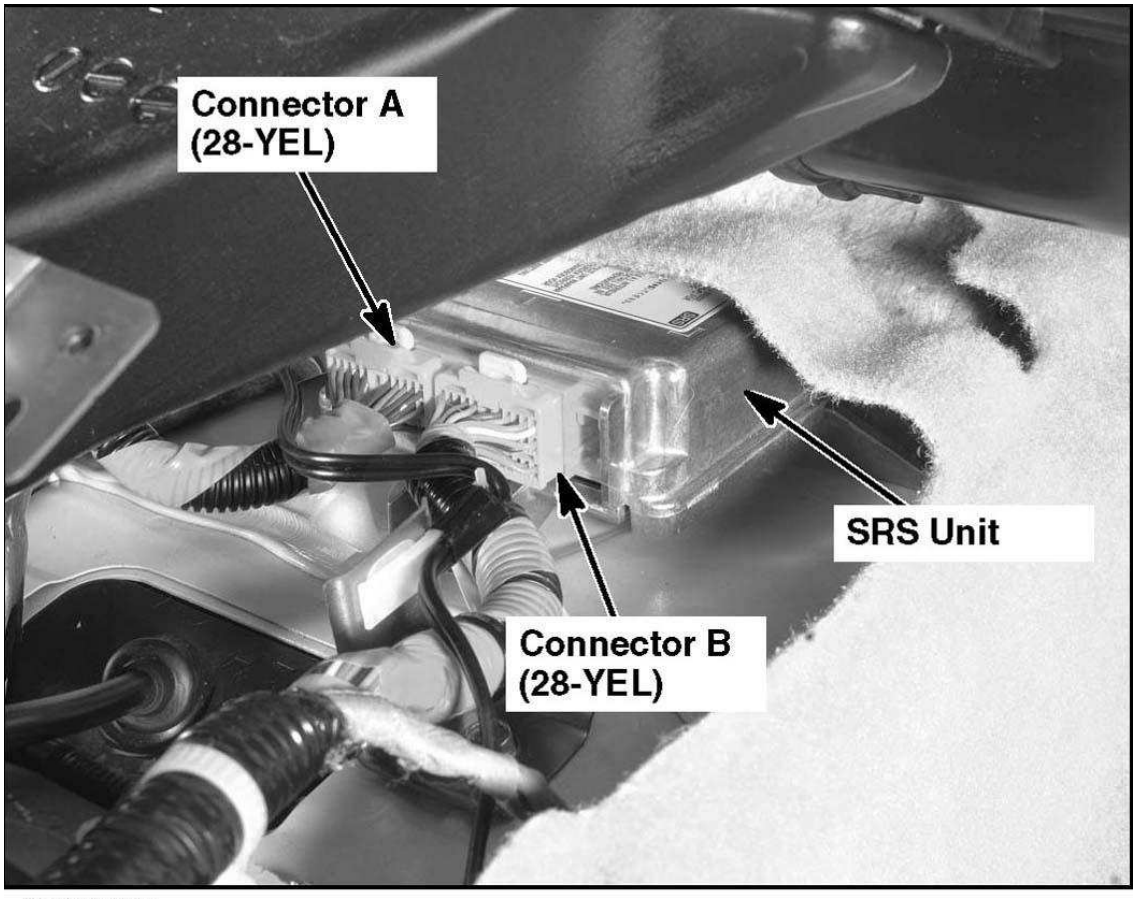



**Fig. 73: Under Front Of Center Console (EX, EX-L & Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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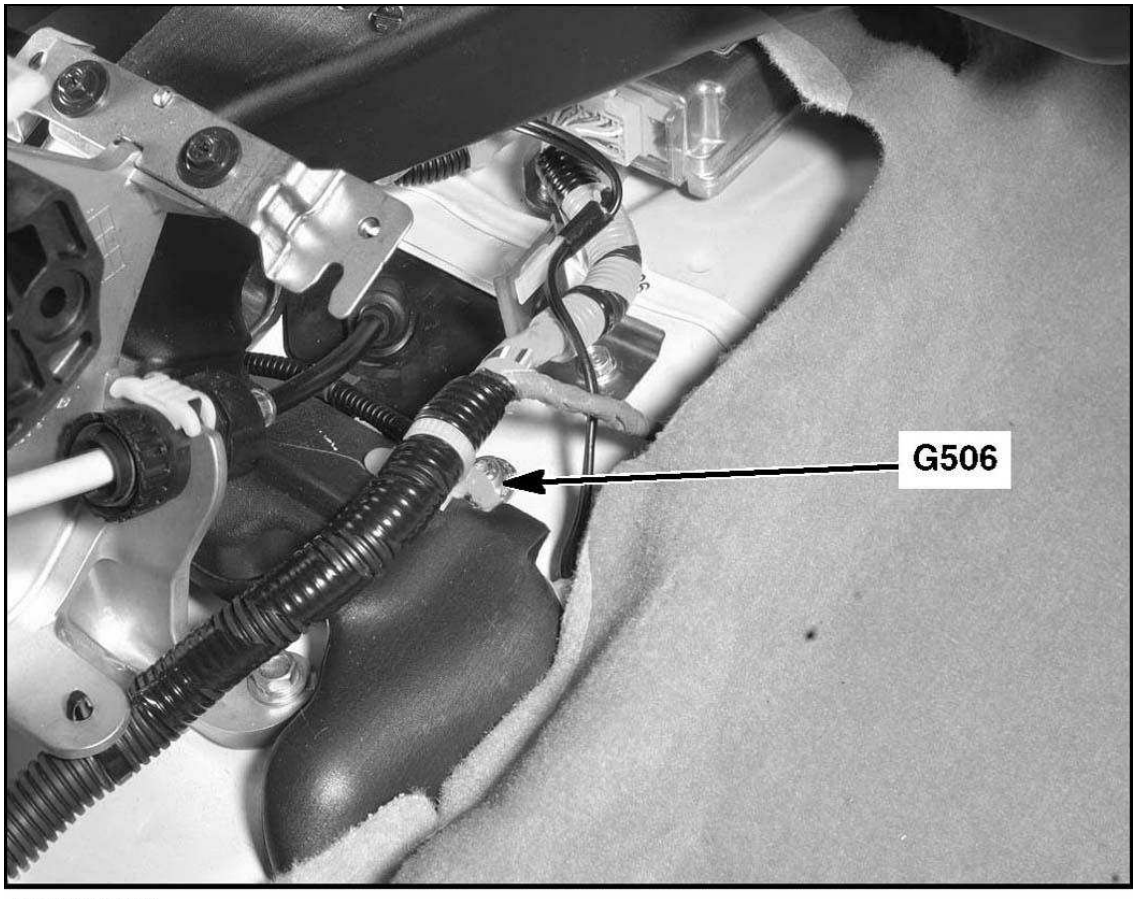



G00434414

**Fig. 74: Under Middle Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434415

**Fig. 75: Under Middle Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

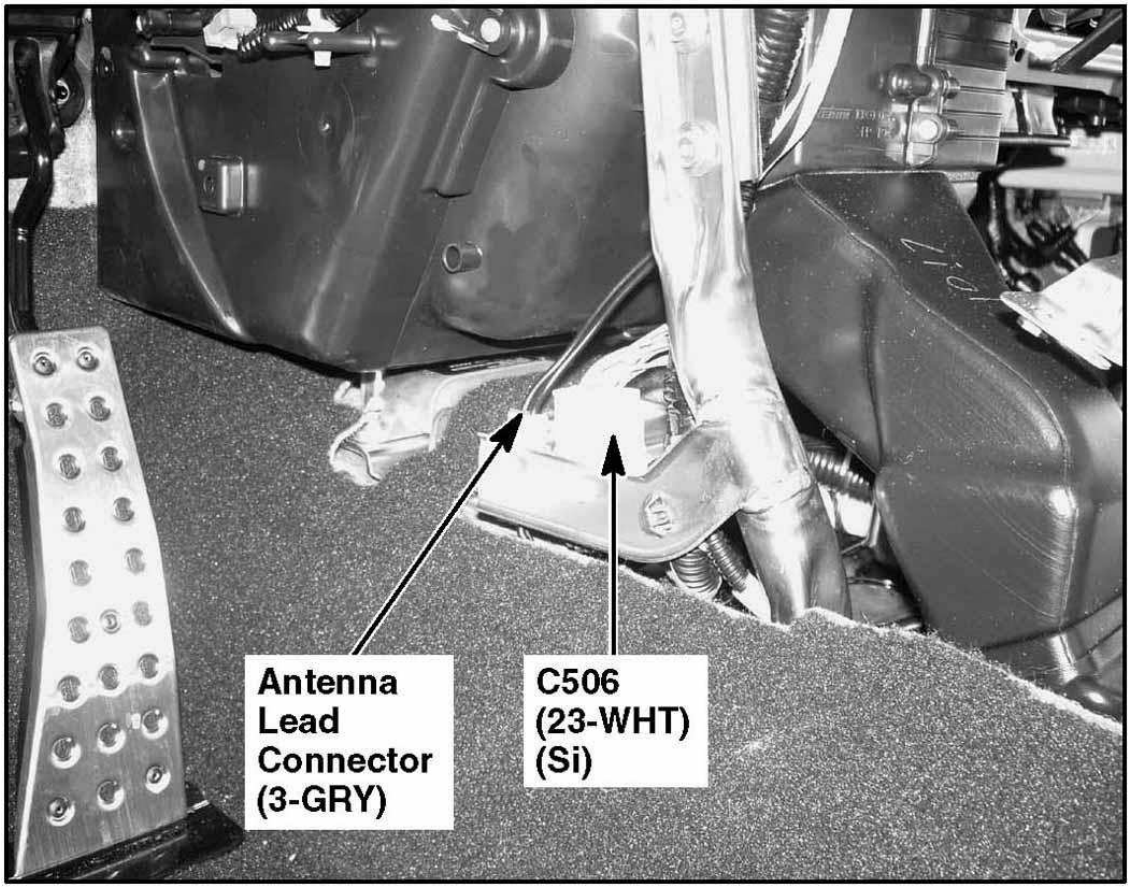
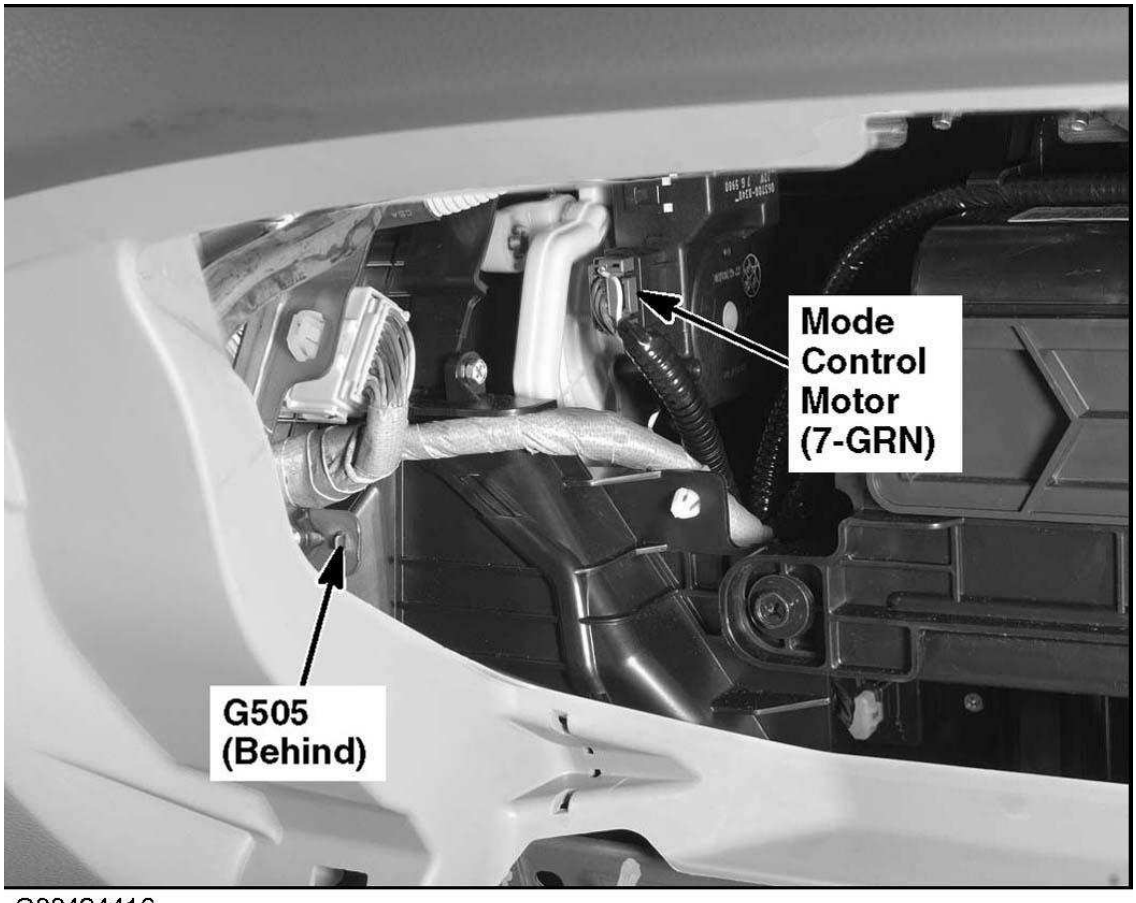



**Fig. 76: Under Front Of Center Console**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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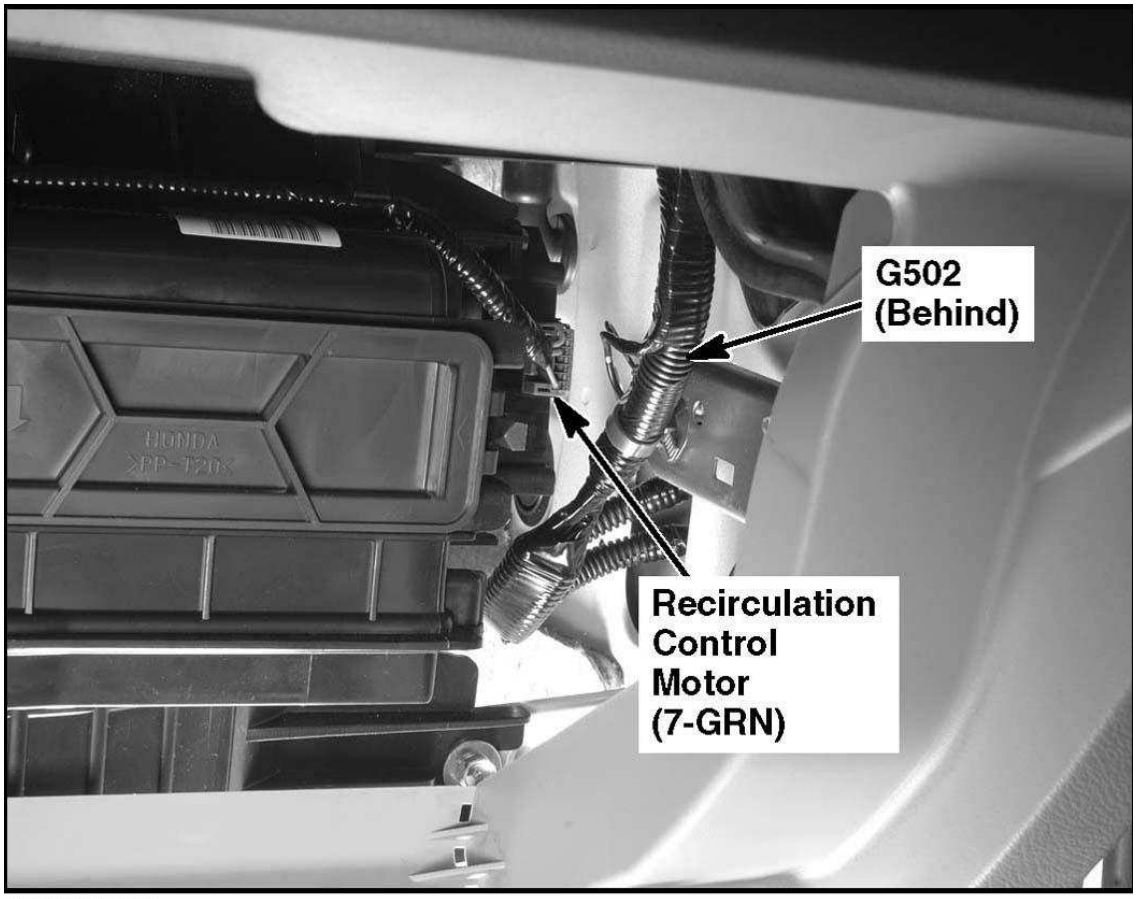



G00434419

**Fig. 77: Behind Glove Box**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434420

**Fig. 78: Behind Glove Box**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

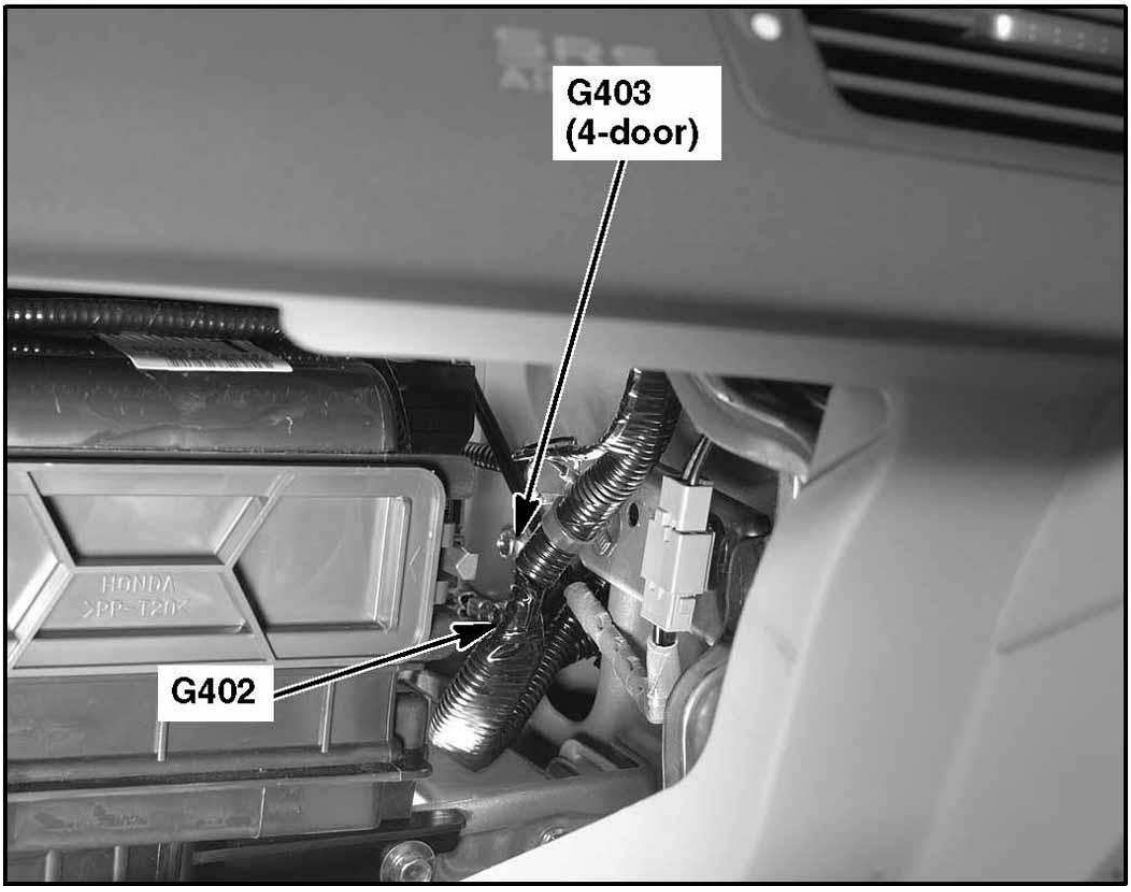
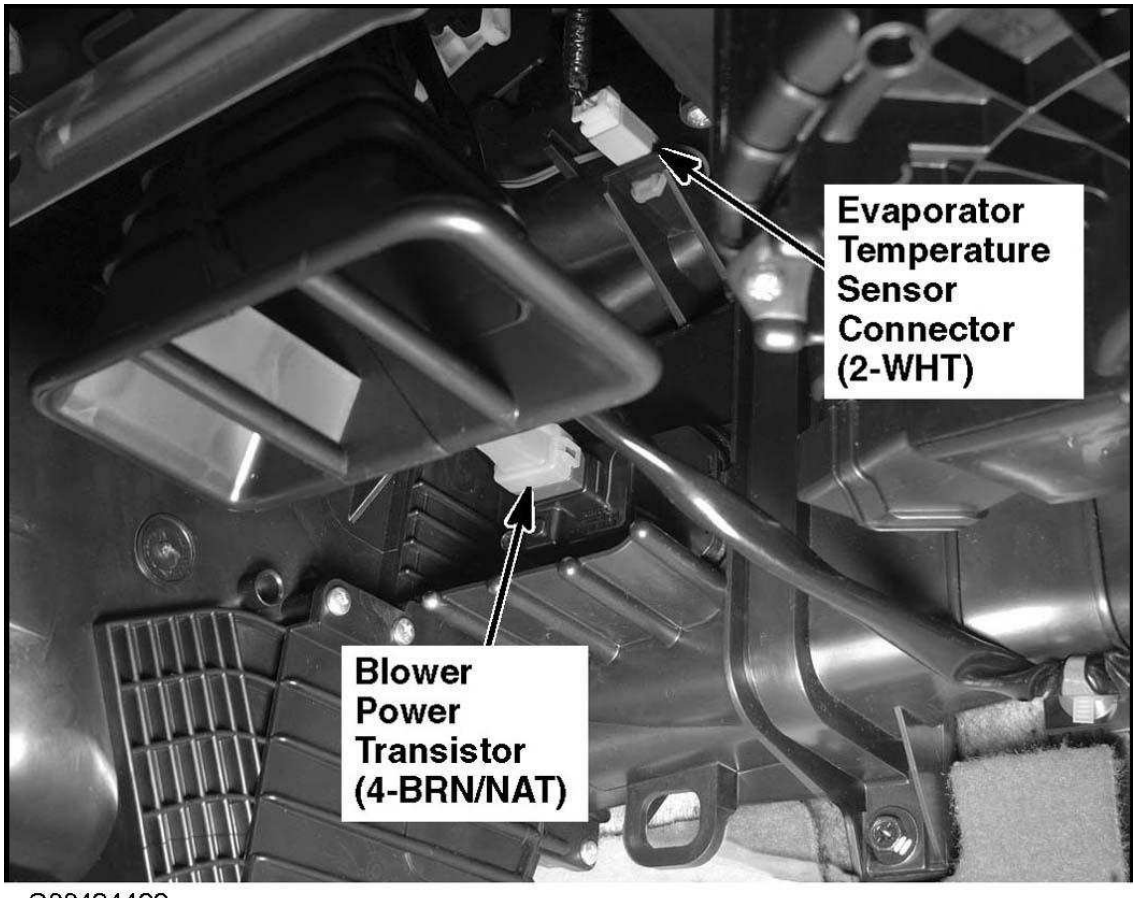



**Fig. 79: Behind Glove Box**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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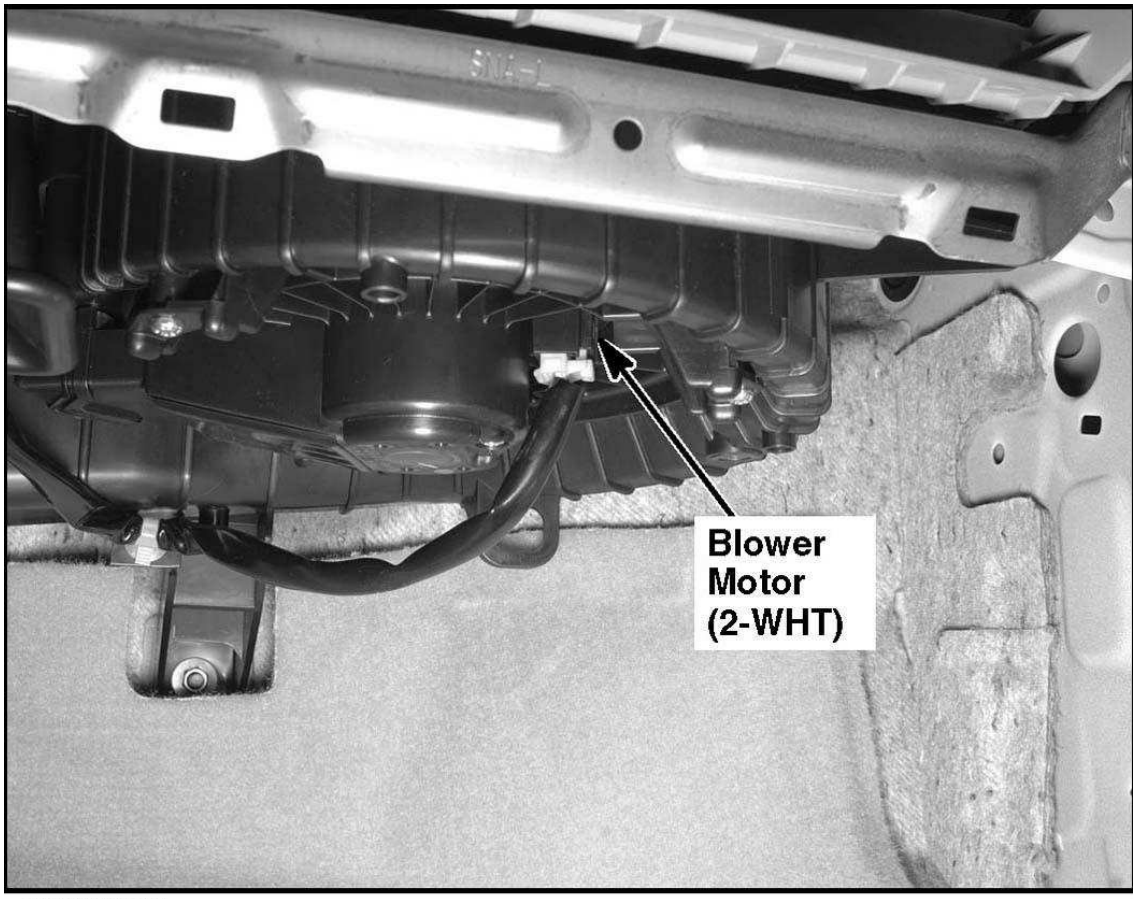



G00434422

**Fig. 80: Under Right Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434423

**Fig. 81: Under Right Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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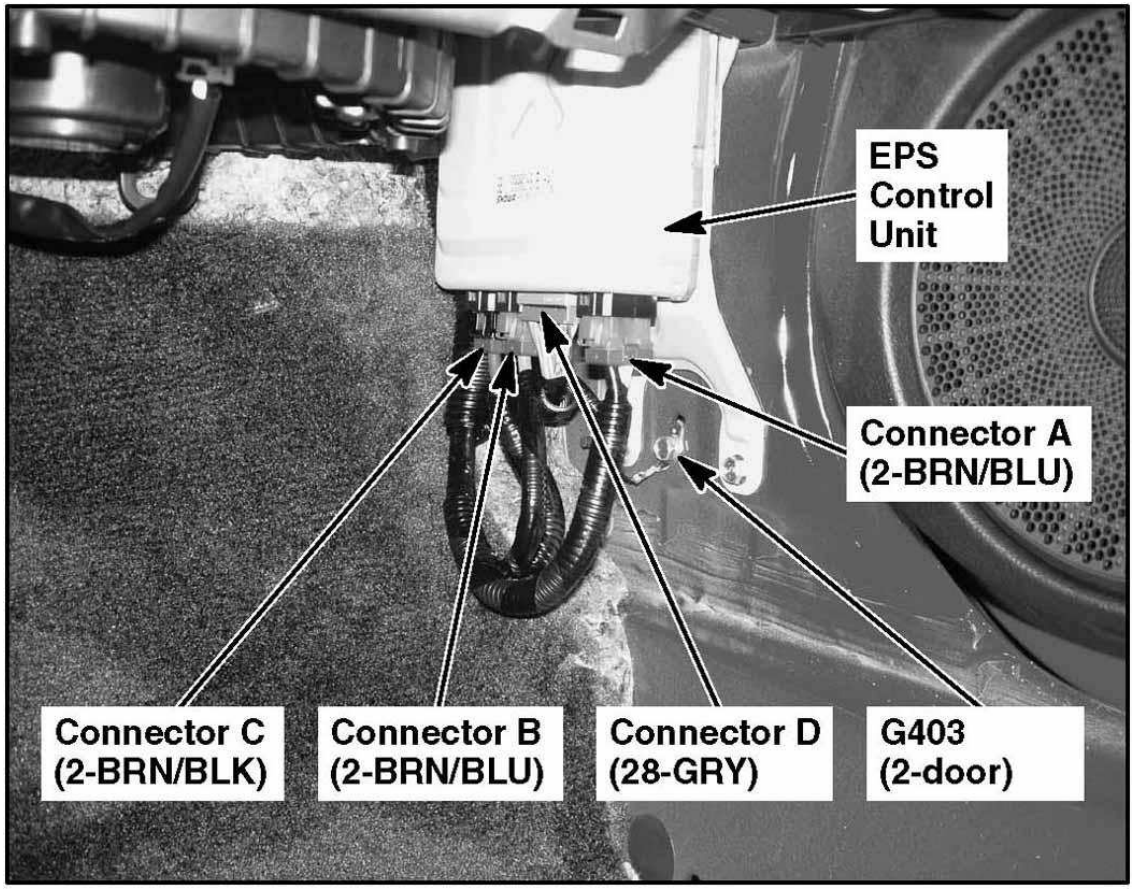
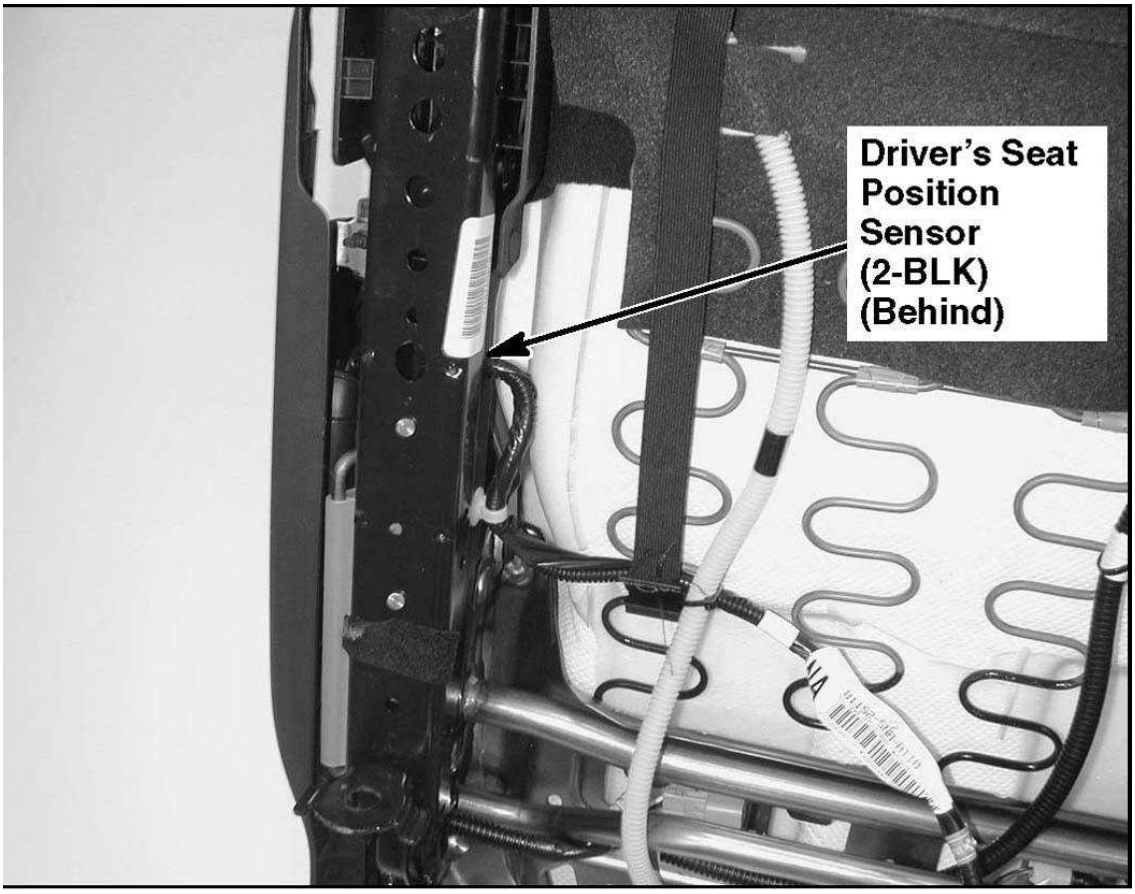



**Fig. 82: Behind Right Kick Panel (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434425

**Fig. 83: Under Driver's Seat**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

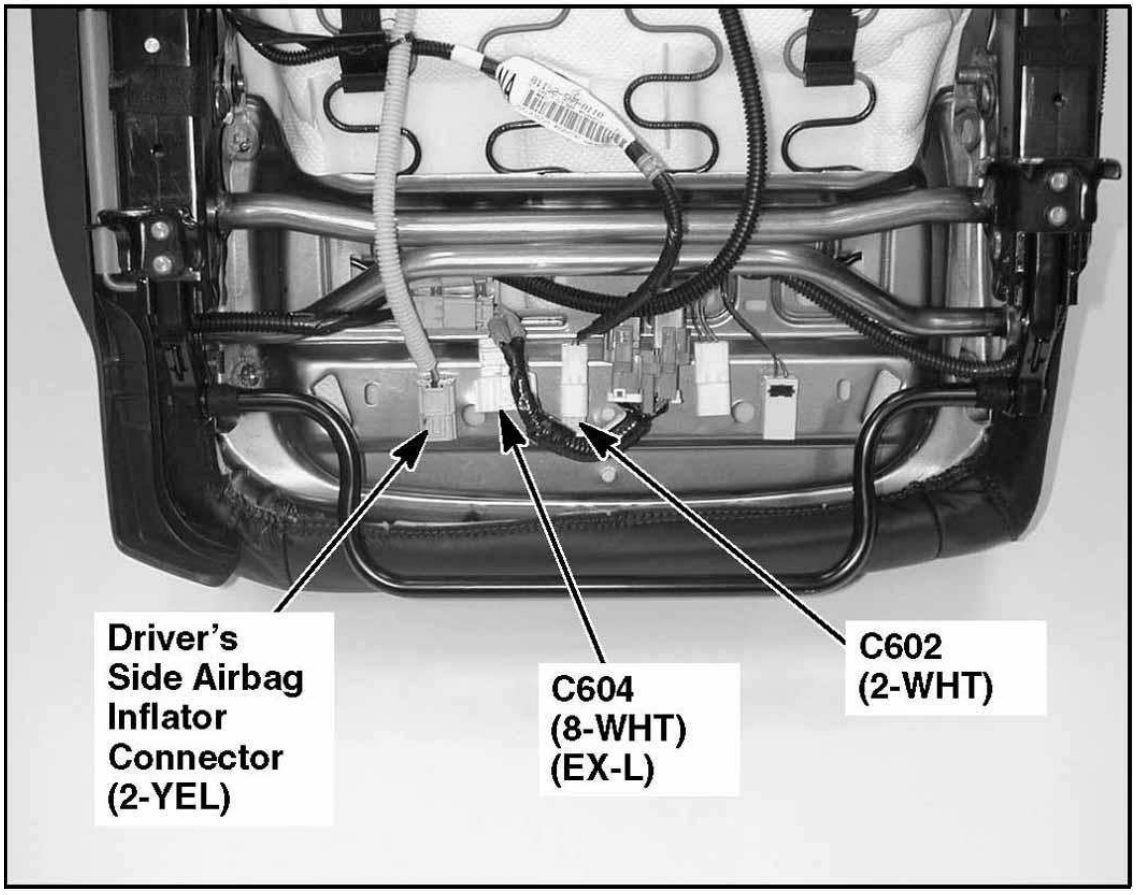
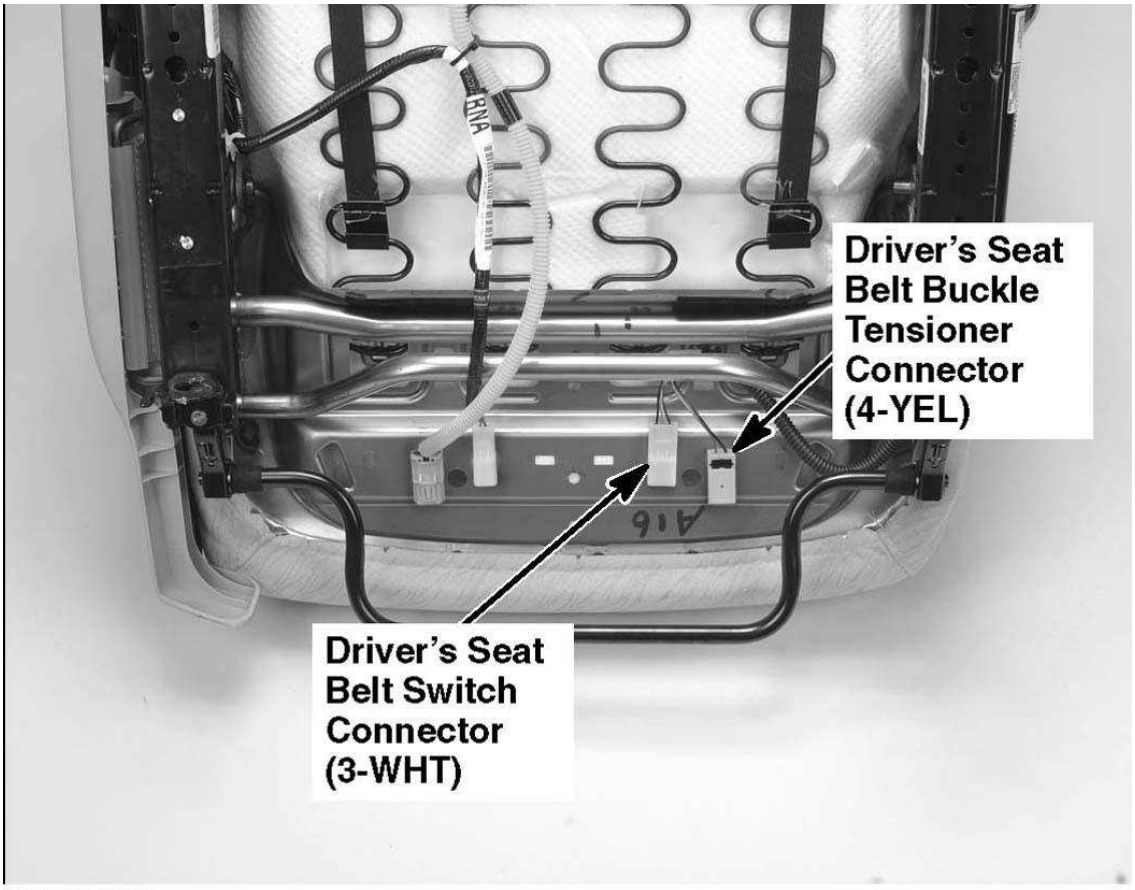



**Fig. 84: Under Driver's Seat**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434427

**Fig. 85: Under Driver's Seat**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

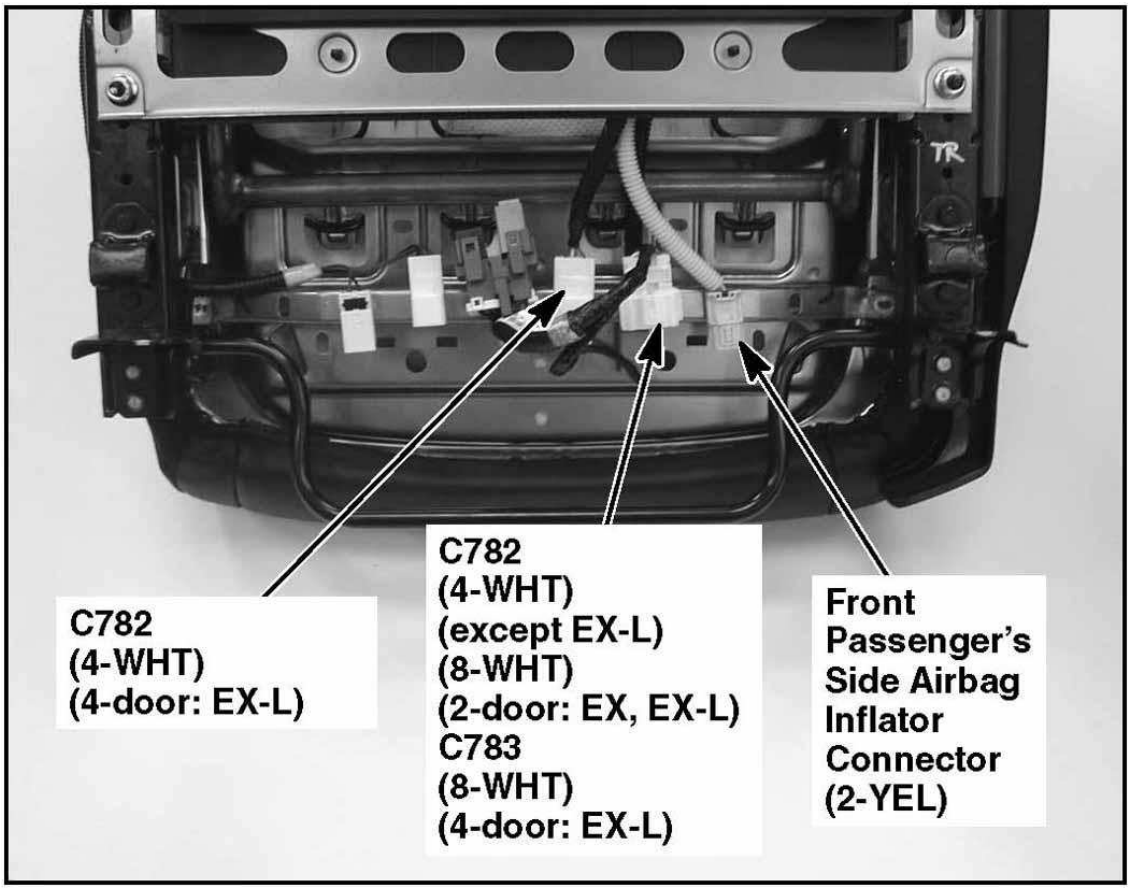
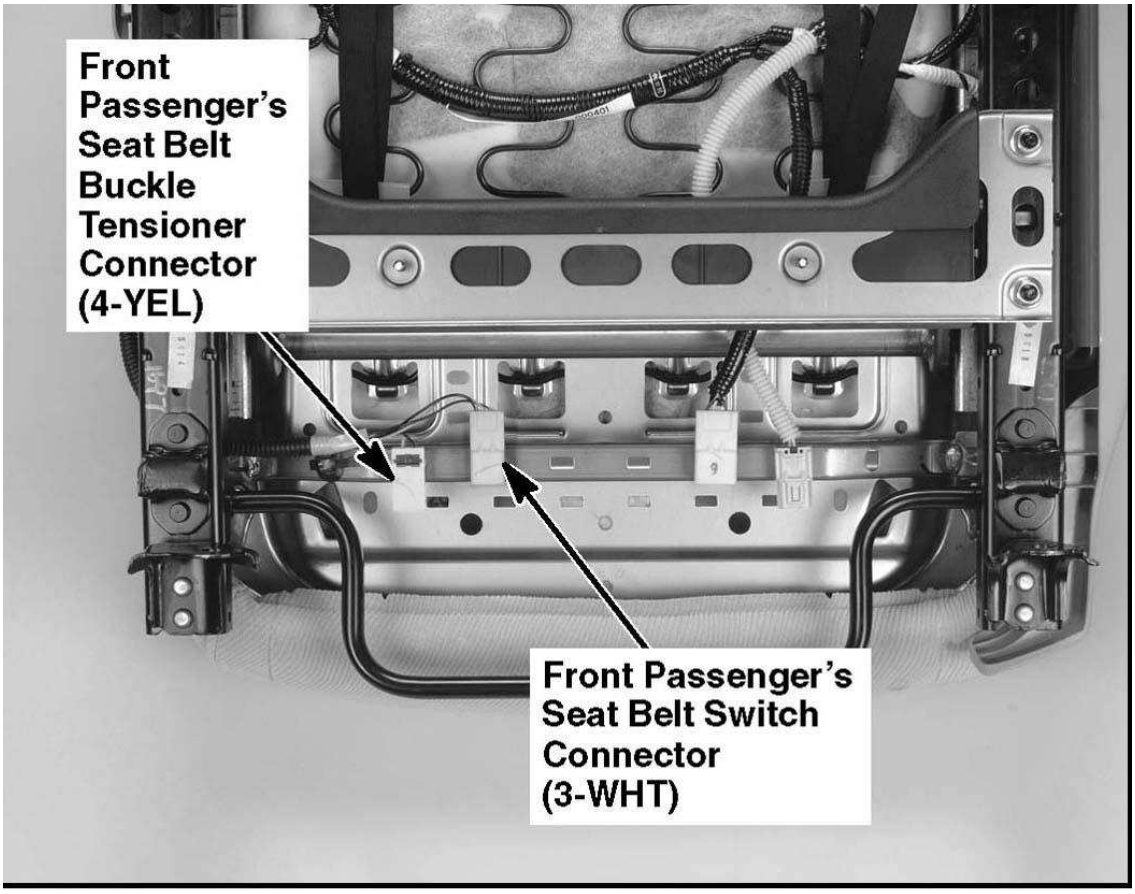



**Fig. 86: Under Front Passenger's Seat**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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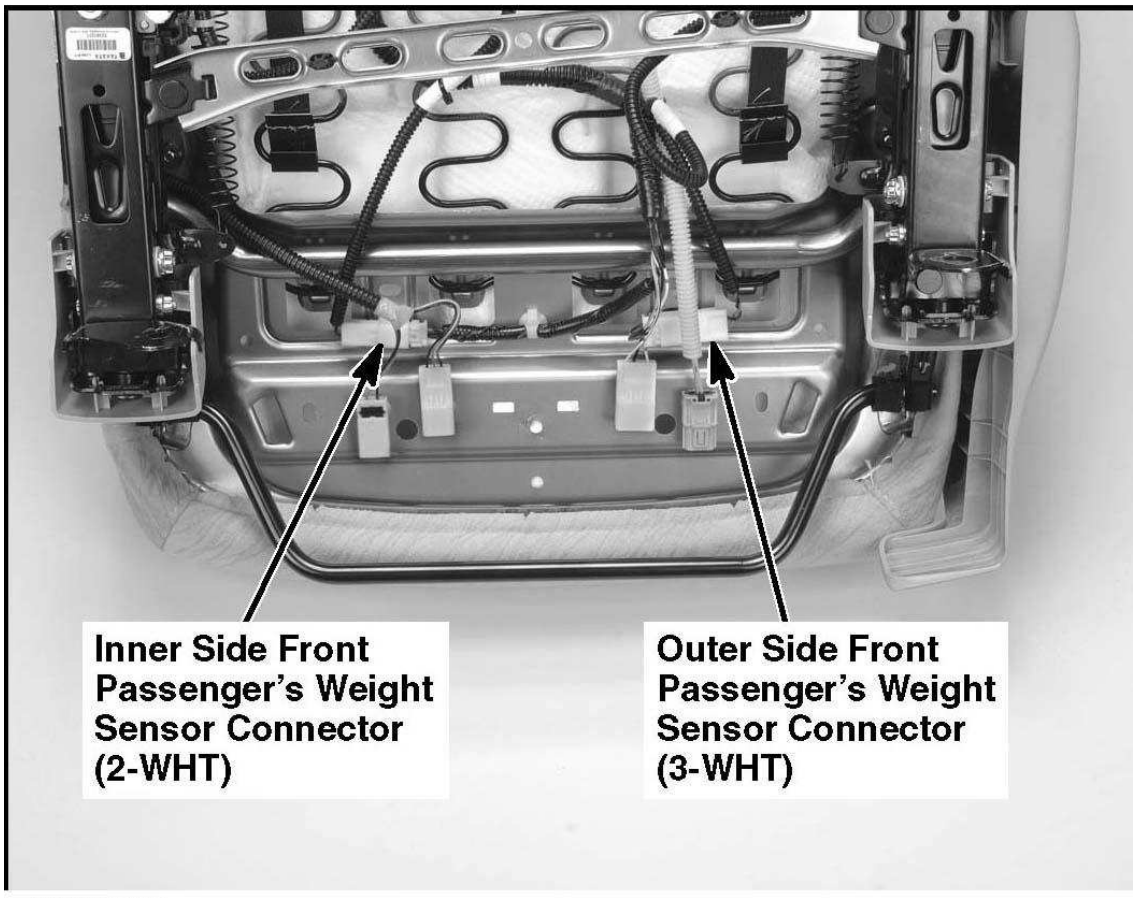



G00434429

**Fig. 87: Under Front Passenger's Seat**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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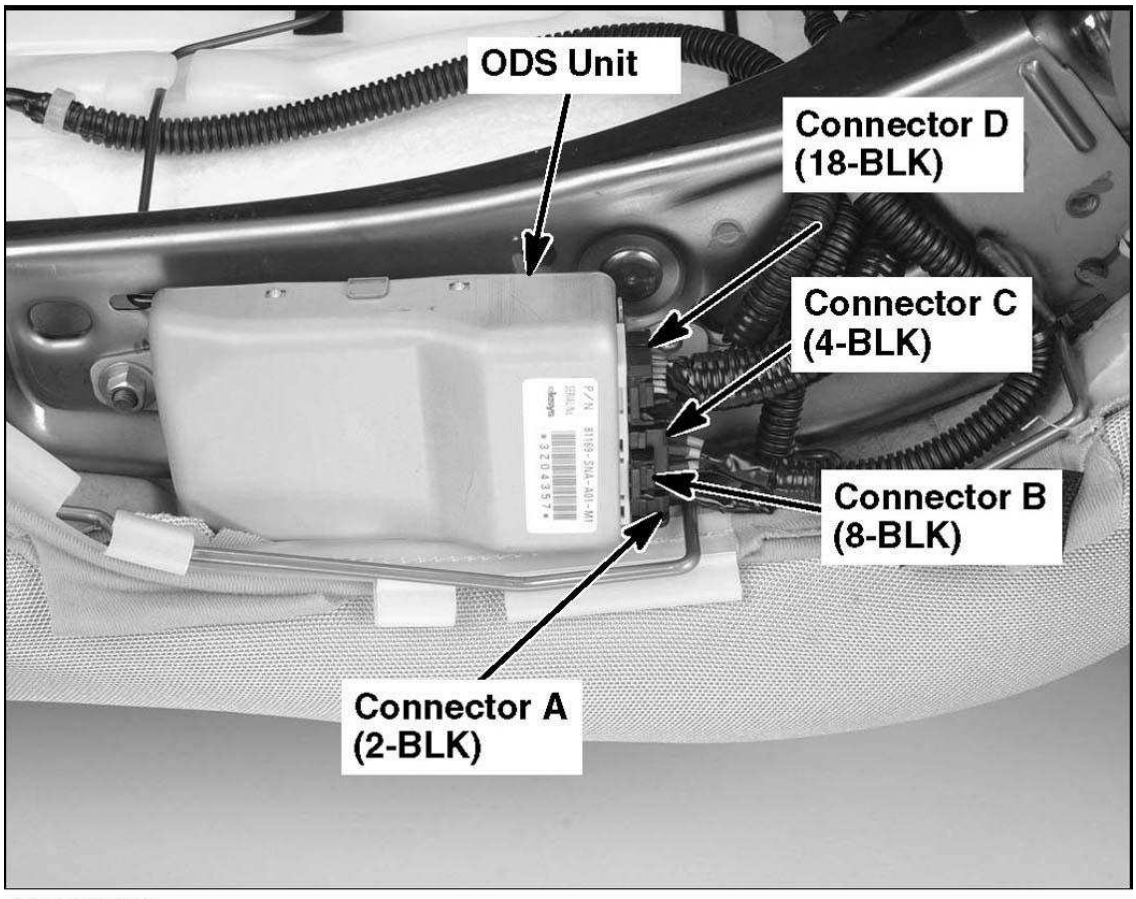



G00434430

**Fig. 88: Under Front Passenger's Seat (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434431

**Fig. 89: Front Passenger's Seat Back**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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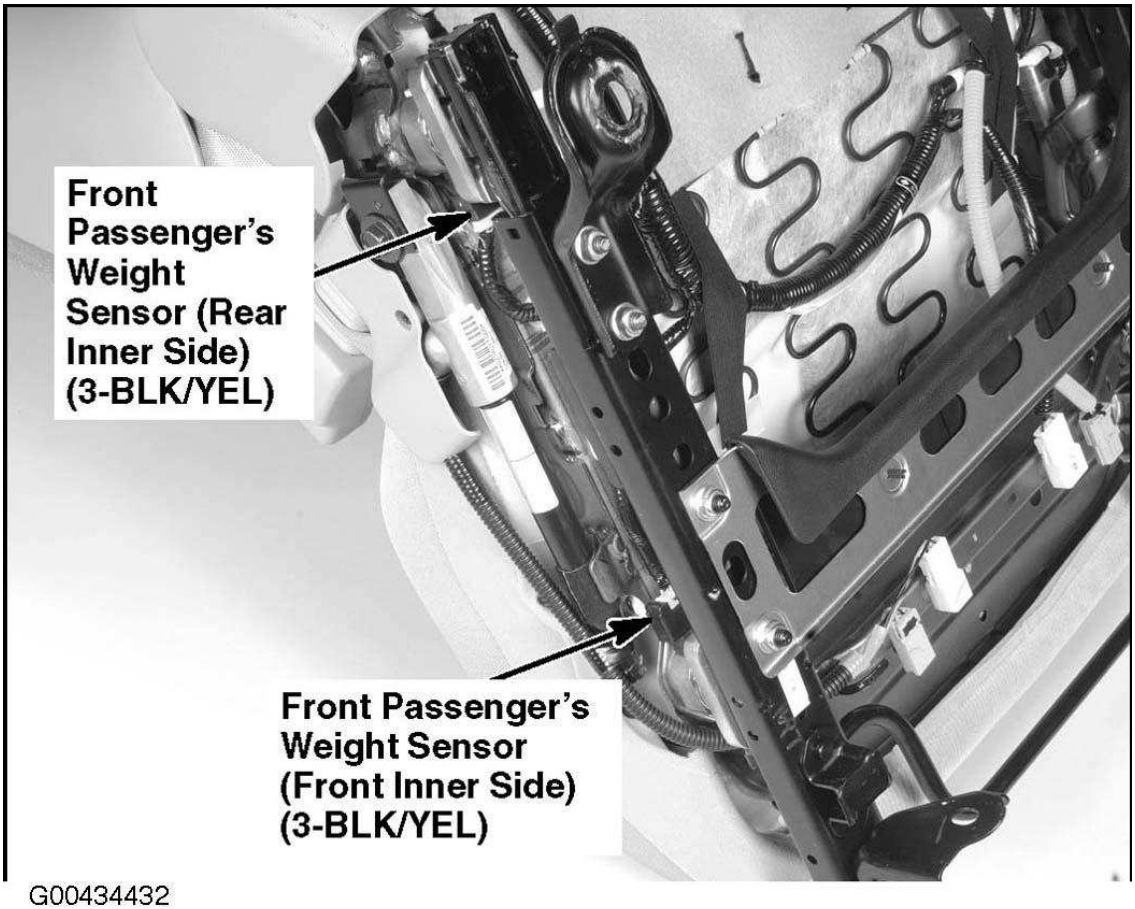
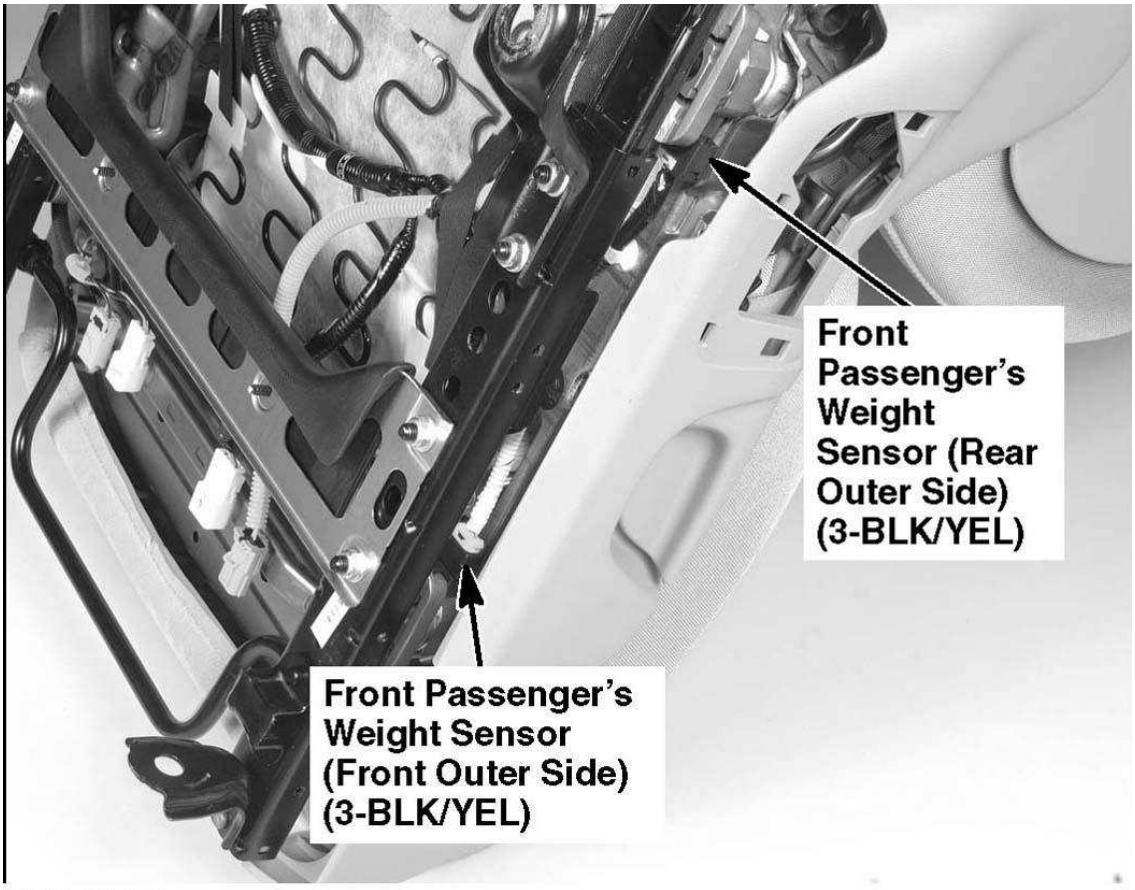



**Fig. 90: Under Front Passenger's Seat (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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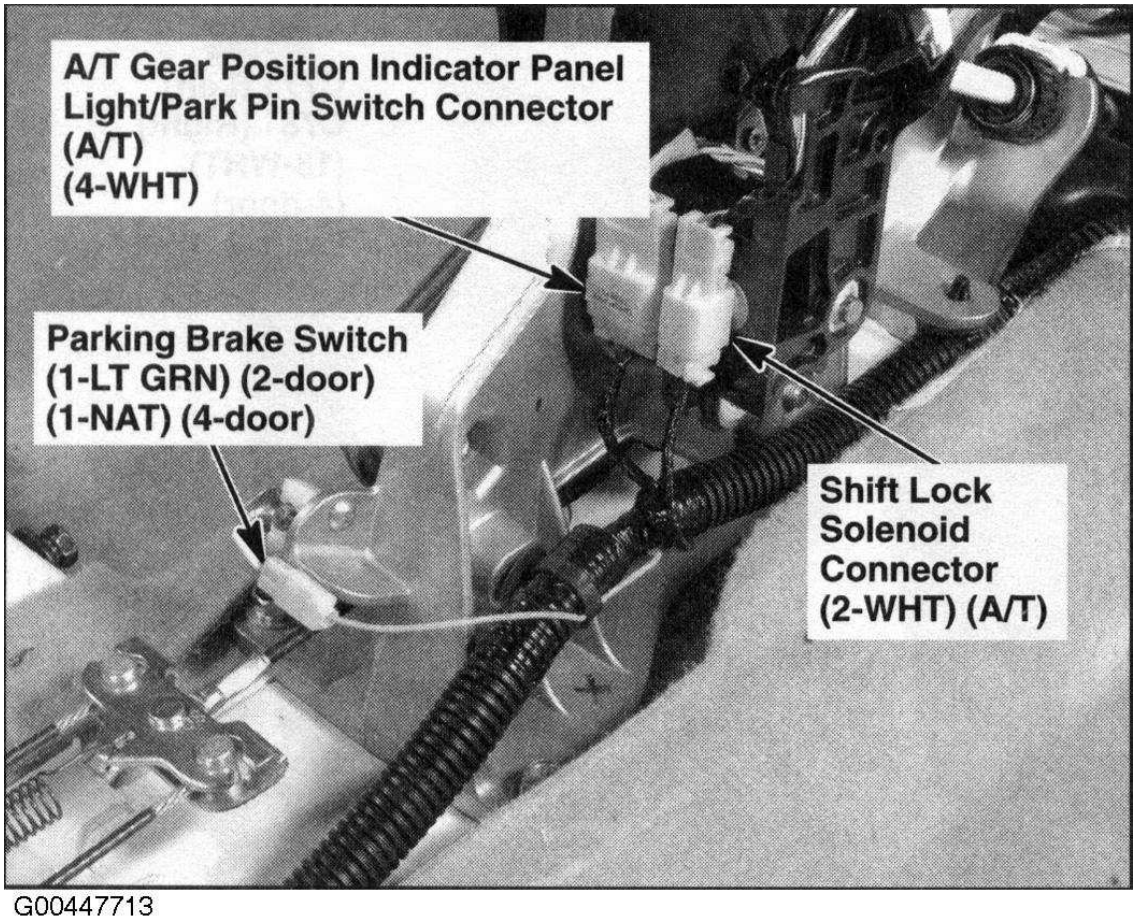



G00434433

**Fig. 91: Under Front Passenger's Seat (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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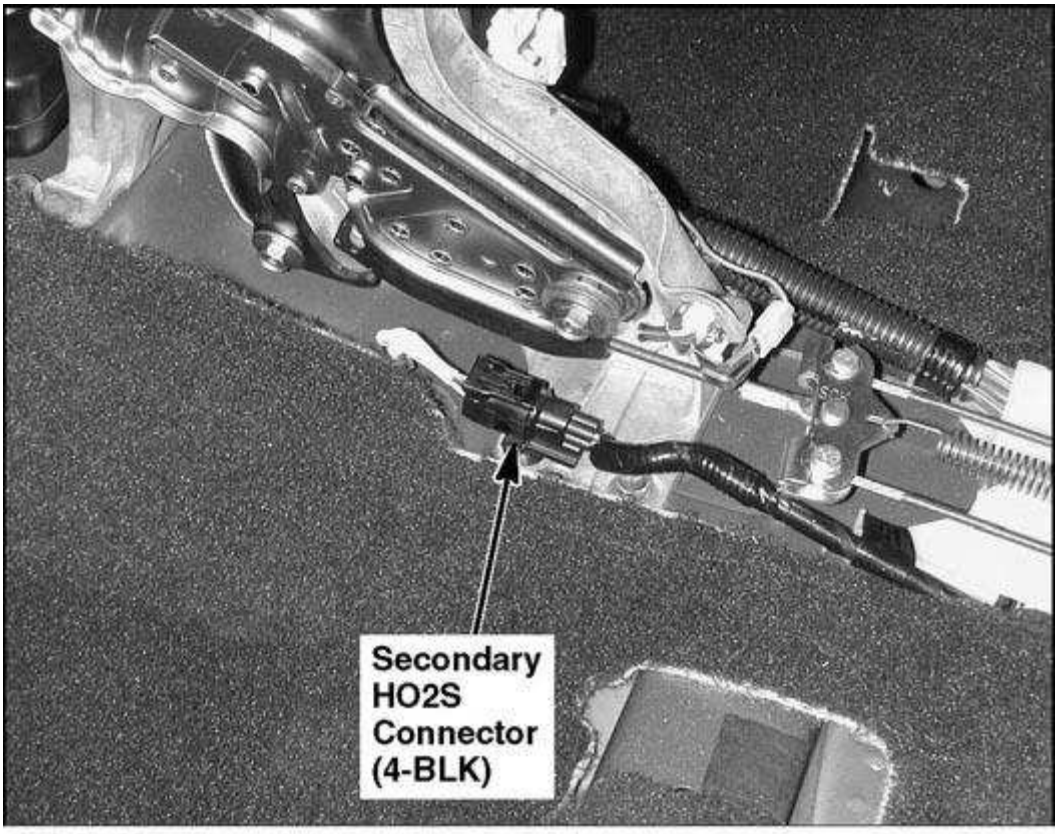



G00447713

**Fig. 92: Under Center Console**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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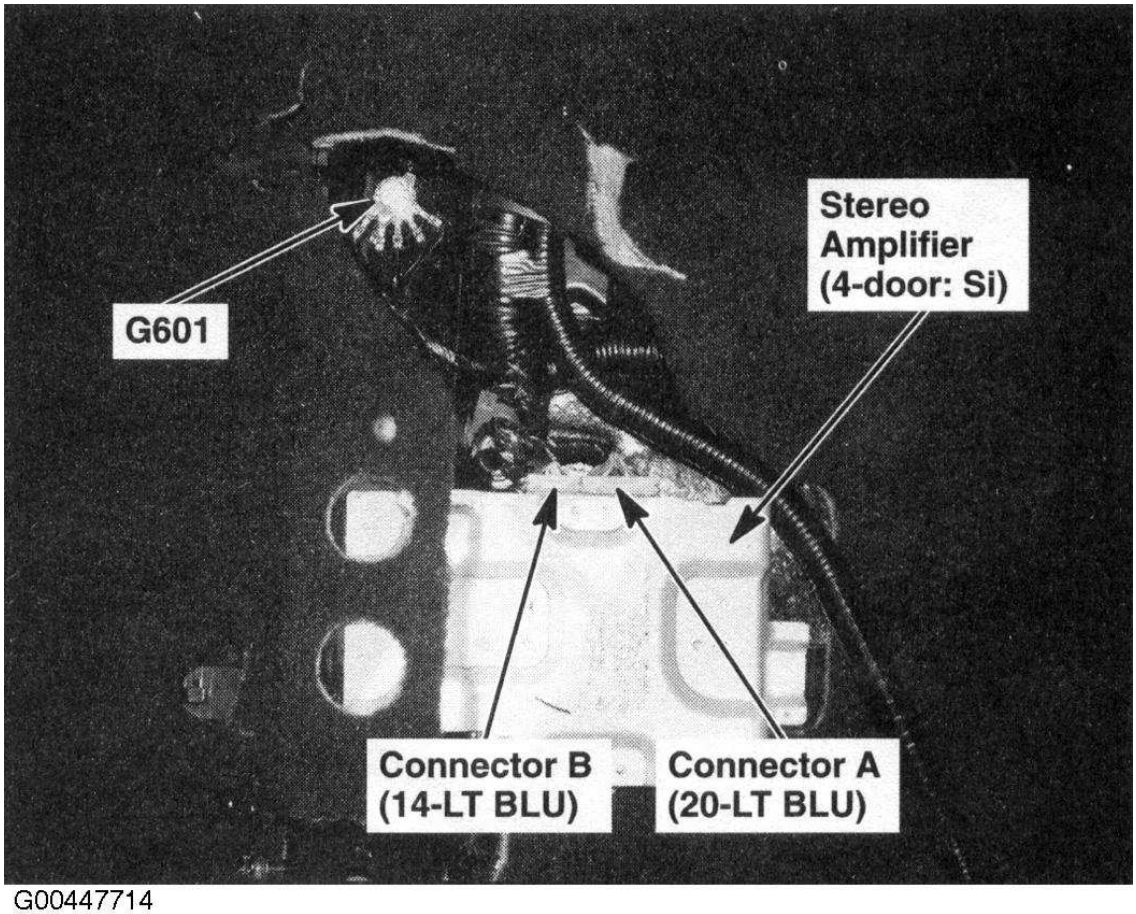



G00434435

**Fig. 93: Under Center Console (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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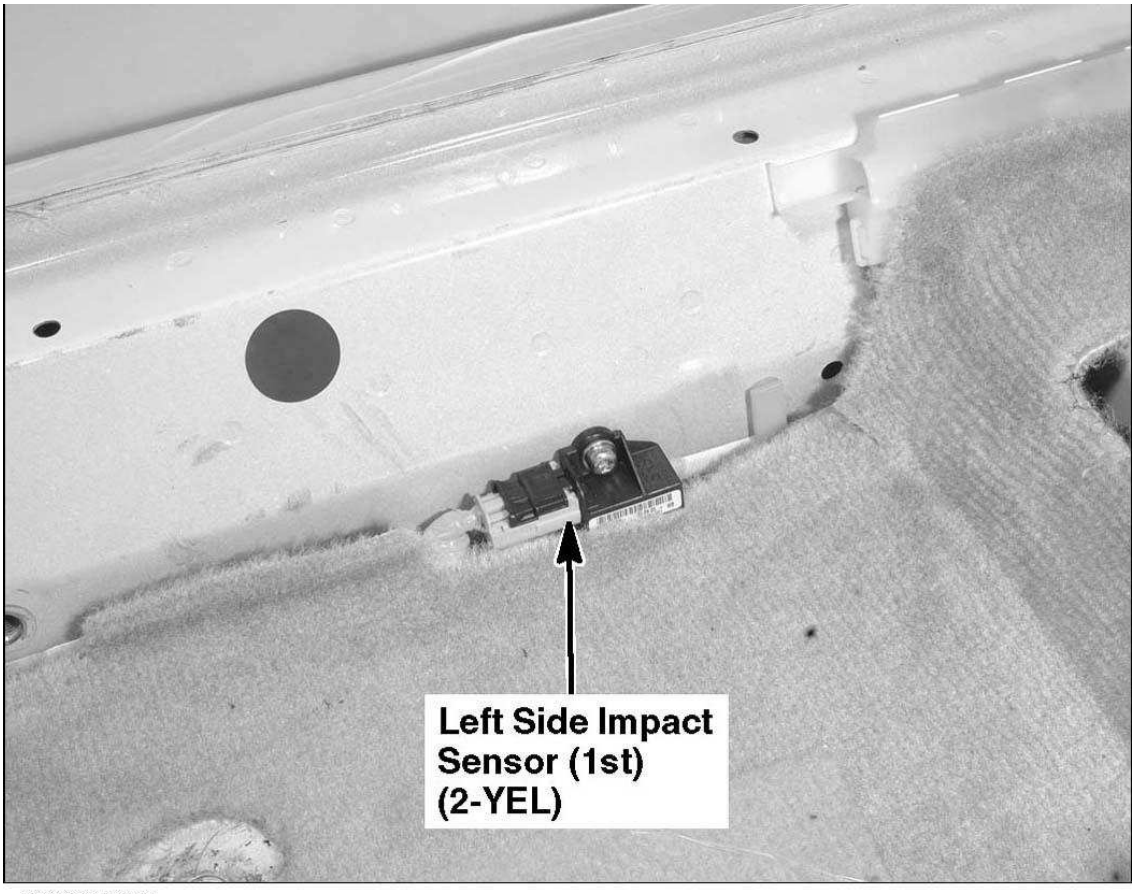

G00447714

**Fig. 94: Under Driver's Seat**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

http://ReadManuals.com



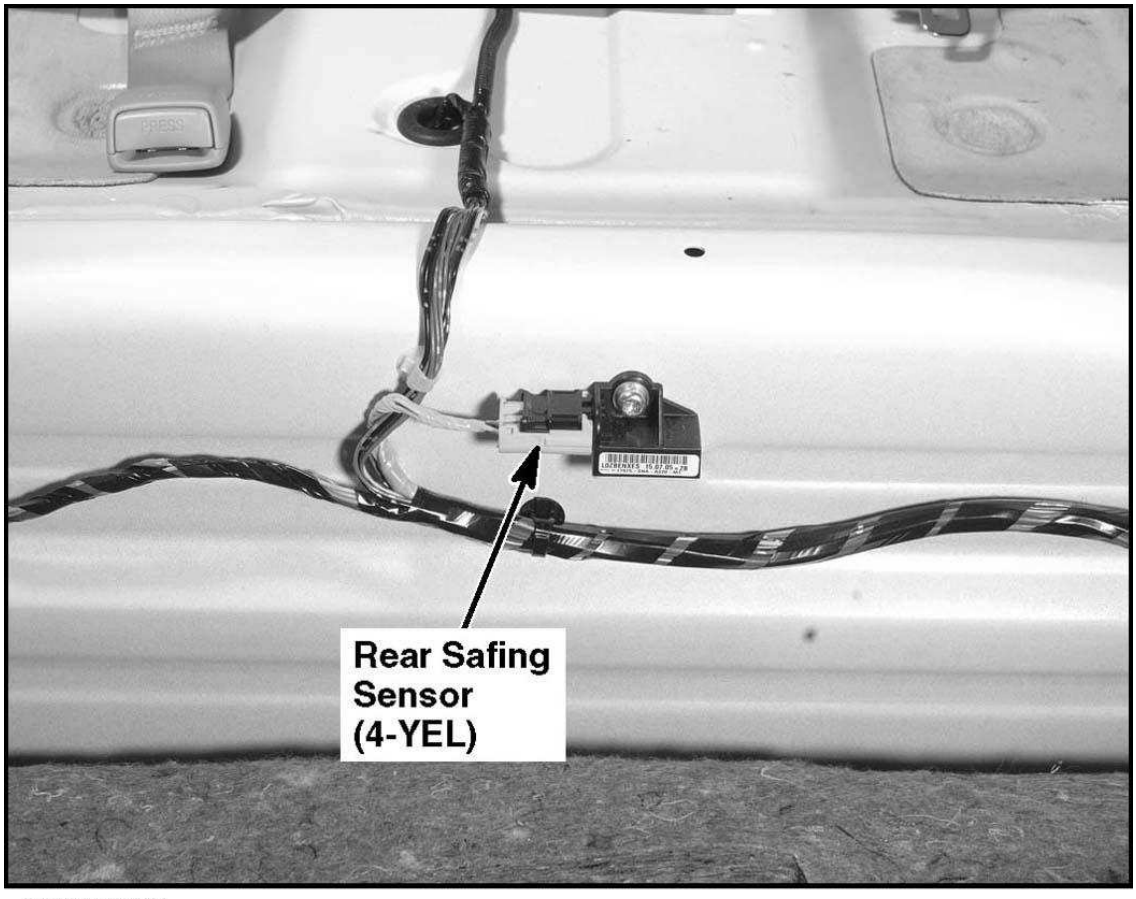



G00434437

**Fig. 95: Left Side Of Floor (2-Door) (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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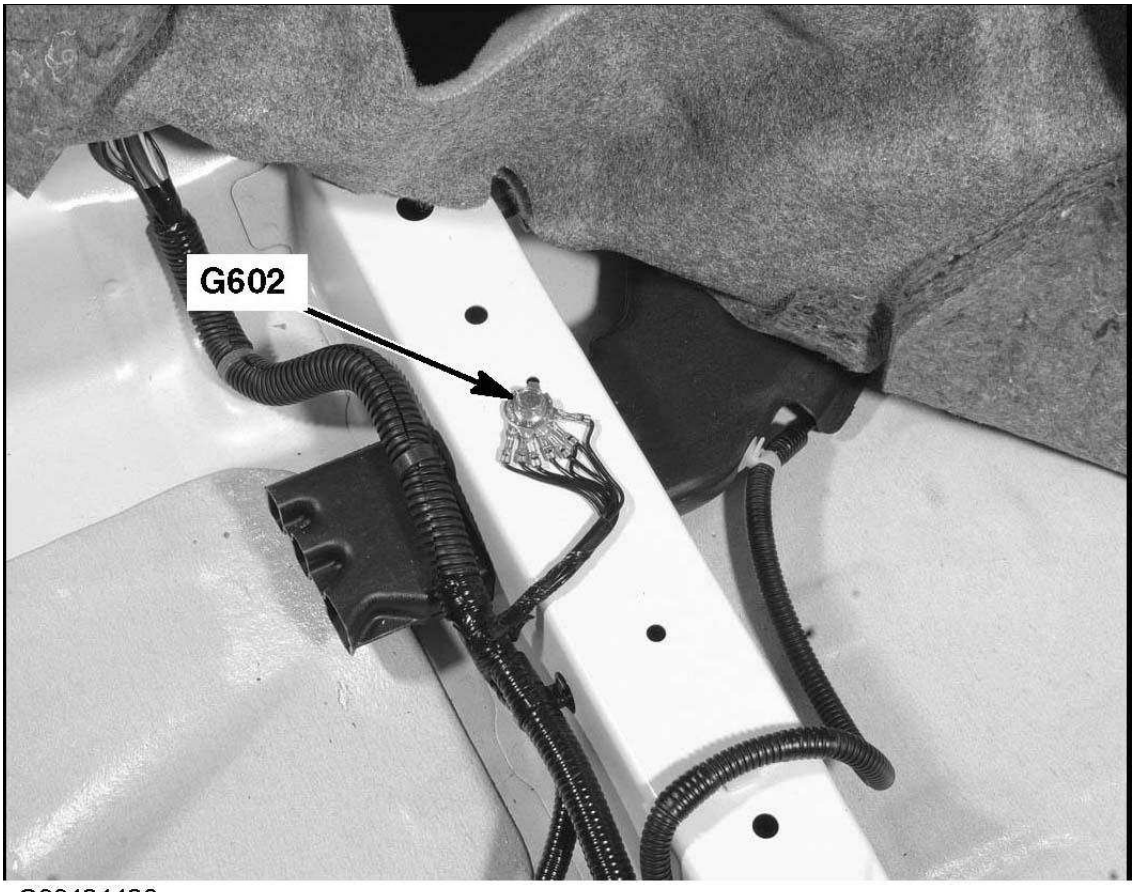



G00434438

**Fig. 96: Middle Of Floor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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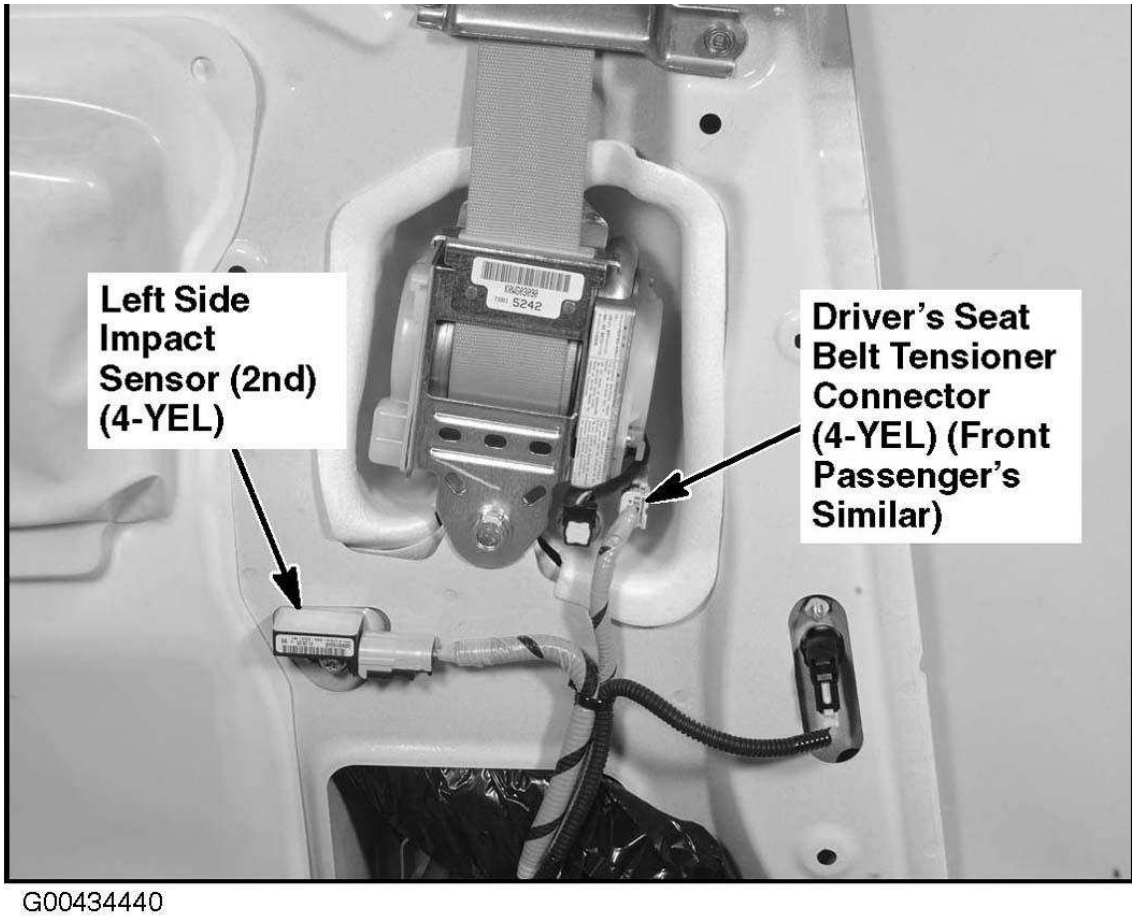



G00434439

**Fig. 97: Front Right Side Of Floor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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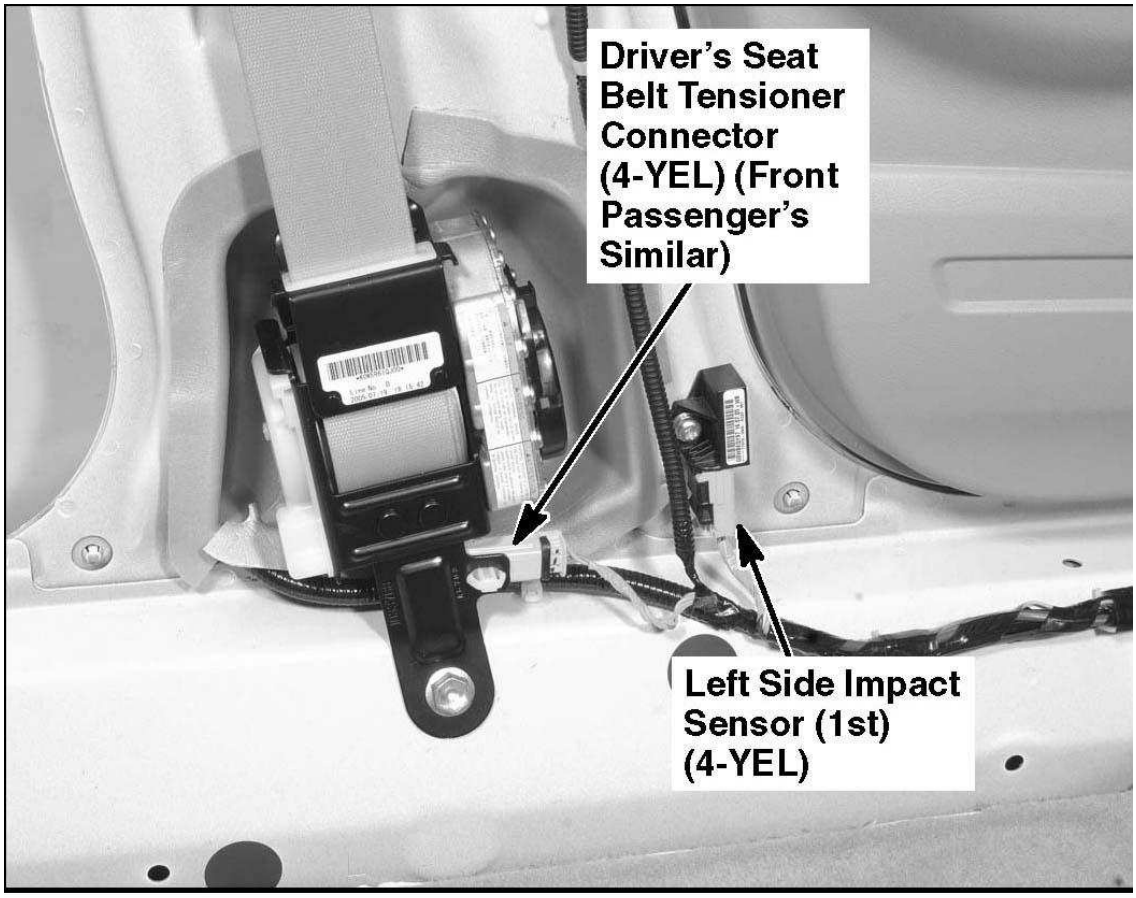



G00434440

**Fig. 98: Left "B" Pillar (2-Door) (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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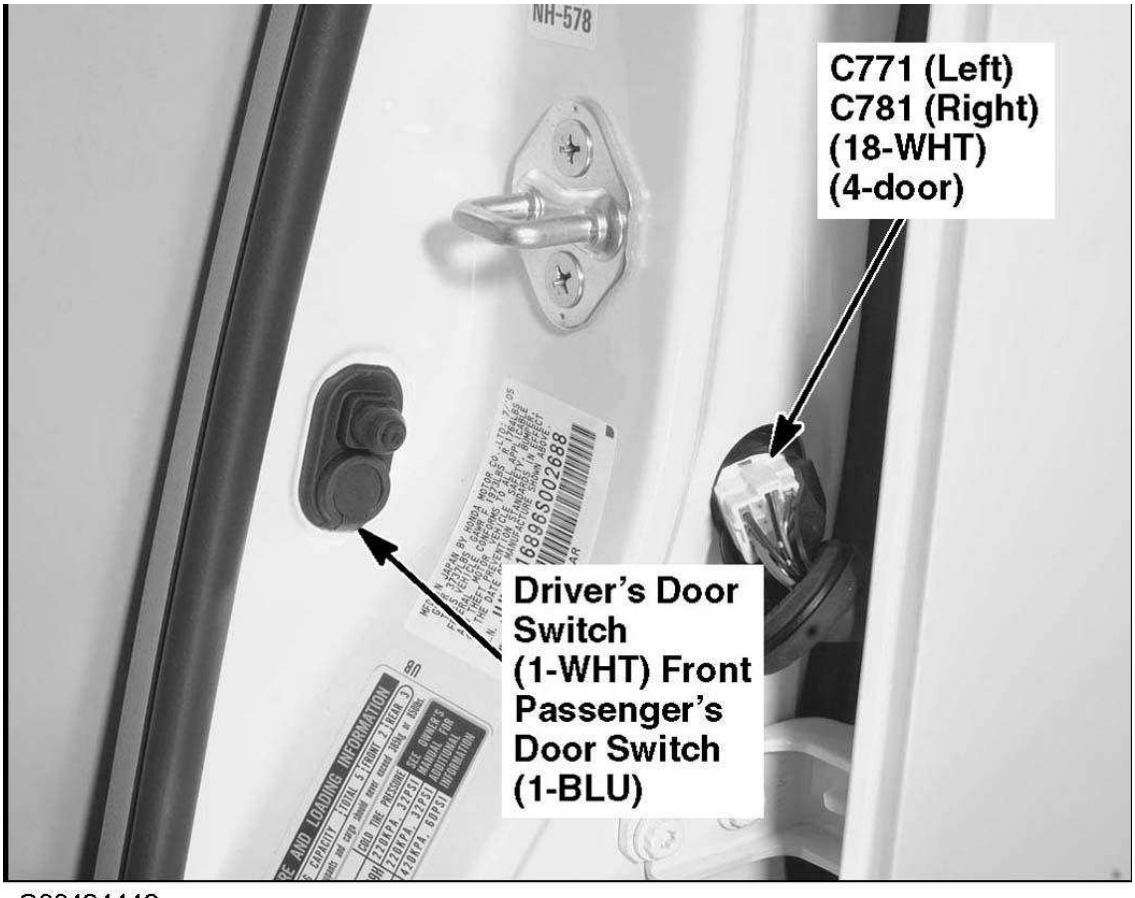



G00434441

**Fig. 99: Base Of Left "B" Pillar (4-Door) (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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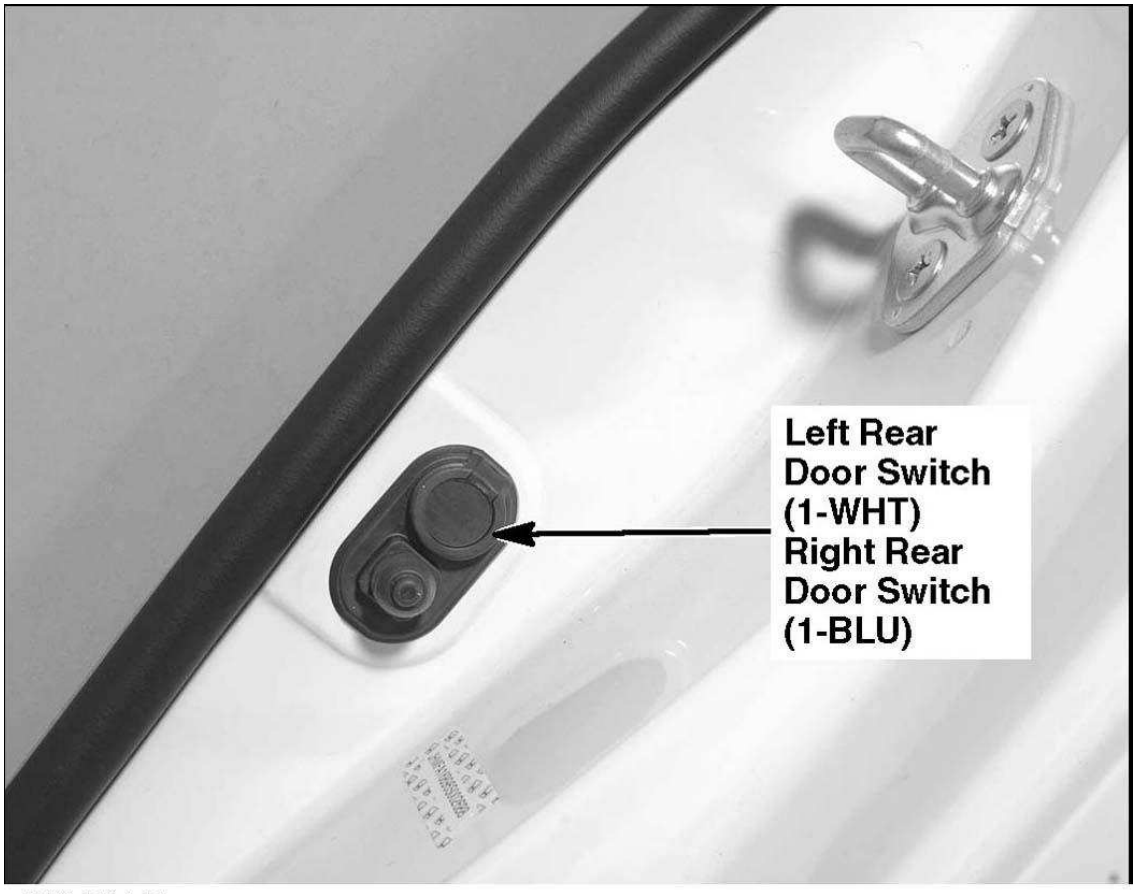



G00434442

**Fig. 100: Left "B" Pillar (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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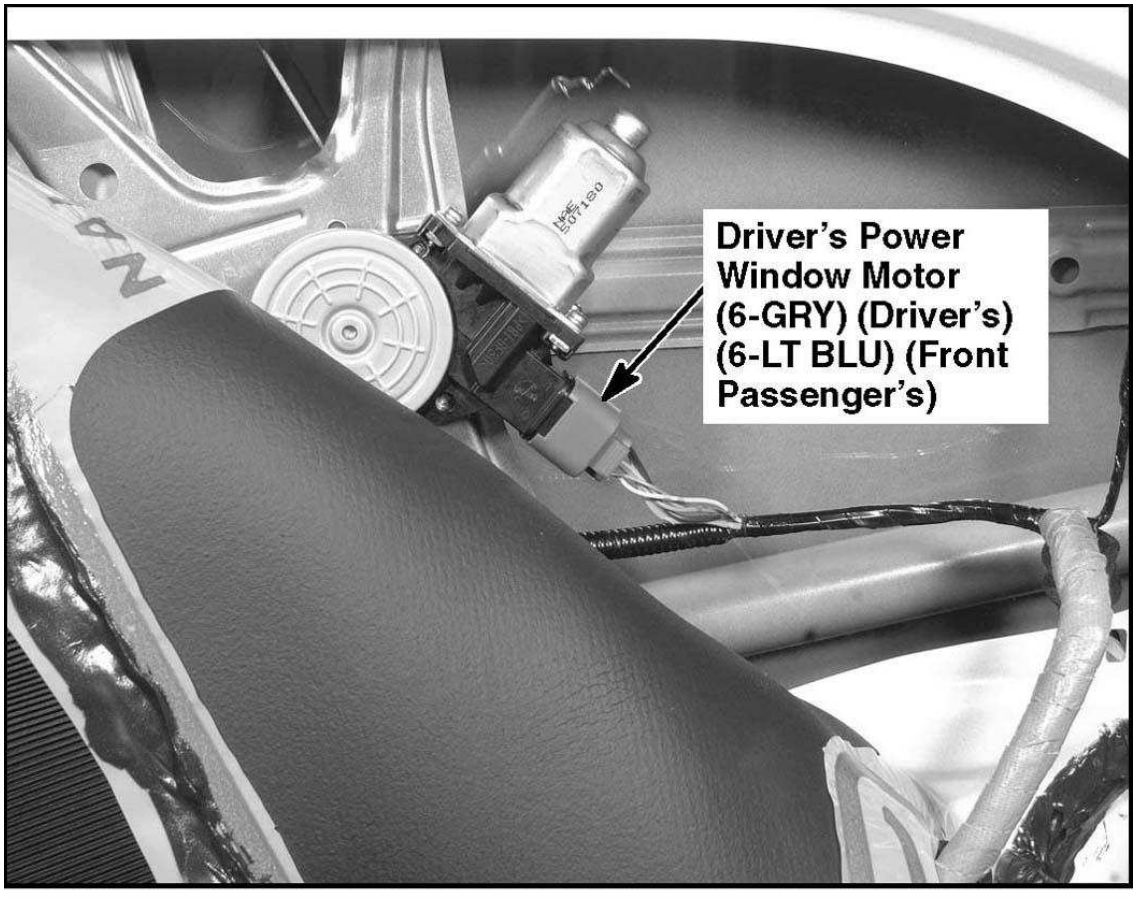



G00434443

**Fig. 101: Left "C" Pillar (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

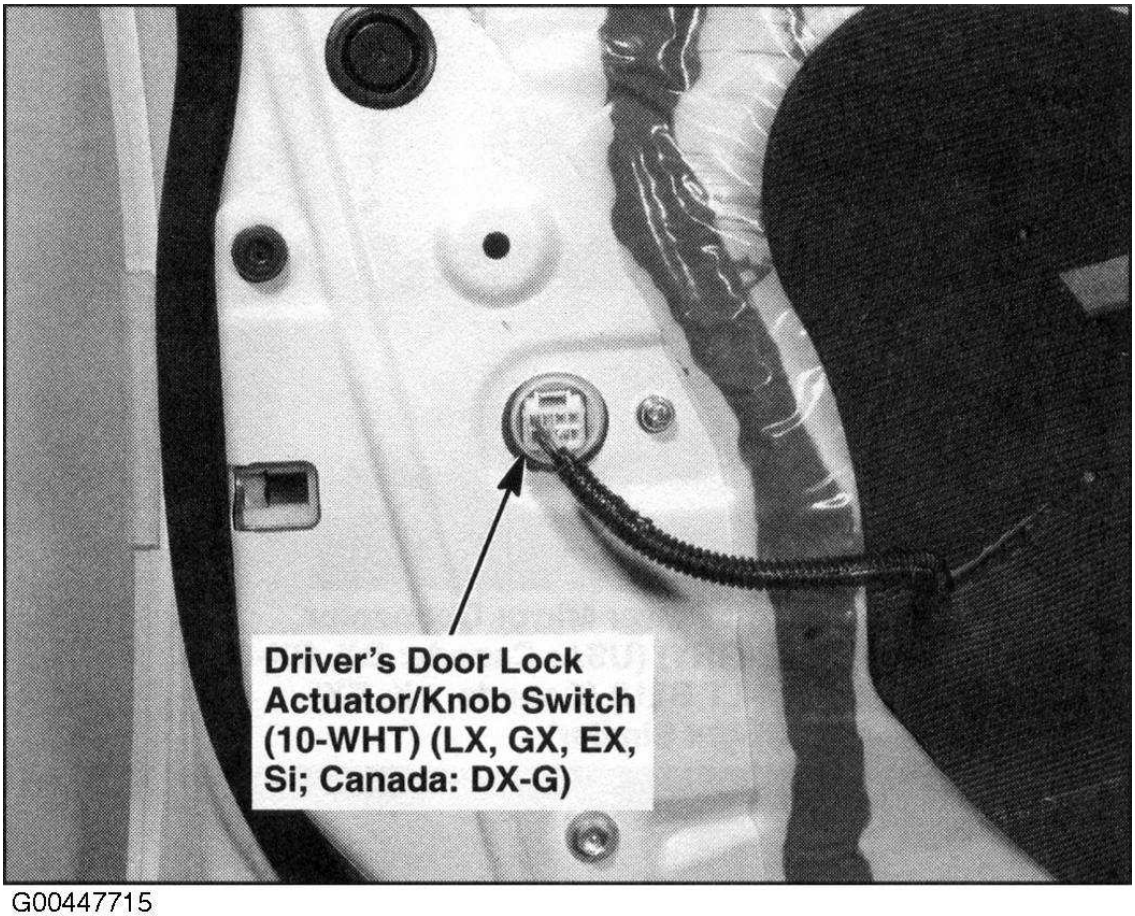
http://ReadManuals.com






G00434444

**Fig. 102: Driver's Door (Front Passenger's Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

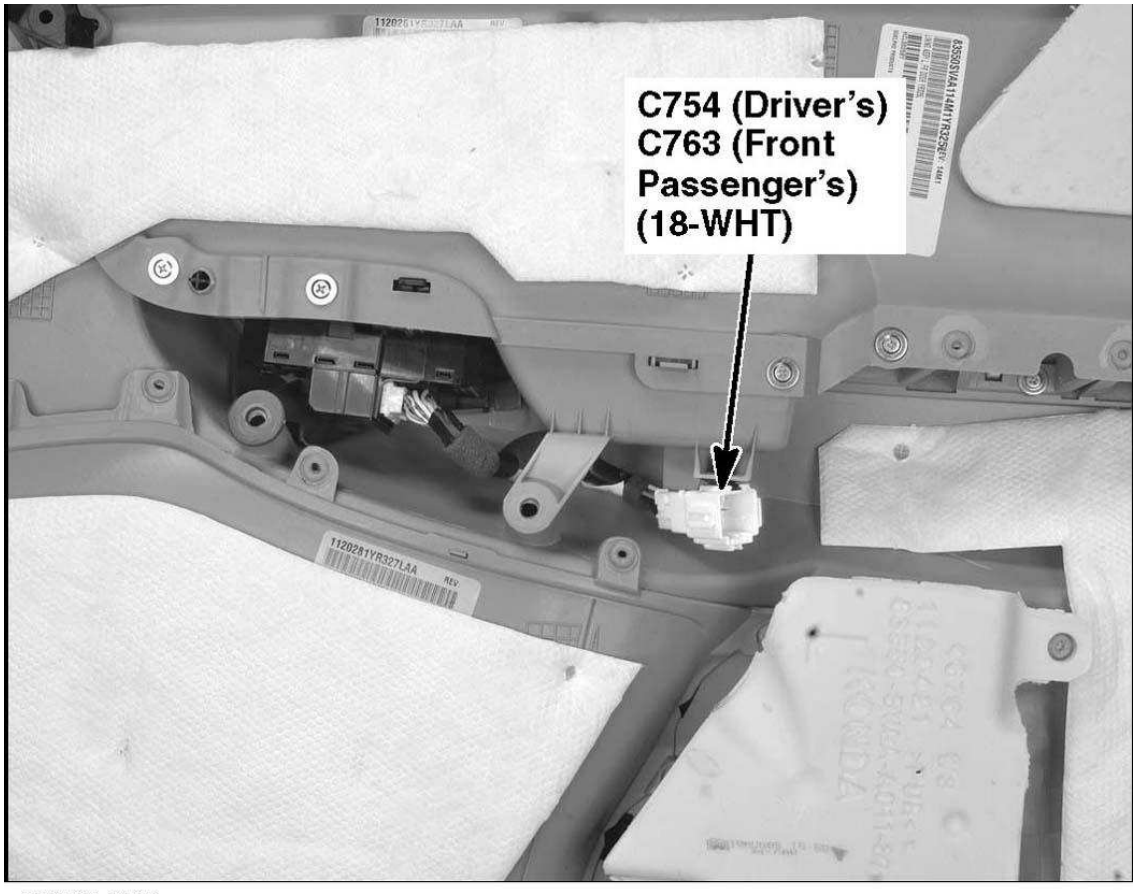



G00447715

**Fig. 103: Driver's Door (Front Passenger's Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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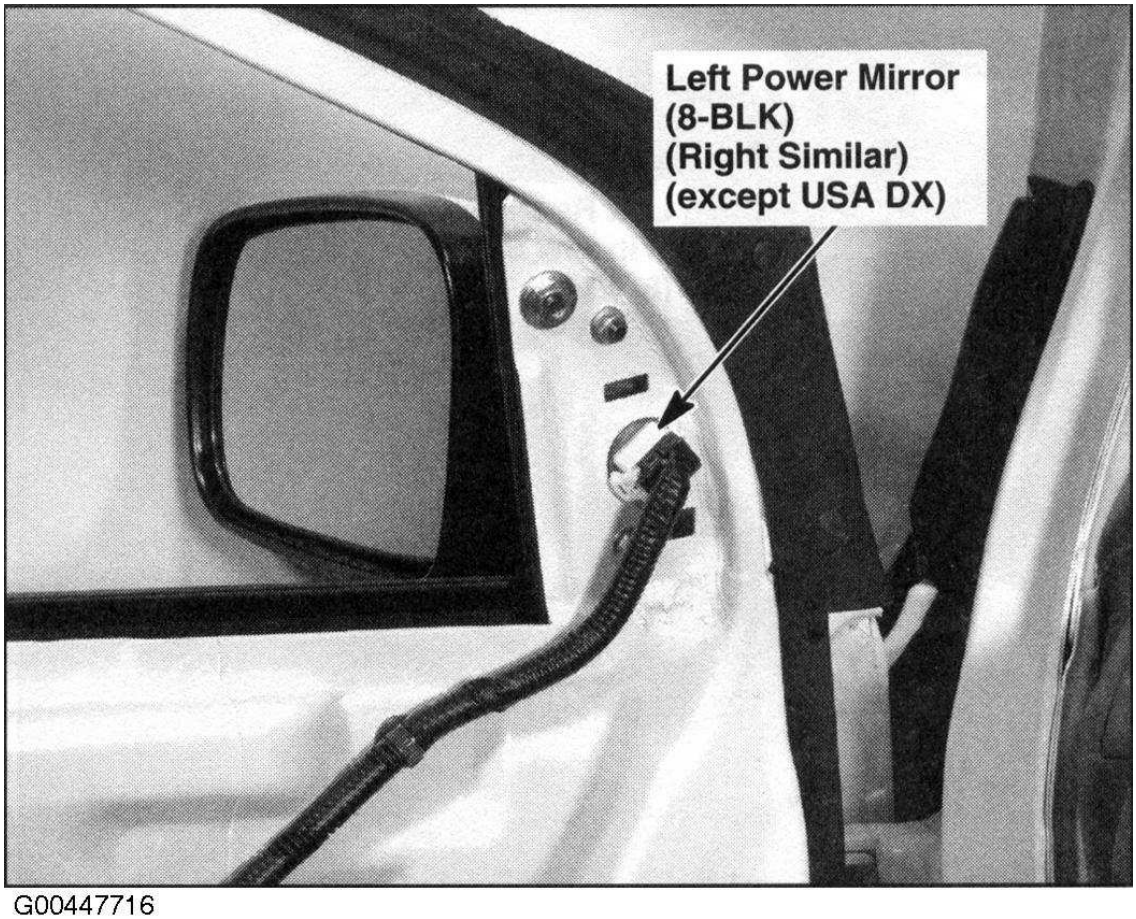



G00434446

**Fig. 104: Driver's Door (Front Passenger's Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00447716

**Fig. 105: Driver's Door (2-Door) (Front Passenger's Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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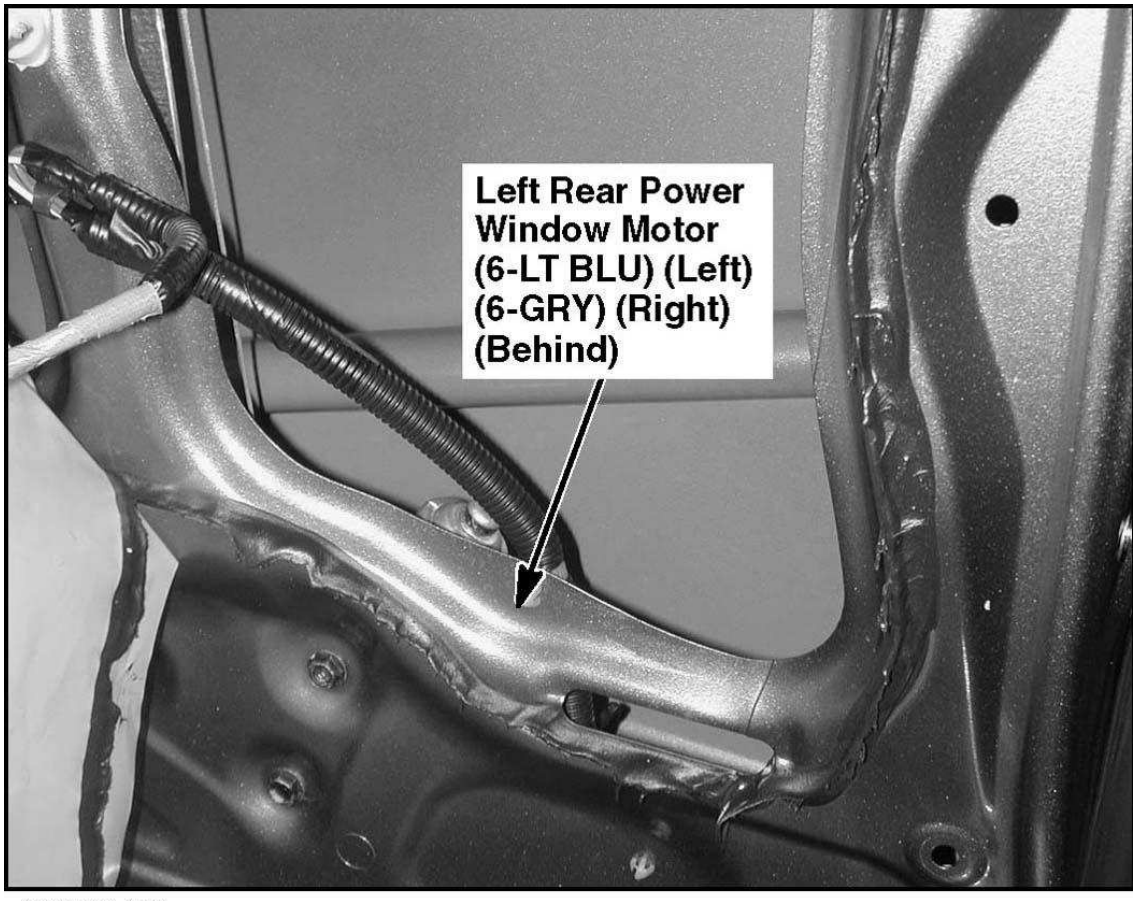



G00447717

**Fig. 106: Driver's Door (4-Door) (Front Passenger's Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

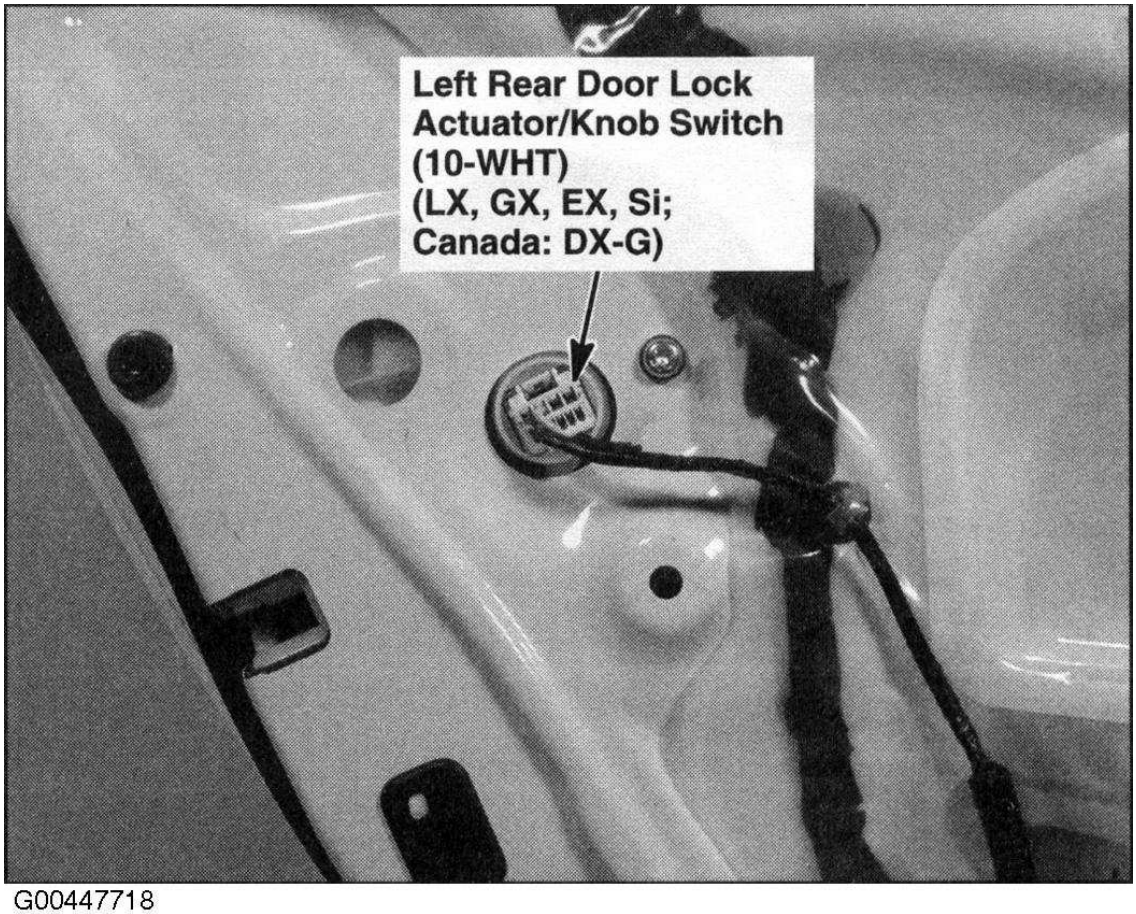
http://ReadManuals.com






G00434449

**Fig. 107: Left Rear Door (Right Rear Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

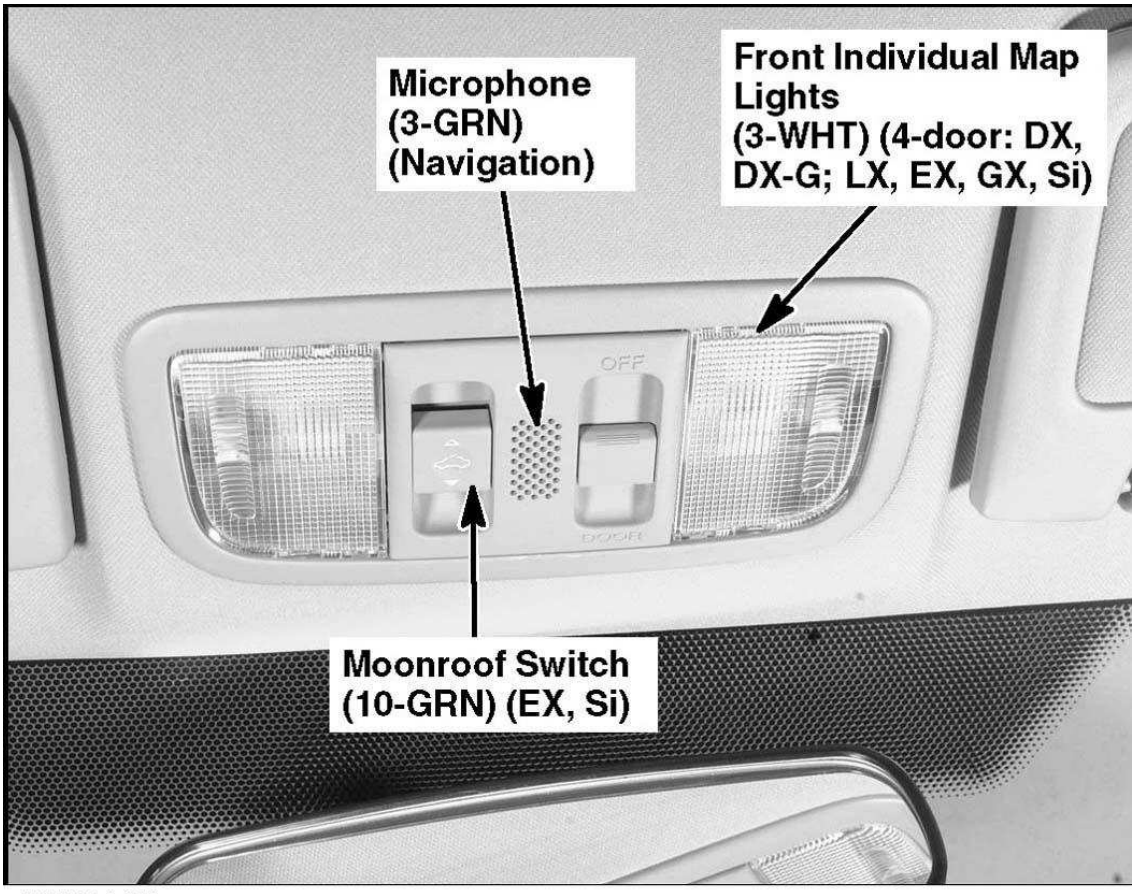



G00447718

**Fig. 108: Left Rear Door (Right Rear Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434451

**Fig. 109: Front Of Roof**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

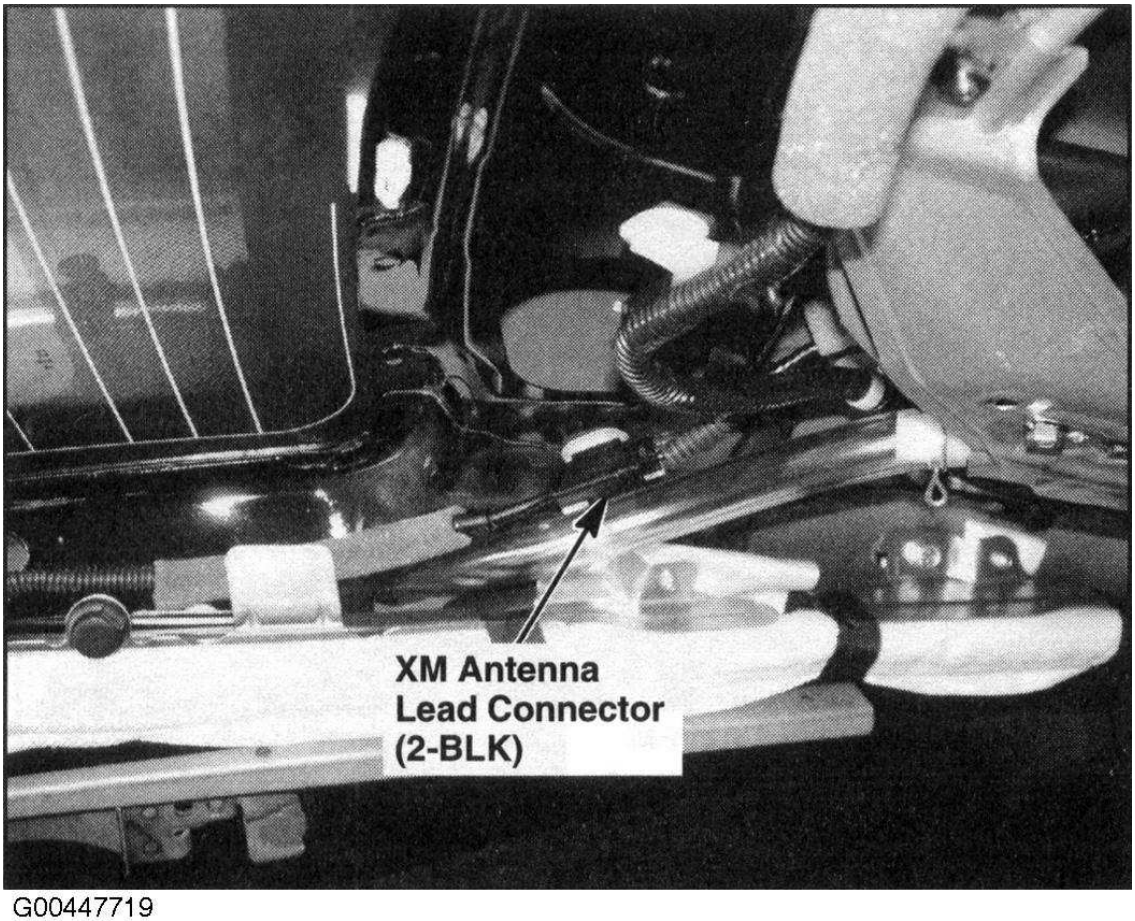
http://ReadManuals.com






G00447720

**Fig. 110: Left Side Of Roof**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

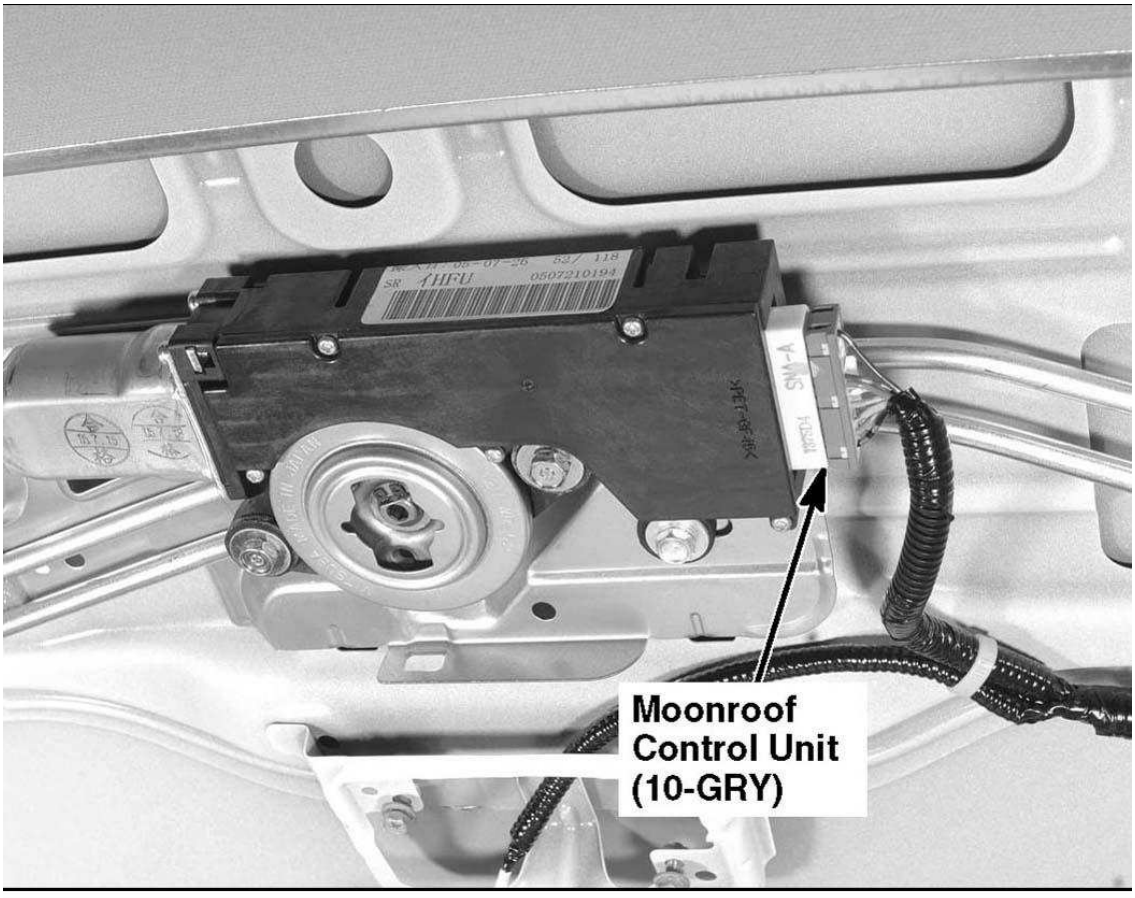



G00447719

**Fig. 111: Left Rear Of Roof**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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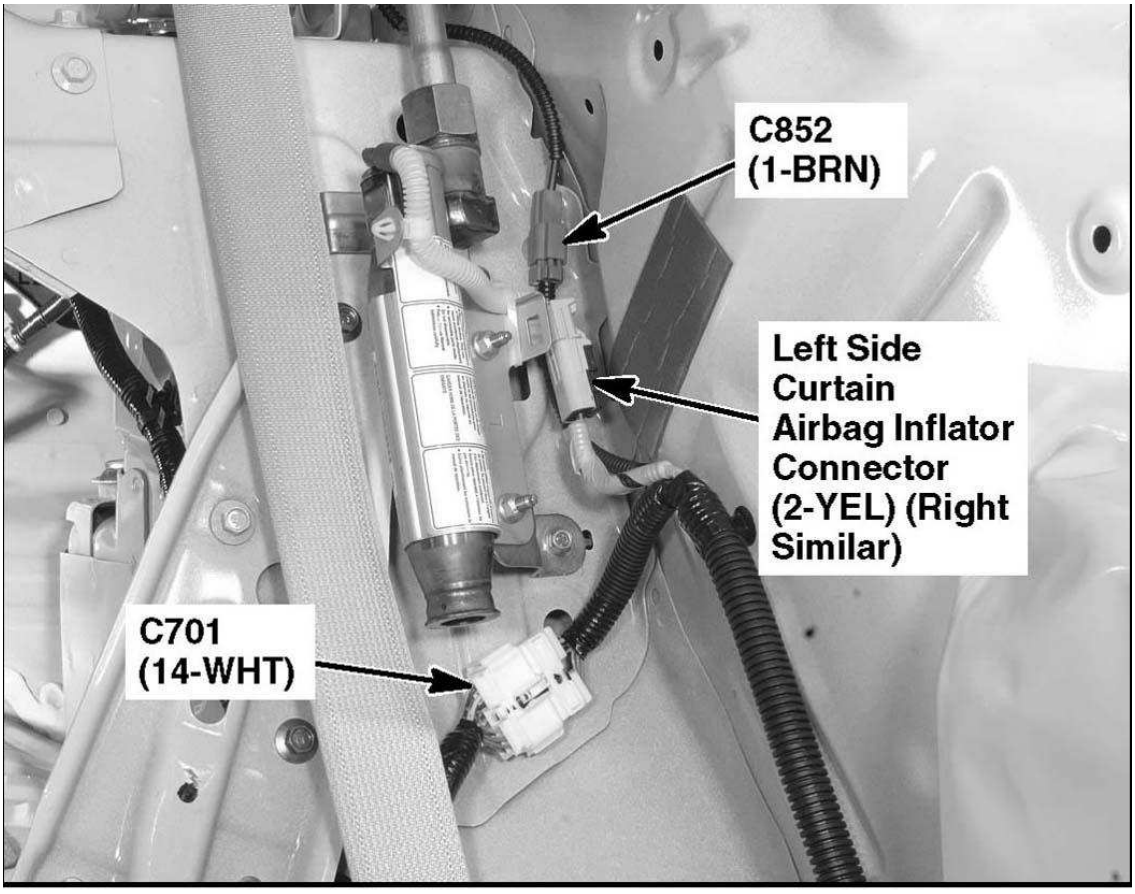

G00434454

**Fig. 112: Rear Of Roof**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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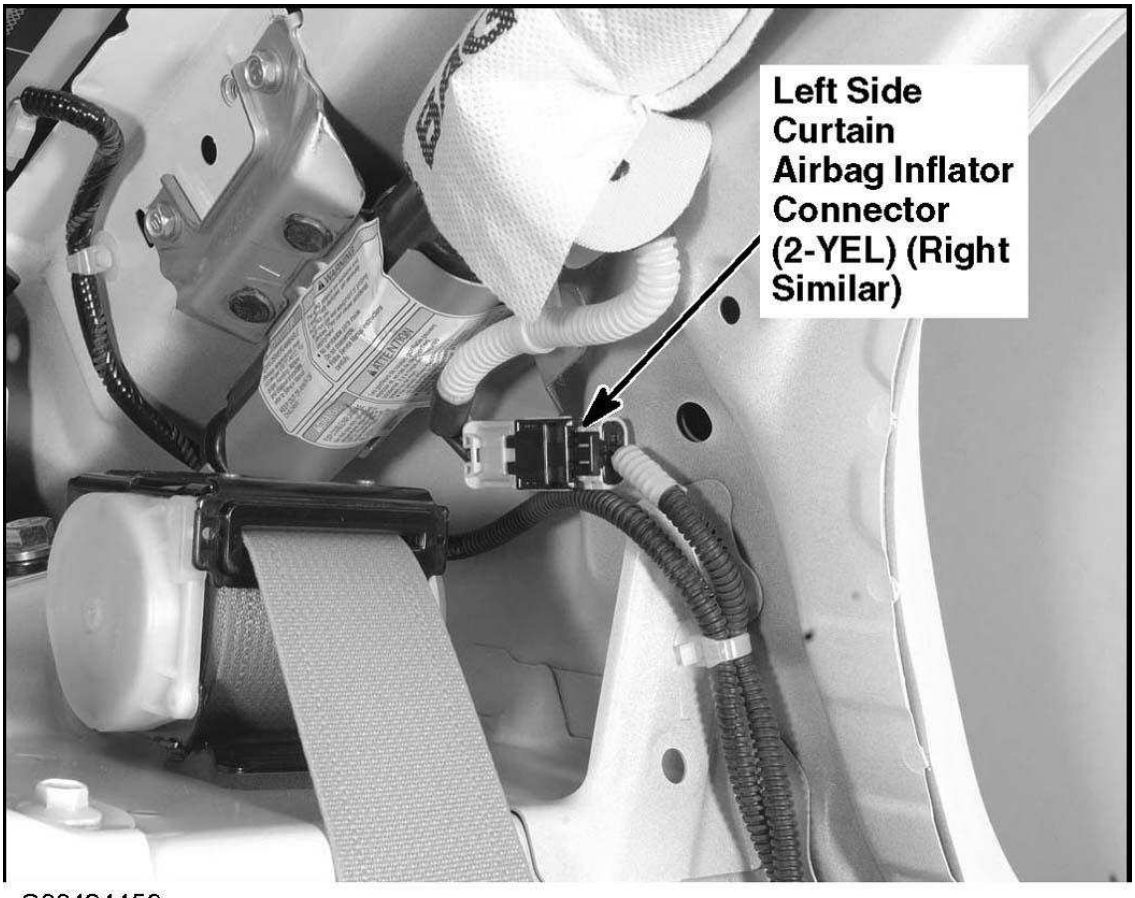



G00434455

**Fig. 113: Left "C" Pillar (2-Door) (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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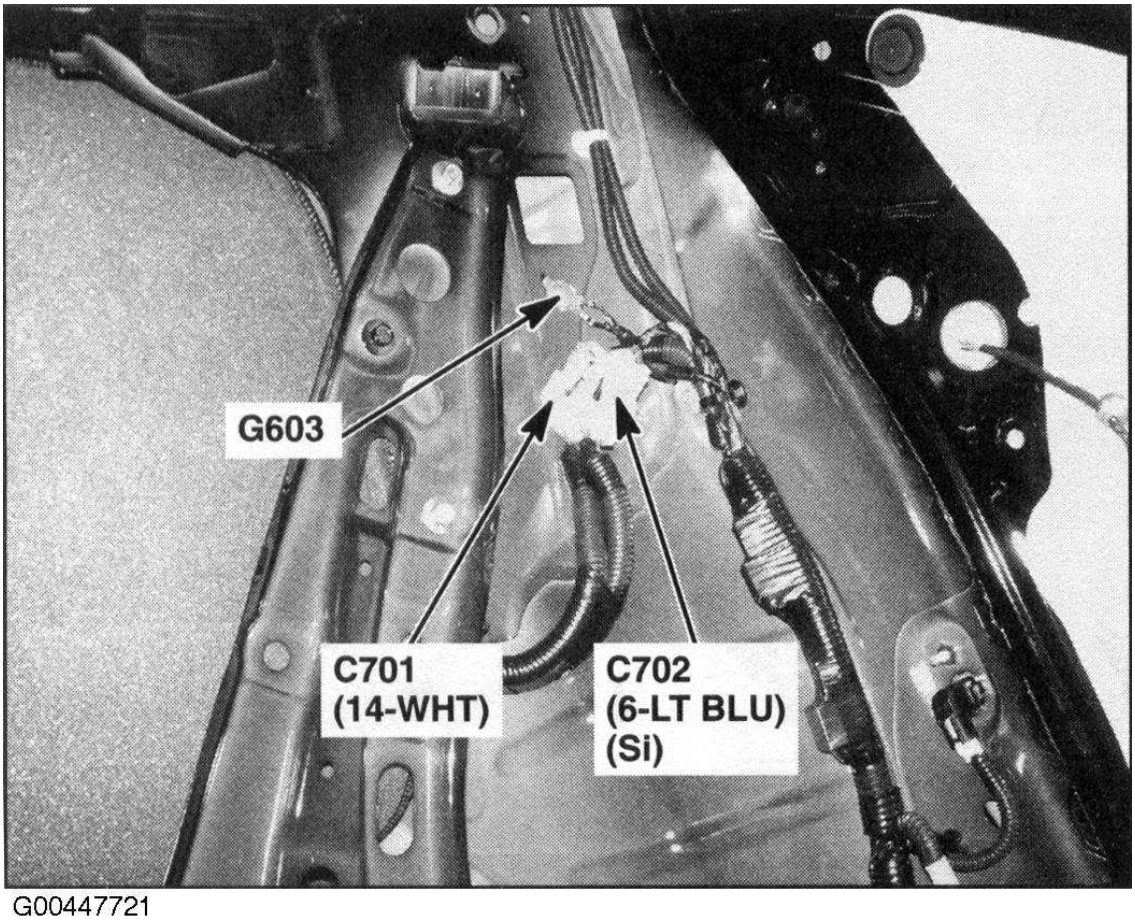



G00434456

**Fig. 114: Left "C" Pillar (4-Door) (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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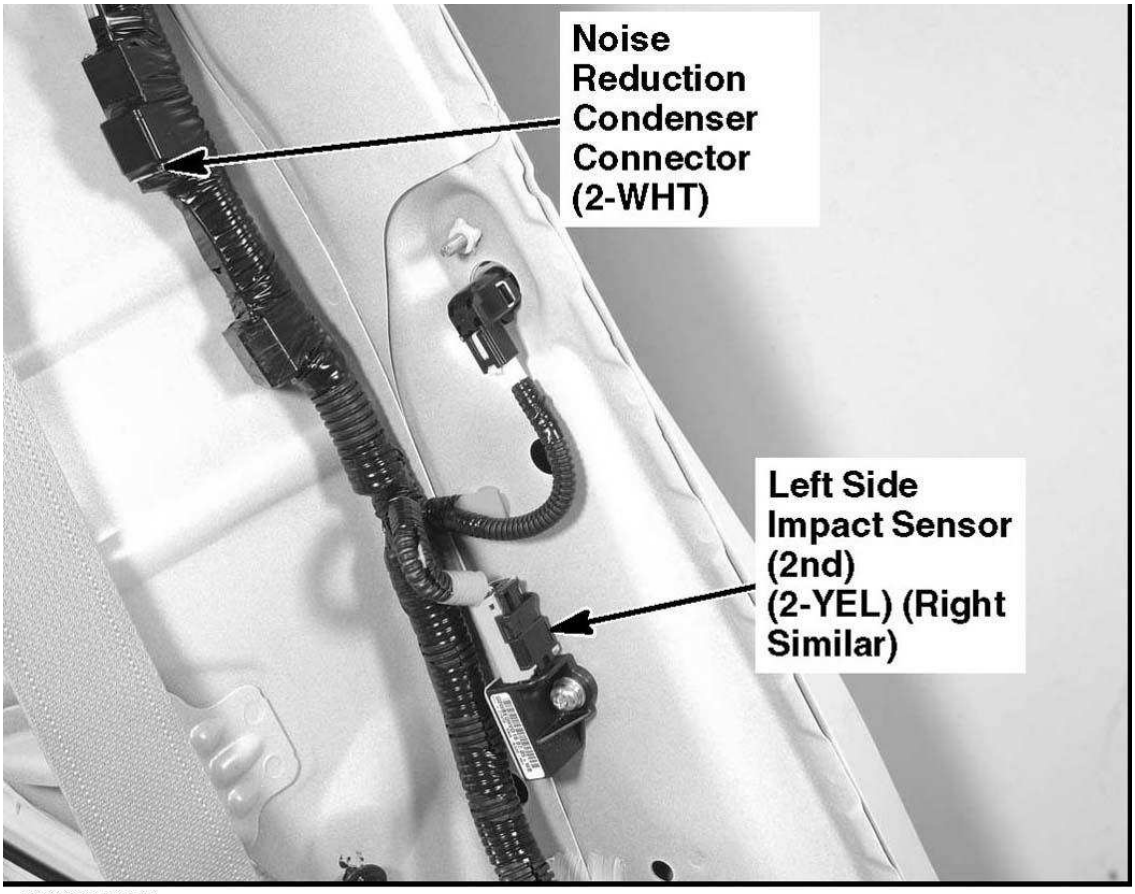



G00447721

**Fig. 115: Left "C" Pillar (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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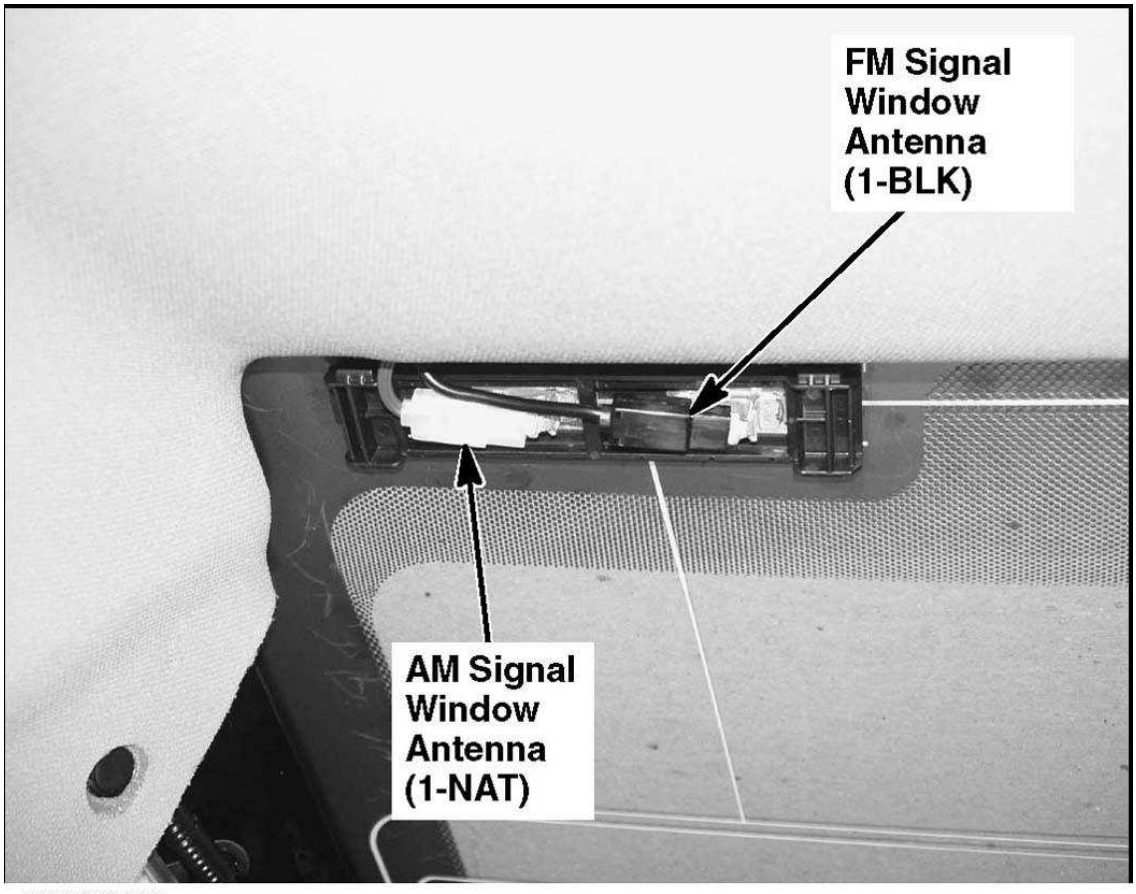



G00434458

**Fig. 116: Left "C" Pillar (4-Door) (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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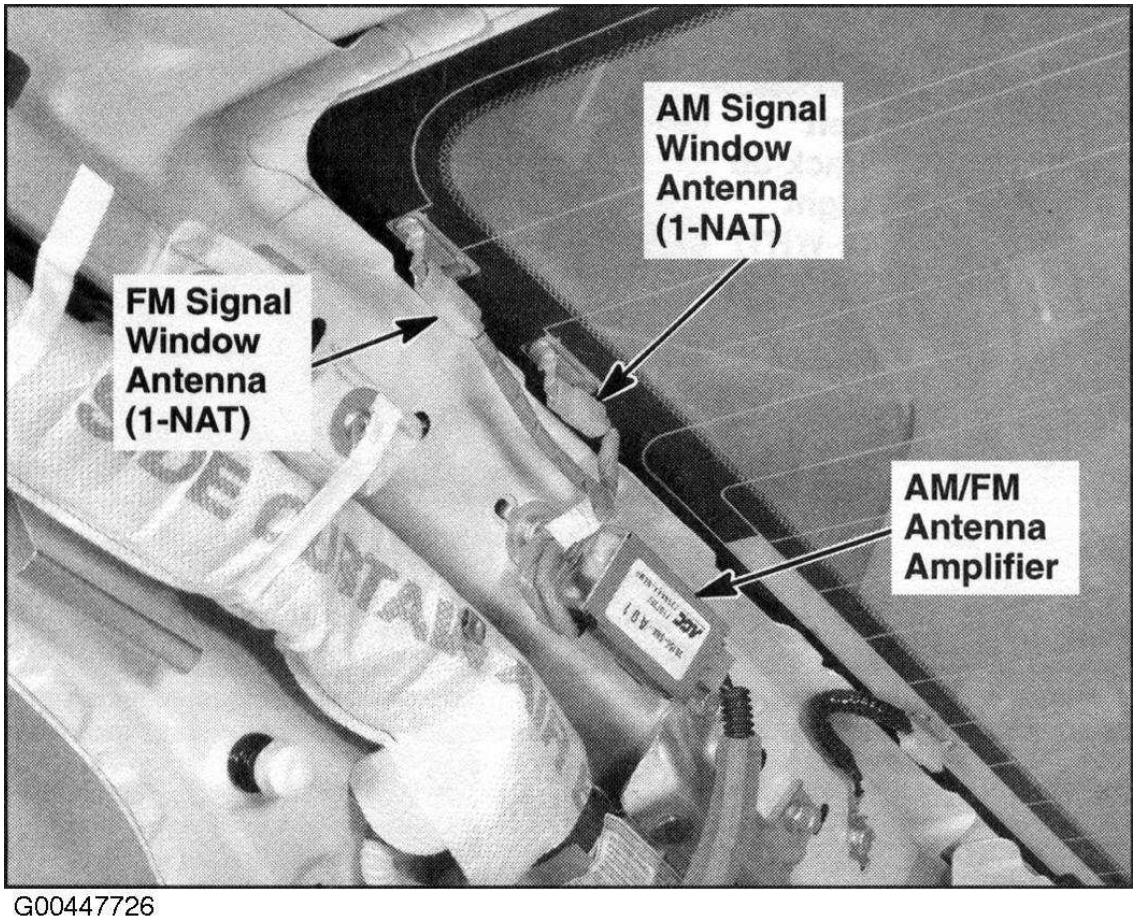



G00434461

**Fig. 117: Right Rear Of Roof (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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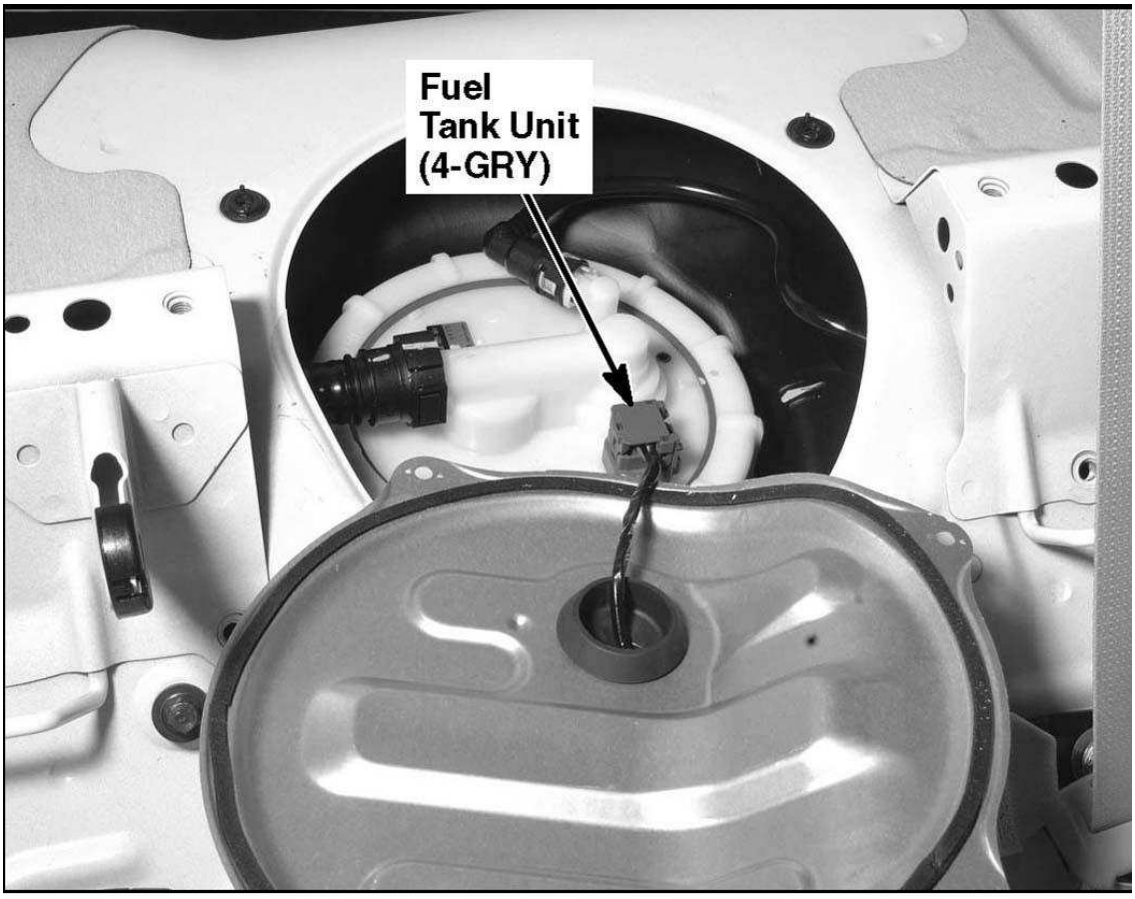



G00447726

**Fig. 118: Right "C" Pillar (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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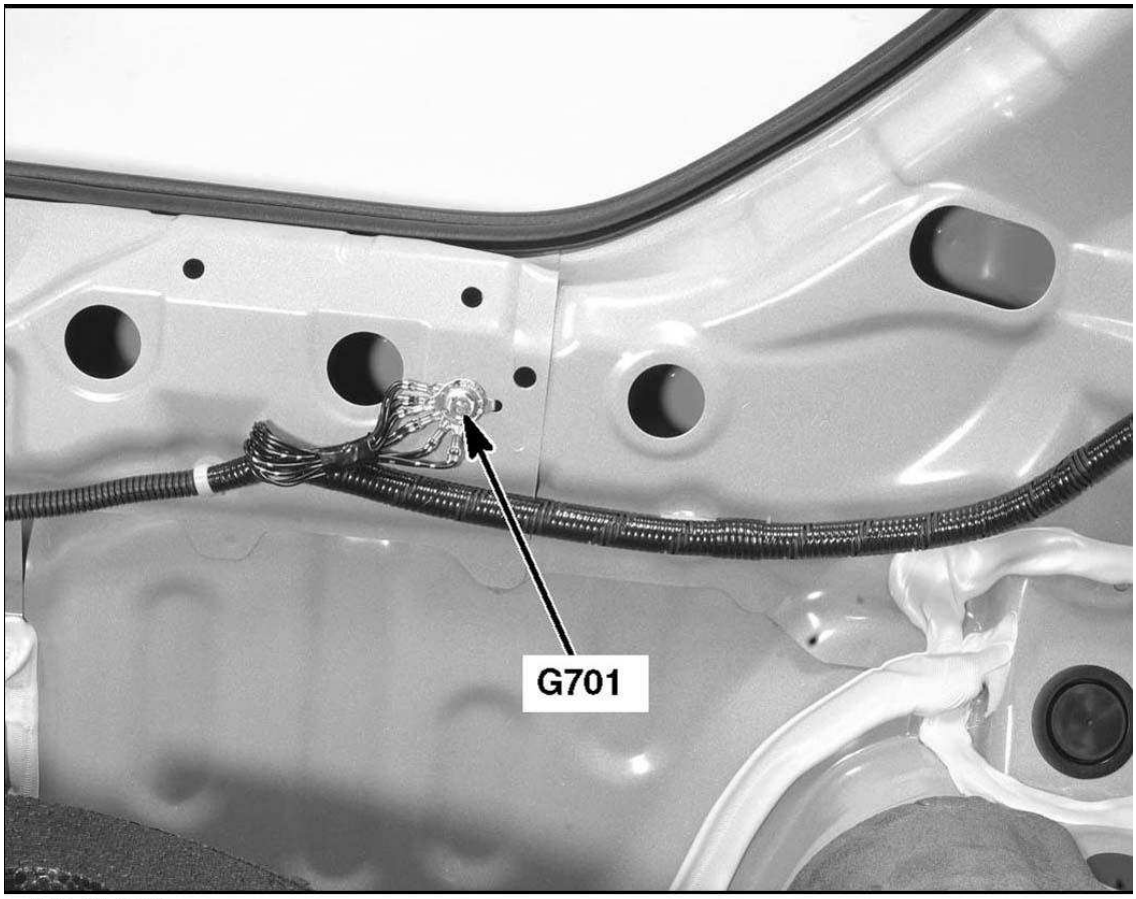



G00434464

**Fig. 119: Middle Front Of Trunk**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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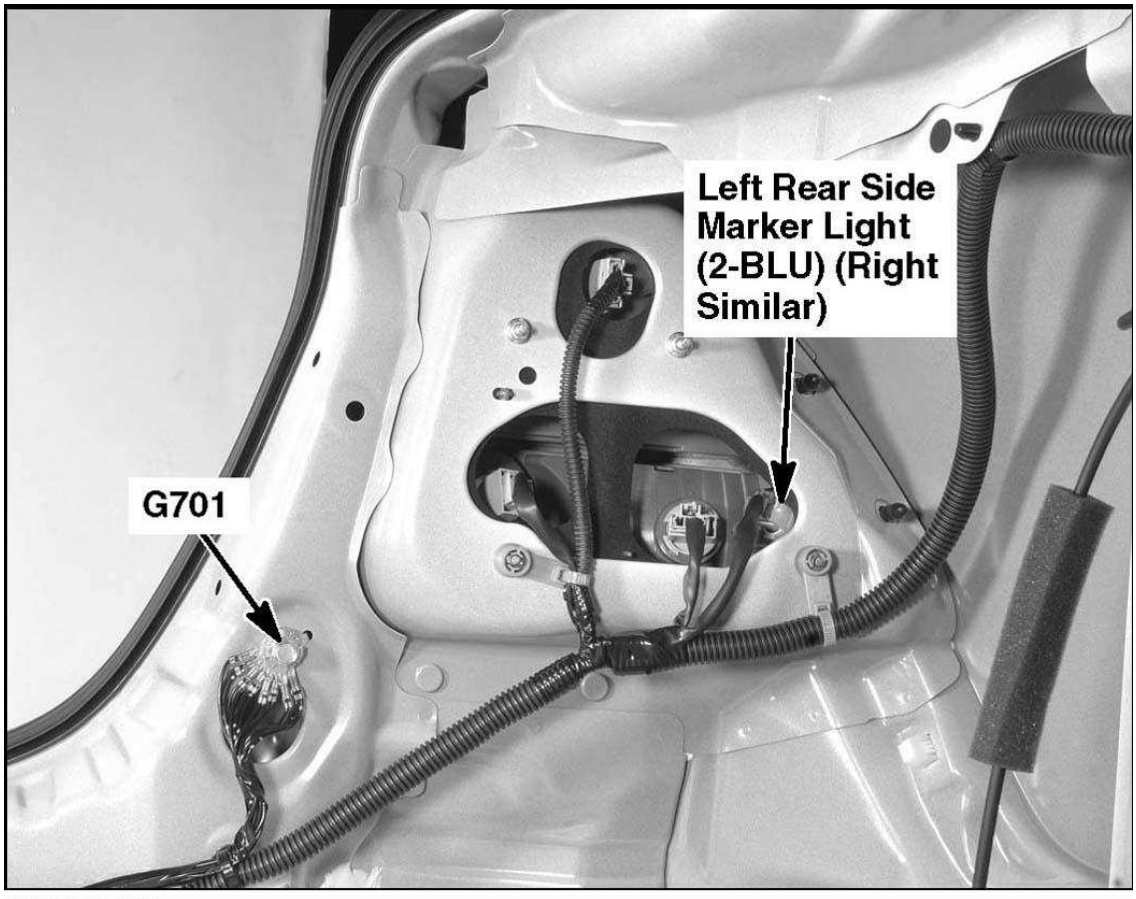



G00434465

**Fig. 120: Left Side Of Trunk (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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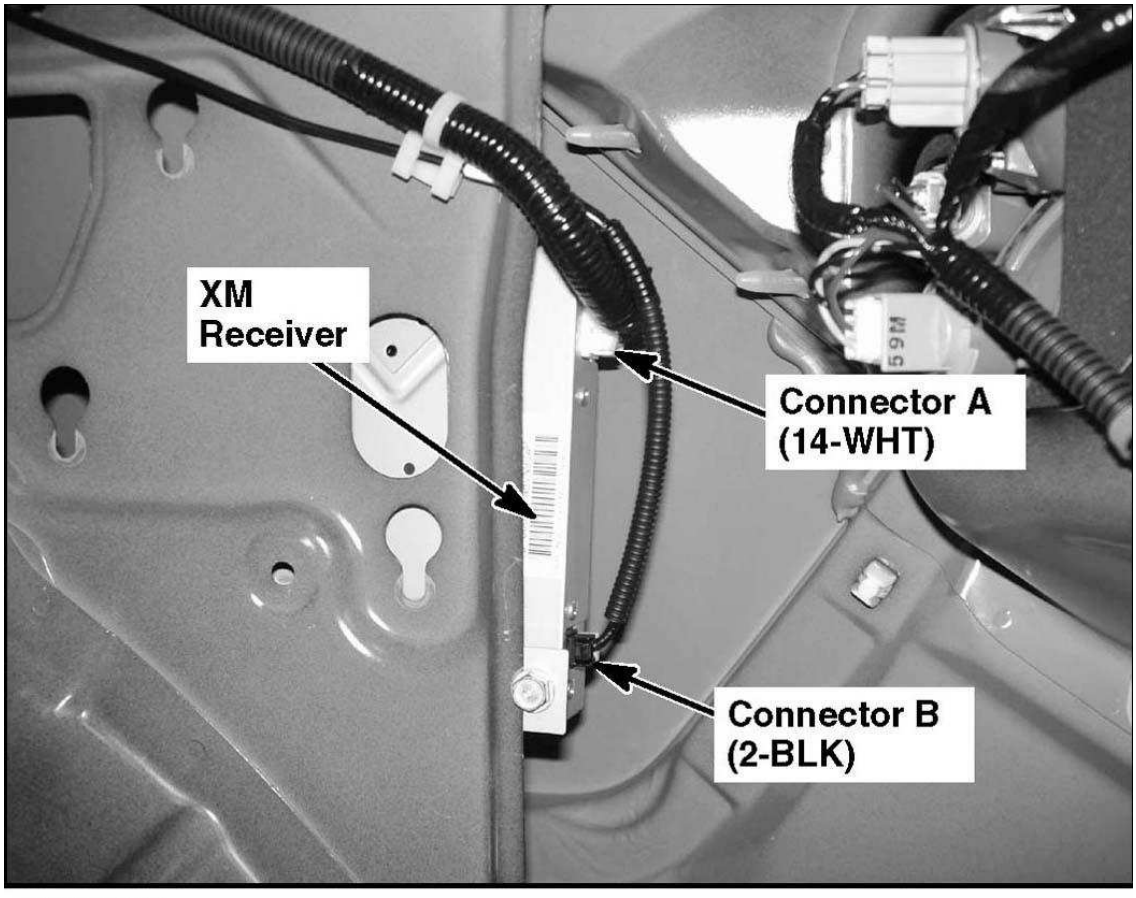



G00434466

**Fig. 121: Left Rear Of Trunk (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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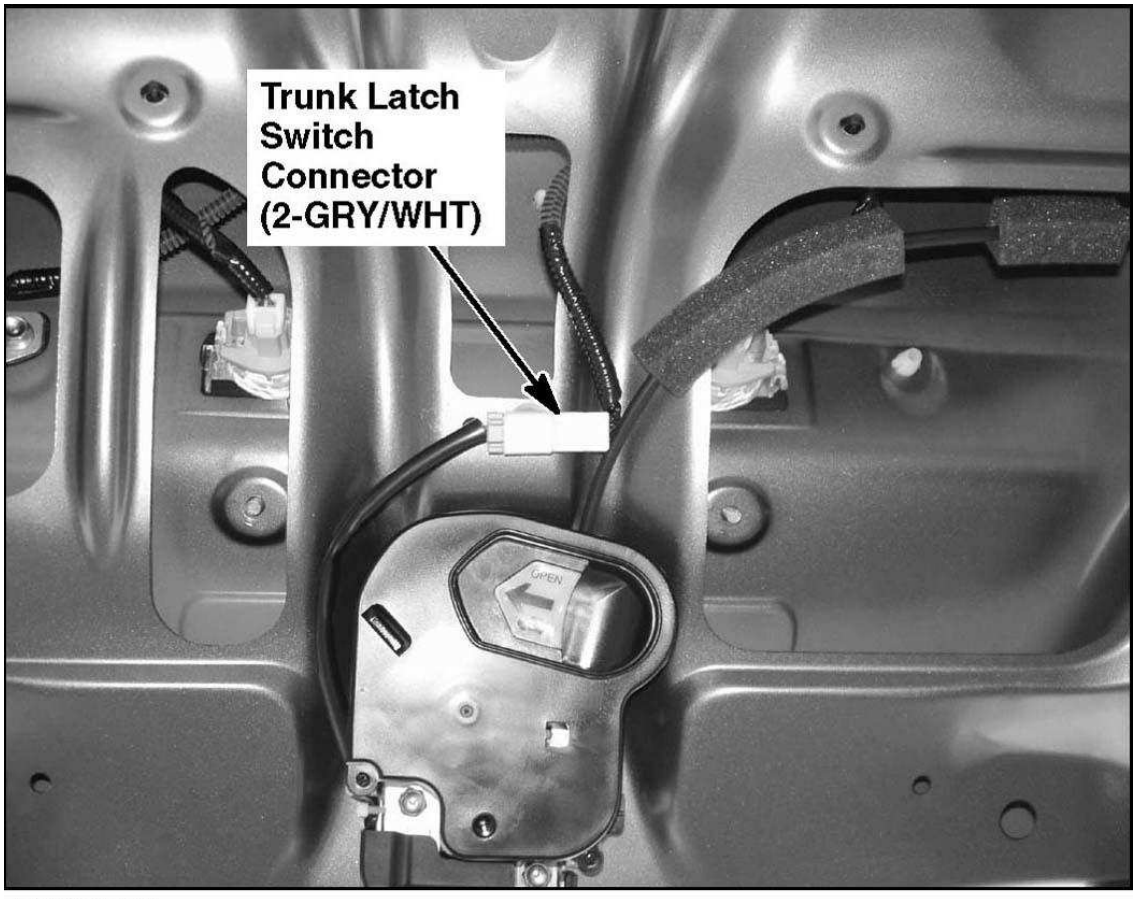



G00434467

**Fig. 122: Right Side Of Trunk (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434468

**Fig. 123: Middle Of Trunk Lid**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

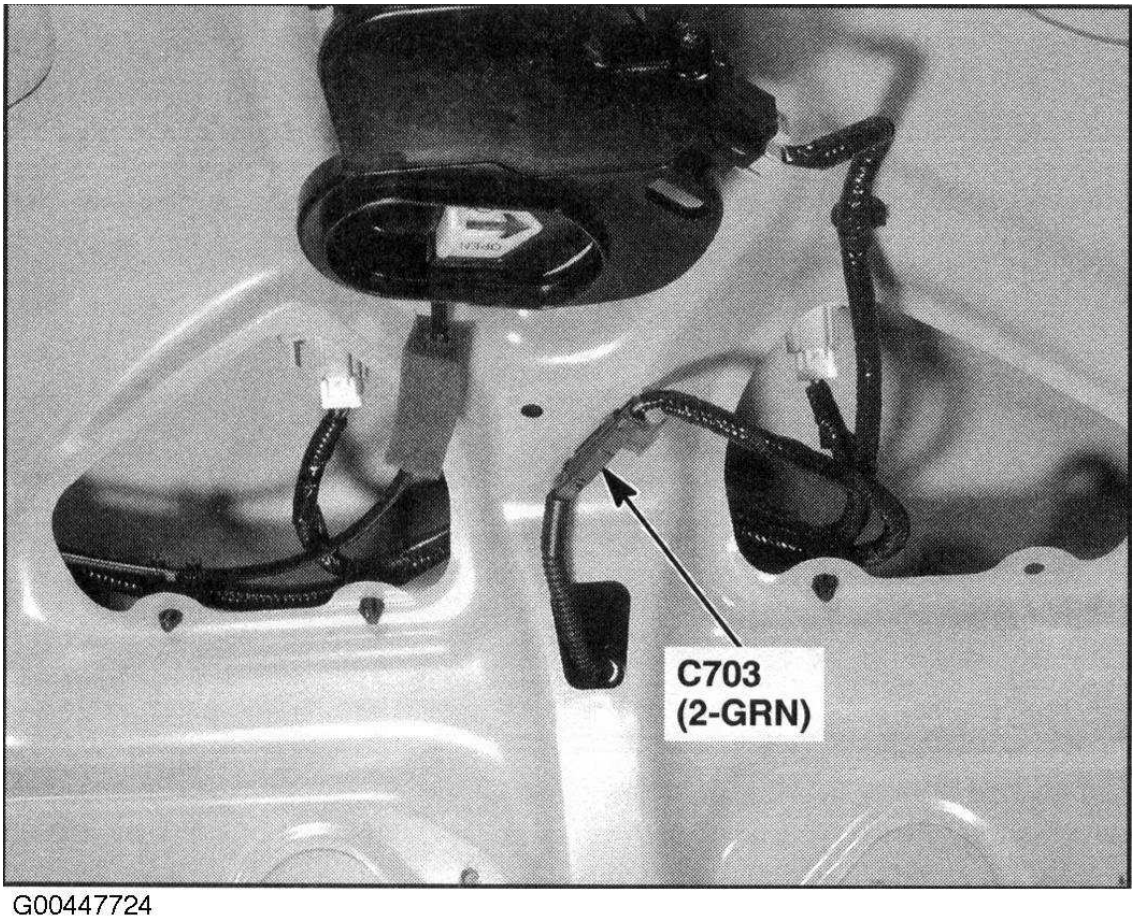



G00434469

**Fig. 124: Middle Of Trunk Lid**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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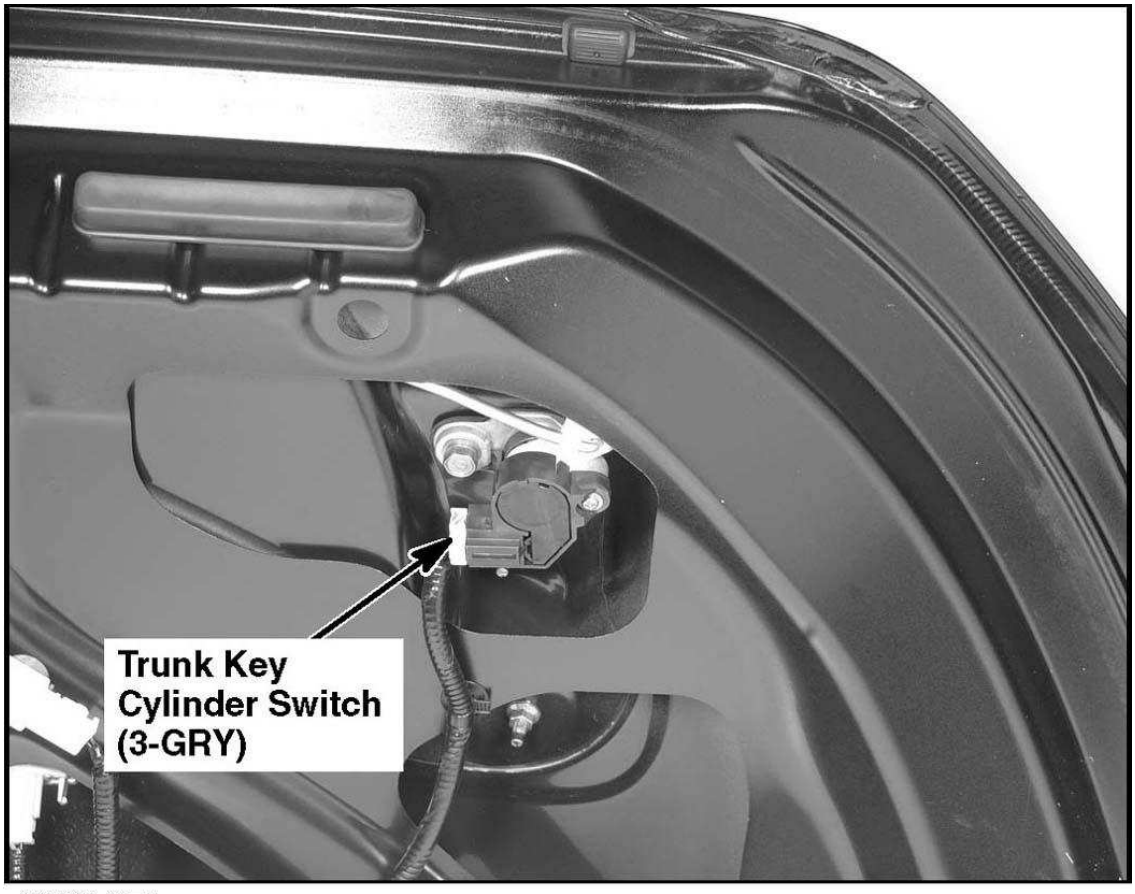



G00447724

**Fig. 125: Middle Of Trunk Lid**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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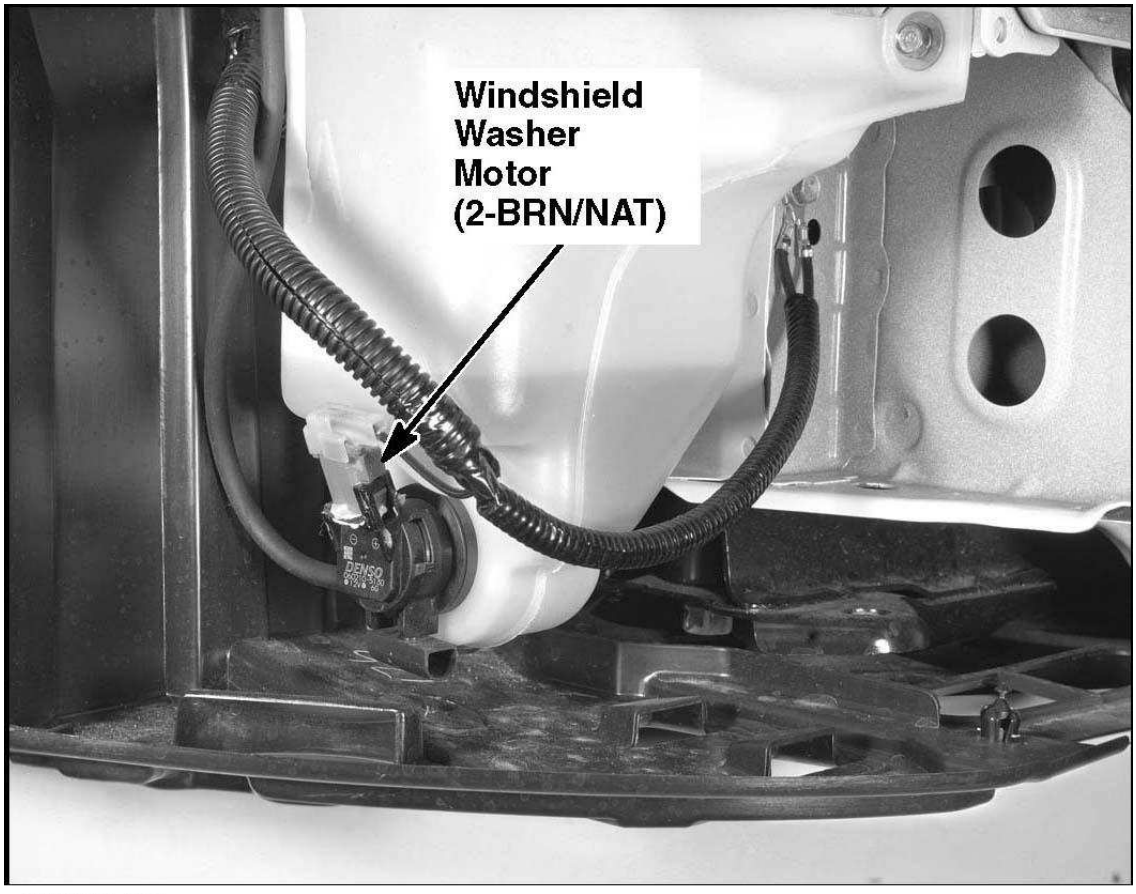



G00434471

**Fig. 126: Right Side Of Trunk Lid**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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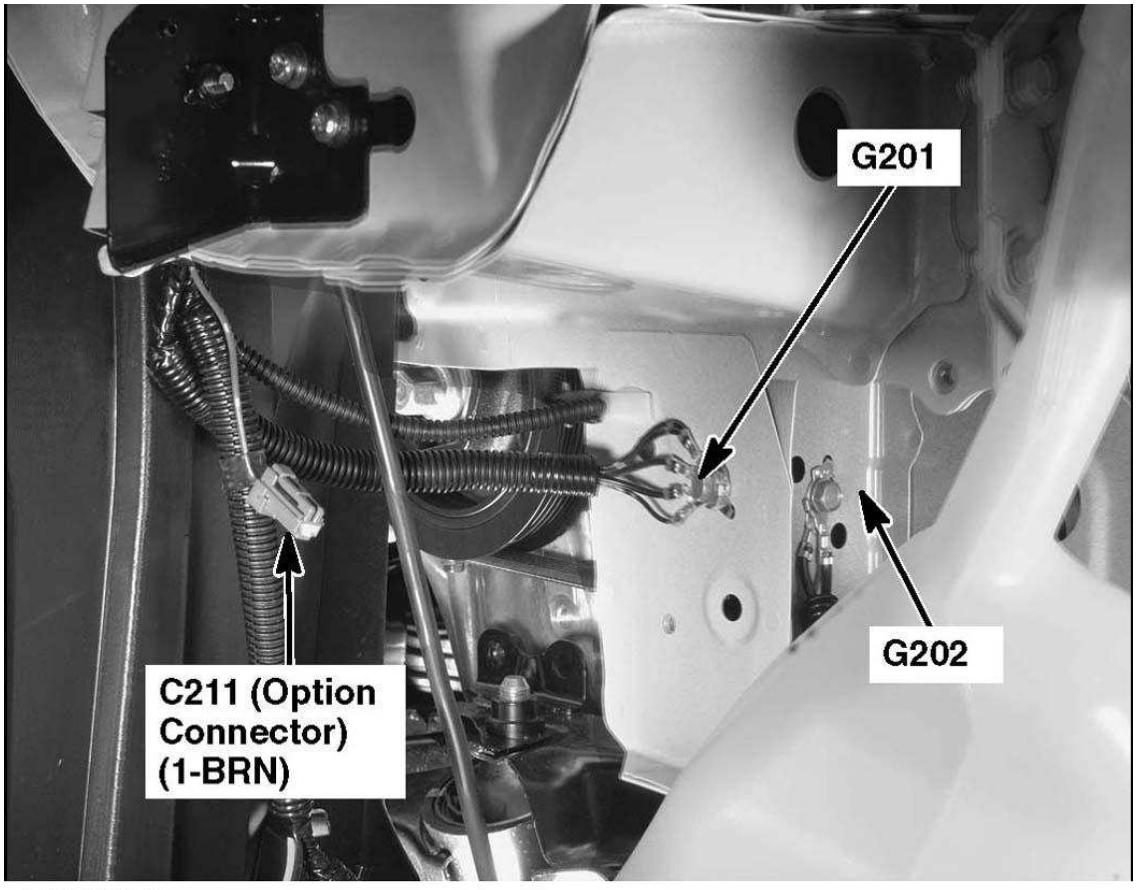



G00434472

**Fig. 127: Behind Right Side Of Front Bumper**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00434473

**Fig. 128: Behind Right Side Of Front Bumper**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

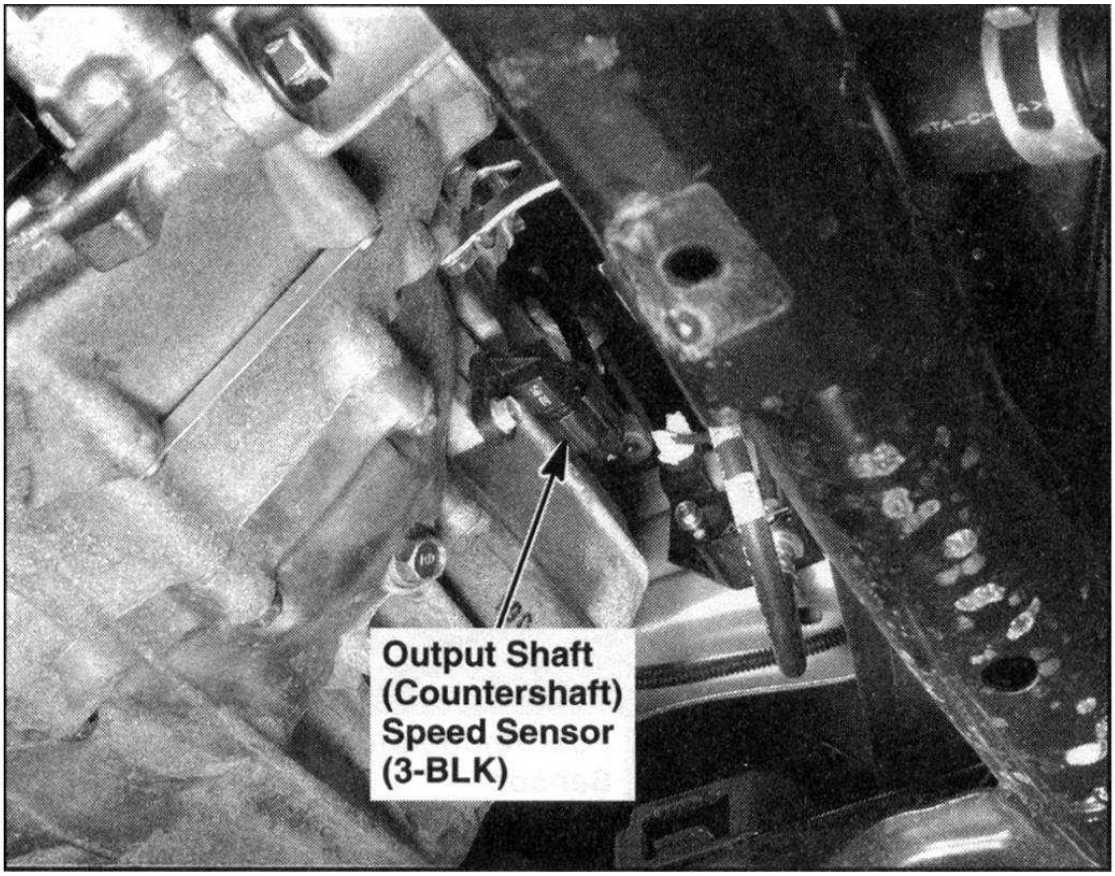
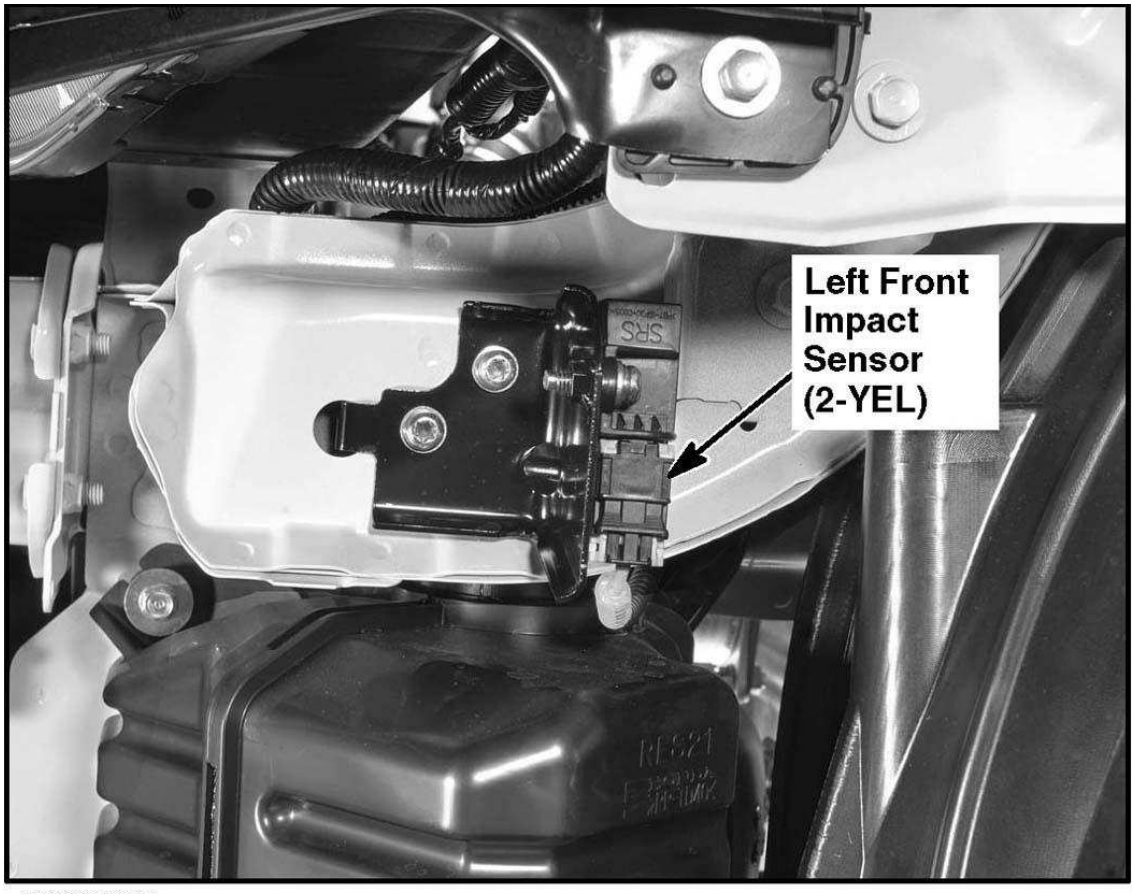



**Fig. 129: Under Transmission Housing (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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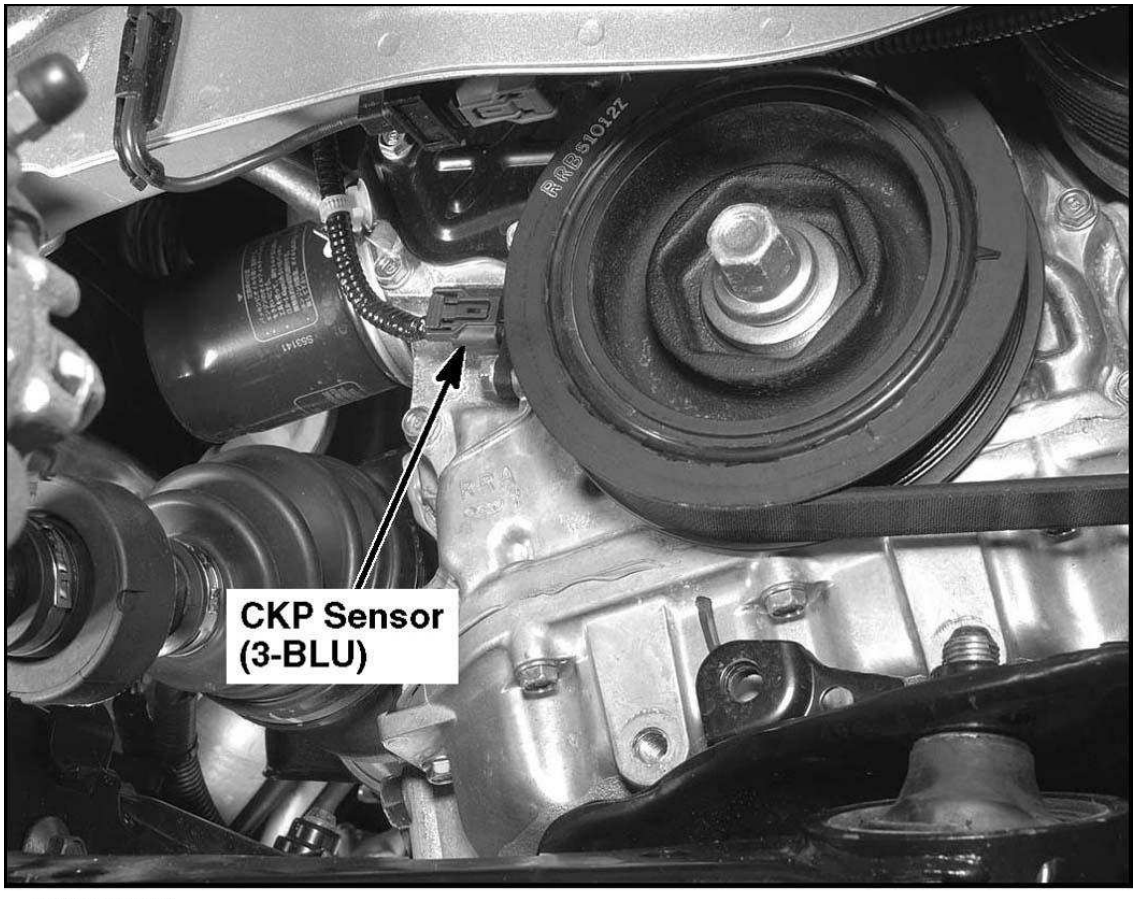



G00434475

**Fig. 130: Behind Left Side Of Front Bumper (Right Side Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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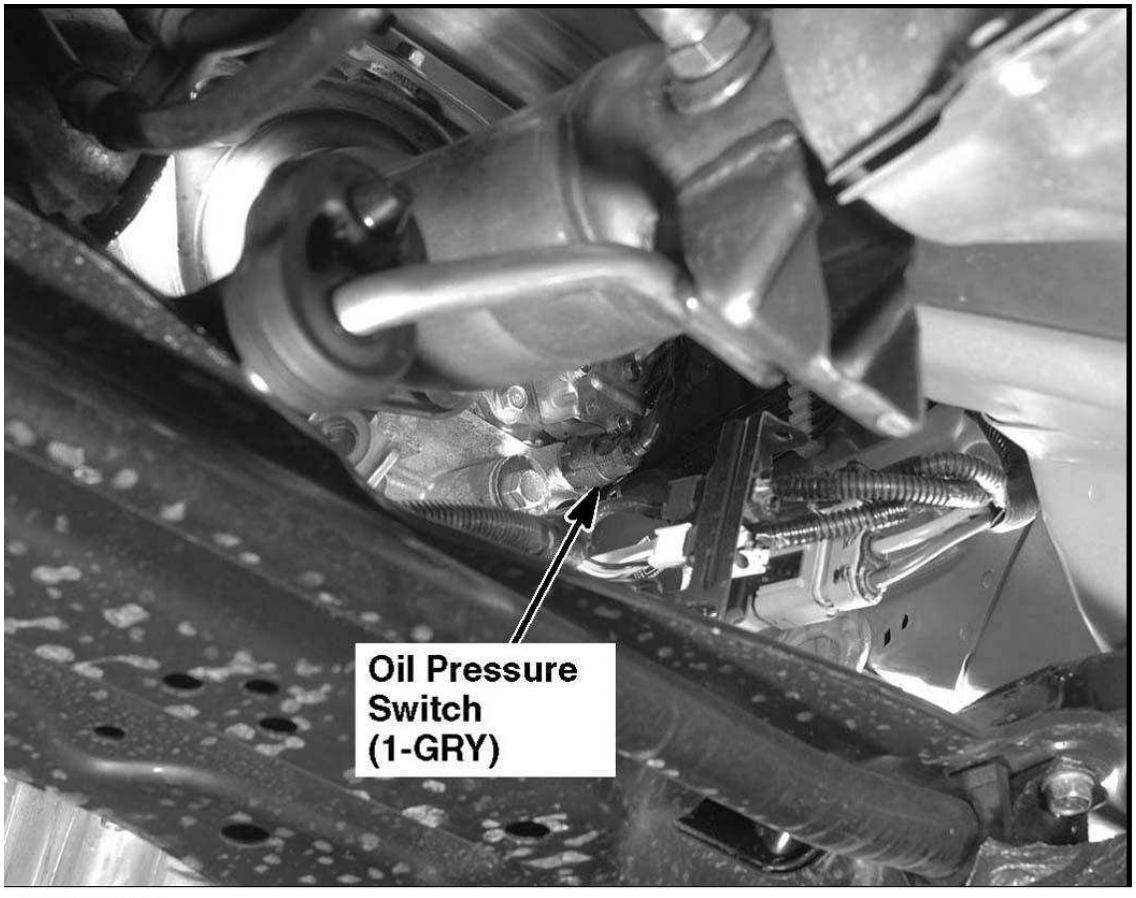



G00434476

**Fig. 131: Front Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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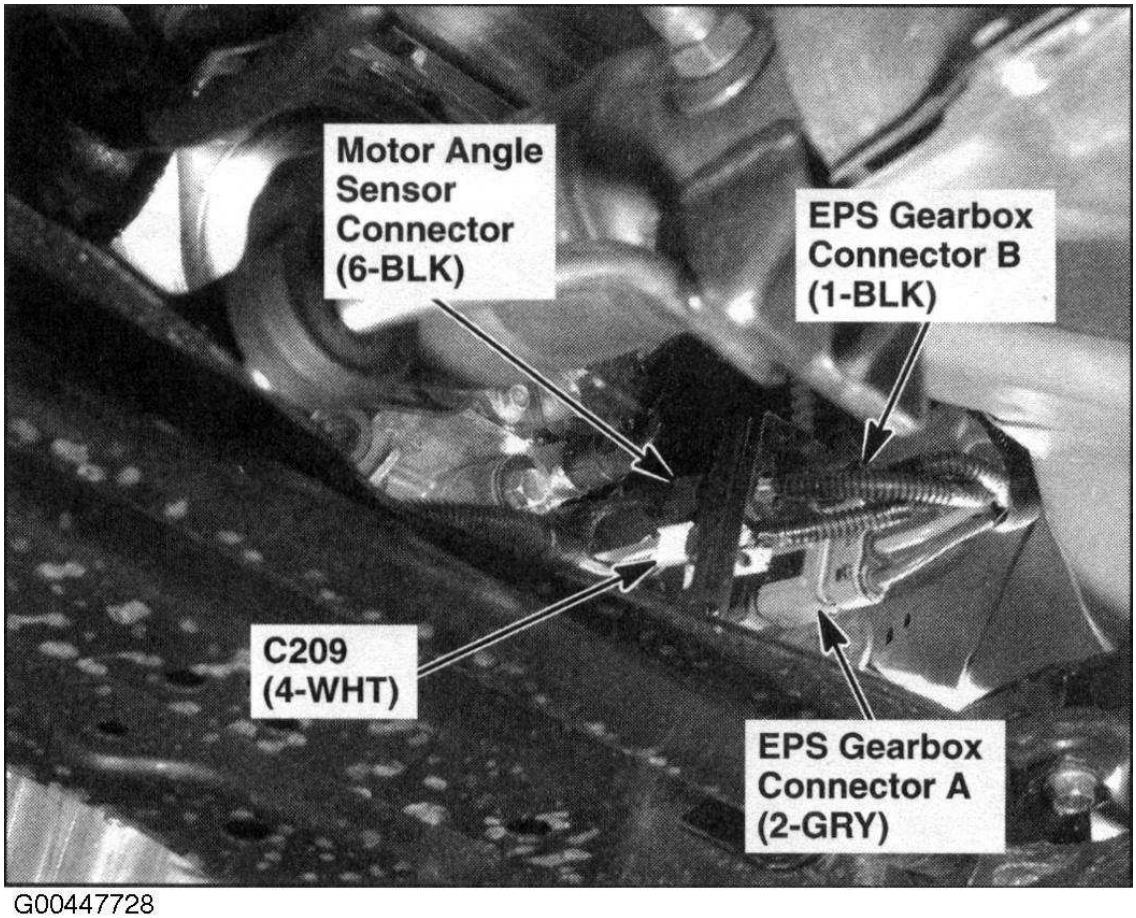



G00434477

**Fig. 132: Lower Rear Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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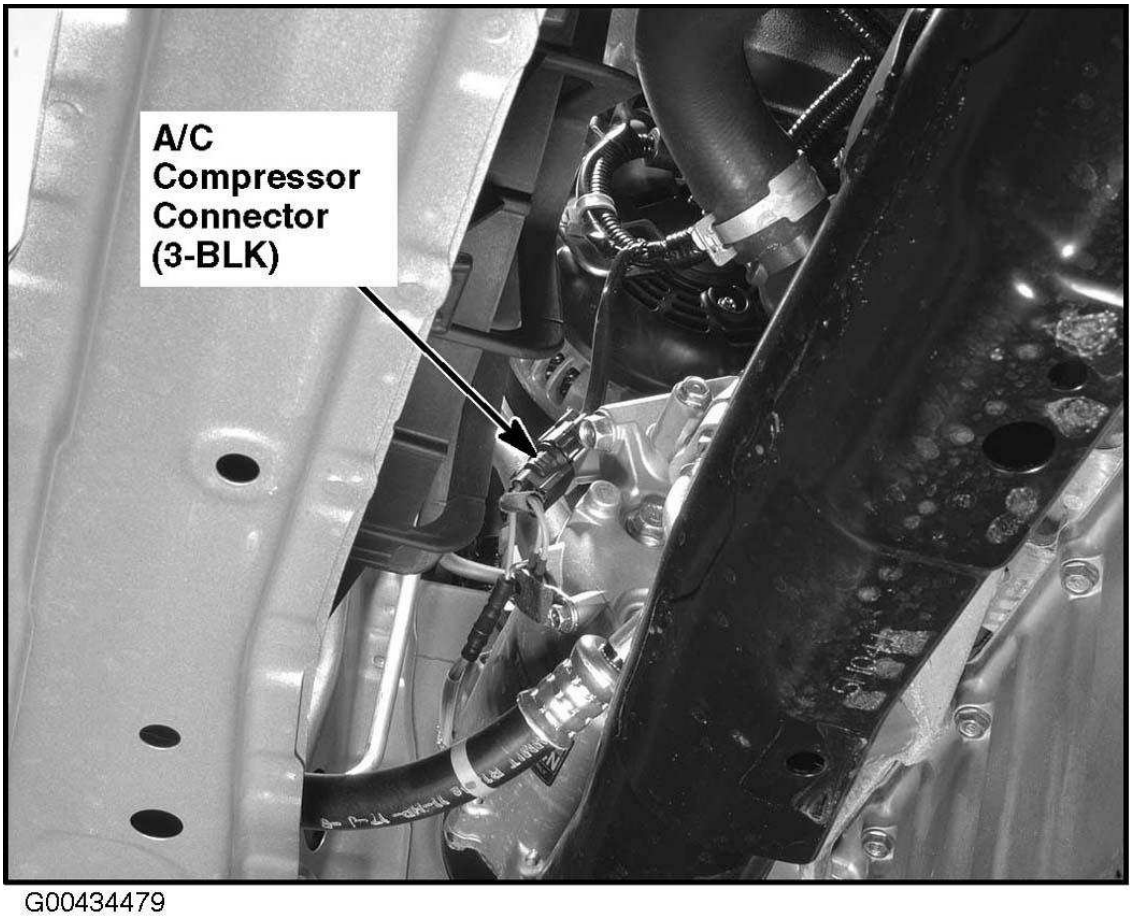



G00447728

**Fig. 133: Lower Rear Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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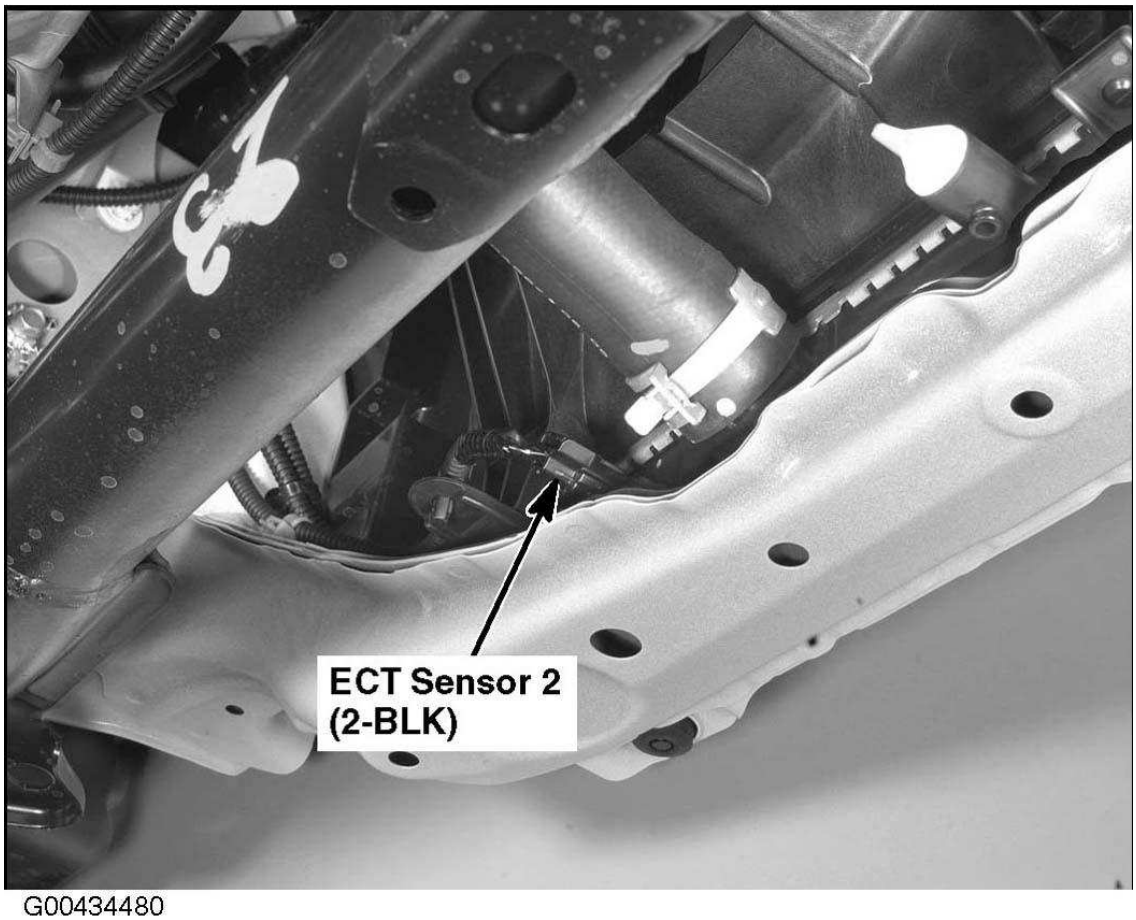



G00434479

**Fig. 134: Lower Front Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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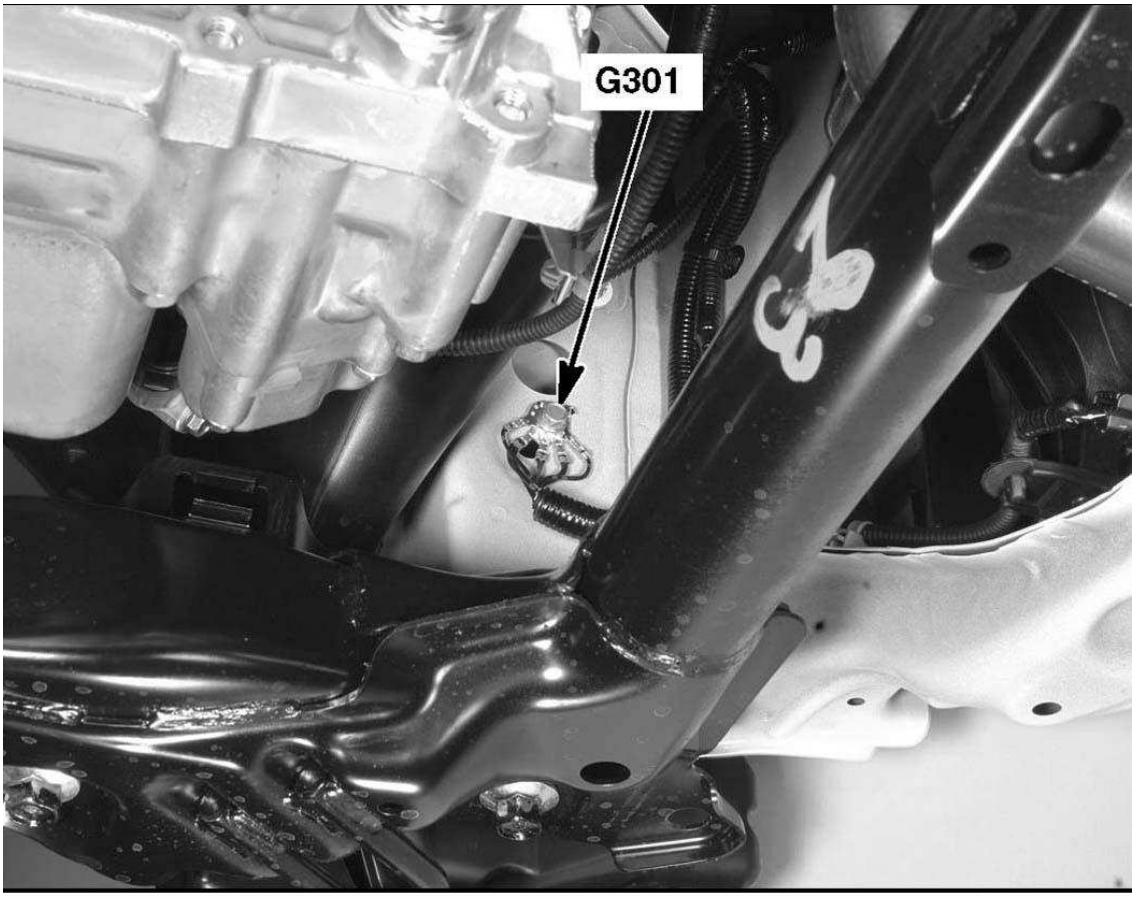



G00434480

**Fig. 135: Lower Left Front Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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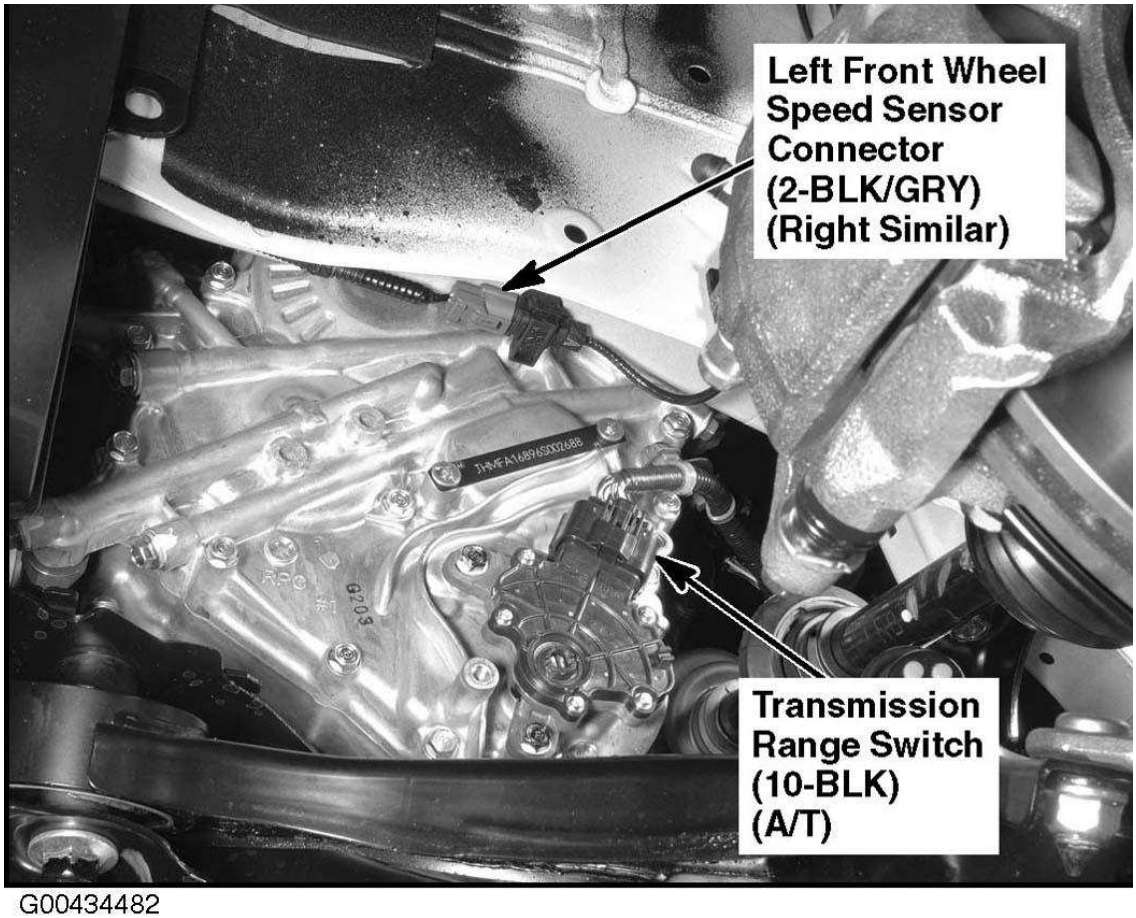



G00434481

**Fig. 136: Lower Left Side Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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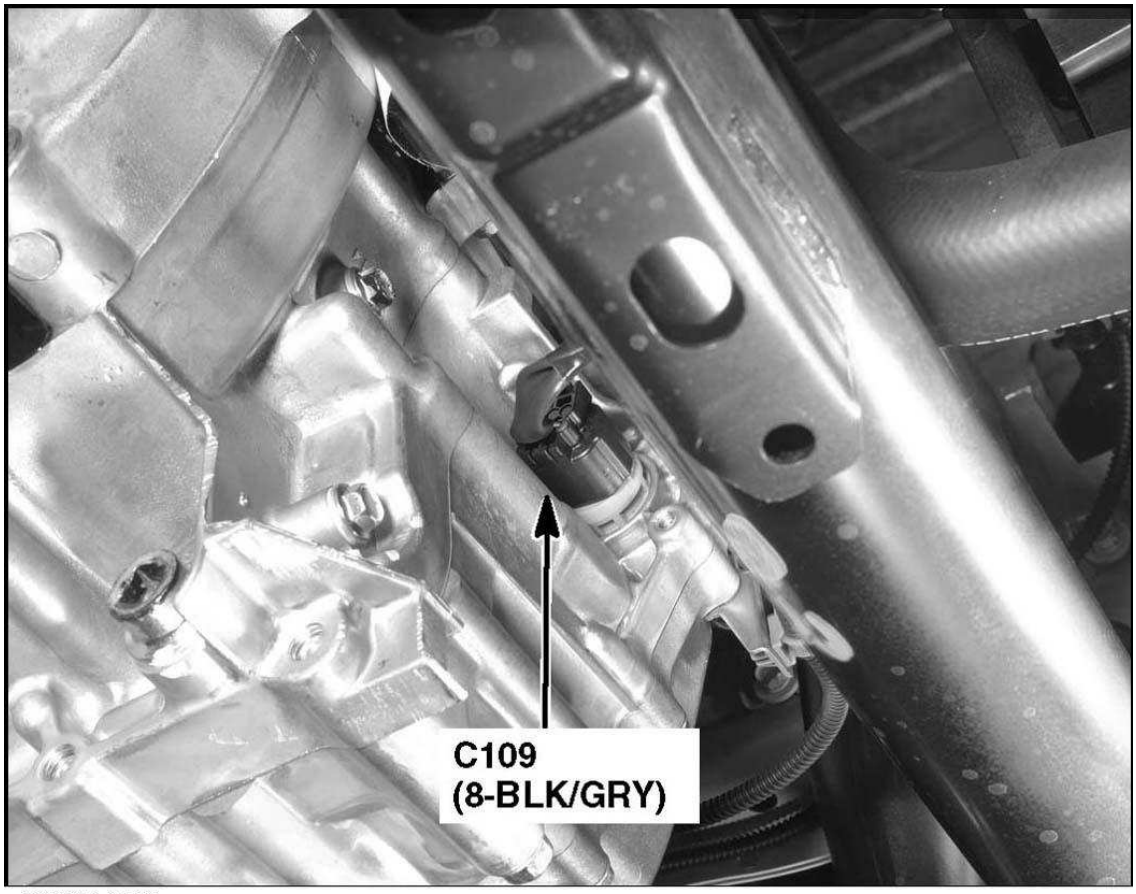



G00434482

**Fig. 137: Lower Left Side Of Engine Compartment (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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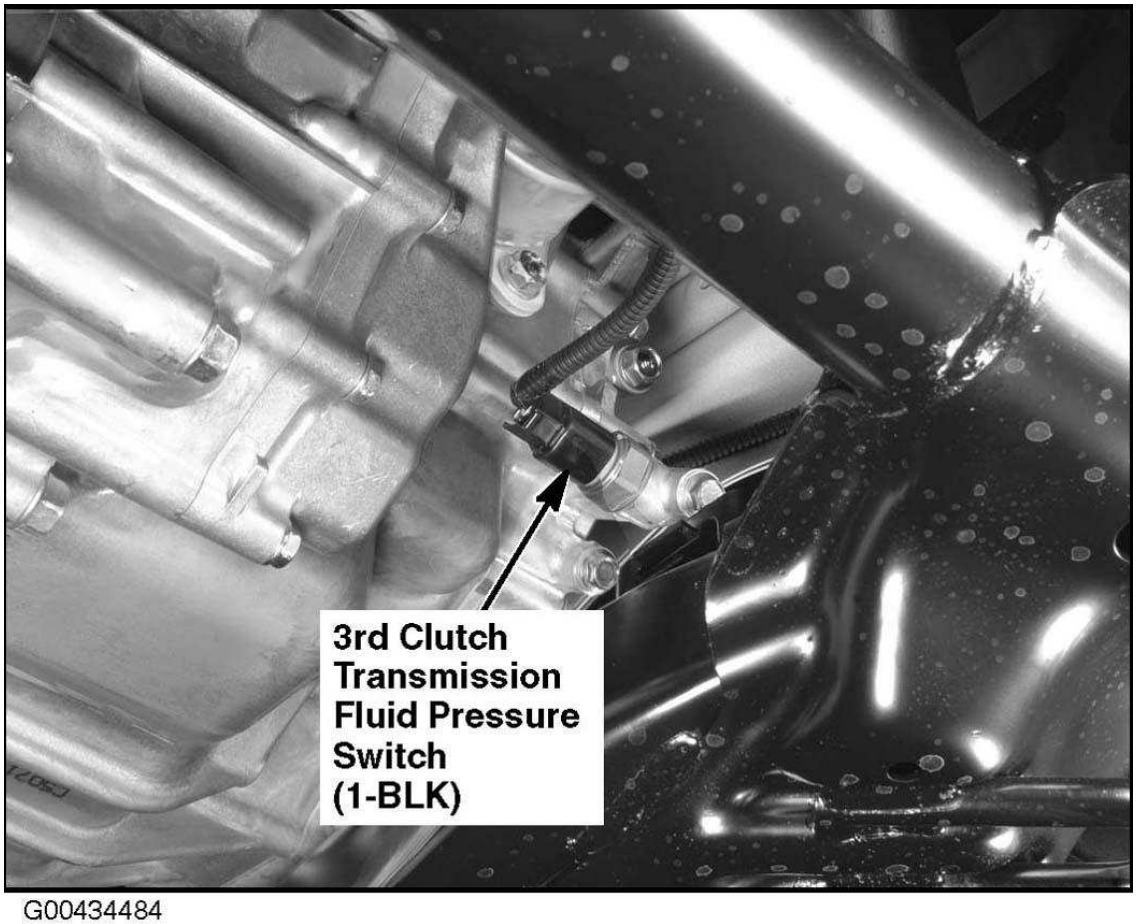



G00434483

**Fig. 138: Transmission Housing (A/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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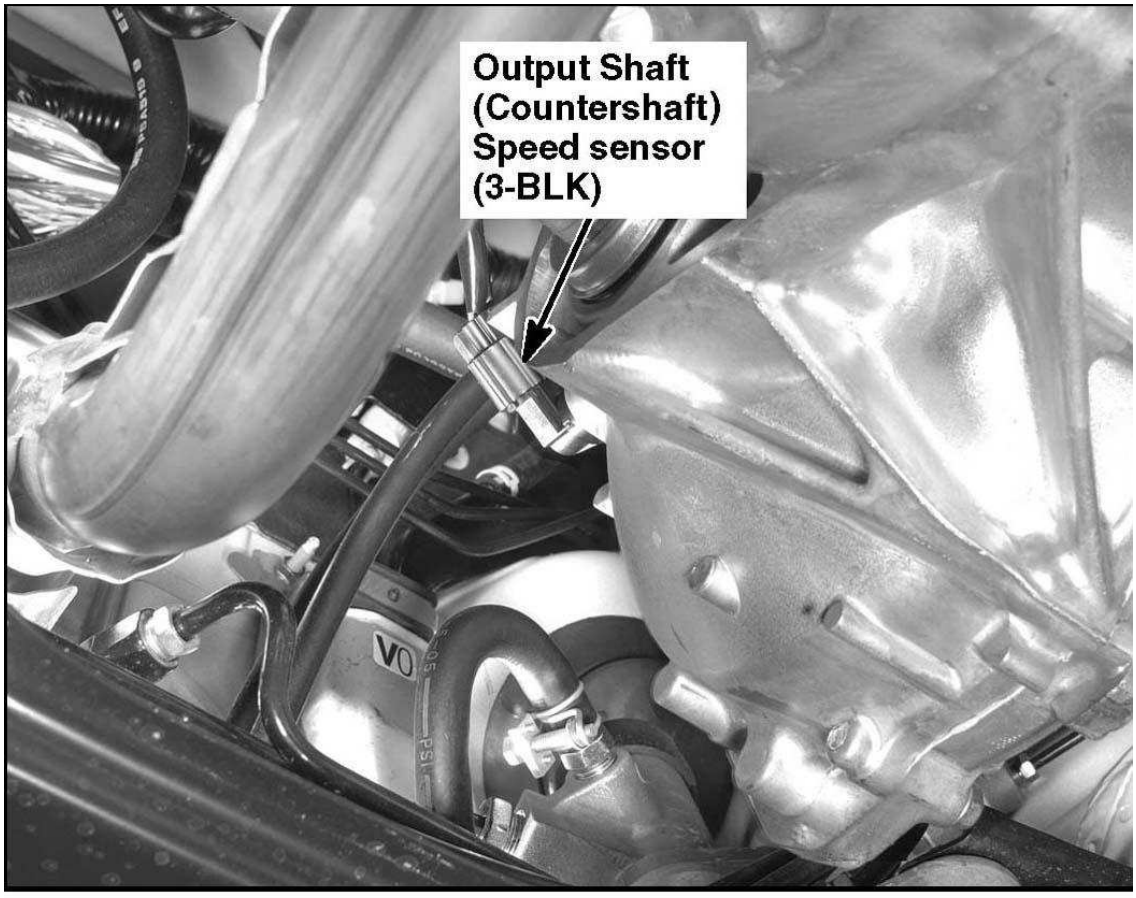



G00434484

**Fig. 139: Transmission Housing (A/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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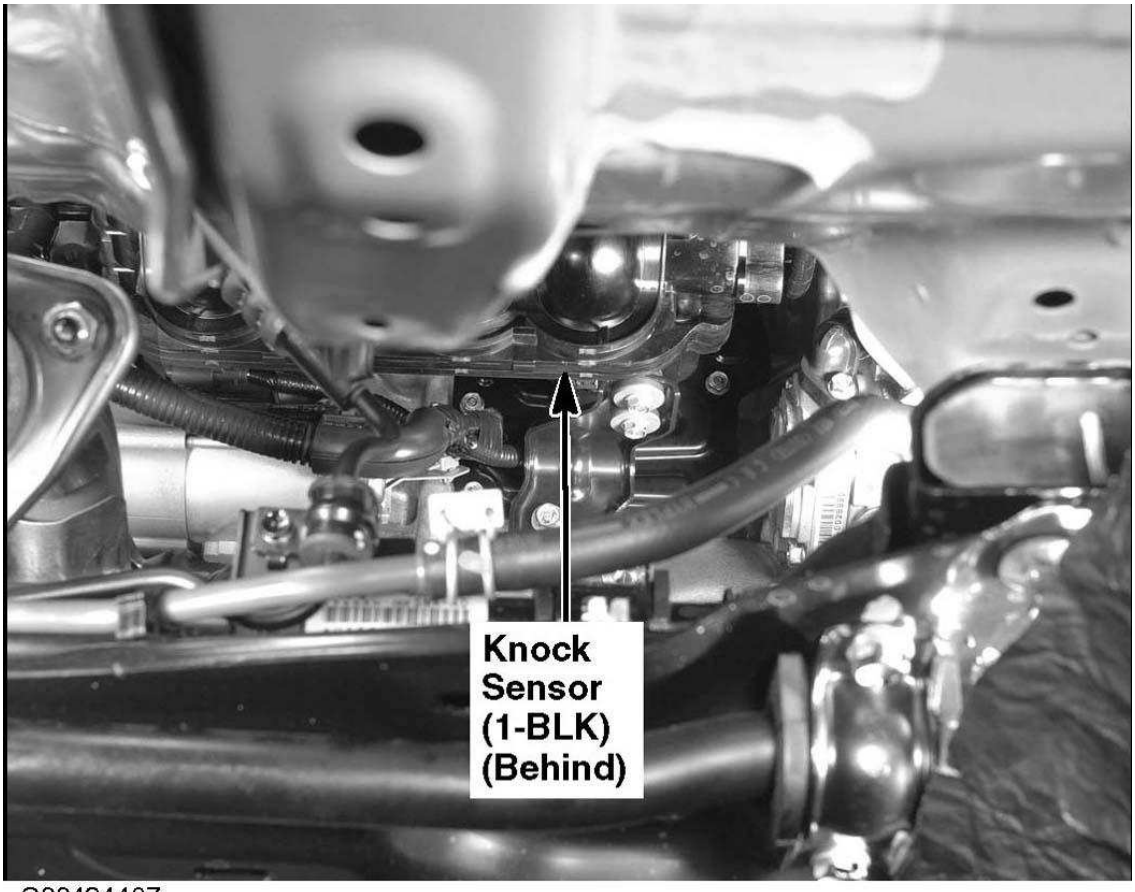



G00434485

**Fig. 140: Transmission Housing (M/T) (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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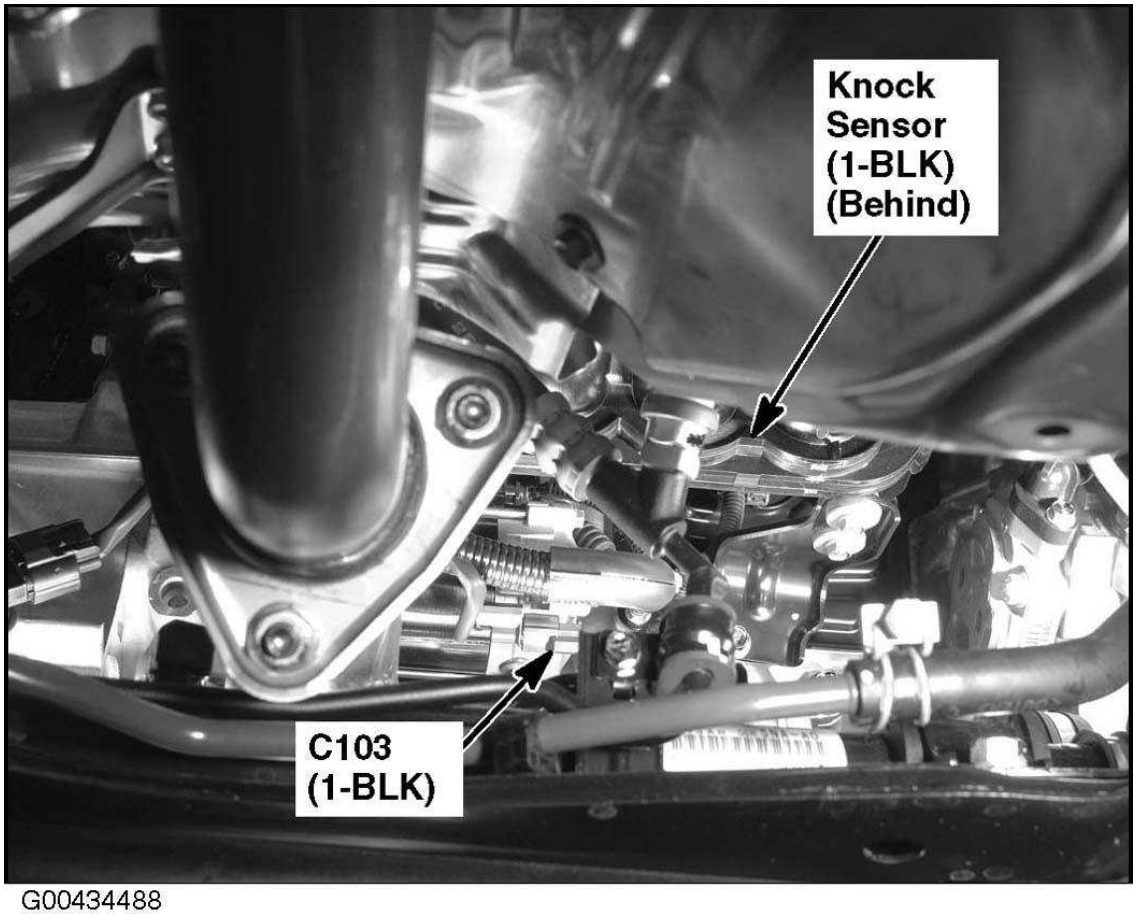



G00434487

**Fig. 141: Lower Right Rear Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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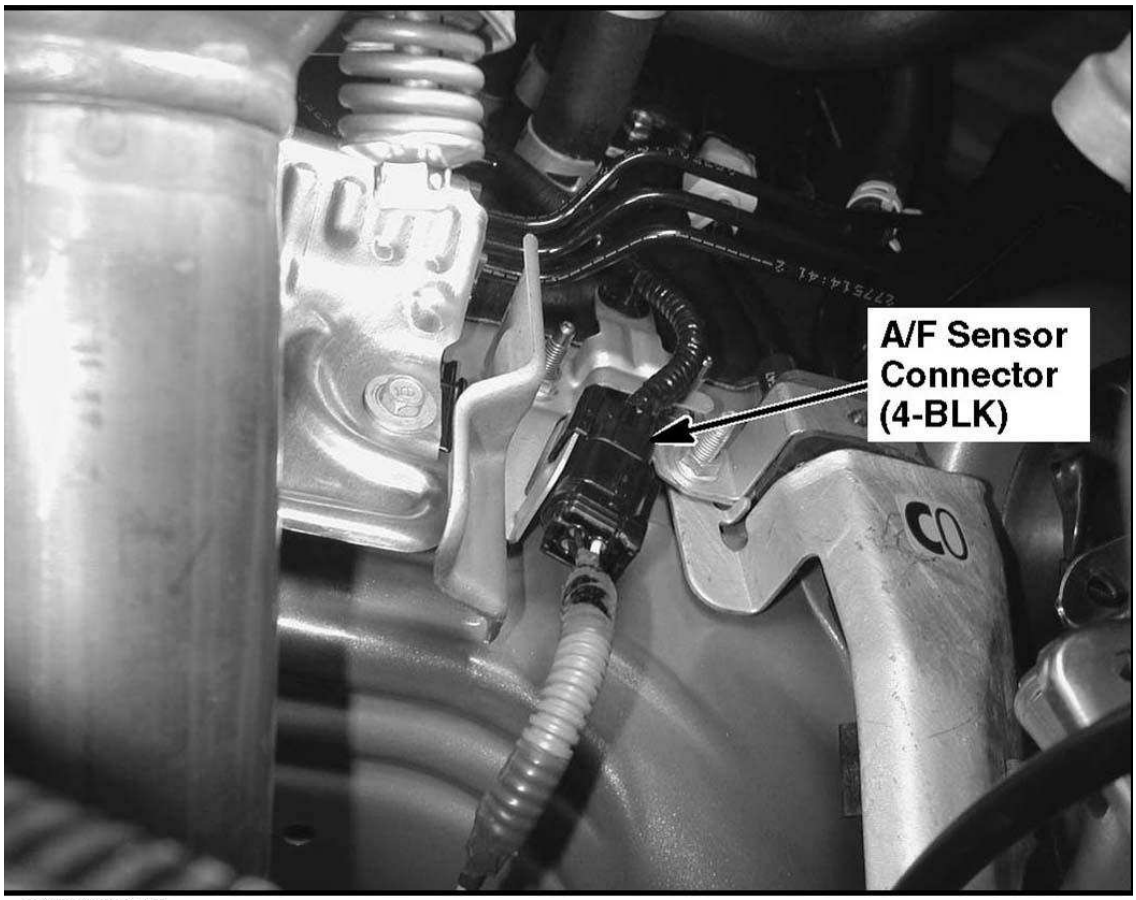



G00434488

**Fig. 142: Rear Of Engine (M/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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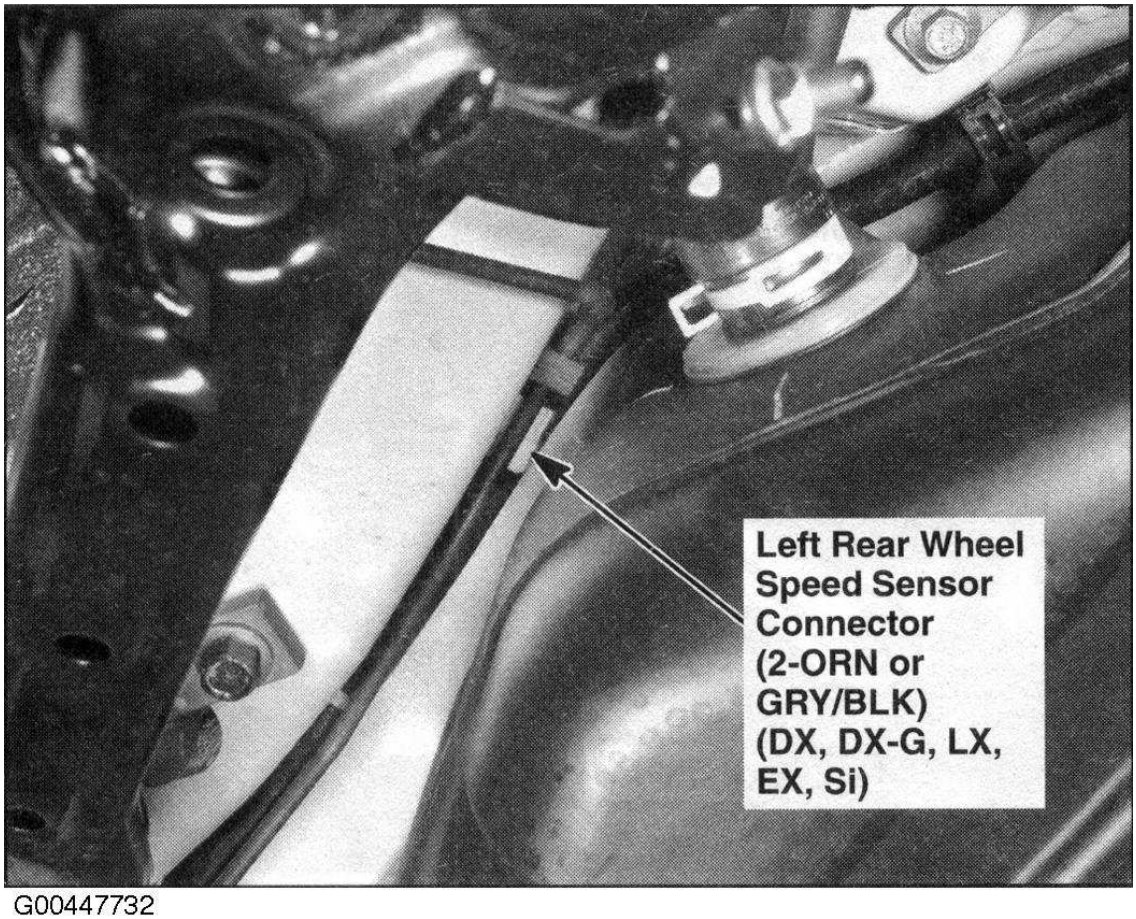



G00434489

**Fig. 143: Rear Of Engine Compartment (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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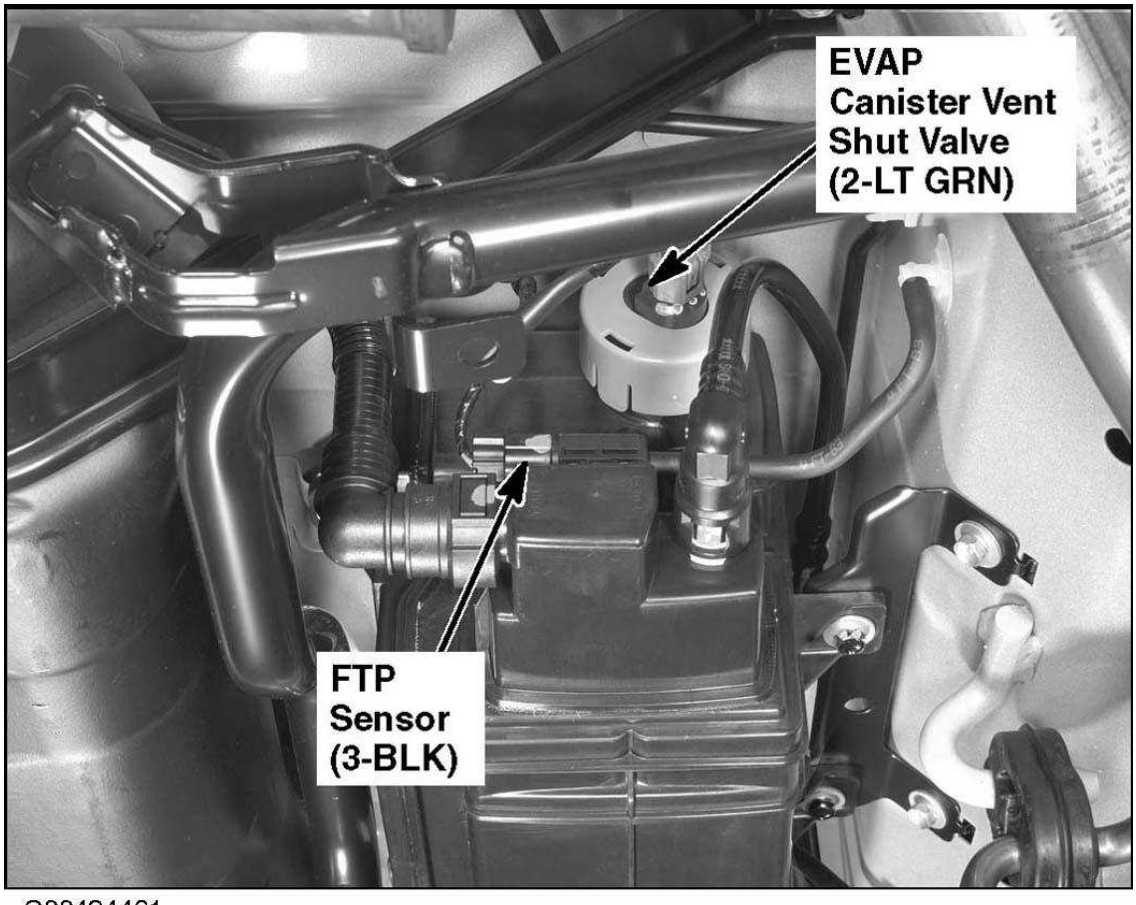



G00447732

**Fig. 144: Under Left Rear Of Vehicle (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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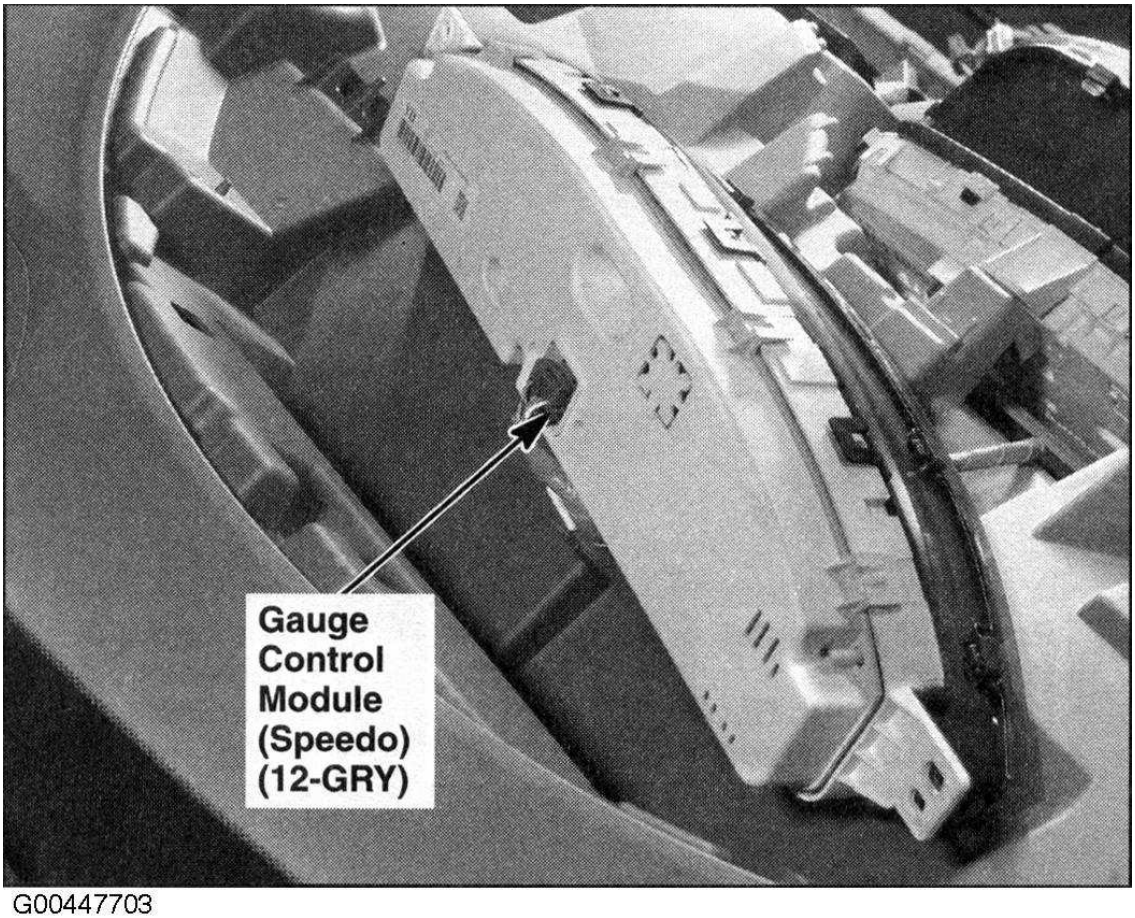



G00434491

**Fig. 145: Under Middle Of Vehicle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

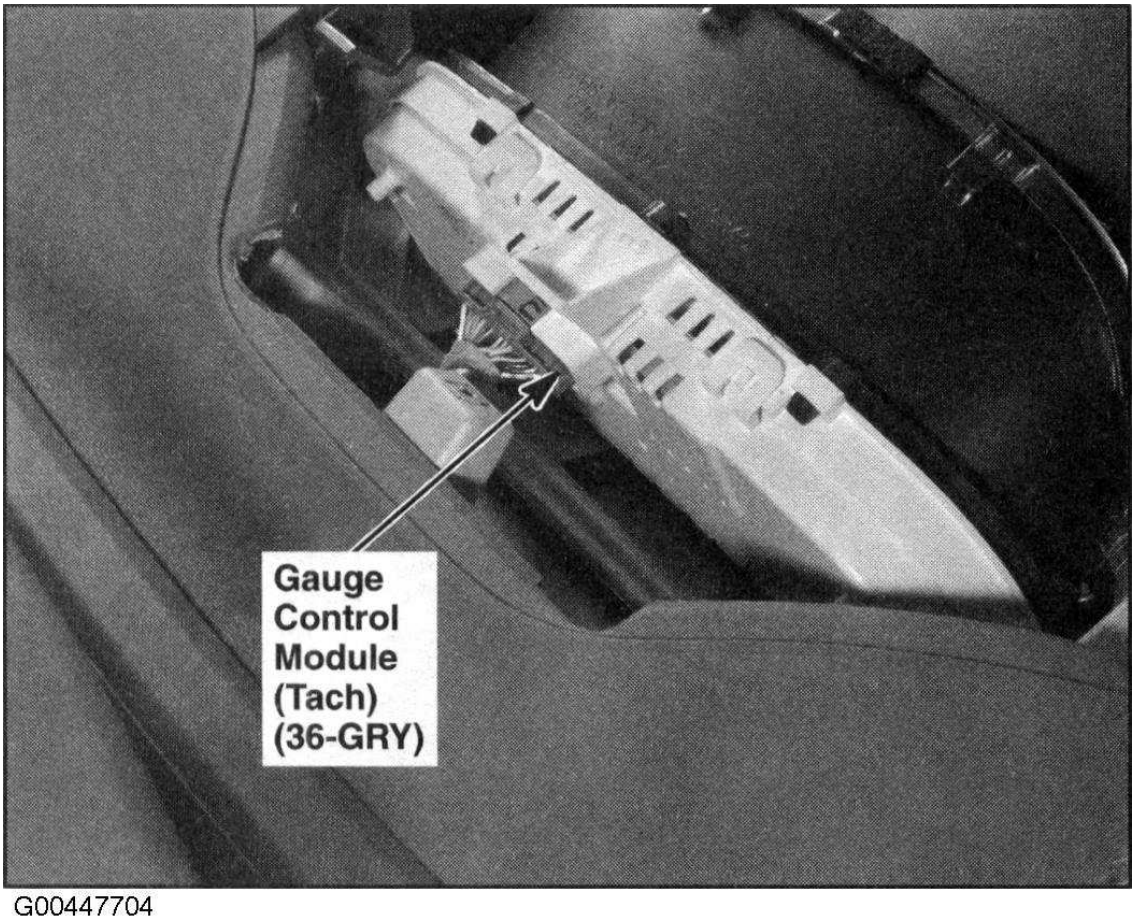
# 2008 Honda Civic GX

2008 HONDA Civic - Except Hybrid




G00447703

**Fig. 146: Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

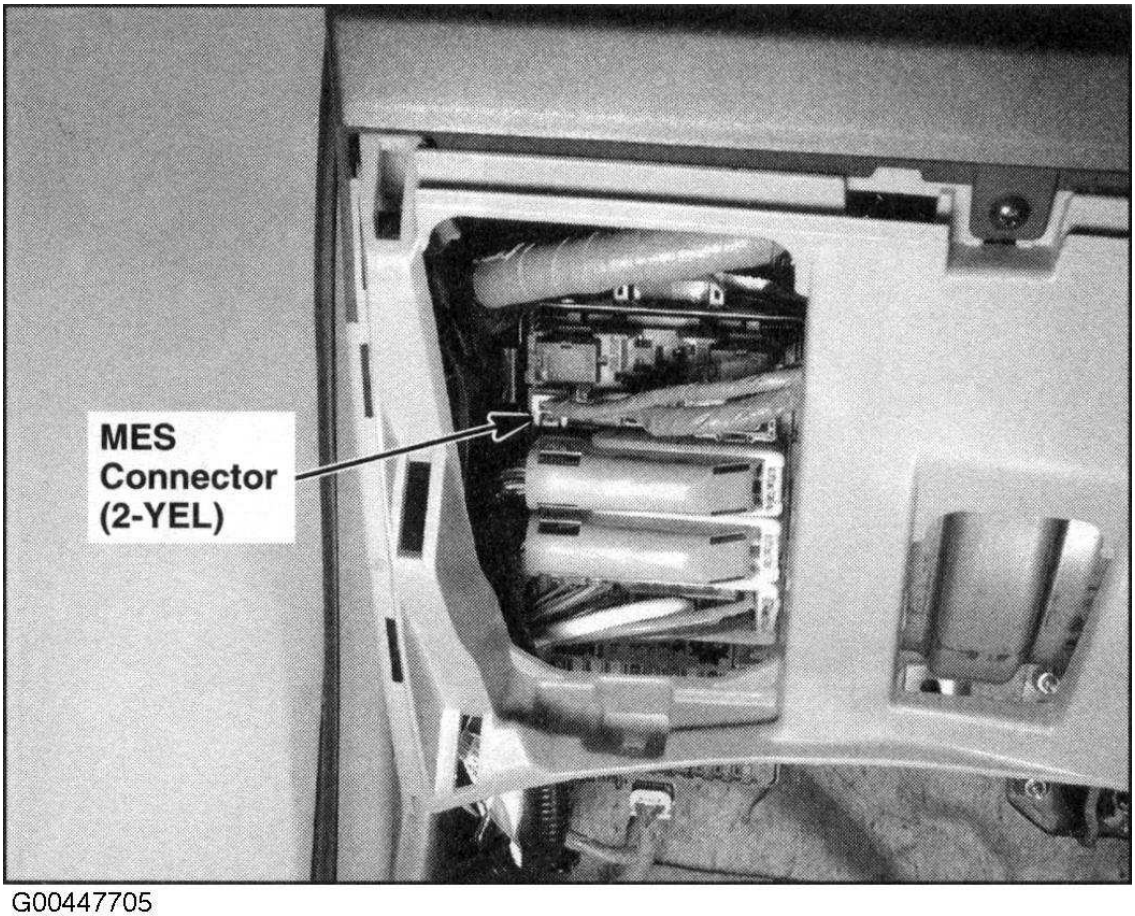



G00447704

**Fig. 147: Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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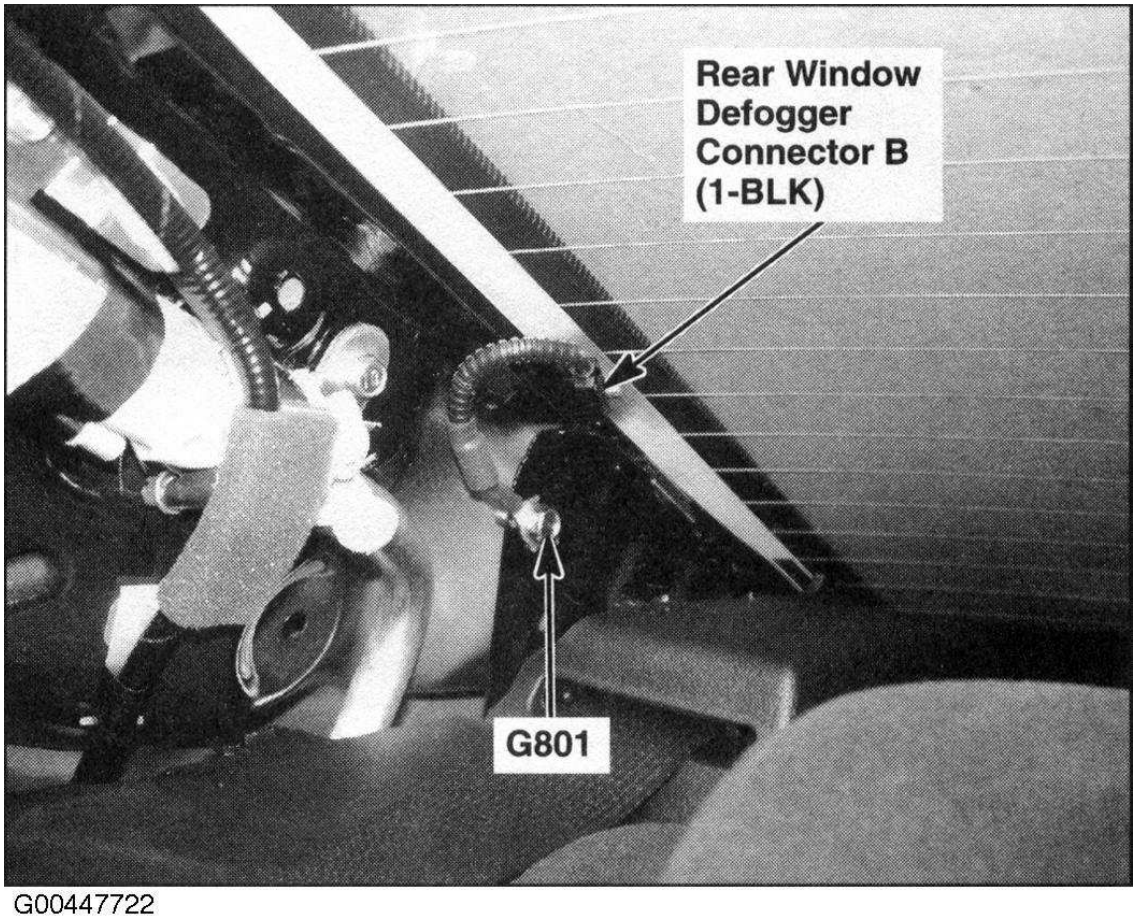



G00447705

**Fig. 148: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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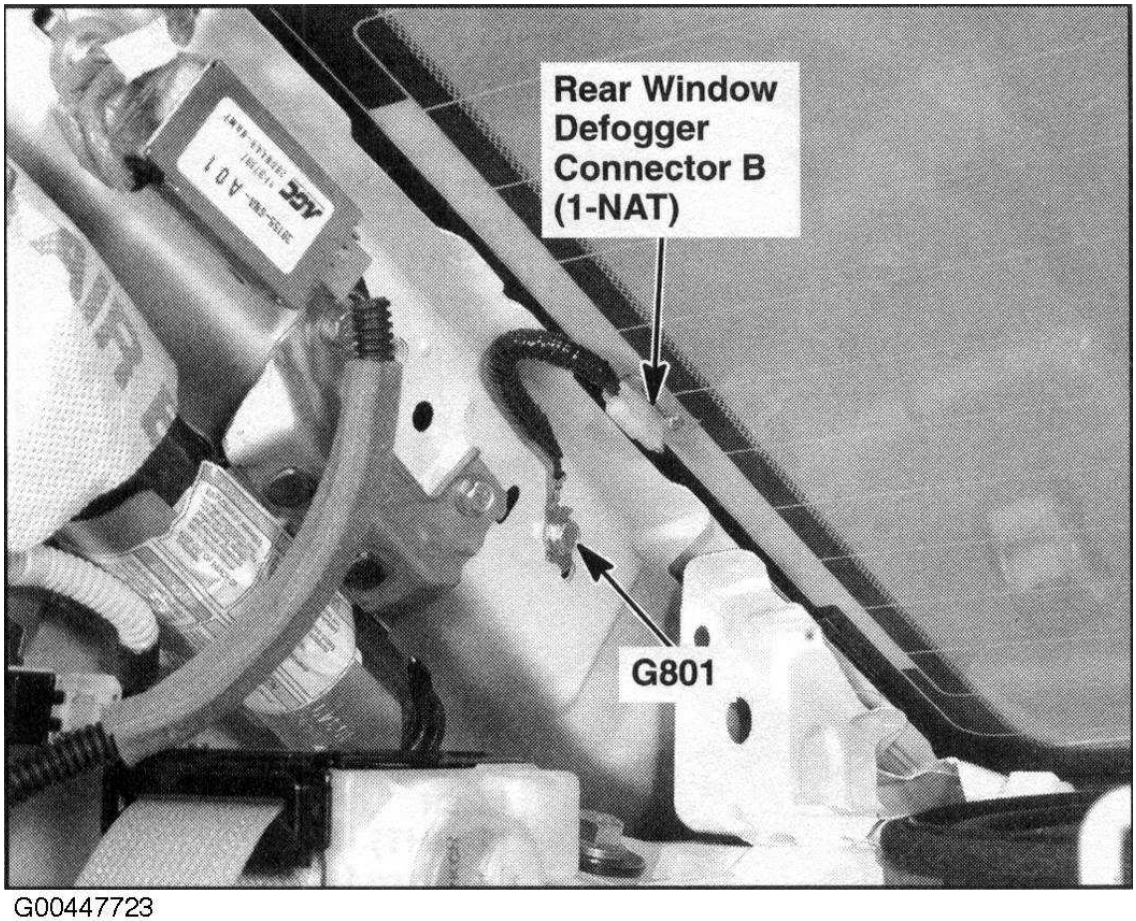



G00447722

**Fig. 149: Right "C" Pillar (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00447723

**Fig. 150: Right "C" Pillar (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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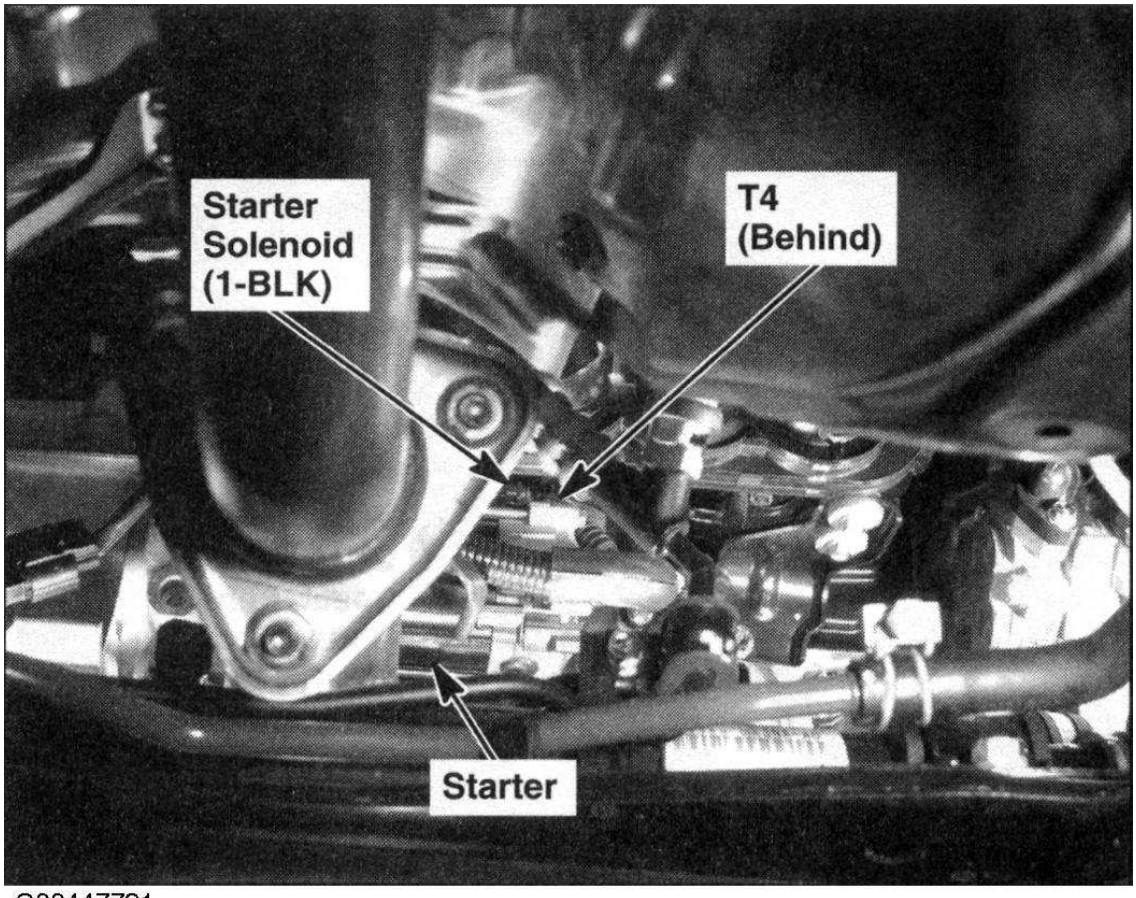



G00447725

**Fig. 151: Right Side Of Trunk Lid (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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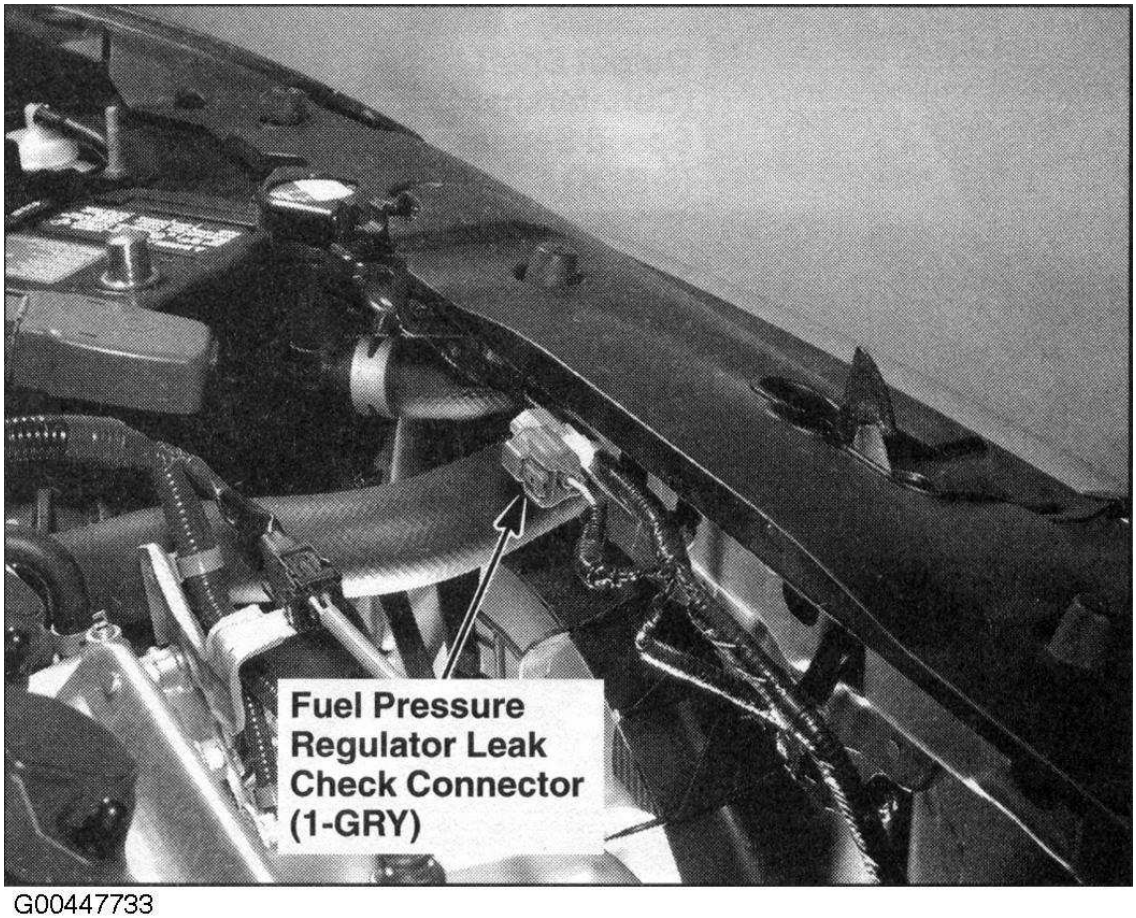



G00447731

**Fig. 152: Under Rear Of Engine (M/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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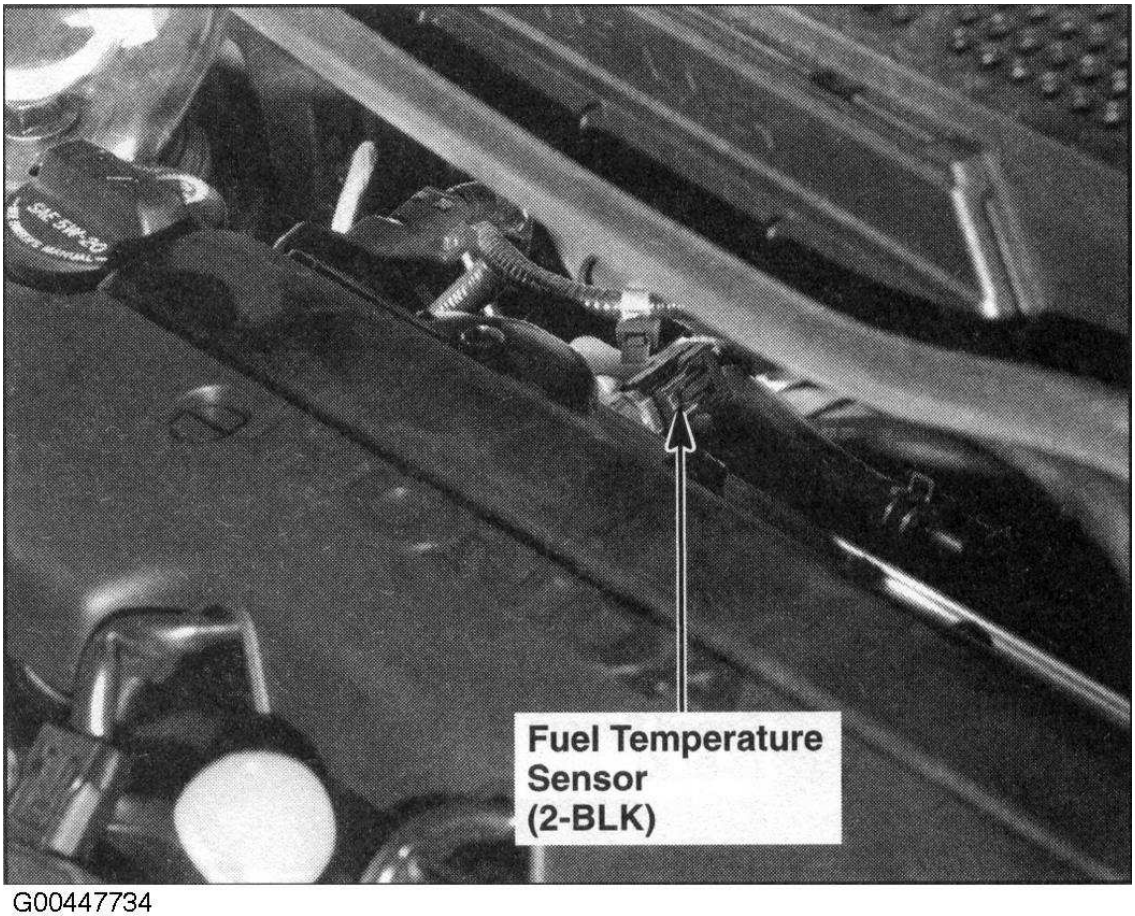



G00447733

**Fig. 153: Front Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00447734

**Fig. 154: Rear Of Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

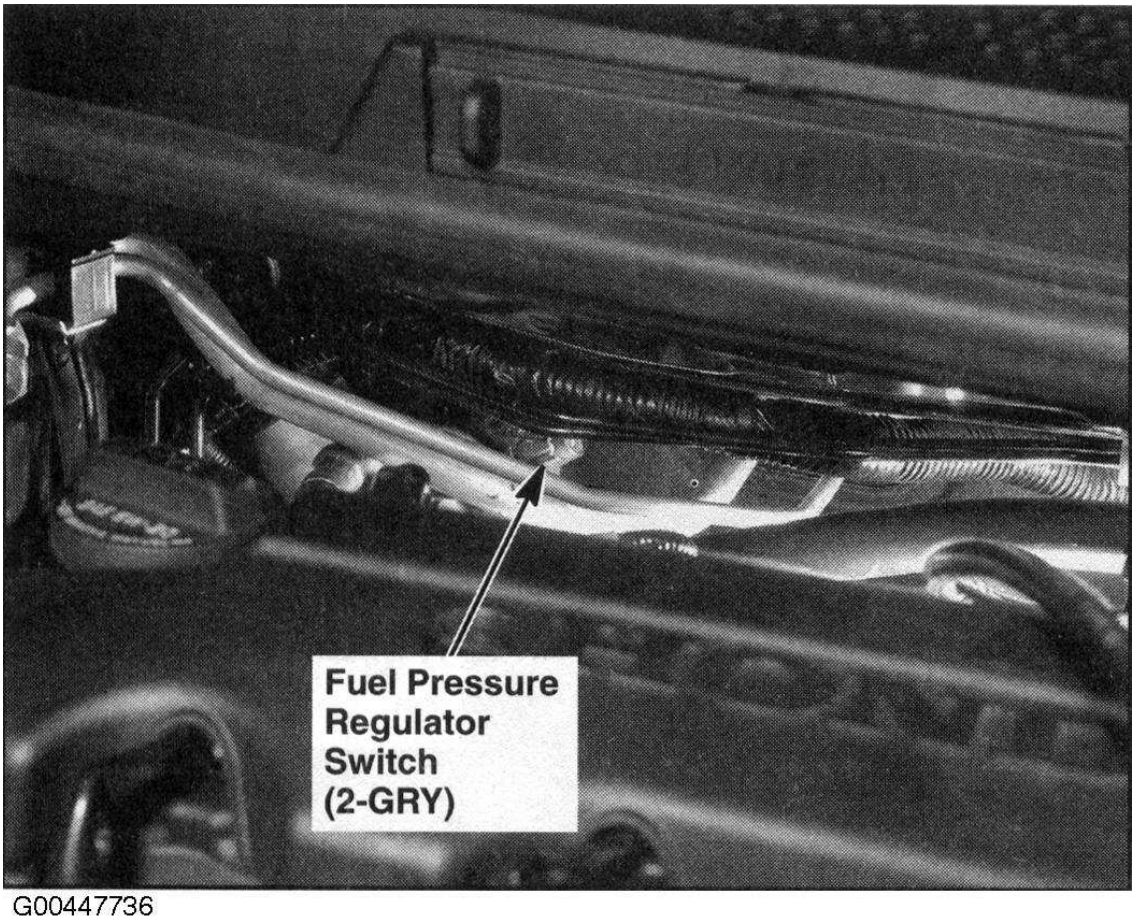
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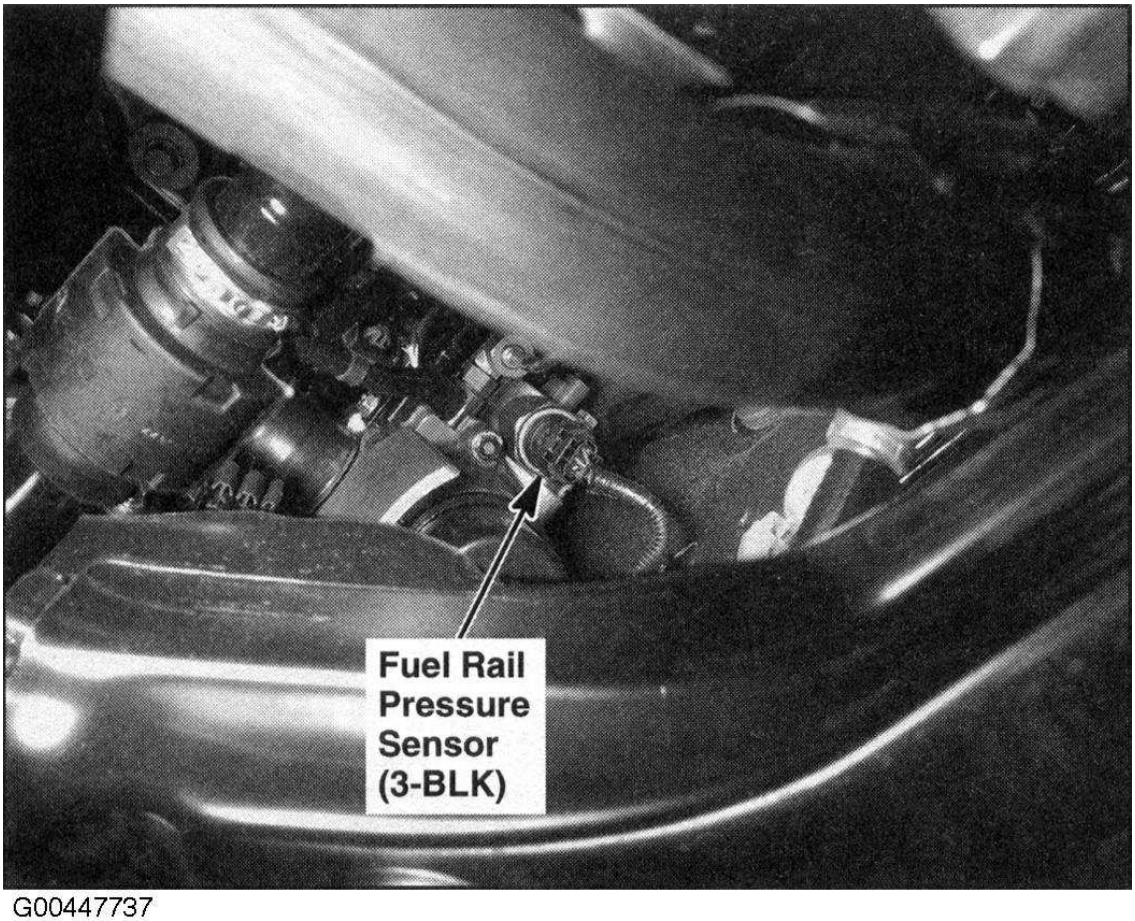

G00447735

**Fig. 155: Right Rear Of Engine (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**




G00447736

**Fig. 156: Right Rear Of Engine (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

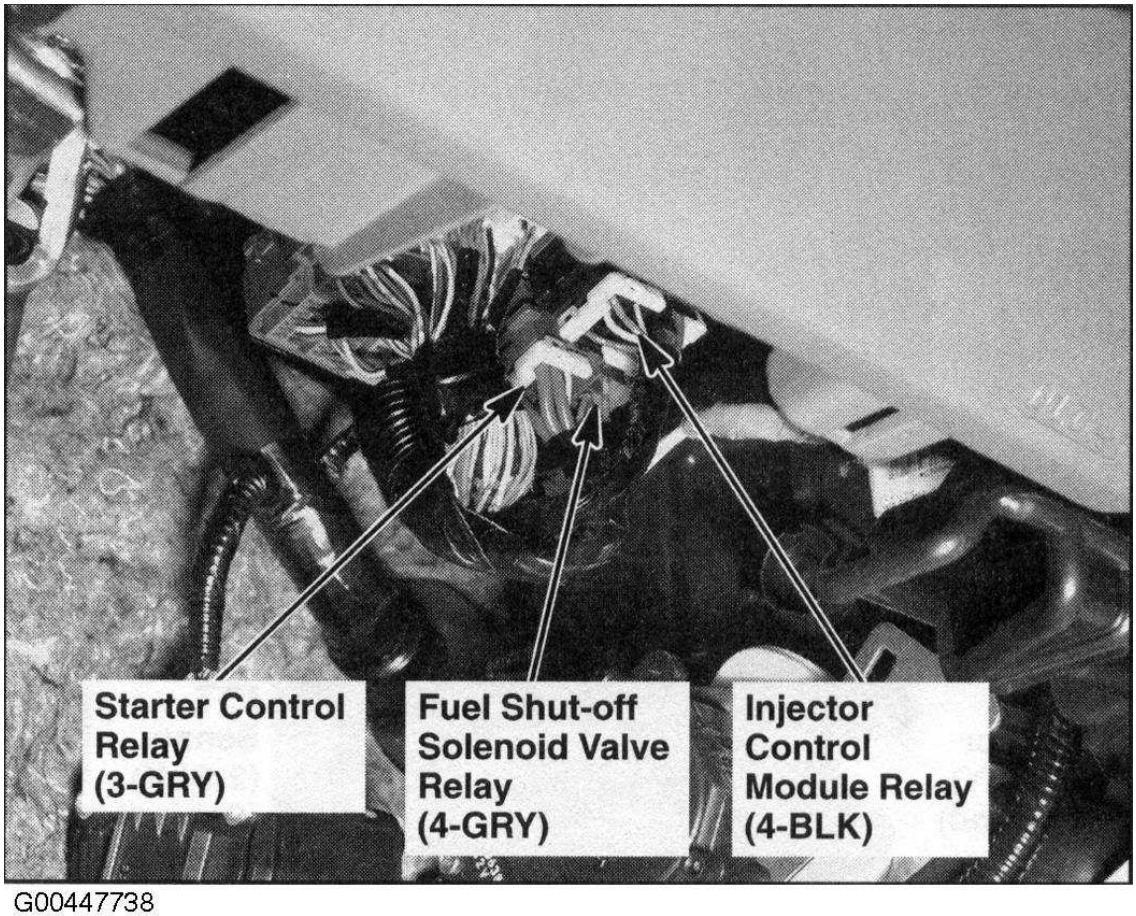



G00447737

**Fig. 157: Right Rear Of Engine (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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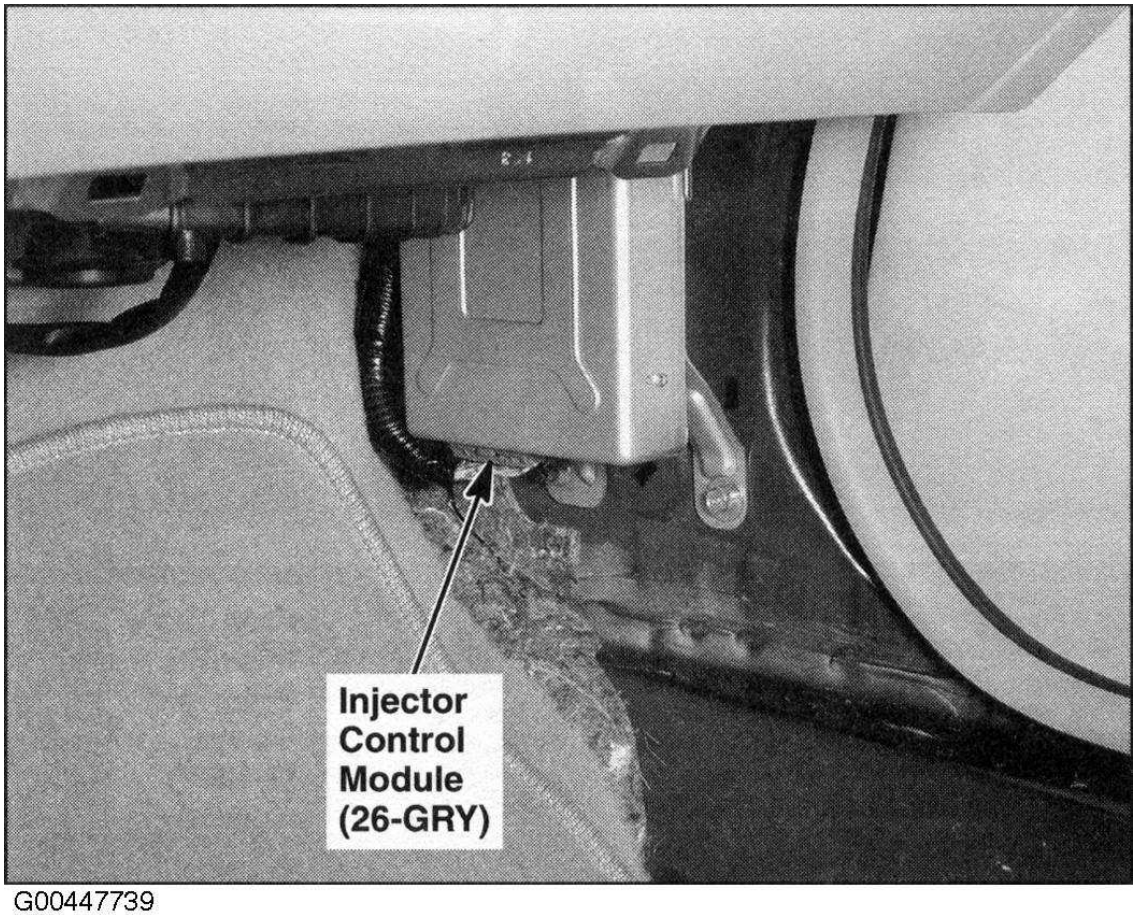



G00447738

**Fig. 158: Under Left Side Of Dash (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00447739

**Fig. 159: Behind Right Kick Panel (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

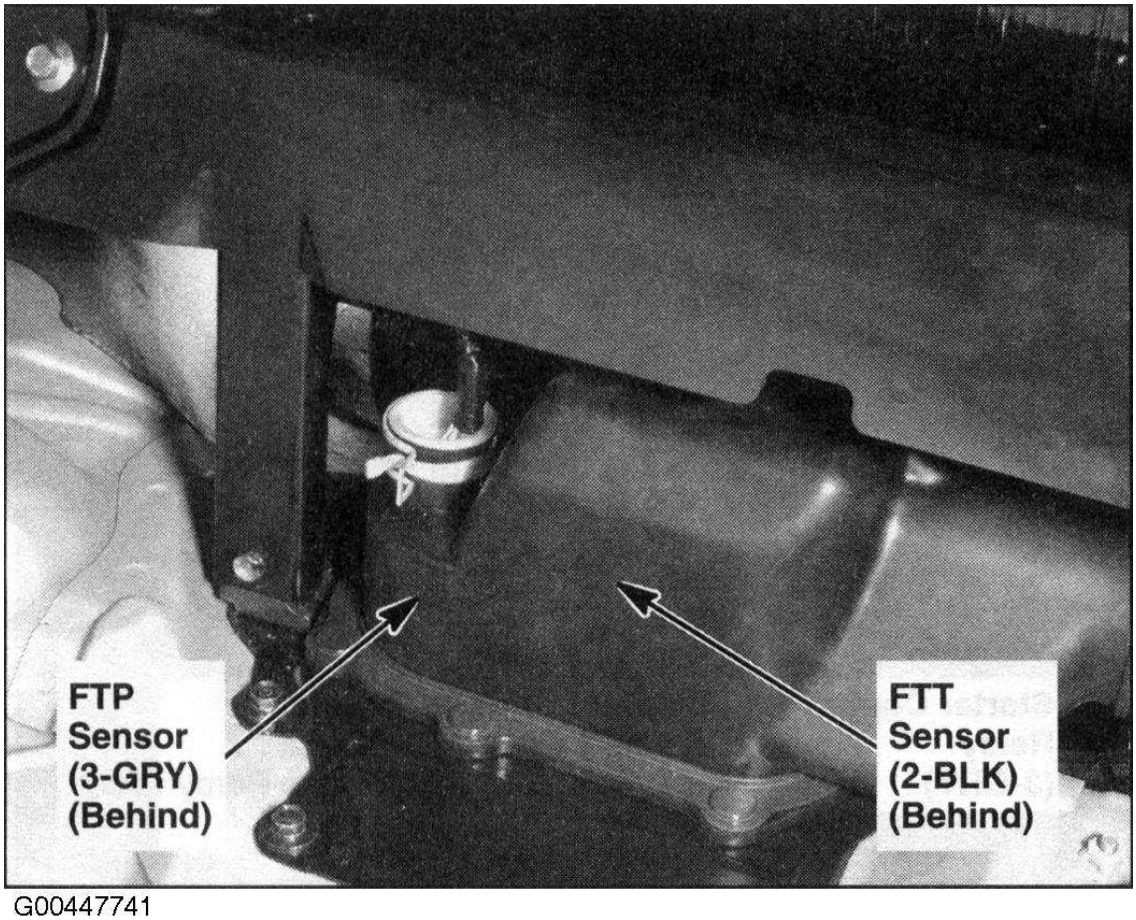



G00447740

**Fig. 160: Left Side Of Rear Seat Back (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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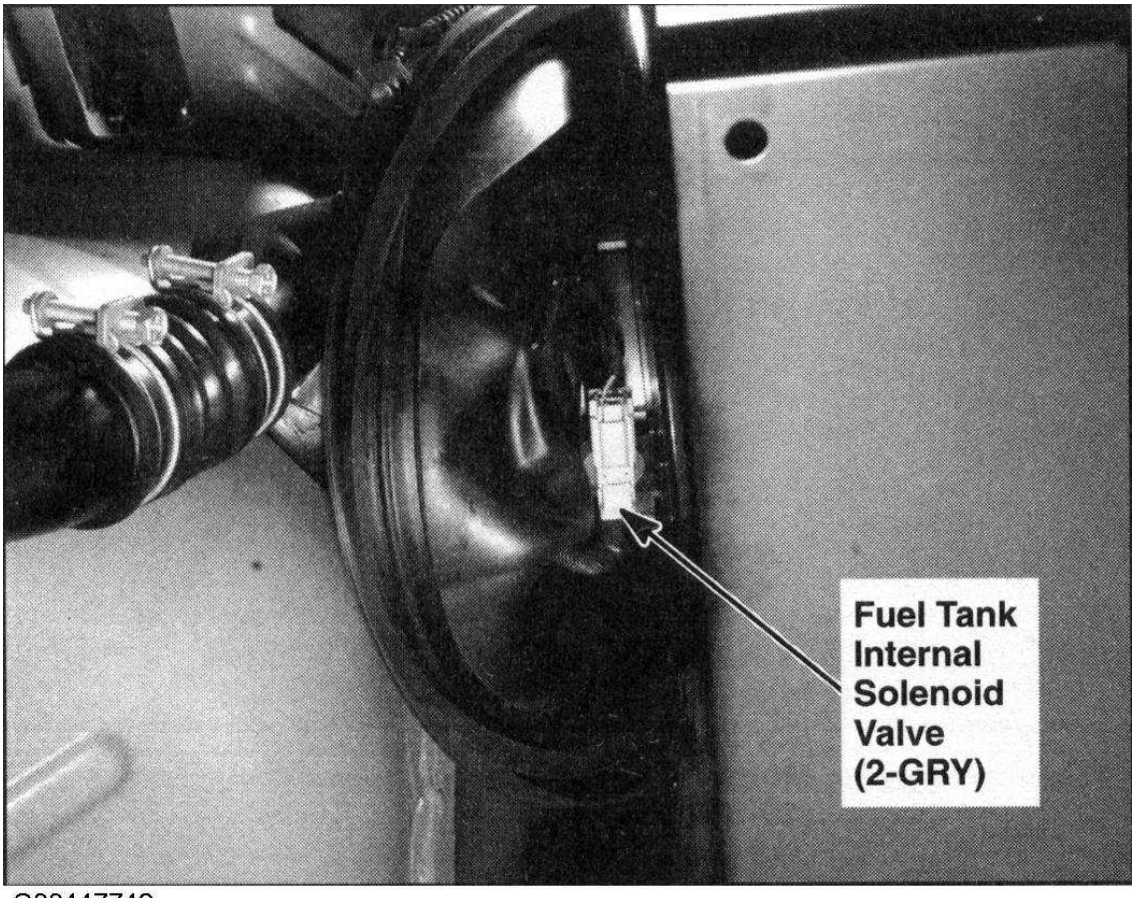



G00447741

**Fig. 161: Behind Rear Seat (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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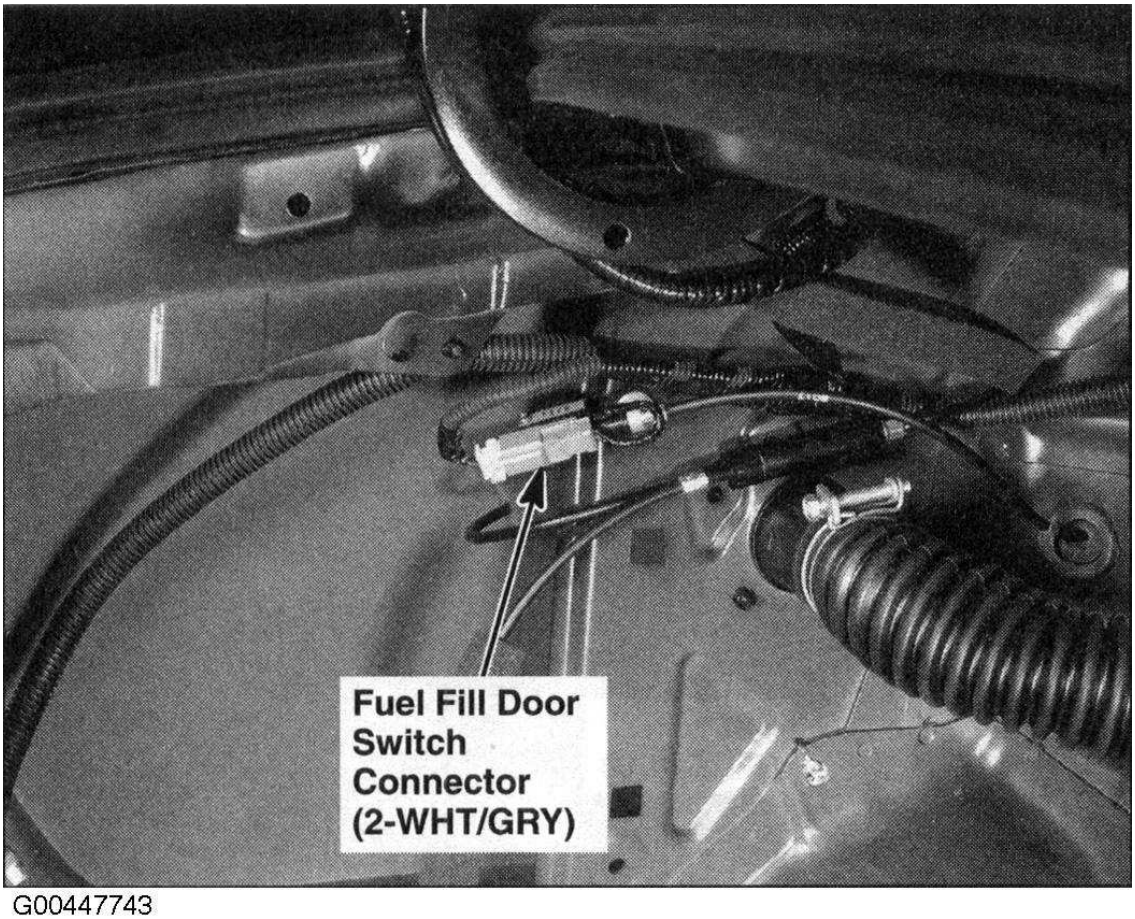



G00447742

**Fig. 162: Left Side Of Trunk (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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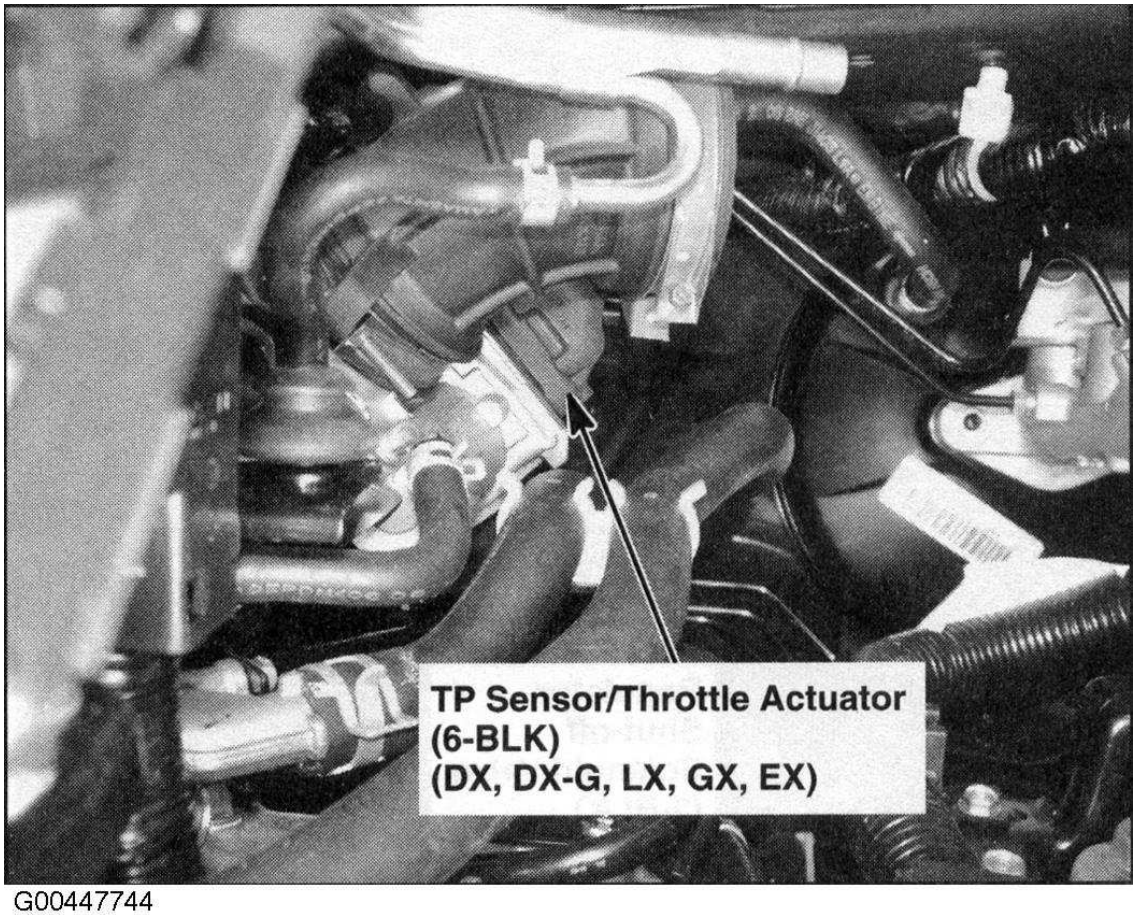



G00447743

**Fig. 163: Left Of Rear Shelf (GX)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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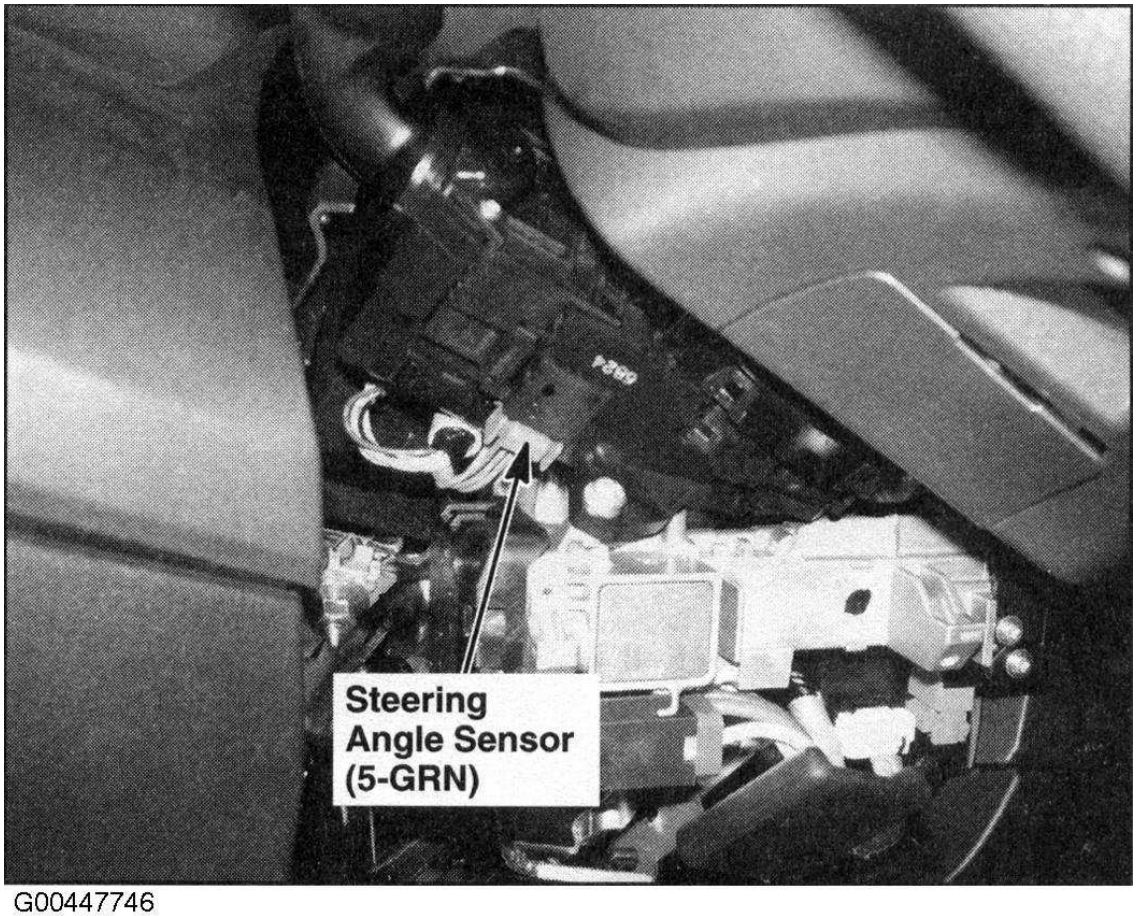



G00447744

**Fig. 164: Left Side Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

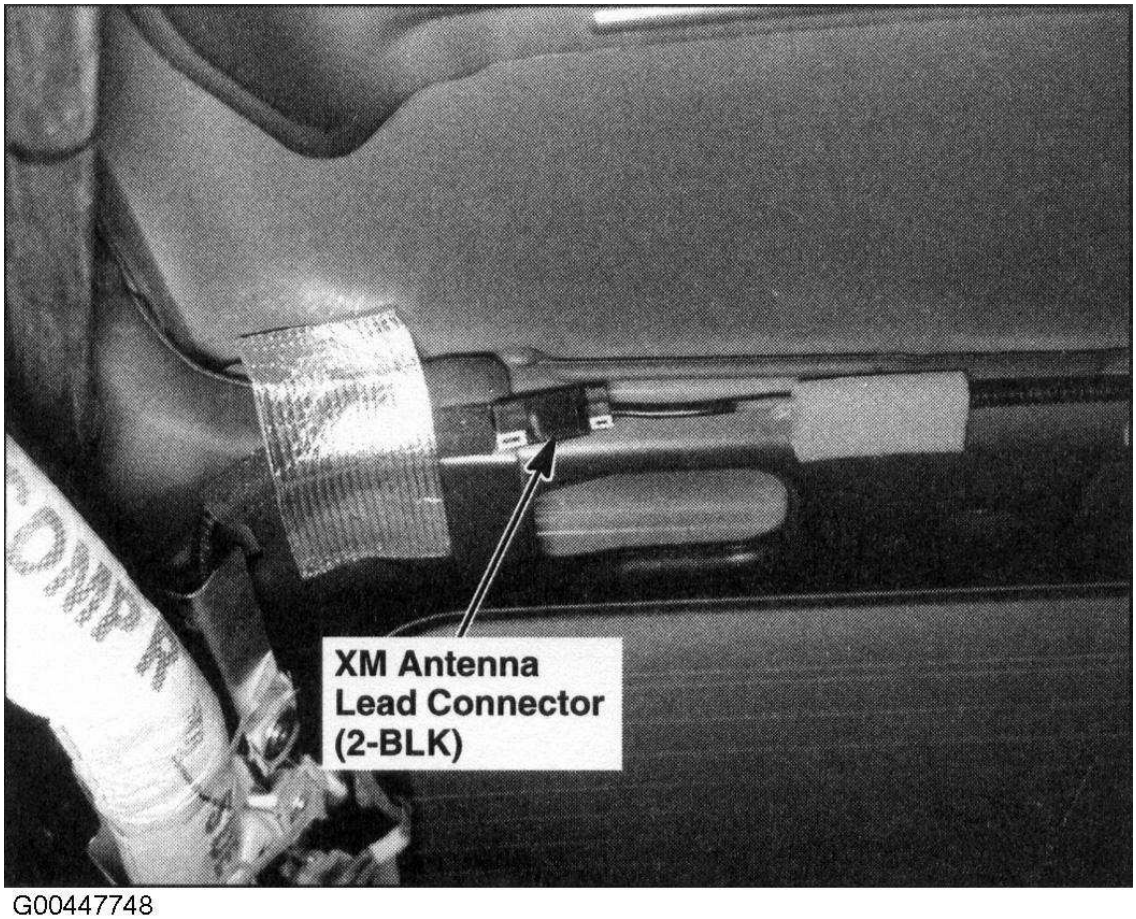
http://ReadManuals.com






G00447746

**Fig. 165: Steering Column Cover (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

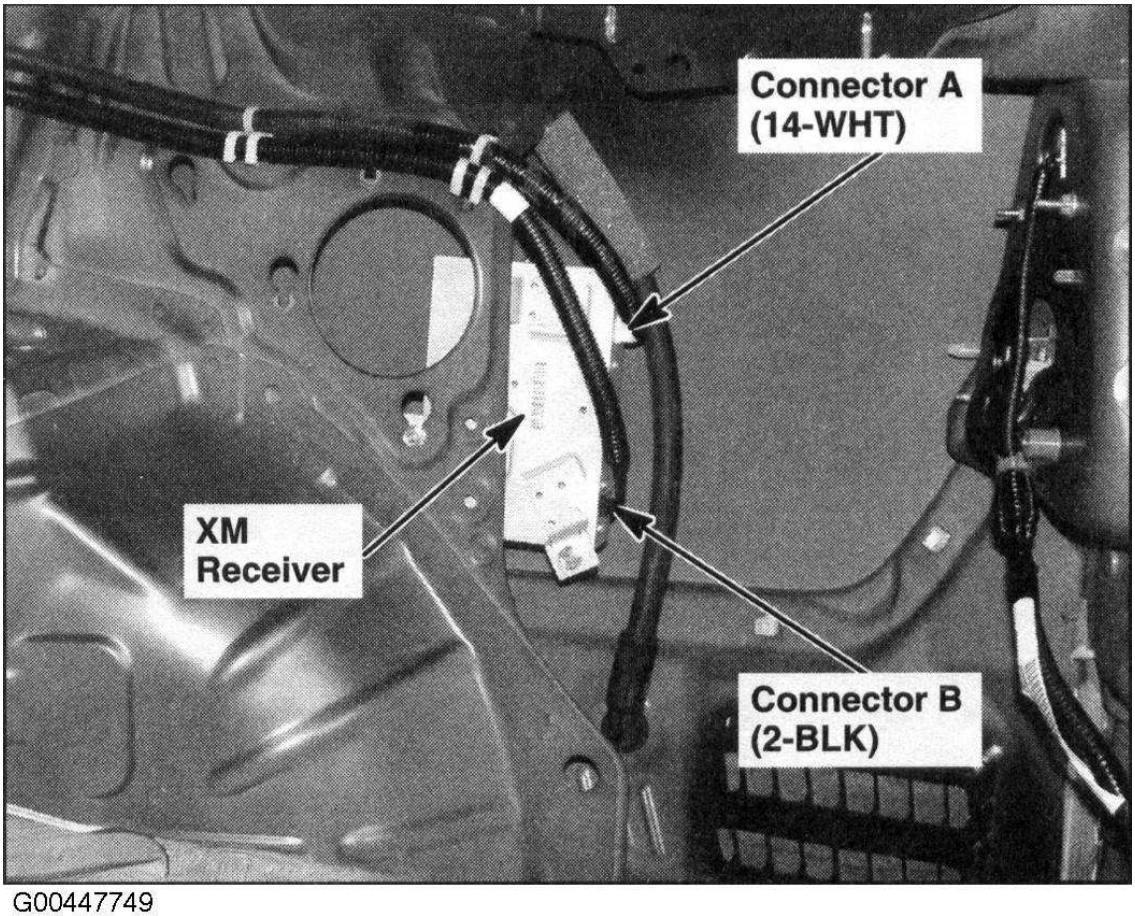



G00447748

**Fig. 166: Left Rear Of Roof (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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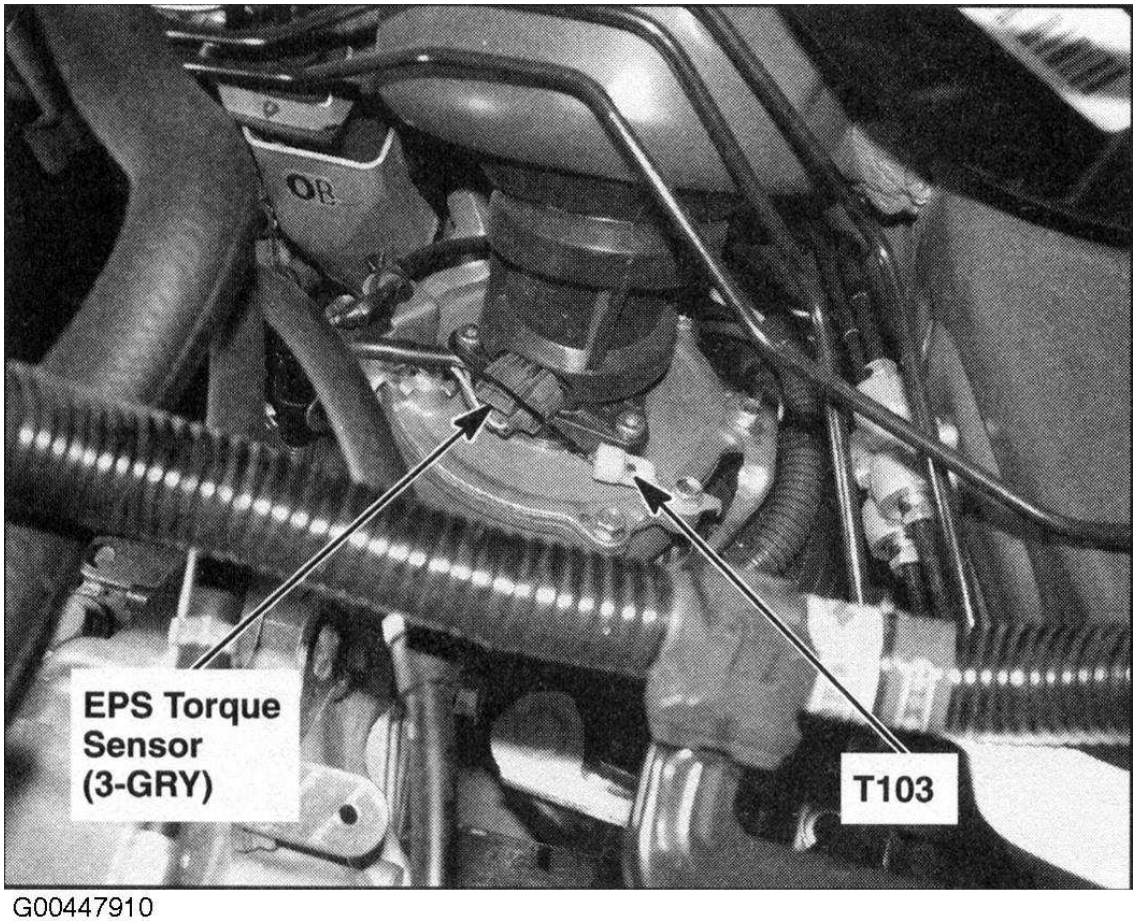



G00447749

**Fig. 167: Right Side Of Trunk (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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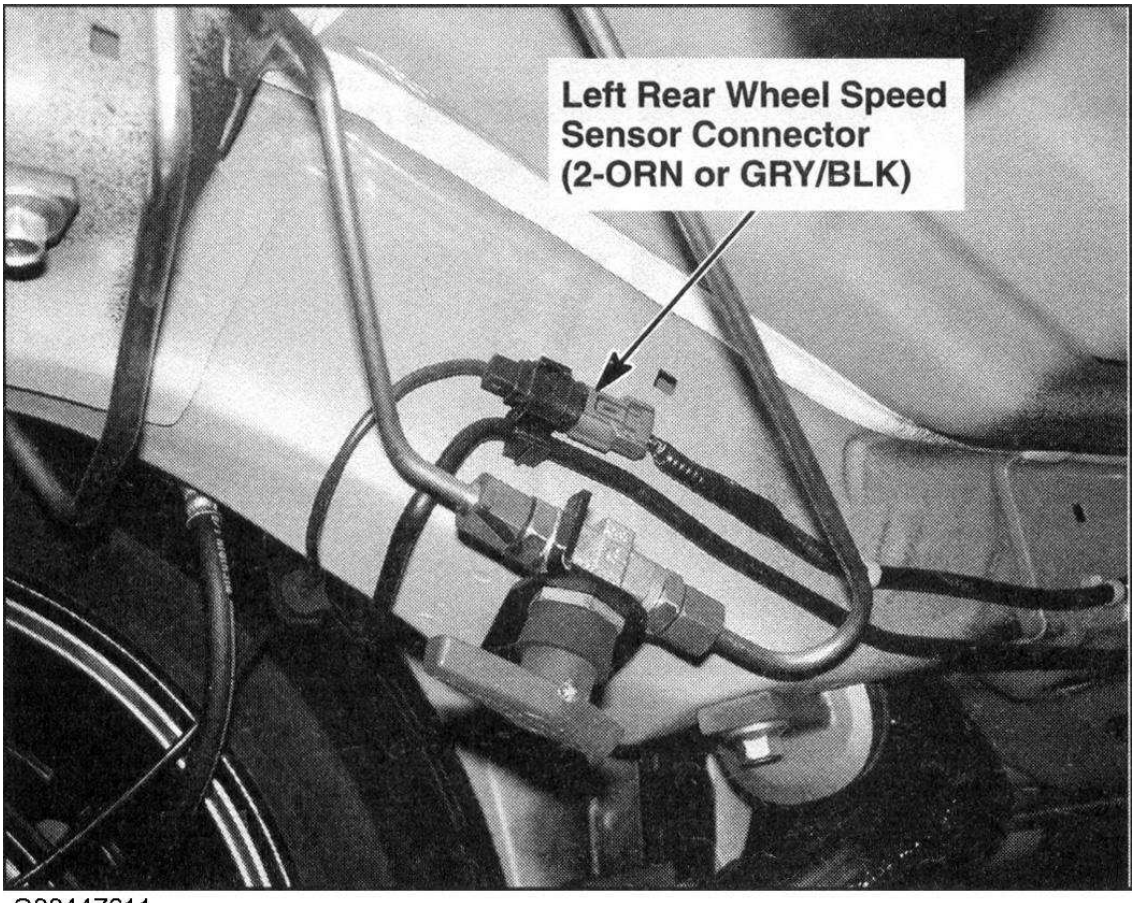



G00447910

**Fig. 168: Left Side Of Engine Compartment (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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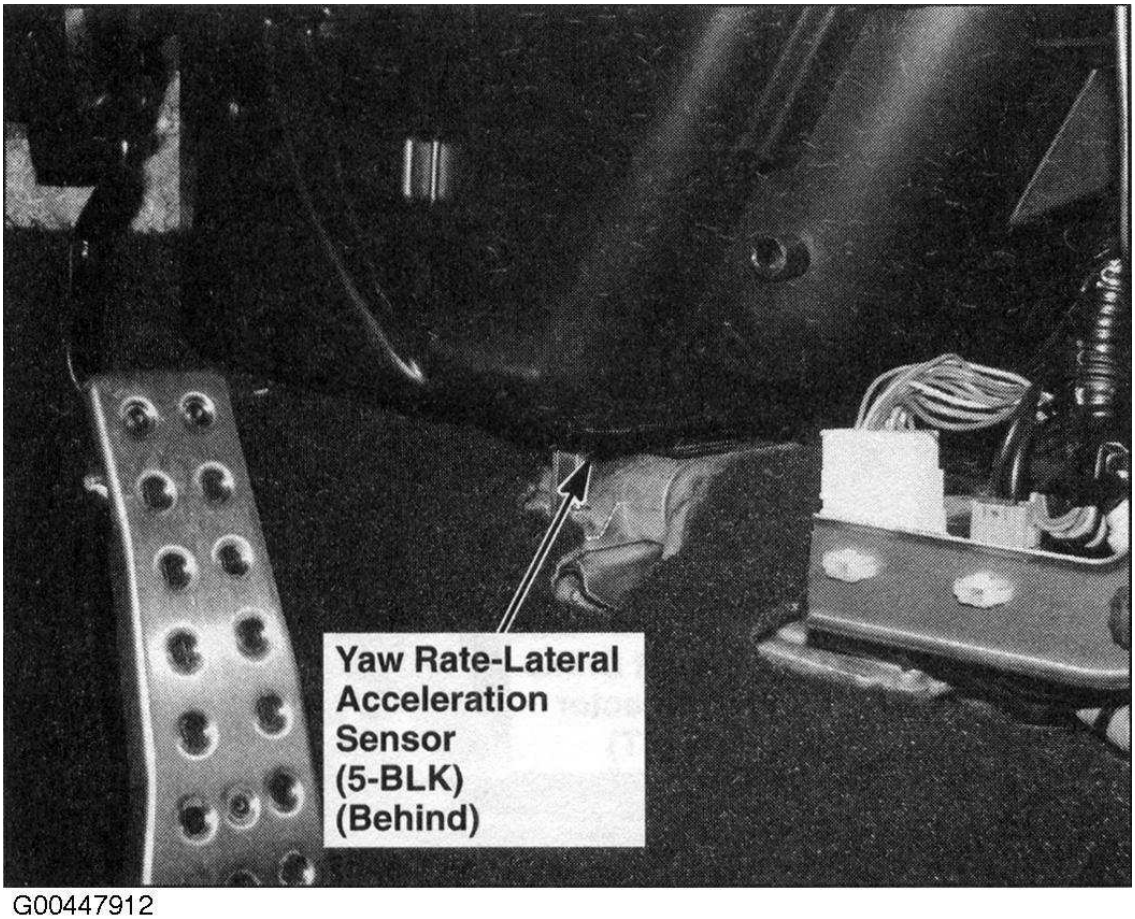



G00447911

**Fig. 169: Under Left Rear Of Vehicle (Right Similar)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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G00447912

**Fig. 170: Under Middle Of Dash (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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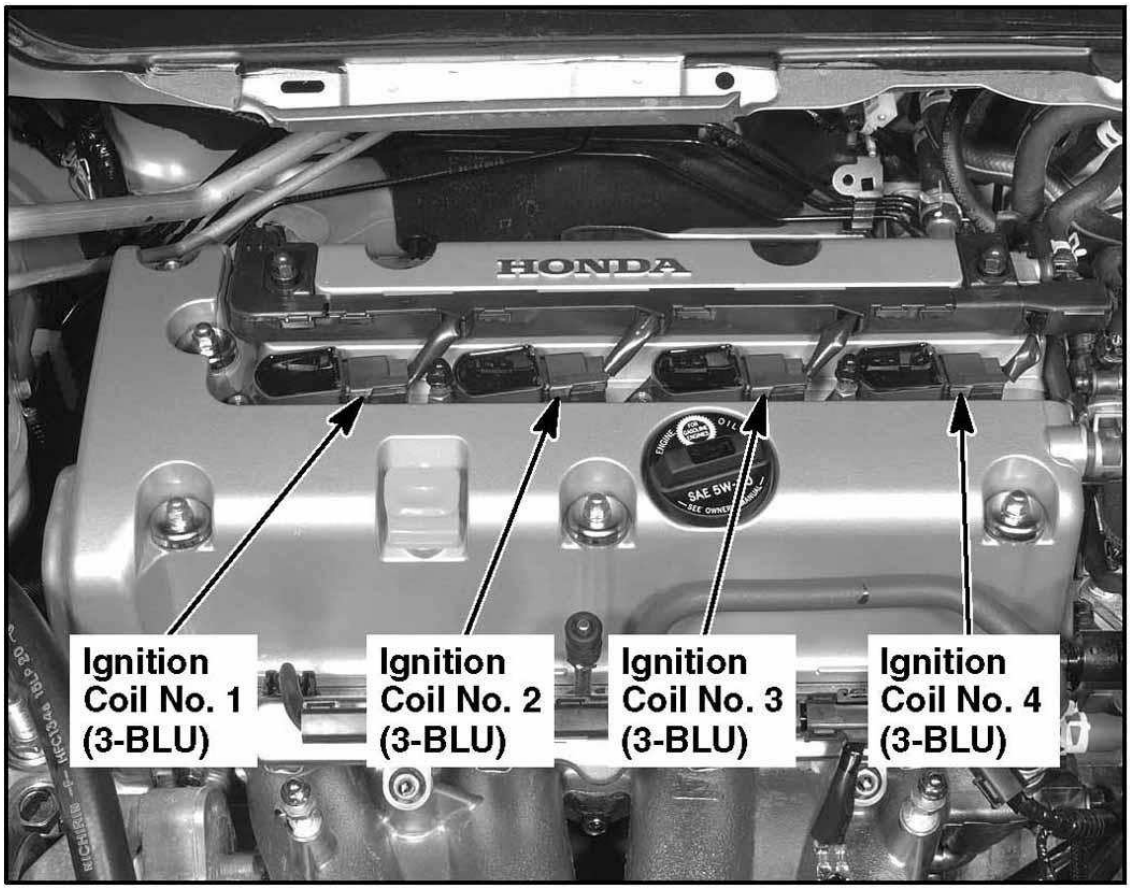



**Fig. 171: Top Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

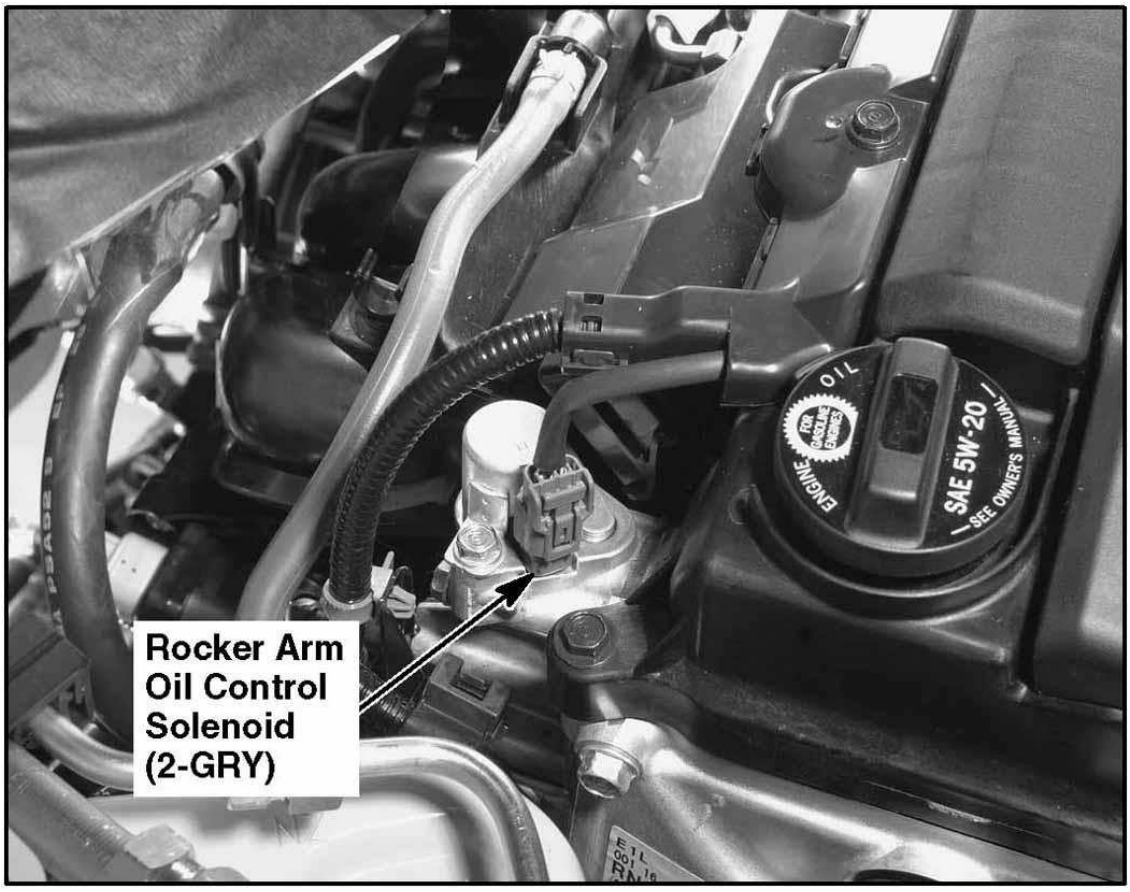



**Fig. 172: Top Front Of Engine (Except Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

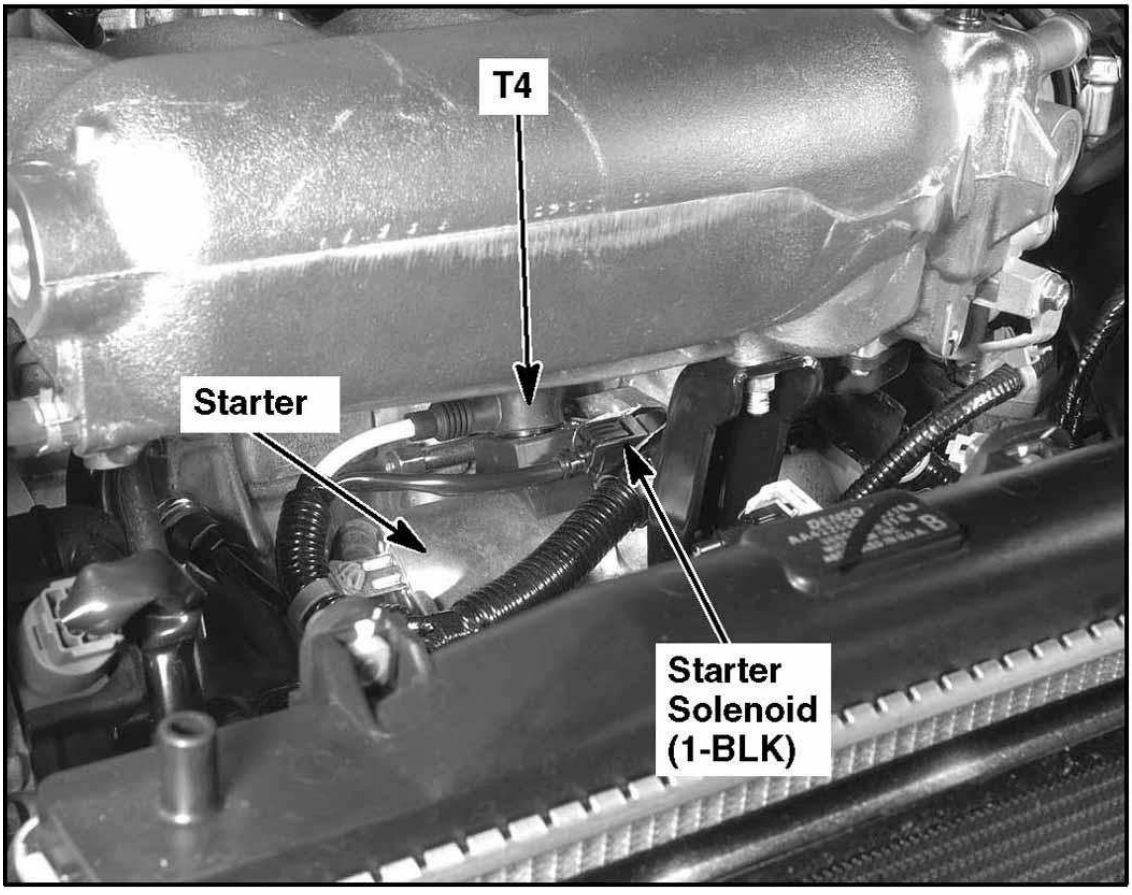



**Fig. 173: Left Rear Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

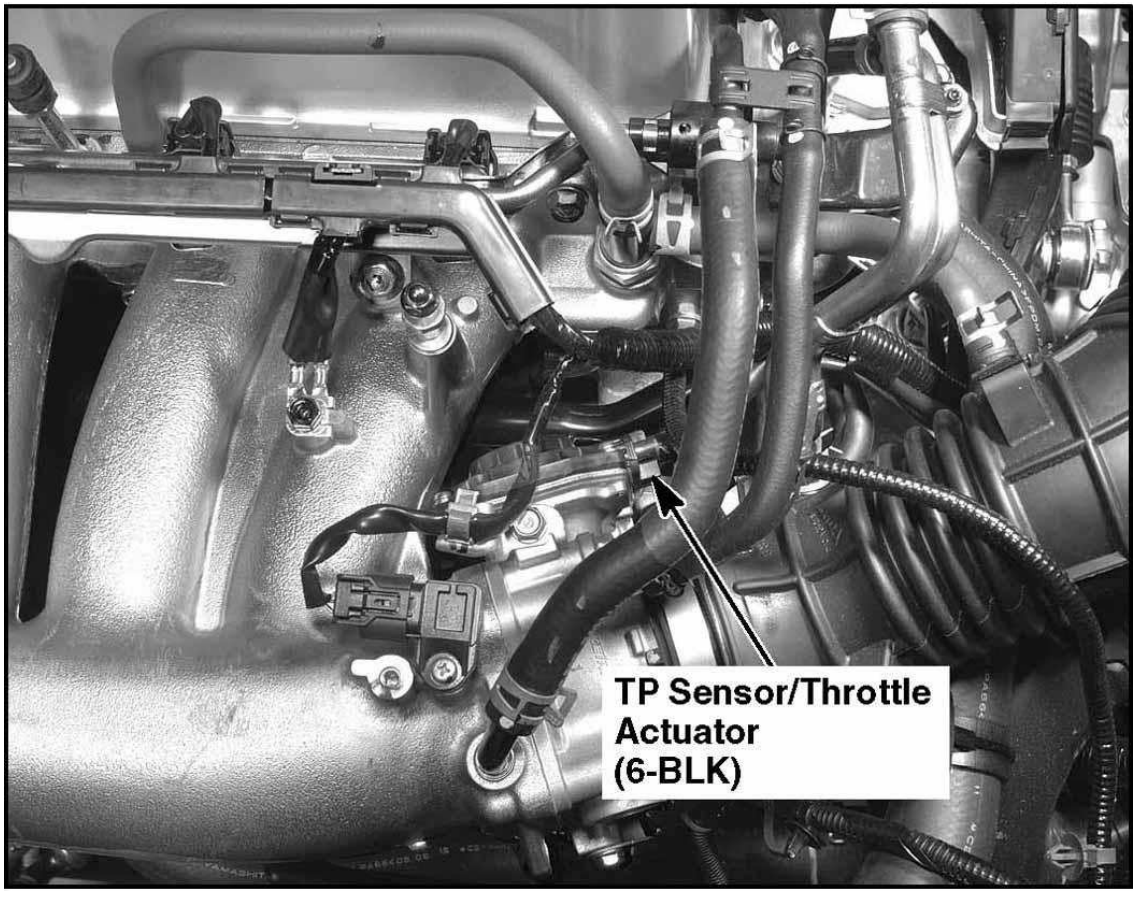



**Fig. 174: Left Side Of Engine (Si)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**




**Fig. 175: Under Left Side Of Dash**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

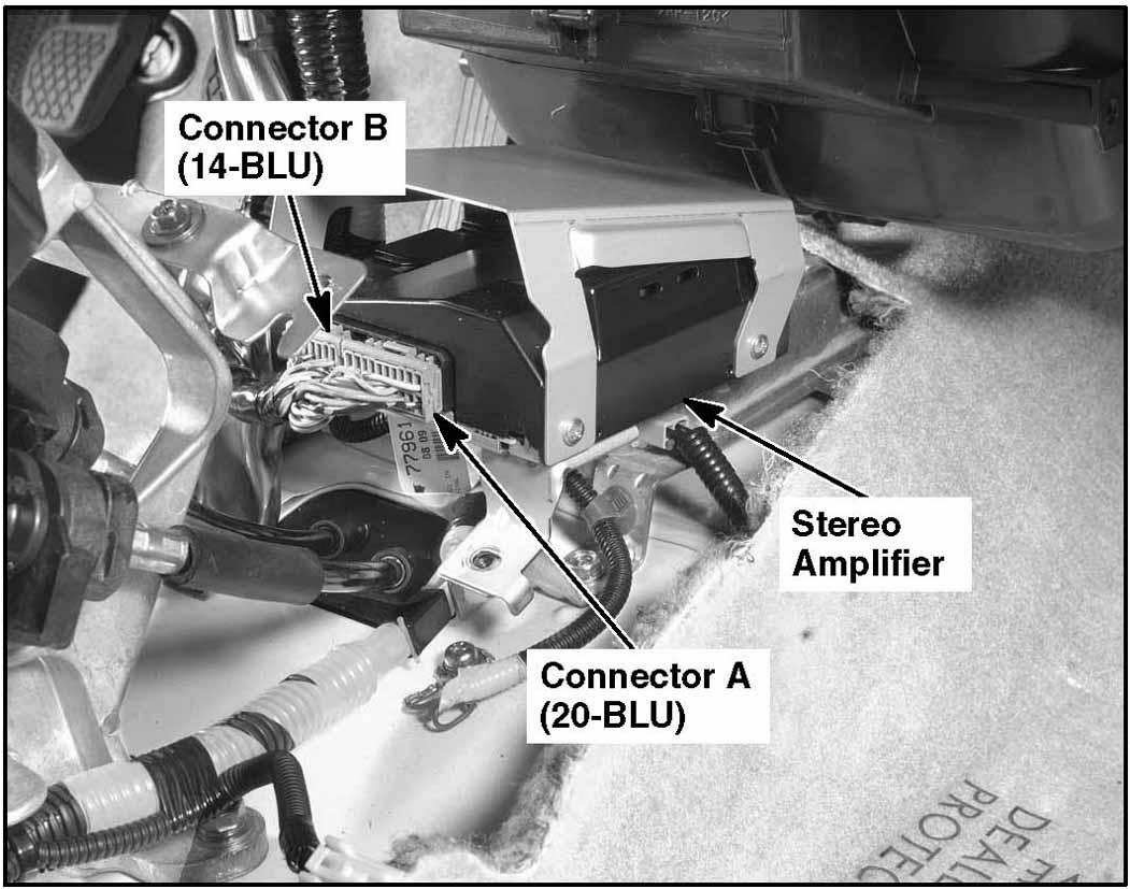



**Fig. 176: Under Middle Of Dash (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**




**Fig. 177: Driver's Door**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

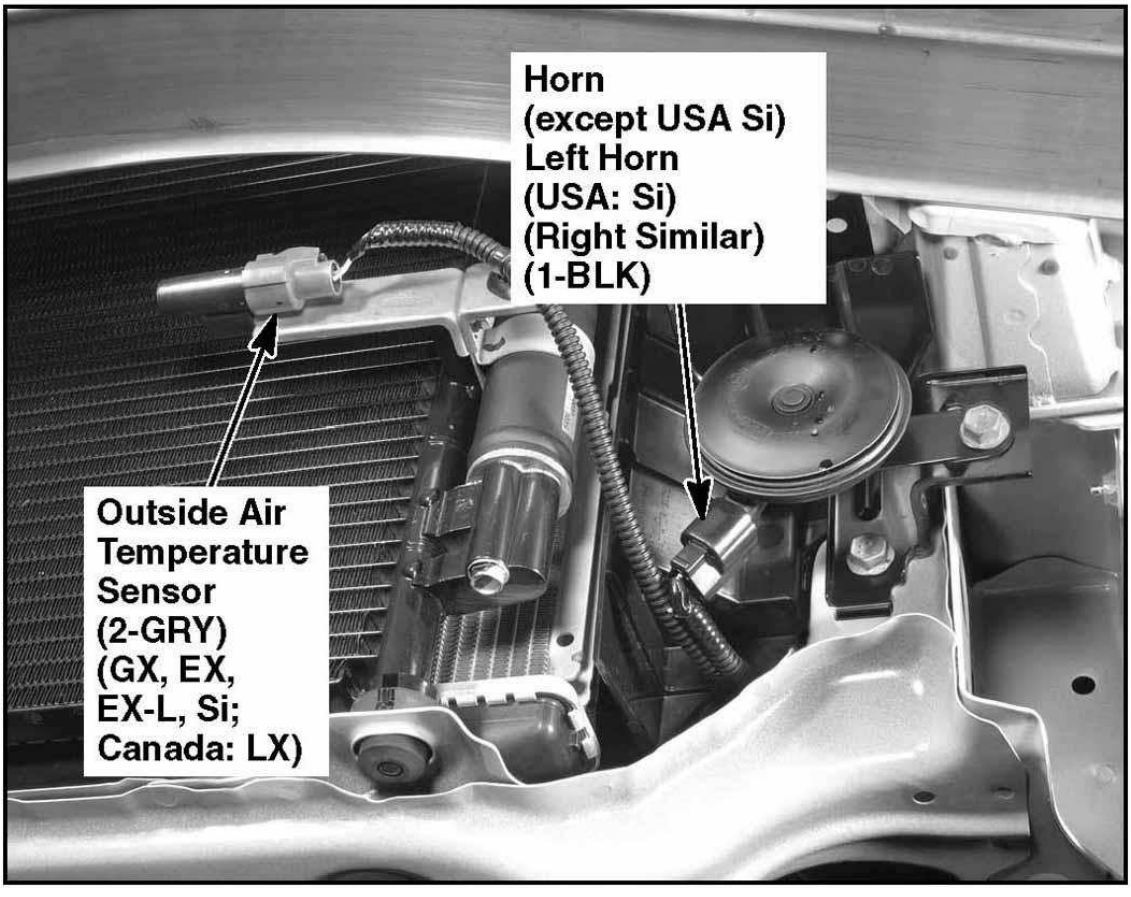



**Fig. 178: Behind Left Side Of Front Bumper**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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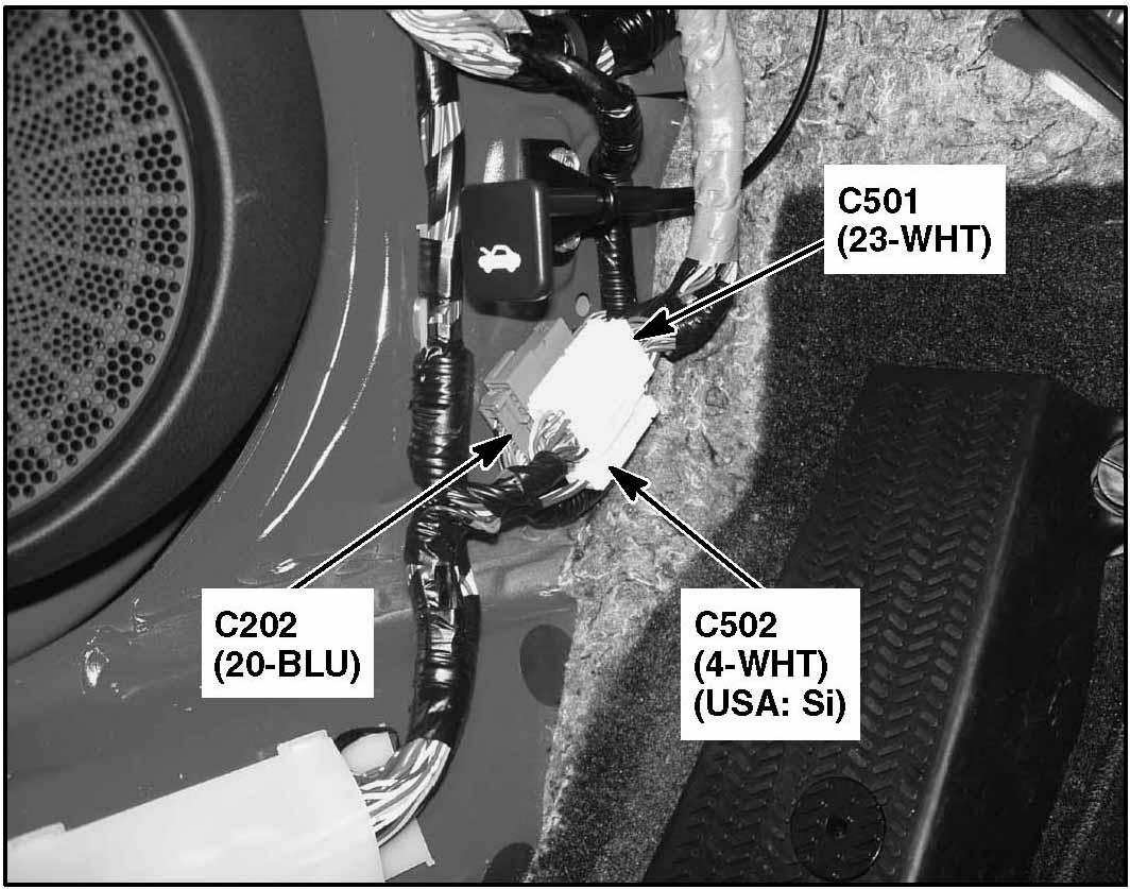



**Fig. 179: Behind Left Kick Panel (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

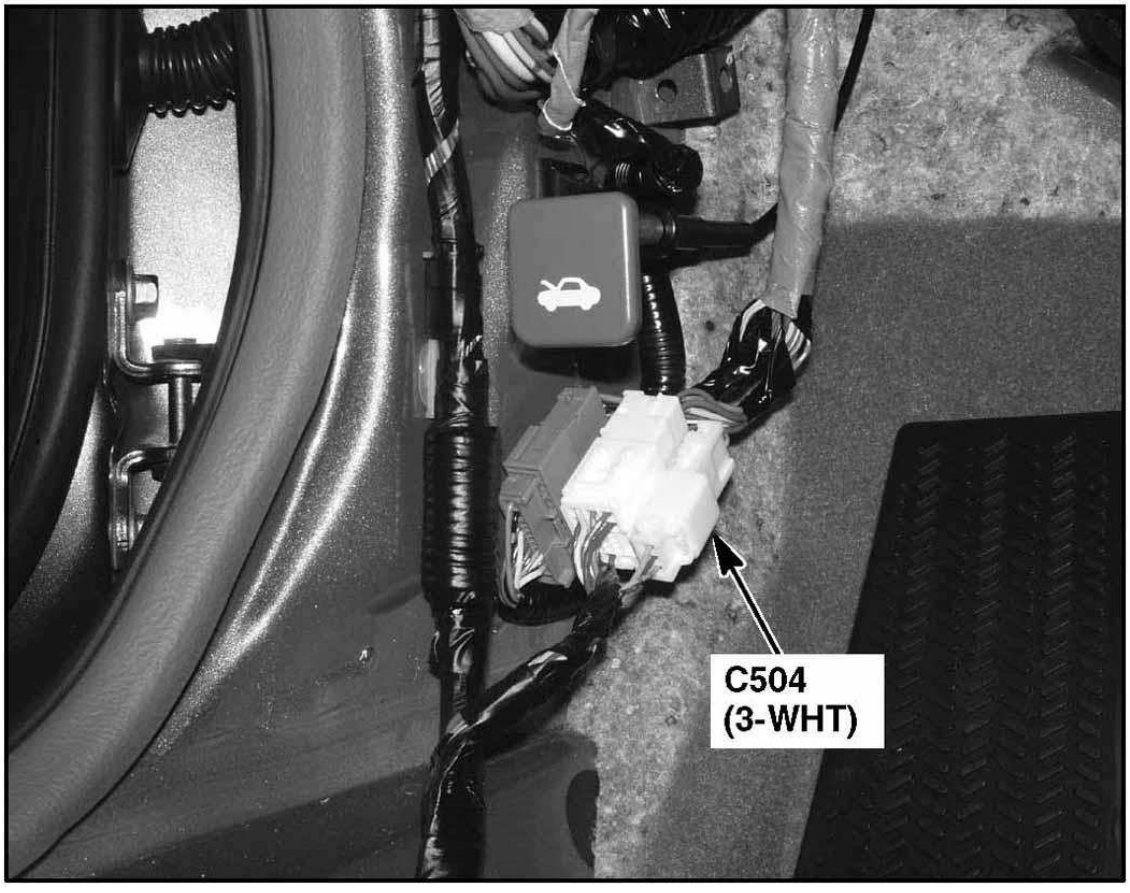



**Fig. 180: Behind Left Kick Panel (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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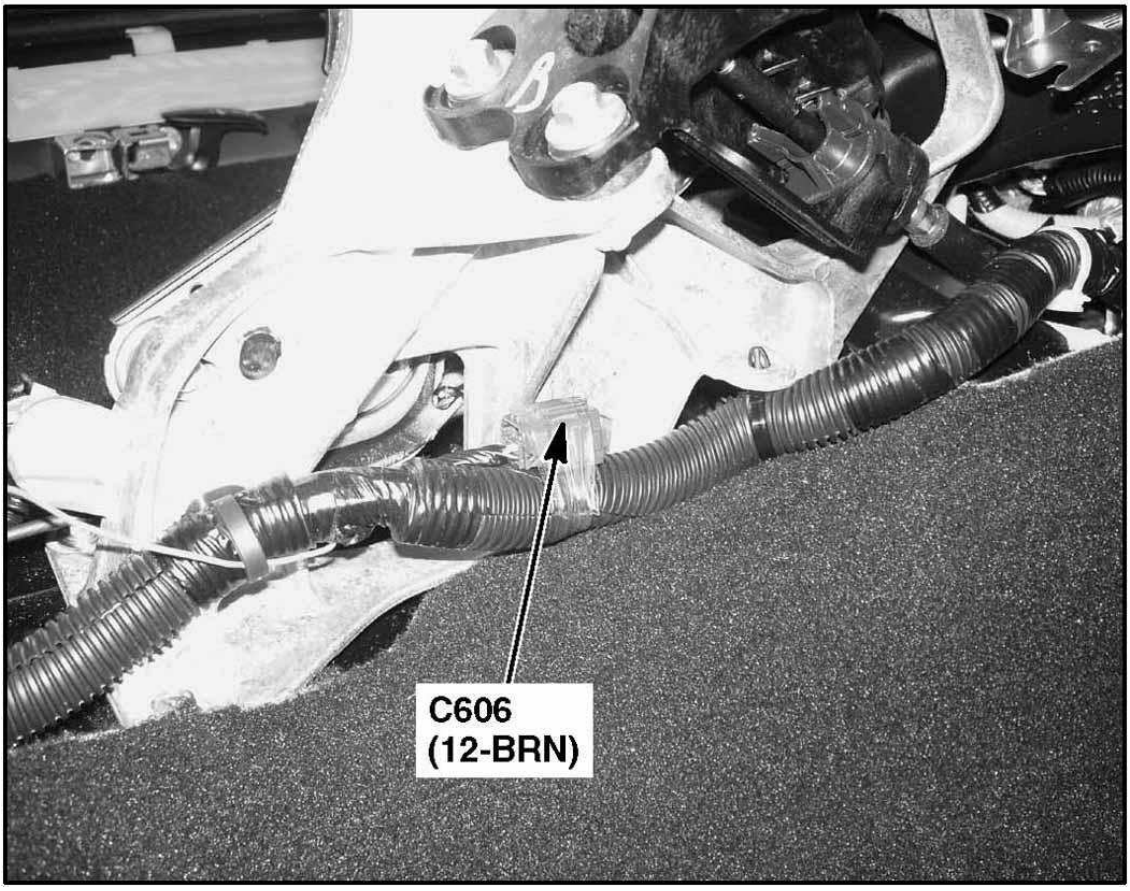



**Fig. 181: Under Center Console**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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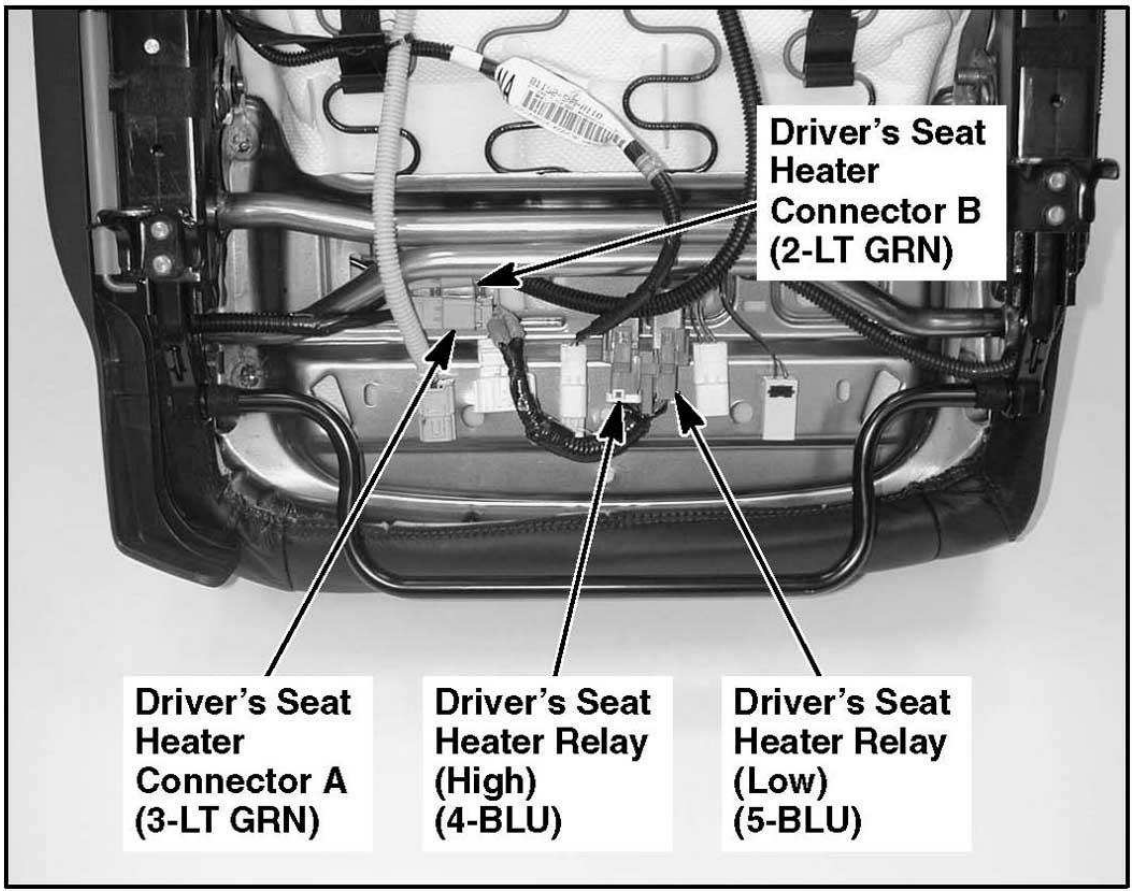



**Fig. 182: Under Driver's Seat (EX-L)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

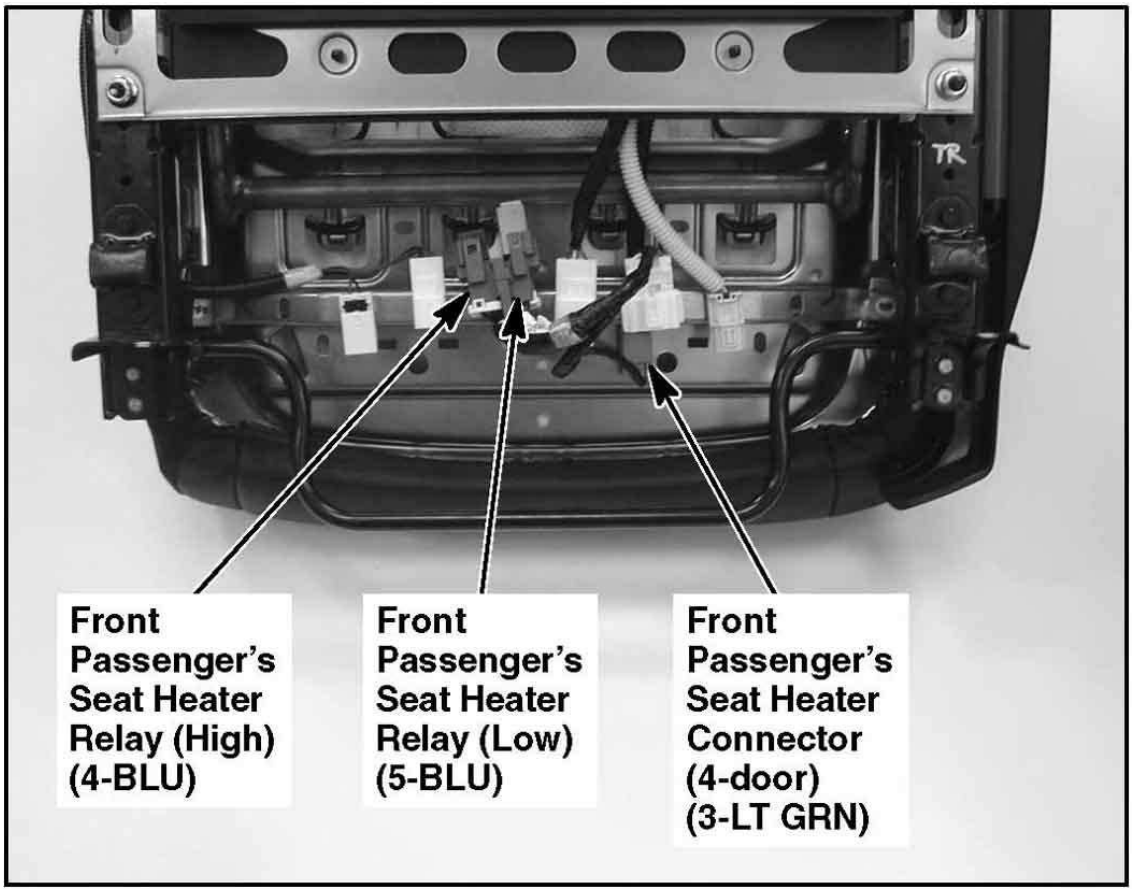



**Fig. 183: Under Front Passenger's Seat (EX-L)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

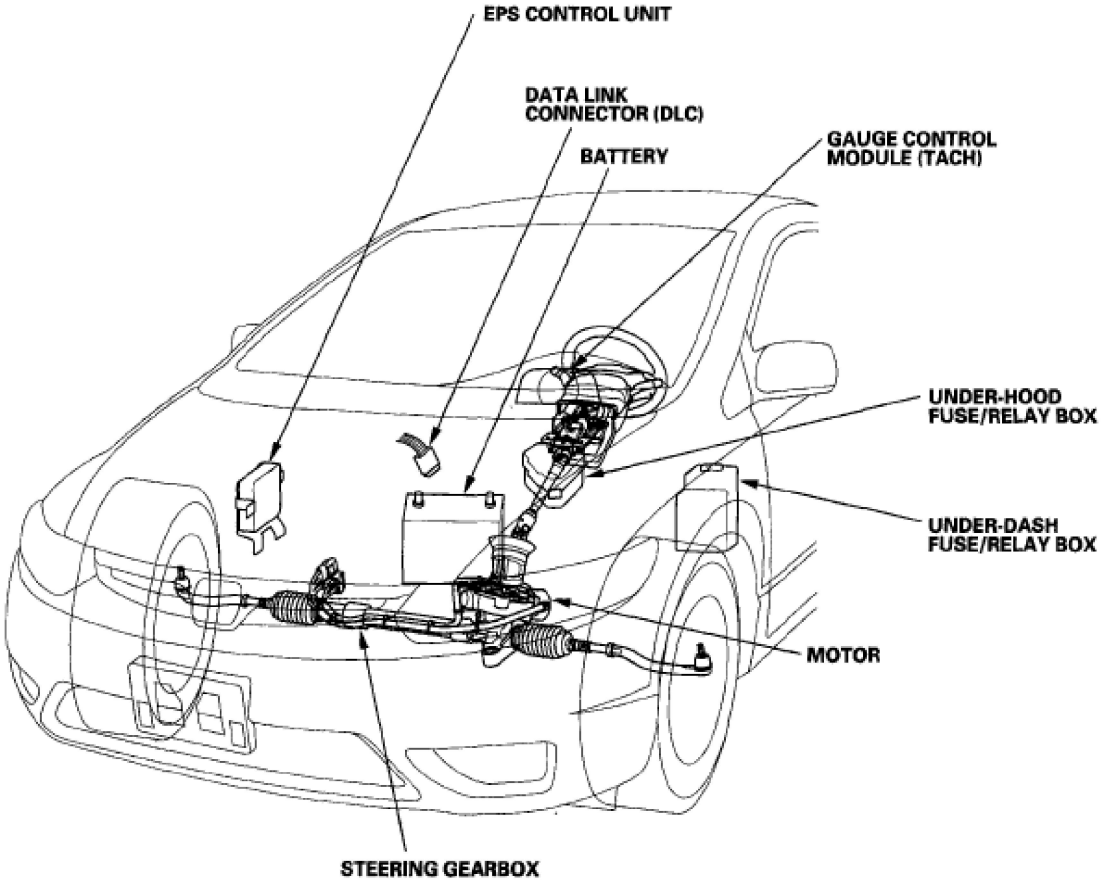
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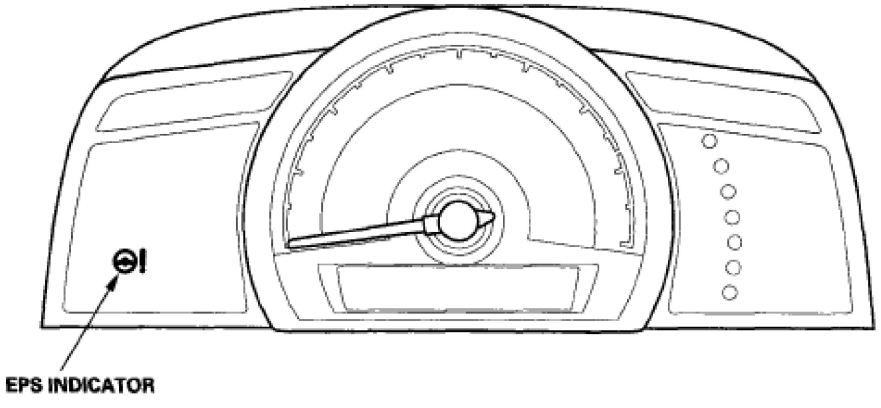


## 2006-08 STEERING

## EPS System - Civic (All Except Hybrid & Si)

# COMPONENT LOCATION INDEX



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## Fig. 1: Locating EPS Components

## GENERAL TROUBLESHOOTING INFORMATION

**EPS INDICATOR**

Under normal conditions, the EPS indicator comes on when the ignition switch is turned to the ON (II) position, then goes off after the engine is started. This indicates that the LED and its circuit are operating correctly. If there is a failure in the system after the engine is started, the EPS indicator will stay on, and the power assist is turned off.

When the EPS indicator comes on, the control unit memorizes the DTC. In this case, the control unit will not activate the EPS system after the engine starts again, but it keeps the EPS indicator on.

When DTC 51-01, 51-02 or 51-06 is stored in the control unit, the EPS indicator will stay on until the DTC is erased. When a problem is detected and the EPS indicator comes on, there are cases when the indicator stays on until the ignition switch is turned OFF, and cases when the indicator goes off automatically when the system returns to normal. Even though the system is operating normally, the EPS indicator will come on under the following conditions:

- The vehicle speed decreases abruptly from 12mph (20 km/h) or more (by applying brake), and it is less than 1 mph (1 km/h) and engine speed is 2,000 rpm or above for 5 seconds (continuously) after the abrupt deceleration.
- While turning the steering wheel with the vehicle speed of 1 mph (1 km/h) or less for 20 seconds, and the engine speed is 2,000 rpm or above for at least 10 seconds.
- When the engine speed is 500 rpm or less, and the vehicle is travelling at a speed of 6 mph (10 km/h) or more for about 3 seconds.

To determine the actual cause of the problem, question the customer about the conditions during which the problem occured, taking the above conditions into consideration.

**DIAGNOSTIC TROUBLE CODE (DTC)**

- If the CPU cannot be activated, or it fails, the EPS indicator comes on, but the DTC is not memorized.
- The memory can hold any number of DTCs. However, when the same DTC is detected more than once, the most recent DTC is written over the prior DTC, therefore only one occurance is memorized.
- The lowest DTC is indicated first. The DTCs are indicated in ascending order, not in the order that they occurred.
- The DTCs are memorized in the EEPROM (nonvolatile memory) therefore the memorized DTCs cannot be erased by disconnecting the battery. Perform the specified procedures to clear DTCs.

**SELF-DIAGNOSIS**

Self-diagnosis can be classified into three categories:

- Initial diagnosis: Done right after the engine starts and until the EPS indicator goes off.
- Regular diagnosis: Done right after the initial diagnosis until the ignition switch is turned OFF.
- Steering diagnosis: Done during regular diagnosis while turning steering wheel.

The EPS control unit performs the following functions when a problem is detected by self-diagnosis:

1. Turns on the EPS indicator.
2. Memorizes the DTC.
3. Stops power assist and manual steering operation resumes.

**NOTE: For DTCs 11-01, 11-02, 12-01,21-01,21-02, 22-01 and 35-04 the EPS indicator will go off automatically, and the system returns to normal.**

**RESTRICTION ON POWER ASSIST OPERATION**

Repeated extreme steering force, such as turning the steering wheel continuously

back-and-forth with the vehicle stopped, causes an increase of power consumption in the EPS motor. The increase of electric current causes the motor to heat up. Because this heat adversely affects the system, the control unit monitors the electric current of the motor.

When the control unit detects heat build-up in the motor, it reduces the electric current to the motor gradually to protect the system, and it restricts the power assist operation. The EPS indicator does not come on during this function.

When steering torque is not applied to the steering wheel, or when the ignition is turned off and the motor cools, the control unit will restore the power assist gradually until it's fully restored (after about 8 minutes).

**TORQUE SENSOR NEUTRAL POSITION**

The EPS control unit stores the torque sensor neutral position in the EEPROM. The torque sensor neutral position must be memorized whenever the gearbox, the motor, or the EPS control unit is replaced.

**NOTE: The torque sensor neutral position is not effected when erasing the DTCs.**

**HOW TO TROUBLESHOOT DTCS**

The troubleshooting procedures assume that the cause of the problem is still present and the EPS indicator is still on. Following the procedure when the EPS indicator does not come on can result in incorrect diagnosis.

1. Question the customer about the conditions when the problem occured, and try to reproduce the same conditions for troubleshooting. Find out when the EPS indicator came on, such as during EPS control, after EPS control, when the vehicle was at a certain speed, etc.
2. When the EPS indicator does not come on during the test-drive, but troubleshooting is done based on the DTC, check for loose connectors, poor terminal contact, etc., in the affected circuit before you start troubleshooting.
3. After troubleshooting, clear the DTC and test-drive the vehicle. Be sure the EPS indicator does not come on.

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**HOW TO RETRIEVE DTCS**

1. With the ignition switch to LOCK (0), connect the HDS (Honda diagnostic system) to the data link connector (DLC) (A) located under the driver's side of the dashboard.

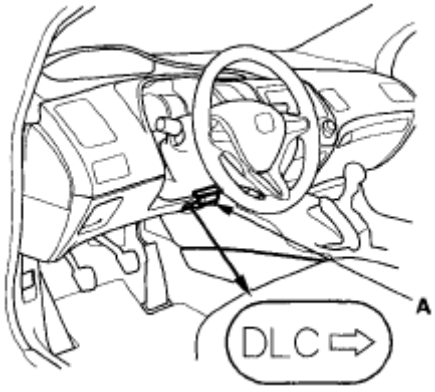



**Fig. 2: Identifying DLC Connector**

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the EPS control unit. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Follow the prompts on the HDS to display the DTC(s) on the screen. After determining the DTC, refer to the **DTC TROUBLESHOOTING**.

**NOTE: See the HDS Help menu for specific instructions.**

5. Turn the ignition switch to LOCK (0).

**HOW TO CLEAR DTCS**

1. With the ignition switch in LOCK (0) position, connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.

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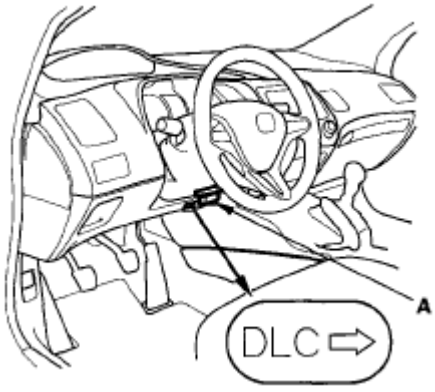



**Fig. 3: Identifying DLC Connector**

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the EPS control unit. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Clear the DTC(s) by following the screen prompts on the HDS.

**NOTE: See the HDS Help menu for specific instructions.**

5. Turn the ignition switch to LOCK (0).

## MEMORIZING THE TORQUE SENSOR NEUTRAL POSITION

The torque sensor neutral position must be memorized whenever the gearbox, the motor, or the EPS control unit is replaced. Note that the torque sensor neutral position is not affected when erasing the DTC.

**NOTE: The torque sensor is sensitive to temperature. This procedure should be performed within the range of 68℉ ± 50℉ (20℃ ± 10℃).**

1. With the ignition switch in LOCK (0) position, connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.

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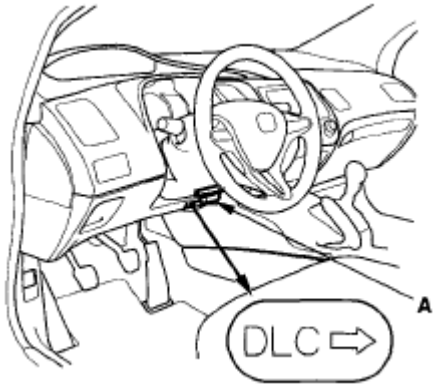



**Fig. 4: Identifying DLC Connector**

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the EPS control unit. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. From the EPS MENU, select MISCELLANEOUS TEST then TORQUE SENSOR LEARN and follow the screen prompts on the HDS.

**NOTE: See the HDS Help menu for specific instructions.**

5. Turn the ignition switch to LOCK (0).

## DTC TROUBLESHOOTING INDEX

## DTC TROUBLESHOOTING INDEX

| DTC | Detection Item |
|---|---|
| **11-01** | Low/high IG1-terminal voltage (Initial diagnosis) |
| **11-02** | Low/high IG1-terminal voltage (Regular diagnosis) |
| **12-01** | Low/high VBU voltage (Regular diagnosis) |
| **21-01** | Excessive change of the vehicle speed signal (Regular diagnosis) |
| **21-02** | Comparison between the vehicle speed |

| | |
|---|---|
| | and the engine speed signal (Regular diagnosis) |
| **22-01** | Engine speed signal (Initial diagnosis) |
| 31-01 | No writing the torque sensor neutral position (Initial diagnosis) |
| **32-01** | EPS control unit internal circuit (current sensor) (Initial diagnosis) |
| **32-02** | EPS control unit internal circuit (current sensor) (Regular diagnosis) |
| **32-07** | EPS control unit internal circuit (current sensor) (Steering diagnosis) |
| **32-08** | Current sensor (Regular diagnosis) |
| **32-09** | Current sensor (Initial diagnosis) |
| **33-01** | Lower FET stuck ON (Initial diagnosis) |
| **33-02** | Upper FET stuck ON (Initial diagnosis) |
| **33-06** | Lower FET stuck ON (Regular diagnosis) |
| **33-07** | Upper FET stuck ON (Regular diagnosis) |
| **34-01** | Power relay stuck ON (IG switch is OFF) |
| **34-02** | Fail-safe relay stuck ON (Initial diagnosis) |
| **35-01** | EPS control unit internal circuit (CPU) (Initial diagnosis/regular diagnosis) |
| **35-02** | EPS control unit internal circuit (EEPROM) (Initial diagnosis) |
| **35-03** | EPS control unit internal circuit (EPS CPU) (Initial diagnosis) |
| **35-04** | EPS control unit internal circuit (CPU communication) (Regular diagnosis) |
| **35-05** | EPS control unit internal circuit (Motor/EPS CPU) (Initial diagnosis) |

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| | |
|---|---|
| **35-06** | EPS control unit internal circuit (ITN communication) (Regular diagnosis) |
| **35-07** | EPS control unit internal circuit (INHL/INHR ports) (Initial diagnosis/regular diagnosis) |
| **36-02** | EPS control unit internal circuit (INH output circuit) (Initial diagnosis) |
| **37-01** | EPS control unit internal circuit (Step-up circuit) (Initial diagnosis) |
| **51-01** | Low/high voltage for the torque sensor (VT1 and VT2) (Regular diagnosis) |
| **51-02** | Torque sensor (VT3 Differential-amplification Function) (Regular diagnosis) |
| **51-03** | Torque sensor (VT1, VT2 rapid change) (Regular diagnosis) |
| **51-06** | Torque sensor (VT1, VT2 average) (Regular diagnosis) |
| **51-07** | Torque sensor (VT1, VT2 initial check) (Initial diagnosis) |
| **61-04** | Open/short in the motor harness (Steering diagnosis) |
| **71-01** | Motor angle sensor (SIN/COS signals) (Steering diagnosis) |
| **71-02** | Motor angle sensor (neutral position learning of SIN/COS) (Initial diagnosis) |
| **71-03** | Motor angle sensor (SIN/COS signals) (Steering diagnosis) |
| **71-04** | Motor angle sensor (check signal) (Regular diagnosis) |
| **71-05** | Motor angle sensor (SIN/COS signals changing amount) (Steering diagnosis) |
| **71-06** | Motor angle sensor (neutral position of |

| | |
|---|---|
| | SIN/COS) (Initial diagnosis) |

**NOTE:**

- **Initial diagnosis: Done right after the engine starts and until the EPS indicator goes off.**
- **Regular diagnosis: Done right after the initial diagnosis until the ignition switch is turned off.**
- **Steering diagnosis: Done during regular diagnosis while turning steering wheel.**

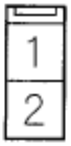
## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure |
|---|---|
| EPS indicator does not come on | Symptom Troubleshooting (see **EPS INDICATOR DOES NOT COME ON** ) |
| EPS indicator does not go off, and no DTCs are stored | Symptom Troubleshooting (see **EPS INDICATOR DOES NOT GO OFF, AND NO DTCS ARE STORED** ) |
| EPS indicator is not on, no DTCs are stored, but there is no power assist or power assist is down | 1. Check the motor power wires between the EPS control unit and the motor for a short to body ground. Repair as needed.<br>2. If the motor power wires are OK, replace the motor (short in the motor) (see **MOTOR REMOVAL AND INSTALLATION** ).<br>3. Check the power and ground connections at the EPS control unit. |
| HDS does not communicate with the EPS control unit or the vehicle | Troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ). |

## SYSTEM DESCRIPTION

### EPS CONTROL UNIT INPUTS AND OUTPUTS FOR CONNECTOR A (2P)



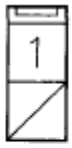

Wire side of female terminals

**Fig. 5: Identifying EPS Control Unit Inputs And Outputs For Connector A (2P)**

## SYSTEM DESCRIPTION

| Terminal number | Wire color | Terminal sign (Terminal name) | Description | Signal | | |
|---|---|---|---|---|---|---|
| | | | | Terminals | Conditions | Voltage |
| 1 | BLK | PG (Power ground) | Ground for the actuator motor | - | - | - |
| 2 | WHT | +B (Plus battery) | Power source for the actuator motor | 2-GND | At all times | Battery voltage |

**EPS CONTROL UNIT INPUTS AND OUTPUTS FOR CONNECTOR B (2P)**




Wire side of female terminals

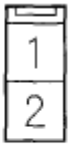
**Fig. 6: Identifying EPS Control Unit Inputs And Outputs For Connector B (2P)**

## TERMINAL NUMBER REFERENCE

| Terminal number | Wire color | Terminal sign (Terminal name) | Description | Signal | | |
|---|---|---|---|---|---|---|
| | | | | Terminals | Conditions | Voltage |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | GRIM | H-W | Drives the actuator motor | - | - | - |

**EPS CONTROL UNIT INPUTS AND OUTPUTS FOR CONNECTOR C (2P)**



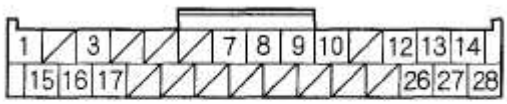

Wire side of female terminals

**Fig. 7: Identifying EPS Control Unit Inputs And Outputs For Connector C (2P)**

## TERMINAL NUMBER REFERENCE

| Terminal number | Wire color | Terminal sign (Terminal name) | Description | Signal | | |
|---|---|---|---|---|---|---|
| | | | | Terminals | Conditions | Voltage |
| 1 | RED | H-U | Drives the actuator motor | - | - | - |
| 2 | BLU | H-V | Drives the actuator motor | - | - | - |

**EPS CONTROL UNIT INPUTS AND OUTPUTS FOR CONNECTOR D (28P)**




Wire side of female terminals

**Fig. 8: Identifying EPS Control Unit Inputs And Outputs For Connector D (28P)**

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## TERMINAL NUMBER REFERENCE

| Terminal number | Wire color | Terminal sign (Terminal name) | Description | Signal | | |
|---|---|---|---|---|---|---|
| | | | | Terminals | Conditions | Voltage |
| 1 | WHT | CAN-H (CAN-HI) | CAN communication circuit | - | - | - |
| 3 | BLU | NEP (Engine pulse) | Detects tachometer signal | 3-GND | With engine running | 3 V or less-6 V or more |
| 7 | BRN | SCS (Service check signal) | Detects service check connector signal | 7-GND | SCS not grounded | About 5 V |
| 8 | LT GRN | VS2 (Voltage sensor 2) | Detects torque sensor signal | - | - | - |
| 9 | BRN | PVF (Voltage fade) | Drives the torque sensor | - | - | - |
| 10 | GRN | VS1 (Voltage sensor 1) | Detects torque sensor signal | - | - | - |
| 12 | PNK | S1 (Signal 1) | Detects motor angle sensor signal | - | - | - |
| 13 | BLU | R1 (Motor angle sensor 1) | Detects motor angle sensor signal | - | - | - |
| 14 | BRN | S2 (Signal 2) | Detects motor angle sensor signal | - | - | - |
| | | CAN-L | CAN | | | |

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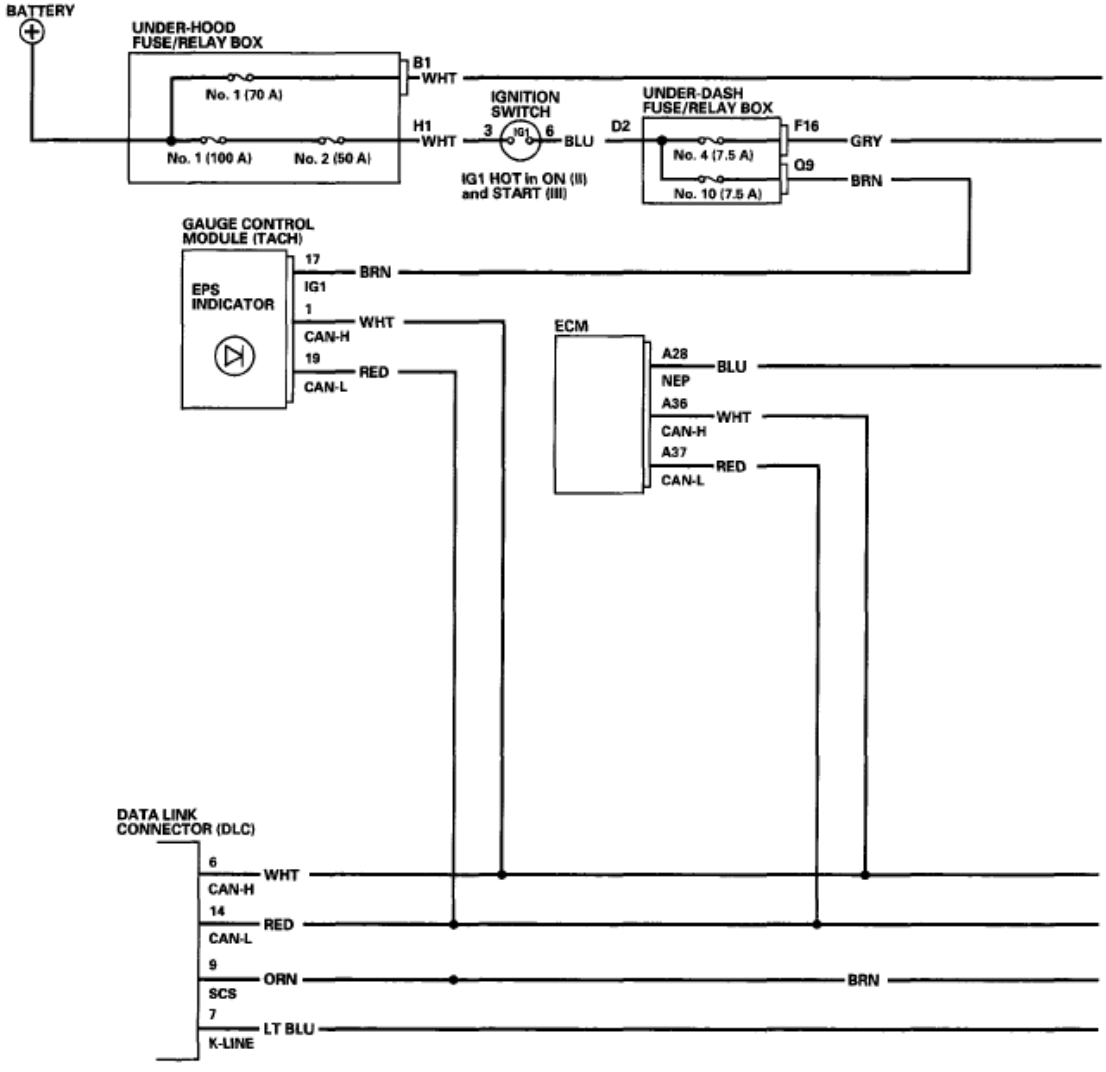


| | | | | | | |
|---|---|---|---|---|---|---|
| 15 | RED | (CAN-LO) | communication circuit | - | - | - |
| 16 | GRY | IG1 (Ignition 1) | Power source for activating the system | 16-GND | Ignition switch ON (II) | Battery voltage |
| | | | | | Ignition switch OFF | 0 V |
| 17 | LT BLU | K-LINE (Data link connector) | Communicates with HDS | 17-GND | HDS not connected | About 5 V |
| 26 | BRN | S3 (Signal 3) | Detects motor angle sensor signal | - | - | - |
| 27 | PNK | R2 (Motor angle sensor 2) | Detects motor angle sensor signal | - | - | - |
| 28 | BLU | S4 (Signal 4) | Detects motor angle sensor signal | - | - | - |

## CIRCUIT DIAGRAM

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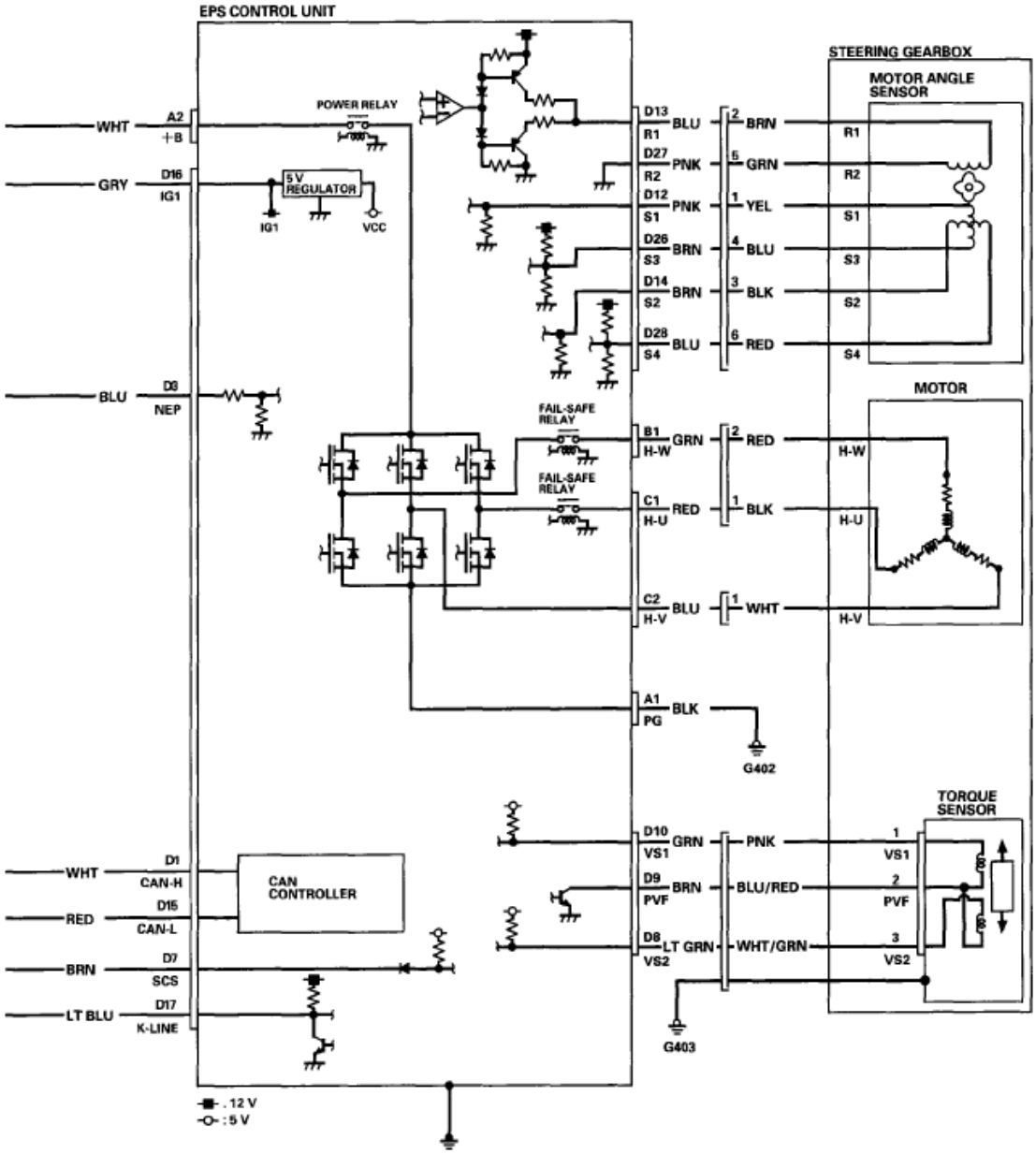





## Fig. 9: Identifying EPS Circuit Diagram (1 Of 3)

# 2008 Honda Civic EX

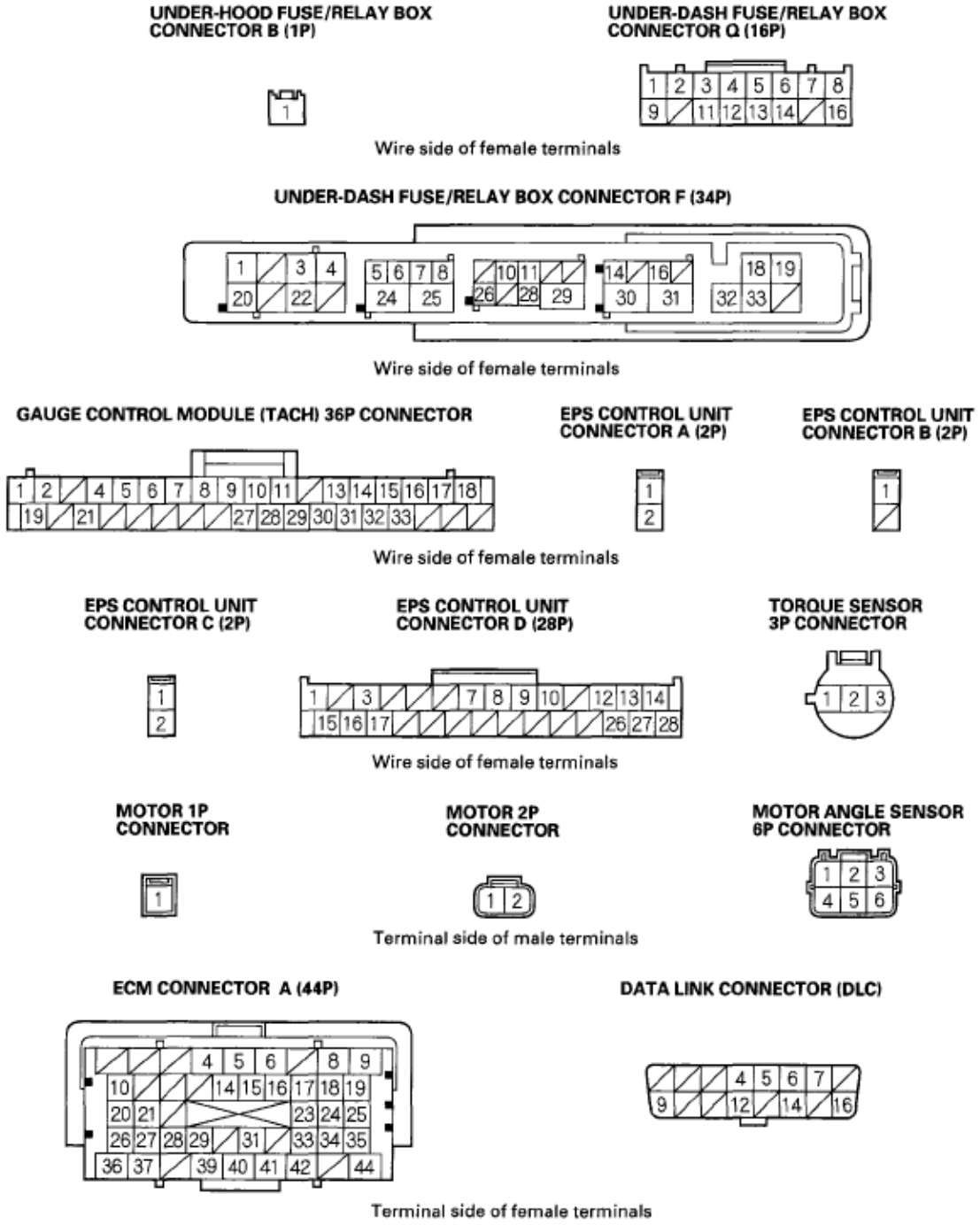
2006-08 STEERING EPS System - Civic (All Except Hybrid & Si)




## Fig. 10: Identifying EPS Circuit Diagram (2 Of 3)

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## Fig. 11: Identifying EPS Circuit Diagram (3 Of 3)

## DTC TROUBLESHOOTING

### DTC 11-01: LOW/HIGH IG1-TERMINAL VOLTAGE (INITIAL DIAGNOSIS)

1. Clear the DTC with the HDS.

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2. Turn the ignition switch to LOCK (0).
3. Start the engine.
4. Wait at least 60 seconds.

   *Does the EPS indicator come on?*

   **YES** -Go to step 5.

   **NO** -Check for loose wires or poor connections. If the connections are good, the system is OK at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect EPS control connector D (28P).
7. Turn the ignition switch ON (II).
8. Wait at least 60 seconds.
9. Measure voltage between EPS control unit connector D (28P) terminal No. 16 and body ground.

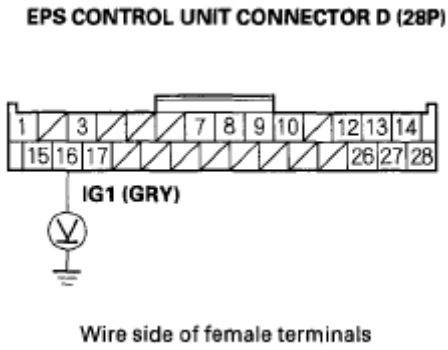



**Fig. 12: Measuring Voltage Between EPS Control Unit Connector D (28P) Terminal No. 16 And Body Ground**

*Is the voltage between 9.63-16.6 V?*

**YES** -Check for loose terminals in the EPS control unit connectors and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

**NO** -If there is no voltage, or the voltage is lower than specified, repair an open

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or high resistance in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse/relay box and EPS control unit. If the wire checks OK, check the battery (see **BATTERY TEST** ), and troubleshoot the alternator regulator circuit (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ).

**DTC 11-02: LOW/HIGH ID-TERMINAL VOLTAGE (REGULAR DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.
4. Wait at least 60 seconds.

   *Does the EPS indicator come on?*

   **YES** -Go to step 5.

   **NO** -Check for loose wires or poor connections. If the connections are good, the system is OK at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect EPS control connector D (28P).
7. Turn the ignition switch ON (II).
8. Wait at least 60 seconds.
9. Measure voltage between EPS control unit connector D (28P) terminal No. 16 and body ground.

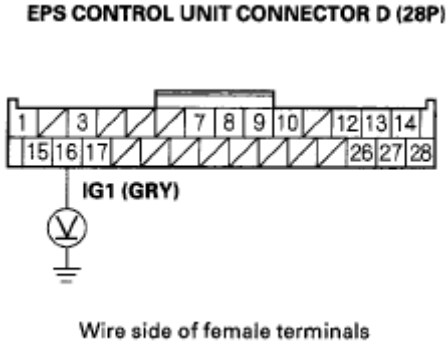



**Fig. 13: Measuring Voltage Between EPS Control Unit Connector D (28P)**

## Terminal No. 16 And Body Ground

*Is the voltage between 9.20-17.4 V?*

**YES** -Check for loose terminals in the EPS control unit connectors and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

**NO** -If there is no voltage, or the voltage is lower than specified, repair an open or high resistance in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse/relay box and EPS control unit. If the wire checks OK, check the battery (see **BATTERY TEST** ), and troubleshoot the alternator regulator circuit (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ).

### DTC 12-01: LOW/HIGH VBU VOLTAGE (REGULAR DIAGNOSIS)

1. Turn the ignition switch to LOCK (0).
2. Connect the HDS to the data link connector (DLC).
3. Turn the ignition switch ON (II).
4. Check the BATTERY in the DATA LIST with the HDS.

   *Is the voltage at 9.2-17.4 V?*

   **YES** -Check for loose wires or poor connections. If the connections are good, the system is OK at this time.

   **NO** -Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Check the No. 1 (70 A) fuse in the under-hood fuse/relay box.

   *Is the fuse OK?*

   **YES** -Reinstall the fuse, and go to step 7.

   **NO-Replace** the fuse, and recheck. If the fuse is blown, check for a short to

body ground in this fuse circuit.

7. Disconnect EPS control unit connector A (2P) and connector D (28P).
8. Measure voltage between EPS control unit connector A (2P) terminal No. 2 and body ground.

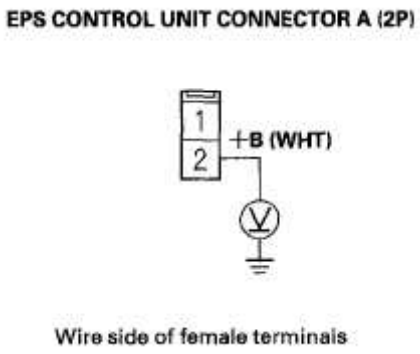



**Fig. 14: Measuring Voltage Between EPS Control Unit Connector A (2P) Terminal No. 2 And Body Ground**

*Is there battery voltage?*

**YES** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

**NO** -Repair open in the wire between the EPS control unit and No. 1 (70 A) fuse in the under-hood fuse/relay box.

**DTC 21-01: EXCESSIVE CHANGE OF THE VEHICLE SPEED SIGNAL (REGULAR DIAGNOSIS); DTC 21-02: COMPARISON BETWEEN THE VEHICLE SPEED AND THE ENGINE SPEED SIGNAL (REGULAR DIAGNOSIS)**

**NOTE:**

- **If the MIL indicator is on, troubleshoot the fuel and emissions systems first.**
- **Even though the system is operating normally, the EPS indicator will come on caused by the detecting condition of DTC 21-01 or DTC 21-02.**

1. Turn the ignition switch to LOCK (0).

2. Raise the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ), and allow all wheels to rotate freely.
3. Connect the HDS to the data link connector (DLC).
4. Start the engine, run the vehicle in 4th gear.
5. Check the VEHICLE SPEED in the DATA LIST with the HDS.

   *Is the vehicle speed indicated?*

   **YES** -The system is OK at this time.

   **NO** -Go to step 6.

6. Check for DTCs in the fuel and emissions systems with the HDS.

   *Is DTC P0720 indicated?*

   **YES** -Troubleshoot the indicated DTC.

   **NO** -Go to step 7.

7. Start the engine and check the tachometer.

   *Is the tachometer working correctly?*

   **YES** -Go to step 8.

   **NO** -Troubleshoot the gauge control module (tach) (see **SELF-DIAGNOSTIC FUNCTION** ).

8. Turn the ignition switch to LOCK (0).
9. Short the SCS line with the HDS.
10. Disconnect ECM connector A (44P) and EPS control unit connector D (28P).
11. Check for continuity between EPS control unit connector D (28P) terminals No. 1 and ECM connector A (44P) terminals No. 36.

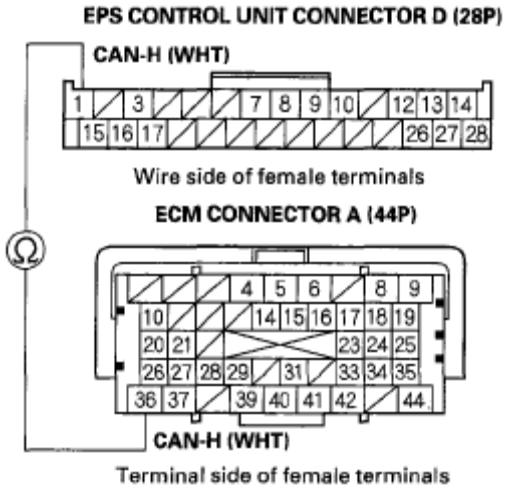



**Fig. 15: Checking Continuity Between EPS Control Unit Connector D (28P) Terminals No. 1 And ECM Connector A (44P) Terminals No. 36**

*Is there continuity?*

**YES** -Go to step 12.

**NO** -Repair open in the wire between the EPS control unit and the ECM.

12. Check for continuity between EPS control unit connector D (28P) terminals No. 15 and ECM connector A (44P) terminals No. 37.

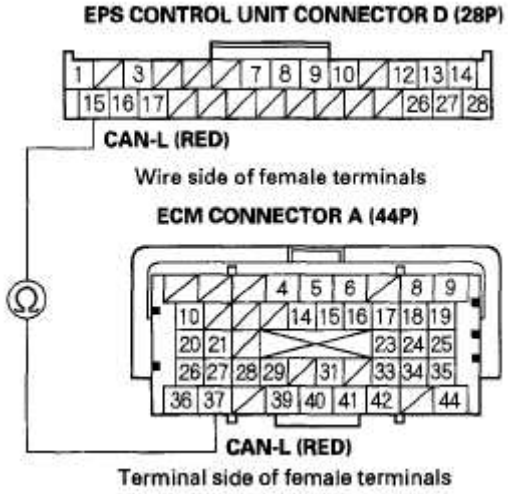



**Fig. 16: Checking Continuity Between EPS Control Unit Connector D (28P) Terminals No. 15 And ECM Connector A (44P) Terminals No. 37**

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*Is there continuity?*

**YES** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

**NO** -Repair open in the wire between the EPS control unit and the ECM.

**DTC 22-01: ENGINE SPEED SIGNAL (INITIAL DIAGNOSIS)**

**NOTE: If the MIL indicator is on, troubleshoot the fuel and emissions systems first.**

1. Turn the ignition switch to LOCK (0).
2. Connect the HDS to the data link connector (DLC).
3. Start the engine.
4. Check the ENGINE SPEED in the DATA LIST with the HDS.

*Is there 0 rpm at idle?*

**YES** -Go to step 5.

**NO** -The system is OK at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect EPS control unit connector D (28P).
7. Start the engine.
8. Measure voltage between EPS control unit connector D (28P) terminal No. 3 and body ground.

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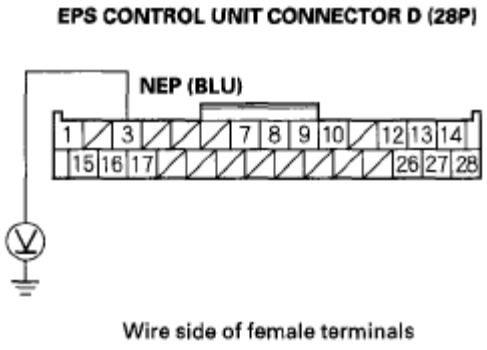



**Fig. 17: Measuring Voltage Between EPS Control Unit Connector D (28P) Terminal No. 3 And Body Ground**

*Is there any voltage?*

**YES** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

**NO** -Go to step 9.

9. Turn the ignition switch to LOCK (0).
10. Check for continuity between EPS control unit connector D (28P) terminal No. 3 and body ground.

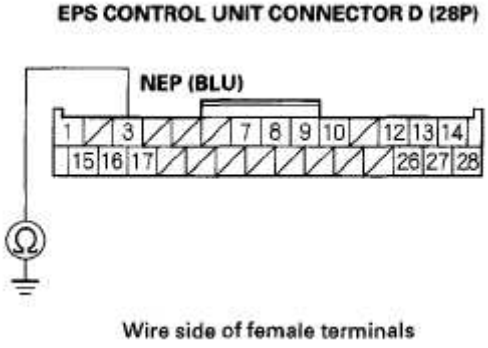



**Fig. 18: Checking Continuity Between EPS Control Unit Connector D (28P) Terminal No. 3 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the EPS control unit

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and the ECM.

**NO** -Go to step 11.

11. Short the SCS line with the HDS.
12. Disconnect ECM connector A (44P).
13. Check for continuity between EPS control unit connector D (28P) terminals No. 3 and ECM connector A (44P) terminals No. 28.

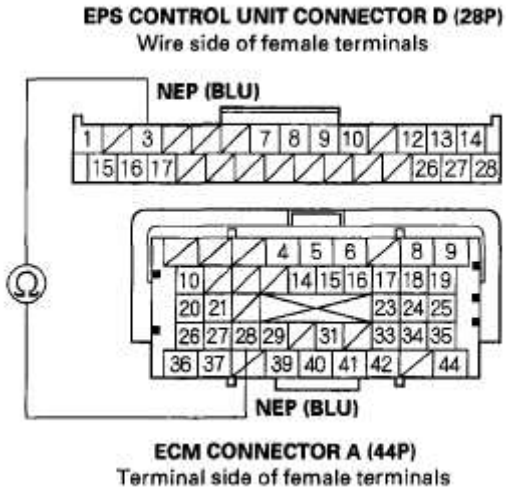



**Fig. 19: Checking Continuity Between EPS Control Unit Connector D (28P) Terminals No. 3 And ECM Connector A (44P) Terminals No. 28**

*Is there continuity?*

**YES** -Check for loose terminals in the ECM connector A (44P), and repair if necessary. If no poor connections are found replace the ECM (see **ECM REPLACEMENT** ).

**NO** -Repair open in the wire between the EPS control unit and the ECM.

**DTC 32-01: EPS CONTROL UNIT INTERNAL CIRCUIT (CURRENT SENSOR) (INITIAL DIAGNOSIS); DTC 32-02: EPS CONTROL UNIT INTERNAL CIRCUIT (CURRENT SENSOR) (REGULAR DIAGNOSIS); DTC 35-01: EPS CONTROL UNIT INTERNAL CIRCUIT (CPU) (INITIAL DIAGNOSIS/REGULAR DIAGNOSIS); DTC 35-02: EPS CONTROL UNIT INTERNAL CIRCUIT (EEPROM) (INITIAL DIAGNOSIS); DTC 35-04: EPS CONTROL UNIT INTERNAL CIRCUIT (CPU COMMUNICATION) (REGULAR DIAGNOSIS); DTC 35-06: EPS CONTROL UNIT INTERNAL CIRCUIT (ITN COMMUNICATION) (REGULAR DIAGNOSIS); DTC 35-07: EPS CONTROL UNIT INTERNAL CIRCUIT (INHL/INHR PORTS) (INITIAL DIAGNOSIS/REGULAR DIAGNOSIS); DTC**

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**36-02: EPS CONTROL UNIT INTERNAL CIRCUIT (INH OUTPUT CIRCUIT) (INITIAL DIAGNOSIS); DTC 37-01: EPS CONTROL UNIT INTERNAL CIRCUIT (STEP-UP CIRCUIT) (INITIAL DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.

   *Does the EPS indicator come on?*

   **YES** -Go to step 4.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

4. Check for DTCs with the HDS.

   *Is DTC 32-01, 32-02, 35-01, 35-02, 35-04, 35-06, 35-07, 36-02, or 37-01?*

   **YES** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

**DTC 32-07: EPS CONTROL UNIT INTERNAL CIRCUIT (CURRENT SENSOR) (STEERING DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.
4. Turn the steering wheel to the right or left, and wait 10 seconds or more.

   *Does the EPS indicator come on?*

   **YES** -Go to step 5.

**NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

5. Check for DTCs with the HDS.

   *Is DTC 32-07 indicated?*

   **YES** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

**DTC 32-08: CURRENT SENSOR (REGULAR DIAGNOSIS); DTC 32-09: CURRENT SENSOR (INITIAL DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.
4. Turn the steering wheel to the right or left, and wait 10 seconds or more.

   *Does the EPS indicator come on?*

   **YES** -Go to step 5.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

5. Check for DTCs with the HDS.

   *Is DTC 32-08 or DTC 32-09 indicated?*

   **YES** -Go to step 6.

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

6. Turn the ignition switch to LOCK (0).
7. Disconnect EPS control unit connector B (2P) and connector C(2P).
8. Check for continuity between the following terminals of the EPS control unit connector B (2P) and connector C (2P).

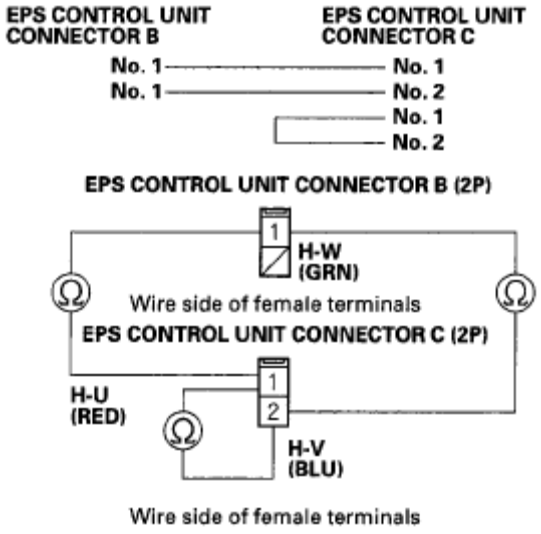



**Fig. 20: Checking Continuity Between Following Terminals Of EPS Control Unit Connector B (2P) And Connector C (2P)**

*Is there continuity?*

**YES** -Check for loose terminals in the EPS control unit connectors and motor connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

**NO** -Go to step 9.

9. Disconnect the motor 1P connector and motor 2P connector.
10. On the motor side, check for continuity between the following terminals of the motor 1P and motor 2P connector.

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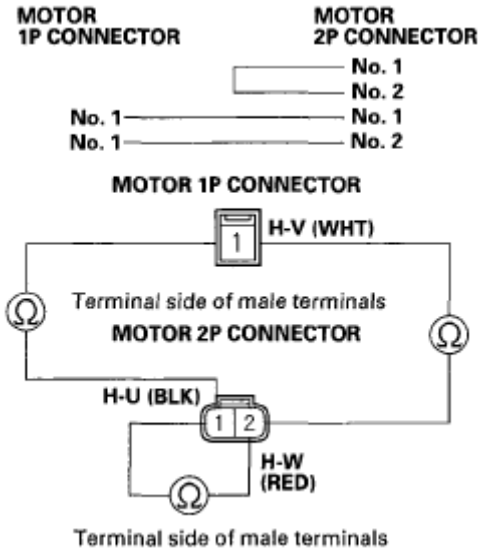



**Fig. 21: Checking Continuity Between Following Terminals Of Motor 1P And Motor 2P Connector**

*Is there continuity?*

**YES** -Repair open in the wire harness between the EPS control unit and motor.

**NO** -Open in the motor wire harness, or motor internal circuit, replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

**DTC 33-01: LOWER FET STUCK ON (INITIAL DIAGNOSIS); DTC 33-06: LOWER FET STUCK ON (REGULAR DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.

   *Does the EPS indicator come on?*

   **YES** -Go to step 4.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

4. Check for DTCs with the HDS.

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*Is DTC 33-01 or DTC 33-06 indicated?*

**YES** -Go to step 5.

**NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect EPS control unit connector B (2P) and connector C(2P).
7. Check for continuity between body ground and EPS control unit connector B (2P) No. 1 terminal, connector C (2P) No. 1 terminal, connector C (2P) No. 2 terminal individually.

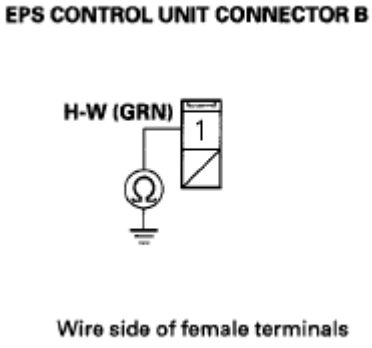



**Fig. 22: Checking Continuity Between Body Ground And EPS Control Unit Connector B (2P) No. 1 Terminal**

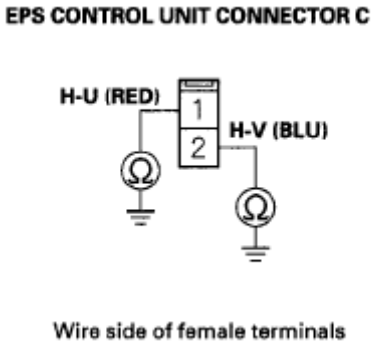



**Fig. 23: Checking Continuity Between Connector C (2P) No. 1 Terminal, Connector C (2P) No. 2**

*Is there continuity?*

**YES** -Go to step 8.

**NO** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

8. Disconnect the motor 1P connector and motor 2P connector.
9. Check for continuity between body ground and EPS control unit connector B (2P) No. 1 terminal, connector C (2P) No. 1 terminal, connector C (2P) No. 2 terminal individually.

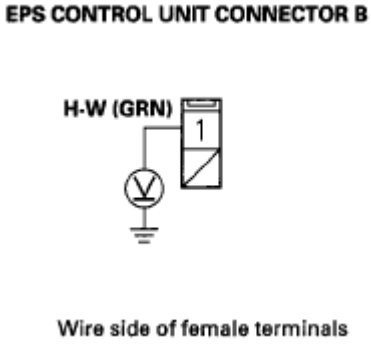



**Fig. 24: Checking Continuity Between Body Ground And EPS Control Unit Connector B (2P) No. 1 Terminal**

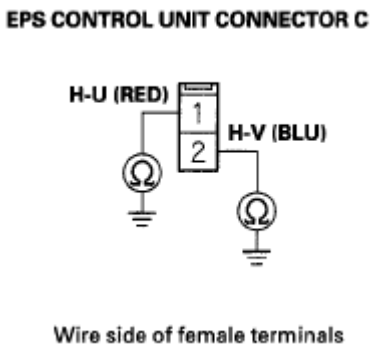



**Fig. 25: Checking Continuity Connector C (2P) No. 1 Terminal Connector C (2P) No. 2 Terminal**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the EPS control unit and motor.

**NO** -Short in the motor wire harness, or motor internal circuit, replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

**DTC 33-02: UPPER FET STUCK ON (INITIAL DIAGNOSIS); DTC 33-07: UPPER FET STUCK ON (REGULAR DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.

   *Does the EPS indicator come on?*

   **YES** -Go to step 4.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

4. Check for DTCs with the HDS.

   *Is DTC 33-02 or DTC 33-07 indicated?*

   **YES** -Go to step 5.

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect EPS control unit connector B (2P) and connector C (2P).
7. Turn the ignition switch ON (II).
8. Measure voltage between body ground and EPS control unit connector B (2P) No. 1 terminal, connector C (2P) No. 1 terminal, and connector C (2P) Non terminal individually.

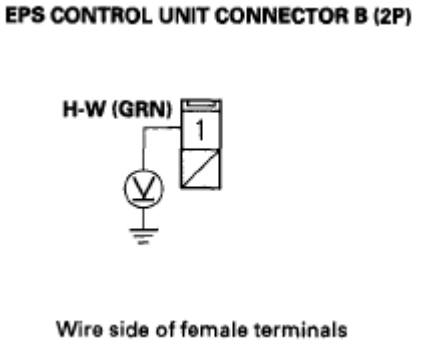



**Fig. 26: Measuring Voltage Between Body Ground And EPS Control Unit Connector B (2P) No. 1 Terminal**

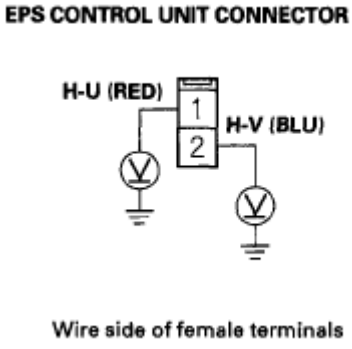



**Fig. 27: Measuring Voltage Between Connector C (2P) No. 1 Terminal And Connector C (2P) Non Terminal**

*Is there battery voltage?*

**YES** -Go to step 9.

**NO** -Check for loose terminals in the EPS control unit connectors and motor connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

9. Turn the ignition switch to LOCK (0).
10. Disconnect the motor 1P connector and motor 2P connector.
11. Turn the ignition switch ON (II).
12. Measure voltage between body ground and EPS control unit connector B (2P) No. 1 terminal, connector C (2P) No. 1 terminal, and connector C (2P) No. 2

terminal individually.

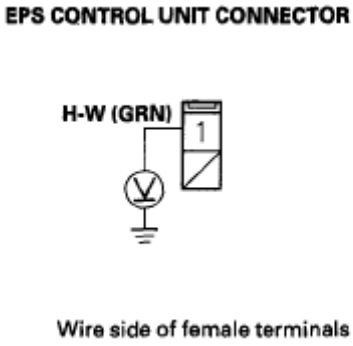



**Fig. 28: Measuring Voltage Between Body Ground And EPS Control Unit Connector B (2P) No. 1 Terminal**

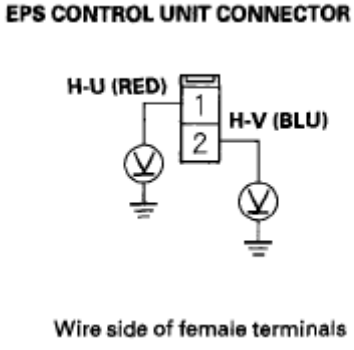



**Fig. 29: Measuring Voltage Between Connector C (2P) No. 1 Terminal And Connector C (2P) No. 2 Terminal**

*Is there battery voltage?*

**YES** - Repair short to power in the wire between the EPS control unit and motor.

**NO** - Short to power in the motor wire harness, or motor internal circuit, replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

**DTC 34-01: POWER RELAY STUCK ON (IGNITION SWITCH IS OFF)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Turn the ignition switch ON (II).

*Does the EPS indicator come on?*

**YES** - Go to step 4.

**NO** - Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

4. Check for DTCs with the HDS.

   *Is DTC 34-01 indicated?*

   **YES** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

**DTC 34-02: FAIL-SAFE RELAY STUCK ON (INITIAL DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Turn the ignition switch ON (II).

   *Does the EPS indicator come on?*

   **YES** -Go to step 4.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

4. Check for DTCs with the HDS.

   *Is DTC 34-02 indicated?*

   **YES** -Go to step 5.

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK

at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect EPS control unit connector B (2P) and connector C (2P).
7. Turn the ignition switch ON (II).
8. Measure voltage between body ground and EPS control unit connector B (2P) No. 1 terminal, connector C (2P) No. 1 terminal, and connector C (2P) No. 2 terminal individually.

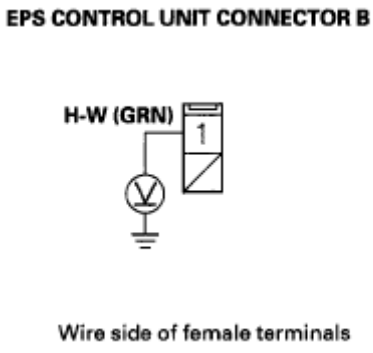



**Fig. 30: Measuring Voltage Between Body Ground And EPS Control Unit Connector B (2P) No. 1 Terminal**

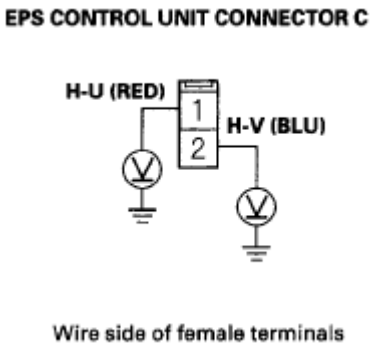



**Fig. 31: Measuring Voltage Between Connector C (2P) No. 1 Terminal And Connector C (2P) No. 2 Terminal**

*Is there battery voltage?*

**YES** -Repair short to power in the wire between the EPS control unit and the motor.

**NO** -Replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

**DTC 35-03: EPS CONTROL UNIT INTERNAL CIRCUIT (EPS CPU) (INITIAL DIAGNOSIS); DTC 35-05: EPS CONTROL UNIT INTERNAL CIRCUIT (MOTOR/EPS CPU) (INITIAL DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Turn the ignition switch ON (II).

   *Does the EPS indicator come on?*

   **YES** -Go to step 4.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

4. Start the engine.
5. Wait 10 seconds or more.
6. Check for DTCs with the HDS.

   *Is DTC 35-03 or DTC 35-05 indicated?*

   **YES** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

**DTC 51-01: LOW/HIGH VOLTAGE FOR THE TORQUE SENSOR (VT1 AND VT2) (REGULAR DIAGNOSIS)**

1. Turn the ignition switch to LOCK (0).
2. Connect the HDS to the data link connector (DLC).
3. Turn the ignition switch ON (II).
4. Check the ADVT1 in the DATA LIST with the HDS.

*Is the voltage at 0.90-3.55 V?*

**YES** -Go to step 5.

**NO** -Go to step 6.

5. Check the ADVT2 in the DATA LIST with the HDS.

   *Is the voltage at 1.02-3.73 V?*

   **YES** -Check for loose wires or poor connections. If the connections are good, the system is OK at this time.

   **NO** -Go to step 6.

6. Turn the ignition switch to LOCK (0).
7. Disconnect EPS control unit connector D (28P).
8. Measure resistance between EPS control unit connector D (28P) terminals No. 9 and No. 10.

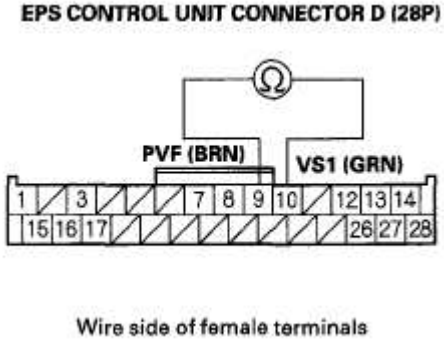



**Fig. 32: Measuring Resistance Between EPS Control Unit Connector D (28P) Terminals No. 9 And No. 10**

*Is the resistance between 12-15 ohms?*

**YES** -Go to step 9.

**NO** -Go to step 13.

9. Measure resistance between EPS control unit connector D (28P) terminals No.

8 and No. 9.

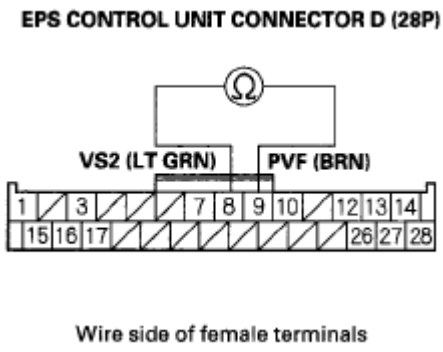



**Fig. 33: Measuring Resistance Between EPS Control Unit Connector D (28P) Terminals No. 8 And No. 9**

*Is the resistance between 12-15 ohms?*

**YES** -Go to step 10.

**NO** -Go to step 15.

10. Check for continuity between EPS control unit connector D (28P) terminal No. 9 and body ground.

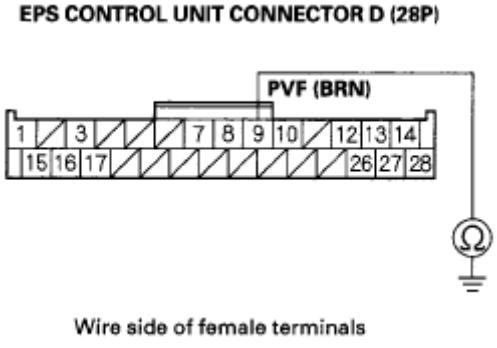



**Fig. 34: Checking Continuity Between EPS Control Unit Connector D (28P) Terminal No. 9 And Body Ground**

*Is there continuity?*

**YES** -Go to step 11.

**NO** -Check for loose terminals in the EPS control unit connectors, and repair if

necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

11. Disconnect the torque sensor 3P connector from the steering gearbox.
12. Check for continuity between EPS control unit connector D (28P) terminal No. 9 and body ground.

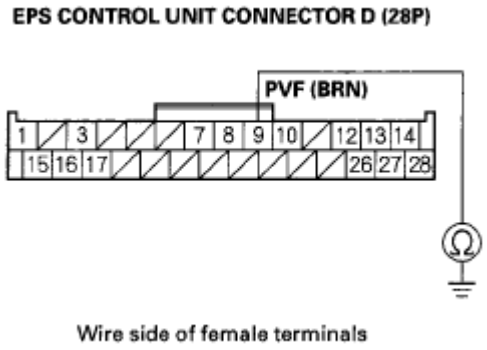



**Fig. 35: Checking Continuity Between EPS Control Unit Connector D (28P) Terminal No. 9 And Body Ground**

*Is there continuity?*

**YES** -Repair short to ground in the wire between the torque sensor and the EPS control unit.

**NO** -Faulty torque sensor (short in the sensor internal circuit), replace the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).

13. Disconnect the torque sensor 3P connector from the steering gearbox.
14. On the sensor side, measure the resistance between torque sensor terminals No. 1 and No. 2.

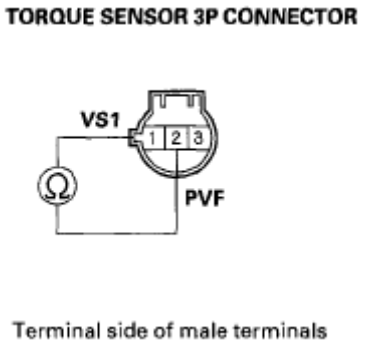



**Fig. 36: Measuring Resistance Between Torque Sensor Terminals No. 1 And No. 2**

*Is the resistance between 12-15 ohms?*

**YES** -Repair open or short between the PNK and BLU/RED wires in the torque sensor circuit between the torque sensor and the EPS control unit.

**NO** -Faulty torque sensor (short or open in the internal circuit), replace the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).

15. Disconnect the torque sensor 3P connector from the steering gearbox.
16. On the sensor side, measure the resistance between torque sensor terminals No. 2 and No. 3.

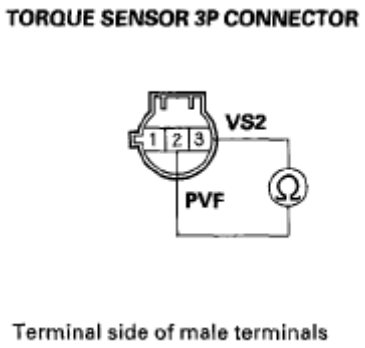



**Fig. 37: Measuring Resistance Between Torque Sensor Terminals No. 2 And No. 3**

*Is the resistance between 12-15 ohms?*

**YES** -Repair open or short between the WHT/GRN and BLU/RED wires in the torque sensor circuit between the torque sensor and the EPS control unit.

**NO** -Faulty torque sensor (short or open in the internal circuit), replace the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).

**DTC 51-02: TORQUE SENSOR (VT3 DIFFERENTIAL-AMPLIFICATION FUNCTION) (REGULAR DIAGNOSIS); DTC 51-03: TORQUE SENSOR (VT1, VT2 RAPID-CHANGE) (REGULAR DIAGNOSIS); DTC 51-06: TORQUE SENSOR (VT1, VT2 AVERAGE) (REGULAR DIAGNOSIS); DTC 51-07: TORQUE SENSOR (VT1, VT2 INITIAL CHECK) (INITIAL DIAGNOSIS)**

1. Clear the DTC with the HDS
2. Turn the ignition switch to LOCK (0).
3. Start the engine.

   *Does the EPS indicator come on?*

   **YES** -Go to step 4.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

4. Check for DTCs with the HDS.

   *Is DTC 51-02, 51-03, 51-06 or 51-07 indicated?*

   **YES** -Go to step 5.

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect EPS control unit connector D (28P).
7. Measure the resistance between EPS control unit connector D (28P) terminals No. 9 and No. 10.

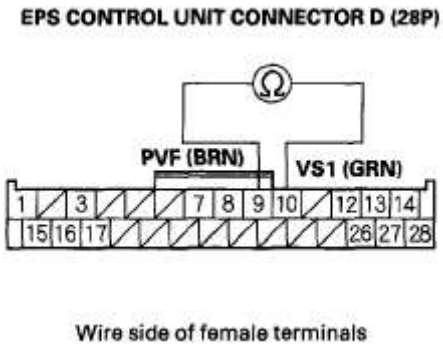



**Fig. 38: Measuring Resistance Between EPS Control Unit Connector D (28P) Terminals No. 9 And No. 10**

*Is the resistance between 12-15 ohms?*

**YES** -Go to step 8.

**NO** -Go to step 12.

8. Measure resistance between EPS control unit connector D (28P) terminals No. 8 and No. 9.

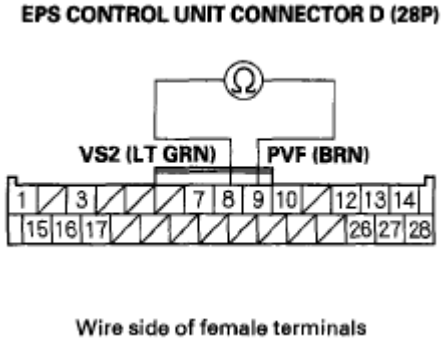



**Fig. 39: Measuring Resistance Between EPS Control Unit Connector D (28P) Terminals No. 8 And No. 9**

*Is the resistance between 12-15 ohms?*

**YES** -Go to step 9.

**NO** -Go to step 14.

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9. Check for continuity between EPS control unit connector D (28P) terminal No. 9 and body ground.

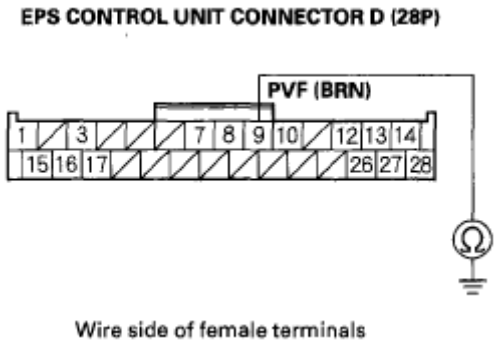



**Fig. 40: Checking Continuity Between EPS Control Unit Connector D (28P) Terminal No. 9 And Body Ground**

*Is there continuity?*

**YES** -Go to step 10.

**NO** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

10. Disconnect the torque sensor 3P connector from the steering gearbox.
11. Check for continuity between EPS control unit connector D (28P) terminal No. 9 and body ground.

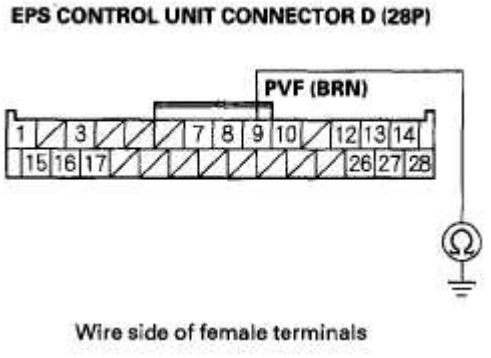



**Fig. 41: Checking Continuity Between EPS Control Unit Connector D (28P) Terminal No. 9 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the torque sensor and the EPS control unit.

**NO** -Faulty torque sensor (short in the sensor internal circuit), replace the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).

12. Disconnect the torque sensor 3P connector from the steering gearbox.
13. On the sensor side, measure the resistance between torque sensor terminals No. 1 and No. 2.

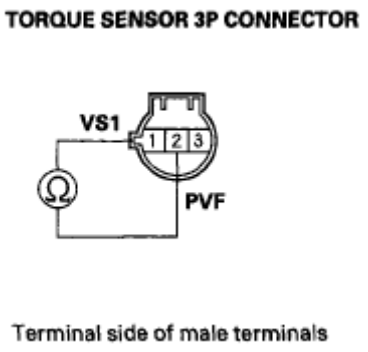



**Fig. 42: Measuring Resistance Between Torque Sensor Terminals No. 1 And No. 2**

*Is the resistance between 12-15 ohms?*

**YES** -Repair open or short between the PNK and BLU/RED wires in the torque sensor circuit between the torque sensor and the EPS control unit.

**NO** -Faulty torque sensor (short or open in the internal circuit), replace the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).

14. Disconnect the torque sensor 3P connector from the steering gearbox.
15. On the sensor side, measure the resistance between torque sensor terminals No. 2 and No. 3.

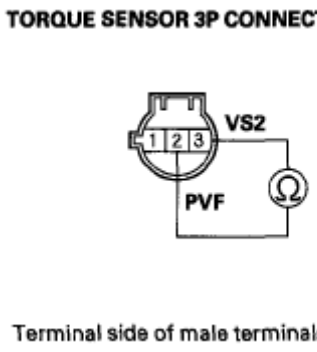



**Fig. 43: Measuring Resistance Between Torque Sensor Terminals No. 2 And No. 3**

*Is the resistance between 12-15 ohms?*

**YES** -Repair open or short between the BLU/RED and WHT/GRN wires in the torque sensor circuit between the torque sensor and the EPS control unit.

**NO** -Faulty torque sensor (short or open in the internal circuit), replace the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).

**DTC 61-04: OPEN/SHORT IN THE MOTOR HARNESS (STEERING DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.
4. Turn the steering wheel to the right or left, and wait 10 seconds or more.

   *Does the EPS indicator come on?*

   **YES** -Go to step 5.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

5. Check for DTCs with the HDS.

   *Is DTC 61-04 indicated?*

**YES** -Go to step 6.

**NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

6. Turn the ignition switch to LOCK (0).
7. Disconnect EPS control unit connector B (2P) and connector C(2P).
8. Check for continuity between the following terminals of the EPS control unit connector B (2P) and connector C(2P).

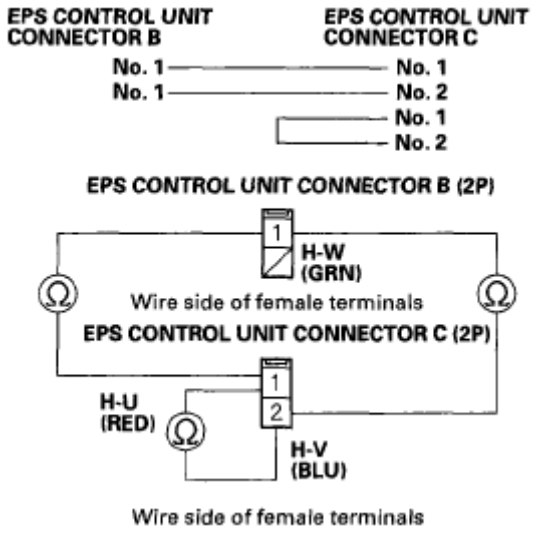



**Fig. 44: Checking Continuity Between Following Terminals Of EPS Control Unit Connector B (2P) And Connector C(2P)**

*Is there continuity?*

**YES** -Go to step 9.

**NO** -Go to step 12.

9. Check for continuity between body ground and EPS control unit connector B (2P) No. 1 terminal, connector C (2P) No. 1 terminal, and connector C (2P) No. 2 terminal individually.

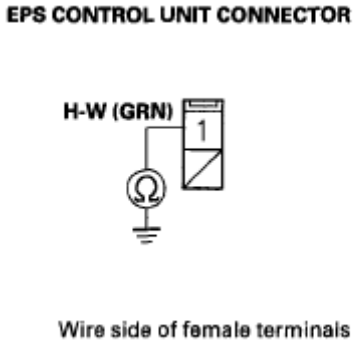



**Fig. 45: Checking Continuity Between Body Ground And EPS Control Unit Connector B (2P) No. 1 Terminal**

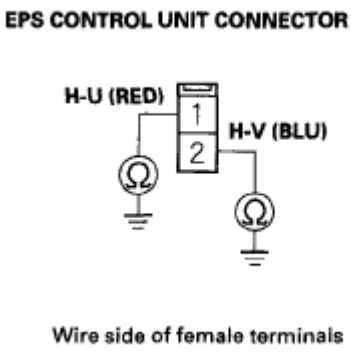



**Fig. 46: Checking Continuity Connector C (2P) No. 1 Terminal And Connector C (2P) No. 2 Terminal**

*Is there continuity?*

**YES** -Go to step 10.

**NO** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

10. Disconnect the motor 1P connector and the motor 2P connector.
11. Check for continuity between body ground and EPS control unit connector B (2P) No. 1 terminal, connector C (2P) No. 1 terminal, and connector C (2P) No. 2 terminal individually.

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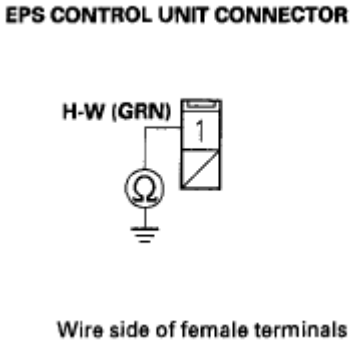



**Fig. 47: Checking Continuity Between Body Ground And EPS Control Unit Connector B (2P) No. 1 Terminal**

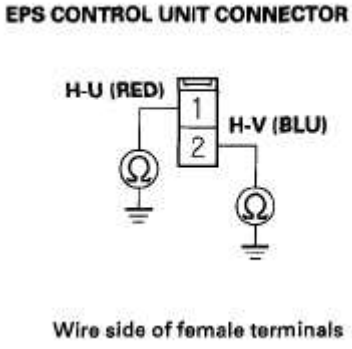



**Fig. 48: Checking Continuity Connector C (2P) No. 1 Terminal And Connector C (2P) No. 2 Terminal**

*Is there continuity?*

**YES** -Repair short to body ground in the wire harness between the EPS control unit and the motor.

**NO** -Short to the body ground in the motor wire harness, or motor internal circuit, replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

12. Disconnect the motor 1P connector and the motor 2P connector.
13. On the motorside, check for continuity between the following terminals of the motor 1P and the motor 2P connector.

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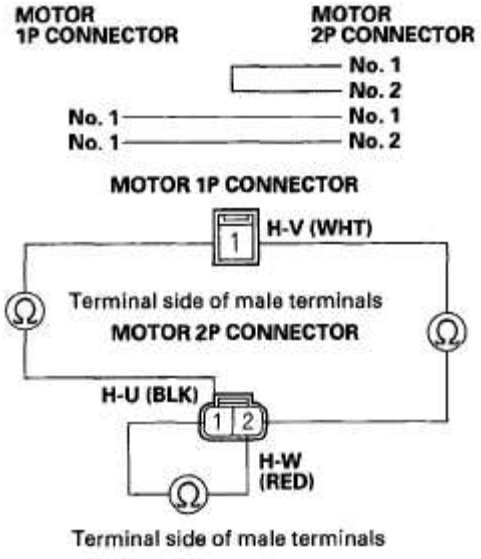



**Fig. 49: Checking Continuity Between Terminals Of Motor 1P And Motor 2P Connector**

*Is there continuity?*

**YES** -Repair open in the wire harness between the EPS control unit and the motor.

**NO** -Open in the motor wire harness, or motor internal circuit, replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

**DTC 71-01: MOTOR ANGLE SENSOR (SIN/COS SIGNALS) (STEERING DIAGNOSIS); DTC 71-02: MOTOR ANGLE SENSOR (NEUTRAL POSITION LEARNING OF SIN/COS) (INITIAL DIAGNOSIS); DTC 71-03: MOTOR ANGLE SENSOR (SIN/COS SIGNALS) (STEERING DIAGNOSIS); DTC 71-05: MOTOR ANGLE SENSOR (SIN/COS SIGNALS CHANGING AMOUNT) (STEERING DIAGNOSIS); DTC 71-06: MOTOR ANGLE SENSOR (NEUTRAL POSITION OF SIN/COS) (INITIAL DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.
4. Turn the steering wheel to the right or left, and wait 10 seconds or more.

*Does the EPS indicator come on?*

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**YES** -Go to step 5.

**NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

5. Check for DTCs with the HDS.

   *Is DTC 71-01, 71-02, 71-03, 71-05 or 71-06 indicated?*

   **YES** -Go to step 6.

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

6. Turn the ignition switch to LOCK (0).
7. Disconnect EPS control unit connector D (28P).
8. Measure the resistance between the following terminals of EPS control unit connector D (28P).

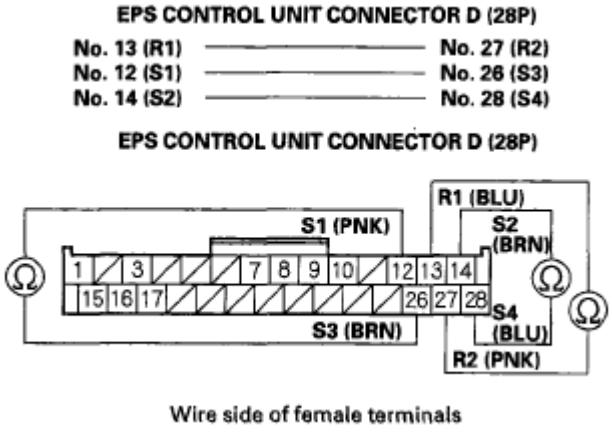



**Fig. 50: Measuring Resistance Between Following Terminals Of EPS Control Unit Connector D (28P)**

*Is the resistance between R1-R2 13-25 ohms, S1-S3 26-49 ohms, and S2-S4 26-49 ohms?*

**YES** -Go to step 9.

**NO** -Go to step 12.

9. Check for continuity between body ground and EPS control unit connector D (28P) No. 12 terminal, No. 13 terminal, No. 14 terminal, No. 26 terminal, No. 27 terminal, and No. 28 terminal individually.

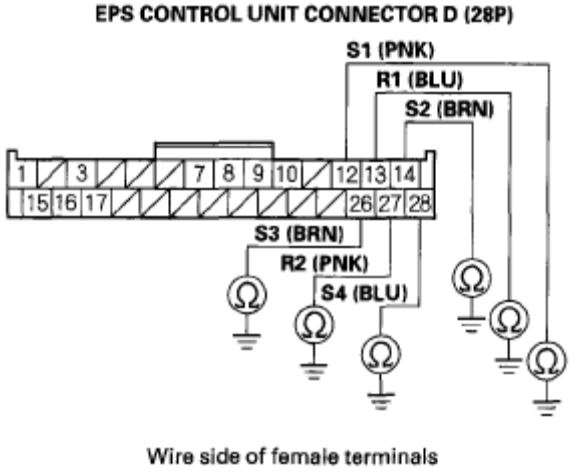



**Fig. 51: Checking Continuity Between Body Ground And EPS Control Unit Connector D (28P) No. 12 Terminal, No. 13 Terminal**

*Is there continuity?*

**YES** -Go to step 10.

**NO** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

10. Disconnect the motor angle sensor 6P connector.
11. Check for continuity between body ground and motor angle sensor 6P connector No. 1 terminal, No. 2 terminal, No. 3 terminal, No. 4 terminal, No. 5 terminal, and No. 6 terminal individually.

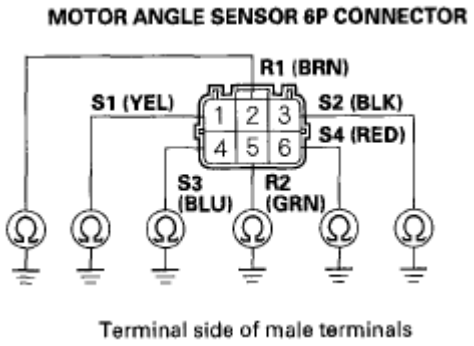



**Fig. 52: Checking Continuity Between Body Ground And Motor Angle Sensor 6P Connector No. 1 Terminal, No. 2 Terminal, No. 3 Terminal**

*Is there continuity?*

**YES** -Faulty motor angle sensor (internal failure), or short to body ground in the wire (sensor side), replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

**NO** -Repair short to body ground in the wire between the motor angle sensor 6P connector and the EPS control unit.

12. Disconnect the motor angle sensor 6P connector.
13. Measure resistance between the following terminals of the motor angle sensor 6P connector.

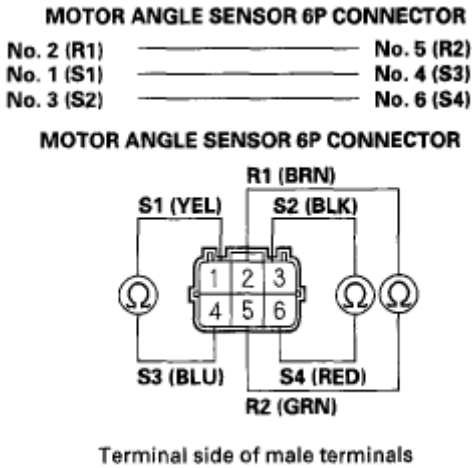



**Fig. 53: Measuring Resistance Between Following Terminals Of Motor Angle Sensor 6P Connector**

*Is the resistance between R1-R2 13-25 ohms, S1-S3 26-49 ohms, and S2-S4 26-49 ohms?*

**YES** -Open, or short to body ground in the wire between the motor angle sensor 6P connector and the EPS control unit.

**NO** -Faulty motor angle sensor (internal failure), or short to body ground in the wire (sensor side), replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

**DTC 71-04: MOTOR ANGLE SENSOR (CHECK SIGNALS) (REGULAR DIAGNOSIS)**

1. Clear the DTC with the HDS.
2. Turn the ignition switch to LOCK (0).
3. Start the engine.
4. Turn the steering wheel to the right or left, and wait 10 seconds or more.

   *Does the EPS indicator come on?*

   **YES** -Go to step 5.

   **NO** -Check for loose terminals or poor connections. If the connections are good, the system is OK at this time.

5. Check for DTCs with the HDS.

   *Is DTC 71-04 indicated?*

   **YES** -Go to step 6.

   **NO** -Troubleshoot the indicated DTC. If there are no DTCs, the system is OK at this time.

6. Turn the ignition switch to LOCK (0).
7. Disconnect EPS control unit connector D (28P).
8. Measure the resistance between the EPS control unit connector D (28P) terminal No. 13 and No. 27.

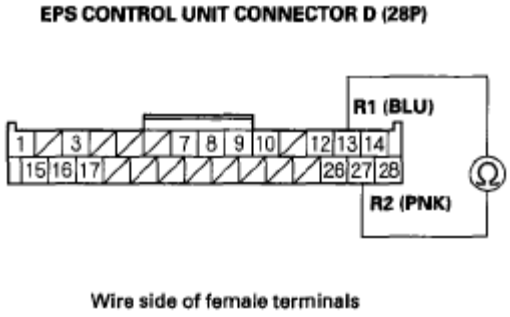



**Fig. 54: Measuring Resistance Between EPS Control Unit Connector D (28P) Terminal No. 13 And No. 27**

*Is the resistance between 13-25 ohms?*

**YES** -Go to step 9.

**NO** -Go to step 12.

9. Check for continuity between body ground and the EPS control unit connector D (28P) No. 13 terminal and the No. 27 terminal individually.

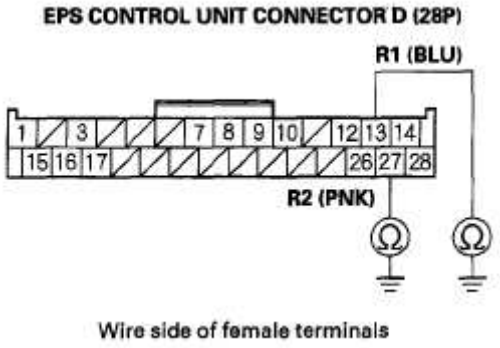



**Fig. 55: Checking Continuity Between Body Ground And EPS Control Unit Connector D (28P) No. 13 Terminal And No. 27 Terminal**

*Is there continuity?*

**YES** -Go to step 10.

**NO** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

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10. Disconnect the motor angle sensor 6P connector.
11. Check for continuity between body ground and motor angle sensor 6P connector No. 2 terminal and the No. 5 terminal individually.

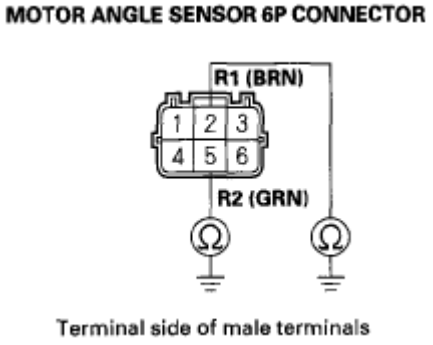



**Fig. 56: Checking Continuity Between Body Ground And Motor Angle Sensor 6P Connector No. 2 Terminal**

*Is there continuity?*

**YES** -Faulty motor angle sensor (internal failure), or short to body ground in the wire (sensor side), replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

**NO** -Repair short to body ground in the wire harness between the motor angle sensor 6P connector and the EPS control unit.

12. Disconnect the motor angle sensor 6P connector.
13. Measure the resistance between the motor angle sensor 6P connector terminals No. 2 and No. 5.

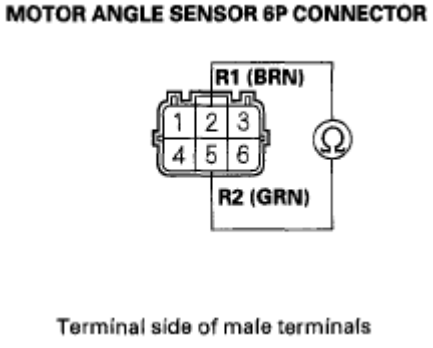


**Fig. 57: Measuring Resistance Between Motor Angle Sensor 6P Connector Terminals No. 2 And No. 5**

*Is the resistance between 13-25 ohms?*

**YES** -Open, or short to body ground in the wire harness between the motor angle sensor 6P connector and EPS control unit.

**NO** -Faulty motor angle sensor (internal failure), or short to body ground in the wire (sensor side), replace the motor (see **MOTOR REMOVAL AND INSTALLATION** ).

## SYMPTOM TROUBLESHOOTING

### EPS INDICATOR DOES NOT COME ON

1. Turn the ignition switch ON (II), and watch the EPS indicator.

   *Does the EPS indicator come on?*

   **YES** -The system is OK at this time.

   **NO** -Troubleshoot the gauge control module (tach) (see **SELF-DIAGNOSTIC FUNCTION** ).

### EPS INDICATOR DOES NOT GO OFF, AND NO DTCS ARE STORED

1. Turn the ignition switch to LOCK (0).
2. Connect the HDS to the data link connector (DLC).
3. Turn the ignition switch ON (II).
4. Check for DTCs with the HDS.

   *Are any DTCs indicated?*

   **YES** -Troubleshooting the indicated DTC.

   **NO** -Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Check the No. 4 (7.5 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

   **YES** -Reinstall the fuse, and go to step 7.

   **NO** -Replace the fuse, and recheck. If the fuse is blown, check for a short to body ground in this fuse circuit.

7. Disconnect EPS control unit connector D (28P).
8. Turn the ignition switch ON (II).
9. Measure voltage between EPS control unit connector D (28P) terminal No. 16 and body ground.

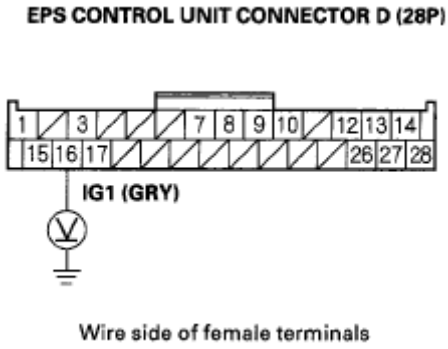



**Fig. 58: Measuring Voltage Between EPS Control Unit Connector D (28P) Terminal No. 16 And Body Ground**

   *Is the voltage between 9.20-17.4 V?*

   **YES** -Go to step 10.

   **NO** -Repair open in the wire between the EPS control unit and under-dash fuse/relay box.

10. Turn the ignition switch to LOCK (0).
11. Disconnect EPS control unit connector A (2P).
12. Check for continuity between EPS control unit connector A (2P) terminal No.

1 and body ground.

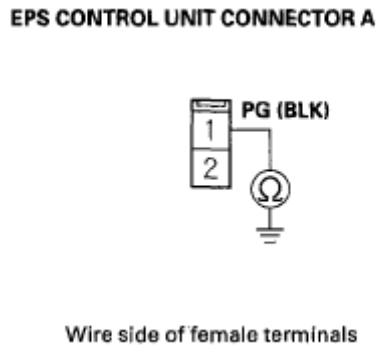



**Fig. 59: Checking Continuity Between EPS Control Unit Connector A (2P) Terminal No. 1 And Body Ground**

*Is there continuity?*

**YES** -Go to step 13.

**NO** -Repair open in the wire between the EPS control unit and body ground (G402).

13. Disconnect the gauge control module (tach) 36P connector and EPS control unit connector D (28P).
14. Check for continuity between EPS control unit connector D (28P) terminal No. 1 and gauge control module (tach) 36P connector terminal No. 1.

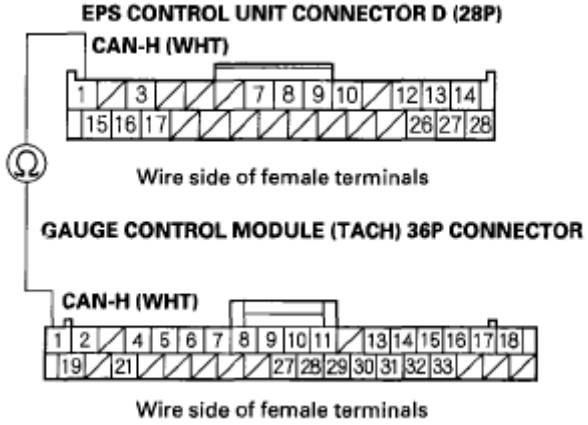



**Fig. 60: Checking Continuity Between EPS Control Unit Connector D (28P) Terminal No. 1 And Gauge Control Module**

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*Is there continuity?*

**YES** -Go to step 15.

**NO** -Repair open in the wire between the EPS control unit and the gauge control module (tach).

15. Check for continuity between EPS control unit connector D (28P) terminal No. 15 and gauge control module (tach) 36P connector terminal No. 19.

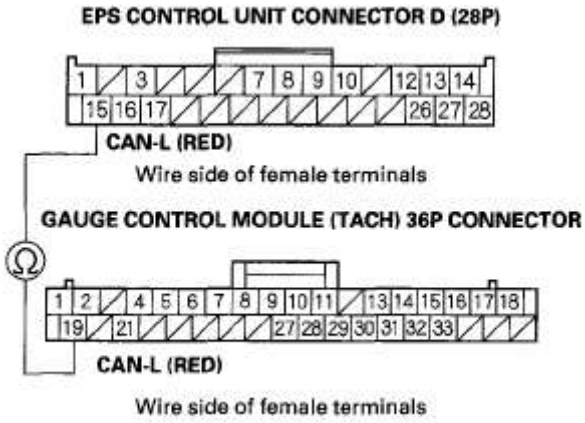



**Fig. 61: Check For Continuity Between EPS Control Unit Connector D (28P) Terminal No. 15**

*Is there continuity?*

**YES** -Check for loose terminals in the EPS control unit connectors, and repair if necessary. If no poor connections are found, replace the EPS control unit (see **EPS CONTROL UNIT REMOVAL/INSTALLATION** ).

**NO** -Repair open in the wire between the EPS control unit and the gauge control module (tach).

## MOTOR REMOVAL AND INSTALLATION

### REMOVAL

**NOTE: Do not allow dust, dirt, or other foreign materials to enter the steering gearbox.**

1. Remove the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).
2. Disconnect the torque sensor 3P connector (A) from the steering gearbox, then remove the harness clamp bolts and the ground terminal (B).

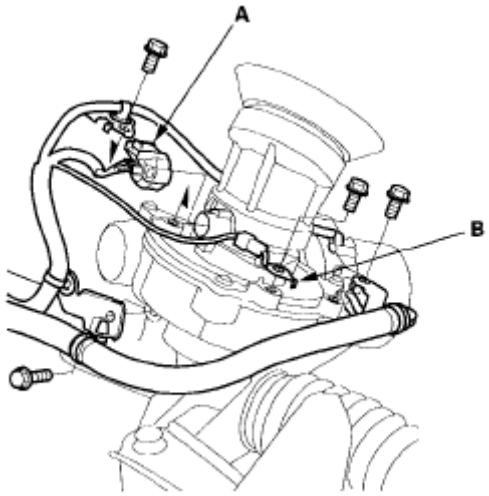



**Fig. 62: Identifying Steering Gearbox And Harness Clamp Bolts**

3. Remove the motor (A) from the steering gearbox, then remove the O-ring (B) and discard it.

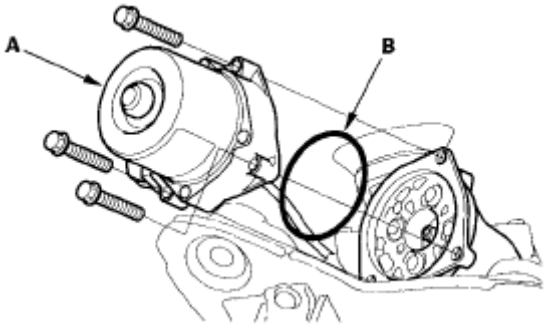



**Fig. 63: Identifying Motor (A) From Steering Gearbox And O-Ring**

**INSTALLATION**

1. Clean the mating surface of the motor (A) and the steering gearbox.

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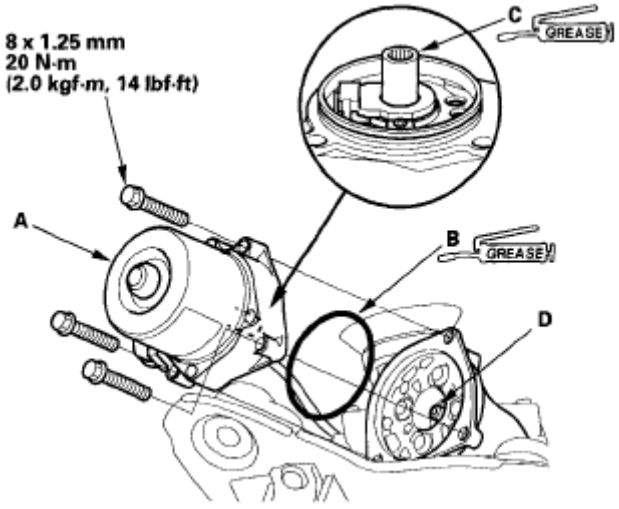



**Fig. 64: Identifying Mating Surface Of Motor (A) And Steering Gearbox**

2. Apply a thin coat of silicone grease to the new O-ring (B), and carefully fit it on the motor.
3. Apply grease (Shell steering gear grease or Honda's equivalent steering gear grease) into the motor shaft (C).
4. Install the motor on the steering gearbox by engaging the motor shaft and the worm shaft (D).
5. Before tightening the bolts, turn the motor two or three times to the right and left about 45 degrees. Make sure the motor is evenly seated on the steering gearbox, and that the O-ring is not pinched between the mating surfaces.
6. Connect the torque sensor 3P connector (A) to the steering gearbox, then install the harness clamp bolts and the ground terminal (B).

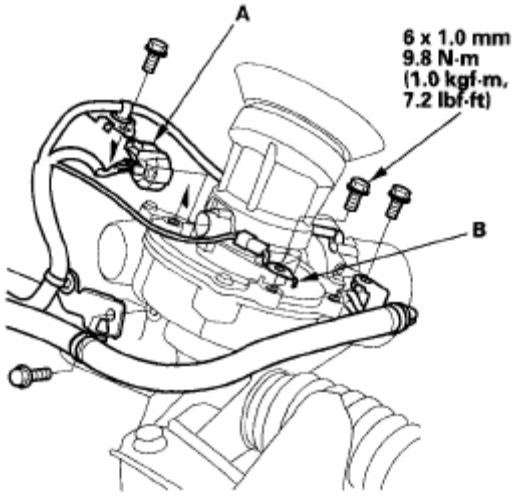



**Fig. 65: Identifying Steering Gearbox Harness Clamp Bolts (With Torque Specifications)**

7. Finish the installation, and note these items:
   - Make sure the torque sensor 3P connector is properly connected.
   - Make sure the motor and the EPS wires are not caught or pinched by any parts.
8. Install the steering gearbox (see **INSTALLATION** ).

## STEERING GEARBOX REMOVAL AND INSTALLATION

### Special Tools Required

- Ball joint remover, 28 mm 07MAC-SL0A202
- Engine hanger/adaptor VSB02C000015 *
- Front subframe adaptor VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *

* Available through the American Honda Tool and Equipment program, 1-888-424-6857.

**REMOVAL**

Note these items during removal:

- Use solvent and a brush to wash any oil and dirt off the end of the steering gearbox. Avoid any electrical parts. Blow dry with compressed air.
- Make sure to remove the steering wheel before disconnecting the steering joint to avoid damaging the cable reel.

1. Make sure you have the anti-theft code for the audio or navigation system, then write down the audio presets.
2. Make sure the ignition switch is OFF, then disconnect the negative cable from the battery.
3. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
4. Remove the front wheels.
5. Remove the steering wheel (see **STEERING WHEEL REMOVAL** ).
6. Remove the driver's dashboard under cover (see **DRIVER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
7. Remove the steering joint cover (A).

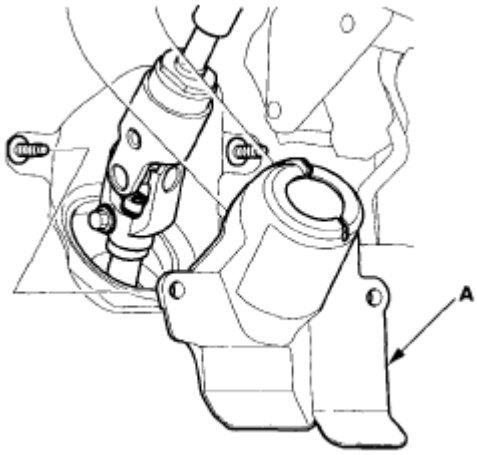



**Fig. 66: Identifying Steering Joint Cover (A)**

8. Hold the lower slide shaft (A) on the column with a piece of wire (B) between the joint yoke (C) of the lower slide shaft and joint yoke (D) of the upper shaft to prevent the slider shaft from pulling out.

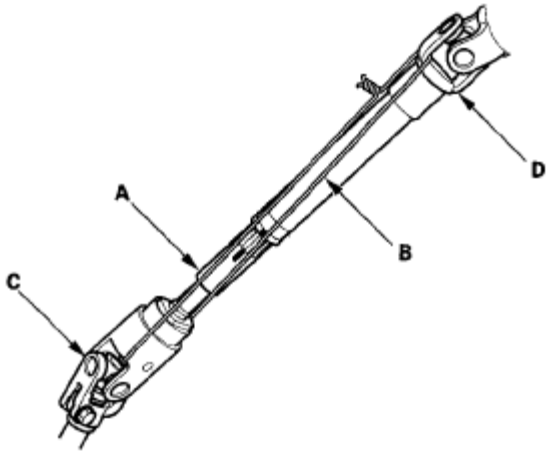



**Fig. 67: Identifying Lower Slide Shaft With Wire Between Joint Yokes**

9. Release the lock lever, and adjust the steering column to the full telescopic out position, then tighten the lock lever.
10. Remove the steering joint bolt (A), and disconnect the steering joint by moving the steering joint (B) toward the column..

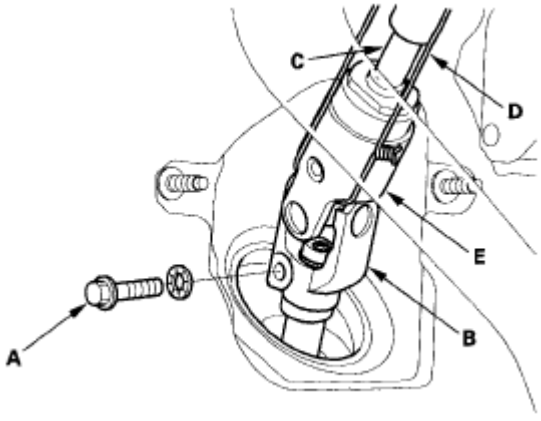



**Fig. 68: Identifying Steering Joint Moving Steering Joint Toward Column**

11. Remove the center guide (A) (if equipped), and discard it. The center guide is for factory assembly only.

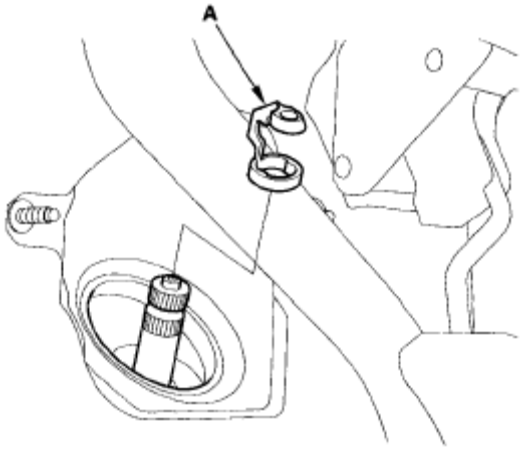



**Fig. 69: Identifying Center Guide**

12. Remove the under cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
13. Remove the air cleaner housing.
    - For R18A1 engine (see **THROTTLE BODY CLEANING** )
    - For K20Z3 engine (see **AIR CLEANER REMOVAL/INSTALLATION** )
14. Attach the engine hanger adapter to the threaded hole in the cylinder head.

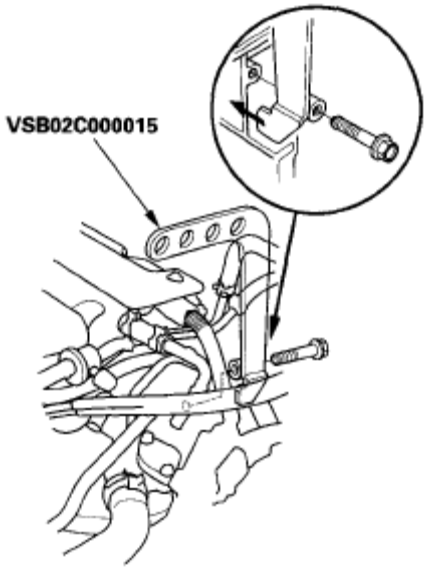



**Fig. 70: Identifying Cylinder Head**

15. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger. Carefully position the engine hanger on the vehicle, and attach the hook to the forward hole in the engine hanger/adapter (D). Tighten the wing nut by hand to lift and support the engine/transmission assembly.

**NOTE: Be careful when working around the windshield.**

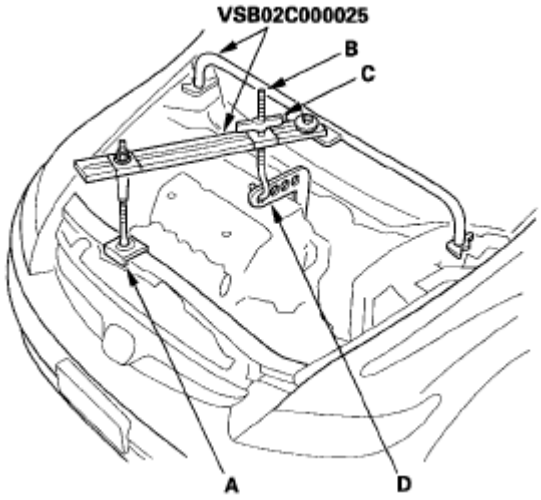



**Fig. 71: Identifying Front Leg Assembly (A)**

16. Remove the cotter pin (A) from the 12 mm nut (B), and loosen the nut.

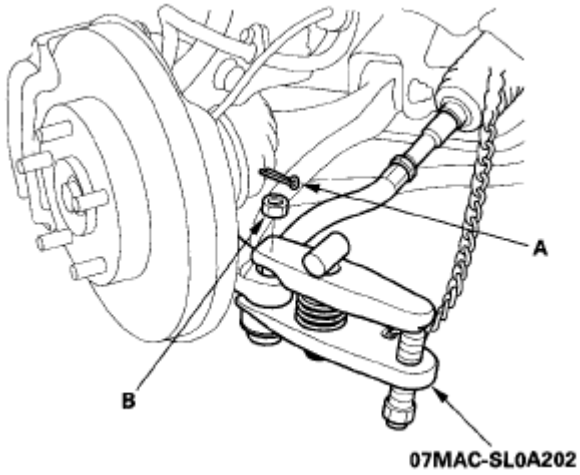



**Fig. 72: Identifying Cotter Pin (A)**

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17. Separate the tie-rod ball joint and the knuckle using the ball joint remover (see **BALL JOINT REMOVAL** ).
18. Remove the front splash shield (see **FRONT SPLASH SHIELD REPLACEMENT** ).
19. Disconnect the torque sensor 4P connector (A), motor angle sensor 6P connector (B), motor IP connector (C), and motor 2P connector (D) from the right side of the steering gearbox. Wrap the connectors with vinyl tape to avoid contamination from grease or water.




**Fig. 73: Identifying Motor Angle Sensor 6P Connector (B)**

20. Remove the lower ball joint mounting bolt (A) and the flange nuts (B) from the lower arm.

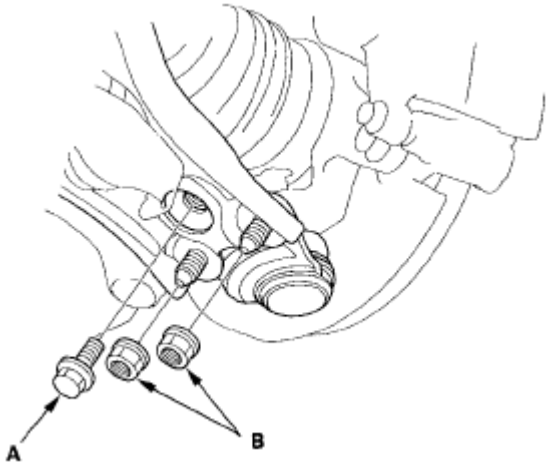


**Fig. 74: Identifying Lower Ball Joint Mounting Bolt**

21. Disconnect the lower arm from the lower ball housing.
22. Remove the exhaust hanger (A) from the three way catalytic converter (TWC) (B).

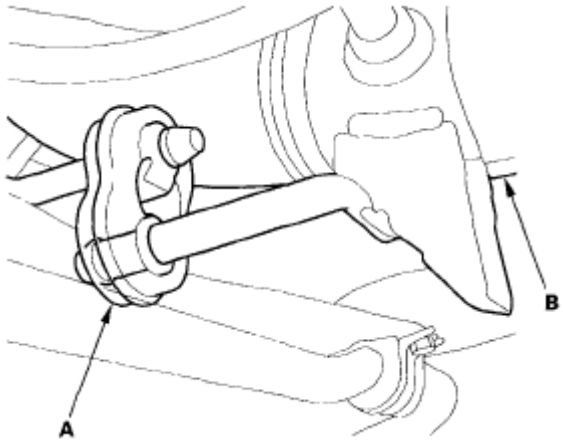



**Fig. 75: Identifying Exhaust Hanger (A) From Three Way Catalytic Converter (TWC)**

23. Note the reference marks (A) on both sides of the subframe that line up with the body (B).

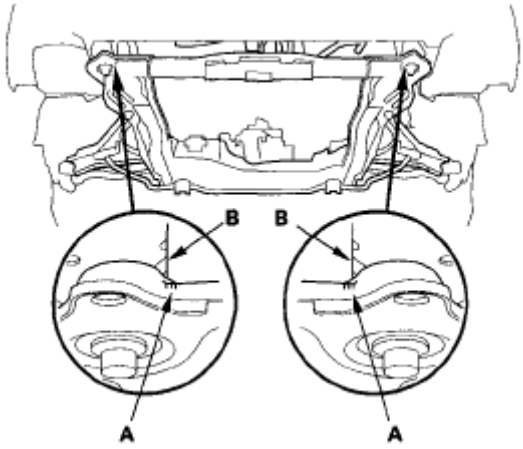



**Fig. 76: Identifying Subframe Line Up With Body (B)**

24. Attach the front subframe adaptor (A) to the front subframe (B) and the transmission jack (model number LSL-W9371) or the powertrain lift (model

number OTC-1585), then tighten the front subframe adaptor screw.

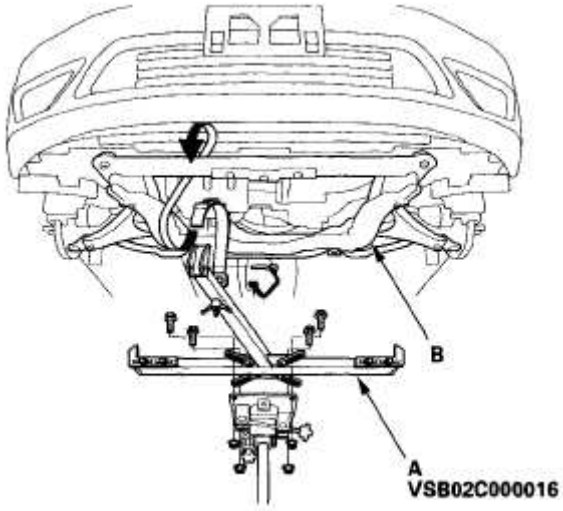



**Fig. 77: Identifying Front Subframe Adaptor To Front Subframe**

25. Make sure the front subframe is securely supported by the jack with the front subframe adaptor.
26. Remove the front subframe middle mount bolt (A) from the left side.

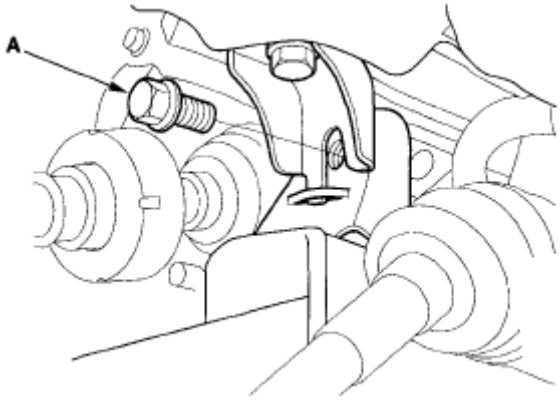



**Fig. 78: Identifying Front Subframe Middle Mount Bolt (A) From Left Side**

27. Remove the front subframe middle mount bolt (A) from the right side.

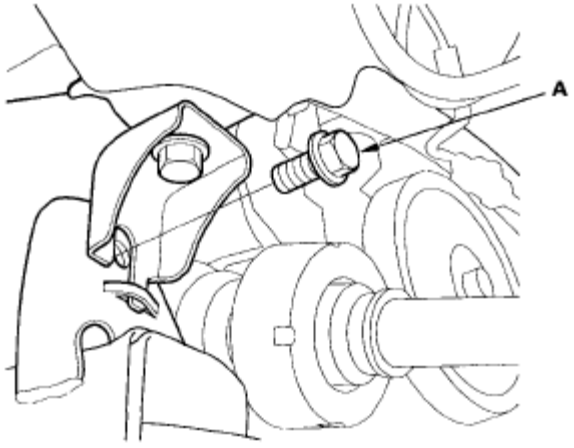



**Fig. 79: Identifying Front Subframe Middle Mount Bolt (A) From Right Side**

28. Remove the lower torque rod mounting bolt (A) and discard it.

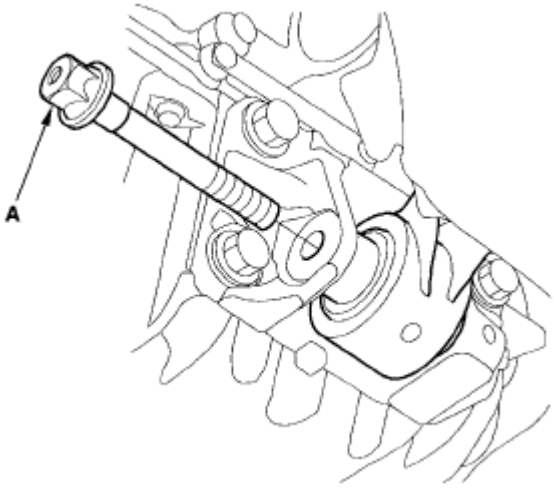



**Fig. 80: Identifying Lower Torque Rod Mounting Bolt**

29. Remove the lower radiator hose (A) from the radiator hose stay (B).

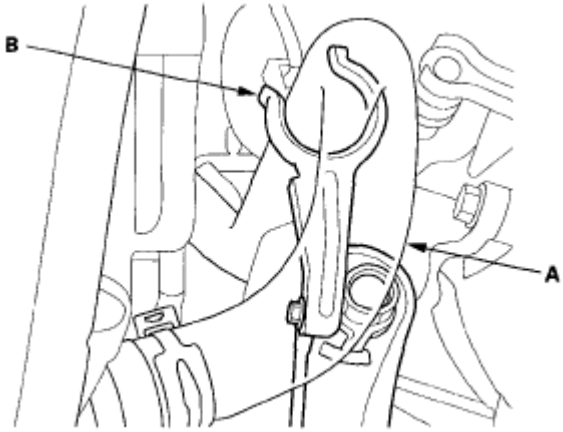



**Fig. 81: Identifying Lower Radiator Hose From Radiator Hose Stay**

30. Remove the lower engine mounting bolt (A) while holding the nut (B) with a wrench and discard it.

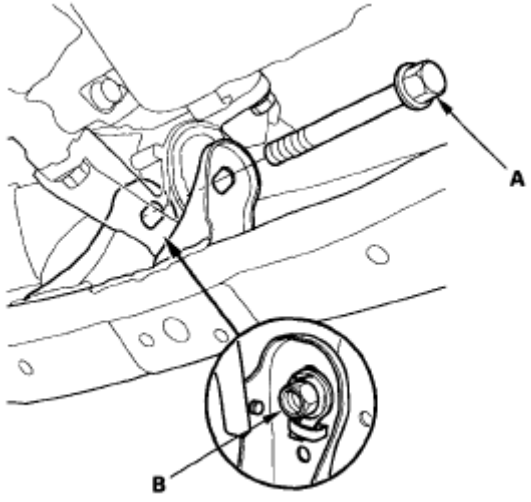



**Fig. 82: Identifying Lower Engine Mounting Bolt**

31. Remove the front subframe front mounting bolts (A) from the right and left sides of the vehicle, and discard them.

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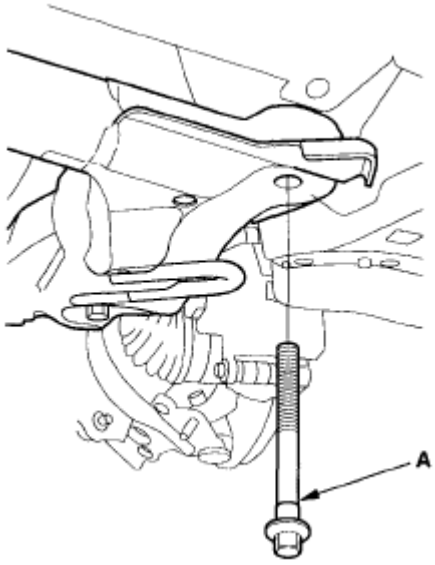



**Fig. 83: Identifying Front Subframe Front Mounting Bolts**

32. Remove the front subframe rear mounting bolts (A) from the right and left sides of the vehicle, and discard them.

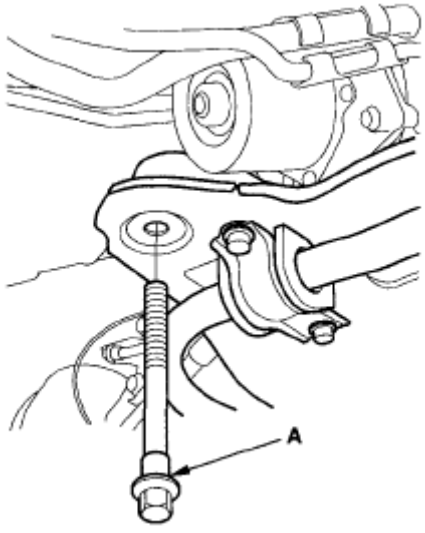



**Fig. 84: Identifying Front Subframe Rear Mounting Bolts From Right And Left Sides Of Vehicle**

33. Lower the front subframe and steering gearbox as an assembly by lowering the jack slowly.
34. Remove the harness clamp bracket (A) from the front subframe, then remove

the harness clips (B).

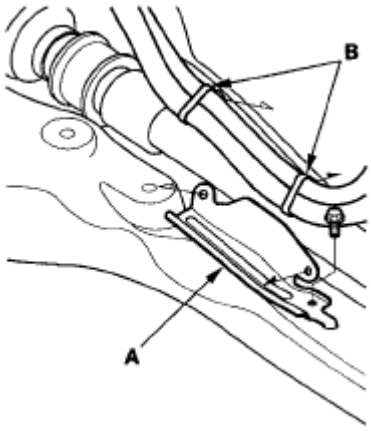



**Fig. 85: Identifying Harness Clamp Bracket From Front Subframe**

35. Remove the torque sensor 4P connector (A), motor angle sensor 6P connector (B), motor 1P connector (C) and motor 2P connector (D) from the right side of the gearbox mounting bracket (E).

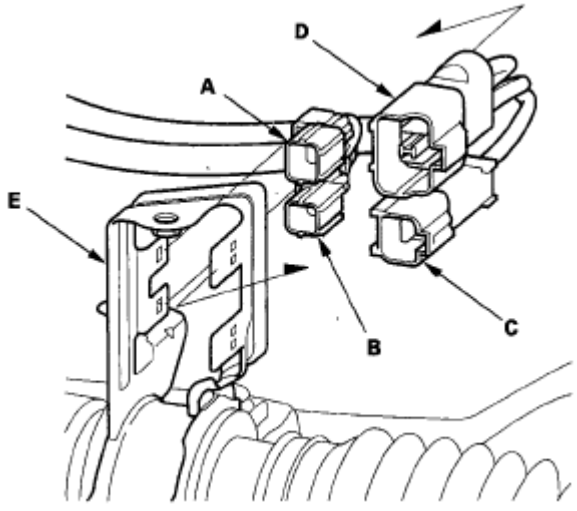



**Fig. 86: Identifying Torque Sensor 4P Connector Motor Angle Sensor 6P Connector**

36. Remove the pinion shaft grommet (A) from the top of the torque sensor.

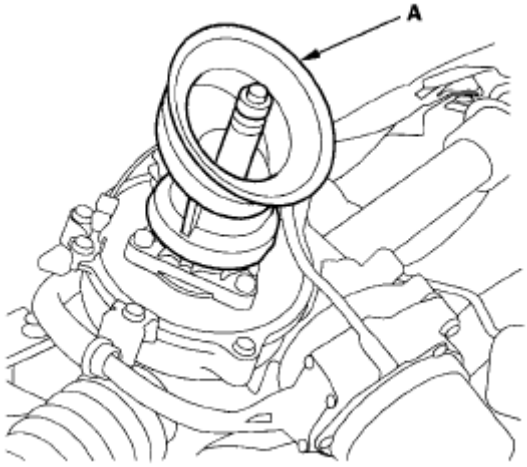



**Fig. 87: Identifying Pinion Shaft Grommet (A) From Top Of Torque Sensor**

37. Remove the two 10 mm bolts from the right side of the steering gearbox, then remove the gearbox mounting bracket (A) and the mounting cushion (B).

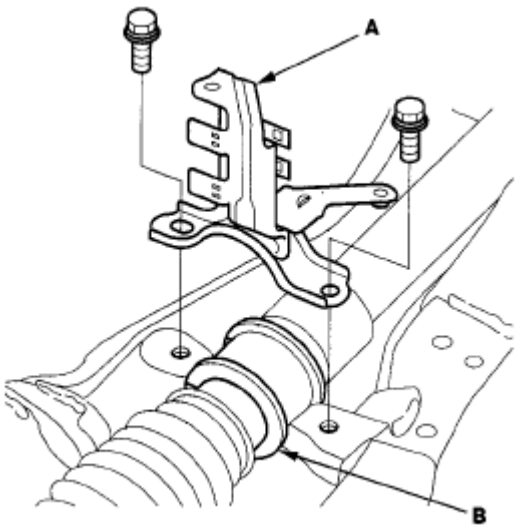



**Fig. 88: Identifying Steering Gearbox**

38. Remove the four 10 mm flange bolts from the left side of the steering gearbox, then remove the stiffener plates (A).

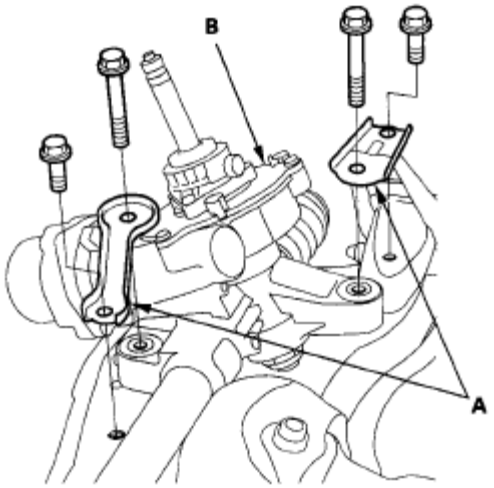



**Fig. 89: Identifying Steering Gearbox**

39. Remove the steering gearbox (B) from the front subframe.

**Installation**

1. Place the steering gearbox in position on the front subframe.
2. Loosely install the stiffener plates (A) and the gearbox mounting bolts on the left side of the steering gearbox.

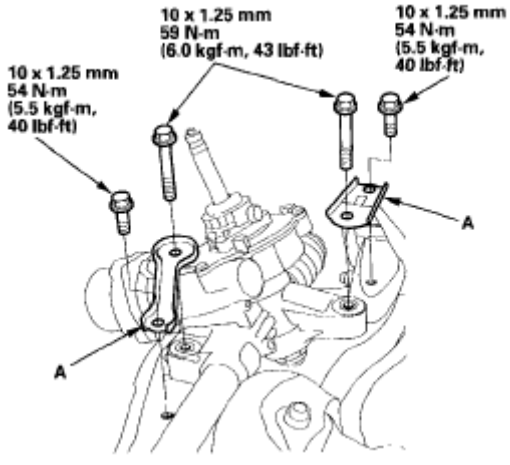



**Fig. 90: Identifying Stiffener Plates (A) And Gearbox Mounting Bolts (With Torque Specifications)**

3. Position the cutout (A) on the mounting cushion (B) as shown, and install it on the right side of the steering gearbox securely.

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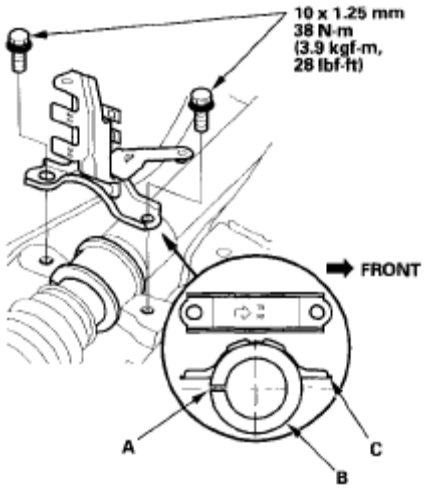



**Fig. 91: Identifying Cutout (A) On Mounting Cushion (With Torque Specifications)**

4. Install the gearbox mounting bracket (C) over the mounting cushion, and loosely install the two 10 mm bolts.
5. Tighten the 10 mm bolts on both sides of the steering gearbox to the specified torque alternately in two or more steps.
6. Install the pinion shaft grommet (A). Align the slot in the pinion shaft grommet with the lug portion (B) on the torque sensor. The grommet must not have a gap at the mating surface of the grommet and the torque sensor.

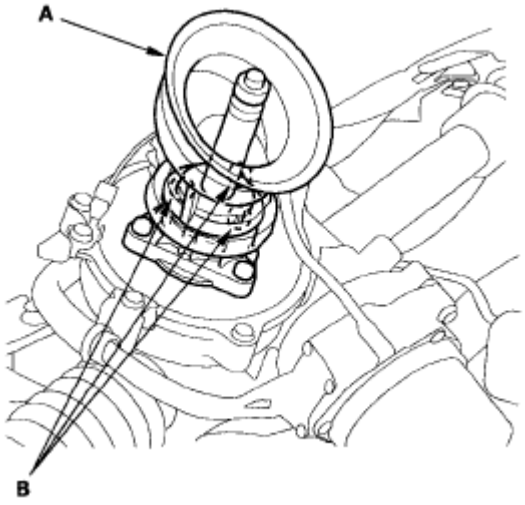



**Fig. 92: Identifying Pinion Shaft Grommet (A)**

7. Install the torque sensor 4P connector (A), motor angle sensor 6P connector (B), motor 1P connector (C), and motor 2P connector (D) on the right side of the gearbox mounting bracket (E).

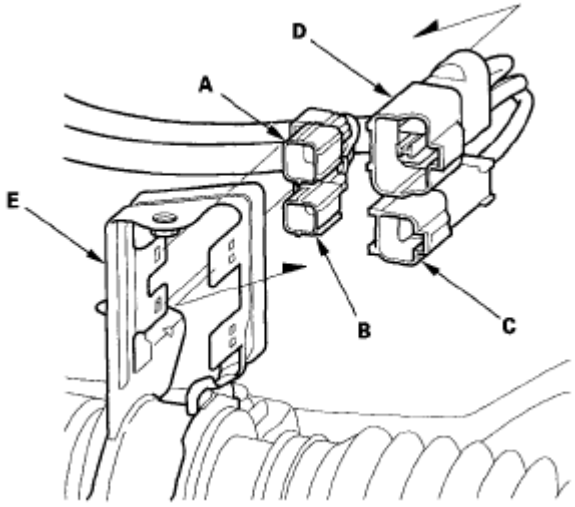



**Fig. 93: Identifying Gearbox Mounting Bracket**

8. Install the harness clips (A) to the harness clamp bracket (B), then install the harness clamp bracket to the front subframe.

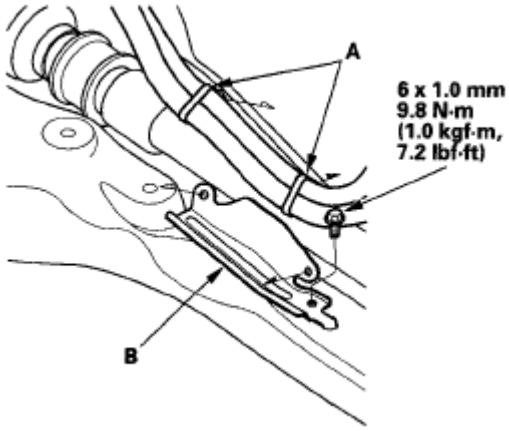



**Fig. 94: Identifying Harness Clamp Bracket (With Torque Specifications)**

9. Carefully raise the front subframe with the front subframe adapter and the transmission jack or the powertrain lift until the subframe is in position, then loosely install new subframe mounting bolts.

**NOTE: Be sure that the pinion shaft grommet is in place securely. Check whether the pinion shaft grommet is not turning up. Incorrect installation can cause leakage of water, mud, and noise.**

10. Align the front subframe reference marks (A) to the body (B), as noted during removal.

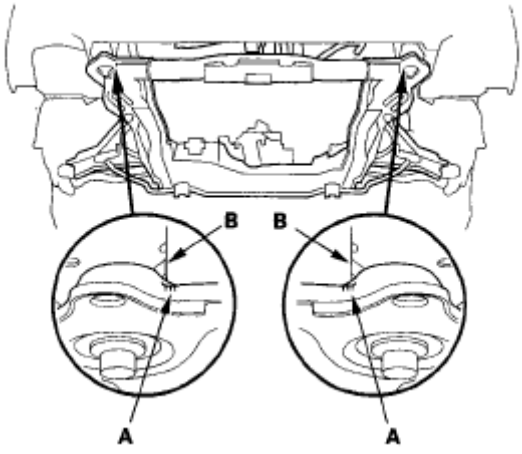



**Fig. 95: Identifying Front Subframe Reference Marks To Body**

11. Tighten the new front subframe rear mounting bolts (A) to the specified torque.

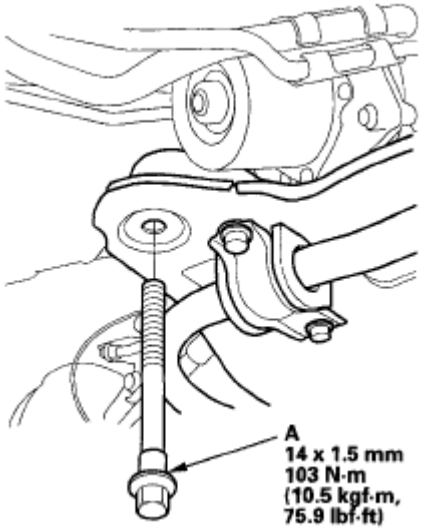



**Fig. 96: Identifying Front Subframe Rear Mounting Bolts (With Torque Specifications)**

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12. Tighten the new front subframe front mounting bolts (A) to the specified torque.

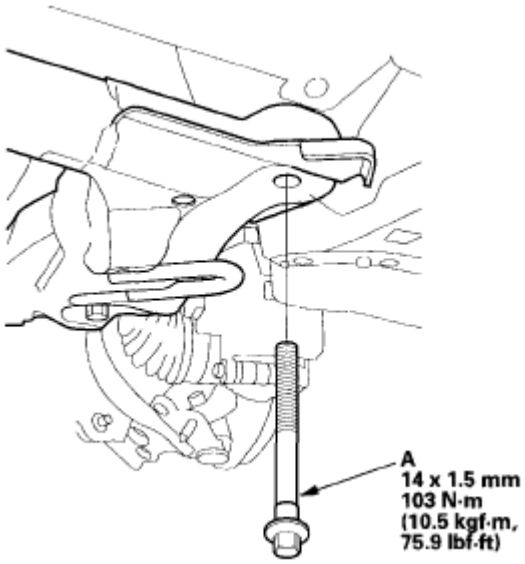



**Fig. 97: Identifying Front Subframe Front Mounting Bolts (With Torque Specifications)**

13. Install the new lower engine mounting bolt (A) while holding the nut (B) with a wrench.

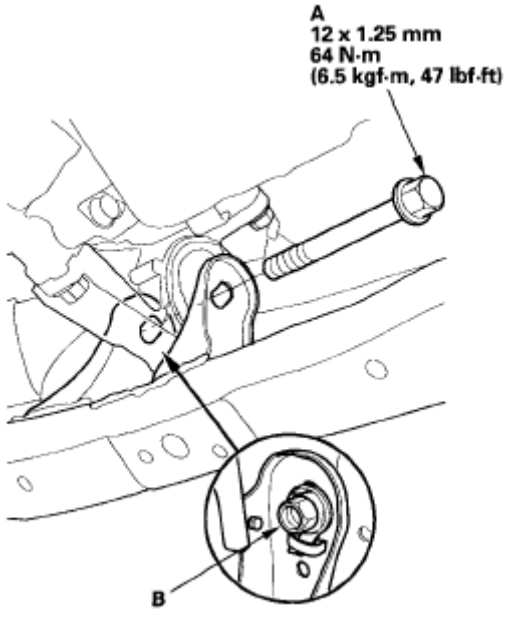



**Fig. 98: Identifying Lower Engine Mounting Bolt (With Torque**

**Specifications)**

14. Install the lower radiator hose (A) to the radiator hose stay (B).

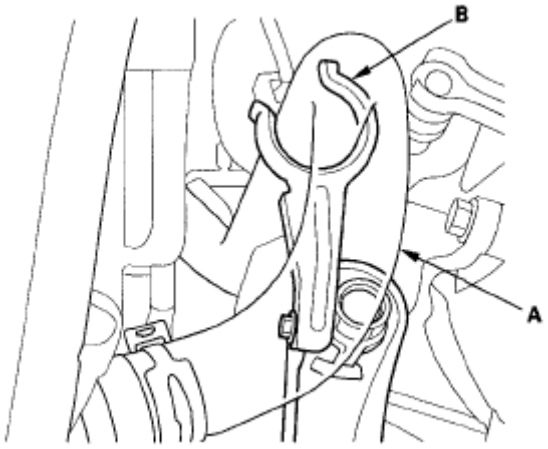



**Fig. 99: Identifying Lower Radiator Hose (A) To Radiator Hose Stay**

15. Install the new lower torque rod bracket bolt (A) and tighten it to the specified torque.

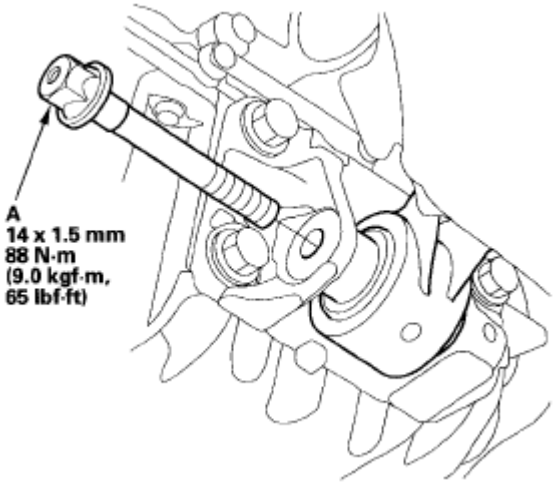



**Fig. 100: Identifying Lower Torque Rod Bracket Bolt (With Torque Specifications)**

16. Install the new front subframe middle mount bolt (A) on the left side, and tighten it to the specified torque.

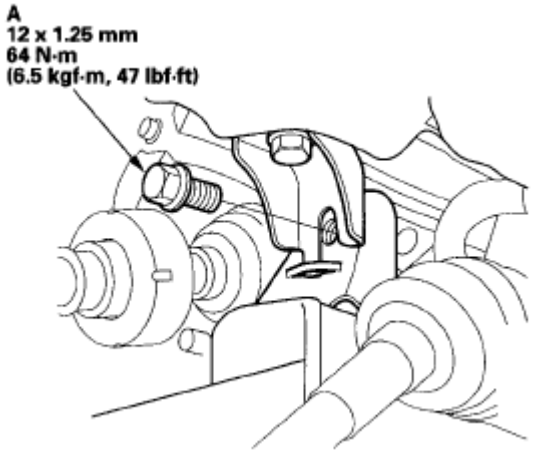



**Fig. 101: Identifying Front Subframe Middle Mount Bolt (A) On Left Side (With Torque Specifications)**

17. Install the new front subframe middle mount bolt (A) on the right side, and tighten it to the specified torque.

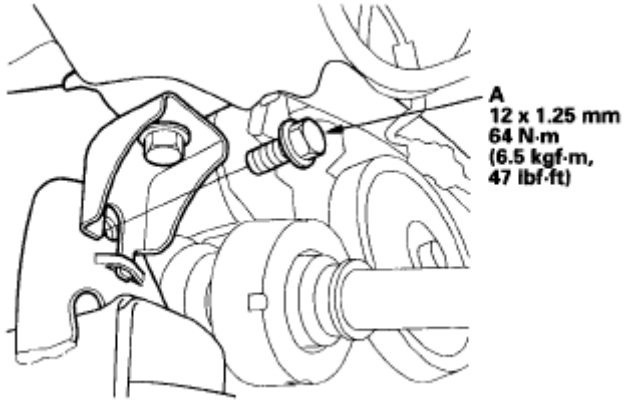



**Fig. 102: Identifying Front Subframe Middle Mount Bolt (With Torque Specifications)**

18. Install the exhaust hanger (A) to the three way catalytic converter (TWO (B).

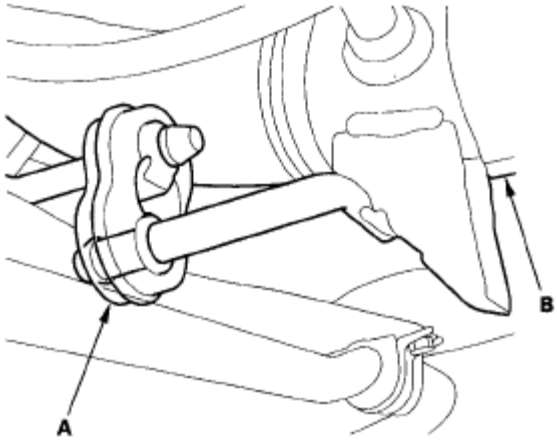



**Fig. 103: Identifying Exhaust Hanger (A) To Three Way Catalytic Converter**

19. Connect the lower arm (A) to the lower ball joint (B).

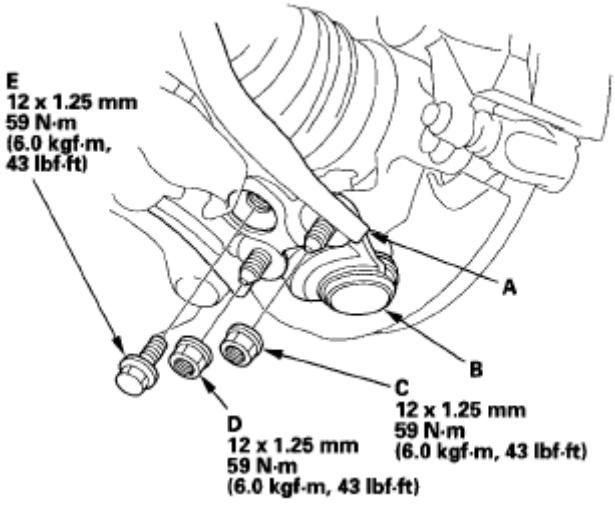



**Fig. 104: Identifying Lower Arm (A) To Lower Ball (With Torque Specifications)**

20. Install a new flange bolt and the new flange nuts. After lightly tightening all three fasteners, tighten them to the specified torque in the following order; the flange nut on the front (C), the flange nut on the rear (D), then the flange bolt (E).
21. Remove the vinyl tape, then connect the torque sensor 4P connector (A), motor angle sensor 6P connector (B), motor 1P connector (C), and motor 2P connector (D) to the steering gearbox. Make sure to push these connectors until

you hear a click so that the connectors are secured.




**Fig. 105: Connecting Torque Sensor 4P Connector**

22. Install the front splash shield (see **FRONT SPLASH SHIELD REPLACEMENT** ).
23. Wipe off any grease contamination from the ball joint tapered section and the threads. Reconnect the tie-rod ends (A) to the steering knuckles. Install the 12 mm nut (B), and tighten it.

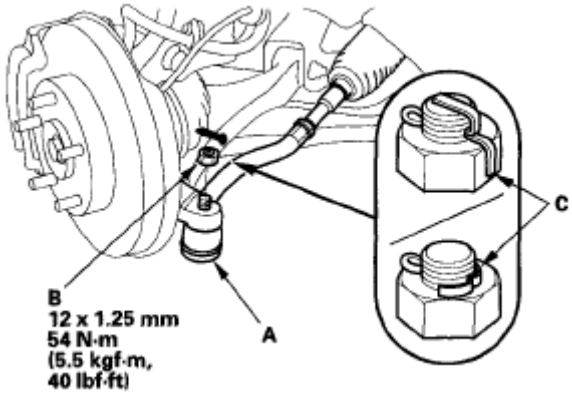



**Fig. 106: Identifying Front Splash Shield**

24. Install the new cotter pin (C), and bend it as shown.
25. Center the steering rack within its stroke in the steering joint connection.
26. With the rack in the straight ahead driving position, cut the wire (A) and slip the lower end of the steering joint onto the pinion shaft (B) in the range shown.

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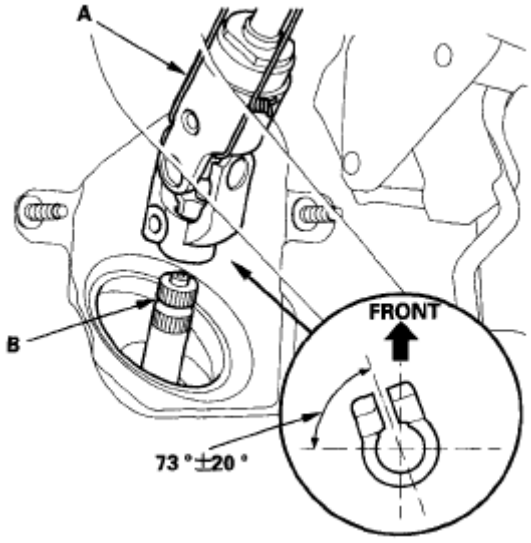



**Fig. 107: Identifying Center Steering Rack**

27. Align the bolt hole (A) on the steering joint with the groove (B) around the pinion shaft, and loosely install the joint bolt (C). Be sure that the joint bolt is securely in the groove in the pinion shaft. Pull on the steering joint to make sure that the steering joint is fully seated. Tighten the steering joint bolt to the specified torque.

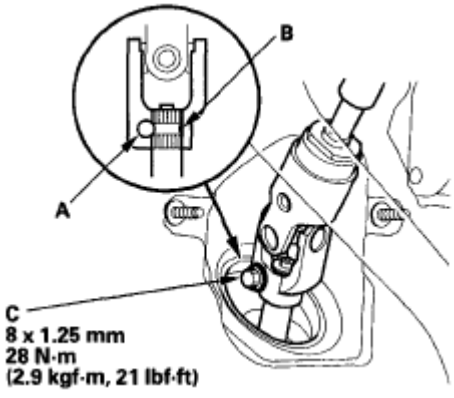



**Fig. 108: Identifying Steering Joint With Groove (B) Around Pinion Shaft (With Torque Specifications)**

28. Install the steering joint cover (A).

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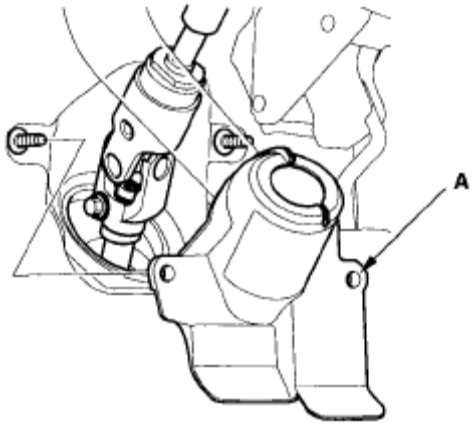



**Fig. 109: Identifying Steering Joint Cover (A)**

29. Install the driver's dashboard under cover (see **DRIVER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
30. Install the front wheel, then set the wheels in the straight ahead position.
31. Install the steering wheel (see **STEERING WHEEL INSTALLATION** ).
32. Holding the tires raised off the ground (lifted up), check for the following symptoms by turning the steering wheel fully to the right and left several times.

**SYMPTOM PROBABLE CAUSE REFERENCE**

| Symptom | Probable cause |
|---|---|
| Rubbing sound coming from the lower steering column area. | Steering column joint is contacting the cover. |
| Grating sound from the lower steering column area, or a rough feeling during steering. | Poor engagement of the pinion shaft serrations. |
| Noise from around the steering wheel during steering. | Poor engagement of the SRS cable reel with the steering wheel, or a damaged cable reel. |

33. Install the air cleaner housing (see **AIR CLEANER REMOVAL/INSTALLATION** ).
34. Install the under cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
35. Reconnect the negative cable to the battery and do these items:

- Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
- Enter the anti-theft code for the audio or navigation system, then enter the audio presets.
- Set the clock.
- Make sure the horn and turn signal switch work properly.
- Make sure the steering wheel switches work properly.
- Make sure the steering wheel is centered.
- Do the memorizing the torque sensor neutral position (see **MEMORIZING THE TORQUE SENSOR NEUTRAL POSITION** ).

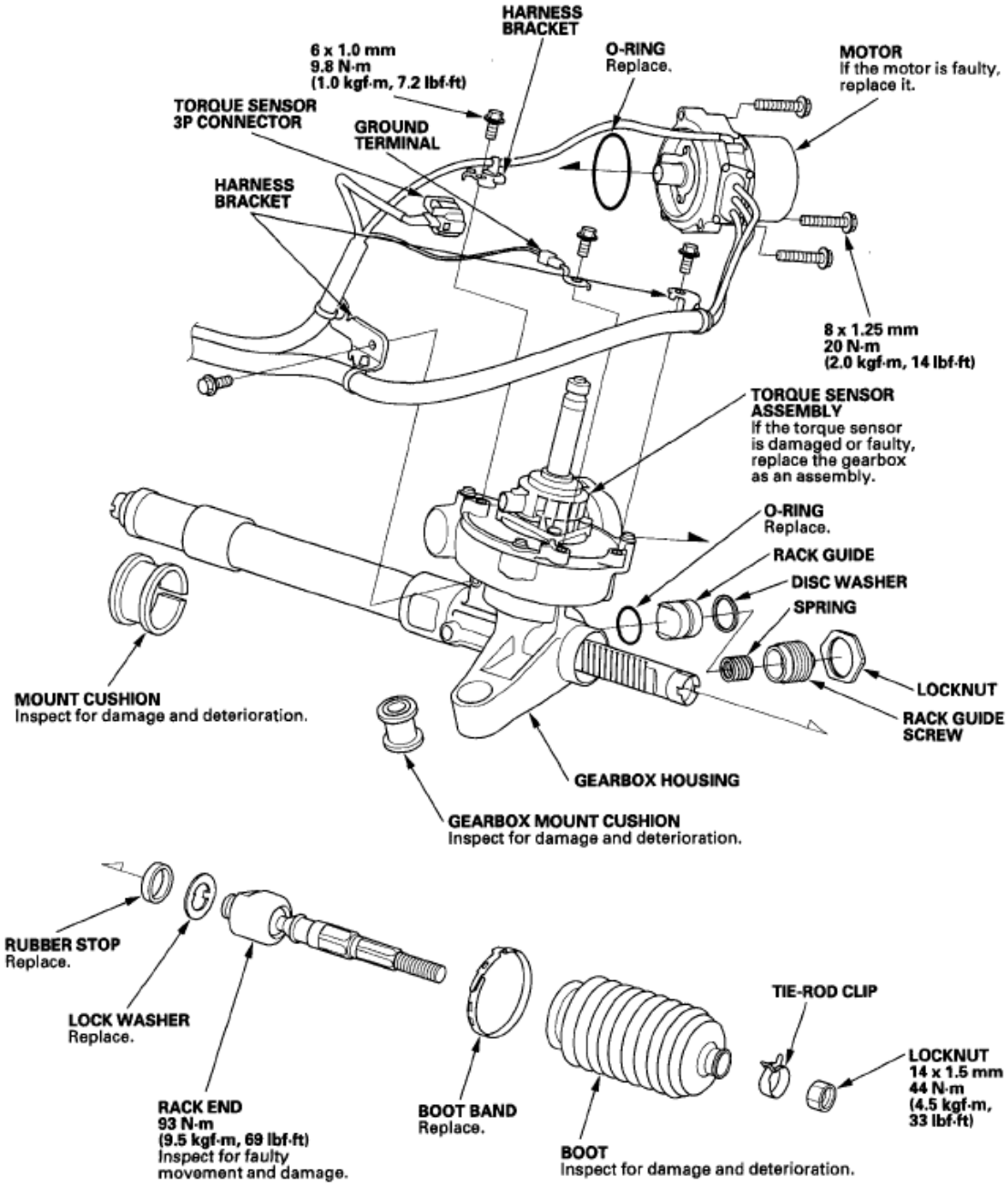
36. After installation, do the following checks:
    - Start the engine, and let it idle. Turn the steering wheel from lock-to-lock several times. Check that the EPS indicator does not come on.
    - Check the steering wheel spoke angle. If steering spoke angles to the right and left are not equal (steering wheel and rack are not centered), correct the engagement of the joint/pinion shaft serrations, then adjust the front toe by turning the tie-rod ends, if necessary.
    - Check the front toe inspection (see **FRONT TOE INSPECTION/ADJUSTMENT** ).

## RACK END REMOVAL AND INSTALLATION

**EXPLODED VIEW**

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## Fig. 110: Exploded View Of Rack End Components (With Torque Specifications)

**Removal**

**NOTE: Do not allow dust, dirt, or other foreign materials to enter the steering gearbox.**

1. Remove the boot bands (A) and discard them. Remove the tie-rod clips (B), and pull the boots away from the ends of the steering gearbox.

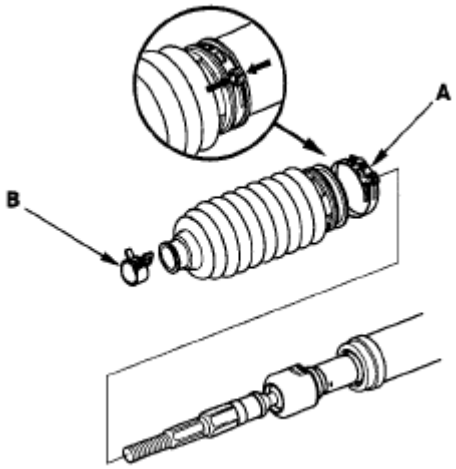



**Fig. 111: Identifying Boot Bands**

2. Unbend the lock washer (A).

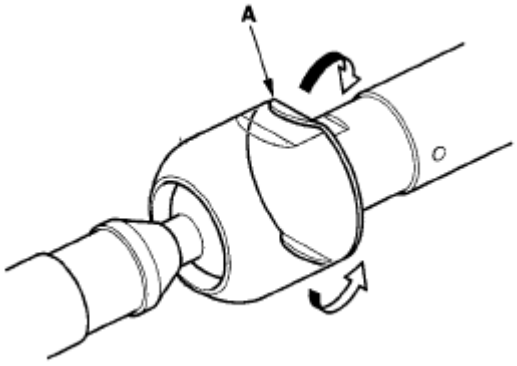



**Fig. 112: Identifying Unbend Lock Washer (A)**

3. Unscrew both rack ends (A) with a wrench. Be careful not to damage the rack shaft surface with the wrench. Remove the lock washer (B) and rubber stop (C) and discard them.

**NOTE: Hold the flat surfaces of the rack shaft on the pinion shaft side with another wrench.**

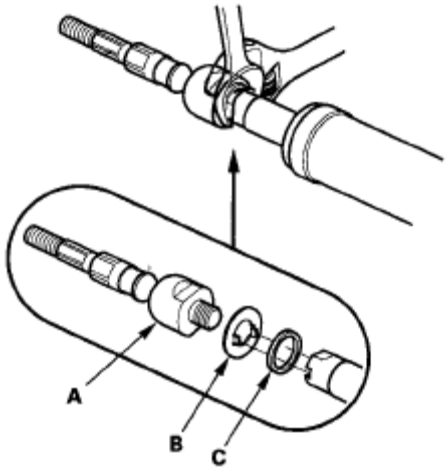



**Fig. 113: Identifying Rack Shaft On Pinion Shaft**

**Installation**

1. Install the new rubber stop (A) and lock washer (B) on the rack shaft. Align the lock washer tabs (C) with the slots (D) in the rack shaft. Install the rack end (E) while holding the lock washer in place. Repeat this step for the other side of the rack shaft.

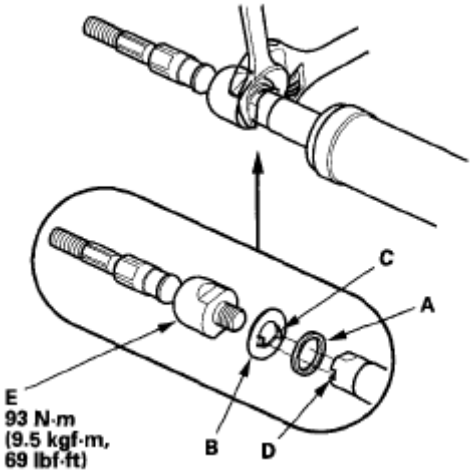



**Fig. 114: Identifying Rubber Stop (A) And Lock Washer (B) On Rack Shaft (With Torque Specifications)**

2. Tighten both rack ends. Be careful not to damage the rack shaft surface with the wrench.
3. Bend the lock washer (A) back against the flat spots (B) on the rack end ball

joint housing.

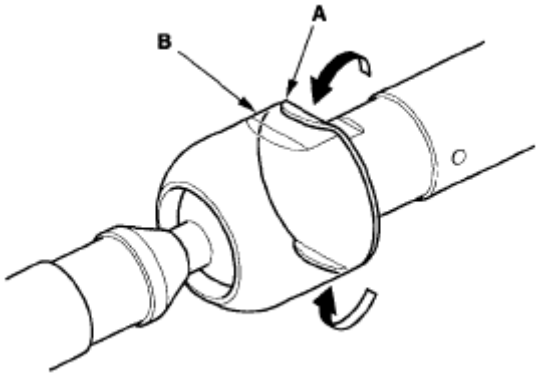



**Fig. 115: Identifying Lock Washer (A) Back Against Flat Spots (B) On Rack End Ball Joint Housing**

4. Apply multipurpose grease to the circumference of the rack end joint housing (A) and lock washer.

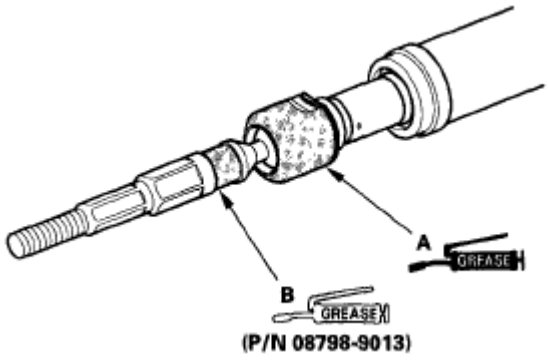



**Fig. 116: Identifying Multipurpose Grease To Circumference Of Rack End Joint Housing (A) And Lock Washer**

5. Apply a light coat of silicone grease (P/N 08798-9013) to the boot fitting grooves (B) on the rack ends.
6. Center the steering rack within its stroke.
7. Clean off any grease or contamination from the boot installation grooves (A) on the gearbox housing. Install the boots (B) on the rack ends with the tie-rod clips (C), and fit the boot end in the installation grooves in the housing properly.

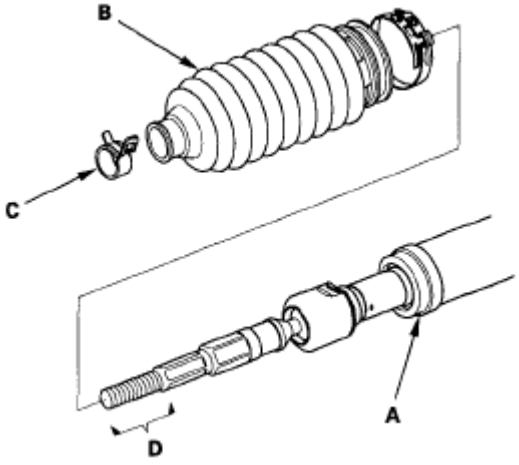



**Fig. 117: Identifying Steering Boot**

8. After installing the boots, wipe the grease off the thread section (D) of the rack end.
9. Install the new boot bands by aligning the tabs (A) with the holes (B) of the band.

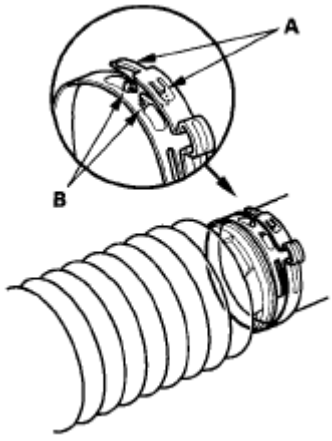



**Fig. 118: Identifying Boot Bands**

10. Close the ear portion (A) of the band (B) with commercially available pincers, Oetiker 1098 or equivalent (C).

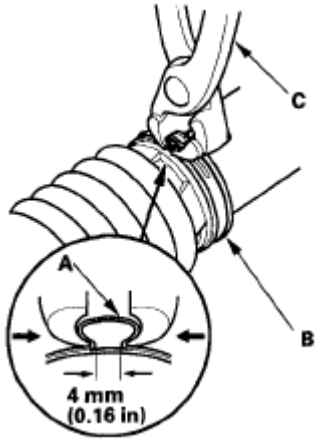



**Fig. 119: Identifying Pincers**

11. Slide the rack shaft right and left to be certain that the boots are not deformed or twisted.

## GEARBOX MOUNT CUSHION REPLACEMENT

1. Remove the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).
2. Position the 34 mm socket wrench (A) on the flange part of the gearbox housing with a washer (B), 10 x 105 mm flange bolt (C) and the 10 mm nut (D) as shown.

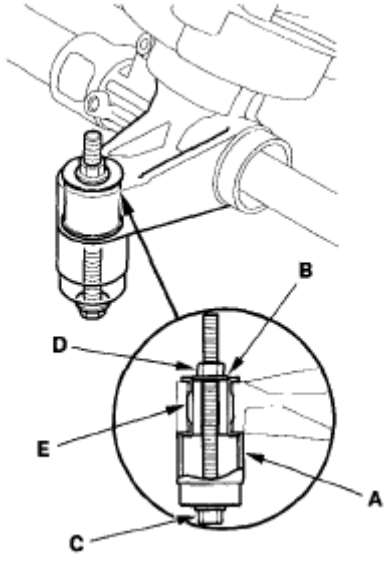



**Fig. 120: Identifying Steering Gearbox**

3. Hold the 10 mm nut with a wrench, and tighten the 10 x 105 mm flange bolt with another wrench. Remove the gearbox mount cushion (E).
4. Apply a mild soap and water solution to the new gearbox mount cushion surface (A), then place the mount cushion on the gearbox mounting cushion hole.

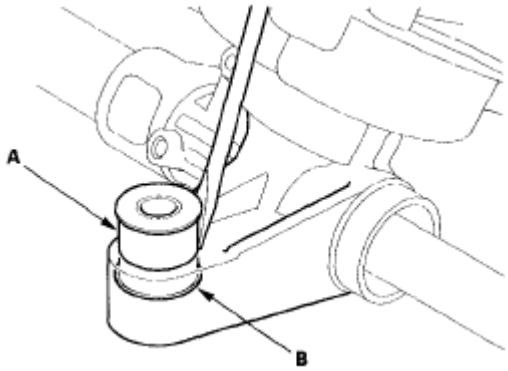



**Fig. 121: Identifying Water Solution To Gearbox Mount Cushion Surface**

5. Using a flat-tipped screwdriver, push the edge of the mount cushion (B) until it is about 1/3 of the way into the gearbox housing.

**NOTE: Be careful not to damage the surface of the mount cushion when pushing it with the flat-tipped screwdriver.**

6. Position the 34 mm socket wrench on the flange part of the gearbox housing with a washer, flange bolt, and the nut as shown.
7. Install the gearbox mount cushion by tightening the nut until the mount cushion edges (A) properly fit on the gearbox flange surface.

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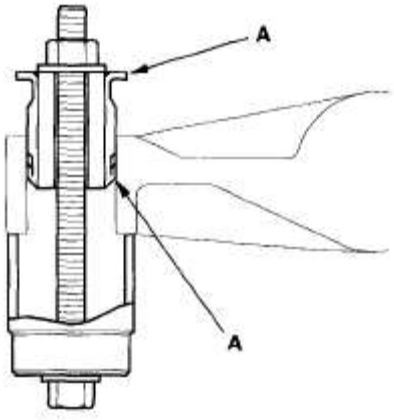



**Fig. 122: Identifying Gearbox Mount Cushion**

8. Install the steering gearbox (see **INSTALLATION** ).
9. Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

## RACK GUIDE REMOVAL/INSTALLATION

Note these items during removal/installation: Do not allow dust, dirt, or other foreign materials to enter the steering gearbox.

1. Remove the steering gearbox (see **STEERING GEARBOX REMOVAL AND INSTALLATION** ).
2. Loosen the locknut (A), then remove the rack guide screw (B), spring (C), disc washer (D), and rack guide (E).

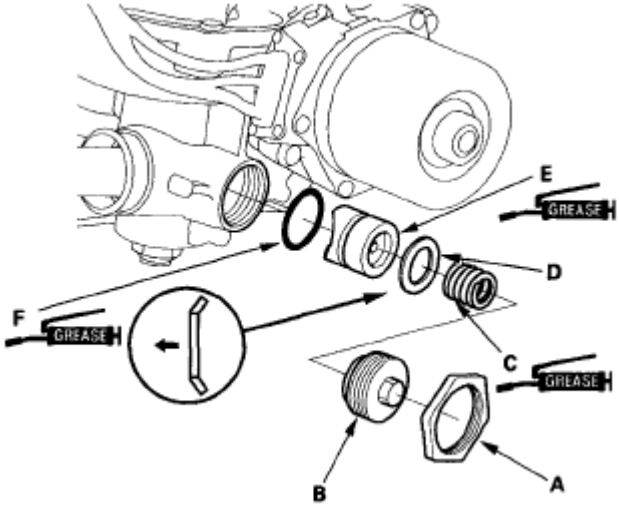



**Fig. 123: Identifying Steering Gearbox Components**

3. Remove the O-ring (F) from the rack guide. Wipe the grease off the sliding surface of the rack guide.
4. Apply multipurpose grease to the new O-ring, then install it to the rack guide.
5. Apply multipurpose grease to the sliding surface and the circumference of the rack guide, and install it onto the gearbox housing. Wipe the grease off the threaded section of the housing,
6. Apply multipurpose grease to both ends of the spring, and install it onto the gearbox housing.
7. Install the disc washer with its convex side facing the rack guide.
8. Remove the old sealant from the rack guide screw and apply new sealant (Three Bond 1215 or Loctite 5699) to the middle of the threads. Loosely install the rack guide screw on the steering gearbox.
9. Loosely install the locknut.
10. Adjust the rack guide screw (see **EPS TYPE** ). After adjusting, check that the rack moves smoothly by sliding the rack right and left.

## EPS CONTROL UNIT REMOVAL/INSTALLATION

1. Make sure you have the anti-theft codes for the audio or navigation system, then write down the audio presets.
2. Make sure the ignition switch is OFF, then disconnect the negative cable from

the battery.

3. Remove the passenger's dashboard under cover (see **PASSENGER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
4. Remove the passenger's side kick panel: 2-door (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS** ), 4-door (see **FRONT DOOR SILL AREA - 4-DOOR** ).
5. Disconnect EPS control unit connector A (2P), connector B (2P), connector C (2P), and connector D (28P).

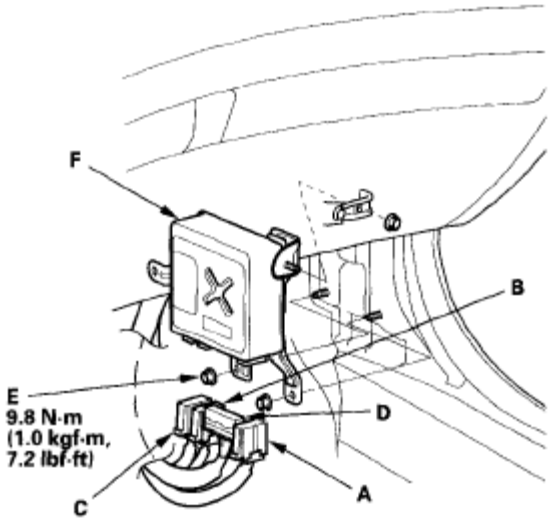



**Fig. 124: Identifying EPS Control Unit Connector**

6. Remove the nuts (E) from the EPS control unit (F).
7. Remove the EPS control unit.
8. Install the EPS control unit in the reverse order of removal.
9. Reconnect the negative cable to the battery and do these items:
   - Enter the anti-theft code for the audio or navigation system, then enter the audio presets.
   - Set the clock.
   - If the EPS control unit is replaced, the EPS control unit must memorize the torque sensor neutral position (see **MEMORIZING THE TORQUE SENSOR NEUTRAL POSITION** ).
10. After installation, start the engine, and let it idle. Turn the steering wheel from

lock-to-lock several times. Check that the EPS indicator does not come on.

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**2006-08 ENGINE**

**Engine Assembly - Civic GX**

## SPECIAL TOOLS

**NOTE: Refer to ENGINE ASSEMBLY (EXCEPT HYBRID) article for items not shown in this article.**

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAK-SNAA120 | Engine Hanger Plate | 1 |
| ② | 07AAK-SNAA400 | 1.8 Support Eyelet | 1 |
| ③ | 07AAK-SNAA500 | 1.8 Support Bolt | 1 |




**Fig. 1: Identifying Special Tools**

## ENGINE REMOVAL

### Special Tools Required

- Engine hanger plate 07AAK-SNAA120
- 1.8 support eyelet 07AAK-SNAA400
- 1.8 support bolt 07AAK-SNAA500
- Front subframe adapter VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *

* : Available through Honda Tool and Equipment Program, 888-424-6857

**NOTE:**

- **Use fender covers to avoid damaging painted surfaces.**

- **To avoid damage, unplug the wiring connectors carefully while holding the connector portion.**
- **Mark all wiring and hoses to avoid misconnection. Also, be sure that they do not contact other wiring, hoses, or interfere with other parts.**

1. Close the manual shut-off valve.

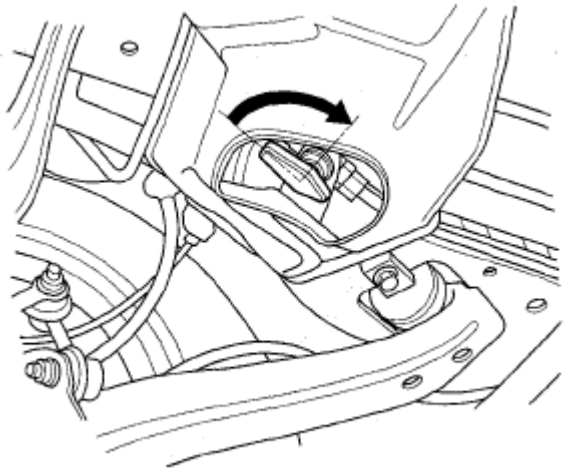


**Fig. 2: Closing Manual Shut-Off Valve**

2. To reduce pressure in the fuel lines, start the engine, and run it until it stalls.
3. Make sure you have anti-theft codes for the audio system and navigation system (if equipped), then write down the audio presets.
4. Secure the hood in the wide open position (Position the support rod in the lower hole).

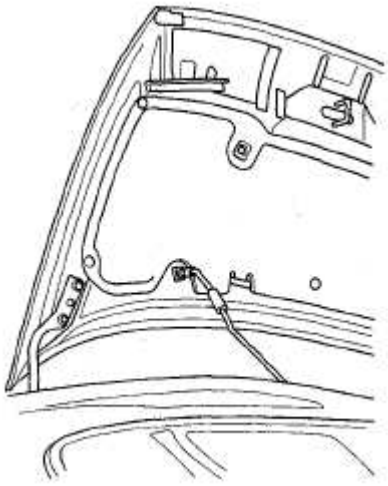


**Fig. 3: Identifying Hood**

5. Disconnect the negative cable from the battery, then the positive cable.
6. Remove the battery.
7. Remove the air cleaner housing assembly, refer to **AIR CLEANER REMOVAL/INSTALLATION** .
8. Remove the cowl cover and under-cowl panel, refer to **COWL COVER REPLACEMENT** .
9. Remove the fuel feed hose.

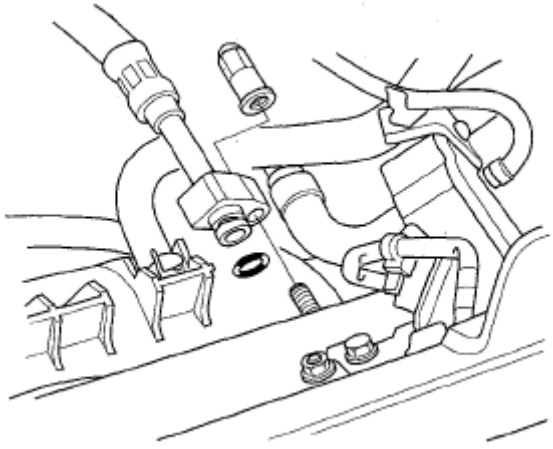


**Fig. 4: Identifying Fuel Feed Hose**

10. Remove the vacuum hose (A), brake booster vacuum hose (B), and power steering (P/S) hose clamp (C).

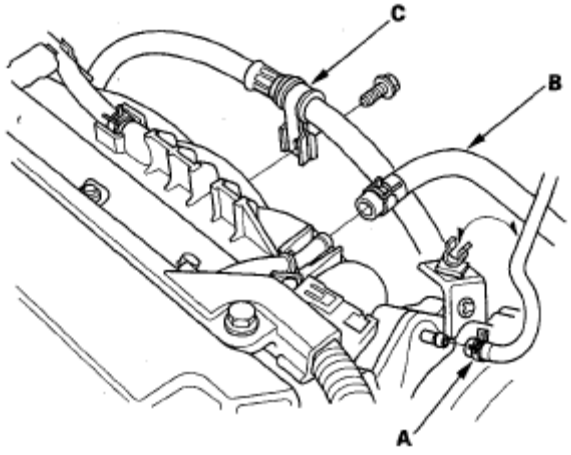



**Fig. 5: Identifying Vacuum Hose And Brake Booster Vacuum Hose**

11. Remove the battery cables (A) from the under-hood fuse/relay box.

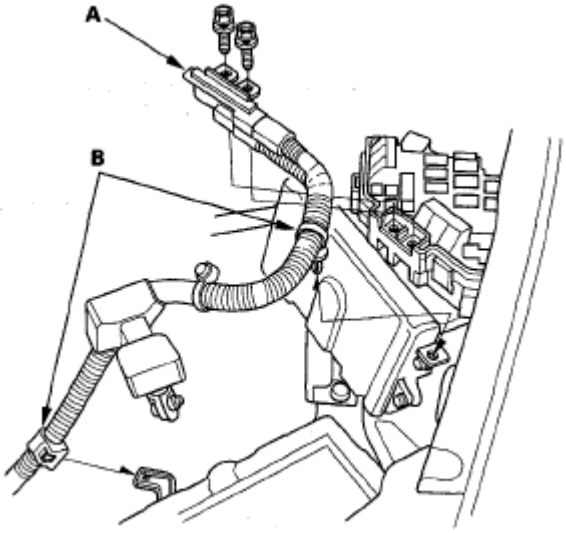



**Fig. 6: Identifying Battery Cables**

12. Remove the harness clamps (B).
13. Remove the powertrain control module (PCM) cover (A), then remove the three bolts (B) securing the PCM.

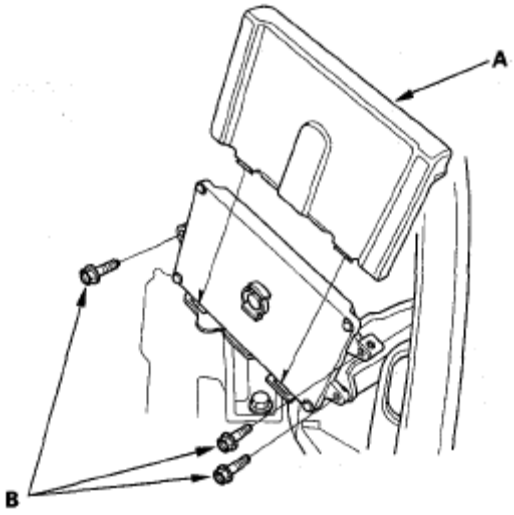



**Fig. 7: Identifying Powertrain Control Module (PCM) Cover**

14. Disconnect the PCM connectors (A) and the engine wire harness connectors (B).

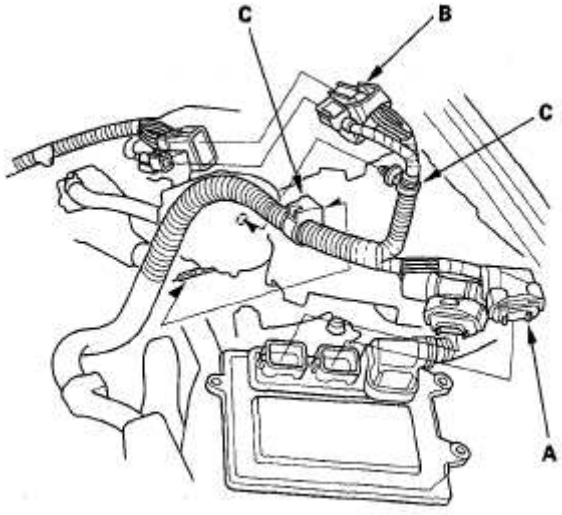



**Fig. 8: Identifying PCM Connectors And Engine Wire Harness Connectors**

15. Remove the harness clamps (C).
16. Remove the drive belt, refer to **DRIVE BELT REMOVAL/INSTALLATION** .
17. Remove the radiator cap.

18. Raise the vehicle on the lift to full height.
19. Remove the front wheels.
20. Remove the splash shield.

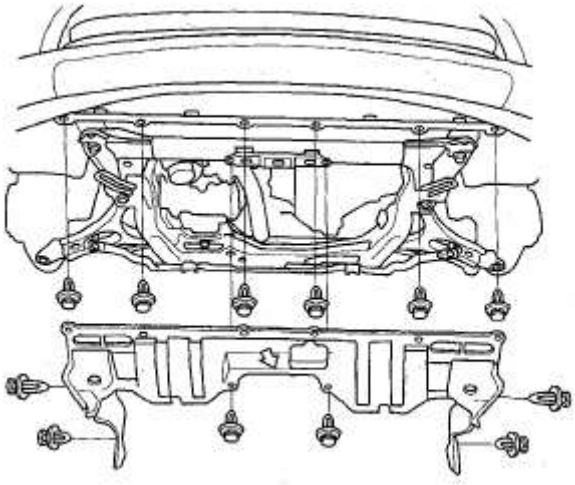


**Fig. 9: Identifying Splash Shield And Clips**

21. Loosen the drain plug in the radiator, and drain the engine coolant, refer to **COOLANT REPLACEMENT** .
22. Drain the engine oil, refer to **ENGINE OIL REPLACEMENT** .
23. Drain the transmission fluid (ATF), refer to **ATF REPLACEMENT** .
24. Remove exhaust pipe A.

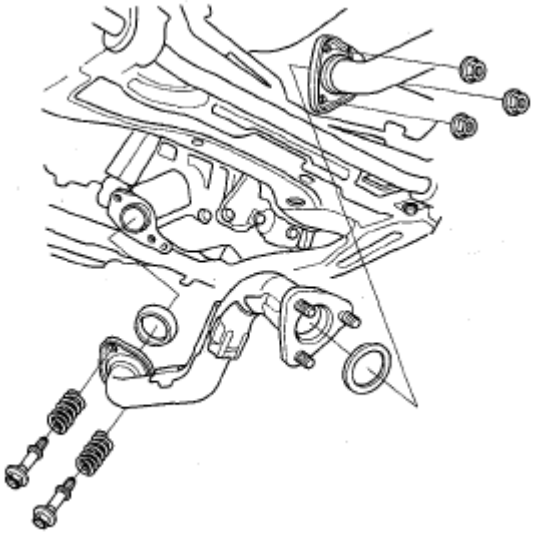


**Fig. 10: Identifying Exhaust Pipe**

25. Remove the shift cable, refer to step 41 on **TRANSMISSION REMOVAL** .
26. Separate the stabilizer links, refer to **STABILIZER LINK REMOVAL/INSTALLATION** .
27. Separate the knuckles from the lower arms, refer to **LOWER ARM REMOVAL/INSTALLATION** .
28. Remove the driveshafts, refer to step 8 on **DRIVESHAFT REMOVAL** . Coat all precision-finished surfaces with clean engine oil. Tie plastic bags over the driveshaft ends.
29. Remove the power steering (P/S) pump without disconnecting the P/S hoses from the pump.

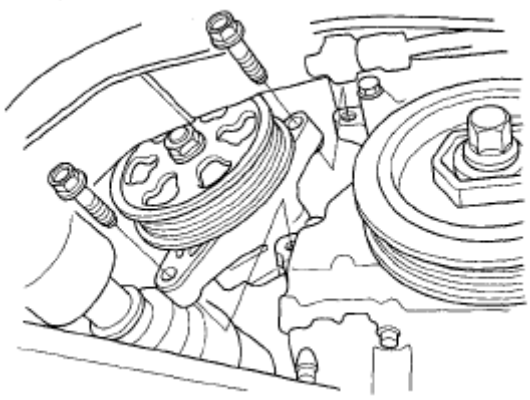


**Fig. 11: Identifying Power Steering (P/S) Pump**

30. Unclamp the power steering fluid line clamp (A) on the front subframe, and remove the P/S line mounting bolts (B).

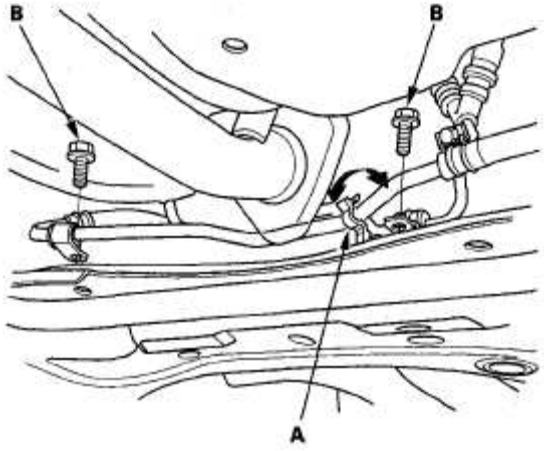



**Fig. 12: Identifying P/S Line Mounting Bolts**

31. Remove the steering gearbox mounting bolt (A), then remove the steering gearbox stiffener (B).

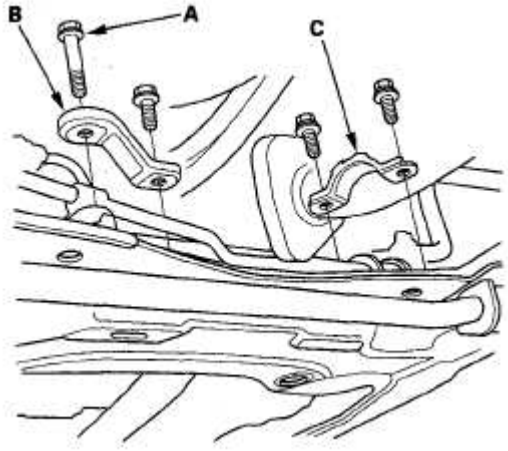



**Fig. 13: Identifying Steering Gearbox Mounting Bolt**

32. Remove the steering gearbox bracket (C).
33. Remove the steering gearbox mounting bolt (A), then remove the steering gearbox stiffener (B).

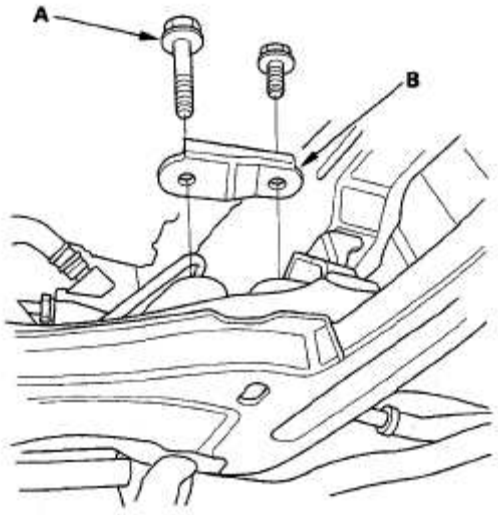



**Fig. 14: Identifying Steering Gearbox Mounting Bolt**

34. Lower the vehicle on the lift.
35. Remove the radiator, refer to **RADIATOR AND FAN REPLACEMENT** .
36. Disconnect the A/C compressor clutch connector (A), then remove the harness clamp (B).

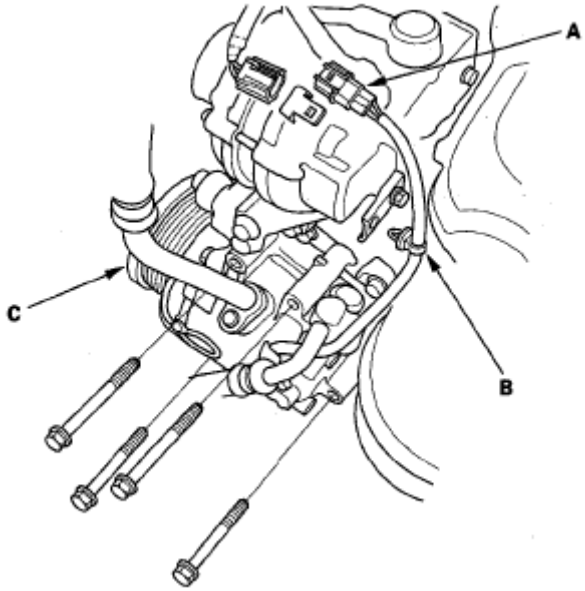



**Fig. 15: Identifying A/C Compressor Clutch Connector**

37. Remove the A/C compressor (C) without disconnecting the A/C hoses.
38. Remove the heater hoses.

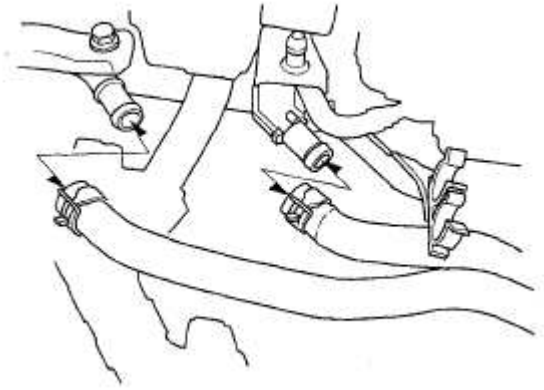


**Fig. 16: Identifying Heater Hoses**

39. Remove the air cleaner housing mounting bracket (A), and install 1.8 support eyelet (B) behind the breather pipe (C) and down to the threaded hole (D) on the cylinder head.

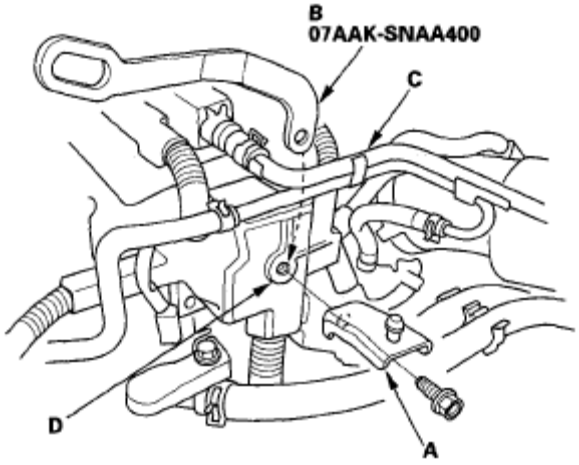



**Fig. 17: Identifying Air Cleaner Housing Mounting Bracket**

40. Attach the 1.8 support eyelet (A) to the cylinder head with the 1.8 support bolt (B). Tighten the bolt by hand.

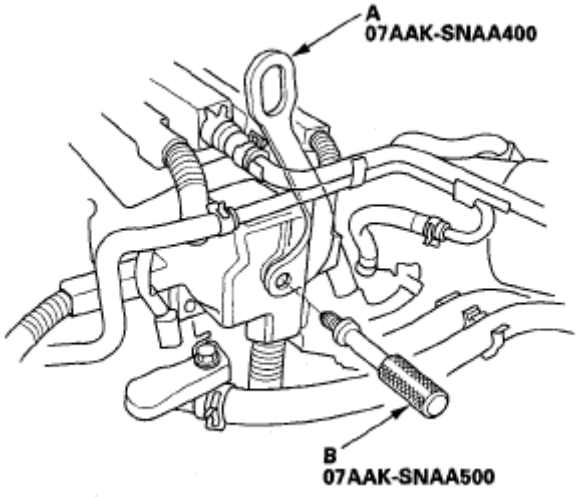



**Fig. 18: Identifying Special Tool**

41. Install the bulkhead, and tighten the mounting bolts, refer to step 11 on **RADIATOR AND FAN REPLACEMENT** .
42. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the 2006 Civic engine hanger. Carefully position the 2006 Civic engine hanger on the vehicle, and attach the hook to the slotted hole in the 1.8 support eyelet (D). Tighten the wing nut by hand to lift and support the engine/transmission assembly.

**NOTE: Use care when working around the windshield.**

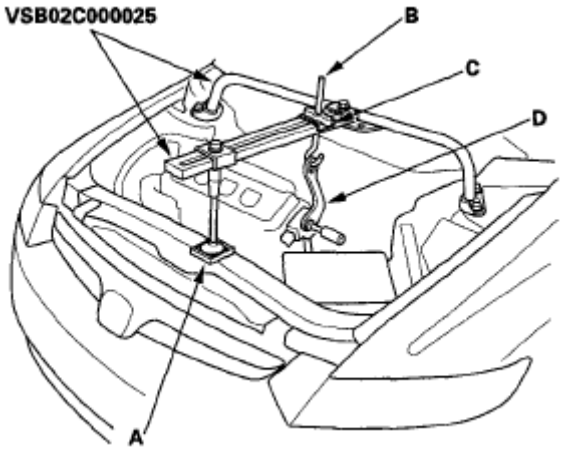



**Fig. 19: Identifying Special Tool**

43. Raise the vehicle on the lift to full height.
44. Remove the lower torque rod.

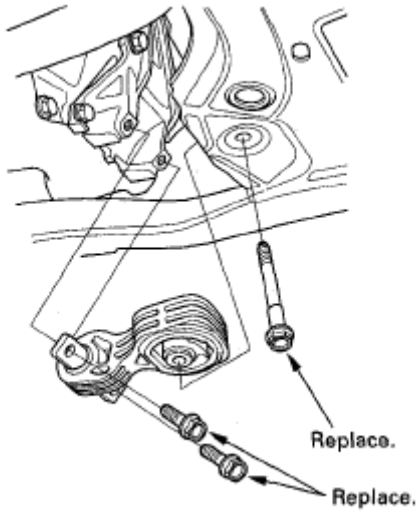



**Fig. 20: Identifying Lower Torque Rod**

45. Note the reference marks (A) on both sides of the subframe that line up with the body (B).

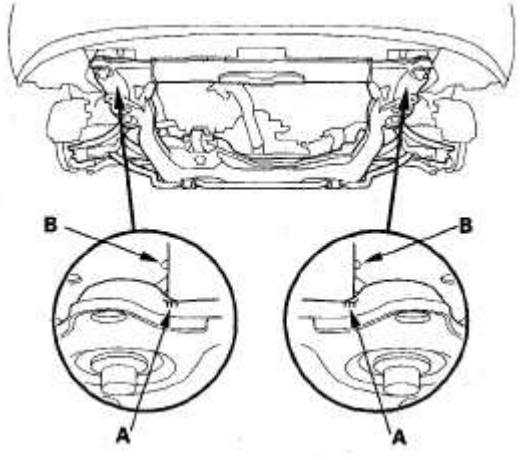



**Fig. 21: Identifying Reference Marks Of Subframe**

46. Loosen the mid-stiffener mounting bolts (A) on both sides.

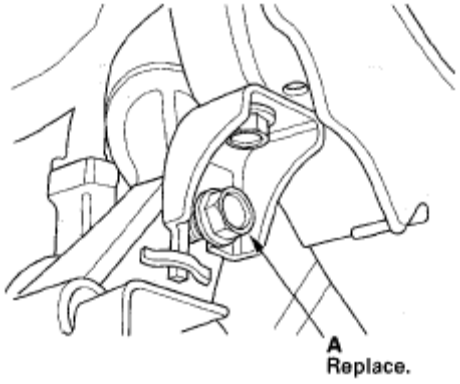



**Fig. 22: Identifying Mid-Stiffener Mounting Bolts**

47. Attach the front subframe adapter (A) to the subframe and hang the belt of the front subframe adapter over the front of the subframe, then secure the belt with its stop.

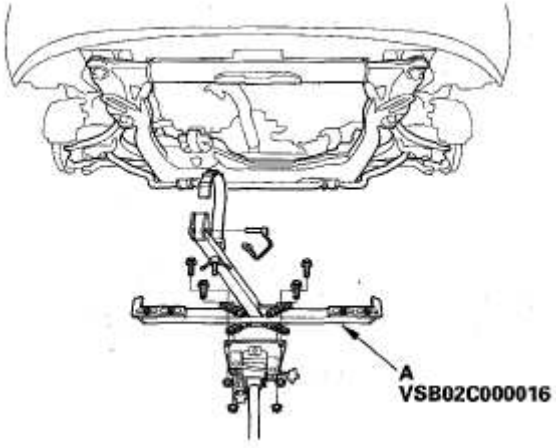



**Fig. 23: Identifying Front Subframe Adapter**

48. Raise the jack and line up the slots in the arms with the bolt holes on the corner of the jack base, then attach them with bolts securely.
49. Remove the subframe.

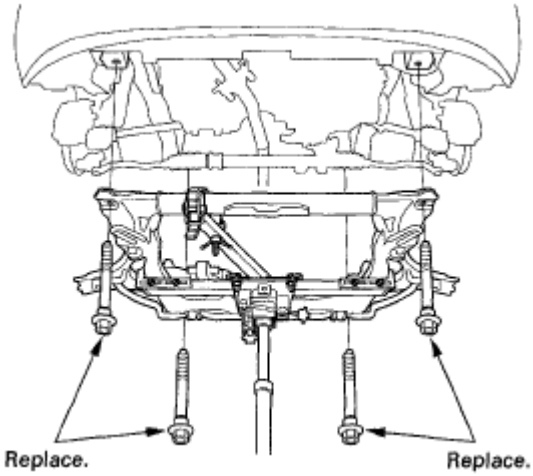



**Fig. 24: Identifying Subframe**

50. Lower the vehicle on the lift.
51. Remove the ground cable (A), then install the engine hanger plate with a 10 x 1.25 x 20 mm bolt (B).

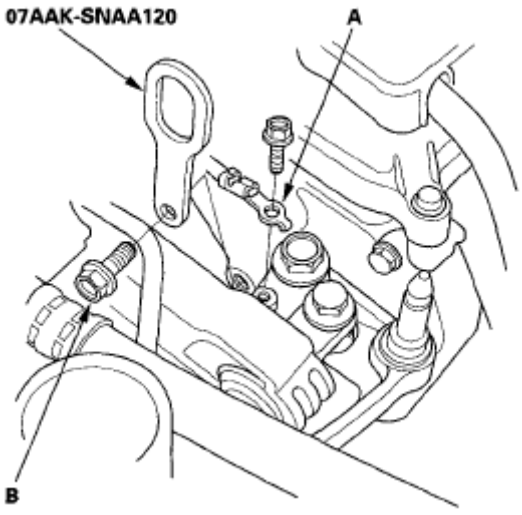



**Fig. 25: Identifying Ground Cable**

52. Attach a chain hoist (A) to the engine hanger plate (B) and transmission hook (C). Lift up on the engine/transmission assembly until it's securely supported by the chain hoist, and remove the engine support hanger from the engine and vehicle.

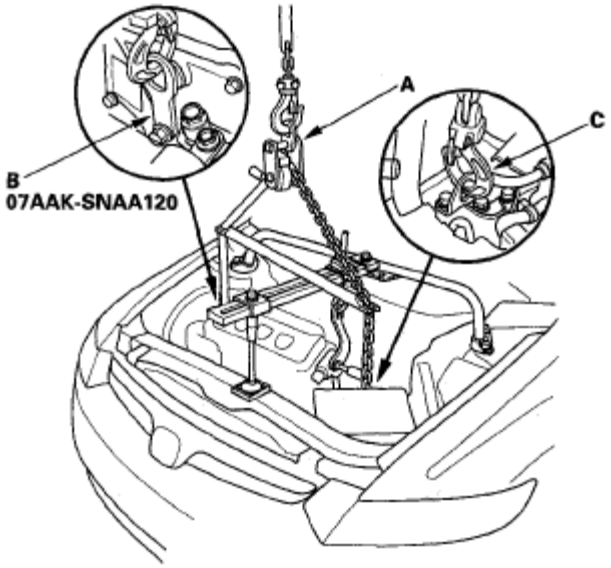



**Fig. 26: Attaching Chain Hoist To Engine Hanger Plate And Transmission Hook**

53. Remove the side engine mount bracket mounting bolt and nut.

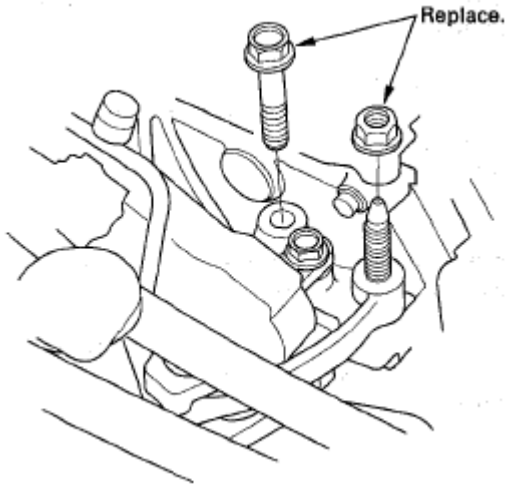



**Fig. 27: Identifying Engine Mount Bracket Mounting Bolt And Nut**

54. Remove the transmission mounting bolt and nuts (A).

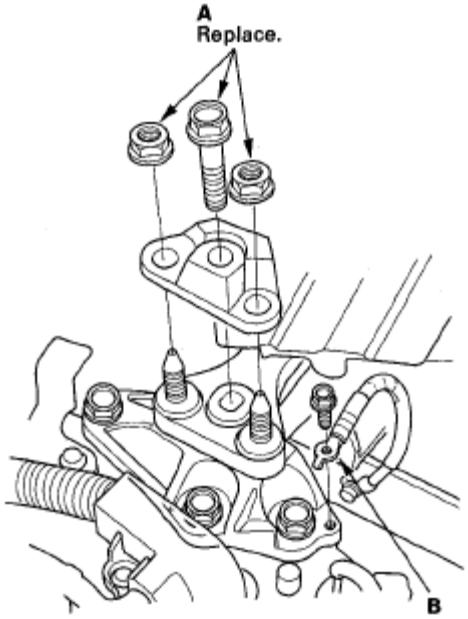



**Fig. 28: Identifying Transmission Mounting Bolt And Nuts**

55. Remove the ground cable (B).
56. Check that the engine/transmission is completely free of vacuum hoses, fuel and coolant hoses, and electrical wiring.
57. Slowly lower the engine/transmission assembly about 150 mm (6 in.). Check once again that all hoses and electrical wiring are disconnected and free from the engine/transmission, then lower it all the way.
58. Disconnect the chain hoist from the engine/transmission assembly.
59. Raise the vehicle all the way, and remove the engine/transmission assembly from under the vehicle.

## ENGINE INSTALLATION

### Special Tools Required

- Engine hanger plate 07AAK-SNAA120
- 1.8 support eyelet 07AAK-SNAA400
- 1.8 support bolt 07AAK-SNAA500
- Front subframe adapter VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *

- Engine support hanger, A and Reds AAR-T-12566 *

* : Available through Honda Tool and Equipment Program, 888-424-6857

1. Install the accessory brackets and tighten their bolts to the specified torques.

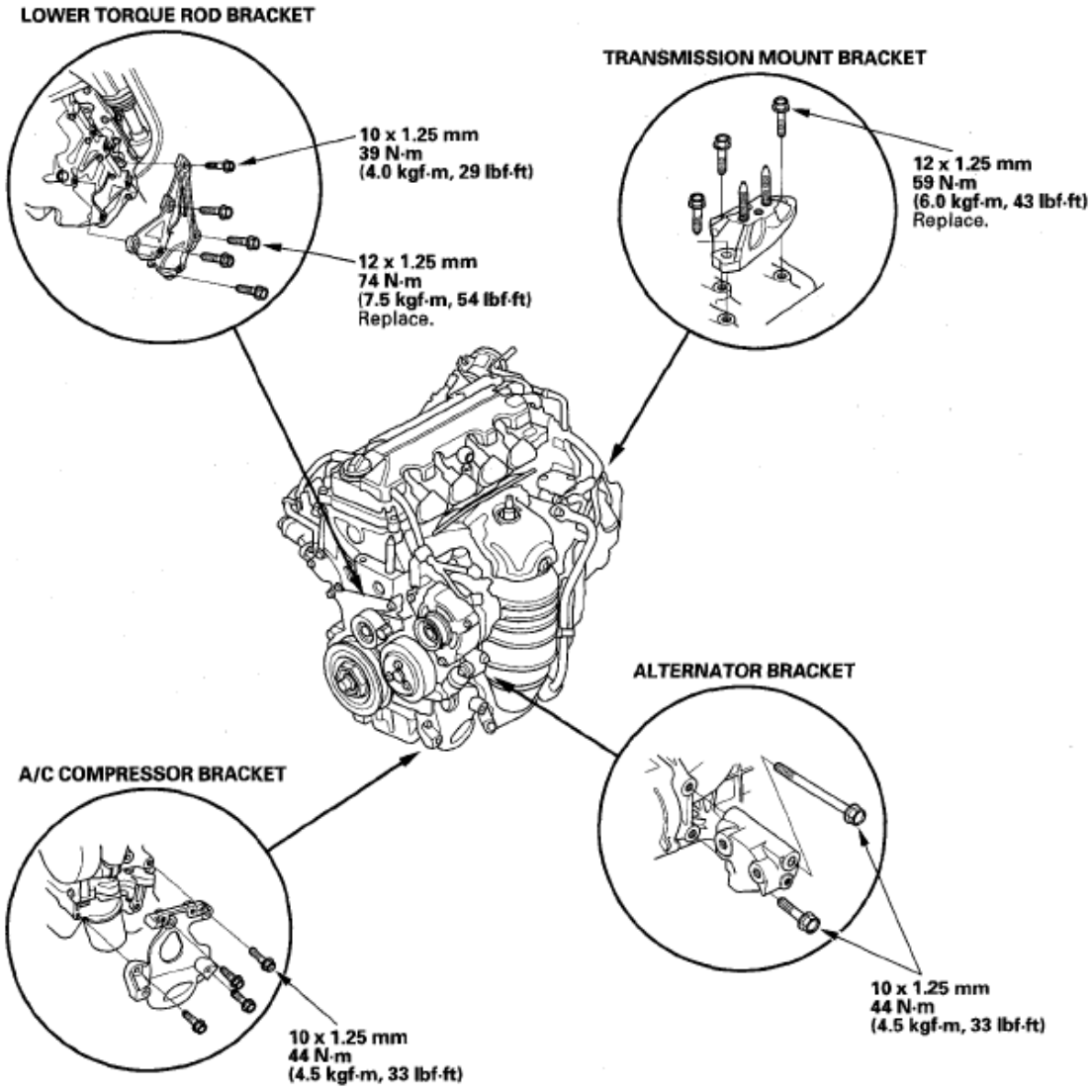



**Fig. 29: Identifying Engine Brackets (With Torque Specifications)**

2. Position the engine/transmission assembly under the vehicle. Be sure that they are properly aligned. Carefully lower the vehicle until the engine and transmission are properly positioned in the engine compartment. Make sure the vehicle is not resting on any part of the engine or transmission. Lift and support

the engine with a chain hoist (A) and carefully raise the engine/transmission assembly into place.

**NOTE: Reinstall the mounting bolts/support nuts in the sequence given in the following steps. Failure to follow this sequence may cause excessive noise and vibration, and reduce engine mount life.**

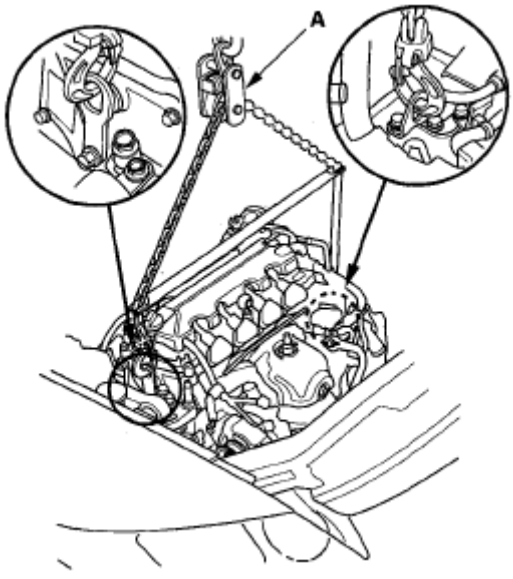



**Fig. 30: Lowering Engine/Tranmission Assembly**

3. Install 1.8 support eyelet (A) behind the breather pipe (B) and down to the thread hole (C) on the cylinder head.

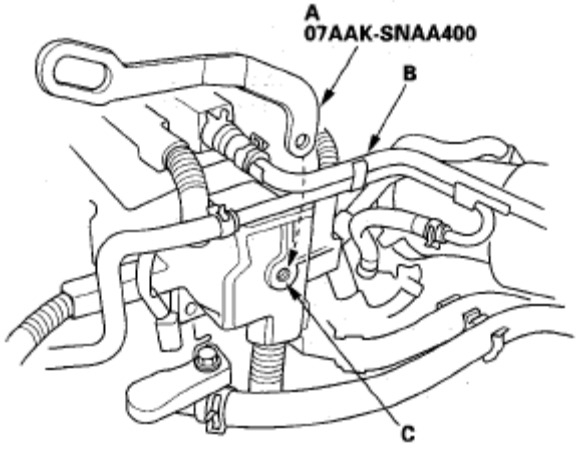


**Fig. 31: Identifying Support Eyelet (1 Of 2)**

4. Attach the 1.8 support eyelet (A) to the cylinder head with the 1.8 support bolt (B). Tighten the bolt by hand.

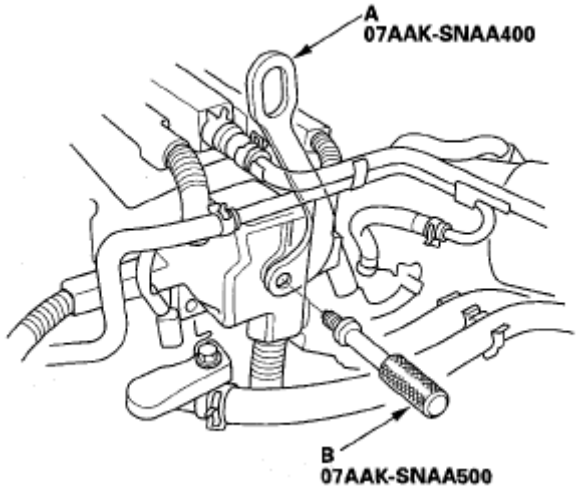



**Fig. 32: Identifying Support Eyelet (2 Of 2)**

5. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the 2006 Civic engine hanger. Carefully position the 2006 Civic engine hanger on the vehicle, and attach the hook to the slotted hole in the support eyelet (D). Tighten the wing nut by hand to lift and support the engine/transmission assembly.

**NOTE: Use care when working around the windshield.**

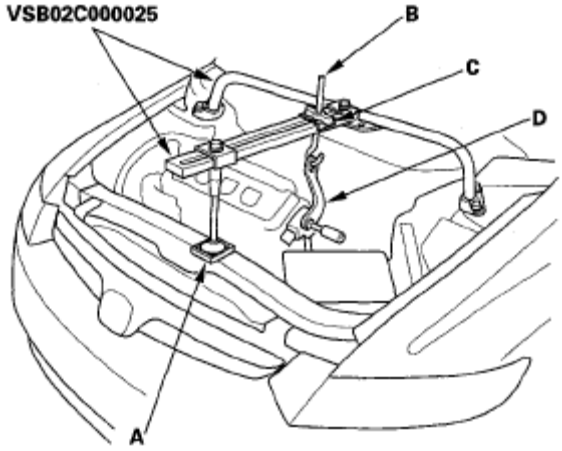


**Fig. 33: Identifying Engine Support Hanger**

6. Loosen the upper torque rod mounting bolt (A).

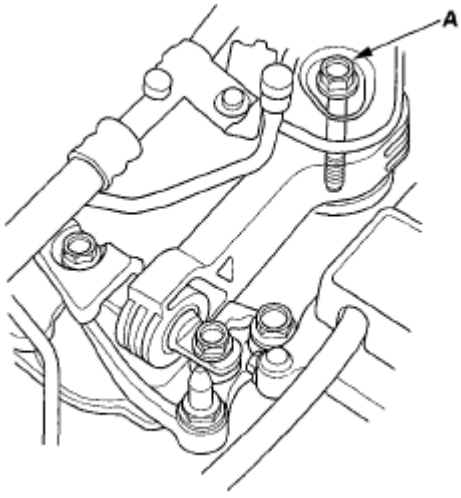



**Fig. 34: Identifying Mounting Bolt**

7. Tighten the new side engine mount bracket mounting bolt and nut.

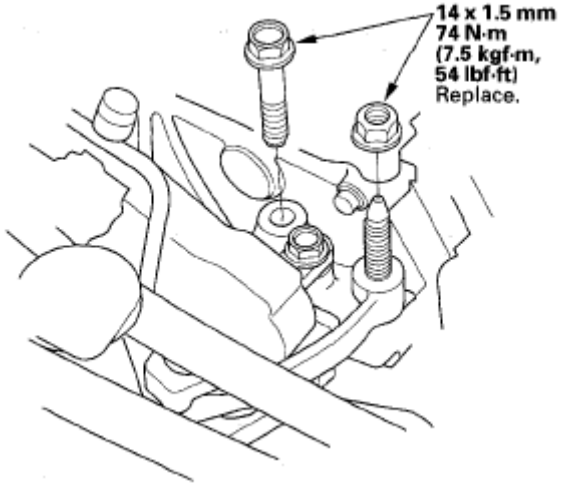



**Fig. 35: Identifying Engine Mount Bracket Mounting Bolt And Nut (With Torque Specifications)**

8. Tighten the new transmission mounting bolt and nuts (A).

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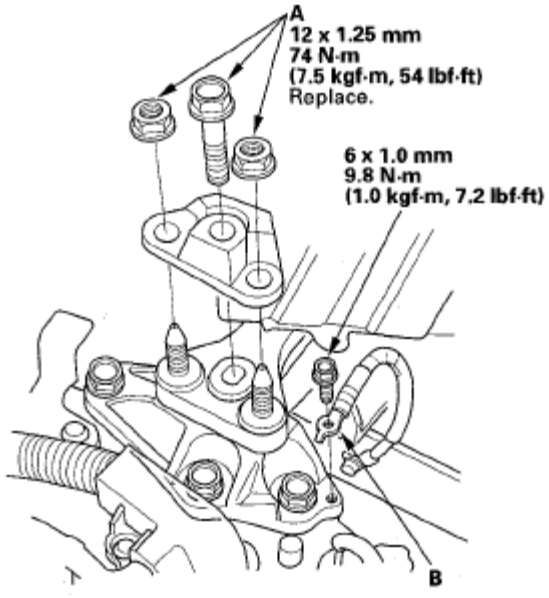



**Fig. 36: Identifying Transmission Mounting Bolt And Nuts (With Torque Specifications)**

9. Install the ground cable (B).
10. Remove the chain hoist, then raise the vehicle on the lift to full height.
11. Using the front subframe adapter (A) and a jack, raise the subframe up to body.

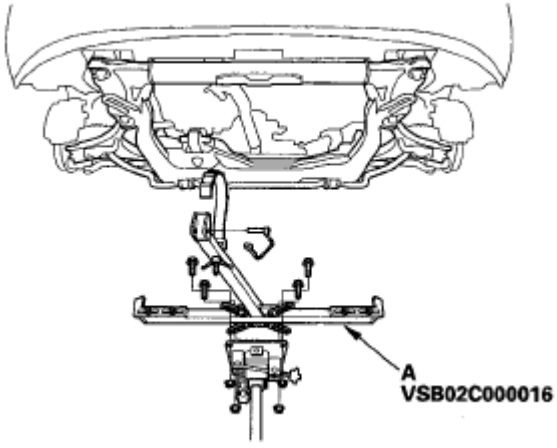



**Fig. 37: Identifying Front Subframe Adapter**

12. Loosely install the new subframe mounting bolts.

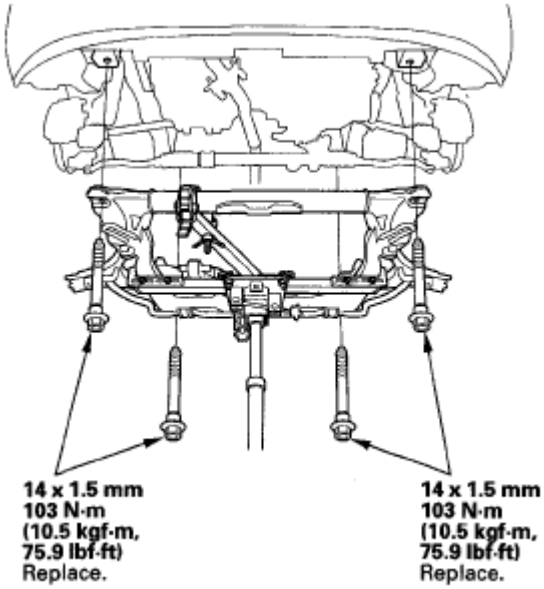



**Fig. 38: Identifying Subframe Mounting Bolts (With Torque Specifications)**

13. Align the front subframe reference marks (A) to the body (B), as noted during removal. Tighten the subframe mounting bolts to the specified torque.

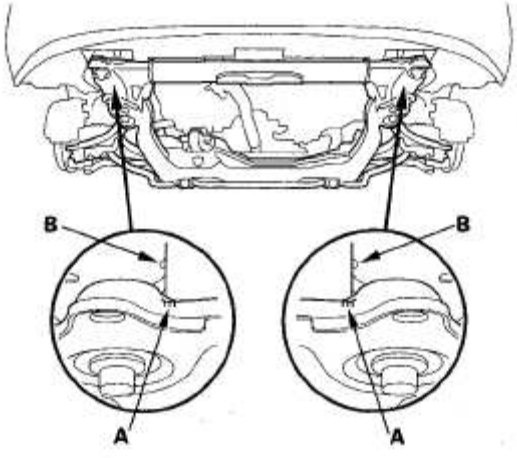



**Fig. 39: Aligning Front Subframe Reference Marks To Body**

14. Remove the jack and front subframe adapter.
15. Tighten the new mid-stiffener mounting bolts on both sides.

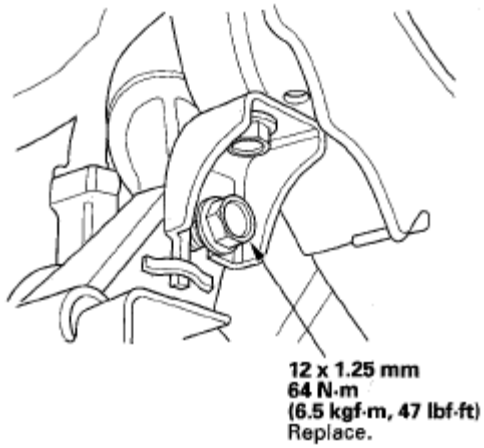



**Fig. 40: Identifying Mid-Stiffener Mounting Bolts (With Torque Specifications)**

16. Install the lower torque rod, then tighten the new lower torque rod mounting bolts in the numbered sequence shown.

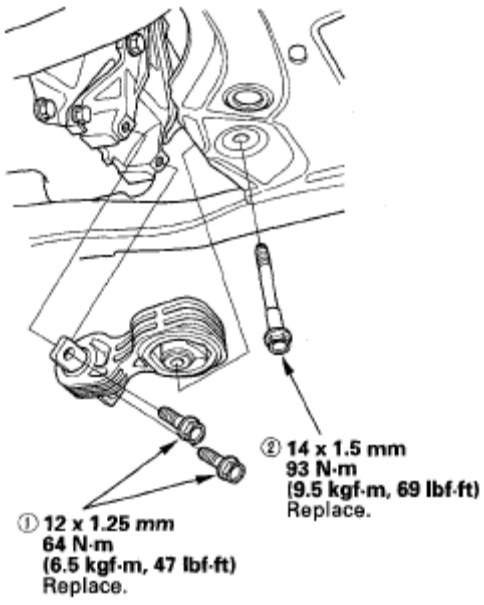



**Fig. 41: Identifying Lower Torque Rod Mounting Bolts (With Torque Specifications)**

17. Lower the vehicle on the lift, and remove the engine hanger, support eyelet, and bolt.
18. Tighten the upper torque rod mounting bolt.

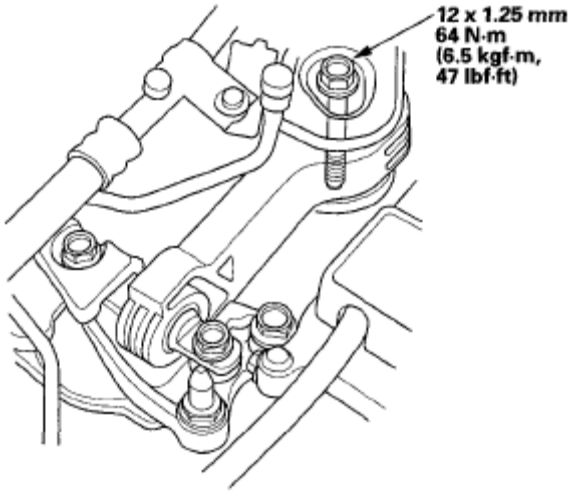



**Fig. 42: Identifying Upper Torque Rod Mounting Bolt (With Torque Specifications)**

19. Remove the engine hanger plate and bolt (A), then install the ground cable (B).

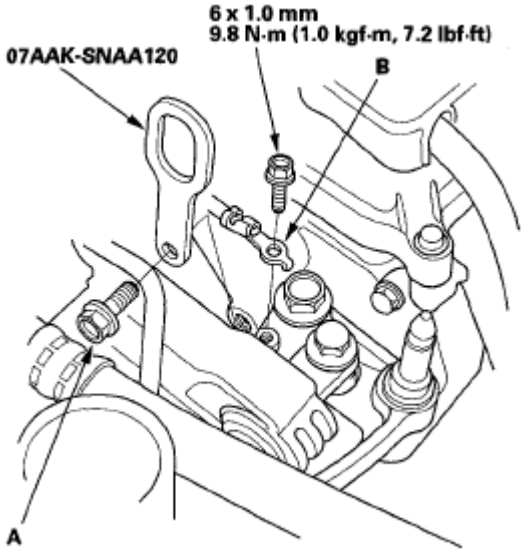



**Fig. 43: Identifying Engine Hanger Plate And Bolt (With Torque Specifications)**

20. Raise the vehicle on the lift to full height.
21. Install the steering gearbox stiffener (A), then tighten the steering gearbox mounting bolt and stiffener bolt.

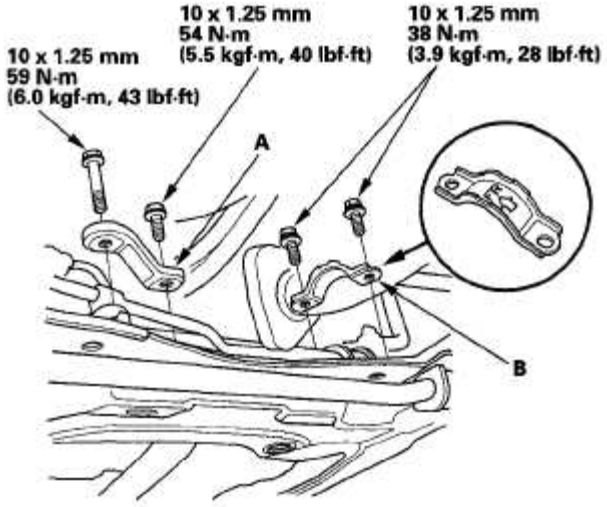



**Fig. 44: Identifying Steering Gearbox Mounting Bolt And Stiffener Bolt (With Torque Specifications)**

22. Position the "FR" mark to the front of the vehicle, then install the steering gearbox bracket (B).
23. Install the steering gearbox stiffener (A), then tighten the steering gearbox mounting bolt and stiffener bolt.

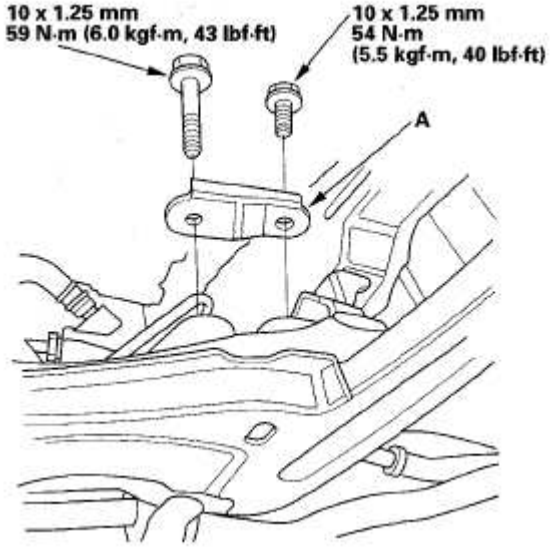



**Fig. 45: Identifying Steering Gearbox Mounting Bolt And Stiffener Bolt (With Torque Specifications)**

24. Install the power steering (P/S) line on the clamp (A), then install the P/S line

brackets (B) on the subframe.

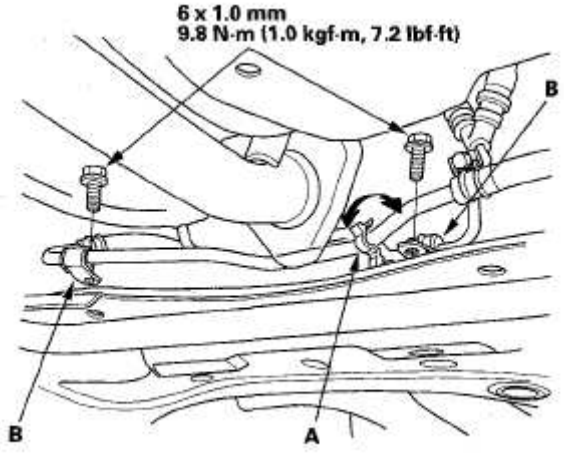



**Fig. 46: Identifying Power Steering (P/S) Line On Clamp (With Torque Specifications)**

25. Install the P/S pump.

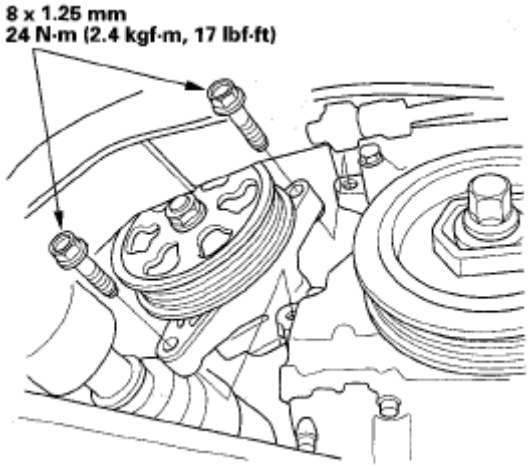



**Fig. 47: Identifying P/S Pump And Bolts (With Torque Specifications)**

26. Install the shift cable, refer to step 14 on **TRANSMISSION INSTALLATION** .
27. Install a new set ring on the end of each driveshaft, then install the driveshafts. Make sure each ring "clicks" into place in the differential and intermediate shaft.

28. Connect the lower arms to the knuckles, refer to step 9 on **LOWER ARM REMOVAL/INSTALLATION** .
29. Connect the stabilizer links, refer to **STABILIZER LINK REMOVAL/INSTALLATION** .
30. Install exhaust pipe A. Use new gaskets (B) and new self-locking nuts (C).

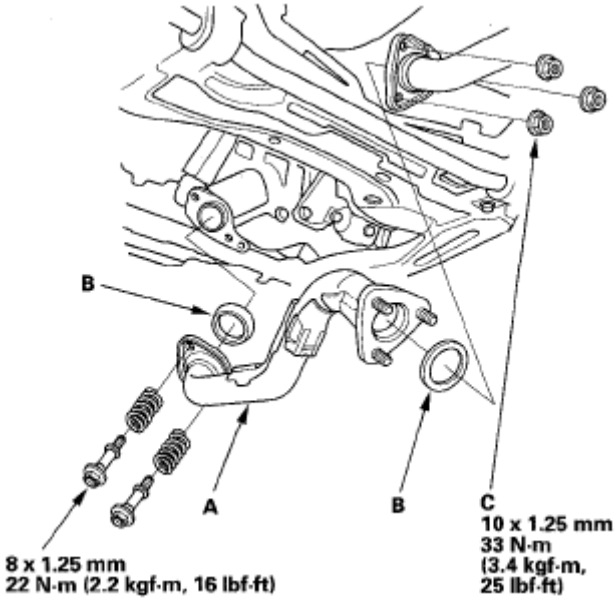



**Fig. 48: Identifying Exhaust Pipe Self-Locking Nuts (With Torque Specifications)**

31. Install the splash shield.

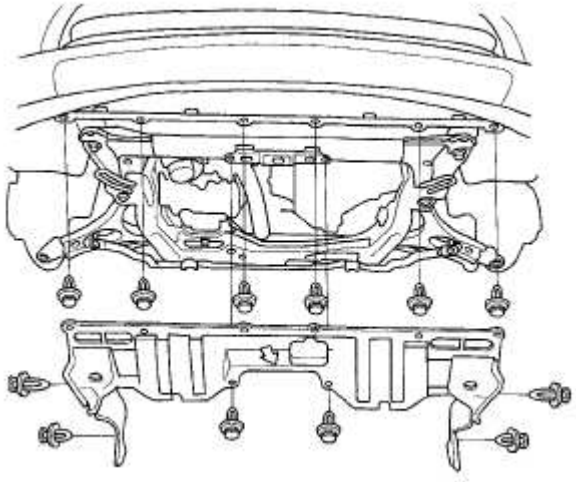


**Fig. 49: Identifying Splash Shield Clips**

32. Lower the vehicle on the lift.
33. Install the heater hoses.

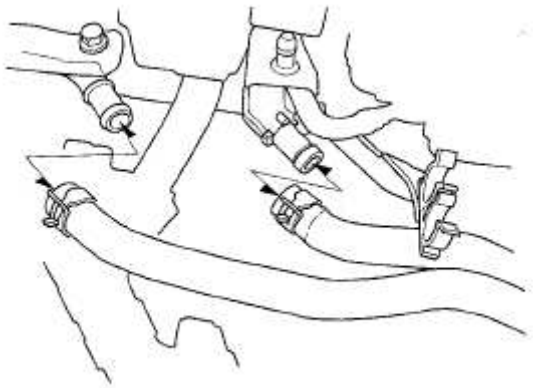


**Fig. 50: Identifying Heater Hoses**

34. Install the A/C compressor (A).

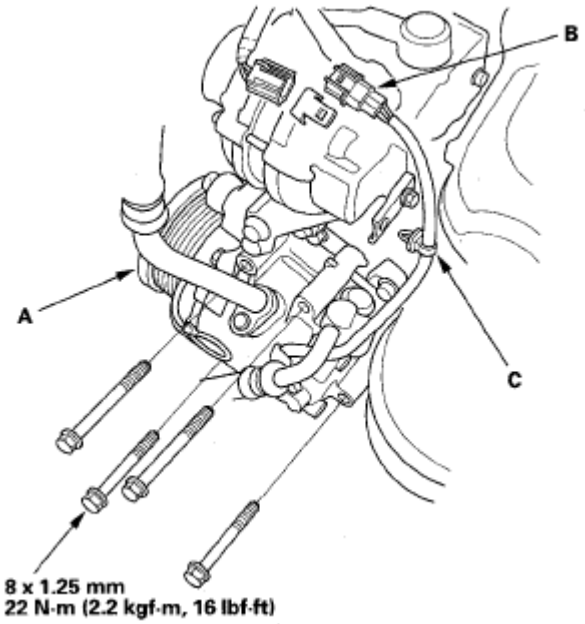



**Fig. 51: Identifying A/C Compressor And Bolts (With Torque Specifications)**

35. Connect the A/C compressor clutch connector (B), then install the harness

clamp (C).

36. Install the drive belt, refer to **DRIVE BELT REMOVAL/INSTALLATION** .
37. Remove the bulkhead, then install the radiator, refer to **RADIATOR AND FAN REPLACEMENT** .
38. Connect the powertrain control module (PCM) connectors (A) and engine wire harness connectors (B).

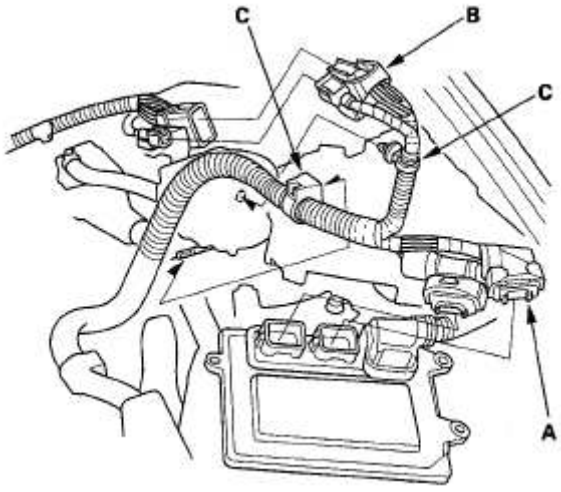



**Fig. 52: Identifying Powertrain Control Module (PCM) Connectors**

39. Install the harness clamps (C).
40. Install the PCM (A), then install the PCM cover (B).

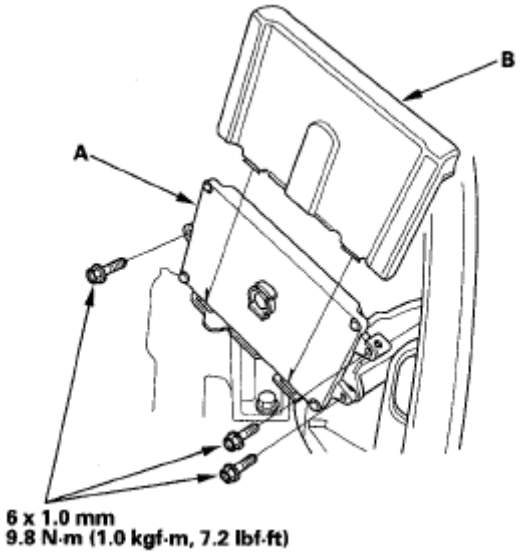


**Fig. 53: Identifying PCM Cover (With Torque Specifications)**

41. Install the battery cables (A) to the under-hood fuse/relay box.

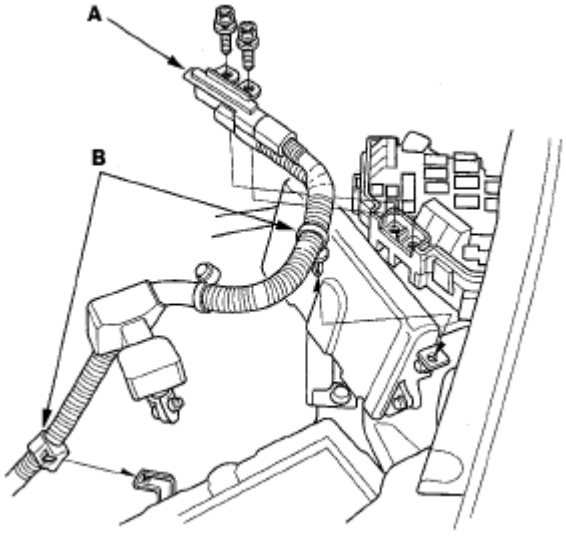



**Fig. 54: Identifying Battery Cables**

42. Install the harness clamps (B).
43. Install the vacuum hose (A), the brake booster vacuum hose (B), and the power steering (P/S) hose clamp (C).

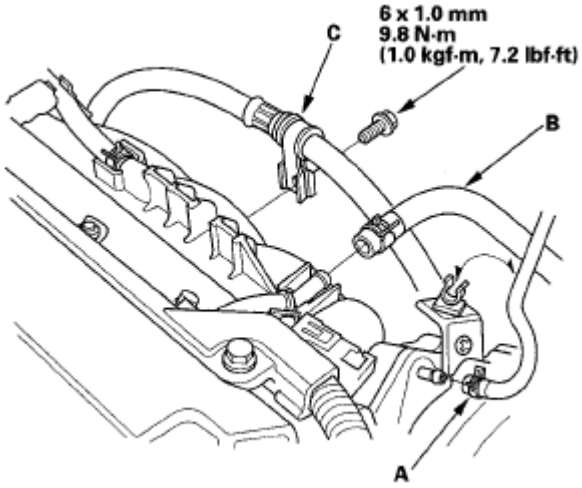



**Fig. 55: Identifying Vacuum Hose And Brake Booster Vacuum Hose (With Torque Specifications)**

44. Install the fuel feed hose (A). Use new O-ring (B).

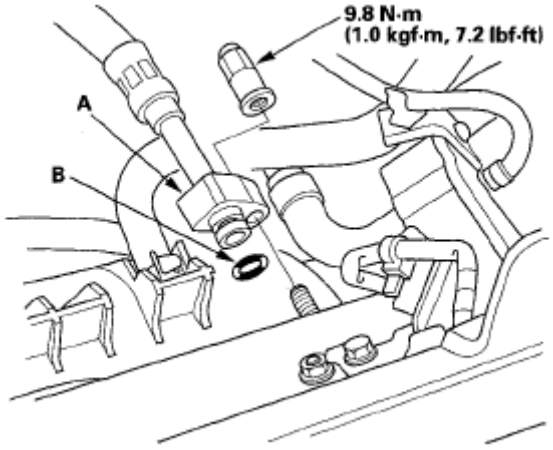



**Fig. 56: Identifying Fuel Feed Hose And O-Ring (With Torque Specifications)**

45. Install the under-cowl panel and cowl cover, refer to **COWL COVER REPLACEMENT** .
46. Install the air cleaner housing mounting bracket (A) on the cylinder head.

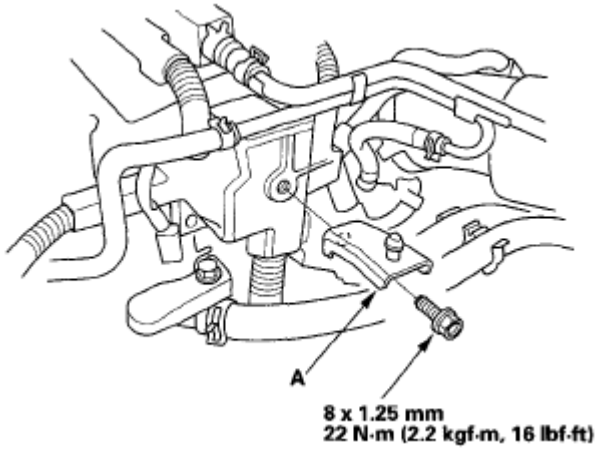



**Fig. 57: Identifying Air Cleaner Housing Mounting Bracket And Bolt (With Torque Specifications)**

47. Install the air cleaner housing, refer to **AIR CLEANER REMOVAL/INSTALLATION** .
48. Install the front wheels.

49. Install the battery. Clean the battery posts and cable terminals, then assemble them, and apply grease to prevent corrosion.
50. Move the shift lever to each gear, and verify that the A/T gear position indicator follows the transmission range switch.
51. Do the leak Inspection (see **LEAK INSPECTION** ).
52. Refill the engine with engine oil, refer to step 4 on **ENGINE OIL REPLACEMENT** .
53. Refill the transmission with fluid, refer to step 5 on **ATF REPLACEMENT** .
54. Refill the radiator with engine coolant, and bleed air from the cooling system with the heater valve open, refer to step 8 on **COOLANT REPLACEMENT** .
55. Do the PCM reset procedure (see **PCM RESET** ).
56. Do the crankshaft position (CKP) pattern clear/CKP pattern learn procedure (see **CRANK (CKP) PATTERN CLEAR/CRANK (CKP) PATTERN LEARN** ).
57. Inspect the idle speed, refer to **IDLE SPEED INSPECTION** .
58. Inspect the ignition timing, refer to **IGNITION TIMING INSPECTION** .
59. Check the wheel alignment, refer to **WHEEL ALIGNMENT** .
60. Enter the anti-theft codes for the audio system and navigation system (if equipped), then enter the audio presets.
61. Do the power window control unit reset procedure, refer to **RESETTING THE POWER WINDOW CONTROL UNIT** .
62. Set the clock.

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**2006-08 ENGINE**

**Engine Assembly - Civic (Except Hybrid)**

# ENGINE ASSEMBLY (R18A1)

## NOTE: Go to ENGINE ASSEMBLY (GX) (SUPPLEMENT) article for additional information for the GX model.

**SPECIAL TOOLS**

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAK-SNAA120 | Universal Eyelet | 1 |
| ② | 07AAK-SNAA400 | 1.8 Support Eyelet | 1 |
| ③ | 07AAK-SNAA500 | 1.8 Support Bolt | 1 |




**Fig. 1: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**ENGINE REMOVAL**

## Special Tools Required

- Universal eyelet 07AAK-SNAA120
- 1.8 support eyelet 07AAK-SNAA400
- 1.8 support bolt 07AAK-SNAA500
- Front subframe adapter VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *

* : Available through Honda Tool and Equipment Program, 1-888-424-6857

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**NOTE:**

- **Use fender covers to avoid damaging painted surfaces.**
- **To avoid damaging the wiring and terminals, unplug the wiring connectors carefully while holding the connector portion.**
- **Mark all wiring and hoses to avoid misconnection. Also, be sure that they do not contact other wiring or hoses, or interfere with other parts.**

1. Make sure you have the anti-theft code for the audio system and the navigation system (if equipped), then write down the audio presets.
2. Secure the hood in the wide open position (support rod in the lower hole).

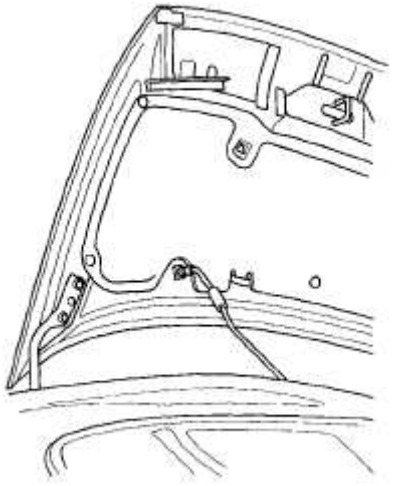


**Fig. 2: Identifying Support Rod In Lower Hole**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
4. Disconnect the negative cable from the battery, then disconnect the positive cable.
5. Remove the battery.
6. Remove the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
7. Remove the cowl cover and under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
8. Remove the injector cover.

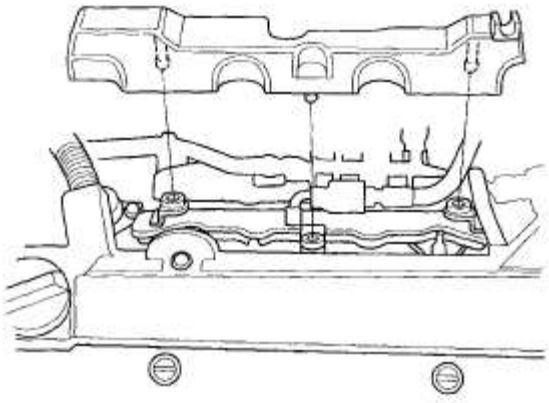


**Fig. 3: Identifying Injector Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the quick-connect fitting cover (A), then disconnect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING REMOVAL** ).

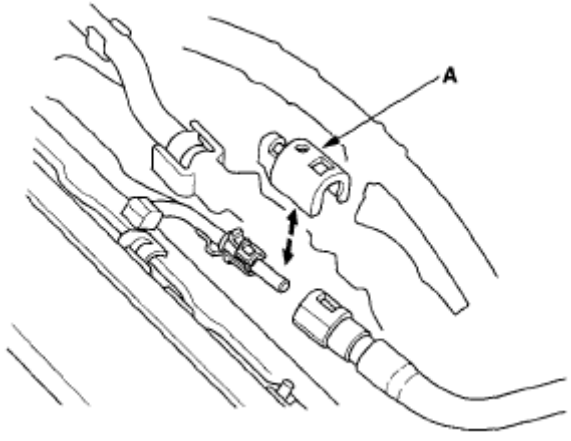



**Fig. 4: Identifying Quick-Connect Fitting Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the evaporative emission (EVAP) canister hose (A), brake booster vacuum hose (B), and power steering (P/S) hose clamp (C).

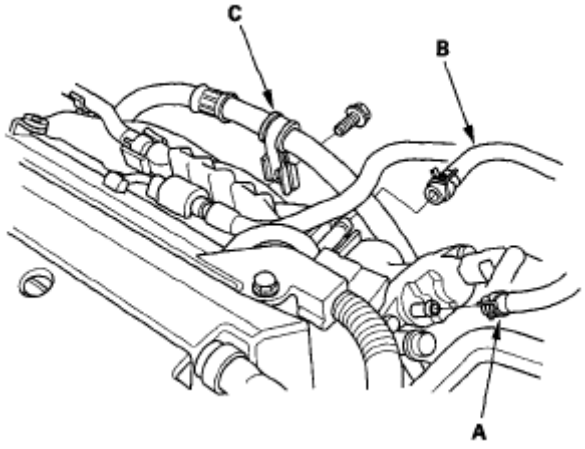



**Fig. 5: Identifying Evaporative Emission (EVAP) Canister Hose And Brake Booster Vacuum Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the battery cables (A) from the under-hood fuse/relay box.

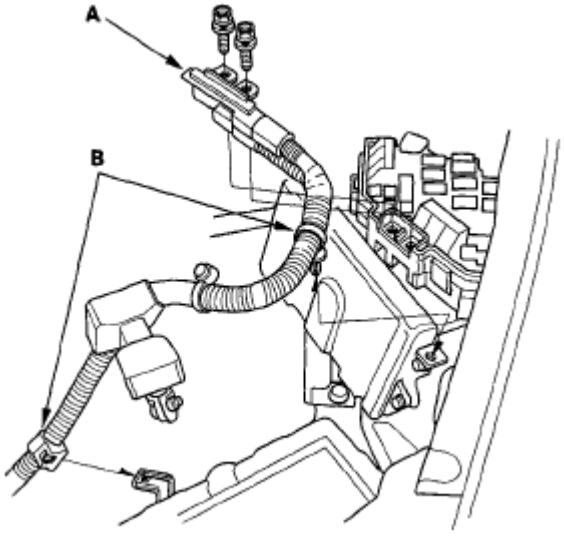



**Fig. 6: Identifying Battery Cables And Harness Clamps**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Remove the harness clamps (B).
13. Remove the engine control module (ECM)/powertrain control module (PCM) cover (A), then remove the three bolts (B) securing the ECM/PCM.

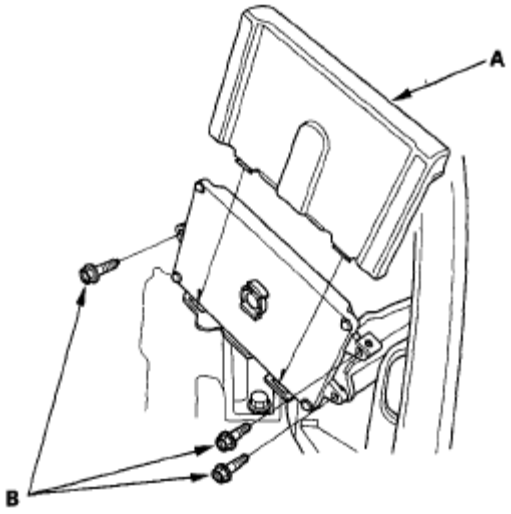



**Fig. 7: Identifying Control Module (PCM) Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Disconnect the ECM/PCM connectors (A) and the engine wire harness connectors (B).

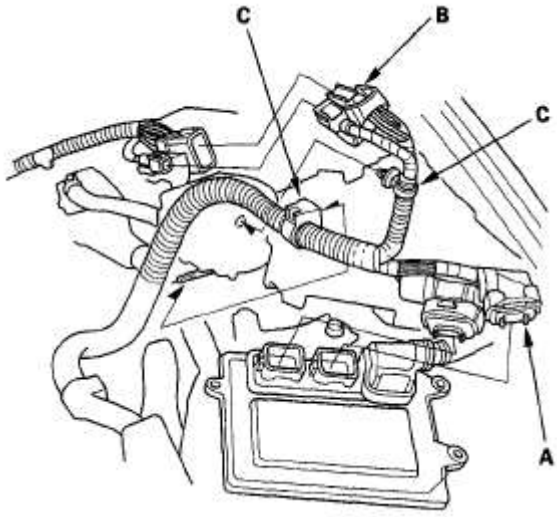



**Fig. 8: Identifying ECM/PCM Connectors And Engine Wire Harness Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Remove the harness clamps (C).
16. M/T model: Remove the two bolts (A) securing the harness holder, then remove the harness clamp (B).

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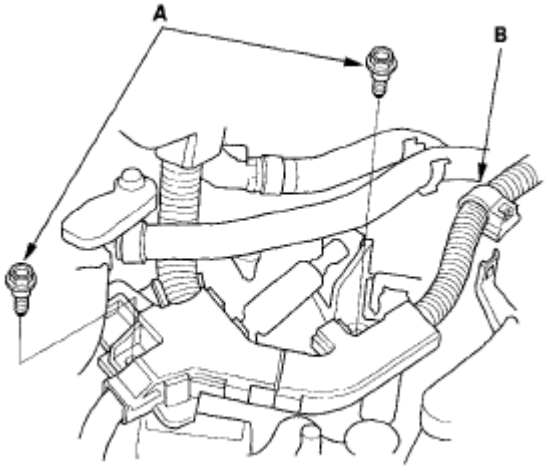



**Fig. 9: Identifying Harness Clamp Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. M/T model: Remove the shift cable (see step 9 on **TRANSMISSION REMOVAL** ).
18. M/T model: Remove the clutch slave cylinder, and the clutch line bracket mounting bolt (see step 7 on **TRANSMISSION REMOVAL** ).
19. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
20. Remove the radiator cap.
21. Raise the vehicle on the lift to full height.
22. Remove the front wheels.
23. Remove the splash shield.

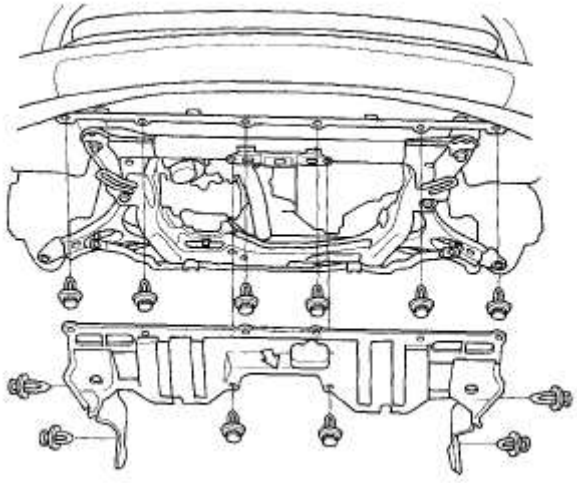


**Fig. 10: Identifying Splash Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Loosen the drain plug in the radiator, and drain the engine coolant (see **COOLANT REPLACEMENT** ).
25. Drain the engine oil (see **OIL PRESSURE TEST** ).
26. Drain the transmission fluid:
    - Manual transmission (see step 3 on **TRANSMISSION REMOVAL** )
    - Automatic transmission (see step 3 on **ATF REPLACEMENT** )
27. Remove exhaust pipe A.

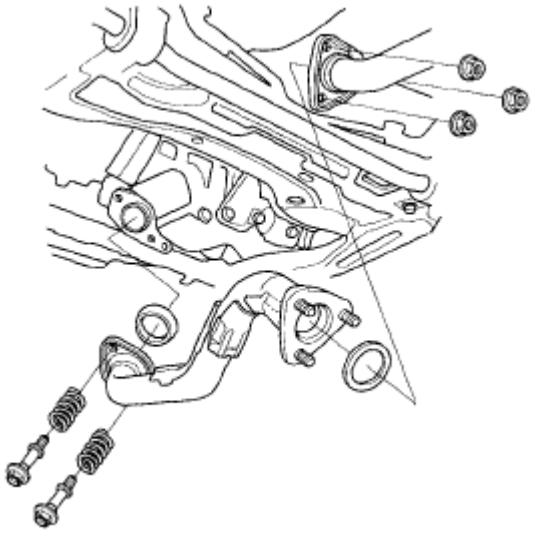


**Fig. 11: Identifying Exhaust Pipe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. A/T model: Remove the shift cable (see step 41 on **TRANSMISSION REMOVAL** ).
29. Separate the stabilizer links (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
30. Separate the knuckles from the lower arms (see step 5 on **DRIVESHAFT REMOVAL** ).
31. Remove the driveshafts (see step 8 on **DRIVESHAFT REMOVAL** ). Coat all precision-finished surfaces with clean engine oil. Tie plastic bags over the driveshaft ends.

32. Remove the power steering (P/S) pump without disconnecting the P/S hoses from the pump.

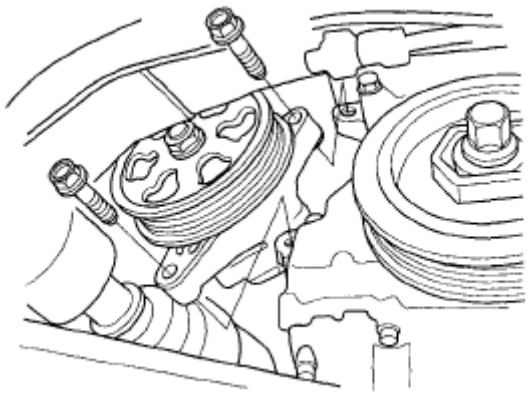


**Fig. 12: Identifying Power Steering (P/S) Pump**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Unclamp the power steering fluid line clamp (A) on the front subframe, and remove the P/S line mounting bolts (B).

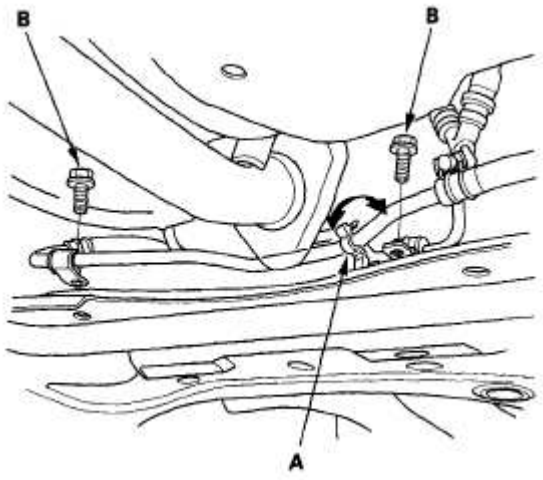



**Fig. 13: Identifying P/S Line Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Remove the steering gearbox mounting bolt (A), then remove the steering gearbox stiffener (B).

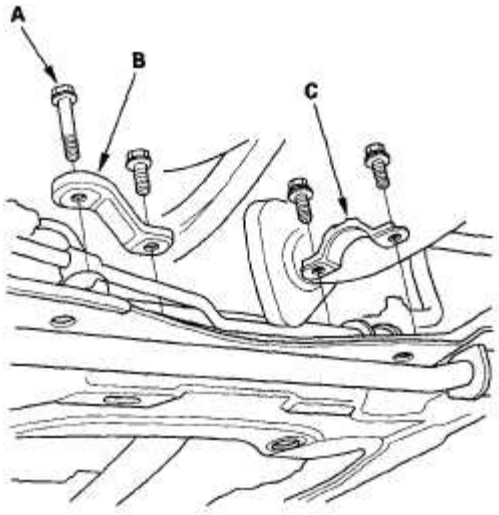



**Fig. 14: Identifying Steering Gearbox Stiffener And Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

35. Remove the steering gearbox bracket (C).
36. Remove the steering gearbox mounting bolts (A), then remove the steering gearbox stiffener (B).

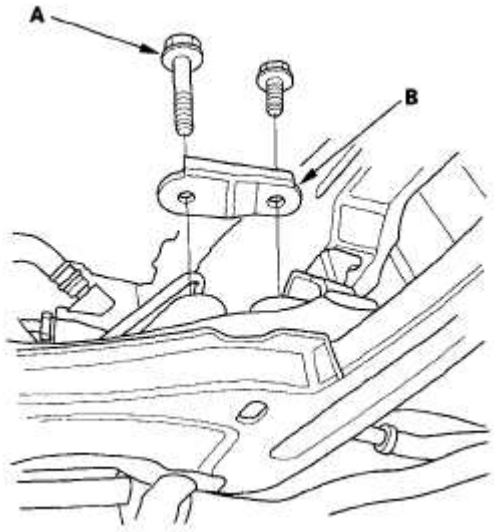



**Fig. 15: Identifying Steering Gearbox Stiffener And Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Lower the vehicle on the lift.
38. Remove the radiator (see **RADIATOR AND FAN REPLACEMENT** ).

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39. Disconnect the A/C compressor clutch connector (A), then remove the harness clamp (B).

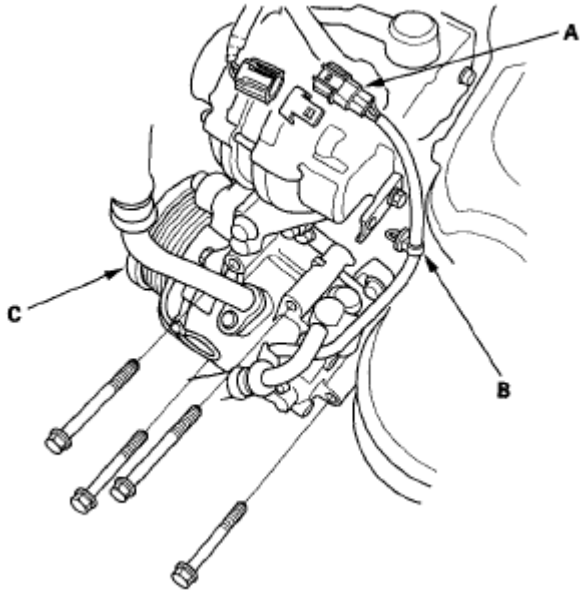



**Fig. 16: Identifying A/C Compressor Clutch Connector And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

40. Remove the A/C compressor (C) without disconnecting the A/C hoses.
41. Remove the heater hoses.

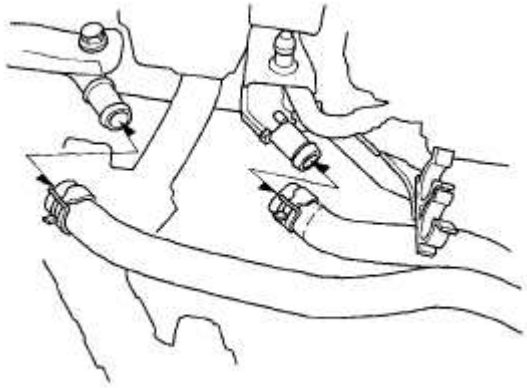


**Fig. 17: Identifying Heater Hoses**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Remove the air cleaner housing mounting bracket (A), and install support

eyelet (B) behind the breather pipe (C) and down to the threaded hole (D) on the cylinder head.

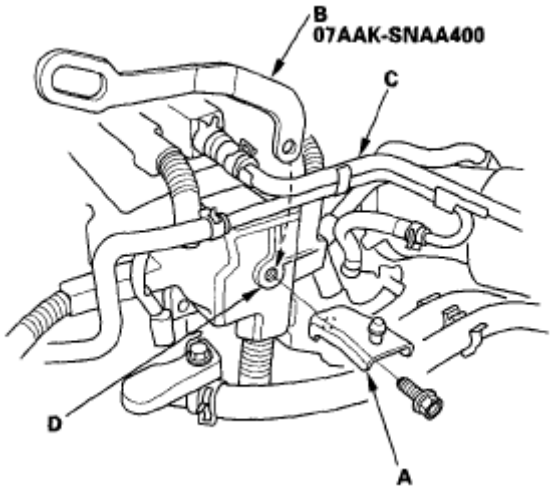



**Fig. 18: Identifying Air Cleaner Housing Mounting Bracket And Support Eyelet**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

43. Attach the support eyelet (A) to the cylinder head with the support bolt (B). Tighten the bolt by hand.

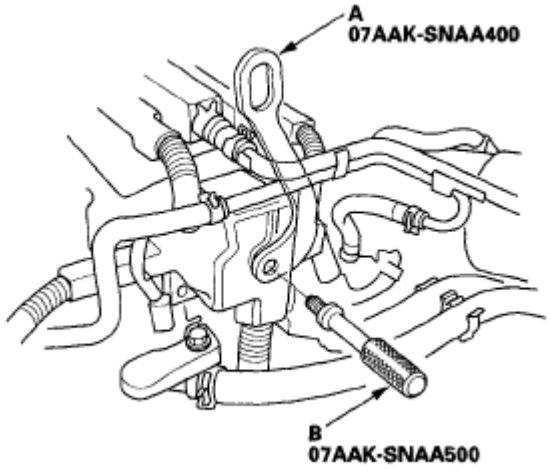



**Fig. 19: Identifying Support Eyelet And Support Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

44. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger. Carefully

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position the engine hanger on the vehicle, and attach the hook to the slotted hole in the support eyelet (D). Tighten the wing nut by hand to lift and support the engine/transmission.

**NOTE: Use care when working around the windshield.**

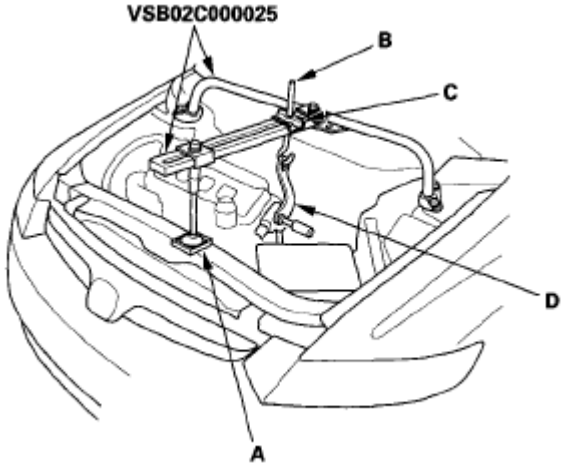



**Fig. 20: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Raise the vehicle on the lift to full height.
46. Remove the lower torque rod. M/T

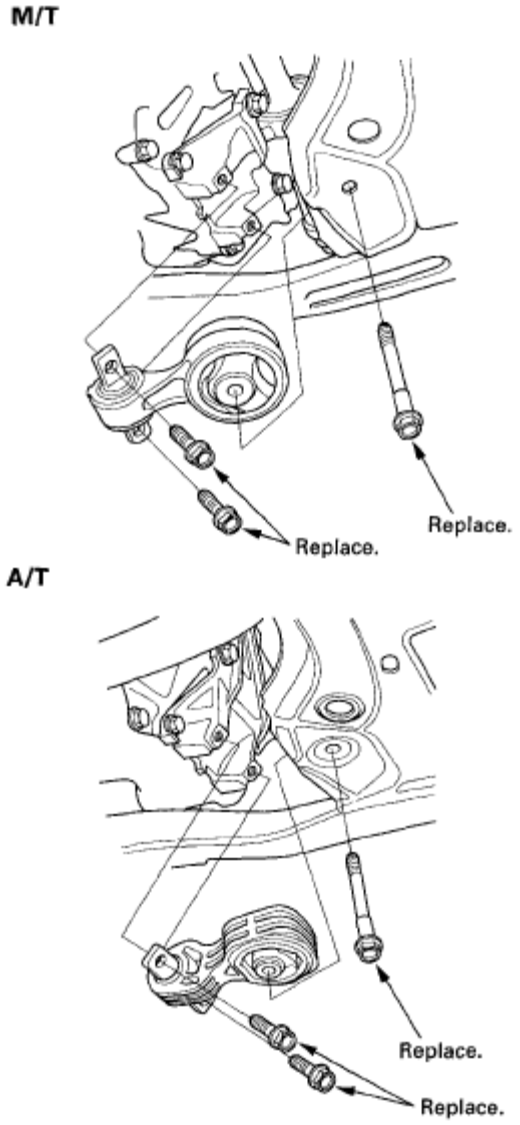



**Fig. 21: Identifying Lower Torque Rod**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

47. Note the reference marks (A) on both sides of the front subframe that line up with the body (B).

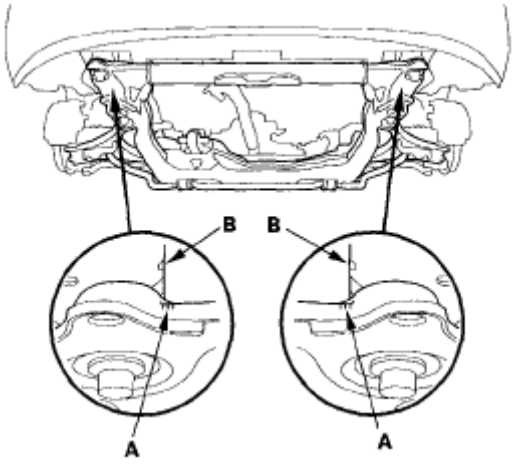



**Fig. 22: Identifying Marks On Both Sides Of Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

48. Loosen the front subframe body mount bracket mounting bolts (A) on both sides.

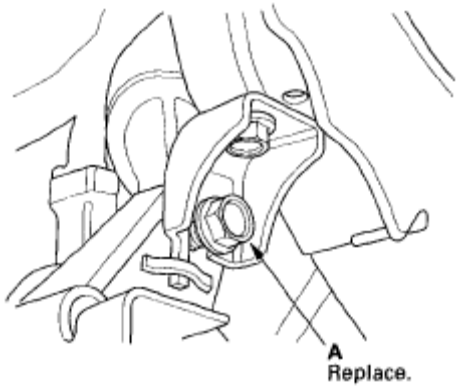



**Fig. 23: Identifying Front Subframe Body Bracket Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

49. Attach the front subframe adapter (A) to the front subframe and hang the belt of the front subframe adapter over the front of the subframe, then secure the belt with its stop.

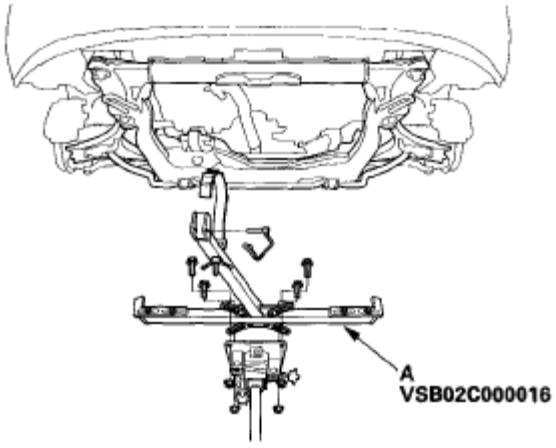



**Fig. 24: Identifying Front Subframe Adapter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

50. Raise the jack and line up the slots in the arms with the bolt holes on the corner of the jack base, then attach them with bolts securely.
51. Remove the front subframe.

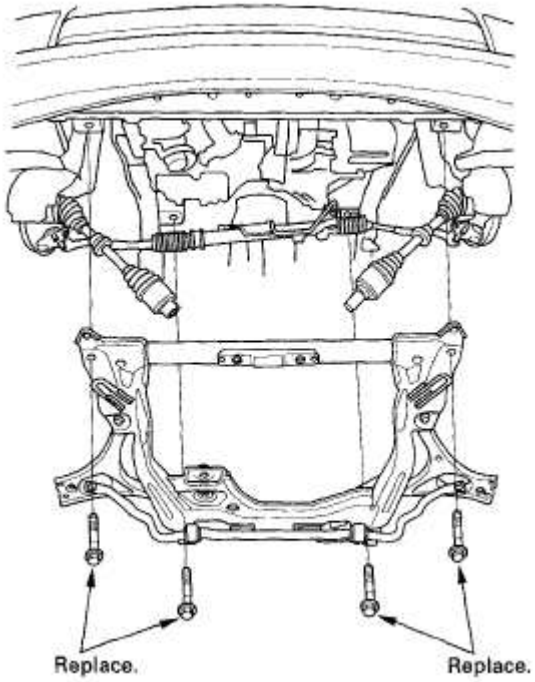



**Fig. 25: Identifying Front Subframe Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

52. Lower the vehicle on the lift.

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53. Remove the ground cable (A), then install the special tool with a 10 x 1.25 x 20 mm bolt (B).

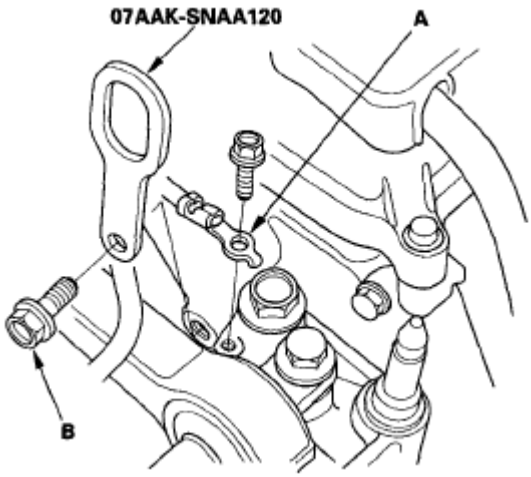



**Fig. 26: Identifying Ground Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

54. Attach a chain hoist (A) to the special tool (B) and transmission hook (C). Lift up on the engine/transmission until it's securely supported by the chain hoist, and remove the engine support hanger from the engine and vehicle.

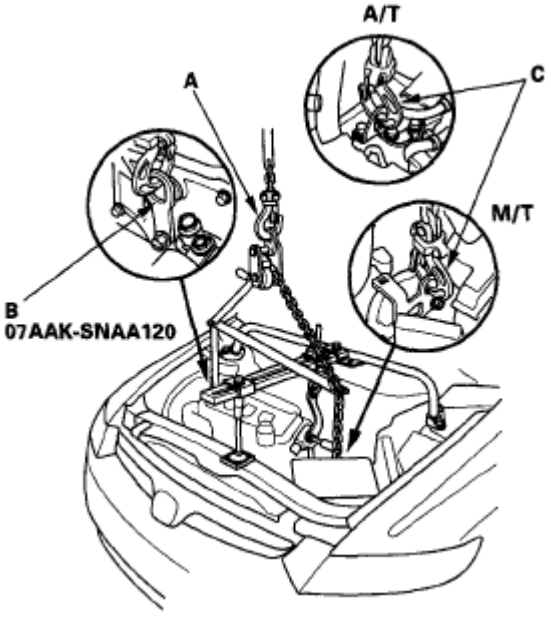



**Fig. 27: Lifting Up On Engine/Transmission**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

55. Remove the side engine mount bracket mounting bolt and nut.

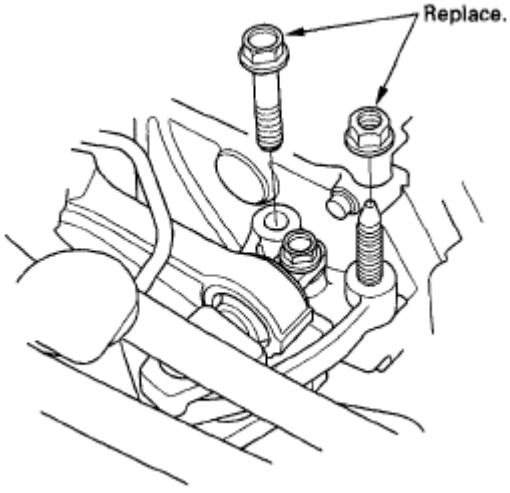



**Fig. 28: Identifying Engine Mount Bracket Mounting Bolt And Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

56. Remove the transmission mounting bolt and nuts (A).

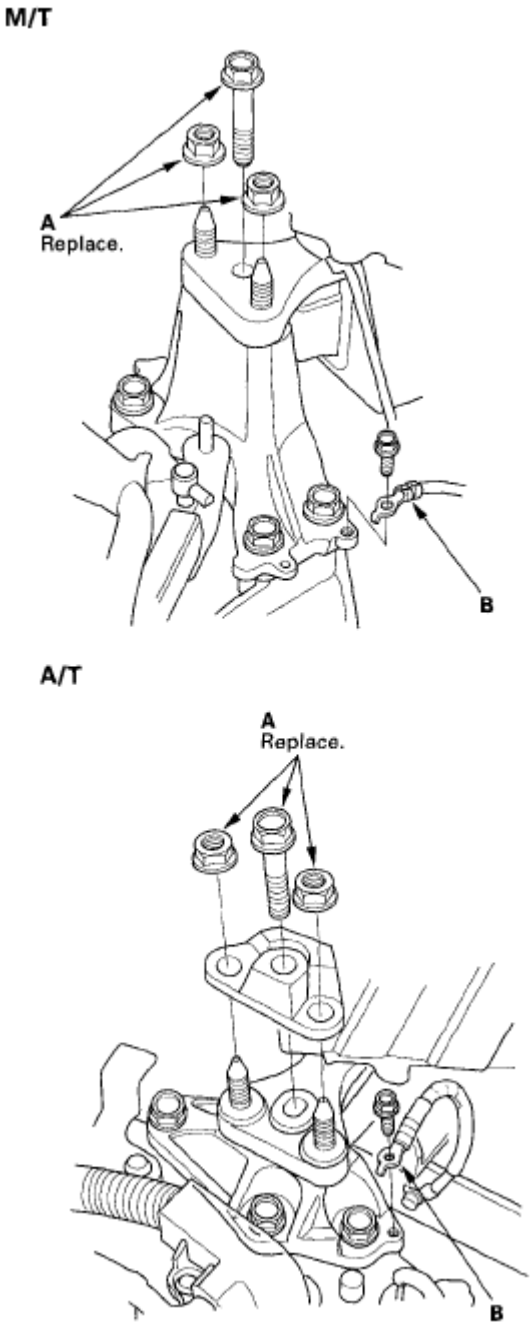



**Fig. 29: Identifying Transmission Mounting Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

57. Remove the ground cable (B).
58. Check that the engine/transmission is completely free of vacuum hoses, fuel and coolant hoses, and electrical wiring.
59. Slowly lower the engine/transmission about 150 mm (6 in.). Check once again

that all hoses and electrical wiring are disconnected and free from the engine/transmission, then lower it all the way.

60. Disconnect the chain hoist from the engine/transmission.
61. Raise the vehicle all the way, and remove the engine/transmission from under the vehicle.

**ENGINE INSTALLATION**

## Special Tools Required

- Universal eyelet 07AAK-SNAA120
- 1.8 support eyelet 07AAK-SNAA400
- 1.8 support bolt 07AAK-SNAA500
- Front subframe adapter VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *

* : Available through Honda Tool and Equipment Program, 1-888-424-6857

1. Install the accessory brackets and tighten their bolts to the specified torques.

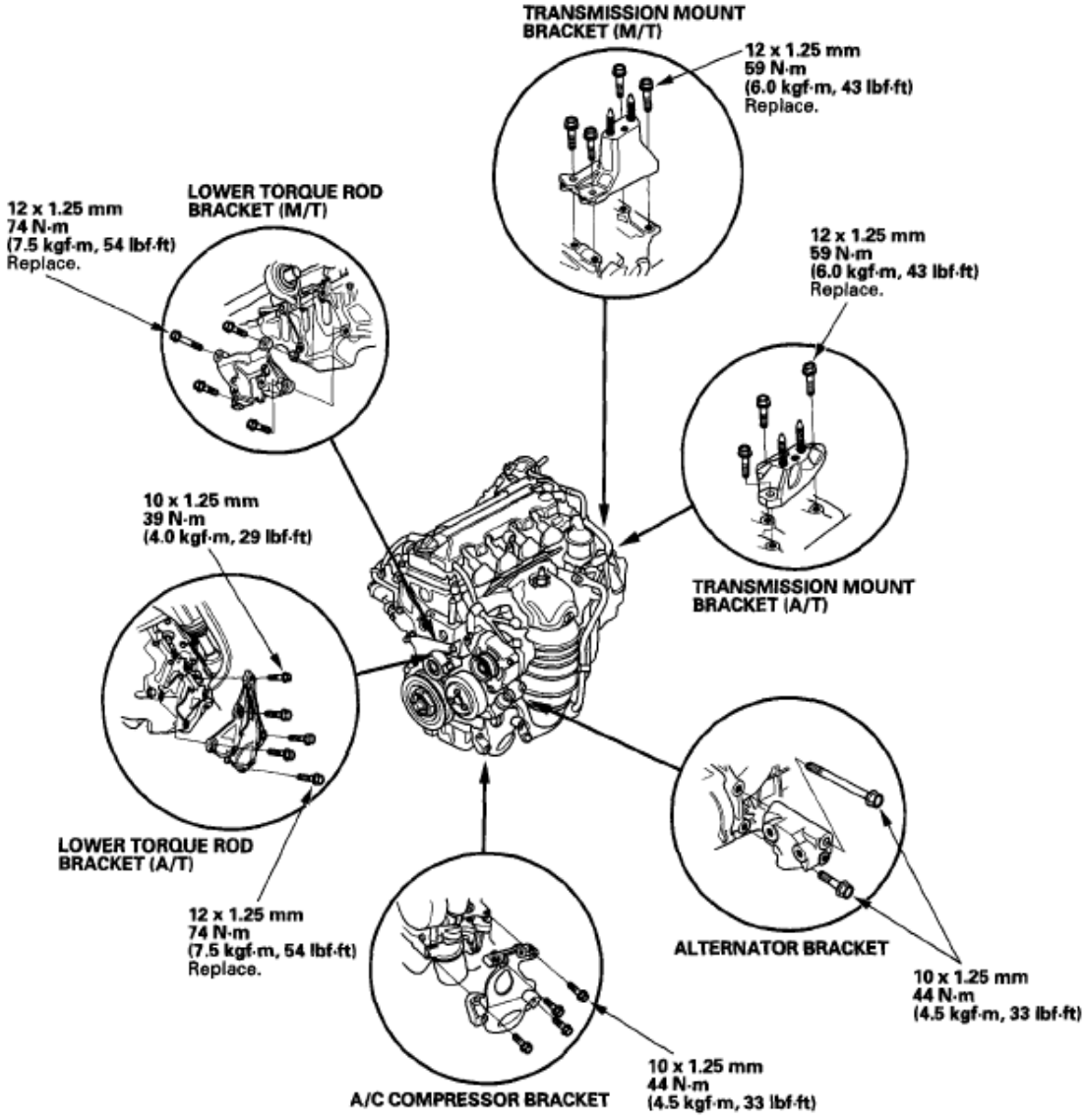



**Fig. 30: Identifying Engine Components Location (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Position the engine/transmission under the vehicle. Be sure that they are properly aligned. Carefully lower the vehicle until the engine and transmission are properly positioned in the engine compartment, Make sure the vehicle is not resting on any part of the engine or transmission. Lift and support the engine with a chain hoist and carefully raise the engine/transmission into place.

**NOTE: Reinstall the mounting bolts/support nuts in the**

**sequence given in the following steps. Failure to follow this sequence may cause excessive noise and vibration, and reduce engine mount life.**

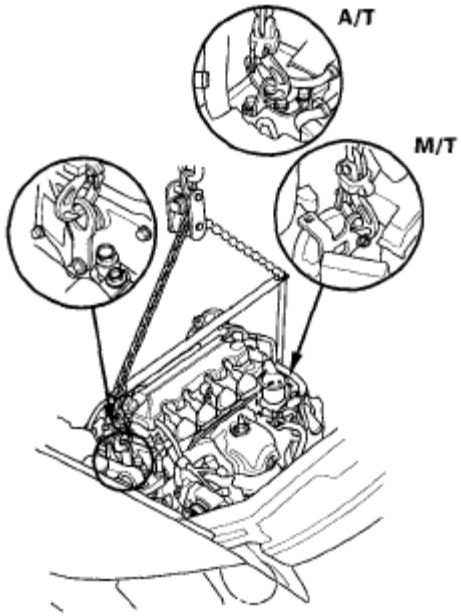



**Fig. 31: Lifting Engine With Chain Hoist**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install support eyelet (A) behind the breather pipe (B) and down to the thread hole (C) on the cylinder head.

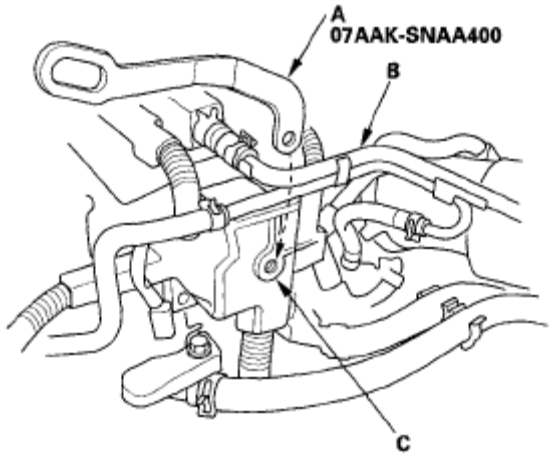



**Fig. 32: Identifying Support Eyelet**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Attach the support eyelet (A) to the cylinder head with the support bolt (B). Tighten the bolt by hand.

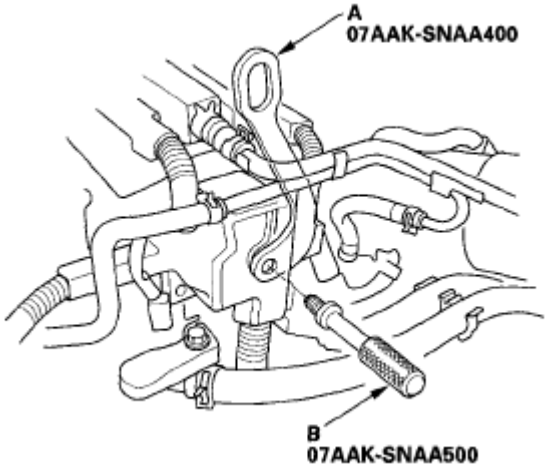



**Fig. 33: Identifying Support Eyelet To Cylinder Head With Support Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger. Carefully position the engine hanger on the vehicle, and attach the hook to the slotted hole in the support eyelet (D). Tighten the wing nut by hand to lift and support the engine/transmission.

**NOTE: Use care when working around the windshield.**

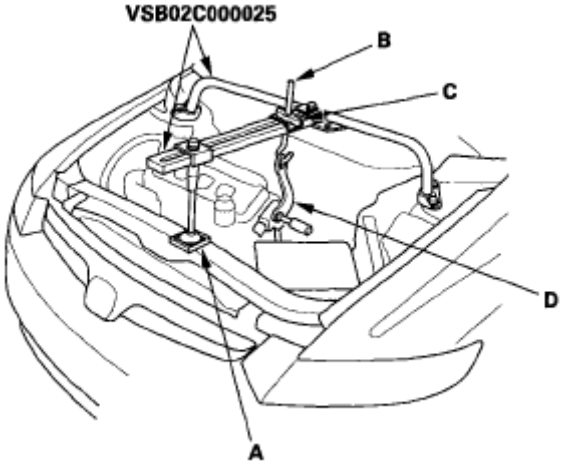



**Fig. 34: Identifying Special Tools**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Loosen the upper torque rod mounting bolt (A).

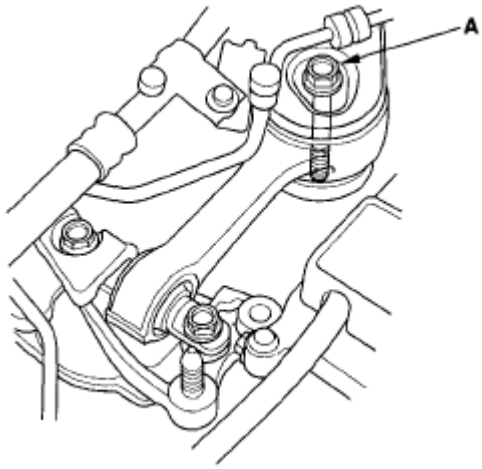



**Fig. 35: Identifying Upper Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Tighten the new side engine mount bracket mounting bolt and nut.

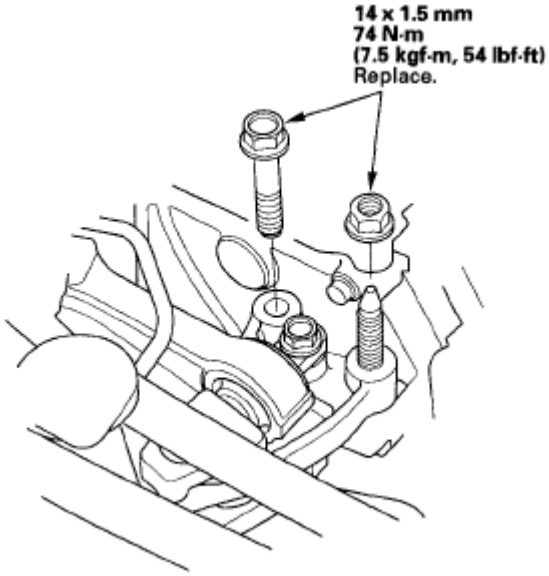



**Fig. 36: Identifying Engine Mount Bracket Mounting Bolt And Nut (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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8. Tighten the new transmission mounting bolt and nuts (A).

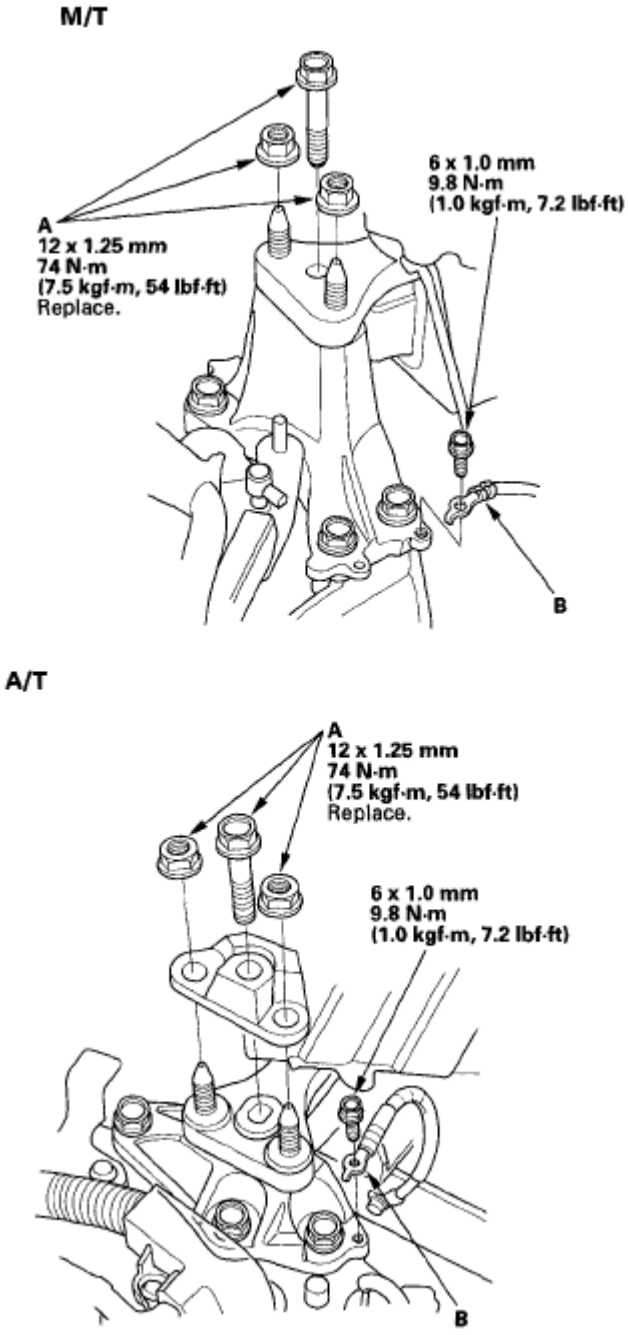



**Fig. 37: Identifying Transmission Mounting Bolt And Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install the ground cable (B).

10. Remove the chain hoist, then raise the vehicle on the hoist to full height.
11. Using the front subframe adapter (A) and a jack, raise the front subframe up to body.

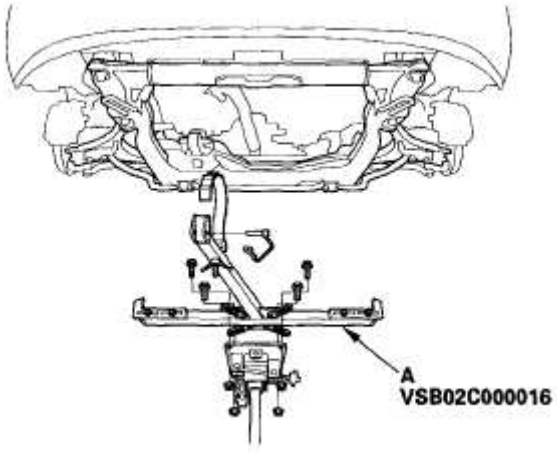



**Fig. 38: Identifying Front Subframe Adapter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Loosely install the new front subframe mounting bolts.

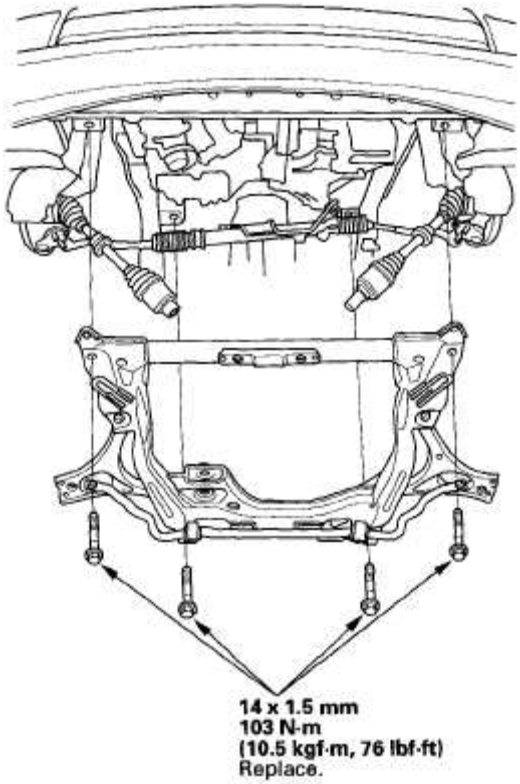



**Fig. 39: Identifying Front Subframe Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Align the front subframe reference marks (A) to the body (B), as noted during removal. Tighten the subframe mounting bolts to the specified torque.

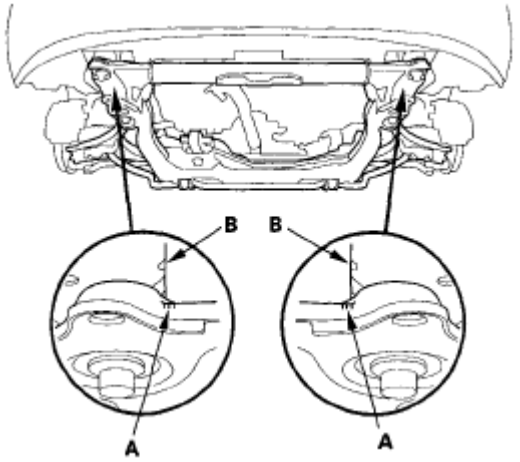



**Fig. 40: Identifying Subframe Mark On Body**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Remove the jack and front subframe adapter.
15. Tighten the new front subframe body mount bracket mounting bolts on both sides.

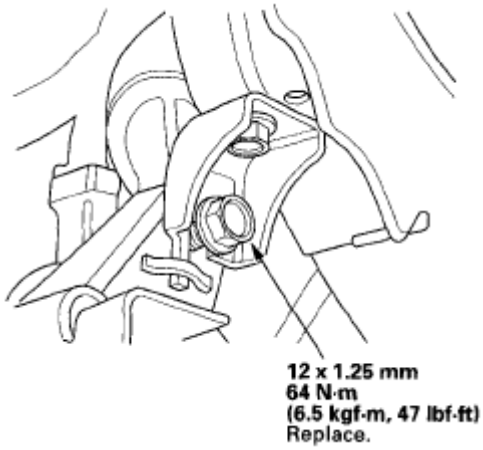



**Fig. 41: Identifying Subframe Body Mount Bracket Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Install the lower torque rod, then tighten the new lower torque rod mounting bolts in the numbered sequence shown.

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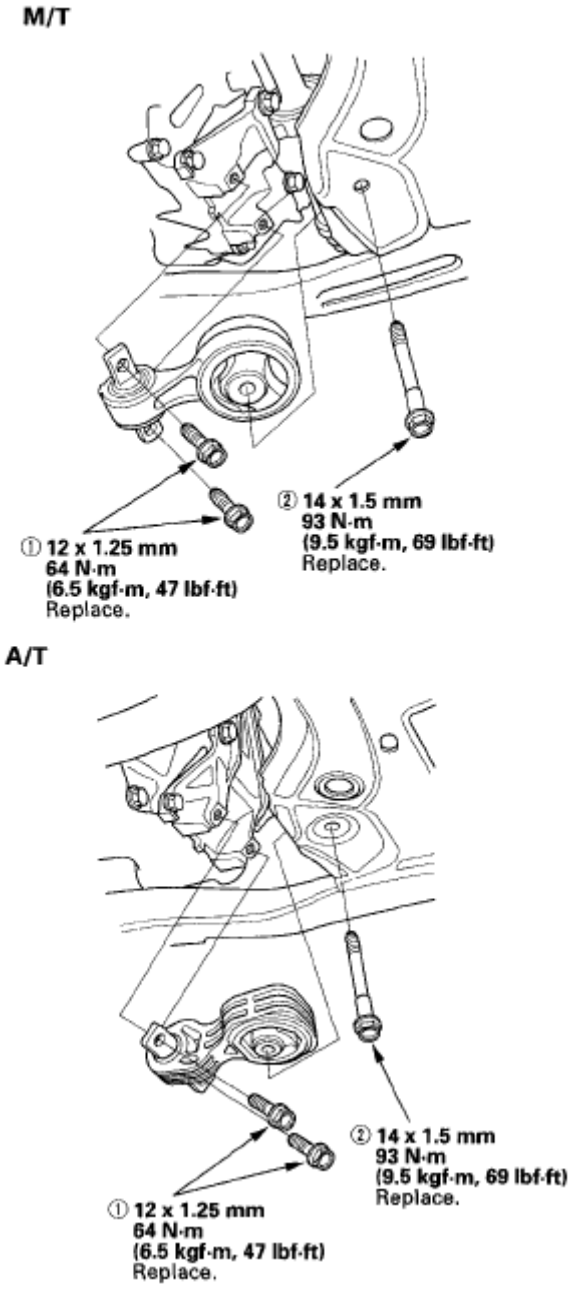



**Fig. 42: Identifying Tightening Sequence For Lower Torque Rod Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Lower the vehicle on the lift, and remove the engine hanger, support eyelet, and bolt.
18. Tighten the upper torque rod mounting bolt.

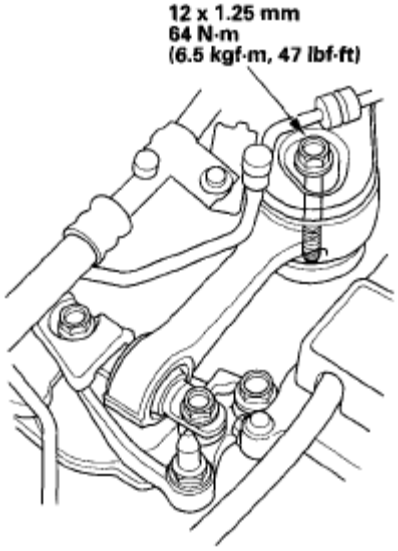



**Fig. 43: Identifying Upper Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Remove the special tool and bolt (A), then install the ground cable (B).

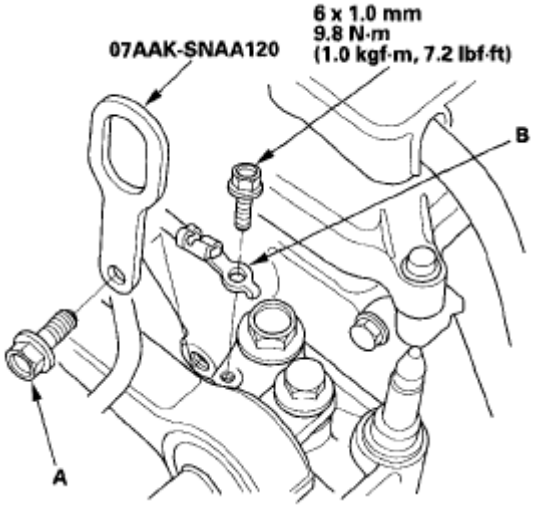



**Fig. 44: Identifying Special Tool (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Raise the vehicle on the lift to full height.
21. Install the steering gearbox stiffener (A), then tighten the steering gearbox mounting bolt and stiffener bolt.

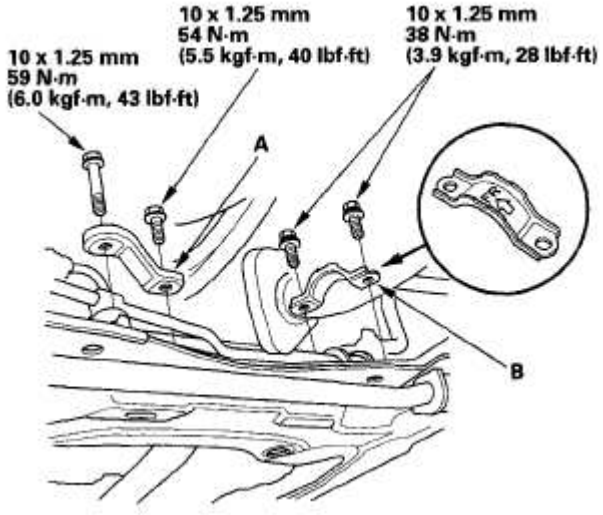



**Fig. 45: Identifying Steering Gearbox Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Position the "FR" mark to the front of the vehicle, then install the steering gearbox bracket (B).
23. Install the steering gearbox stiffener (A), then tighten the steering gearbox mounting bolt and stiffener bolt.

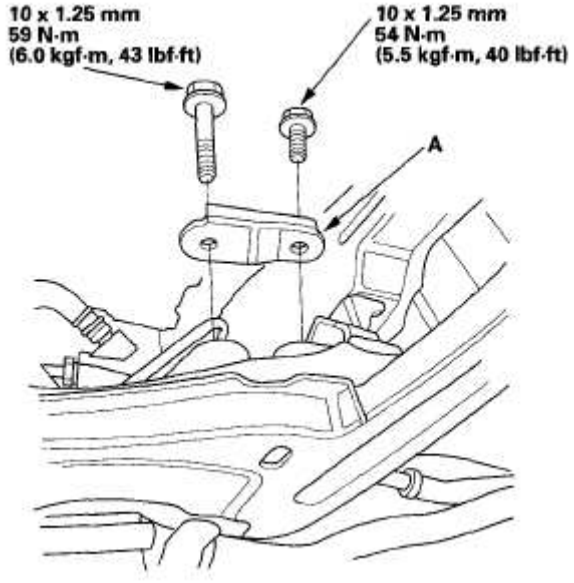



**Fig. 46: Identifying Steering Gearbox Mounting And Stiffener Bolt (With Torque Specifications)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Install the power steering (P/S) line on the clamp (A), then install the P/S line brackets (B) on the subframe.

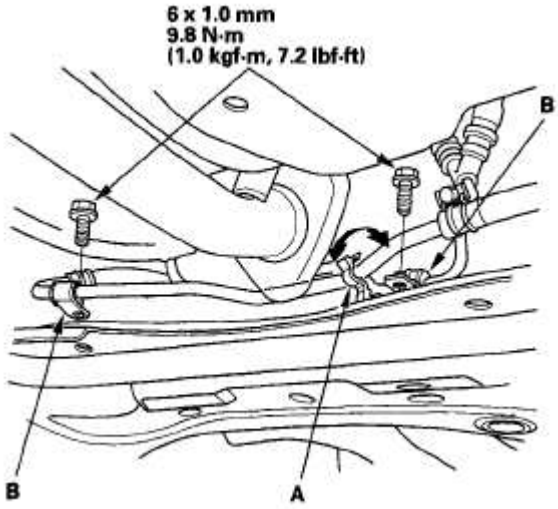



**Fig. 47: Identifying P/S Line Brackets (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Install the P/S pump.

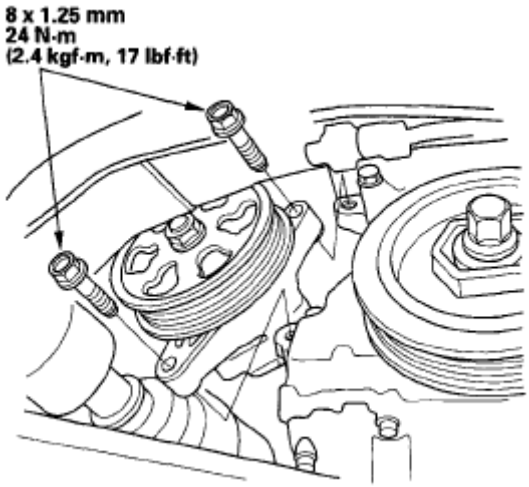



**Fig. 48: Identifying P/S Pump Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

26. A/T model: Install the shift cable (see step 15 on **TRANSMISSION**

**INSTALLATION** ).

27. Install a new set ring on the end of each driveshaft, then install the driveshafts. Make sure each ring "clicks" into place in the differential and intermediate shaft.
28. Connect the lower arms to the knuckles (see step 5 on **LOWER ARM REMOVAL/INSTALLATION** ).
29. Connect the stabilizer links (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
30. Install exhaust pipe A. Use new gaskets (B) and new self-locking nuts (C).

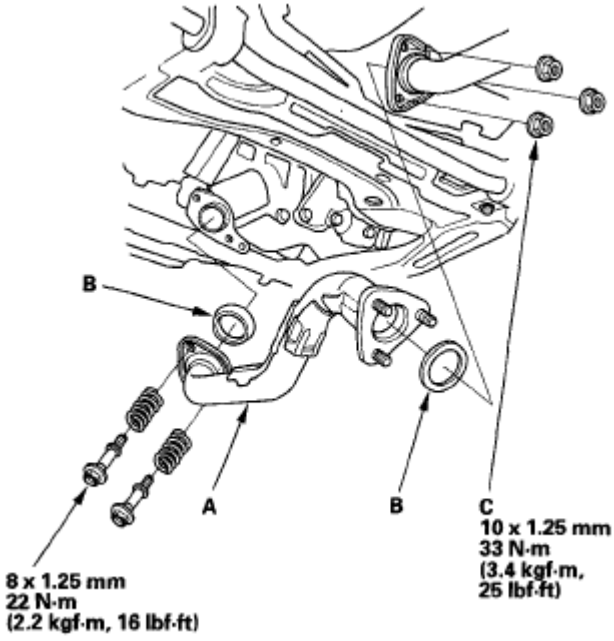



**Fig. 49: Identifying Exhaust Pipe And Self-Locking Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

31. Install the splash shield

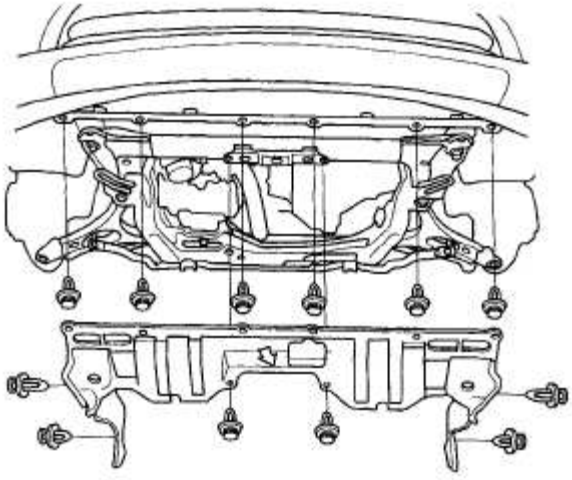


**Fig. 50: Identifying Splash Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

32. Lower the vehicle on the lift.
33. Install the heater hoses.

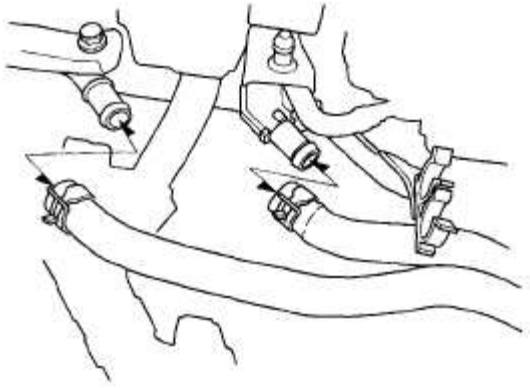


**Fig. 51: Identifying Heater Hoses**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Install the A/C compressor (A).

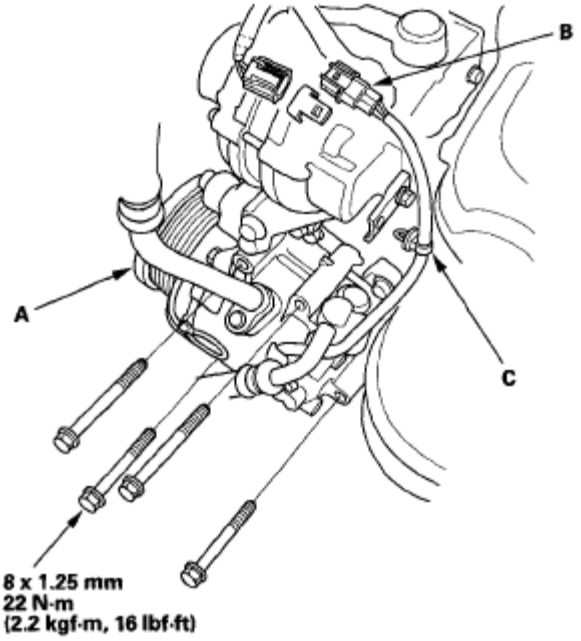



**Fig. 52: Identifying A/C Compressor Clutch Connector (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

35. Connect the A/C compressor clutch connector (B), then install the harness clamp (C).
36. Install the drive belt (see **DRIVE BELT REMOVAL/INSTALLATION** ).
37. Remove the bulkhead, then install the radiator (see **RADIATOR AND FAN REPLACEMENT** ).
38. M/T model: Install the clutch slave cylinder and clutch line bracket mounting bolt (see step 33 on **TRANSMISSION INSTALLATION** ).
39. M/T model: Install the shift cable (see step 31 on **TRANSMISSION INSTALLATION** ).
40. M/T model: Install the harness holder (A) and harness clamp (B).

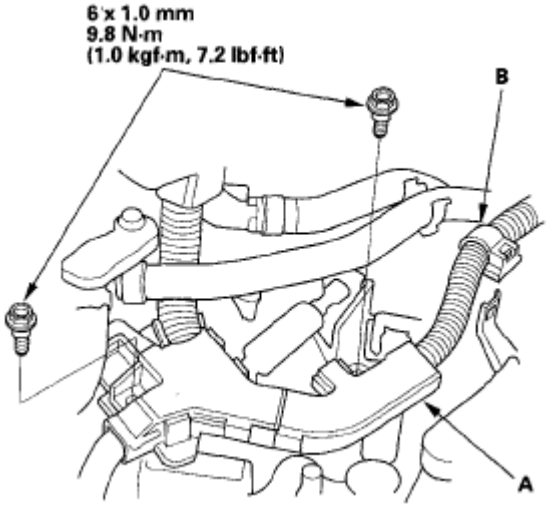



**Fig. 53: Identifying Harness Holder And Harness Clamp (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

41. Connect the engine control module (ECM)/powertrain control module (PCM) connectors (A) and engine wire harness connectors (B).

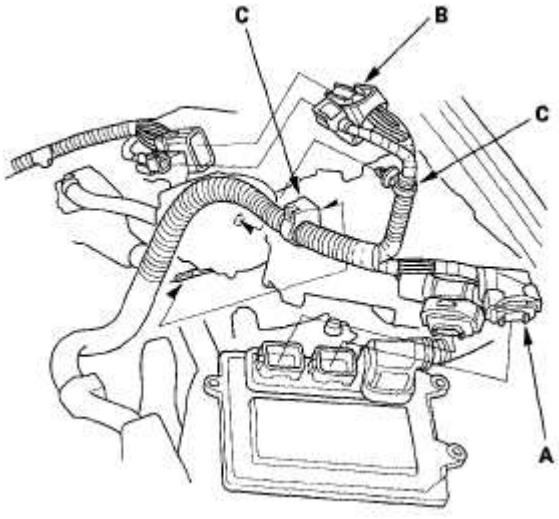



**Fig. 54: Identifying Powertrain Control Module (PCM) Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Install the harness clamps (C).
43. Install the ECM/PCM (A), then install the ECM/PCM cover (B).

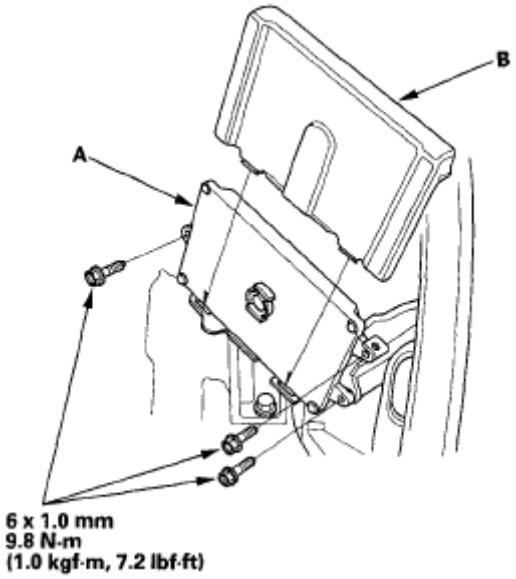



**Fig. 55: Identifying ECM/PCM Cover And Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

44. Install the battery cables (A) to the under-hood fuse/relay box.

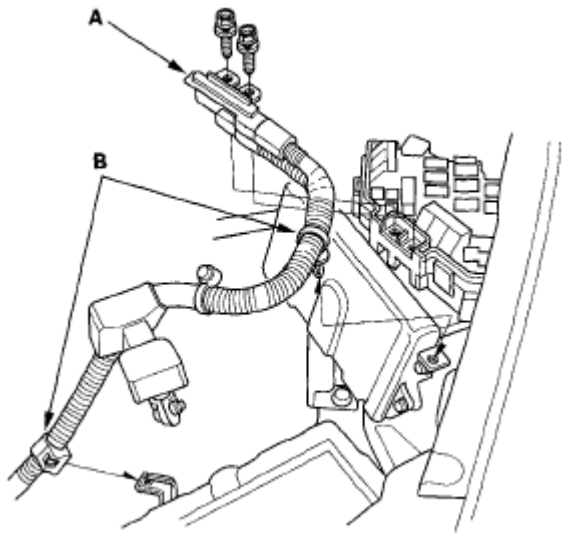



**Fig. 56: Identifying Battery Cables And Harness Clamps**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Install the harness clamps (B).
46. Install the evaporative emission (EVAP) canister hose (A), the brake booster

vacuum hose (B), and the power steering (P/S) hose clamp (C).

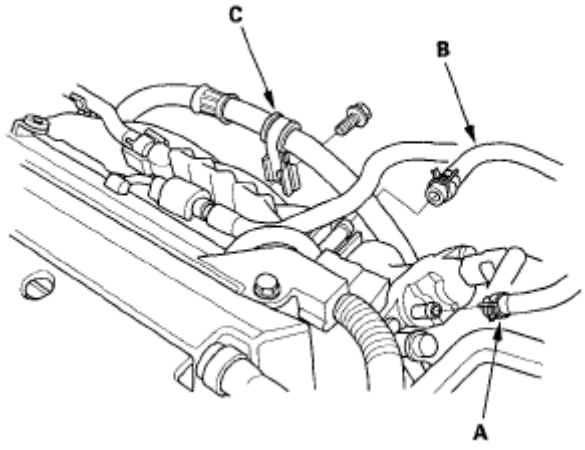



**Fig. 57: Identifying Brake Booster Vacuum Hose And Power Steering (P/S) Hose Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

47. Connect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING INSTALLATION** ), then install the quick-connect fitting cover (A).

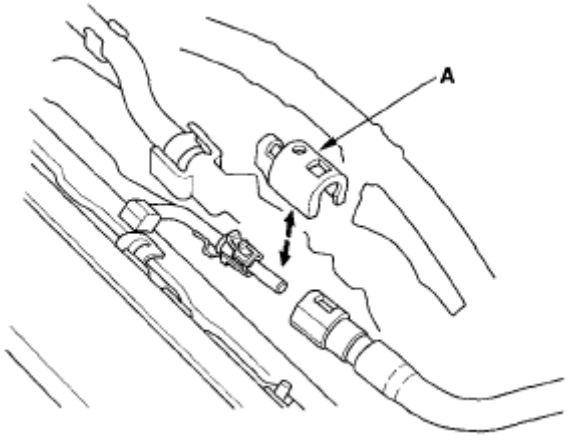



**Fig. 58: Identifying Quick-Connect Fitting Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

48. Install the injector cover.

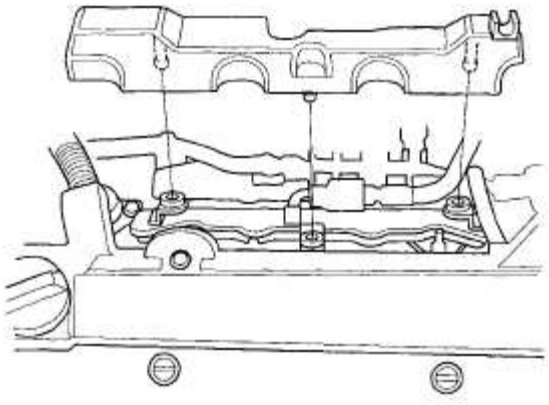


**Fig. 59: Identifying Injector Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

49. Install the under-cowl panel and cowl cover (see **FRONT GRILLE COVER REPLACEMENT** ).
50. Install the air cleaner housing mounting bracket (A) on the cylinder head.

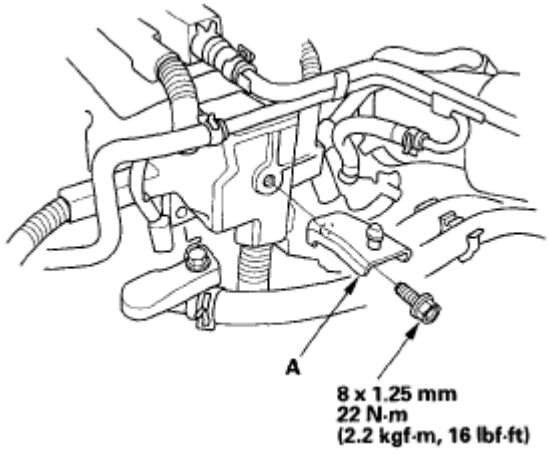



**Fig. 60: Identifying Air Cleaner Housing Mounting Bracket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

51. Install the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
52. Install the front wheels.
53. Install the battery. Clean the battery posts and cable terminals, then assemble them, and apply grease to prevent corrosion.
54. Inspect for fuel leaks: Turn the ignition switch ON (II) (do not operate the

starter) so the fuel pump runs for about 2 seconds and pressurizes the fuel line. Repeat this operation two or three times, then check for fuel leakage at any point in the fuel line.

55. A/T model: Move the shift lever to each gear, and verify that the A/T gear position indicator follows the transmission range switch.
56. M/T model: Check that the transmission shifts into gear smoothly.
57. Refill the engine with engine oil (see step 4 on **ENGINE OIL REPLACEMENT** ).
58. Refill the transmission with fluid:
    - Manual transmission (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** )
    - Automatic transmission (see step 5 on **ATF REPLACEMENT** )
59. Refill the radiator with engine coolant, and bleed air from the cooling system with the heater valve open (see step 8 on **COOLANT REPLACEMENT** ).
60. Do the ECM/PCM reset procedure (see **ECM/PCM RESET** ).
61. Do the crankshaft position (CKP) pattern clear/CKP pattern learn procedure (see **ECM/PCM RESET** ).
62. Inspect the idle speed (see **IDLE SPEED INSPECTION** ).
63. Inspect the ignition timing (see **IGNITION TIMING INSPECTION** ).
64. Check the wheel alignment (see **WHEEL ALIGNMENT** ).
65. Enter the anti-theft code for the audio system and the navigation system (if equipped), then enter the audio presets.
66. Set the clock (on vehicles without navigation).

**SIDE ENGINE MOUNT REPLACEMENT**

1. Support the engine with a jack and a wood block under the oil pan.
2. Remove the bolt (A) securing the A/C line, then remove the upper torque rod (B).

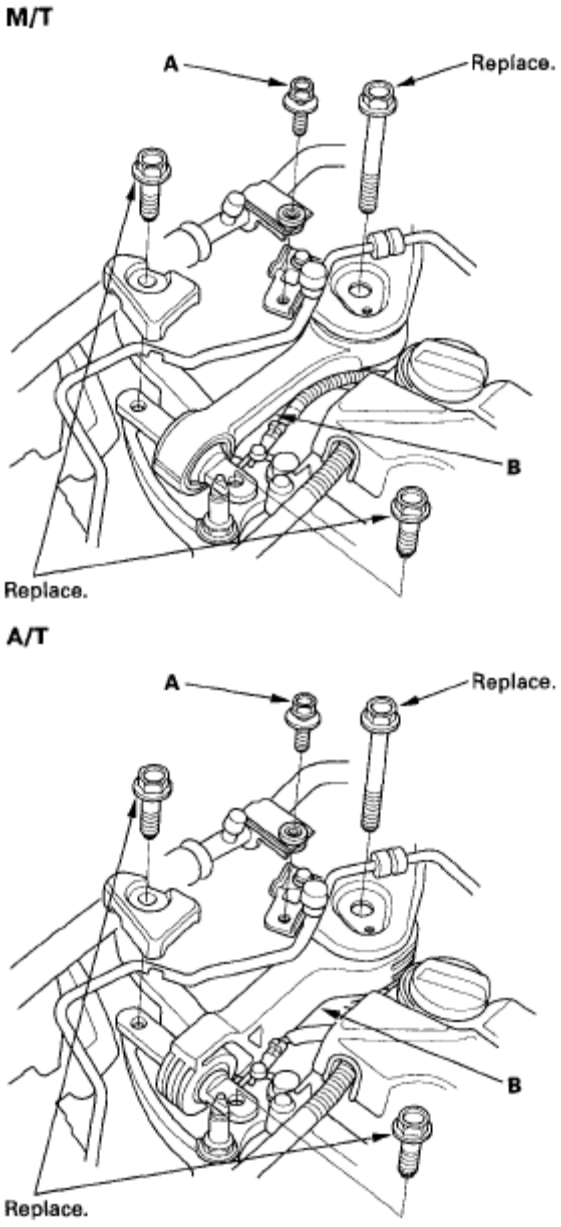



**Fig. 61: Identifying Upper Torque Rod**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ground cable (A), then remove the side engine mount bracket (B).

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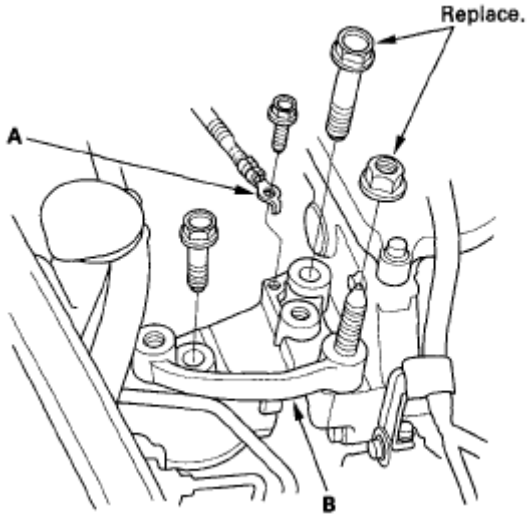



**Fig. 62: Identifying Ground Cable And Side Engine Mount Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the side engine mount stiffener (A), then remove the side engine mount (B).

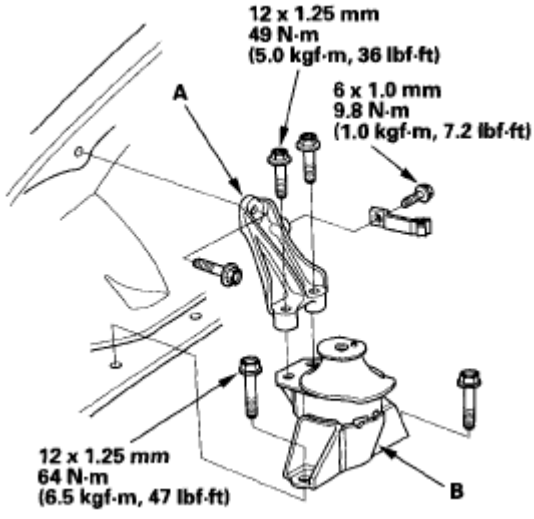



**Fig. 63: Identifying Side Engine Mount Stiffener And Side Engine Mount (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the side engine mount, then install the side engine mount stiffener.
6. Install the side engine mount bracket (A), then loosely tighten the new bolt and nut (B). Loosely tighten the bolt (C).

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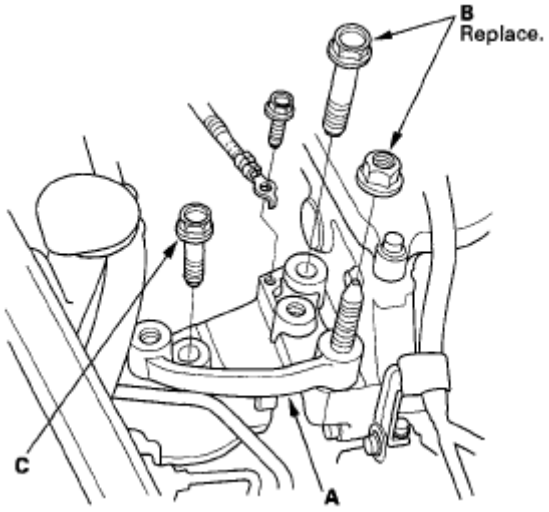
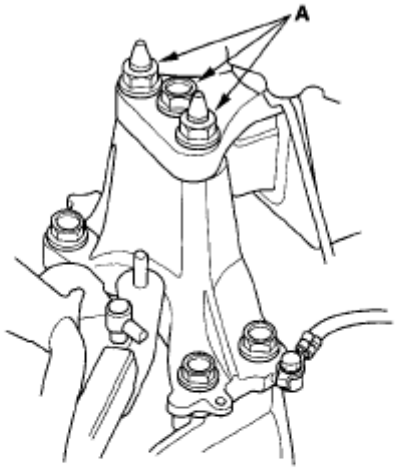



**Fig. 64: Identifying Side Engine Mount Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the ground cable.
8. Remove the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
9. Loosen the transmission mounting bolt and nuts (A).

M/T




A/T

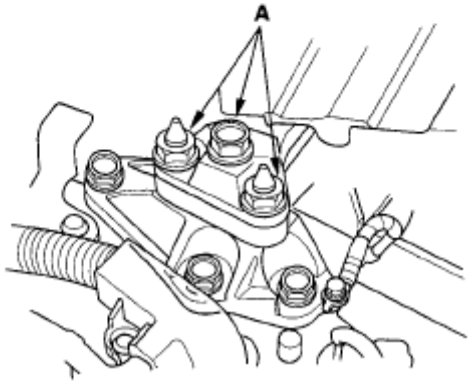
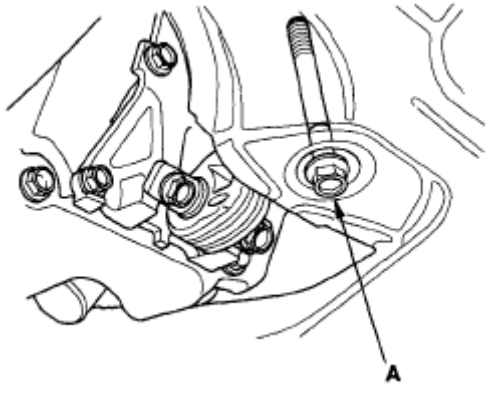



**Fig. 65: Identifying Transmission Mounting Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Raise the vehicle on the lift to full height.
11. Loosen the lower torque rod mounting bolt (A).



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**Fig. 66: Identifying Lower Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Lower the vehicle on the lift.
13. Tighten the side engine mount mounting bolts and nut.

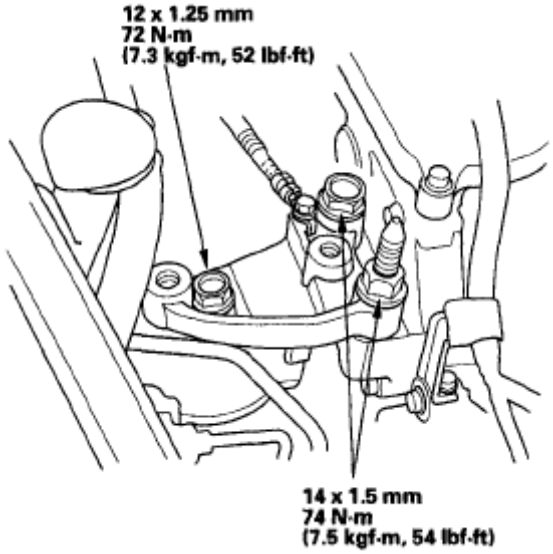
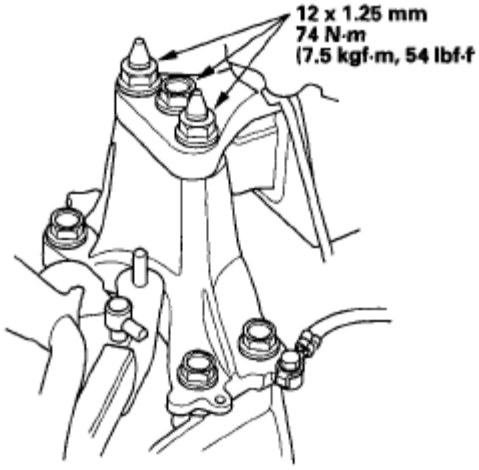



**Fig. 67: Identifying Side Engine Mount Mounting Bolts And Nut (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Tighten the transmission mounting bolt and nuts.

M/T




A/T

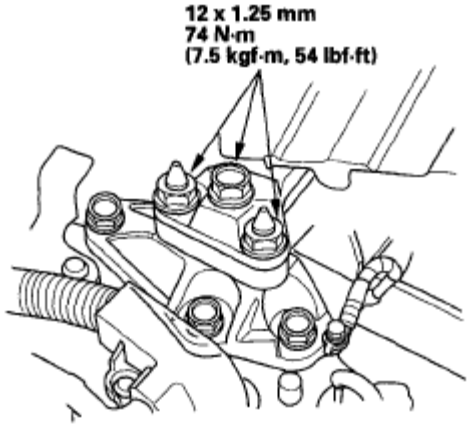



**Fig. 68: Identifying Transmission Mounting Bolt And Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Raise the vehicle on the lift to full height.
16. Tighten the lower torque rod mounting bolt.

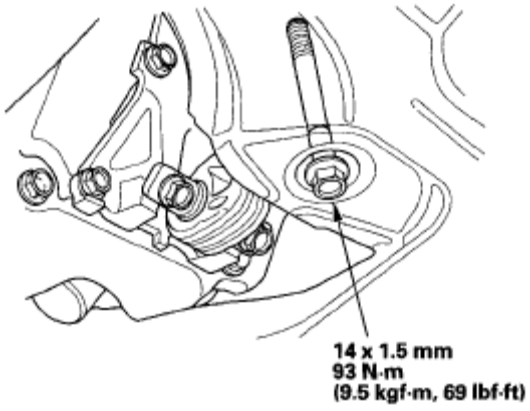



**Fig. 69: Identifying Lower Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Lower the vehicle on the lift.
18. Install the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
19. Install the upper torque rod (A), then tighten the new upper torque rod mounting bolts in the numbered sequence shown.

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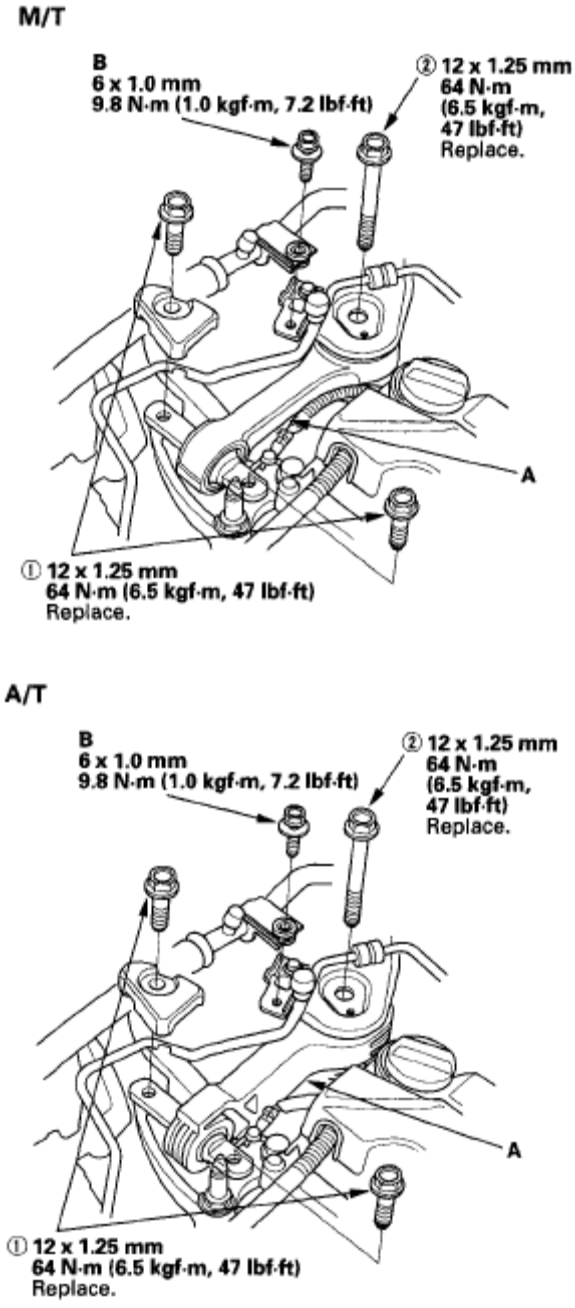



**Fig. 70: Identifying Tightening Sequence For Upper Torque Rod Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Install the bolt (B) securing the A/C line.

**TRANSMISSION MOUNT REPLACEMENT**

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1. Loosen the upper torque rod mounting bolt (A).

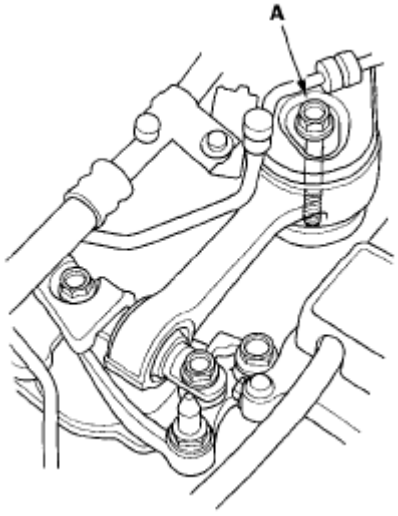



**Fig. 71: Identifying Upper Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
3. Remove the engine control module (ECM)/ powertrain control module (PCM) cover, then remove the three bolts securing the ECM/PCM.
4. Remove the ECM/PCM bracket.
5. Remove the under-hood fuse/relay box from the bracket.
6. Support the transmission with a jack and a wood block under the transmission.
7. Remove the transmission mount stiffener (A), then remove the transmission mount (B).

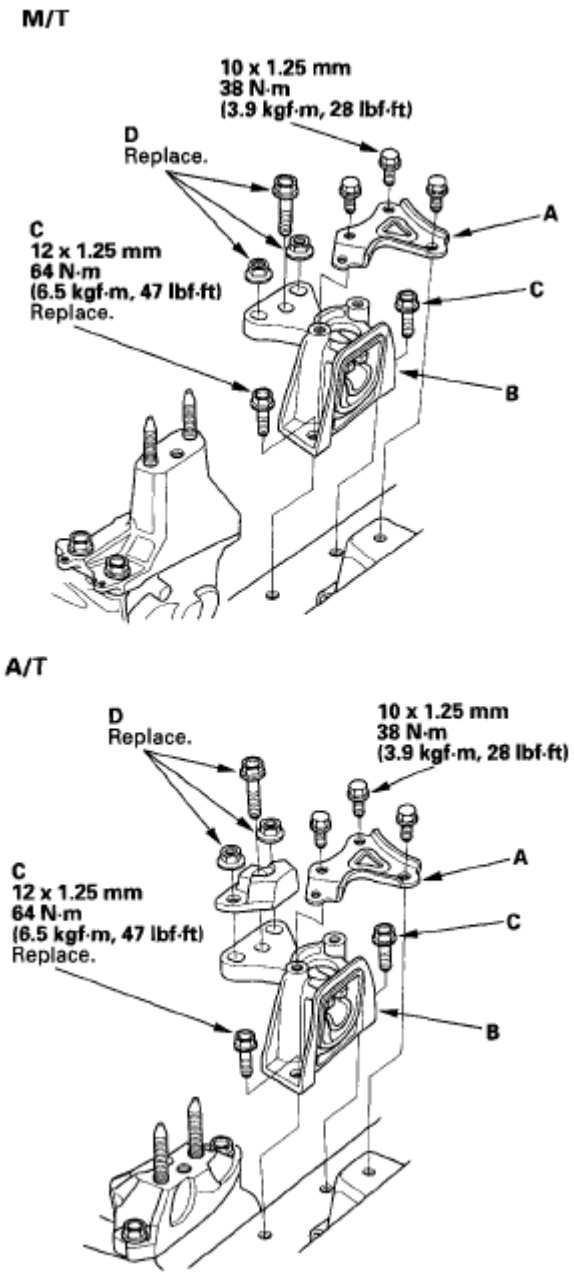



**Fig. 72: Identifying Transmission Mount Stiffener And Transmission Mount (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the transmission mount with the new mounting bolts (C), then install the transmission mount stiffener.
9. Loosely tighten the new bolt and nuts (D).
10. Raise the vehicle on the lift to full height.

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11. Loosen the lower torque rod mounting bolt (A).

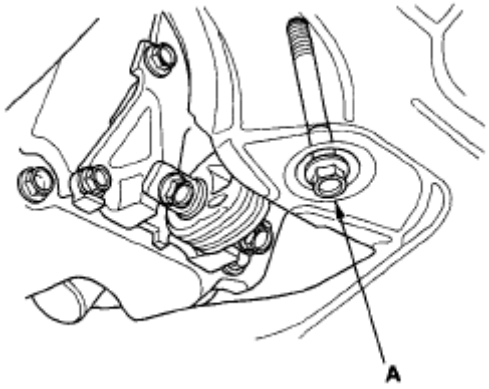
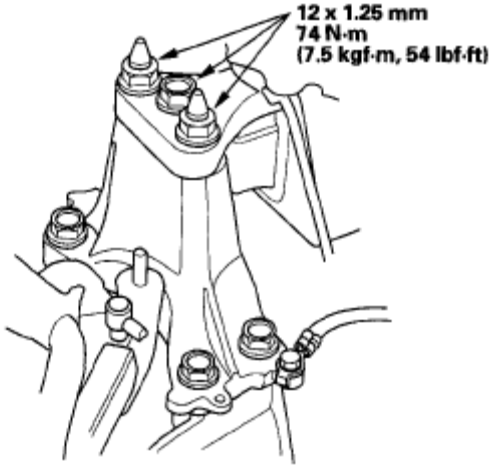



**Fig. 73: Identifying Lower Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Lower the vehicle on the lift.
13. Tighten the transmission mounting bolt and nuts.

M/T




A/T

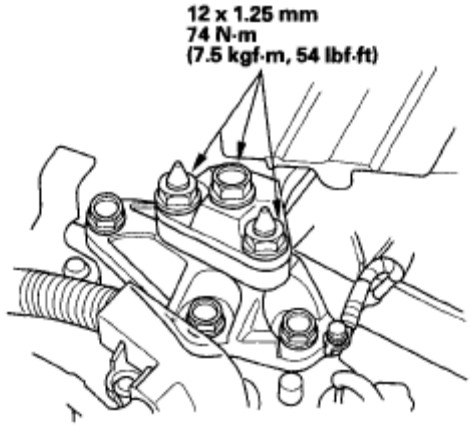



**Fig. 74: Identifying Transmission Mounting Bolt And Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Raise the vehicle on the lift to full height.
15. Tighten the lower torque rod mounting bolt.

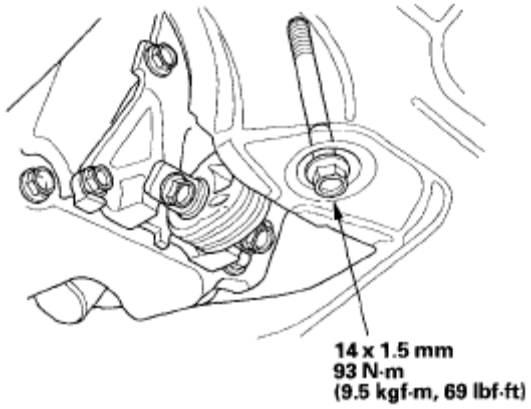



**Fig. 75: Identifying Lower Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Lower the vehicle on the lift.
17. Tighten the upper torque rod mounting bolt.

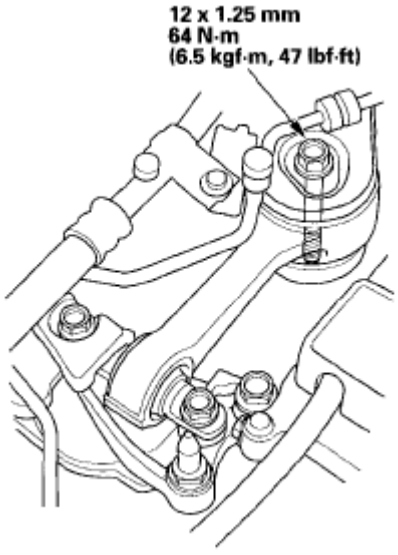



**Fig. 76: Identifying Upper Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Install the under-hood fuse/relay box to the bracket.
19. Install the ECM/PCM bracket.
20. Install the ECM/PCM, then install the ECM/PCM cover.

21. Install the air cleaner assembly (see **THROTTLE BODY CLEANING** ).

**LOWER TORQUE ROD REPLACEMENT**

1. Loosen the upper torque rod mounting bolt (A).

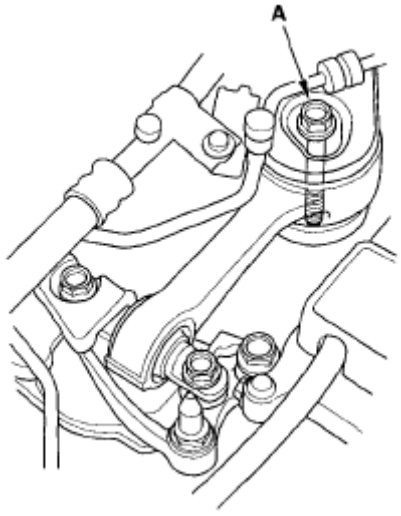



**Fig. 77: Identifying Upper Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Raise the vehicle on the lift to full height.
3. Remove the lower torque rod. M/T

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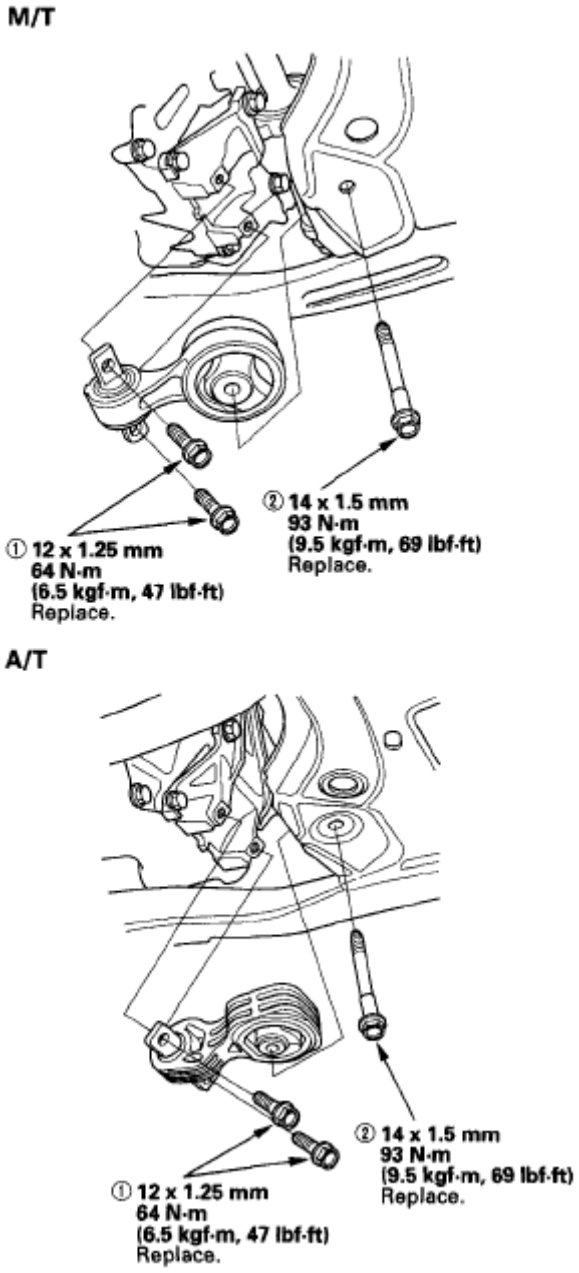



**Fig. 78: Identifying Lower Torque Rod (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the lower torque rod, then tighten the new lower torque rod mounting bolts in the numbered sequence shown.
5. Lower the vehicle on the lift.
6. Tighten the upper torque rod mounting bolt.

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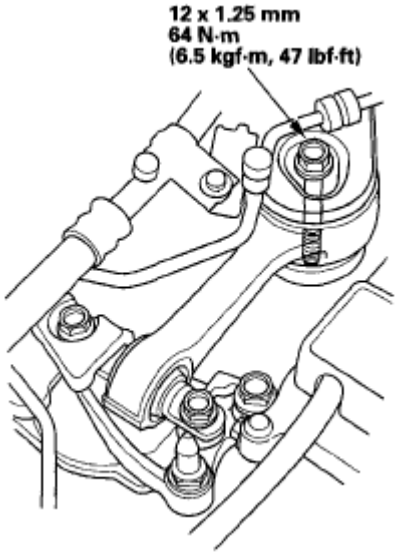



**Fig. 79: Identifying Upper Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**UPPER TORQUE ROD REPLACEMENT**

1. Remove the bolt (A) securing the A/C line, then remove the upper torque rod (B).

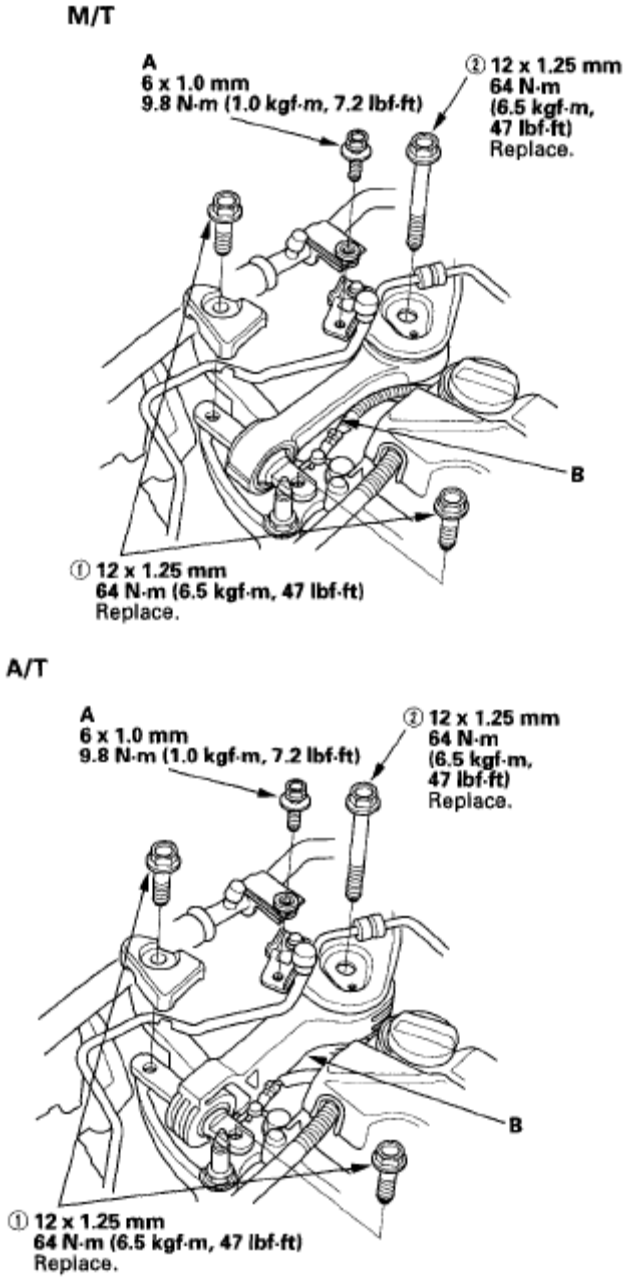



**Fig. 80: Identifying Upper Torque Rod (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the upper torque rod, then tighten the new bolts in the numbered sequence shown.

**SIDE ENGINE MOUNT BRACKET REPLACEMENT**

1. Support the engine with a jack and a wood block under the oil pan.

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2. Remove the bolt (A) securing the A/C line, then remove the upper torque rod (B).

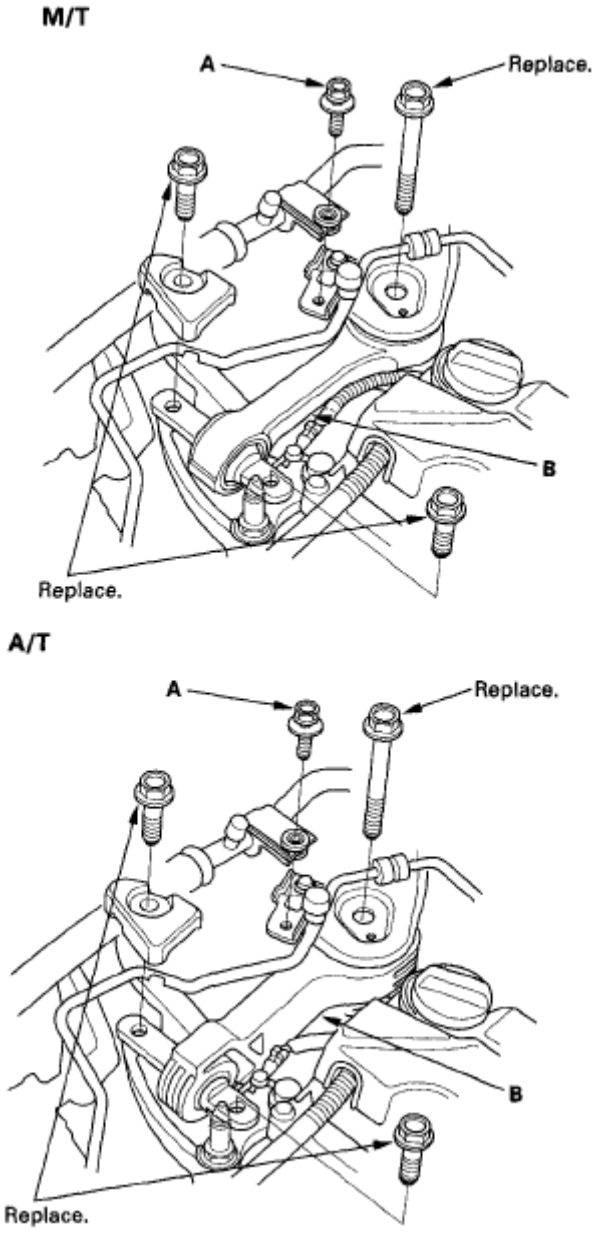



**Fig. 81: Identifying Upper Torque Rod**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ground cable (A), then remove the side engine mount bracket (B).

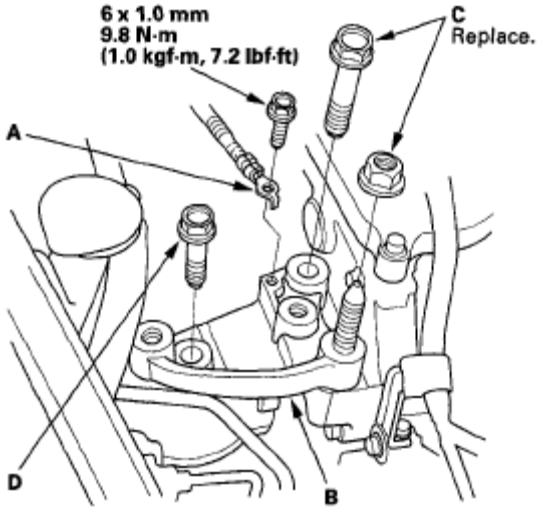
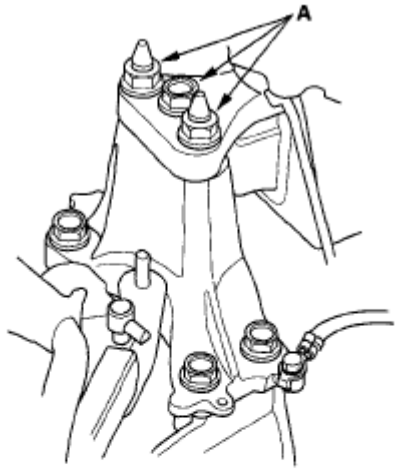



**Fig. 82: Identifying Side Engine Mount Bracket And Ground Cable (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the side engine mount bracket, then loosely tighten the new bolt and nut (C), and loosely tighten the bolt (D).
5. Install the ground cable.
6. Remove the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
7. Loosen the transmission mounting bolt and nuts (A).

M/T




A/T

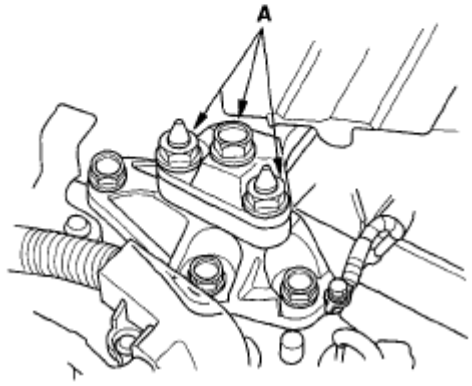



**Fig. 83: Identifying Transmission Mounting Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Raise the vehicle on the lift to full height.
9. Loosen the lower torque rod mounting bolt (A).

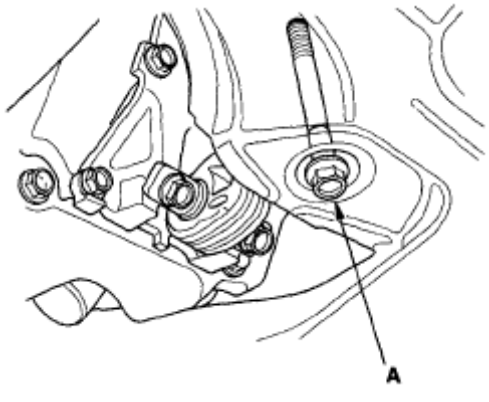


**Fig. 84: Identifying Lower Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Lower the vehicle on the lift.
11. Tighten the side engine mount mounting bolts and nut.

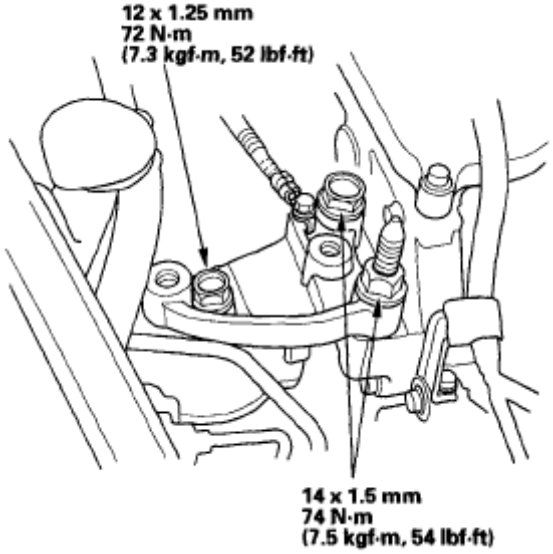



**Fig. 85: Identifying Side Engine Mount Mounting Bolts And Nut (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Tighten the transmission mounting bolt and nuts.

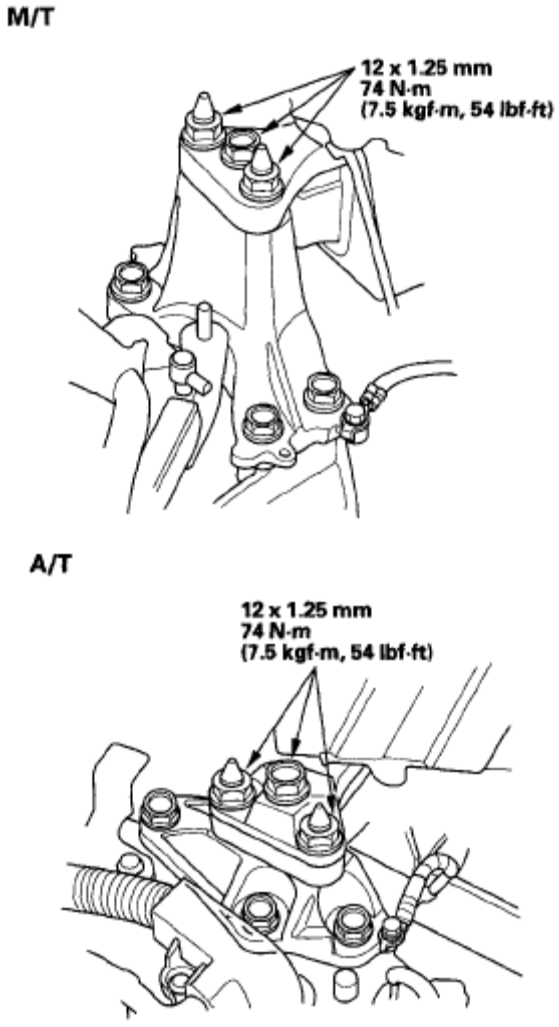



**Fig. 86: Identifying Transmission Mounting Bolt And Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Raise the vehicle on the lift to full height.
14. Tighten the lower torque rod mounting bolt.

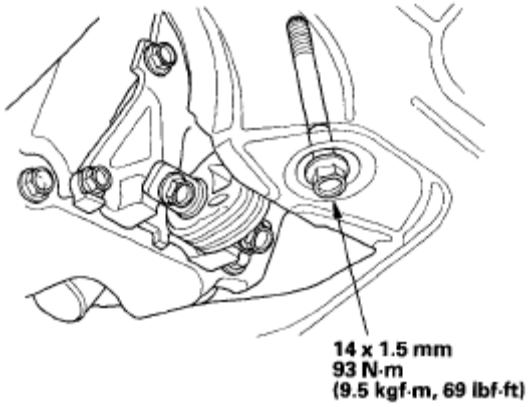



**Fig. 87: Identifying Lower Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Lower the vehicle on the lift.
16. Install the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
17. Install the upper torque rod (A), then tighten the new upper torque rod mounting bolts in the numbered sequence shown.

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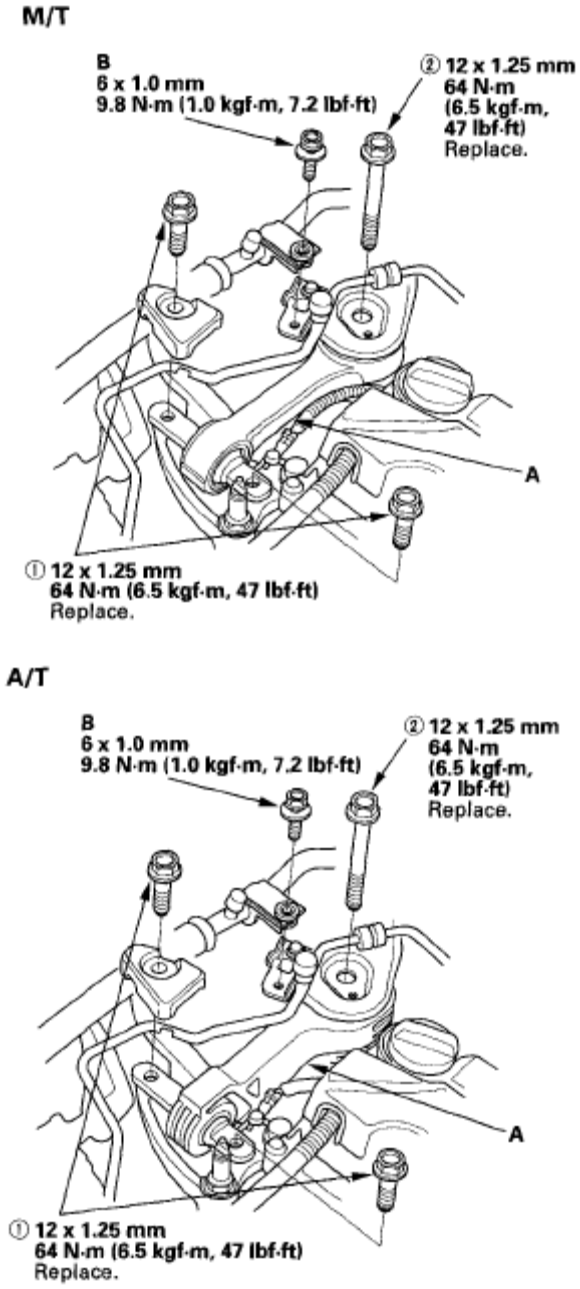



**Fig. 88: Identifying Tightening Sequence For Upper Torque Rod Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Install the bolt (B) securing the A/C line.

## ENGINE ASSEMBLY (K20Z3)

### SPECIAL TOOLS

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| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAK-SNAA120 | Engine Hanger Plate | 1 |



①

**Fig. 89: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**ENGINE REMOVAL**

## Special Tools Required

- Engine hanger plate 07AAK-SNAA120
- Engine hanger adapter VSB02C000015 *
- Front subframe adapter VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *

* : Available through Honda Tool and Equipment Program, 1-888-424-6857

**NOTE:**

- **Use fender covers to avoid damaging painted surfaces.**
- **To avoid damaging the wiring and terminals, unplug the wiring connectors carefully while holding the connector portion.**
- **Mark all wiring and hoses to avoid misconnection. Also, be sure that they do not contact other wiring or hoses, or interfere with other parts.**

1. Make sure you have the anti-theft code for the audio system and the navigation system (if equipped), then write down the audio presets.
2. Secure the hood in the wide open position (support rod in the lower hole).

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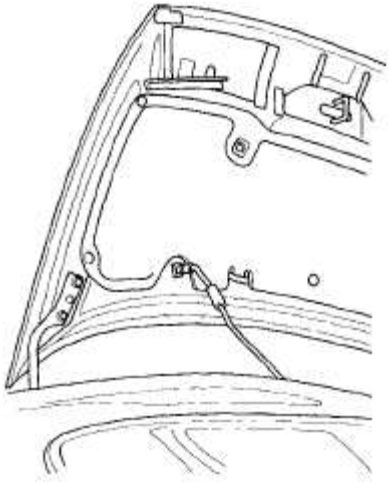


**Fig. 90: Identifying Support Rod In Lower Hole**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
4. Disconnect the negative cable from the battery first, then disconnect the positive cable.
5. Remove the battery.
6. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
7. Remove the under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
8. Disconnect the connector (A), and remove the harness clamp (B), then remove the resonator (C).

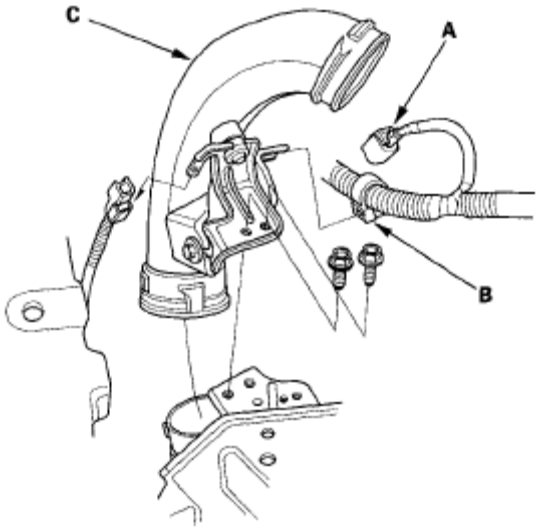



**Fig. 91: Identifying Connector And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the battery cables (A) from the under-hood fuse/relay box.

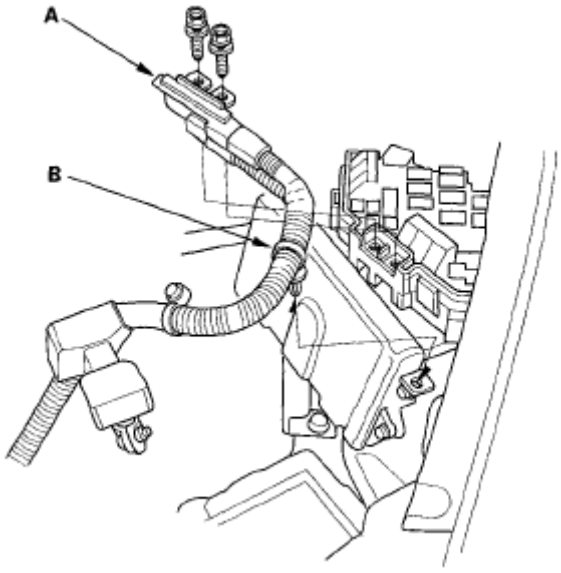



**Fig. 92: Identifying Battery Cables And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the harness clamp (B).
11. Remove the engine control module (ECM) cover (A), then remove the three bolts (B) securing the ECM.

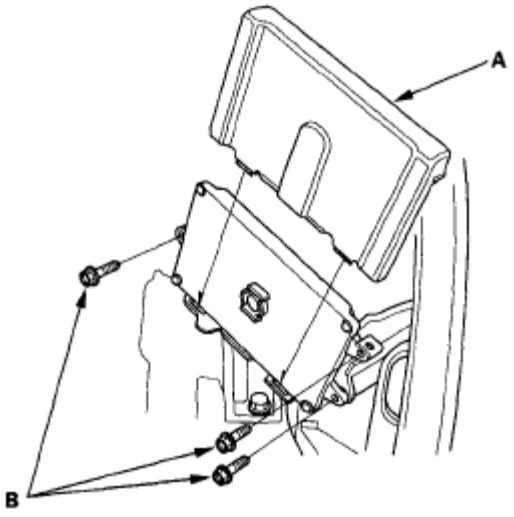



**Fig. 93: Identifying Engine Control Module (ECM) Cover And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Disconnect the ECM connectors (A) and the engine wire harness connector (B).

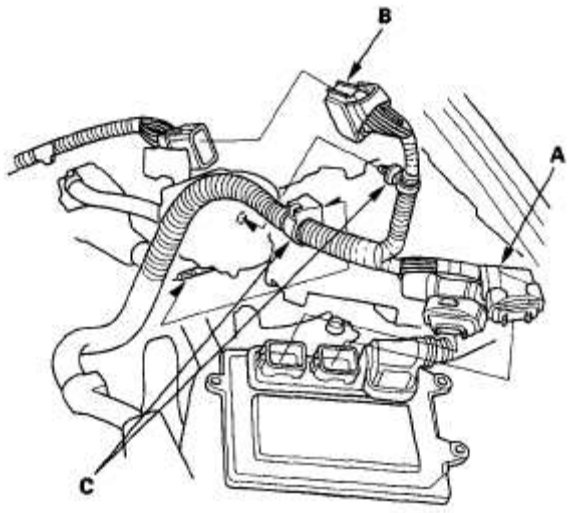



**Fig. 94: Identifying ECM Connectors And Engine Wire Harness Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Remove the harness clamps (C).
14. Remove the engine cover.

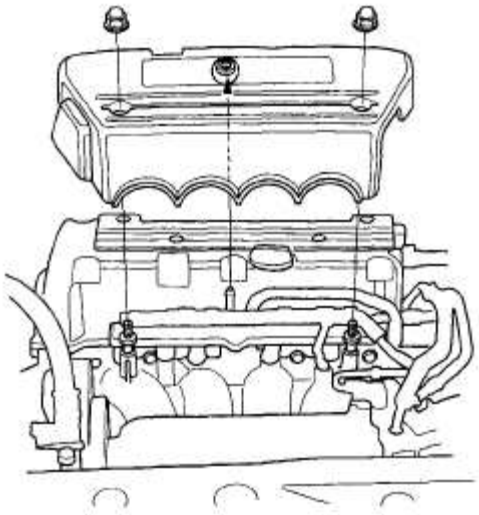


**Fig. 95: Identifying Engine Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Remove the evaporative emission (EVAP) canister hose (A) and brake booster vacuum hose (B).

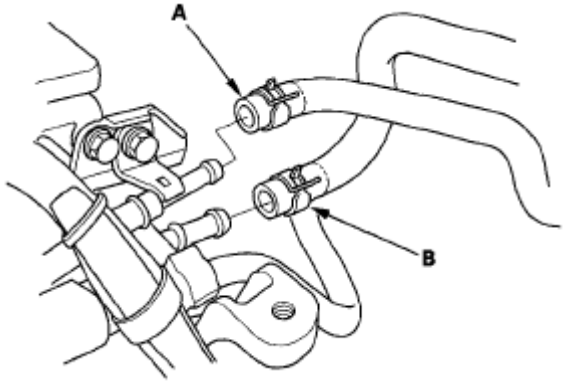



**Fig. 96: Identifying Evaporative Emission (EVAP) Canister Hose And Brake Booster Vacuum Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the quick-connect fitting cover (A), then disconnect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING REMOVAL** ).

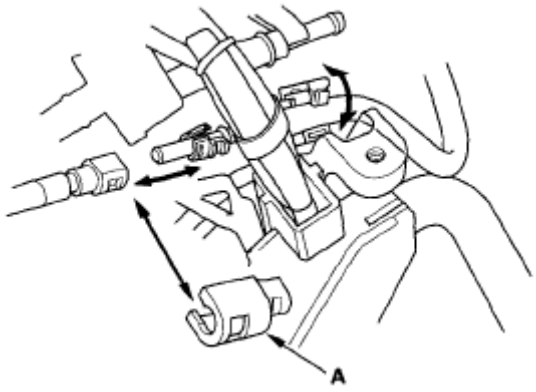



**Fig. 97: Identifying Quick-Connect Fitting Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Remove the shift cable (see step 9 on **TRANSMISSION REMOVAL** ).
18. Remove the clutch slave cylinder, and clutch line bracket mounting bolt (see step 7 on **TRANSMISSION REMOVAL** ).
19. Remove the air cleaner housing bracket.

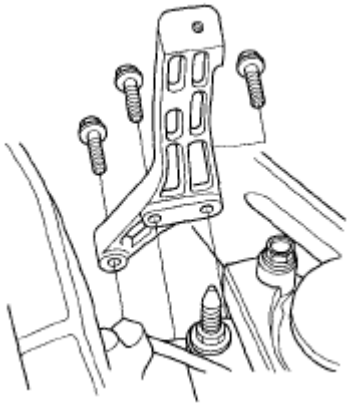


**Fig. 98: Identifying Air Cleaner Housing Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
21. Remove the radiator cap.
22. Raise the vehicle on the lift to full height.
23. Remove the front wheels.
24. Remove the splash shield.

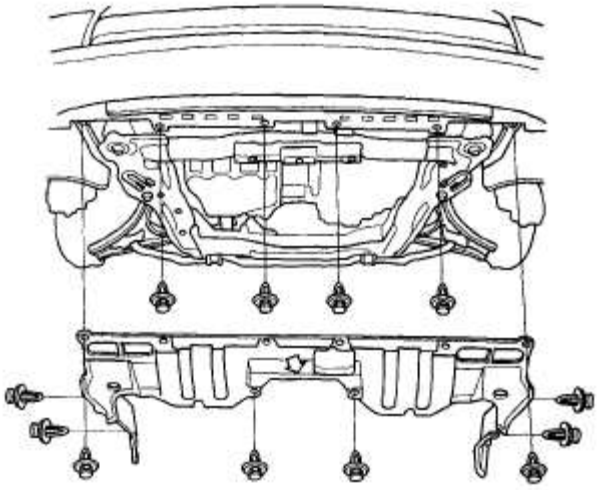


**Fig. 99: Identifying Splash Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Loosen the drain plug in the radiator, and drain the engine coolant (see **COOLANT CHECK** ).
26. Drain the engine oil (see **OIL PRESSURE TEST** ).
27. Drain the transmission fluid (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
28. Disconnect the air fuel ratio (A/F) sensor connector (A).

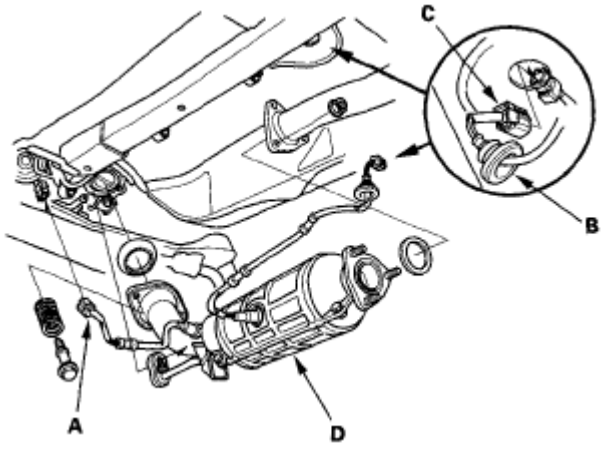



**Fig. 100: Identifying (Secondary HO2S) Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

29. Remove the grommet (B), then disconnect the secondary heated oxygen sensor

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(secondary HO2S) connector (C).

30. Remove the three way catalytic converter (TWO (D).
31. Separate the stabilizer links (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
32. Separate the knuckles from the lower arms (see step 5 on **LOWER ARM REMOVAL/INSTALLATION** ).
33. Remove the driveshafts (see step 8 on **DRIVESHAFT REMOVAL** ). Coat all precision-finished surfaces with clean engine oil. Tie plastic bags over the driveshaft ends.
34. Remove the steering gearbox bracket (A).

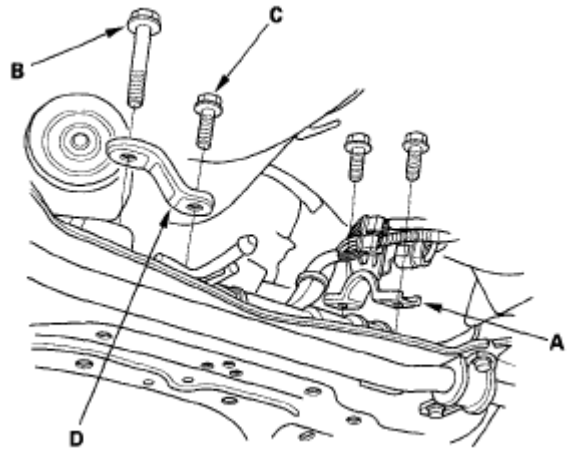



**Fig. 101: Identifying Steering Gearbox Bracket And Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

35. Remove the steering gearbox mounting bolt (B), stiffener mounting bolt (C), and stiffener (D).
36. Remove the steering gearbox mounting bolt (A), stiffener mounting bolt (B), and stiffener (C).

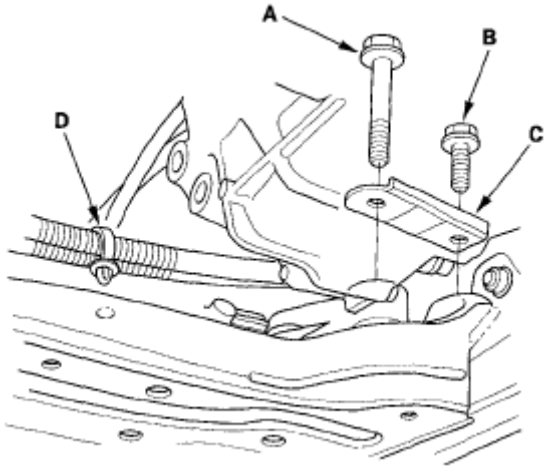



**Fig. 102: Identifying Stiffener Mounting Bolt And Stiffener**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Remove the harness clamp (D) from the subframe.
38. Disconnect the A/C compressor clutch connector (A), then remove the A/C compressor (B) without disconnecting the A/C hoses.

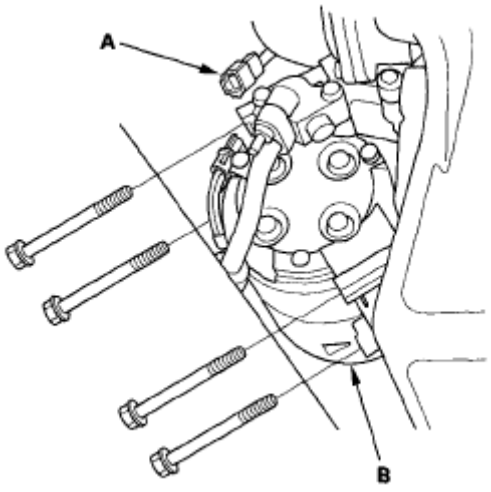



**Fig. 103: Identifying A/C Compressor Clutch Connector And A/C Compressor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

39. Lower the vehicle on the lift.
40. Remove the radiator (see **RADIATOR AND FAN REPLACEMENT** ).
41. Remove the heater hoses.

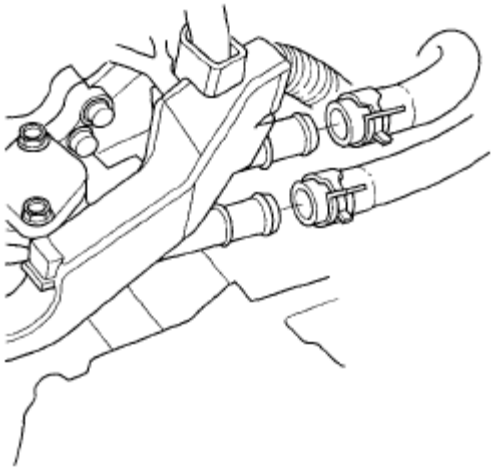


**Fig. 104: Identifying Heater Hoses**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Install the bulkhead, and tighten the mounting bolts to 9.8 N.m (1.0 kgf.m, 7.2 lbf.ft).
43. Attach the special tool to the threaded hole in the cylinder head.

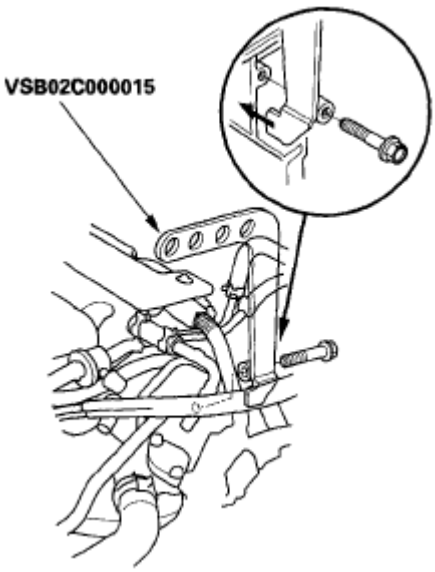



**Fig. 105: Identifying Special Tool To Threaded Hole In Cylinder Head**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

44. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger. Carefully position the engine hanger on the vehicle, and attach the hook to the forward

hole in the engine hanger adapter (D). Tighten the wing nut by hand to lift and support the engine/transmission.

**NOTE: Be careful when working around the windshield.**

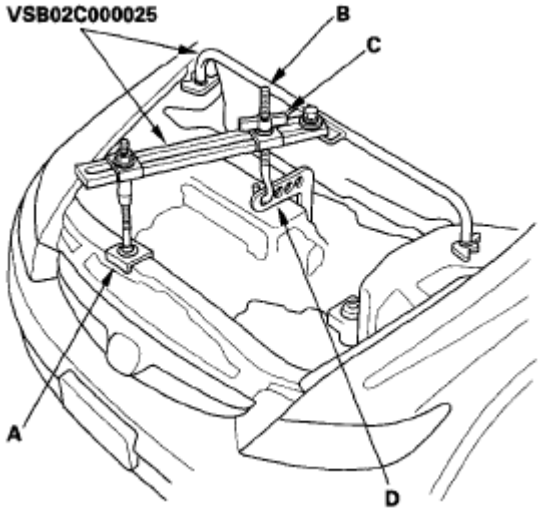



**Fig. 106: Identifying Engine Support Hanger**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Raise the vehicle on the lift to full height.
46. Remove the lower torque rod.

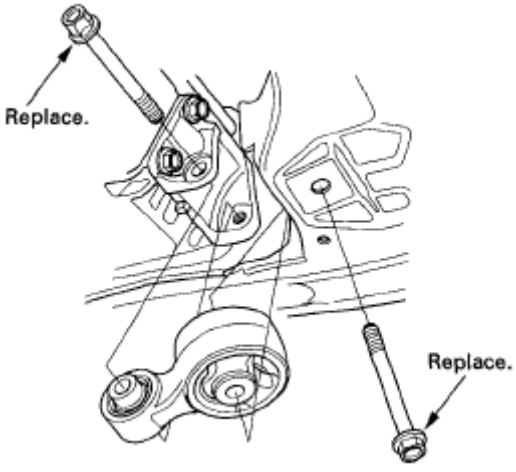



**Fig. 107: Identifying Lower Torque Rod**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

47. Remove lower radiator hose from the clamp (A), then remove the front mount mounting bolt (B).

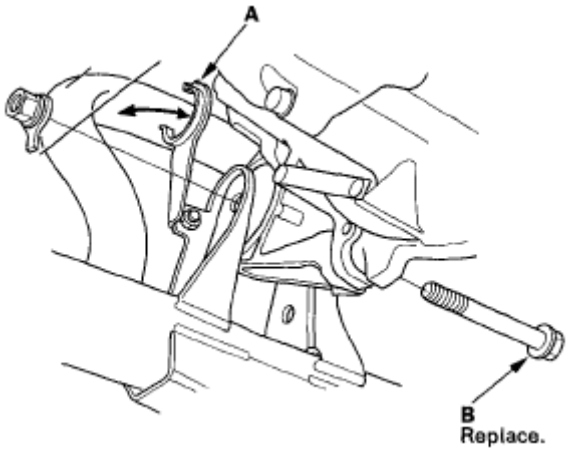



**Fig. 108: Identifying Lower Radiator Hose Clamp And Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

48. Note the reference marks (A) on both sides of the front subframe that line up with the body (B).

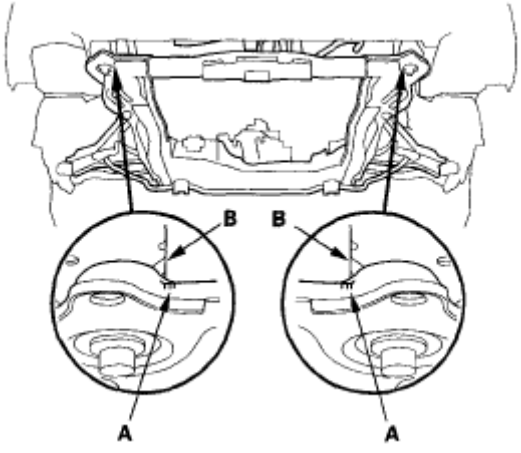



**Fig. 109: Identifying Marks On Both Sides Of Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

49. Loosen the front subframe body mount bracket mounting bolts (A) on both side.

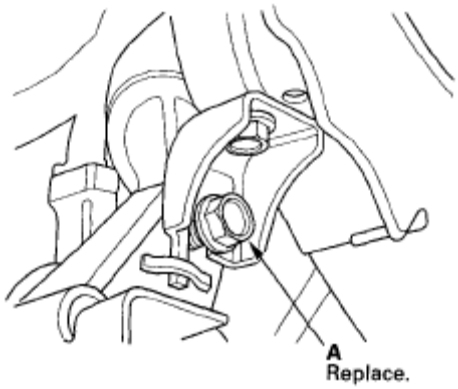



**Fig. 110: Identifying Front Subframe Body Mount Bracket Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

50. Attach the front subframe adapter (A) to the front subframe and hang the belt of the front subframe adapter over the front of the front subframe, then secure the belt with its stop.

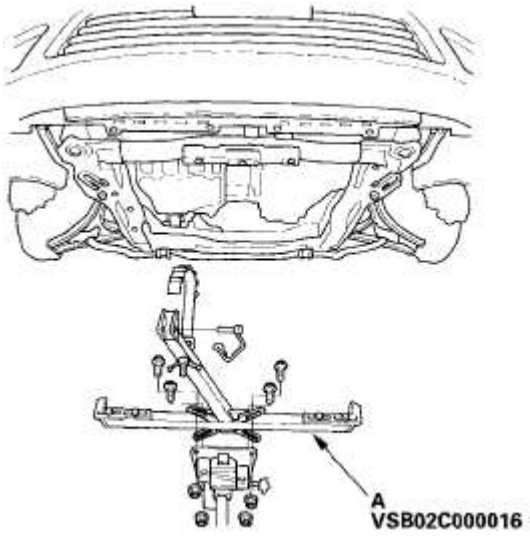



**Fig. 111: Identifying Front Subframe Adapter (Special Tools)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

51. Raise the jack and line up the slots in the arms with the bolt holes on the corner of the jack base, then attach them with bolts securely.
52. Remove the front subframe.

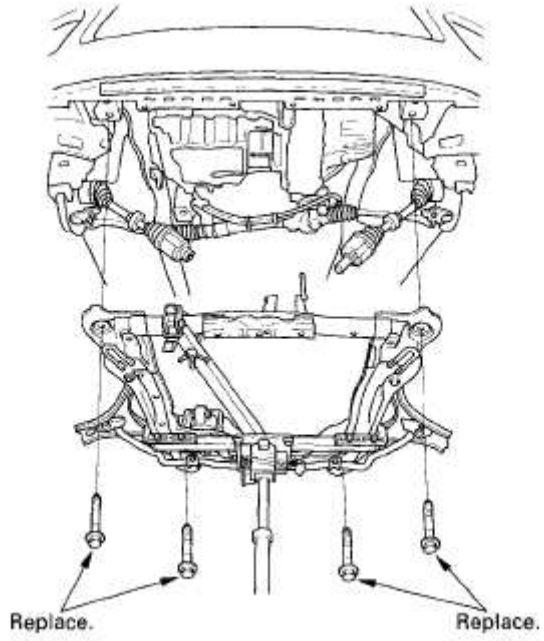



**Fig. 112: Identifying Front Subframe And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

53. Lower the vehicle on the lift.
54. Remove the idler pulley base (see step 2 on **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).
55. Install the special tool.

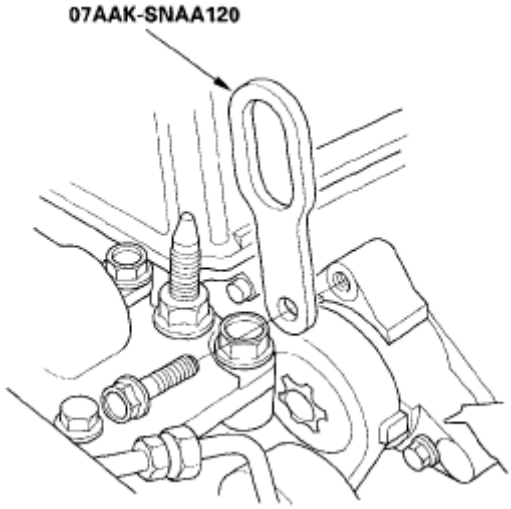



**Fig. 113: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

56. Attach a chain hoist (A) to the special tool (B), and the transmission hook (C). Lift up on the engine/transmission until it's securely supported by the chain hoist, and remove the engine hanger.

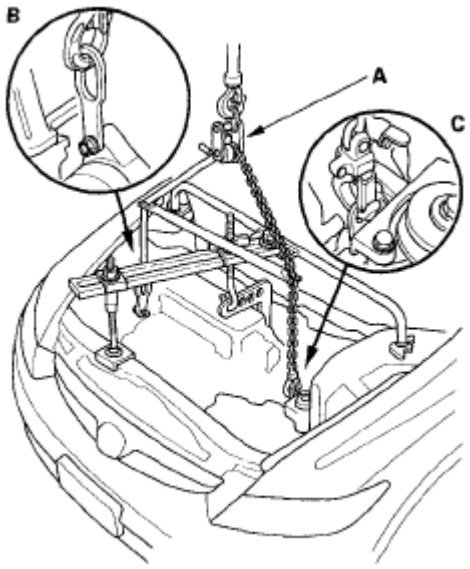



**Fig. 114: Lifting Up On Engine/ Transmission**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

57. Remove the side engine mount bracket mounting bolt and nut.

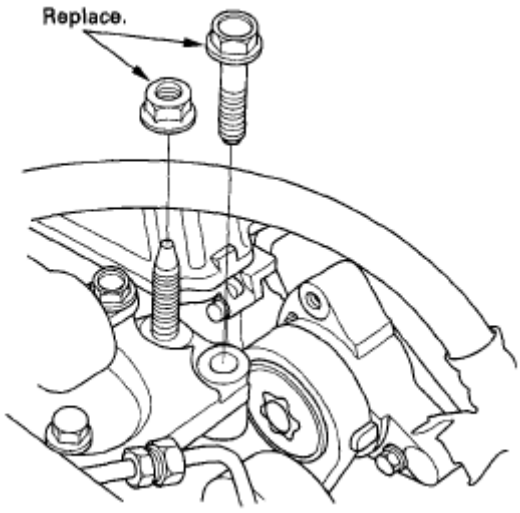



**Fig. 115: Identifying Side Engine Mount Bracket Mounting Bolt And Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

58. Remove the transmission mount bracket mounting bolt and nuts.

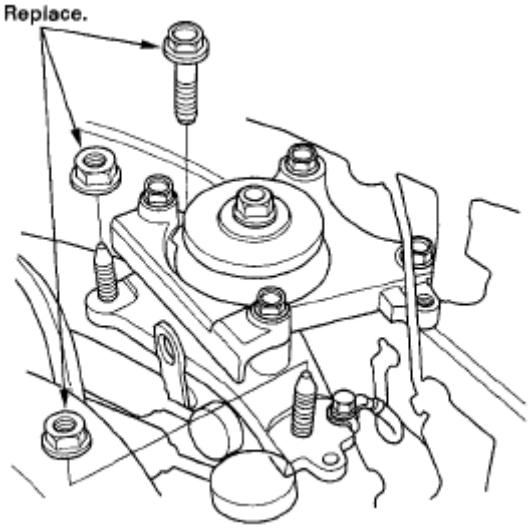



**Fig. 116: Identifying Transmission Mount Bracket Mounting Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

59. Check that the engine/transmission is completely free of vacuum hoses, fuel and coolant hoses, and electrical wiring.
60. Slowly lower the engine/transmission about 150 mm (6 in.). Check once again that all hoses and electrical wiring are disconnected and free from the engine/transmission, then lower it all the way.
61. Disconnect the chain hoist from the engine/transmission.
62. Raise the vehicle all the way on the hoist, and remove the engine/transmission from under the vehicle.

**ENGINE INSTALLATION**

## Special Tools Required

- Engine hanger plate 07AAK-SNAA120
- Engine hanger adapter VSB02C000015 *
- Front subframe adapter VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *

- Engine support hanger, A and Reds AAR-T-12566 *

  * : Available through Honda Tool and Equipment Program, 1-888-424-6857

1. Install the accessory brackets and tighten their bolts to the specified torques.

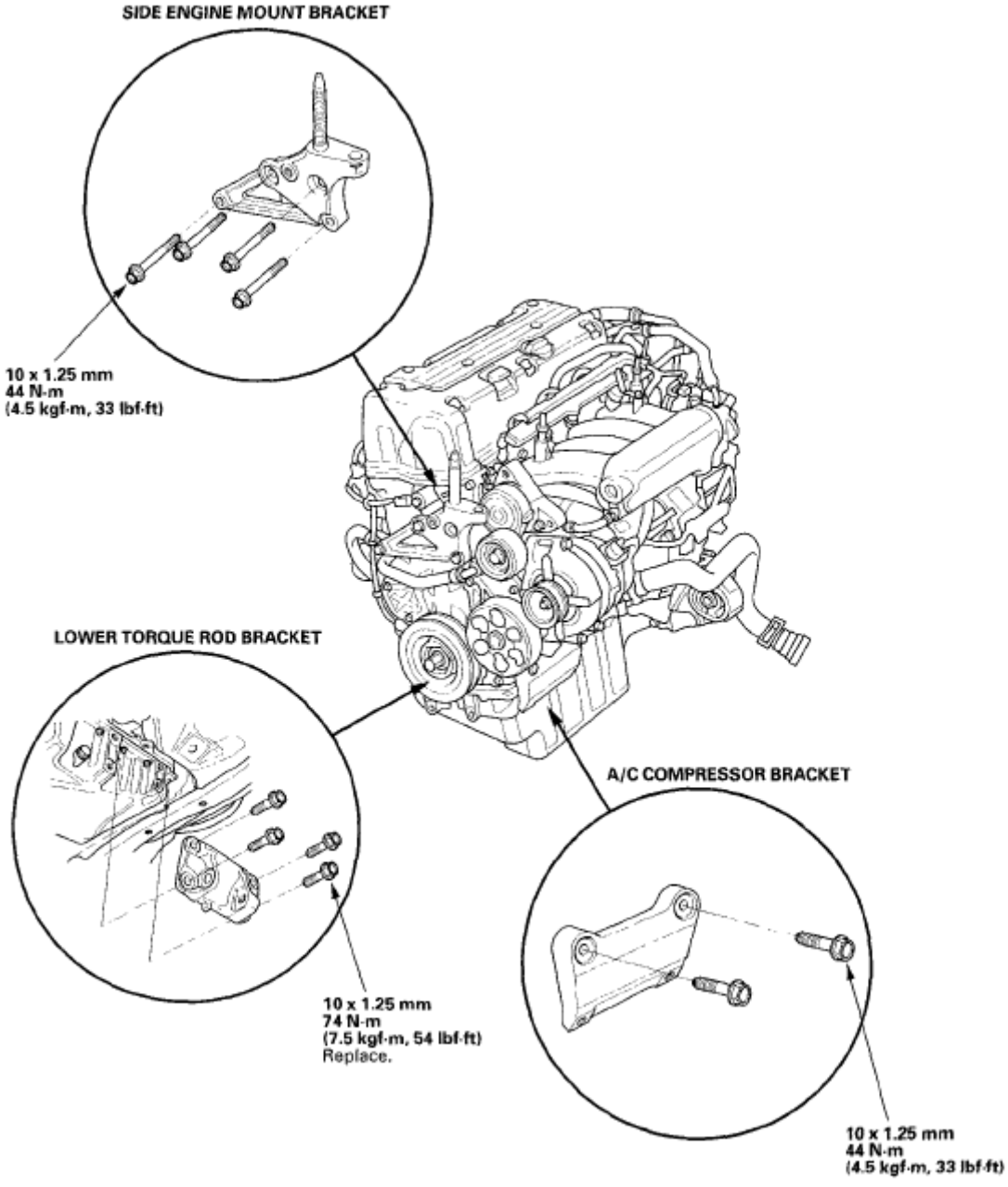



**Fig. 117: Identifying Engine Brackets (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Raise the vehicle on the hoist, and position the engine/transmission under the vehicle. Lower the vehicle, and attach the special tool and chain hoist to the engine, then lift the engine into position in the vehicle.

**NOTE: Reinstall the mounting bolts/support nuts in the sequence given in the following steps. Failure to follow this sequence may cause excessive noise and vibration, and reduce engine mount life.**

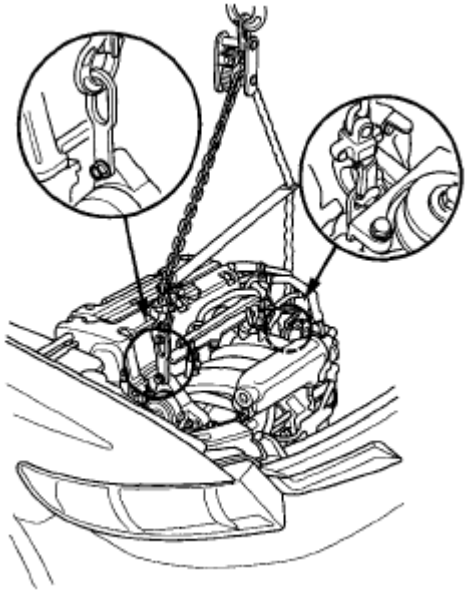


**Fig. 118: Identifying Mounting Bolts/Support Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Attach the special tool to the threaded hole in the cylinder head.

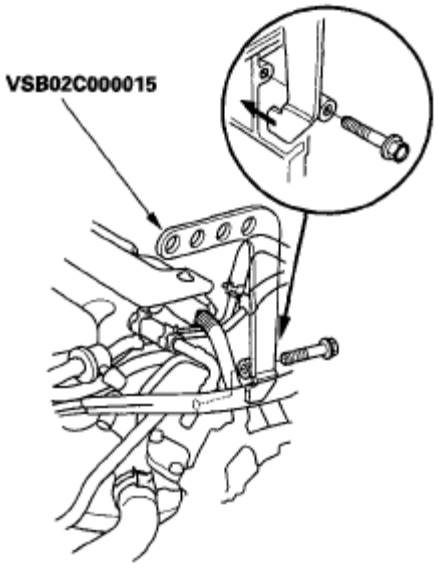



**Fig. 119: Identifying Special Tool To Threaded Hole In Cylinder Head**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger. Carefully position the engine hanger on the vehicle, and attach the hook to the forward hole in the engine hanger adapter (D). Tighten the wing nut by hand to lift and support the engine/transmission.

**NOTE: Be careful when working around the windshield.**

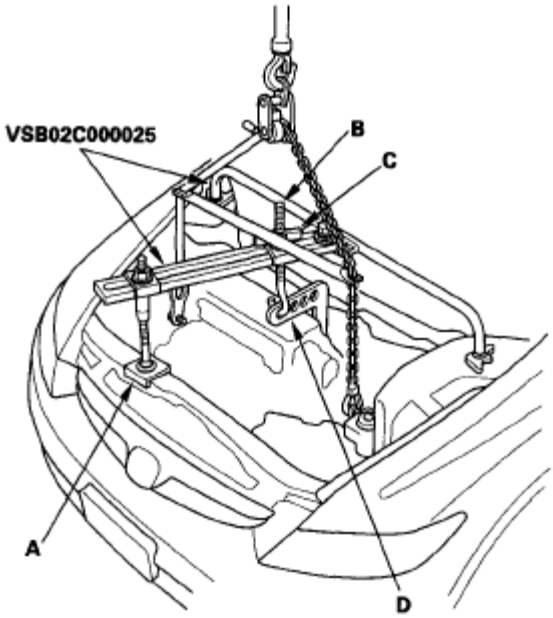



**Fig. 120: Identifying Engine Hanger Adapter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Loosen the upper torque rod mounting bolt (A).

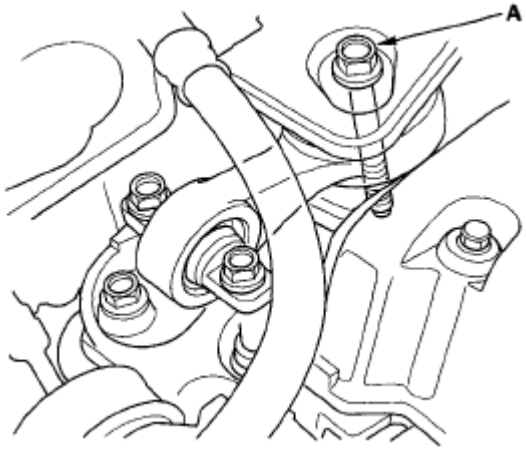



**Fig. 121: Identifying Upper Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Tighten the new side engine mount bracket mounting bolt and nut.

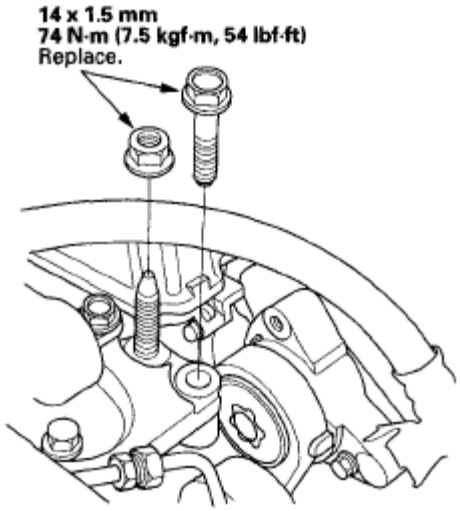



**Fig. 122: Identifying Side Engine Mount Bracket Mounting Bolt And Nut (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Tighten the new transmission mounting bolt and nuts.

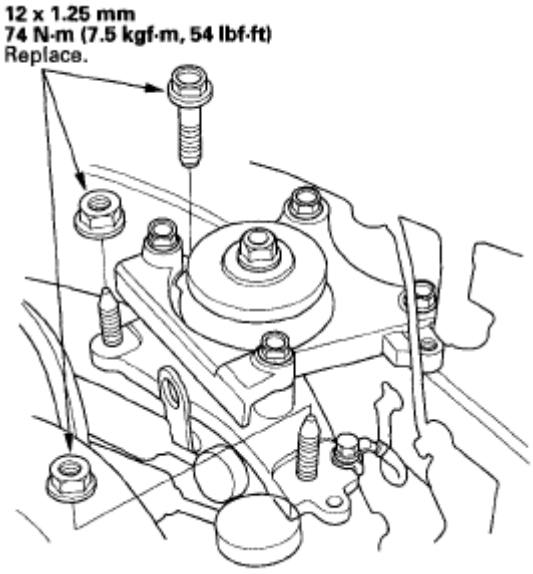



**Fig. 123: Identifying Transmission Mounting Bolt And Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Remove the chain hoist.
9. Remove the special tool.

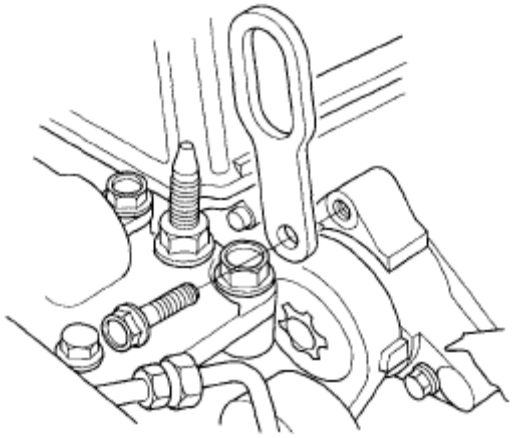


**Fig. 124: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Raise the vehicle on the lift.
11. 11 Set the front subframe adapter (A) to the front subframe and hang the belt of the front subframe adapter over the front of the subframe, then secure the belt with its stop.

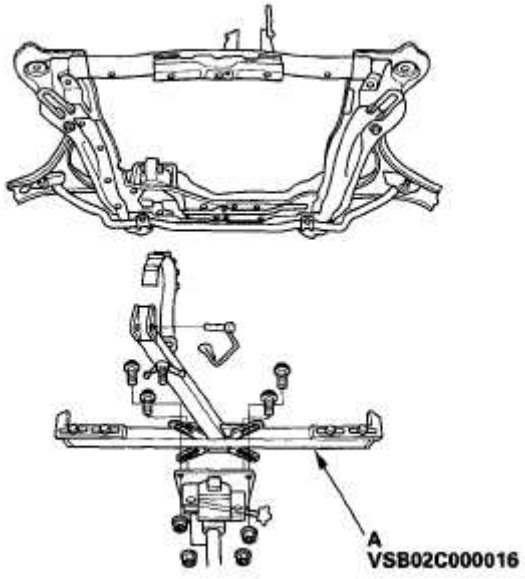



**Fig. 125: Identifying Front Subframe Adapter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Line up the slots in the arms with the bolt holes on the corner of the jack base, and tighten the bolts, then lift the front subframe up to the body.

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13. Loosely install the new front subframe mounting bolts.

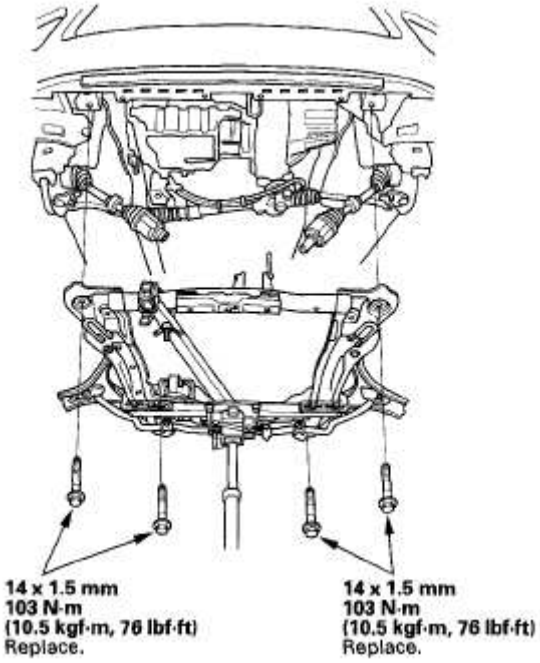



**Fig. 126: Identifying Front Subframe Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Align the front subframe reference marks (A) to the body (B), as noted during removal. Tighten the bolts on the front subframe to the specified torque.

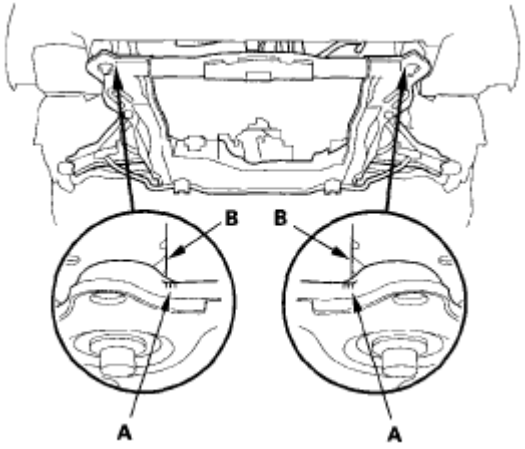



**Fig. 127: Identifying Front Subframe Reference Marks To Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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15. Remove the jack and front subframe adapter.
16. Tighten the new front subframe body mount bracket mounting bolts on both side.

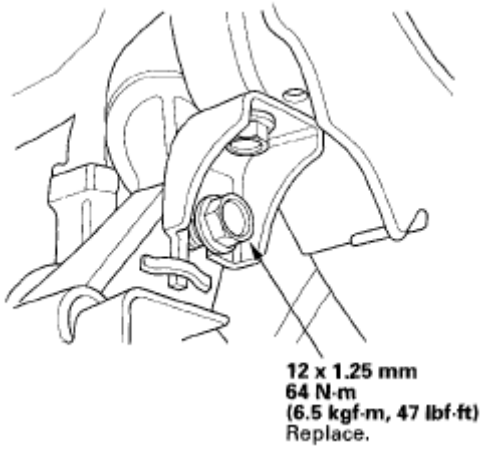



**Fig. 128: Identifying Front Subframe Body Mount Bracket Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Install the lower torque rod, then tighten the new lower torque rod mounting bolts in the numbered sequence shown.

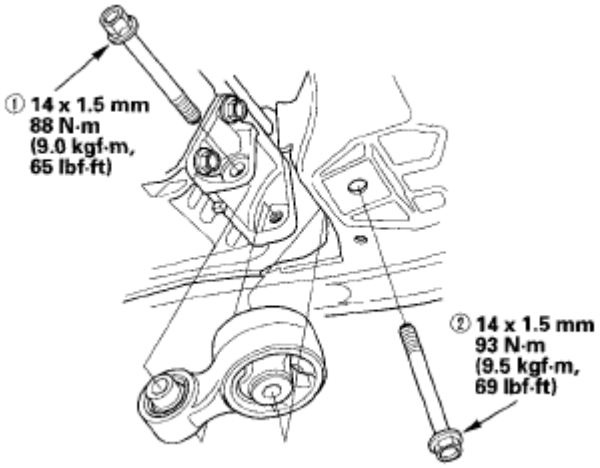



**Fig. 129: Identifying Tightening Sequence For Lower Torque Rod Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Loosely tighten the new front mount mounting bolt (A), then install the lower radiator hose to the clamp (B).

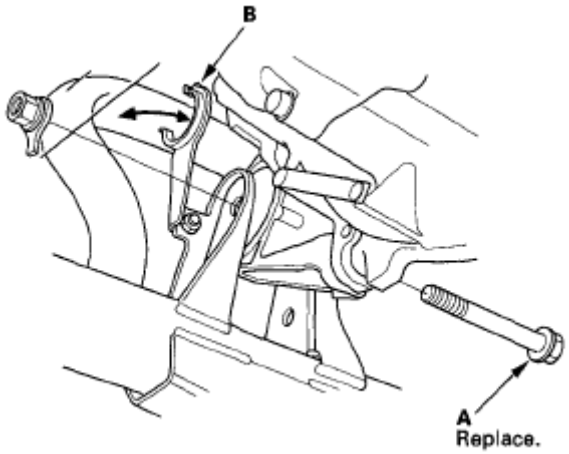



**Fig. 130: Identifying Front Mount Mounting Bolt And Lower Radiator Hose Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Lower the vehicle on the lift.
20. Remove the special tools from the engine and vehicle.
21. Tighten the upper torque rod mounting bolt.

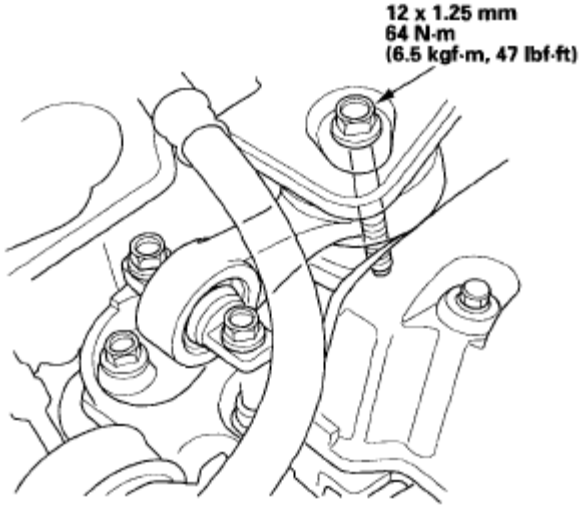



**Fig. 131: Identifying Upper Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Raise the vehicle on the lift to full height.
23. Tighten the front mount mounting bolt.

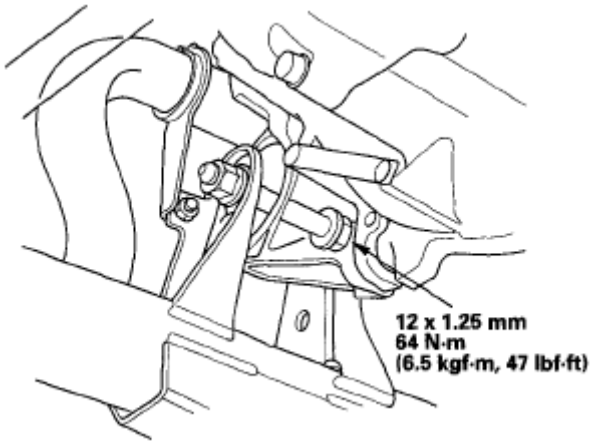



**Fig. 132: Identifying Front Mount Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Install the A/C compressor (A), then connect the A/C compressor clutch connector (B).

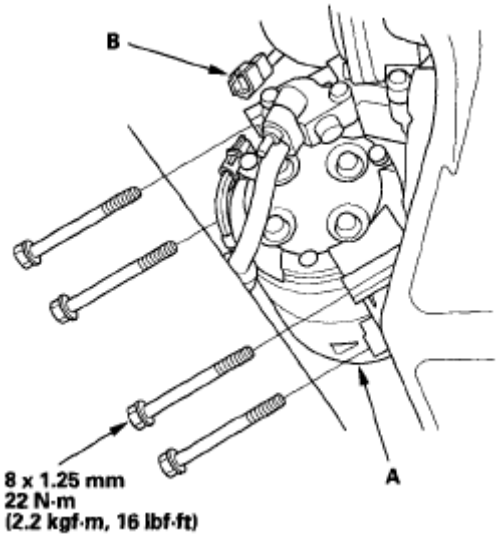



**Fig. 133: Identifying A/C Compressor And Clutch Connector (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Install the stiffener (A), then tighten the steering gearbox mounting bolt (B) and stiffener mounting bolt(C).

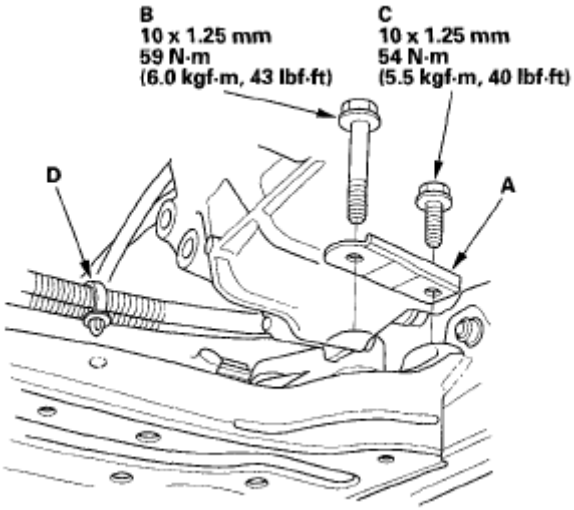



**Fig. 134: Identifying Steering Gearbox Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

26. Install the harness clamp (D) to the subframe.
27. Install the steering gearbox bracket (A).

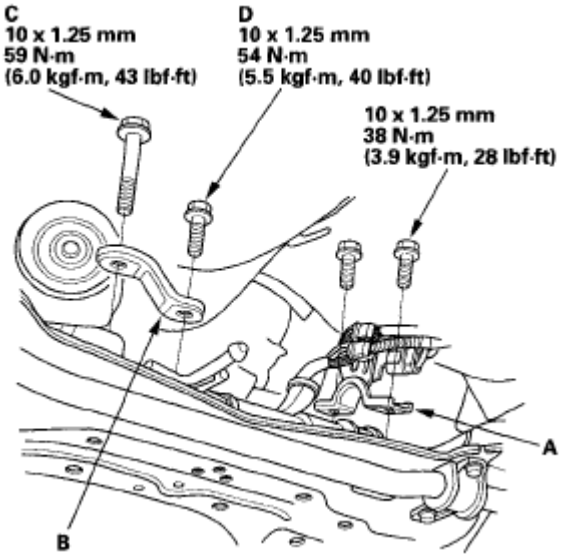



**Fig. 135: Identifying Steering Gearbox Bracket (With Torque Specifications)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Install the stiffener (B), then tighten the steering gearbox mounting bolt (C) and stiffener mounting bolt(D).
29. Install a new set ring on the end of each driveshaft, then install the driveshafts. Make sure each ring "clicks" into place in the differential and intermediate shaft.
30. Connect the lower arms to the knuckles (see step 5 on **LOWER ARM REMOVAL/INSTALLATION** ).
31. Connect the stabilizer links (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
32. Install the three way catalytic converter (TWC) (A). Use new gaskets (B) and new self-locking nuts (C).

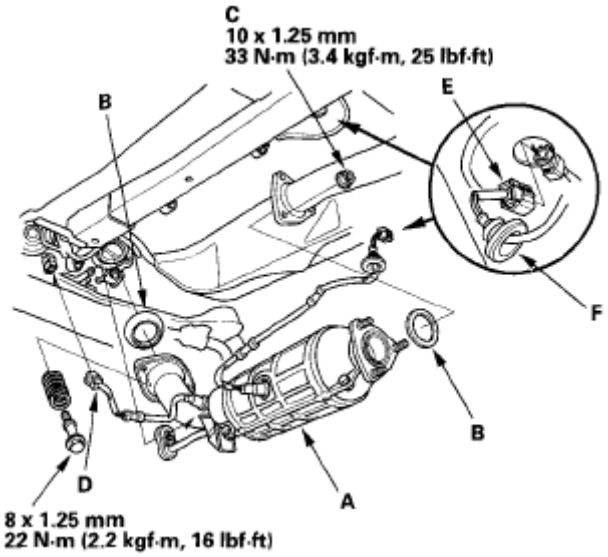



**Fig. 136: Identifying (Secondary HO2S) Connector (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Connect the air fuel ratio (A/F) sensor connector (D).
34. Connect the secondary heated oxygen sensor (secondary HO2S) connector (E), then install the grommet (F).
35. Install the splash shield.

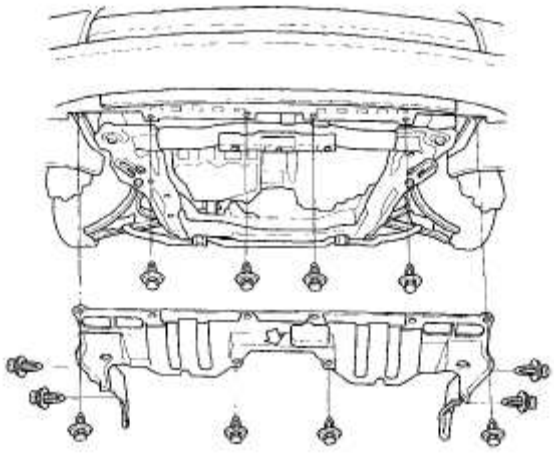


**Fig. 137: Identifying Splash Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

36. Lower the vehicle on the lift.
37. Install the heater hoses.

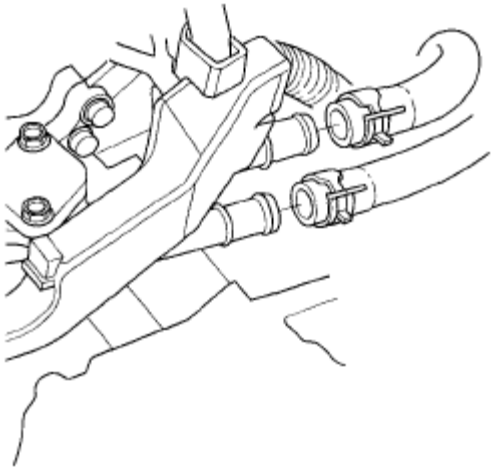


**Fig. 138: Identifying Heater Hoses**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

38. Install the radiator (see **RADIATOR AND FAN REPLACEMENT** ).
39. Install the idler pulley base (see **DRIVE BELT AUTO-TENSIONER REMOVAL/INSTALLATION** ).
40. Install the drive belt (see **DRIVE BELT INSPECTION** ).
41. Install the air cleaner housing bracket.

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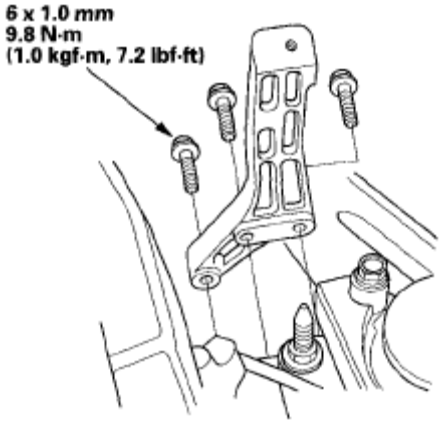



**Fig. 139: Identifying Air Cleaner Housing Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Install the shift cable (see step 34 on **TRANSMISSION INSTALLATION** ).
43. Install the clutch slave cylinder, and clutch line bracket mounting bolt (see step 37 on **TRANSMISSION INSTALLATION** ).
44. Connect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING INSTALLATION** ), then install the quick-connect fitting cover (A).

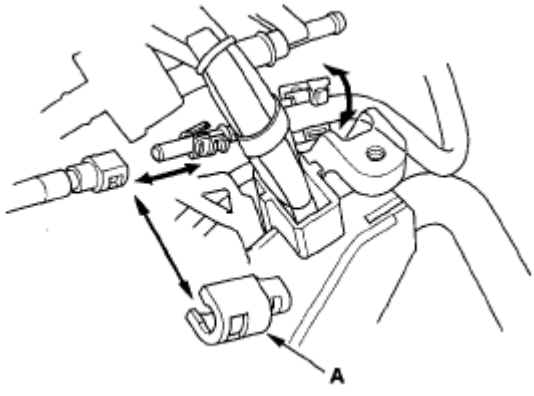



**Fig. 140: Identifying Quick-Connect Fitting Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

45. Install the evaporative emission (EVAP) canister hose (A) and brake booster vacuum hose (B).

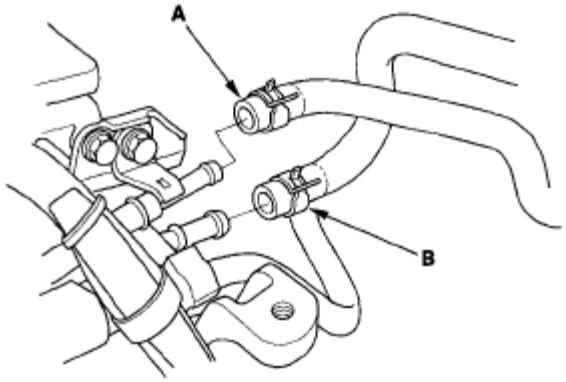



**Fig. 141: Identifying Evaporative Emission (EVAP) Canister Hose And Brake Booster Vacuum Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

46. Install the engine cover.

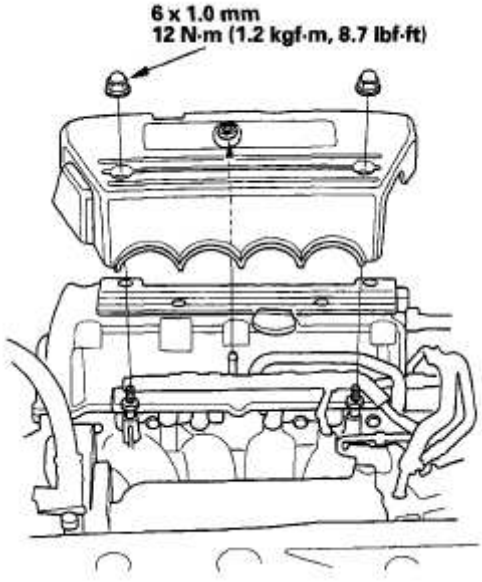



**Fig. 142: Identifying Engine Cover (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

47. Connect the engine control module (ECM) connectors (A) and engine wire harness connector (B).

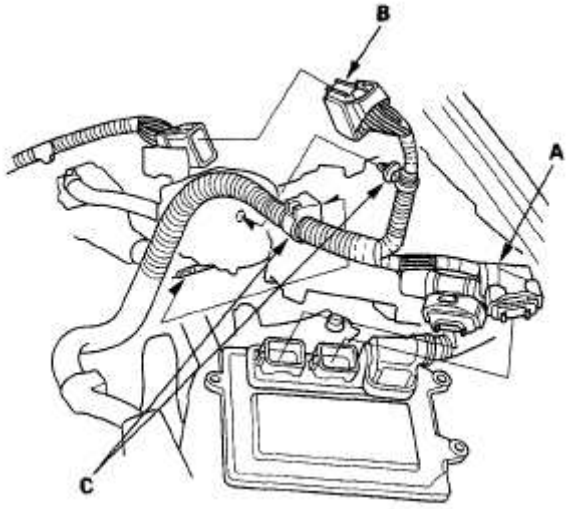



**Fig. 143: Identifying Engine Control Module (ECM) Connectors And Engine Wire Harness Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

48. Install the harness clamps (C).
49. Install the ECM (A), then install the ECM cover (B).

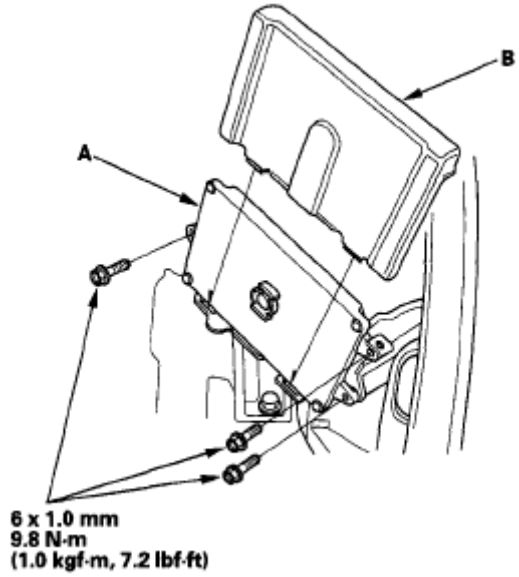



**Fig. 144: Identifying ECM Cover (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

50. Install the battery cables (A) to the under-hood fuse/relay box.

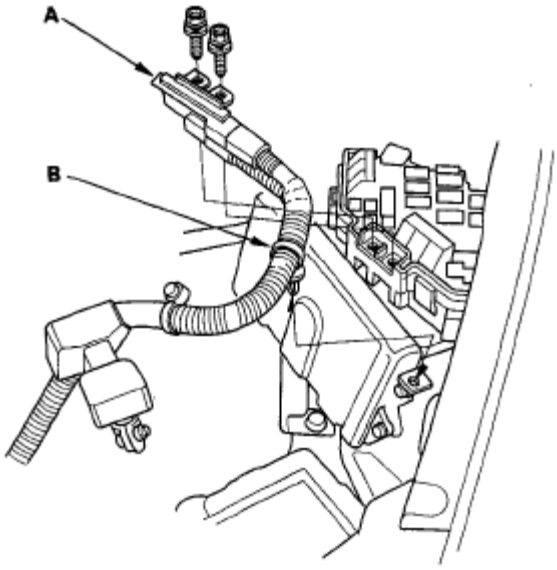



**Fig. 145: Identifying Battery Cables And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

51. Install the harness clamp (B).
52. Install the resonator (A) A

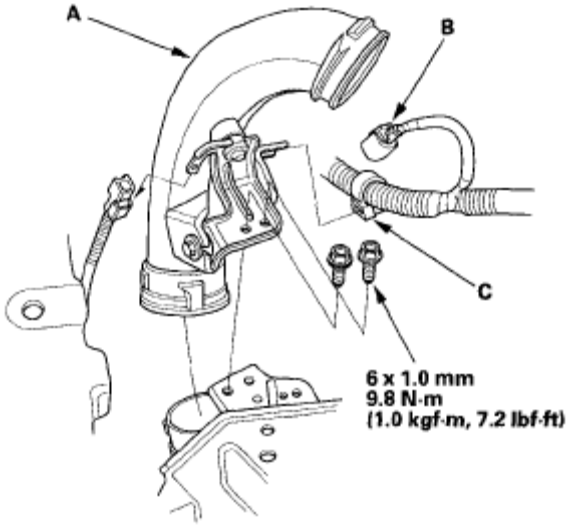



**Fig. 146: Identifying Resonator And Harness Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

53. Connect the connector (B), and install the harness clamp (C).
54. Install the under-cowl panel (see **FRONT GRILLE COVER**

**REPLACEMENT** ).

55. Install the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
56. Install the front wheels.
57. Install the battery. Clean the battery posts and cable terminals, then assemble them, and apply grease to prevent corrosion.
58. Check that the transmission shifts into gear smoothly.
59. Inspect for fuel leaks: Turn the ignition switch ON (II) (do not operate the starter) so the fuel pump runs for about 2 seconds and pressurizes the fuel line. Repeat this operation two or three times, then check for fuel leakage at any point in the fuel line.
60. Refill the engine with engine oil (see step 4 on **ENGINE OIL REPLACEMENT** ).
61. Refill the transmission with fluid (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
62. Refill the radiator with engine coolant, and bleed air from the cooling system with the heater valve open (see step 6 on **COOLANT CHECK** ).
63. Do the ECM reset procedure (see **HDS CLEAR COMMAND** ).
64. Do the crankshaft position (CKP) pattern clear/CKP pattern learn procedure (see **HDS CLEAR COMMAND** ).
65. Inspect the idle speed (see **IDLE SPEED INSPECTION** ).
66. Inspect the ignition timing (see **IGNITION TIMING INSPECTION** ).
67. Check the wheel alignment (see **WHEEL ALIGNMENT** ).
68. Enter the anti-theft code for the audio system and the navigation system (if equipped), then enter the audio presets.
69. Set the clock (on vehicles without navigation).

**SIDE ENGINE MOUNT REPLACEMENT**

1. Support the engine with a jack and wood block under the oil pan.
2. Remove the upper torque rod.

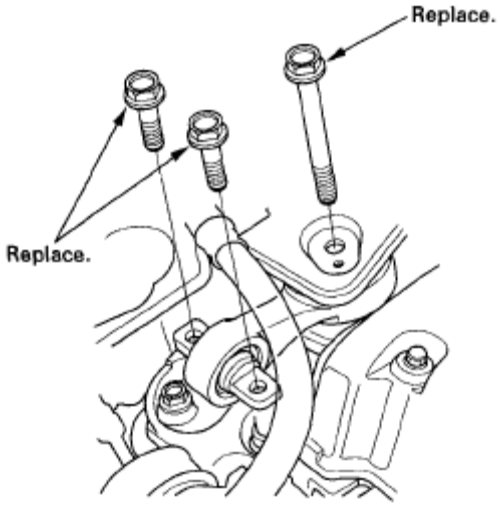



**Fig. 147: Identifying Upper Torque Rod**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ground cable (A), then remove the side engine mount bracket (B).

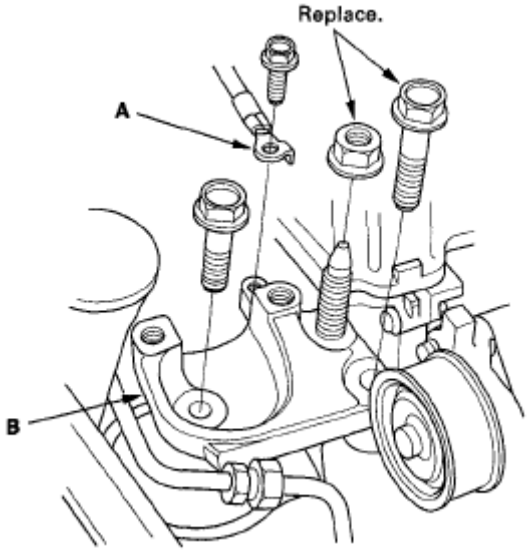



**Fig. 148: Identifying Ground Cable And Side Engine Mount Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the side engine mount stiffener (A), then remove the side engine mount (B).

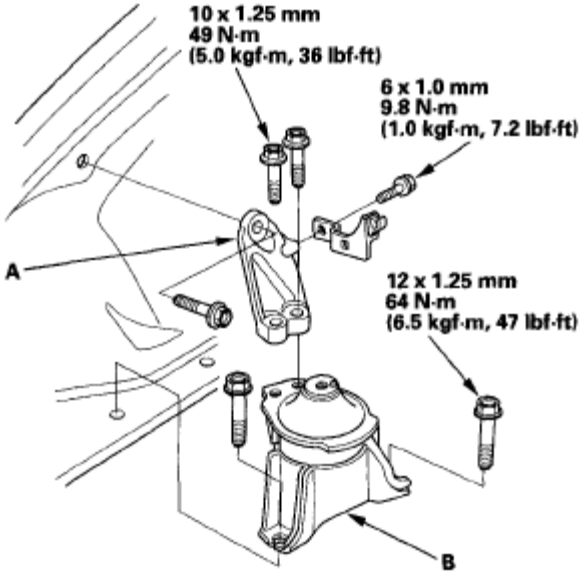



**Fig. 149: Identifying Side Engine Mount (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the side engine mount, then install the side engine mount stiffener.
6. Install the side engine mount bracket (A), then loosely tighten the new bolt and nut (B), and loosely tighten the bolt (C).

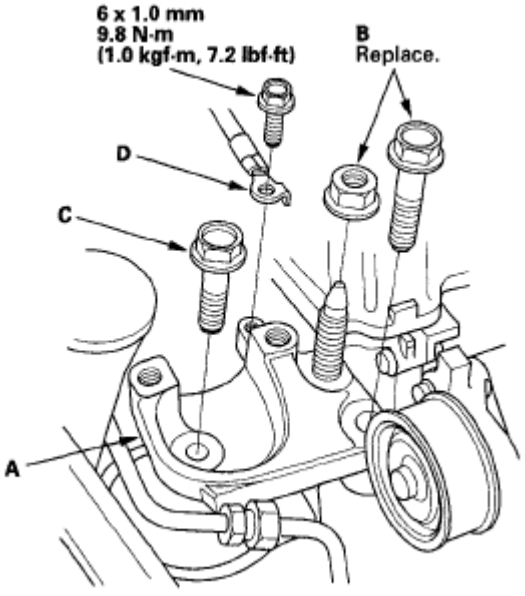



**Fig. 150: Identifying Side Engine Mount Bracket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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7. Install the ground cable (D).
8. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
9. Loosen the transmission mounting bolt and nuts (A).

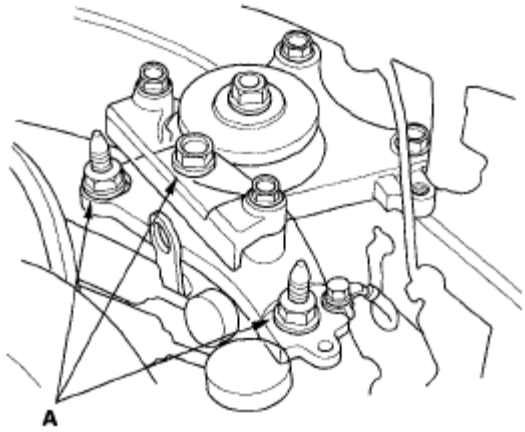



**Fig. 151: Identifying Transmission Mounting Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Raise the vehicle on the lift to full height.
11. Remove the splash shield.
12. Loosen the lower torque rod mounting bolt (A).

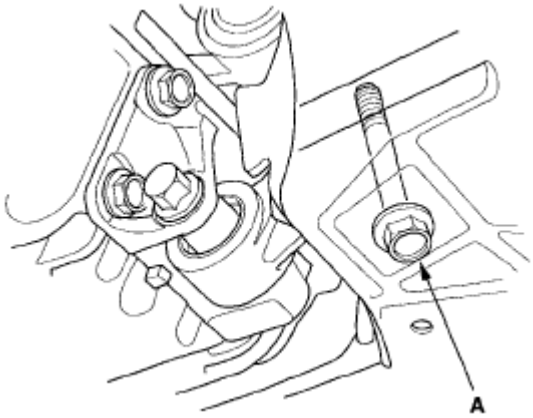



**Fig. 152: Identifying Lower Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Loosen the front mount mounting bolt (A).

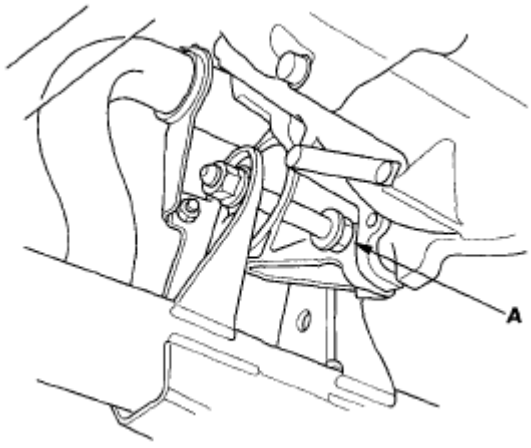



**Fig. 153: Identifying Front Mount Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Lower the vehicle on the lift.
15. Tighten the side engine mount mounting bolts and nut.

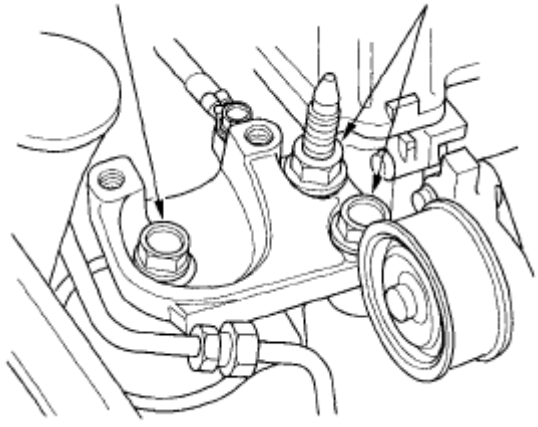


**Fig. 154: Identifying Side Engine Mount Mounting Bolts And Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Tighten the transmission mounting bolt and nuts.

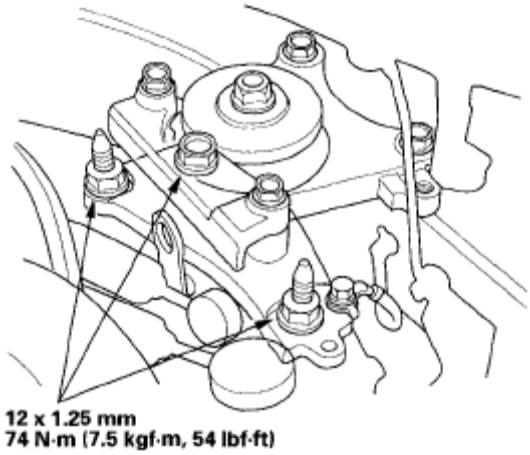



**Fig. 155: Identifying Transmission Mounting Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Raise the vehicle on the lift to full height.
18. Tighten the lower torque rod mounting bolt.

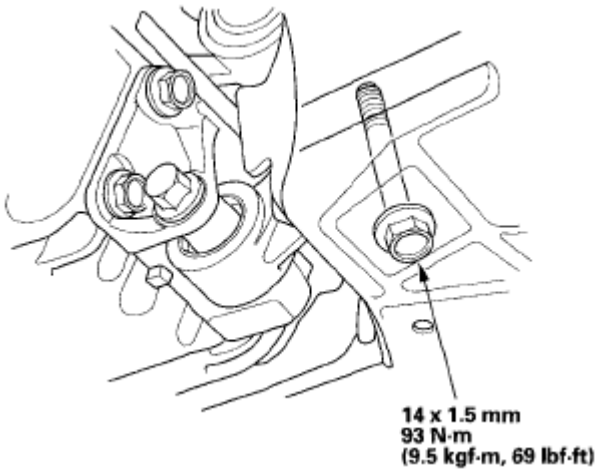



**Fig. 156: Identifying Lower Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Lower the vehicle on the lift.
20. Install the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
21. Install the upper torque rod, then tighten the new upper torque rod mounting bolts in the numbered sequence shown.

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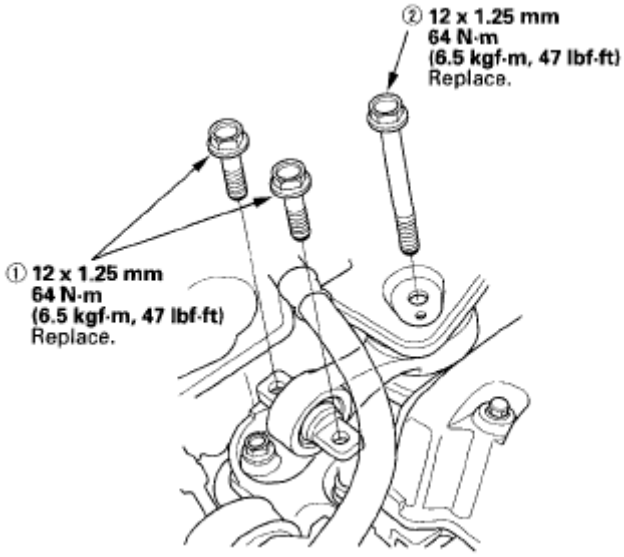



**Fig. 157: Identifying Tightening Sequence For Upper Torque Rod Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Raise the vehicle on the lift to full height, and tighten the front mount mounting bolt.

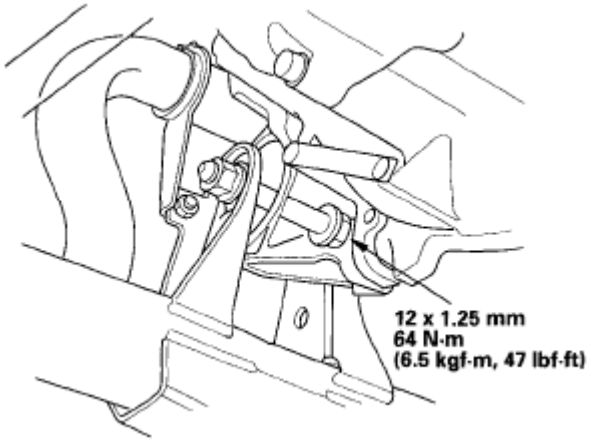



**Fig. 158: Identifying Front Mount Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Install the splash shield.

**TRANSMISSION MOUNT REPLACEMENT**

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1. Loosen the upper torque rod mounting bolt (A).

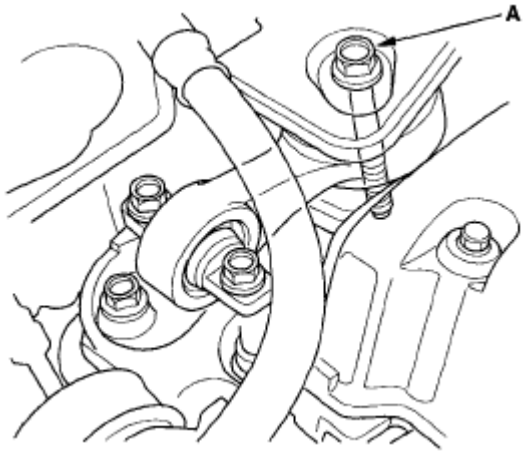



**Fig. 159: Identifying Upper Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
3. Remove the engine control module (ECM) cover, then remove the three bolts securing the ECM.
4. Remove the ECM bracket.
5. Remove the under hood fuse/relay box from the bracket.
6. Support the transmission with a jack and wood block under the transmission.
7. Remove the transmission mount (A).

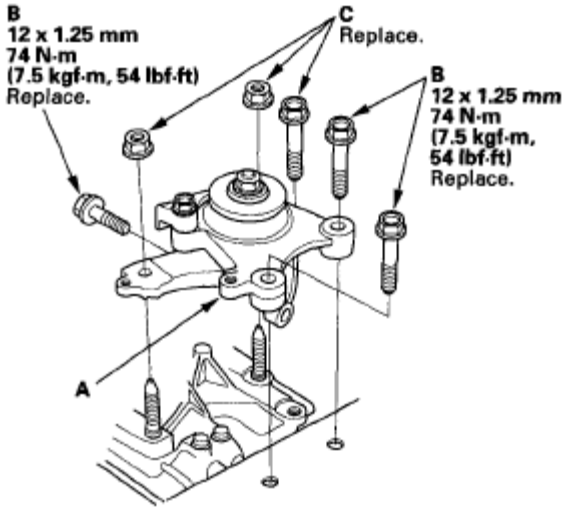



**Fig. 160: Identifying Transmission Mount (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the transmission mount with the new mounting bolts (B).
9. Loosely tighten the new bolt and nuts (C).
10. Raise the vehicle on the lift to full height.
11. Remove the splash shield.
12. Loosen the lower torque rod mounting bolt (A).

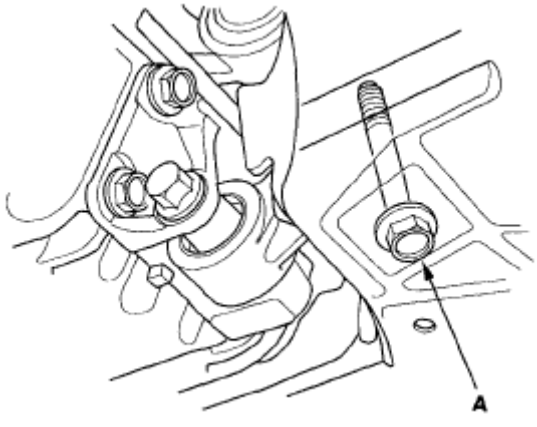



**Fig. 161: Identifying Lower Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Loosen the front mount mounting bolt (A).

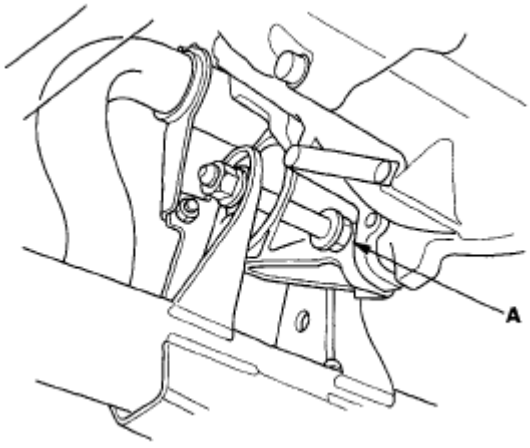



**Fig. 162: Identifying Front Mount Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Lower the vehicle on the lift.
15. Tighten the transmission mounting bolt and nuts.

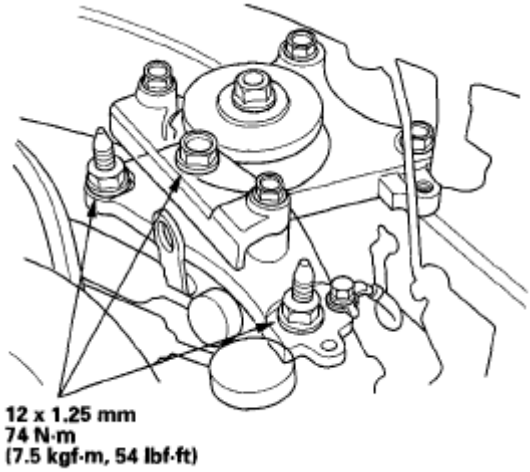



**Fig. 163: Identifying Transmission Mounting Bolt And Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Raise the vehicle on the lift to full height.
17. Tighten the lower torque rod mounting bolt.

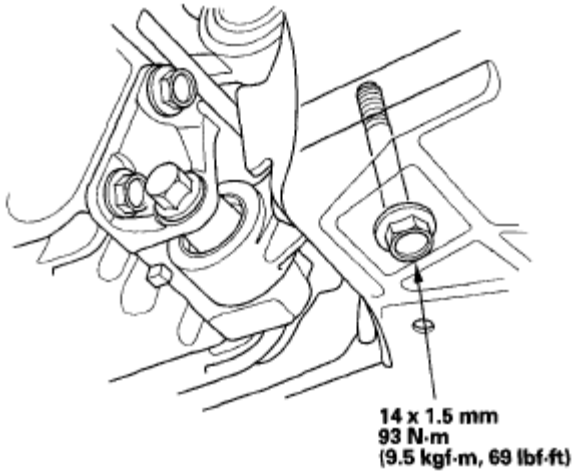



**Fig. 164: Identifying Lower Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Lower the vehicle on the lift.
19. Tighten the upper torque rod mounting bolt.

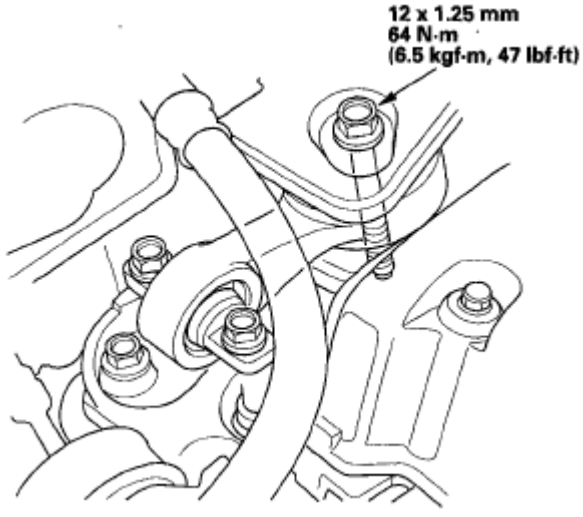



**Fig. 165: Identifying Upper Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Install the under-hood fuse/relay box to the bracket.
21. Install the ECM bracket.

22. Install the ECM, then install the ECM cover.
23. Install the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
24. Raise the vehicle on the lift to full height, and tighten the front mount mounting bolt.

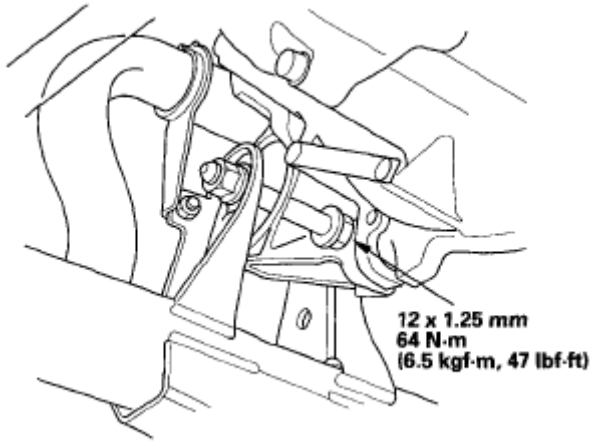



**Fig. 166: Identifying Front Mount Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Install the splash shield.

**LOWER TORQUE ROD REPLACEMENT**

1. Loosen the upper torque rod mounting bolt (A).

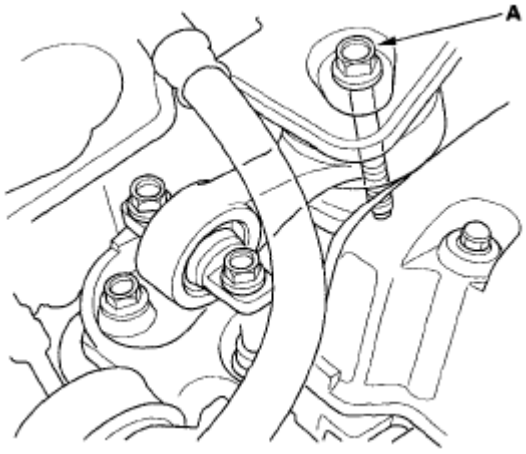


**Fig. 167: Identifying Upper Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Raise the vehicle on the lift to full height.
3. Remove the splash shield.
4. Loosen the front mount mounting bolt (A).

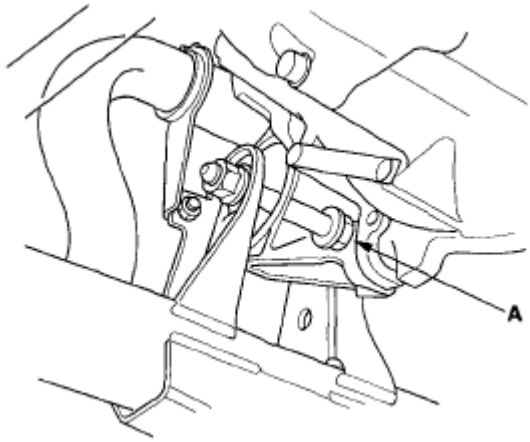



**Fig. 168: Identifying Front Mount Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the lower torque rod (A).

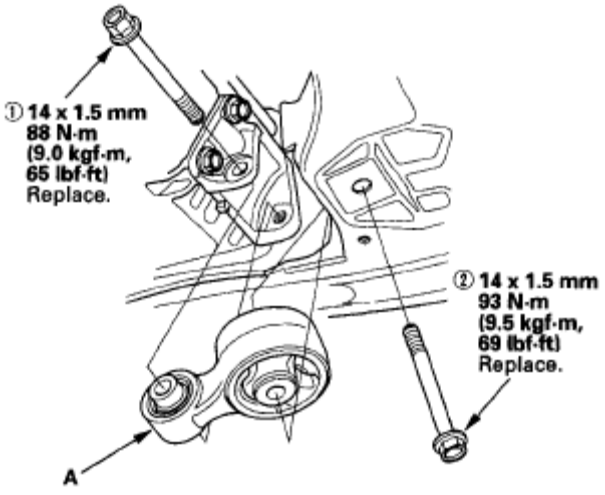



**Fig. 169: Identifying Lower Torque Rod (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the lower torque rod, then tighten the new lower torque rod mounting bolts in the numbered sequence shown.
7. Lower the vehicle on the lift.
8. Tighten the upper torque rod mounting bolt.

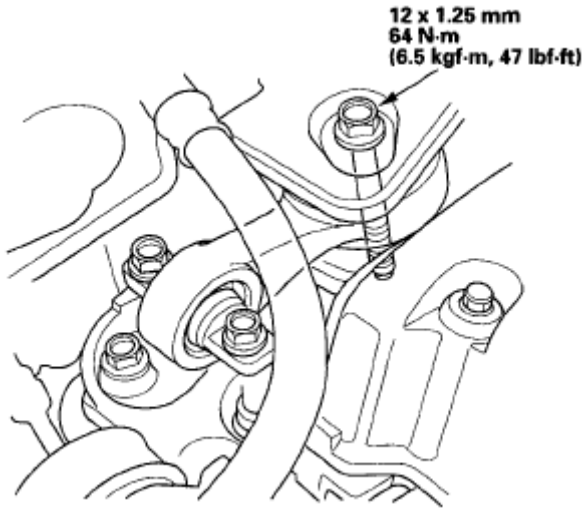



**Fig. 170: Identifying Upper Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Raise the vehicle on the lift to full height, and tighten the front mount mounting bolt.

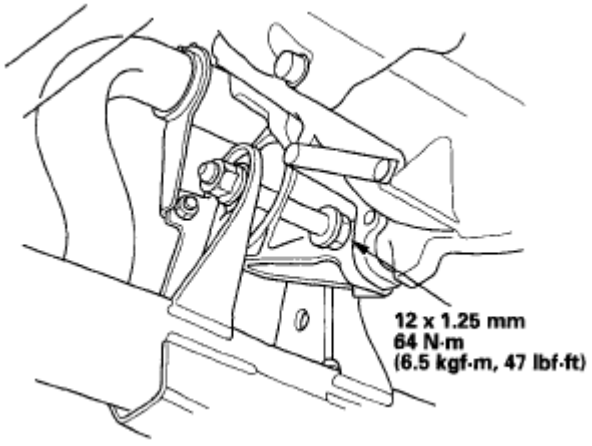



**Fig. 171: Identifying Front Mount Mounting Bolt (With Torque Specifications)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the splash shield.

**UPPER TORQUE ROD REPLACEMENT**

1. Raise the vehicle on the lift to full height.
2. Remove the splash shield.
3. Loosen the front mount mounting bolt (A).

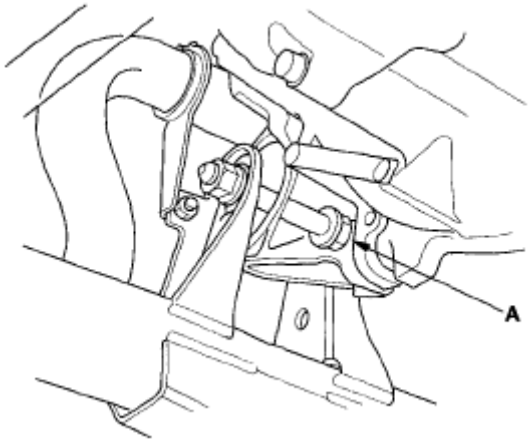



**Fig. 172: Identifying Front Mount Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the upper torque rod (A).

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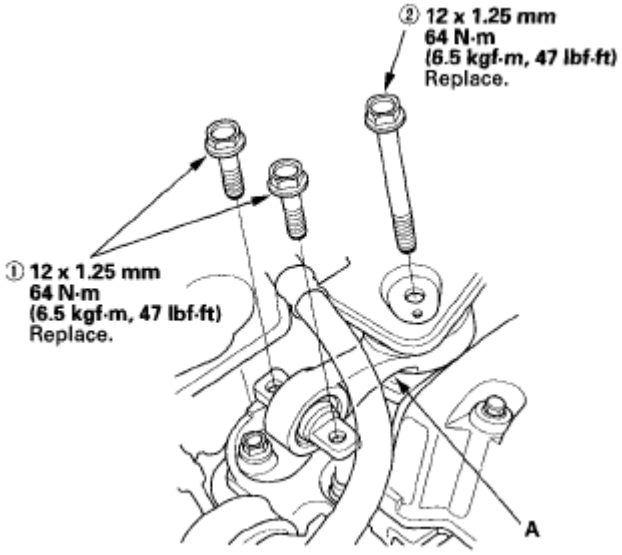



**Fig. 173: Identifying Upper Torque Rod (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the upper torque rod, then tighten the new bolts in the numbered sequence shown.
6. Raise the hoist to full height, and tighten the front mount mounting bolt.

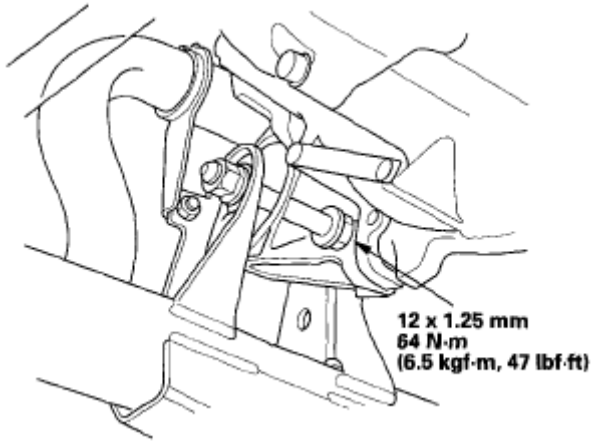



**Fig. 174: Identifying Front Mount Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the splash shield.

**SIDE ENGINE MOUNT BRACKET REPLACEMENT**

1. Support the engine with a jack and wood block under the oil pan.
2. Remove the upper torque rod.

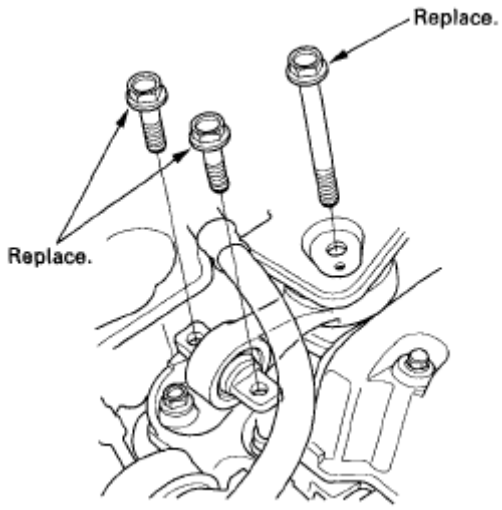



**Fig. 175: Identifying Upper Torque Rod**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ground cable (A), then remove the side engine mount bracket (B).

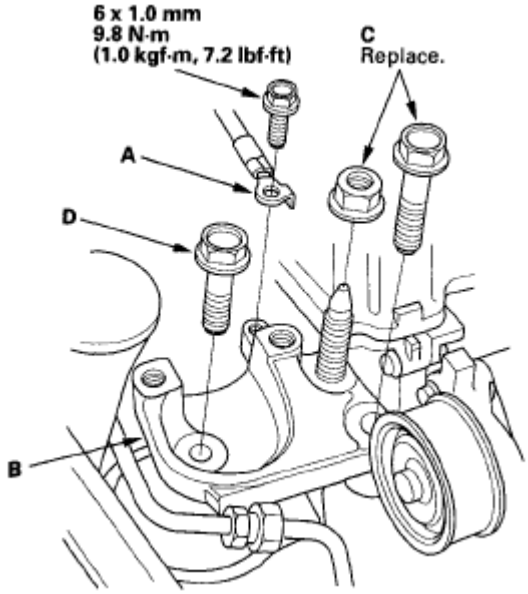



**Fig. 176: Identifying Ground Cable (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the side engine mount bracket, then loosely tighten the new bolt and nut (C), and loosely tighten the bolt (D).
5. Install the ground cable.
6. Remove the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).
7. Loosen the transmission mounting bolt and nuts (A).

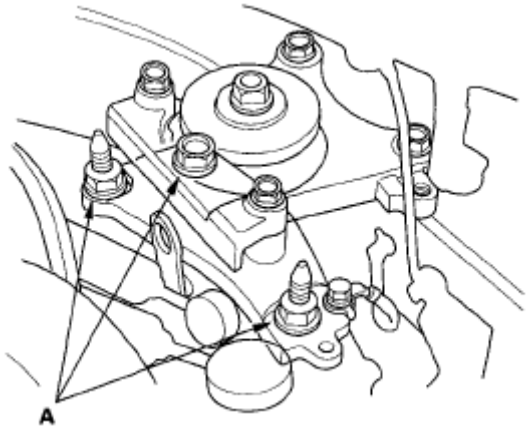



**Fig. 177: Identifying Transmission Mounting Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Raise the vehicle on the lift to full height.
9. Remove the splash shield.
10. Loosen the lower torque rod mounting bolt (A).

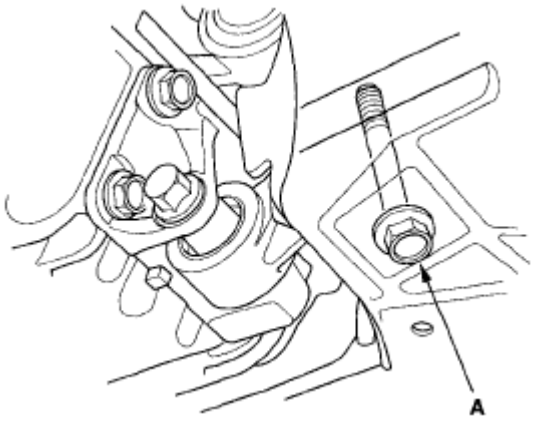



**Fig. 178: Identifying Lower Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Loosen the front mount mounting bolt (A).

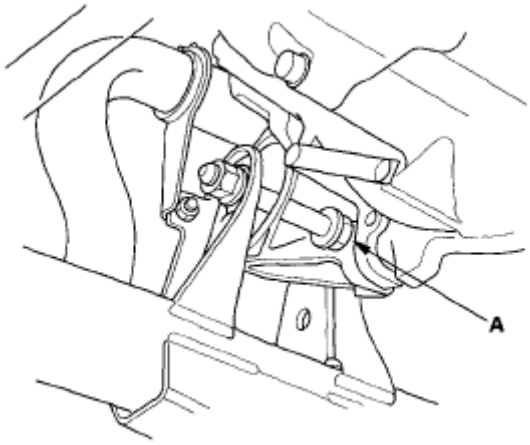



**Fig. 179: Identifying Front Mount Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Lower the vehicle on the lift.
13. Tighten the side engine mount mounting bolts and nut.

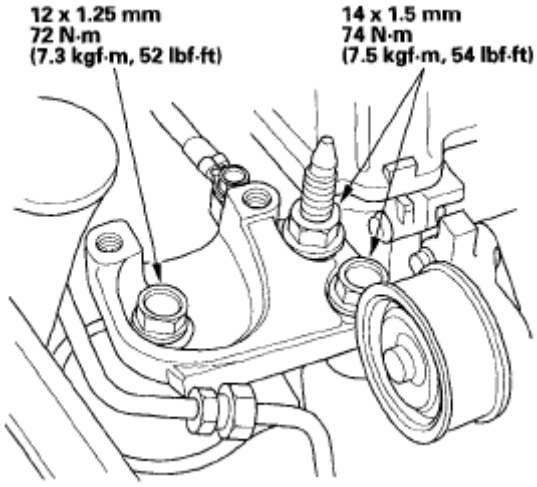



**Fig. 180: Identifying Side Engine Mount Mounting Bolts And Nut (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Tighten the transmission mounting bolt and nuts.

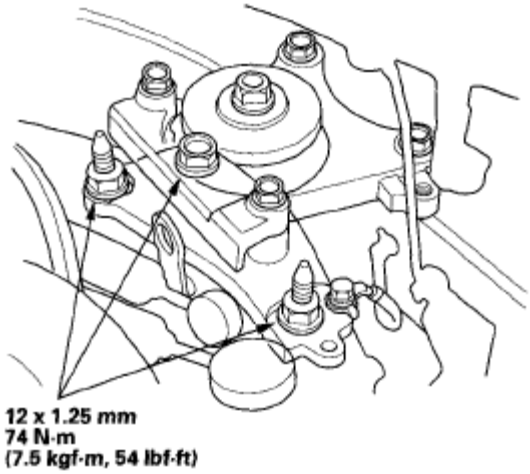



**Fig. 181: Identifying Transmission Mounting Bolt And Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Raise the vehicle on the lift to full height.
16. Tighten the lower torque rod mounting bolt.

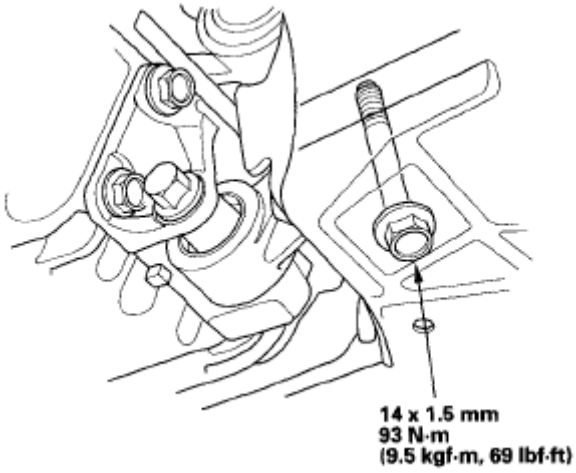



**Fig. 182: Identifying Lower Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Lower the vehicle on the lift.
18. Install the air cleaner assembly (see **AIR CLEANER REMOVAL/INSTALLATION** ).

19. Install the upper torque rod, then tighten the new upper torque rod mounting bolts in the numbered sequence shown.

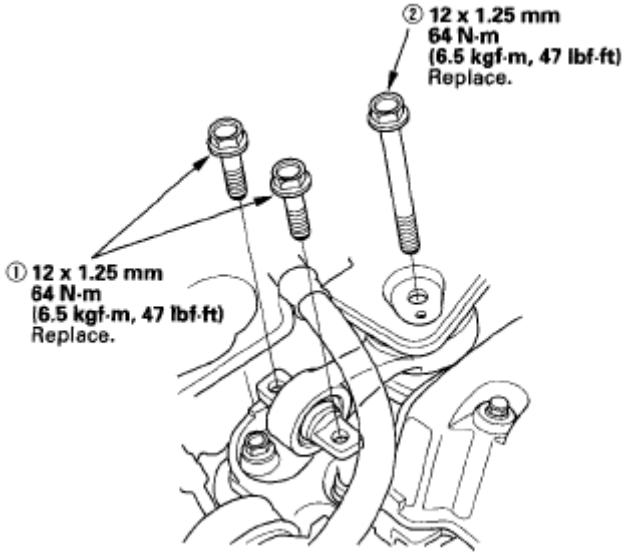



**Fig. 183: Identifying Tightening Sequence For Upper Torque Rod Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Raise the vehicle on the lift to full height, and tighten the front mount mounting bolt.

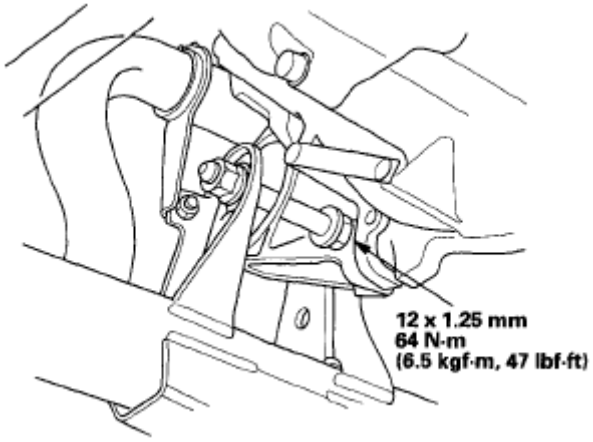



**Fig. 184: Identifying Front Mount Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Install the splash shield.

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**FRONT ENGINE MOUNT REPLACEMENT**

1. Raise the lift to full height.
2. Remove the splash shield.
3. Remove the front mount (A).

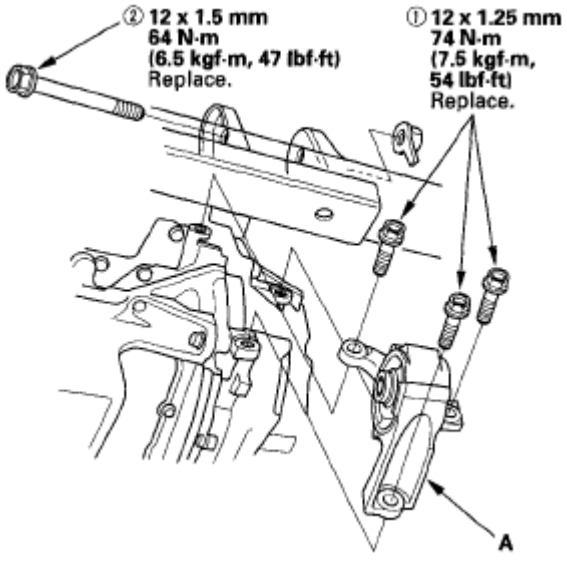



**Fig. 185: Identifying Front Mount (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the front mount, then tighten the new front mount mounting bolts in the numbered sequence shown.
5. Install the splash shield.

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**2006-08 ENGINE**

**Engine Block - Civic GX**

## COMPONENT LOCATION INDEX

**NOTE: Refer to the ENGINE BLOCK (EXCEPT HYBRID) article for items not shown in this section.**

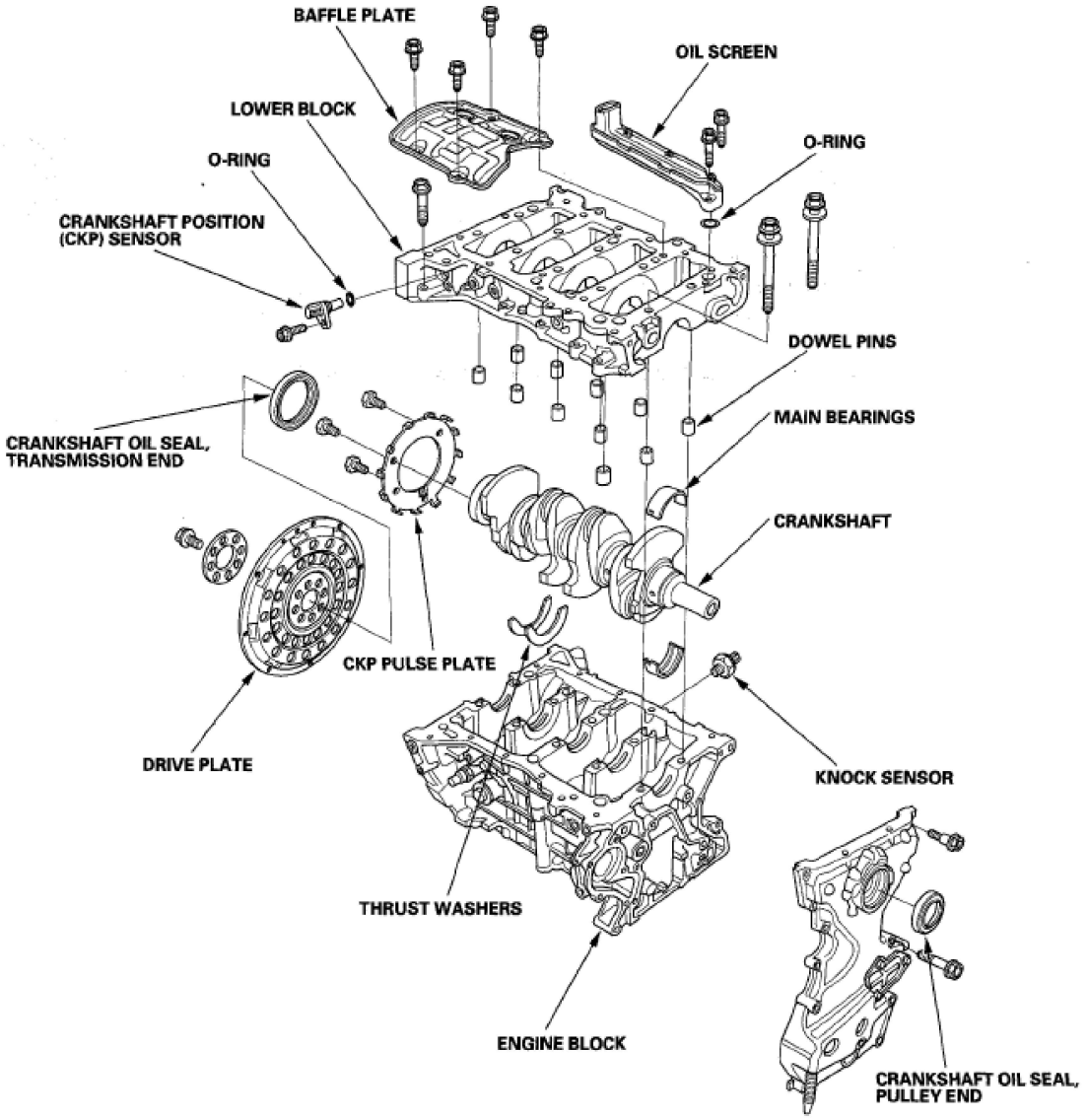



**Fig. 1: Identifying Engine Block Component (1 Of 2)**

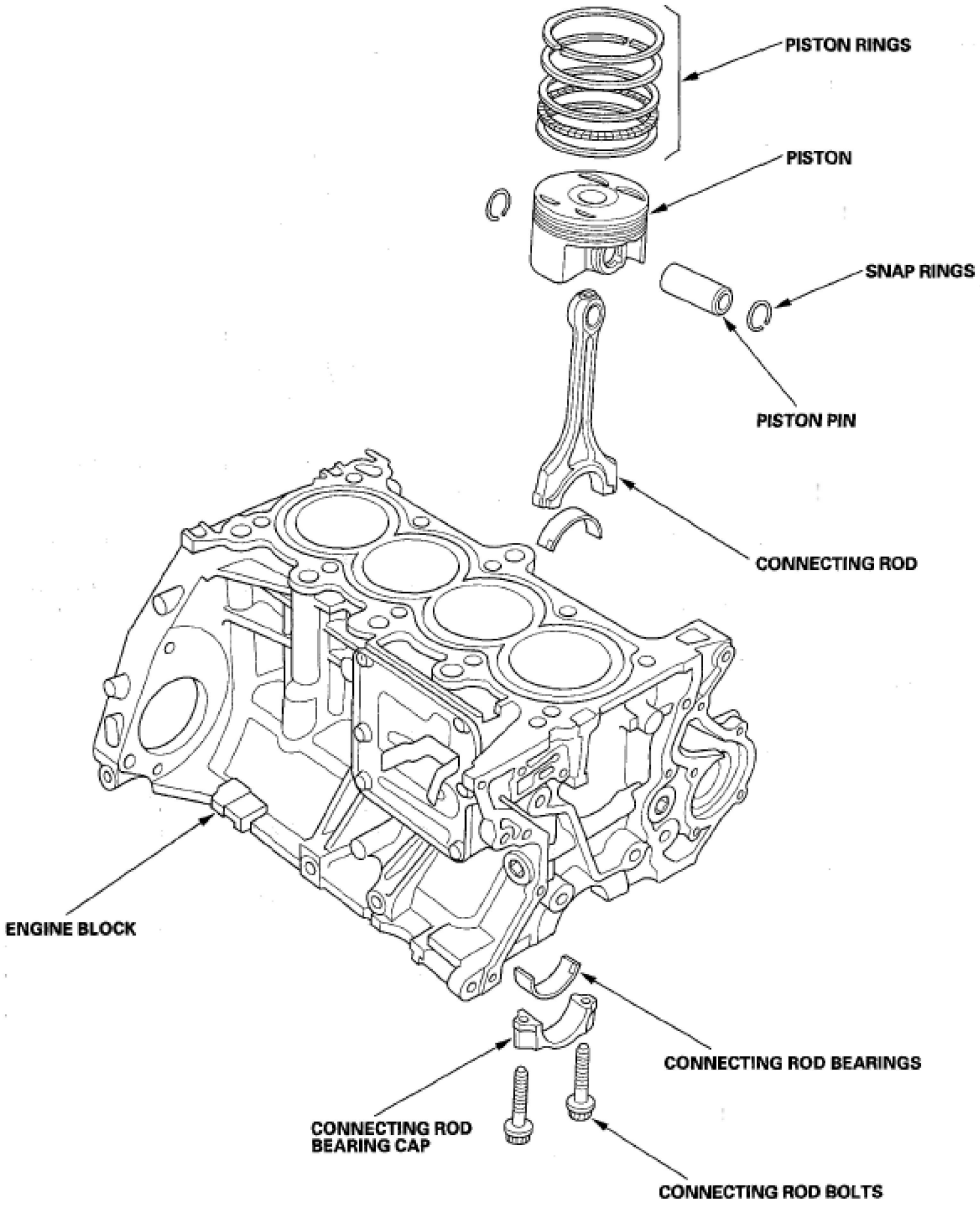



**Fig. 2: Identifying Engine Block Component (2 Of 2)**

## PISTON RING REPLACEMENT

1. Remove the piston from the engine block, refer to the **CRANKSHAFT AND PISTON REMOVAL** .
2. Using a ring expander (A), remove the old piston rings (B).

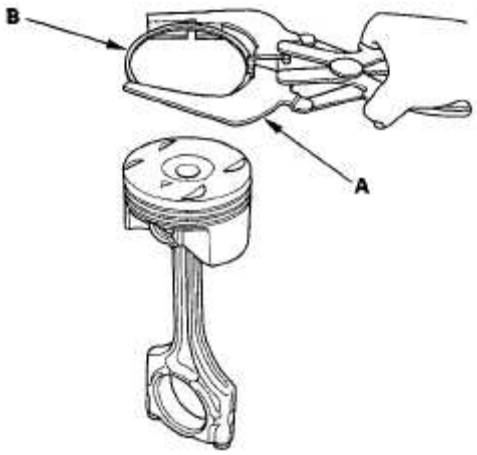



**Fig. 3: Removing Piston Rings**

3. Clean all the ring grooves thoroughly with a squared-off broken ring, or a ring groove cleaner with a blade to fit the piston grooves. File down a blade if necessary. The top ring and second ring grooves are 1.2 mm (0.05 in.) wide, and the oil ring groove is 2.0 mm (0.08 in.) wide. Do not use a wire brush to clean the ring grooves, or cut the ring grooves deeper with the cleaning tools.

**NOTE: If the piston is to be separated from the connecting rod, do not install new rings yet.**

4. Using a piston, push a new ring (A) into the cylinder bore 15-20 mm (0.6-0.8 in.) from the bottom.

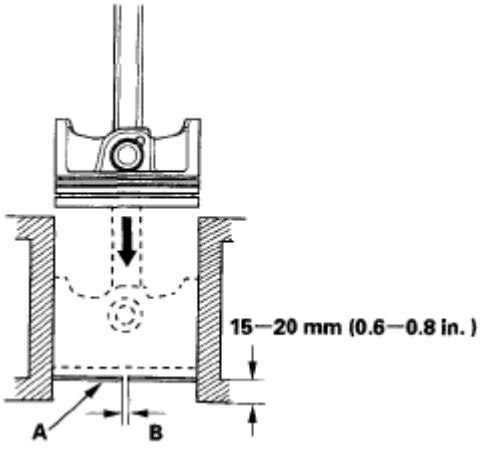



**Fig. 4: Pushing Piston Rings**

5. Measure the piston ring end-gap (B) with a feeler gauge:
   - If the gap is too small, check to see if you have the proper rings for your engine.
   - If the gap is too large, recheck the cylinder bore diameter against the wear limits, refer to the **BLOCK AND PISTON INSPECTION** . If the bore is beyond the service limit, the engine block must be rebored.

   **Piston Ring End-Gap**

   **Top Ring:**

   **Standard (New): 0.20-0.35 mm (0.008-0.014 in.)**

   **Service Limit: 0.60 mm (0.024 in.)**

   **Second Ring:**

   **Standard (New): 0.40-0.55 mm (0.016-0.022 in.)**

   **Service Limit: 0.70 mm (0.028 in.)**

   **Oil Ring:**

   **Standard (New): 0.20-0.50 mm (0.008-0.020 in.)**

   **Service Limit: 0.70 mm (0.028 in.)**

6. Install the rings as shown. The top ring (A) has a 1R mark, and the second ring (B) has a 2A or 2R mark. The manufacturing marks (C) must be facing upward.

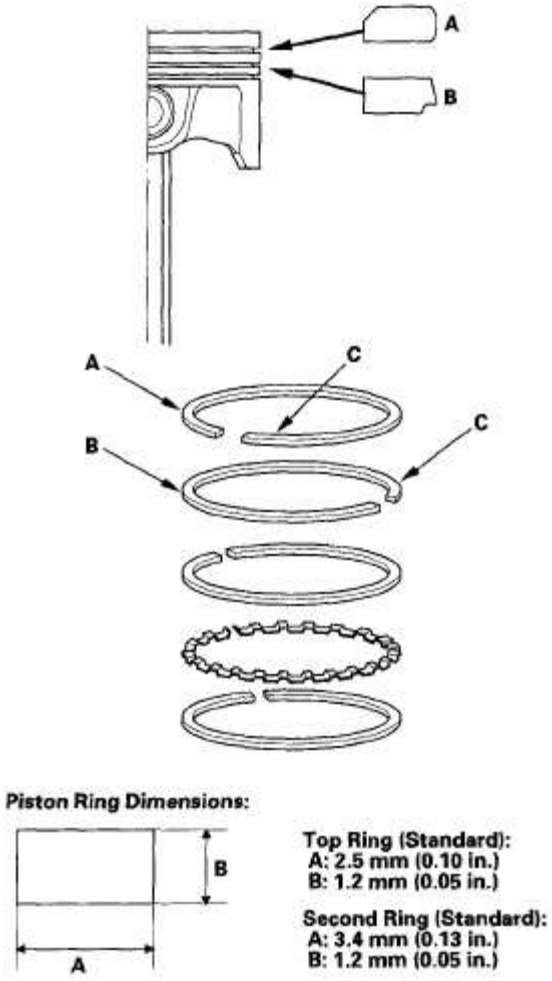



**Fig. 5: Identifying Piston Rings With Installation**

7. Rotate the rings in their grooves to make sure they do not bind.
8. Position the ring end gaps as shown:

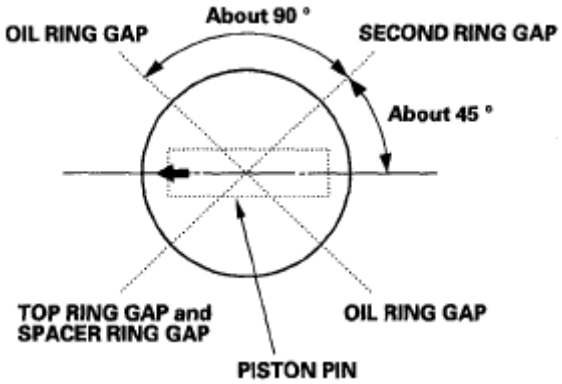



**Fig. 6: Identifying Piston Ring End Gaps Angle**

9. After installing a new set of rings, measure the ring-to-groove clearances:

   **Top Ring Clearance**

   **Standard (New): 0.045-0.070 mm (0.0018-0.0028 in.)**

   **Service Limit: 0.13 mm (0.005 in.)**

   **Second Ring Clearance**

   **Standard (New): 0.030-0.055 mm (0.0012-0.0022 in.)**

   **Service Limit: 0.13 mm (0.005 in.)**

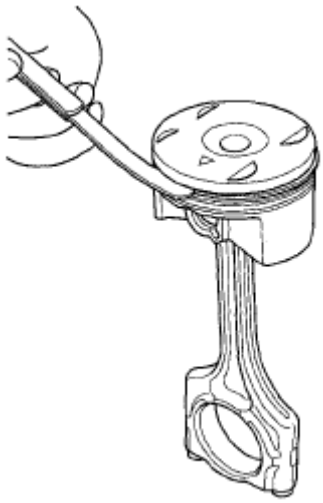


**Fig. 7: Checking Top Ring Clearance**

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# 2006-08 ENGINE

## Engine Block - Civic (Except Hybrid)

## ENGINE BLOCK (R18A1)

**NOTE: Refer to the ENGINE BLOCK (GX) (SUPPLEMENT) article for additional information for the GX model.**

### SPECIAL TOOLS

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07LAD-PT3010A | Oil Seal Driver | 1 |
| ② | 07ZAD-PNAA100 | Oil Seal Driver Attachment 96 | 1 |
| ③ | 07746-0010700 | Attachment, 24 x 26 mm | 1 |
| ④ | 07749-0010000 | Driver | 1 |

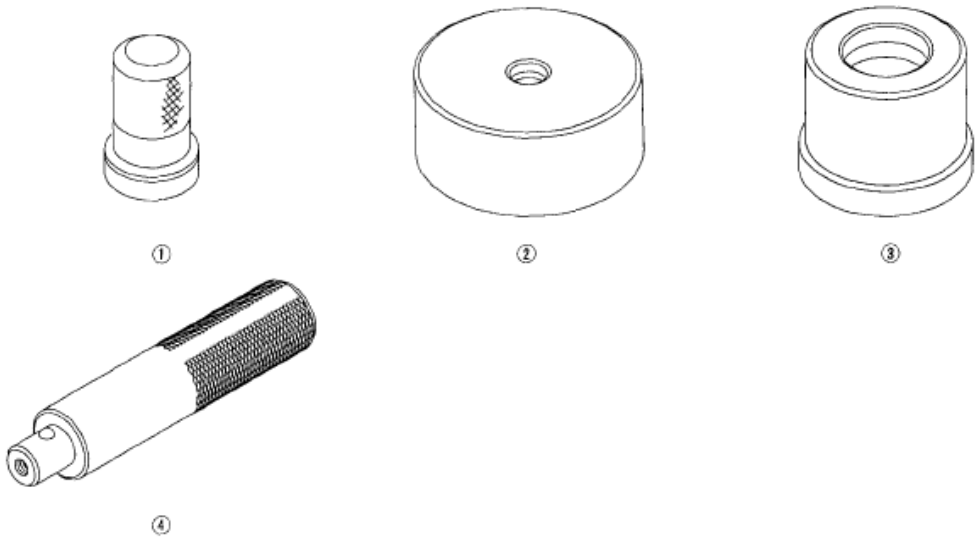



**Fig. 1: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### COMPONENT LOCATION INDEX

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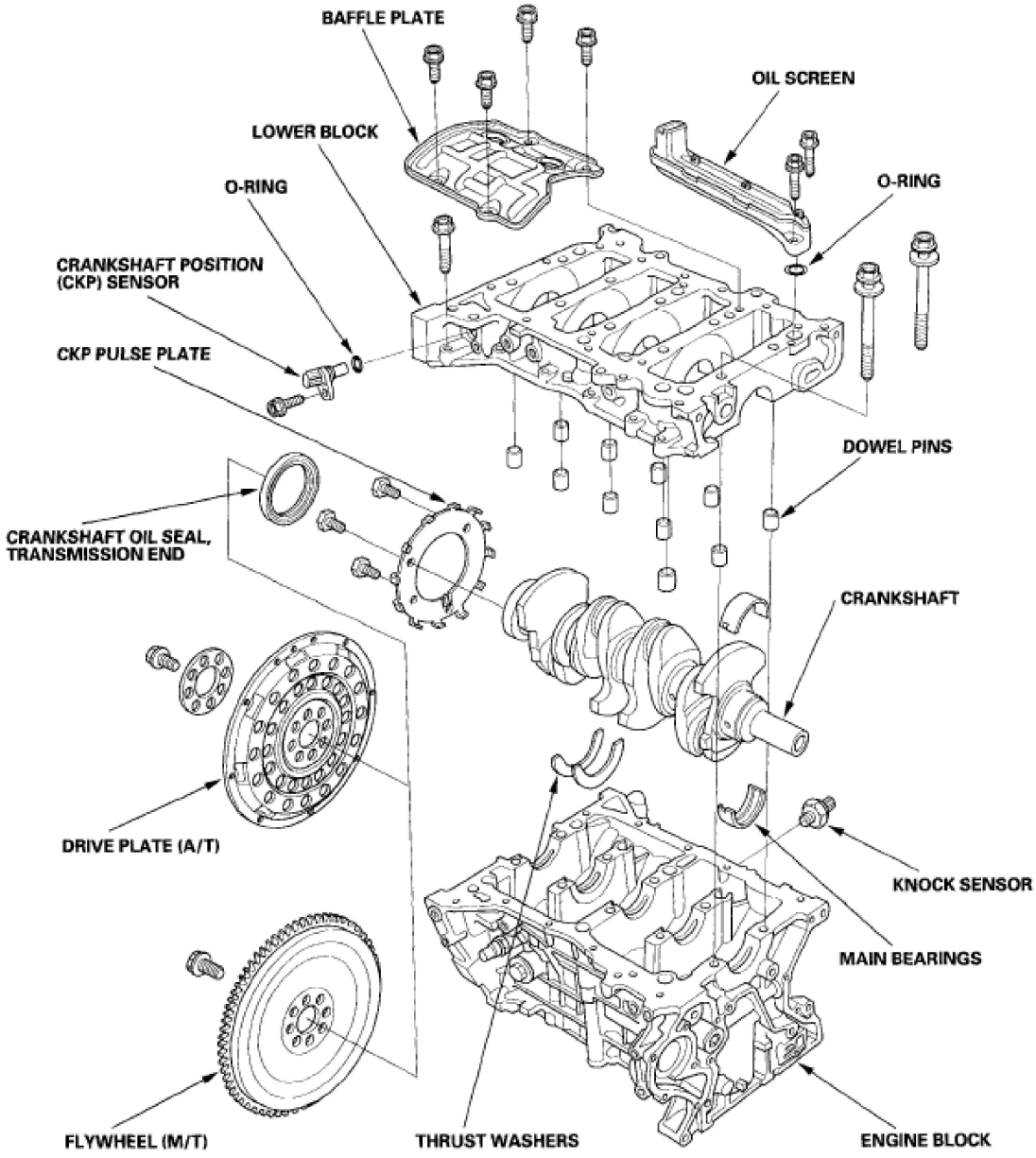



**Fig. 2: Identifying Engine Block, Flywheel And Crankshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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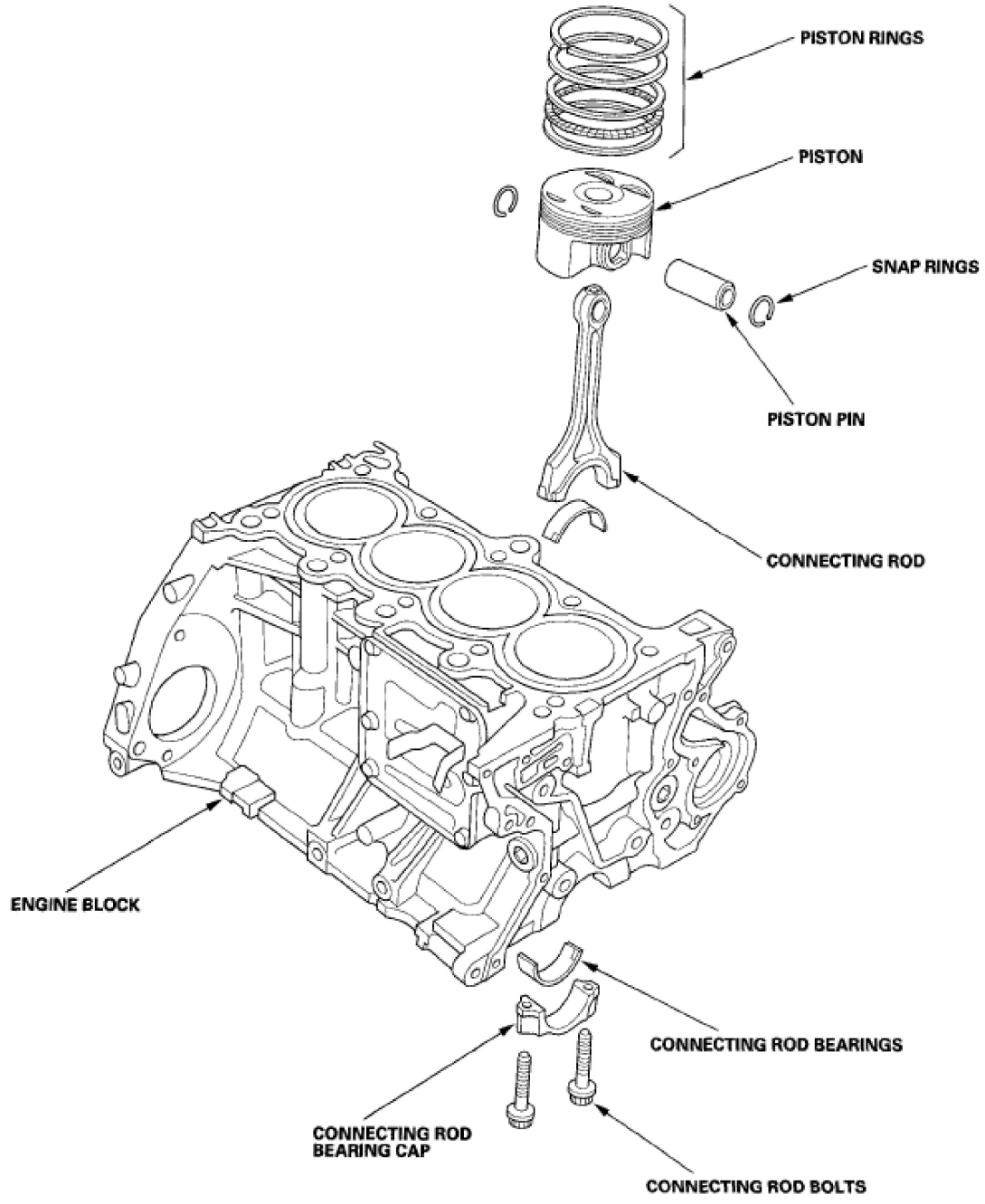



**Fig. 3: Identifying Engine Block , Piston And Connecting Rod**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### CONNECTING ROD AND CRANKSHAFT END PLAY INSPECTION

1. Remove the oil pan (see **OIL PAN REMOVAL** ).
2. Remove the oil screen and baffle plate (see step 8 ).

3. Measure the connecting rod end play with a feeler gauge between the connecting rod and crankshaft.

   **Connecting Rod End Play**

   **Standard (New): 0.15-0.35 mm (0.006-0.014 in.)**

   **Service Limit: 0.45 mm (0.018 in.)**

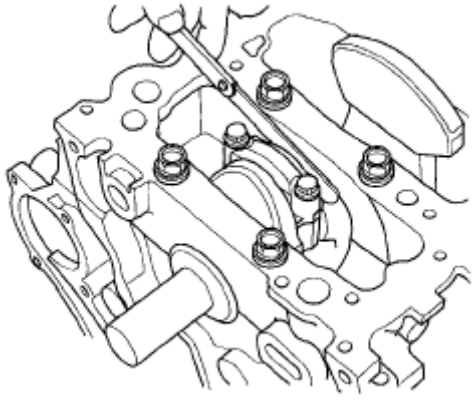


**Fig. 4: Measuring Connecting Rod End Play**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the connecting rod end play is beyond the service limit, install a new connecting rod, and recheck. If it is still beyond the service limit; replace the crankshaft (see **CRANKSHAFT AND PISTON REMOVAL** ).
5. Push the crankshaft firmly away from the dial indicator, and zero the dial against the end of the crankshaft. Then pull the crankshaft firmly back toward the indicator; the dial reading should not exceed the service limit.

   **Crankshaft End Play**

   **Standard (New): 0.10-0.35 mm (0.004-0.014 in.)**

   **Service Limit: 0.45 mm (0.018 in.)**

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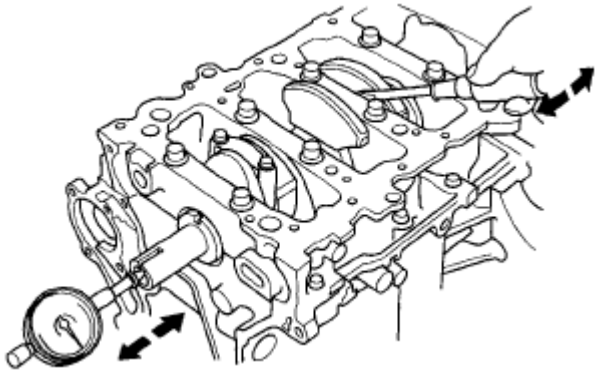


**Fig. 5: Pushing Crankshaft Firmly Away From Dial Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the end play is beyond the service limit, replace the thrust washers and recheck, if it is still beyond the service limit, replace the crankshaft (see **CRANKSHAFT AND PISTON REMOVAL** ).

**CRANKSHAFT MAIN BEARING REPLACEMENT**

**Main Bearing Clearance Inspection**

1. To check the main bearing-to-journal oil clearance, remove the lower block and bearing halves (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Clean each main journal and bearing half with a clean shop towel.
3. Place one strip of plastigage across each main journal.
4. Reinstall the bearings and lower block, then torque the bolts to 25 N-m (2.5 kgf-m, 18 lbf-ft) + 57 degrees in the proper sequence (see step 19 ).

**NOTE: Do not rotate the crankshaft during inspection.**

5. Remove the lower block and bearings again, and measure the widest part of the plastigage.

**Main Bearing-to-Journal Oil Clearance**

**Standard (New): 0.018 - 0.034 mm (0.0007 - 0.0013 in.)**

**Service Limit: 0.045 mm (0.0018 in.)**

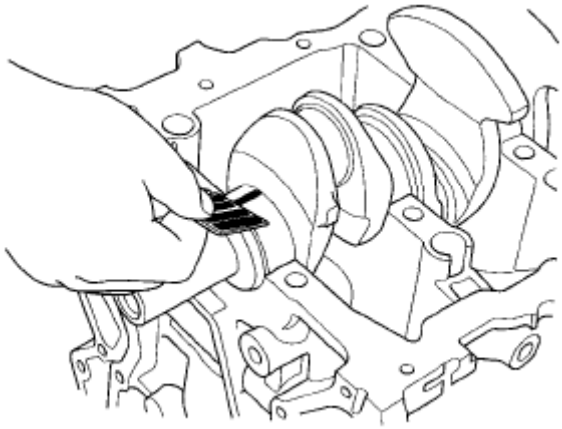


**Fig. 6: Measuring Widest Part Of Plastigage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the plastigage measures too wide or too narrow, remove the crankshaft, and remove the upper half of the bearing. Install a new, complete bearing with the same color code(s), and recheck the clearance. Do not file, shim, or scrape the bearings or the caps to adjust clearance.
7. If the plastigage shows the clearance is still incorrect, try the next larger or smaller bearing (the color listed above or below the current one), and check again. If the proper clearance cannot be obtained by using the appropriate larger or smaller bearings, replace the crankshaft, and start over.

**Main Bearing Selection**

**Crankshaft Bore Code Location**

1. Numbers, letters or bars have been stamped on the either side of the block end as a code for the size of each of the five main journal bores. Write down the crank bore codes.

   If you can't read the codes because of accumulated dirt and dust, do not scrub them with a wire brush or scraper. Clean them only with solvent or detergent.

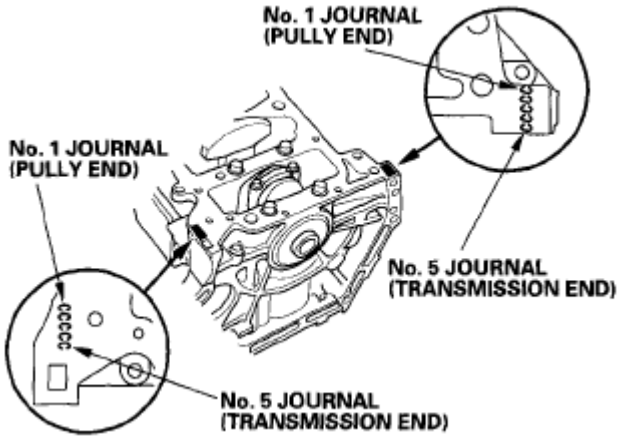



**Fig. 7: Identifying Crankshaft Bore Code Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Main Journal Code Location**

2. The main journal codes are stamped on the crankshaft.

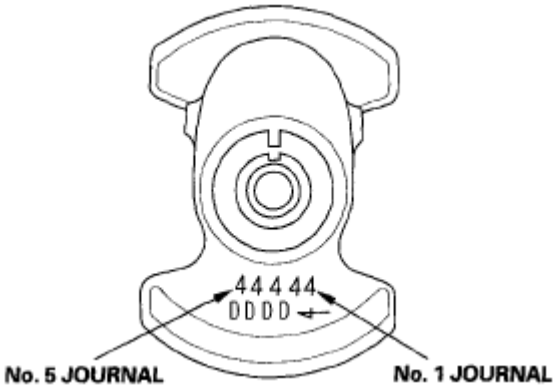



**Fig. 8: Identifying Main Journal Code Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Use the crank bore codes and crank journal codes to select the appropriate replacement bearings from the following table.

**NOTE:**

- **Color code is on the edge of the bearing.**
- **When using bearing halves of different colors, it does not matter which color is used in the top or bottom.**

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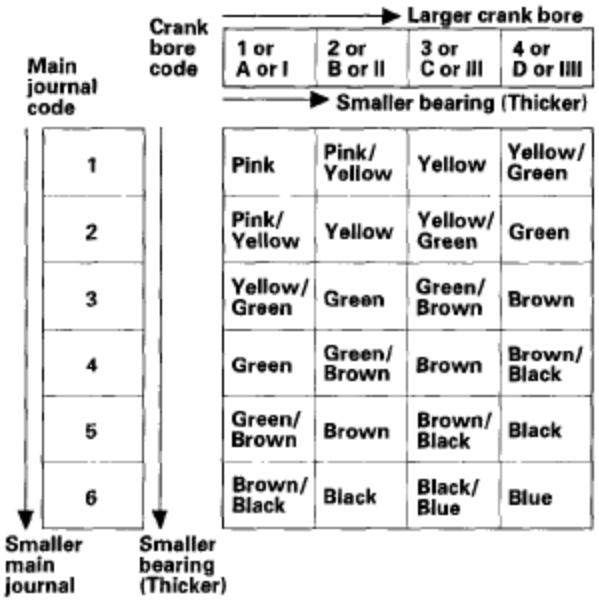



**Fig. 9: Identifying Crank Bore Codes And Crank Journal Codes Reference**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CONNECTING ROD BEARING REPLACEMENT**

**Rod Bearing Clearance Inspection**

1. Remove the oil pan (see **OIL PAN REMOVAL** ).
2. Remove the oil screen and baffle plate (see step 8 ).
3. Remove the connecting rod cap and bearing half.
4. Clean the crankshaft rod journal and bearing half with a clean shop towel.
5. Place plastigage across the rod journal.
6. Reinstall the bearing half and cap, and torque the bolts to 20 N.m (2.0 kgf.m, 14 lbf.ft) + 90 degrees using a commercially available torque angle gauge.

**NOTE: Do not rotate the crankshaft during inspection.**

7. Remove the rod cap and bearing half, and measure the widest part of the plastigage.

**Connecting Rod Bearing-to-Journal Oil Clearance**

**Standard (New): 0.024-0.042 mm (0.0009-0.0017 in.)**

**Service Limit: 0.055 mm (0.0022 in.)**

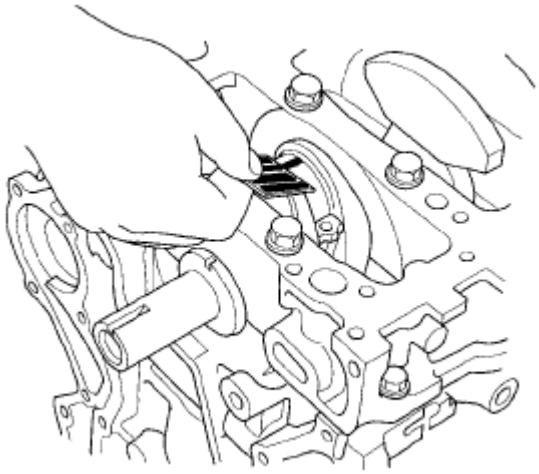


**Fig. 10: Measuring Widest Part Of Plastigage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. If the plastigage measures too wide or too narrow, remove the upper half of the bearing, install a new, complete bearing with the same color code(s), and recheck the clearance. Do not file, shim, or scrape the bearings or the caps to adjust clearance.
9. If the plastigage shows the clearance is still incorrect, try the next larger or smaller bearing (the color listed above or below the current one), and check clearance again. If the proper clearance cannot be obtained by using the appropriate larger or smaller bearing, replace the crankshaft, and start over.

**Rod Bearing Selection**

1. Inspect each connecting rod for cracks and heat damage.

**Connecting Rod Big End Bore Code Locations**

2. Each rod has a tolerance range from 0 to 0.024 mm (0.0009 in.), in 0.006 mm (0.0002 in.) increments, depending on the size of its big end bore. It is then stamped with a number or bar (1, 2, 3 or 4/I, II, III, or MM) indicating the range. You may find any combination of numbers and bars in any engine. (Half

the number or bar is stamped on the bearing cap, the other half is on the rod.)

If you can't read the code because of an accumulation of oil and varnish, do not scrub it with a wire brush or scraper. Clean it only with solvent or detergent.

**Normal Bore Size: 48.0 mm (1.89 in.)**

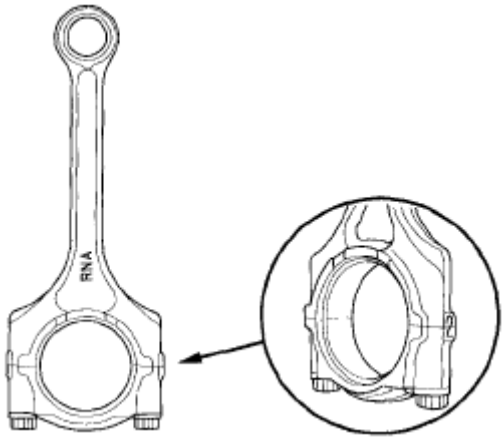



**Fig. 11: Identifying Connecting Rod Big End Bore Code Locations**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Connecting Rod Journal Code Location**

3. The connecting rod journal codes are stamped on the crankshaft.

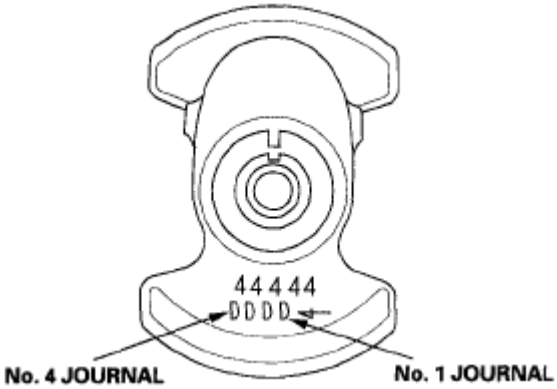



**Fig. 12: Identifying Connecting Rod Journal Code Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Use the big end bore codes and rod journal codes to select the appropriate

replacement bearings from the following table.

**NOTE:**

- **Color code is on the edge of the bearing.**
- **When using bearing halves of different colors, it does not matter which color is used in the top or bottom.**

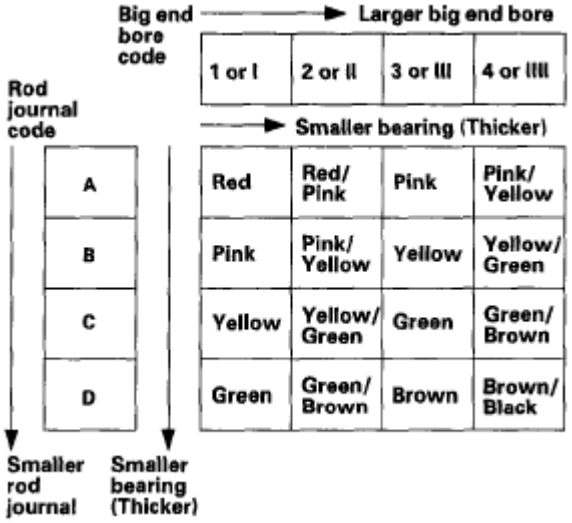



**Fig. 13: Identifying Big End Bore Codes And Rod Journal Codes Reference**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**OIL PAN REMOVAL**

1. If the engine is already out of the vehicle, go to step 12.
2. Remove the drive belt (see **DRIVE BELT INSPECTION** ).
3. Remove the A/C condenser fan shroud (see **A/C COMPRESSOR REPLACEMENT** ).
4. Disconnect the A/C compressor clutch connector, then remove the harness clamp. Remove the A/C compressor without disconnecting the A/C hoses (see step 39 on **ENGINE REMOVAL** ).
5. Raise the vehicle on the hoist to full height.
6. Remove the splash shield (see step 23 on **ENGINE REMOVAL** ).
7. Drain the engine oil (see **ENGINE OIL REPLACEMENT** ).

8. Remove exhaust pipe A (see step 27 on **ENGINE REMOVAL** ).
9. Support the oil pan with a jack.
10. Remove the lower torque rod (see step 46 on **ENGINE REMOVAL** ).
11. Remove the jack.
12. Remove the lower torque rod bracket.

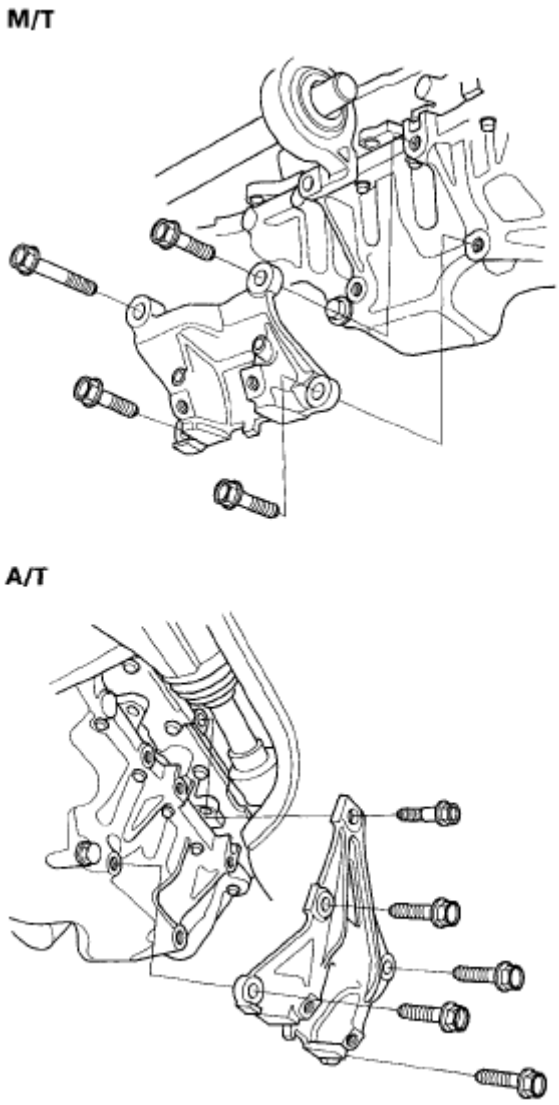



**Fig. 14: Identifying Lower Torque Rod Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Remove the A/C compressor bracket.

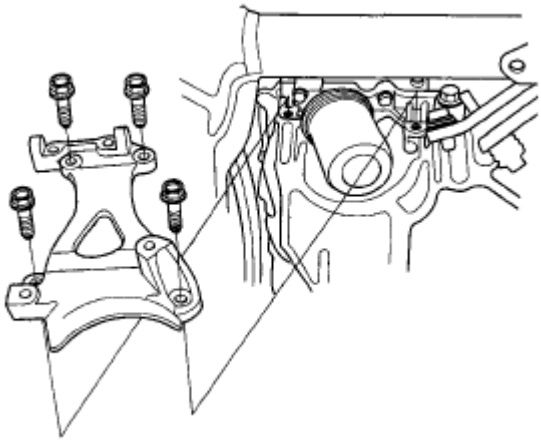


**Fig. 15: Identifying A/C Compressor Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. A/T model: Remove the shift cable cover.

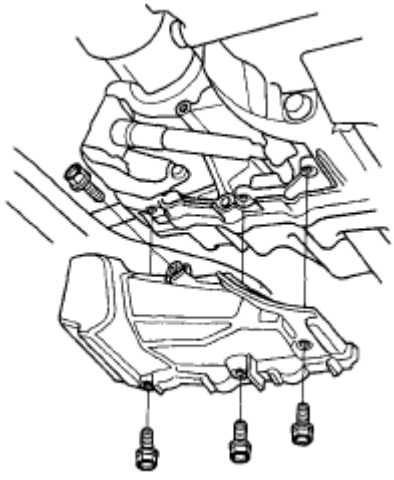


**Fig. 16: Identifying Shift Cable Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Remove the clutch cover/torque converter cover (A), and remove the two bolts securing the transmission.

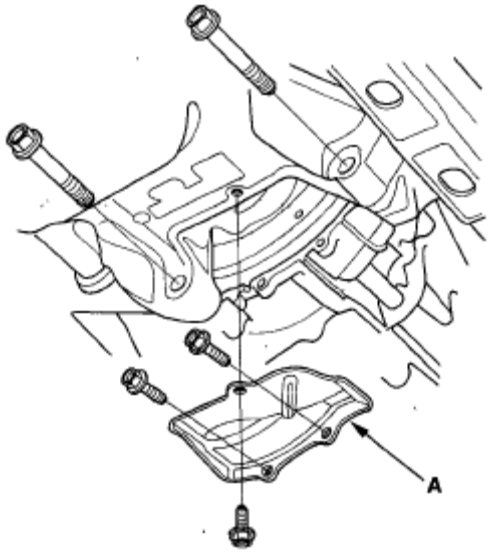



**Fig. 17: Identifying Clutch Cover/Torque Converter Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the bolts securing the oil pan.
17. Using a flat blade screwdriver, separate the oil pan from the block in the places shown.

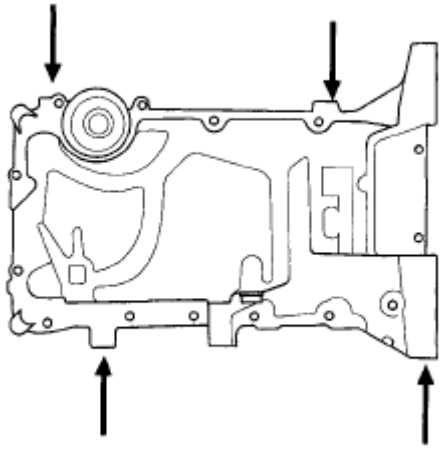


**Fig. 18: Identifying Oil Pan From Block**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Remove the oil pan.

**CRANKSHAFT AND PISTON REMOVAL**

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1. Remove the engine assembly (see **ENGINE REMOVAL** ).
2. Remove the transmission:
   - Manual transmission (see **TRANSMISSION REMOVAL** )
   - Automatic transmission (see **TRANSMISSION REMOVAL** )
3. M/T model: Remove the pressure plate, clutch disc and flywheel (see **PRESSURE PLATE AND CLUTCH DISC REMOVAL (5-SPEED MODEL)** ).
4. A/T model: Remove the drive plate (see **DRIVE PLATE REMOVAL AND INSTALLATION** ).
5. Remove the oil pan (see **OIL PAN REMOVAL** ).
6. Remove the oil pump (see **REMOVAL** ).
7. Remove the cylinder head (see **CYLINDER HEAD REMOVAL** ).
8. Remove the oil screen (A) and baffle plate (B).

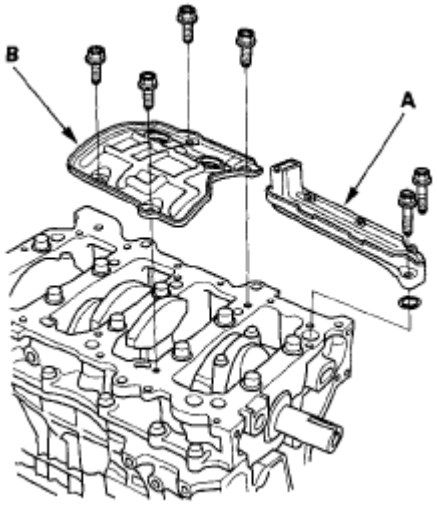



**Fig. 19: Identifying Oil Screen And Baffle Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the 8 mm bolts.

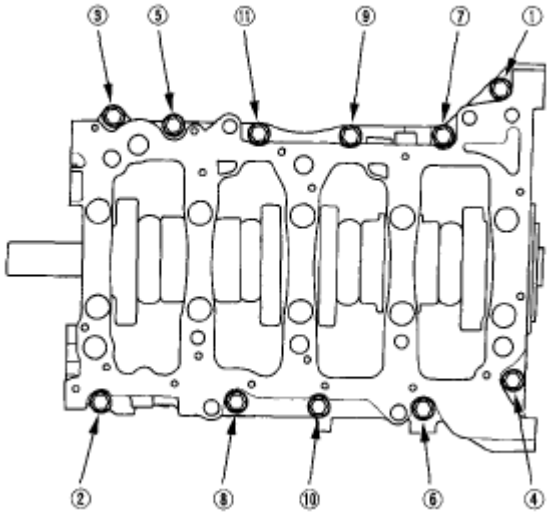



**Fig. 20: Identifying Baffle Plate And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the bearing cap bolts. To prevent warpage, unscrew the bolts in sequence 1/3 turn at a time; repeat the sequence until all bolts are loosened.

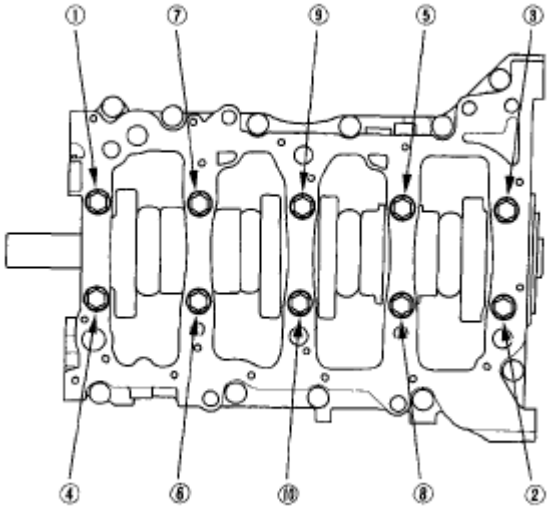



**Fig. 21: Identifying Bearing Cap Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Using a flat blade screwdriver, separate the lower block from the engine block in the places shown.

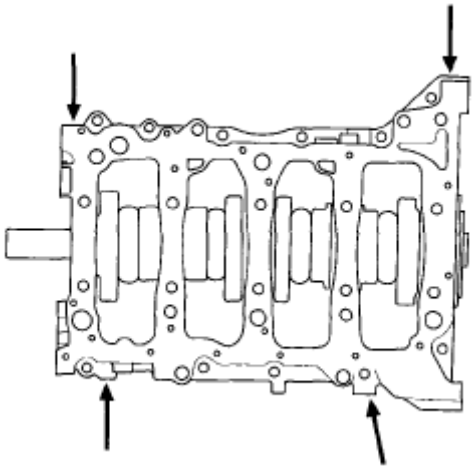


**Fig. 22: Identifying Lower Block From Engine Block**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Remove the lower block and bearings. Keep all the bearings in order.
13. Remove the rod caps/bearings. Keep all caps/bearings in order.
14. Lift the crankshaft (A) out of the engine. Be careful not to damage the journals and the crankshaft position (CKP) pulse plate (B).

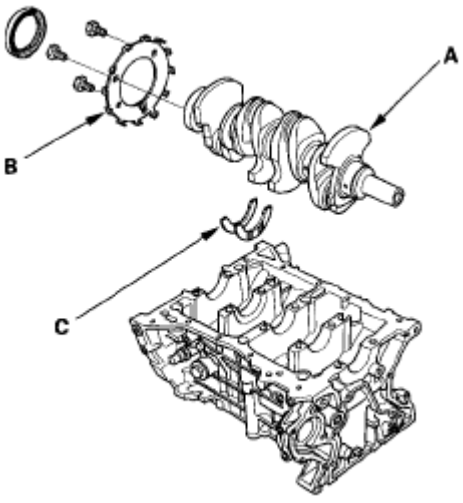



**Fig. 23: Identifying Crankshaft Position (CKP) Pulse Plate And Crankshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Remove the CKP pulse plate (B).
16. Remove the thrust washers (C).

17. Remove the upper bearing halves from the connecting rods, and set them aside with their respective caps.
18. If you can feel a ridge of metal or hard carbon around the top of each cylinder, remove it with a ridge reamer (A). Follow the reamer manufacturer's instructions. If the ridge is not removed, it may damage the pistons as they are pushed out.

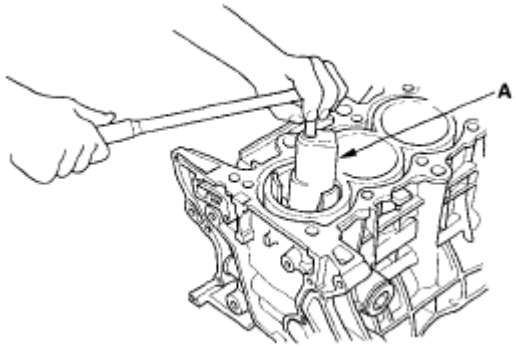



**Fig. 24: Removing Upper Bearing Halves From Connecting Rods**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Use the wooden handle of a hammer (A) to drive out the piston/connecting rod assembly (B). Take care not to damage the oil jets or cylinder with the connecting rod.

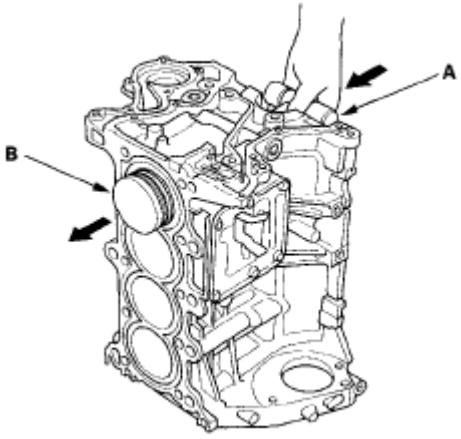



**Fig. 25: Driving Out Piston/Connecting Rod Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Reinstall the lower block and the bearings on the engine in the proper order.

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21. Reinstall the connecting rod bearings and caps after removing each piston/connecting rod assembly.
22. Mark each piston/connecting rod assembly with its cylinder number to make sure they are reused in the original order.

**NOTE: The existing number on the connecting rod does not indicate its position in the engine, it indicates the rod bore size.**

**CRANKSHAFT INSPECTION**

**Out-of-Round and Taper**

1. Remove the crankshaft from the engine block (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Clean the crankshaft oil passages with pipe cleaners or a suitable brush.
3. Clean the keyway and the threads.
4. Measure the out-of-round at the middle of each rod and main journal in two places. The difference between measurements on each journal must not be more than the service limit.

**Journal Out-of-Round**

**Standard (New): 0.005 mm (0.0002 in.) max.**

**Service Limit: 0.010 mm (0.0004 in.)**

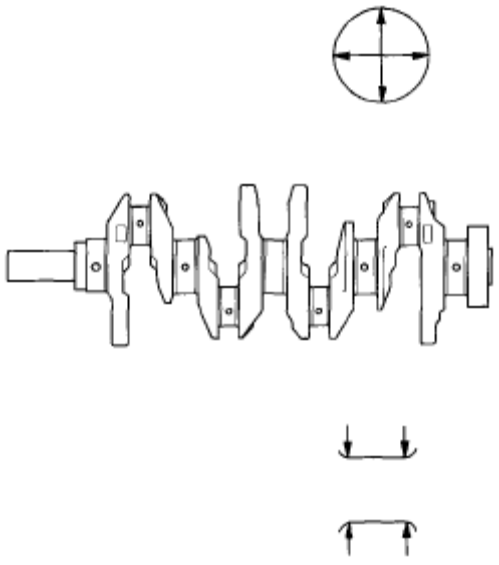


**Fig. 26: Identifying Crankshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure the taper at the edges of each rod and main journal. The difference between measurements on each journal must not be more than the service limit.

   **Journal Taper**

   **Standard (New): 0.005 mm (0.0002 in.) max.**

   **Service Limit: 0.010 mm (0.0004 in.)**

   **Straightness**

6. Place the engine block on the surface plate.
7. Clean and install the bearings on the No. 1 and No. 5 journals of the engine block.
8. Lower the crankshaft into the block.
9. Measure the runout on all of the main journals. Rotate the crankshaft two complete revolutions. The difference between measurements on each journal must not be more than the service limit.

   **Crankshaft Total Runout**

**Standard (New): 0.03 mm (0.0012 in.) max.**

**Service Limit: 0.04 mm (0.0016 in.)**

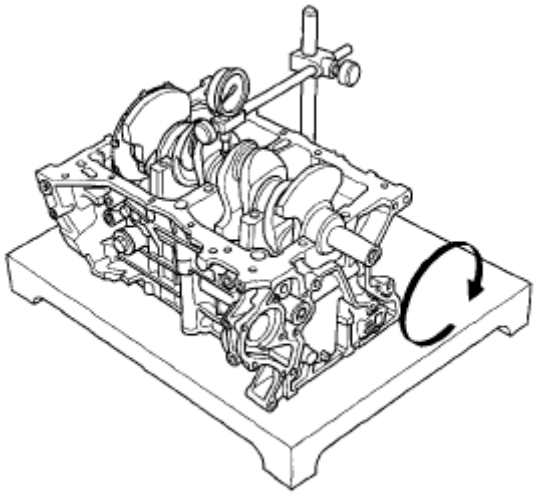


**Fig. 27: Measuring Runout On Of Main Journals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**BLOCK AND PISTON INSPECTION**

1. Remove the crankshaft and pistons (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Check the piston for distortion or cracks.
3. Measure the piston diameter at a point 14 mm (0.55 in.) from the bottom of the skirt.

**Piston Diameter**

**Standard (New): 80.980-80.990 mm (3.1881-3.1886 in.)**

**Service Limit: 80.93 mm (3.186 in.)**

**Oversize Piston Diameter**

**0.25: 81.230-81.240 mm (3.1980-3.1984 in.)**

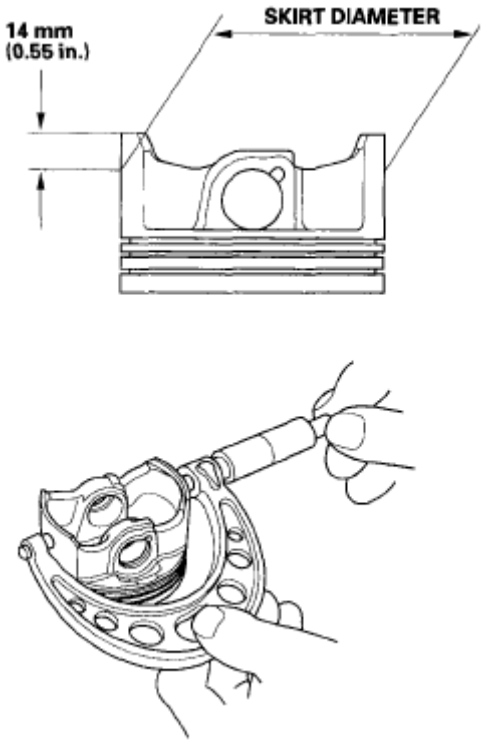



**Fig. 28: Measuring Piston Diameter Point From Bottom Of Skirt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the wear and taper Y at three levels inside each cylinder as shown. If the measurements in any cylinder are beyond the Oversize Bore Service Limit, replace the engine block. If the engine block is being rebored, refer to step 7 after reboring.

   **Cylinder Bore Size**

   **Standard (New): 81.000-81.015 mm (3.1890-3.1896 in.)**

   **Service Limit: 81.070 mm (3.1917 in.)**

   **Oversize Bore**

   **0.25: 81.250-81.265 mm (3.1988-3.1994 in.)**

   **Reboring limit: 0.25 mm (0.01 in.) max.**

   **Bore Taper**

**Limit: (Difference between first and third measurement) 0.05 mm (0.002 in.)**

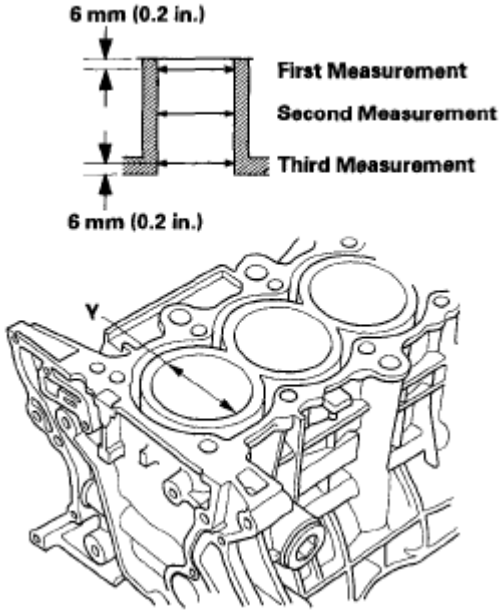



**Fig. 29: Identifying Wear And Taper At Three Levels Inside Each Cylinder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Scored or scratched cylinder bores must be honed.
6. Check the top of the engine block for warpage. Measure along the edges, and across the center as shown.

**Engine Block Warpage**

**Standard (New): 0.07 mm (0.003 in.) max.**

**Service Limit: 0.10 mm (0.004 in.)**

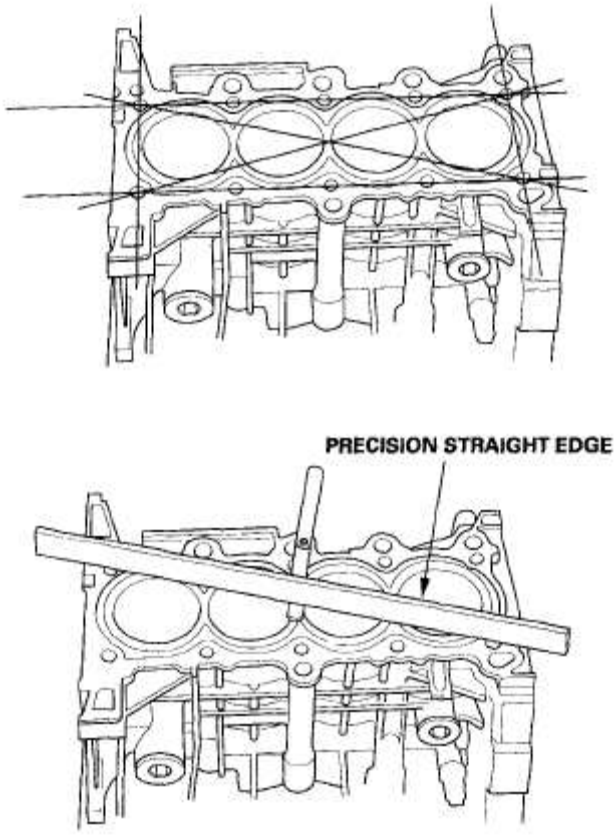



**Fig. 30: Identifying Top Of Engine Block For Warpage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Calculate the difference between the cylinder bore diameter and the piston diameter. If the clearance is near, or exceeds the service limit, inspect the piston and engine block for excessive wear.

   **Piston-to-Cylinder Bore Clearance**

   **Standard (New): 0.010-0.035 mm (0.0004-0.0014 in.)**

   **Service Limit: 0.05 mm (0.002 in.)**

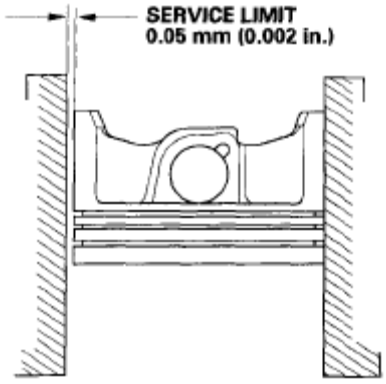



**Fig. 31: Identifying Calculate Difference Between Cylinder Bore Diameter And Piston Diameter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CYLINDER BORE HONING**

Only a scored or scratched cylinder bore must be honed.

1. Measure the cylinder bores (see **BLOCK AND PISTON INSPECTION** ). If the engine block is to be reused, hone the cylinders, and remeasure the bores.
2. Remove and replace the oil jets (see **OIL JET REPLACEMENT** ).
3. Hone the cylinder bores with honing oil and a fine (400 grit) stone.

**Honing Pattern: Within 30-60 degree cross-hatch pattern (A)**

**NOTE: Use only a rigid hone with 400 grit or finer stone such as Sunnen, Ammco, or equivalent. Do not use stones that are worn or broken.**

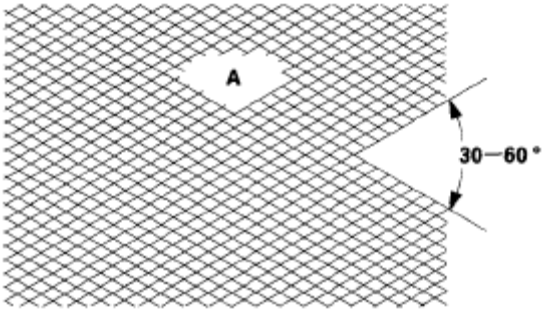



**Fig. 32: Identifying Honing Pattern**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. When honing is complete, thoroughly clean the engine block of all metal particles. Wash the cylinder bores with hot soapy water, then dry and oil them immediately to prevent rusting. Never use solvent, it will only redistribute the grit on the cylinder walls.
5. If scoring or scratches are still present in the cylinder bores after honing the engine block to the service limit, rebore the engine block. Some light vertical scoring and scratching is acceptable if it is not deep enough to catch your fingernail, and does not run the full length of the bore.
6. Install the new oil jets (see **OIL JET REPLACEMENT** ).

**PISTON, PIN, AND CONNECTING ROD REPLACEMENT**

**Disassembly**

1. Remove the piston from the engine block (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Apply new engine oil to the piston pin snap rings (A), and turn them in the ring grooves until the end gaps are lined up with the cutouts in the piston pin bores (B).

**NOTE: Take care not to damage the ring grooves.**

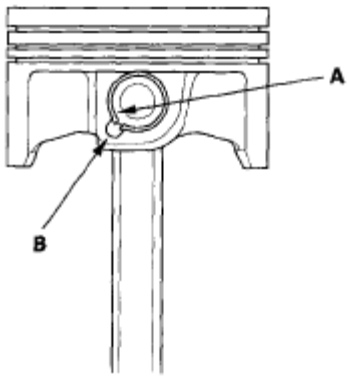



**Fig. 33: Identifying Piston Pin Snap Rings And Piston Pin Bores**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove both snap rings (A). Start at the cutout in the piston pin bore. Remove

the snap rings carefully so they do not go flying or get lost. Wear eye protection.

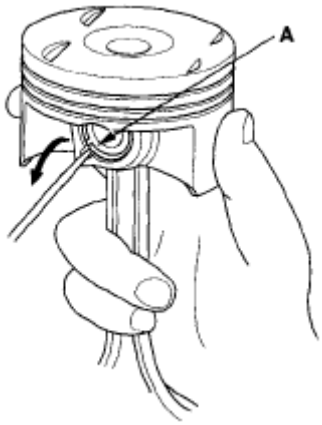



**Fig. 34: Removing Both Snap Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Heat the piston and connecting rod assembly to about 158°F (70°C), then remove the piston pin.



**Fig. 35: Heating Piston And Connecting Rod Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Inspection**

**NOTE: Inspect the piston, piston pin, and connecting rod when they are at room temperature.**

1. Measure the diameter of the piston pin.

   **Piston Pin Diameter**

   **Standard (New): 19.960-19.964 mm (0.7858-0.7860 in.)**

   **Service Limit: 19.960 mm (0.7858 in.)**

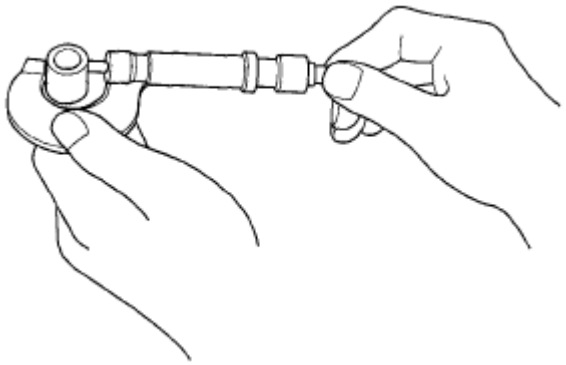


**Fig. 36: Measuring Diameter Of Piston Pin**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Zero the dial indicator to the piston pin diameter.

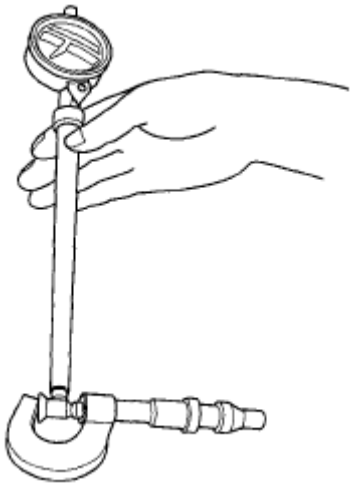


**Fig. 37: Identifying Piston Pin Diameter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check the difference between the piston pin diameter and piston pin hole

diameter in the piston.

**Piston Pin-to-Piston Clearance**

**Standard (New): -0.004 to +0.003 mm (-0.00016 to +0.00012 in.)**

**Service Limit: 0.006 mm (0.0002 in.)**

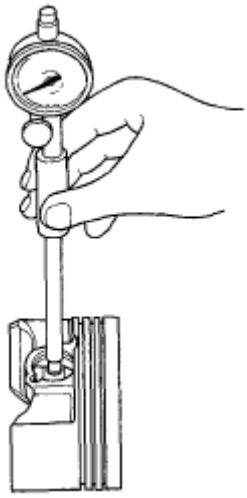


**Fig. 38: Checking Difference Between Piston Pin Diameter And Piston Pin Hole Diameter In Piston**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the piston pin-to-connecting rod clearance.

   **Piston Pin-to-Connecting Rod Clearance**

   **Standard (New): 0.005-0.015 mm (0.0002-0.0006 in.)**

   **Service Limit: 0.02 mm (0.0008 in.)**

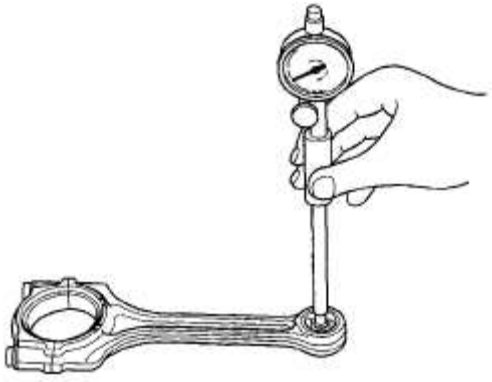


**Fig. 39: Measuring Piston Pin-To-Connecting Rod Clearance**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Reassembly**

1. Install one piston pin snap ring (A).

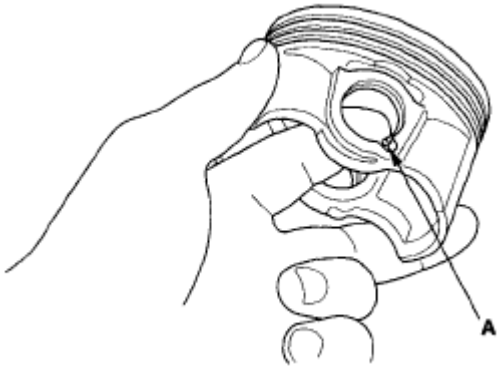



**Fig. 40: Installing Piston Pin Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Coat the piston pin bore, the bore in the connecting rod, and the piston pin with new engine oil.
3. Heat the piston to about 158°F (70°C).



**Fig. 41: Heating Piston**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Assemble the piston (A) and connecting rod (B) with the mark (C) and the embossed mark (D) on the same side. Install the piston pin (E).

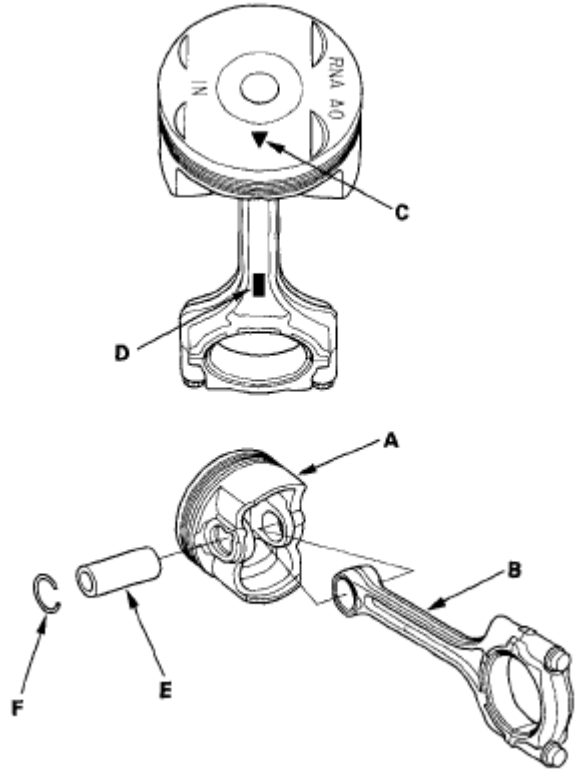



**Fig. 42: Identifying Piston And Connecting Rod With Mark**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the remaining snap ring (F).
6. Turn the snap rings until the end gaps are positioned at the bottom of the piston.

**PISTON RING REPLACEMENT**

1. Remove the piston from the engine block (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Using a ring expander (A), remove the old piston rings (B).

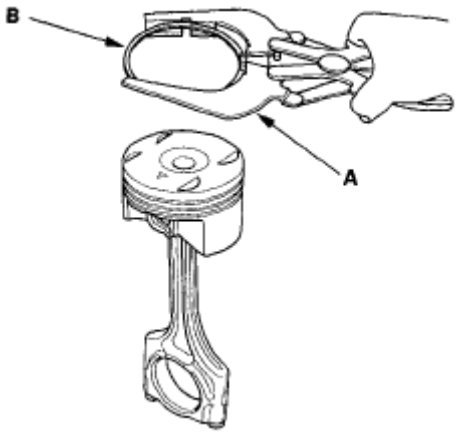



**Fig. 43: Removing Old Piston Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Clean all ring grooves thoroughly with a squared-off broken ring or ring groove cleaner with a blade to fit the piston grooves.

   The top and 2nd ring grooves are 1.2 mm (0.05 in.) wide. The oil ring groove is 2.0 mm (0.08 in.) wide. File down a blade if necessary. Do not use a wire brush to clean the ring grooves, or cut the ring grooves deeper with the cleaning tools.

   **NOTE: If the piston is to be separated from the connecting rod, do not install new rings yet.**

4. Using a piston that has its rings removed, push a new ring (A) into the cylinder bore 15-20 mm (0.6-0.8 in.) from the bottom.

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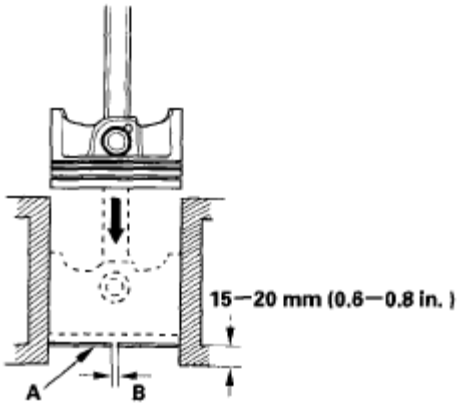



**Fig. 44: Pushing Ring Into Cylinder Bore**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure the piston ring end-gap (B) with a feeler gauge:
   - If the gap is too small, check to see if you have the proper rings for your engine.
   - If the gap is too large, recheck the cylinder bore diameter against the wear limits (see **BLOCK AND PISTON INSPECTION** ). If the bore is beyond the service limit, the engine block must be rebored.

**Piston Ring End-Gap**

**Top Ring:**

**Standard (New): 0.20-0.35 mm (0.008-0.014 in.)**

**Service Limit: 0.60 mm (0.024 in.)**

**Second Ring:**

**Standard (New): 0.40-0.55 mm (0.016-0.022 in.)**

**Service Limit: 0.70 mm (0.028 in.)**

**Oil Ring:**

**Standard (New): 0.20-0.70 mm (0.008-0.028 in.)**

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**Service Limit: 0.80 mm (0.031 in.)**

6. Install the top ring and the second ring as shown. The top ring (A) has a 1T, 1A, or 1R mark, and the second ring (B) has a 2T, 2A, or 2R mark. The manufacturing marks (C) must be facing upward.

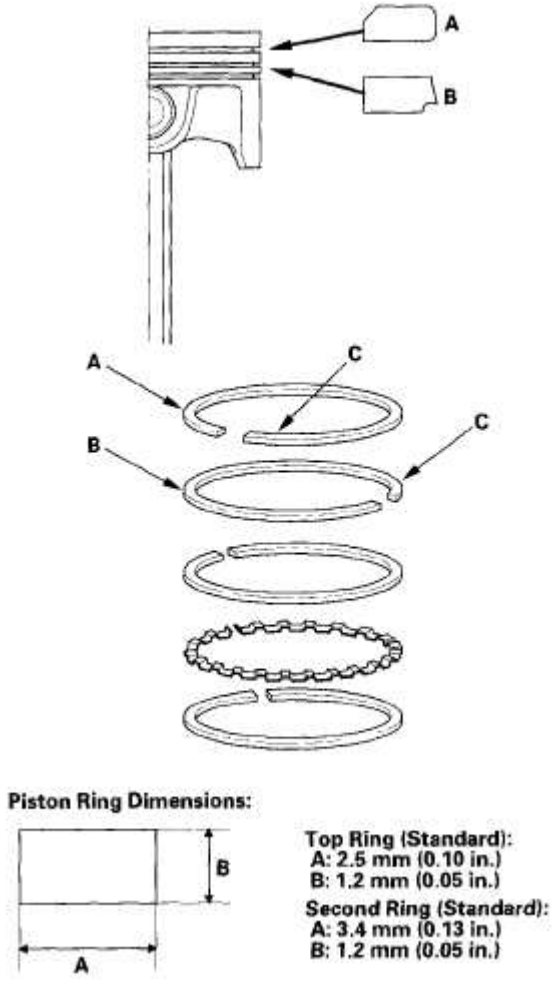



**Fig. 45: Identifying Top Ring And Second Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Rotate the rings in their grooves to make sure they do not bind.
8. Position the ring end gaps as shown:

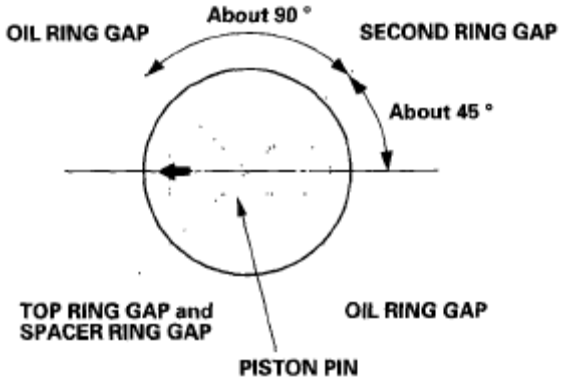



**Fig. 46: Positioning Ring End Gaps**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. After installing a new set of rings, measure the ring-to-groove clearances:

   **Top Ring Clearance**

   **Standard (New): 0.045-0.070 mm (0.0018-0.0028 in.)**

   **Service Limit: 0.13 mm (0.005 in.)**

   **Second Ring Clearance**

   **Standard (New): 0.035-0.060 mm (0.0014-0.0024 in.)**

   **Service Limit: 0.13 mm (0.005 in.)**

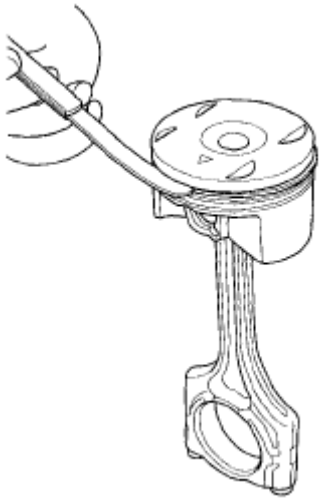


**Fig. 47: Measuring Ring-To-Groove Clearances**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**PISTON INSTALLATION**

**If the Crankshaft is Already Installed**

1. Set the crankshaft to bottom dead center (BDC) for each cylinder as its piston is installed.
2. Remove the connecting rod caps, then install the ring compressor. Check that the bearing is securely in place.
3. Apply new engine oil to the piston, inside of the ring compressor, and the cylinder bore, then attach the ring compressor to the piston/connecting rod assembly.
4. Position the mark (A) to face the cam chain side of the engine.

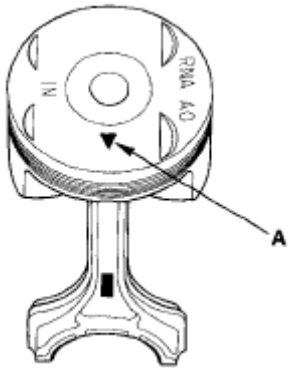



**Fig. 48: Identifying Mark To Face Cam Chain Side Of Engine**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Position the piston in the cylinder, and tap it in using the wooden handle of a hammer (A). Push down on the ring compressor (B) to prevent the rings from expanding before entering the cylinder bore.

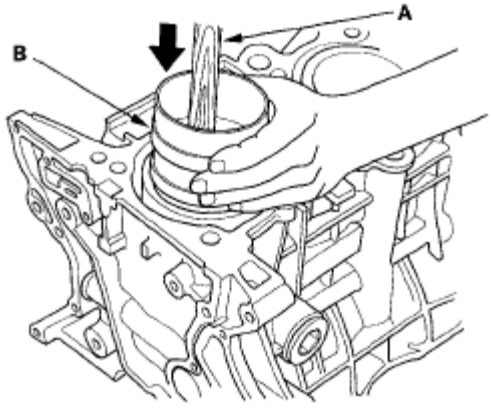



**Fig. 49: Positioning Piston In Cylinder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Stop after the ring compressor pops free, and check the connecting rod-to-crank journal alignment before pushing the piston into place.
7. Check the connecting rod bearing clearance with plastigage (see **CONNECTING ROD BEARING REPLACEMENT** ).
8. Inspect the connecting rod bolts (see **CONNECTING ROD BOLT INSPECTION** ).
9. Apply new engine oil to the bolt threads, then install the rod caps with bearings. Torque the bolts to 20 N.m (2.0 kgf.m, 14 lbf.ft).
10. Tighten the connecting rod bolts an additional 90 °.

**NOTE: Remove the connecting rod bolt if you tightened it beyond the specified angle, and go back to step 8 of the procedure. Do not loosen it back to the specified angle.**

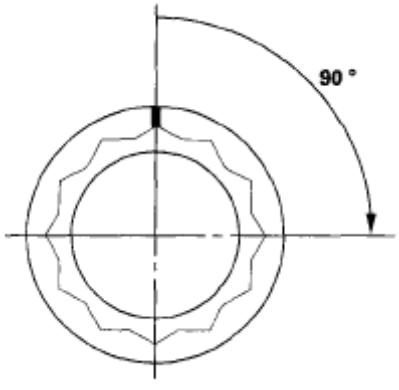


**Fig. 50: Identifying Connecting Rod Bolt Tightening Angle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**If the Crankshaft is Not Installed**

1. Remove the connecting rod caps, then install the ring compressor, and check that the bearing is securely in place.
2. Apply new engine oil to the piston, inside of the ring compressor, and the cylinder bore, then attach the ring compressor to the piston/connecting rod assembly.
3. Position the mark (A) to face the cam chain side of the engine.

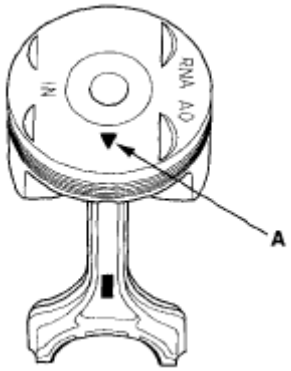



**Fig. 51: Identifying Mark To Face Cam Chain Side Of Engine**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Position the piston in the cylinder, and tap it in using the wooden handle of a hammer (A). Push down on the ring compressor (B) to prevent the rings from expanding before entering the cylinder bore.

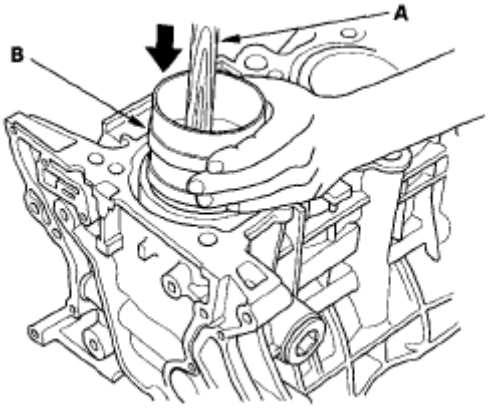


**Fig. 52: Positioning Piston In Cylinder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Position all pistons at top dead center (TDC).

**CONNECTING ROD BOLT INSPECTION**

1. Measure the diameter of each connecting rod bolt at point A and point B.

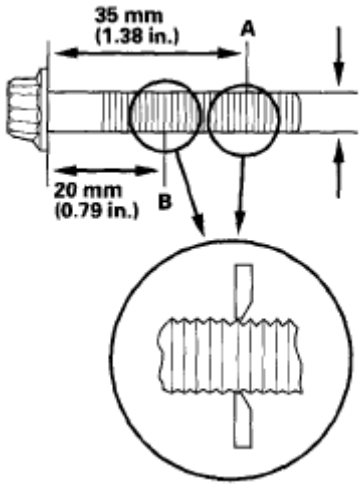



**Fig. 53: Identifying Diameter Of Each Connecting Rod Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Calculate the difference in diameter between point A and point B.

   **Point A-Point B = Difference in Diameter**

   **Difference in Diameter:**

   **Specification: 0-0.1 mm (0-0.004 in.)**

3. If the difference in diameter is out of specification, replace the connecting rod bolt.

**CRANKSHAFT INSTALLATION**

## Special Tools Required

- Driver 07749-0010000
- Attachment, 24 x 26 mm 07746-0010700
- Oil seal driver attachment 96 07ZAD-PNAA100

1. With a manual transmission, install the crankshaft end bushing when replacing the crankshaft. Using the special tools, drive in the crankshaft end bushing until the special tools bottom against the crankshaft.

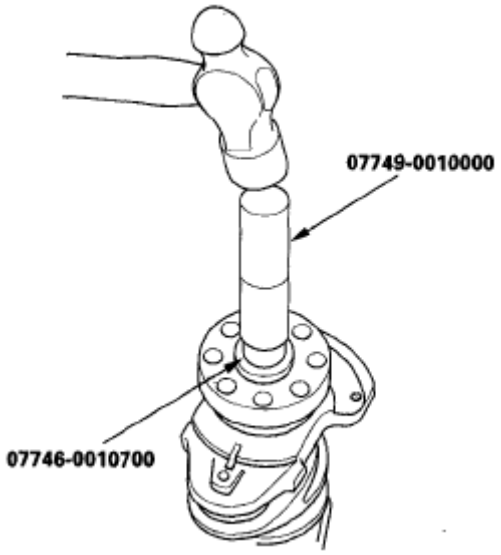



**Fig. 54: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check the connecting rod bearing clearance with plastigage (see **CONNECTING ROD BEARING REPLACEMENT** ).
3. Check the main bearing clearance with plastigage (see **CRANKSHAFT MAIN BEARING REPLACEMENT** ).
4. Install the bearing halves in the engine block and connecting rods.
5. Apply a coat of new engine oil to the main bearings and rod bearings.
6. Install the crankshaft position (CKP) pulse plate (A) to the crankshaft (B).

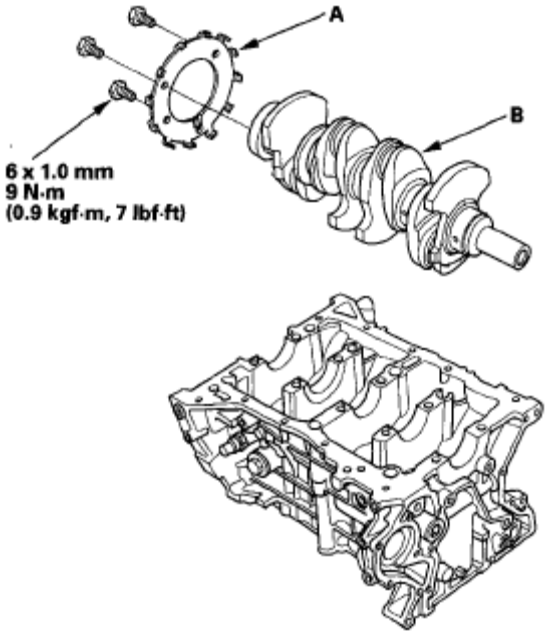



**Fig. 55: Identifying Crankshaft Position (CKP) Pulse Plate To Crankshaft (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Hold the crankshaft so that rod journal No. 2 and rod journal No. 3 are straight up, and lower the crankshaft into the engine block.
8. Apply new engine oil to the thrust washer surfaces. Install the thrust washers (A) in the No. 4 journal of the engine block.

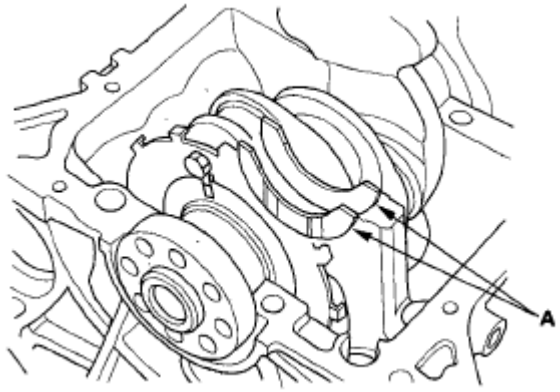



**Fig. 56: Identifying Thrust Washers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Inspect the connecting rod bolts (see **CONNECTING ROD BOLT**

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**INSPECTION** ).

10. Seat the rod journals into connecting rod No. 1 and connecting rod No. 4. Line up the mark (A) on the connecting rod and cap, then install the caps and bolts finger-tight.

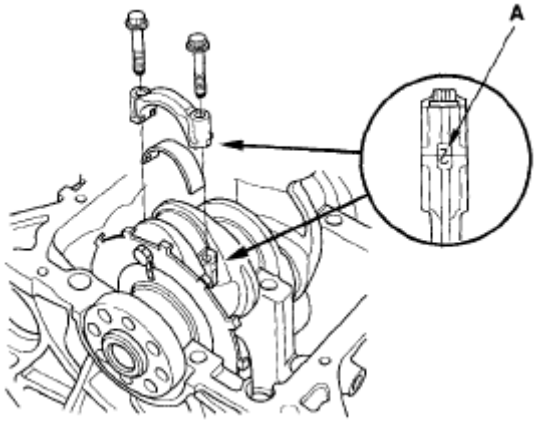



**Fig. 57: Identifying Mark On Connecting Rod And Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Rotate the crankshaft clockwise, and seat the journals into connecting rod No. 2 and connecting rod No. 3. Line up the mark on the connecting rod and cap, then install the caps and bolts finger-tight.
12. Tighten the connecting rod bolts to 20 N.m (2.0 kgf.m, 14 lbf.ft).
13. Tighten the connecting rod bolts an additional 90 °.

**NOTE: Remove the connecting rod bolt if you tightened it beyond the specified angle, and go back to step 9 of the procedure. Do not loosen it back to the specified angle.**

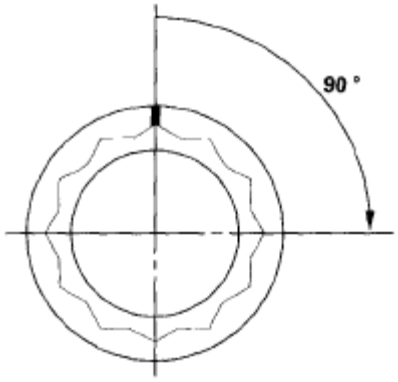



**Fig. 58: Identifying Connecting Rod Bolt Tightening Angle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Remove any old liquid gasket from the lower block mating surfaces, bolts, and bolt holes.
15. Clean, and dry the lower block mating surfaces.
16. Apply liquid gasket, P/N 08717-0004,08718-0001, 08718-0002, 08718-0003, or 08718-0009, evenly to the engine block mating surface of the lower block.

**NOTE: Do not install components if too much time has passed after applying the liquid gasket (for P/N 08718-0002, no more than 4 minutes, for all others, no more than 5 minutes). Instead, remove the old residue and reapply the liquid gasket.**

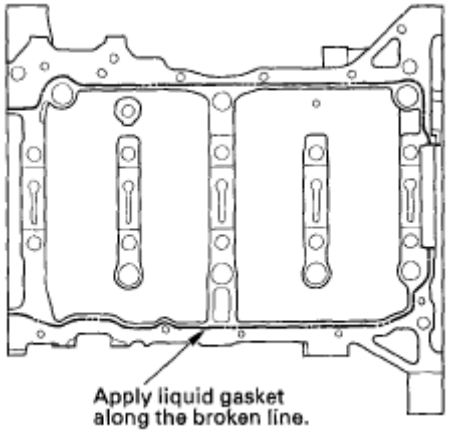



**Fig. 59: Identifying Lower Block Mating Surfaces**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Put the lower block on the engine block.

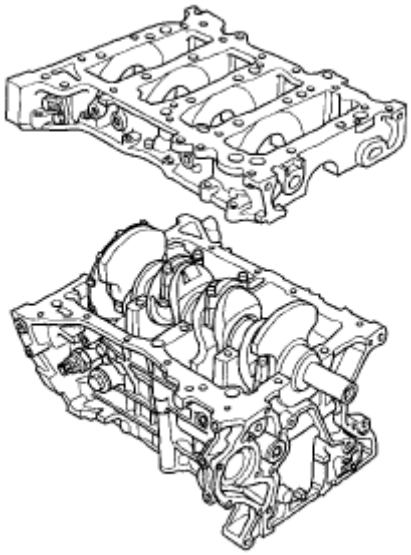


**Fig. 60: Identifying Lower Block On Engine Block**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Apply new engine oil to the threads and flange of the bearing cap bolts.
19. Tighten the bearing cap bolts, in sequence, to 25 N.m (2.5 kgf.m, 18 lbf.ft).

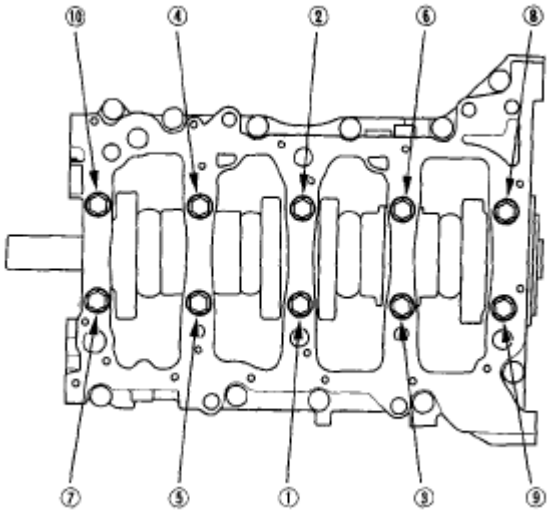



**Fig. 61: Identifying Bearing Cap Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Tighten the bearing cap bolts an additional 57 degrees.

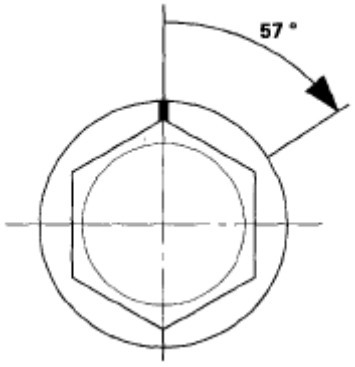



**Fig. 62: Identifying Bearing Cap Bolts Tightening Angle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Tighten the 8 mm bolts, in sequence, to 24 N.m (2.4 kgf.m, 17 lbf-ft).

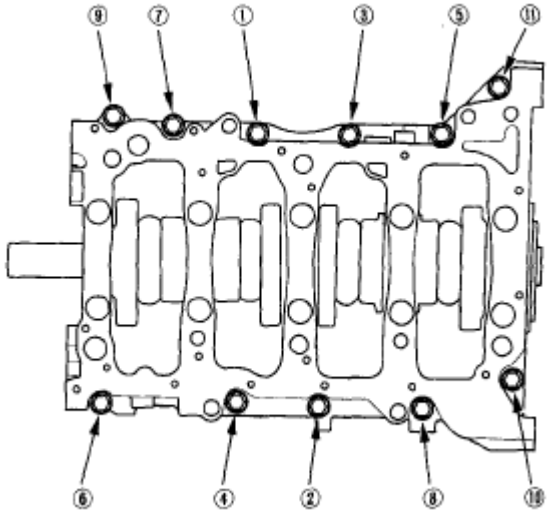



**Fig. 63: Identifying Bearing Cap Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Use the special tools to drive a new oil seal squarely into the engine block to the specified installed height.

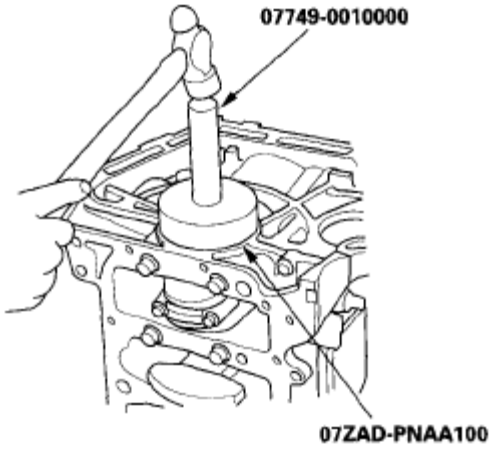



**Fig. 64: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Measure the distance between the engine block (A) and oil seal (B).

**Oil Seal Installed Height: 0.2-1.2 mm (0.001-0.047 in.)**

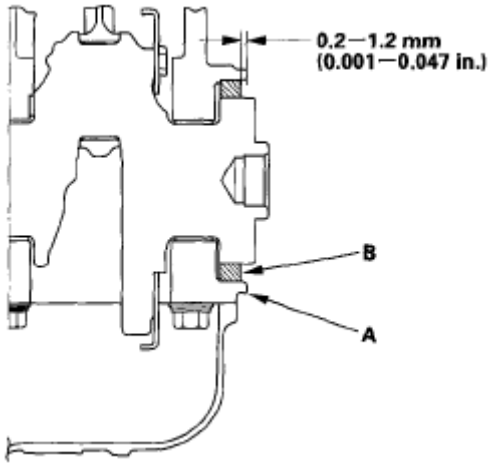



**Fig. 65: Identifying Distance Between Engine Block And Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Install the baffle plate (A), then install the oil screen (B) with a new O-ring (C).

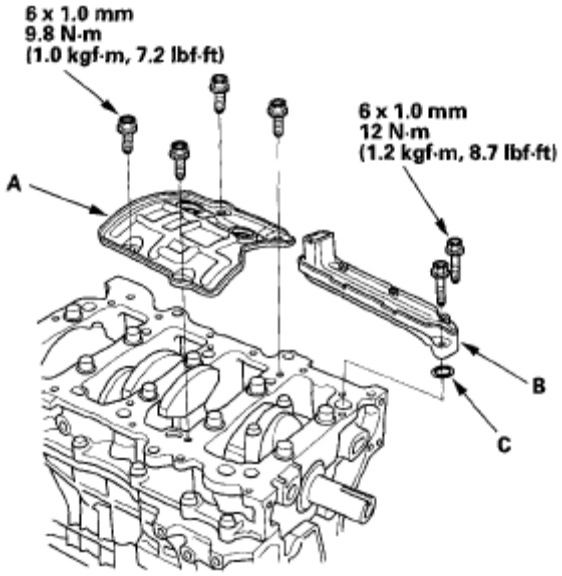



**Fig. 66: Identifying Baffle Plate Oil Screen**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Install the oil pump (see **INSTALLATION** ).
26. Install the oil pan (see **OIL PAN INSTALLATION** ).
27. Install the cylinder head (see **CYLINDER HEAD INSTALLATION** ).
28. M/T model: Install the flywheel, clutch disc and pressure plate (see **PRESSURE PLATE AND CLUTCH DISC REMOVAL (5-SPEED MODEL)** ).
29. A/T model: Install the drive plate (see **DRIVE PLATE REMOVAL AND INSTALLATION** ).
30. Install the transmission:
    - Manual transmission (see **TRANSMISSION INSTALLATION** )
    - Automatic transmission (see **TRANSMISSION INSTALLATION** )
31. Install the engine assembly (see **ENGINE INSTALLATION** ).

**NOTE: Whenever any crankshaft or connecting rod bearing is replaced, it is necessary after reassembly to run the engine at idle speed until it reaches normal operating temperature, then continue running it for about 15 minutes.**

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**OIL PAN INSTALLATION**

1. Remove all of the old liquid gasket from the oil pan mating surfaces, bolts, and bolt holes.
2. Clean, and dry the oil pan mating surfaces.
3. Apply liquid gasket, P/N 08717-00004, 08718-0001, 08718-0002, 08718-0003, or 08718-0009, evenly to the engine block mating surface of the oil pan.

**NOTE: Do not install components if too much time has passed after applying the liquid gasket (for P/N 08718-0002, no more than 4 minutes, for all others, no more than 5 minutes). Instead, remove the old residue and reapply the liquid gasket.**

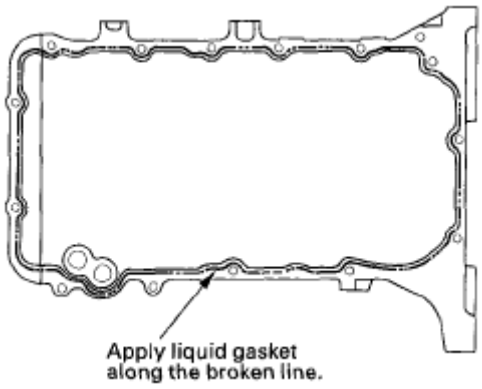



**Fig. 67: Identifying Oil Pan Mating Surfaces**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the dowel pins (A), then install the oil pan (B) with new O-rings (C).

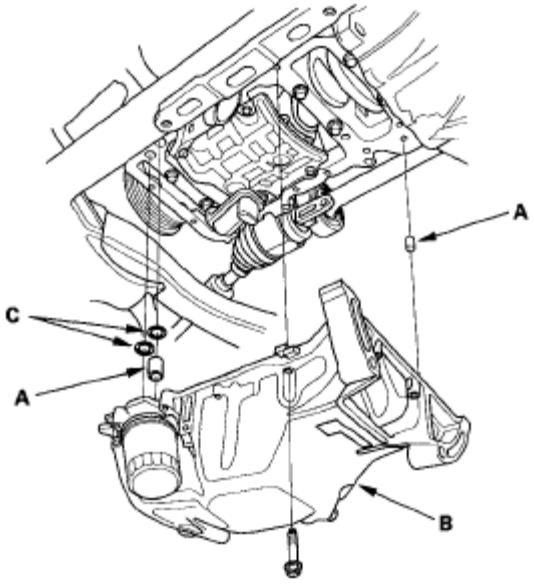
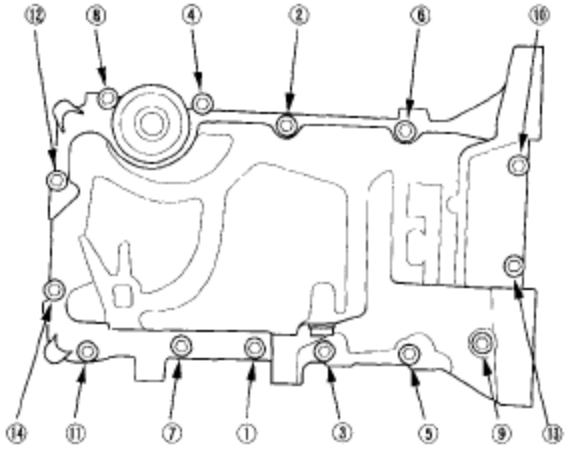



**Fig. 68: Identifying Dowel Pins, Oil Pan And O-Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Tighten the bolts in two or three steps. In the final step, tighten all bolts, in sequence, to 18 N.m (1.8 kgf.m, 13 lbf.ft). Wipe off the excess liquid gasket on the each side of crankshaft pulley and flywheel/drive plate.

**NOTE:**

- **Wait at least 30 minutes to allow liquid gasket to cure before filling the engine with oil.**
- **Do not run the engine for at least 3 hours to allow liquid gasket to cure after installing the oil pan.**



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**Fig. 69: Identifying Oil Pan Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the clutch cover/torque converter cover (A), and install the two bolts securing the transmission.

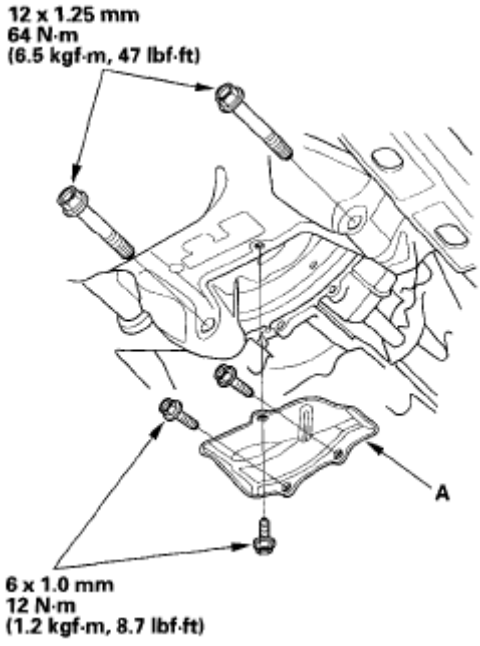



**Fig. 70: Identifying Torque Converter Cover And Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. A/T model: Install the shift cable cover.

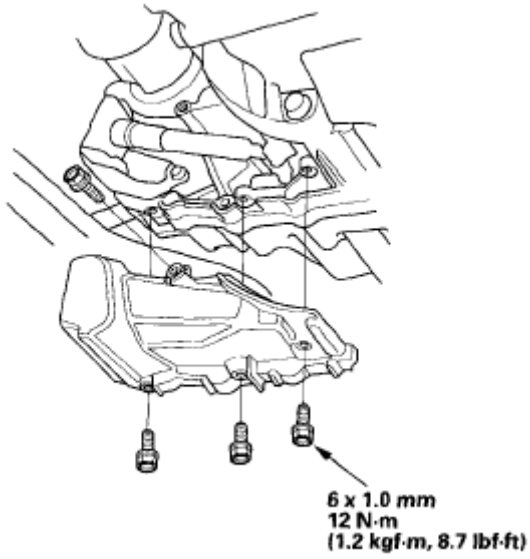



**Fig. 71: Identifying Shift Cable Cover (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the A/C compressor bracket.

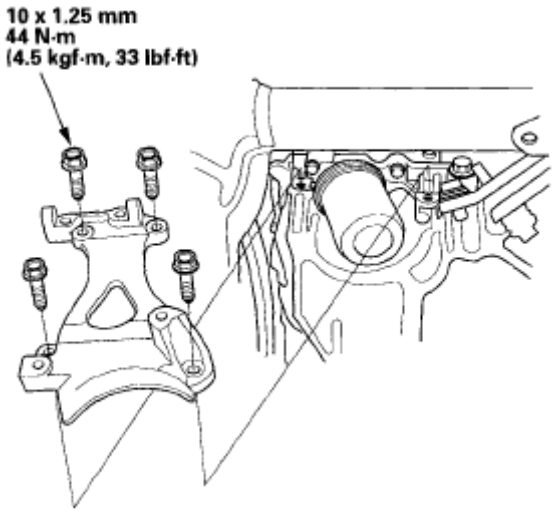



**Fig. 72: Identifying A/C Compressor Bracket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the lower torque rod bracket. M/T

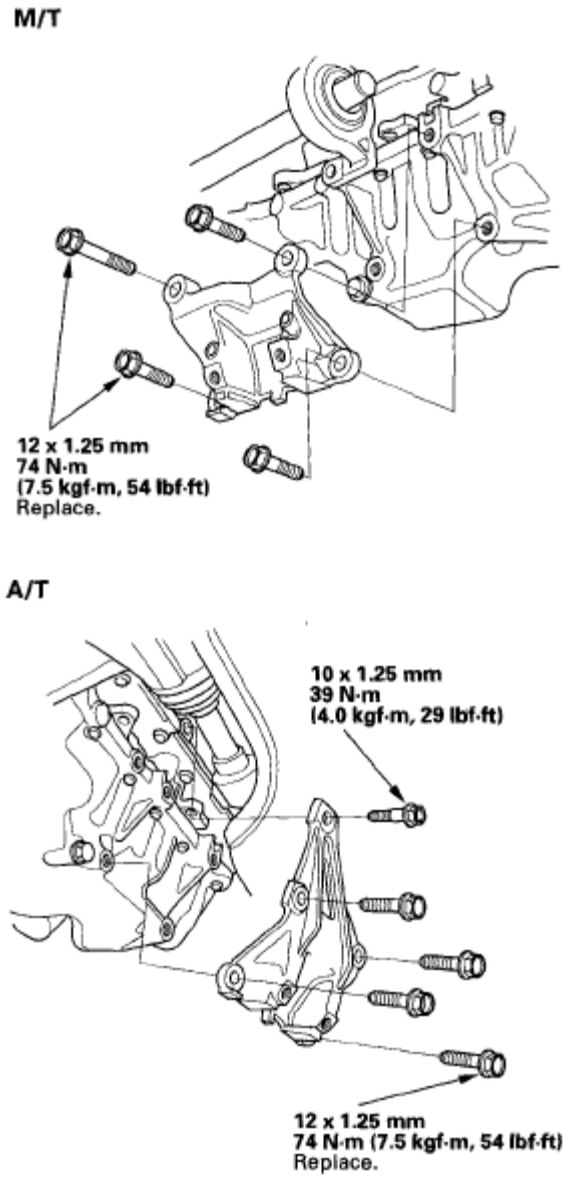



**Fig. 73: Identifying Lower Torque Rod Bracket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. If the engine is still in the vehicle, do the following steps.
11. Lower the vehicle on the lift.
12. Loosen the upper torque rod mounting bolt (see step 6 on **ENGINE INSTALLATION** ).
13. Raise the vehicle on the lift to full height.

14. Install the lower torque rod (see step 16 on **ENGINE INSTALLATION** ).
15. Lower the vehicle on the lift.
16. Tighten the upper torque rod mounting bolt (see step 18 on **ENGINE INSTALLATION** ).
17. Raise the vehicle on the lift to full height.
18. Install exhaust pipe A (see step 30 on **ENGINE INSTALLATION** ).
19. Lower the vehicle on the lift.
20. Install the A/C compressor. Install the harness clamp, then connect the A/C compressor clutch connector (see step 34 on **ENGINE INSTALLATION** ).
21. Install the A/C condenser fan shroud (see step 5 on **A/C CONDENSER REPLACEMENT** ).
22. Install the drive belt (see **DRIVE BELT INSPECTION** ).
23. Refill the engine with engine oil (see step 4 on **ENGINE OIL REPLACEMENT** ).
24. Install the splash shield (see step 31 on **ENGINE INSTALLATION** ).

**PULLEY END CRANKSHAFT OIL SEAL INSTALLATION - IN CAR**

## Special Tools Required

Oil seal driver 07LAD-PT3010A

1. Remove the crankshaft pulley (see **CRANKSHAFT PULLEY REMOVAL AND INSTALLATION** ).
2. Remove the pulley end crankshaft oil seal.
3. Clean, and dry the crankshaft oil seal housing.
4. Apply a light coat of multipurpose grease to the crankshaft and to the lip of the seal.
5. Using the seal driver, drive in the crankshaft oil seal until the driver bottoms against the oil pump. When the seal is in place, clean any excess grease off the crankshaft, and check that the oil seal lip is not distorted.

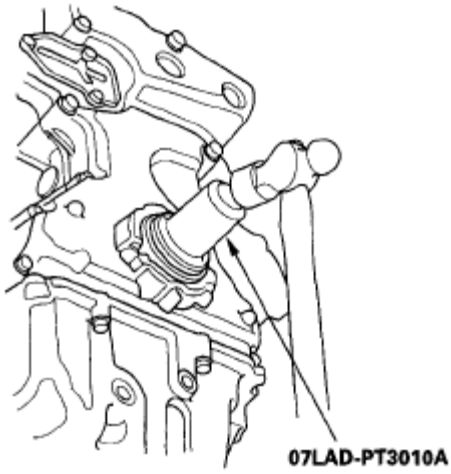



**Fig. 74: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the crankshaft pulley (see **INSTALLATION** ).

**TRANSMISSION END CRANKSHAFT OIL SEAL INSTALLATION - IN CAR**

## Special Tools Required

- Driver 07749-0010000
- Oil seal driver attachment 96 07ZAD-PNAA100

1. Remove the transmission:
   - Manual transmission (see **TRANSMISSION REMOVAL** )
   - Automatic transmission (see **TRANSMISSION REMOVAL** )
2. M/T model: Remove the pressure plate, clutch disc and flywheel (see **PRESSURE PLATE AND CLUTCH DISC REMOVAL (5-SPEED MODEL)** ).
3. A/T model: Remove the drive plate (see **DRIVE PLATE REMOVAL AND INSTALLATION** ).
4. Remove the transmission end crankshaft oil seal.
5. Clean, and dry the crankshaft oil seal housing.
6. Apply a light coat of multipurpose grease to the crankshaft and to the lip of the seal.

7. Use the special tools to drive a new oil seal squarely into the engine block to the specified installed height.

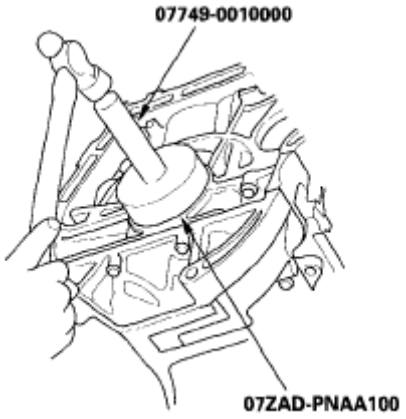



**Fig. 75: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the distance between the engine block (A) and oil seal (B).

   **Oil Seal Installed Height: 0.2-1.2 mm (0.001-0.047 in.)**

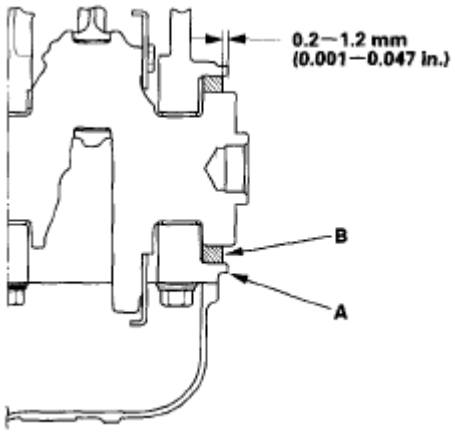



**Fig. 76: Identifying Distance Between Engine Block And Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. M/T model: Install the flywheel , clutch disc and pressure plate (see **PRESSURE PLATE AND CLUTCH DISC REMOVAL (5-SPEED MODEL)** ).
10. A/T model: Install the drive plate (see **DRIVE PLATE REMOVAL AND**

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**INSTALLATION** ).

11. Install the transmission:
    - Manual transmission (see **TRANSMISSION INSTALLATION** )
    - Automatic transmission (see **TRANSMISSION INSTALLATION** )

**DRAIN BOLT/SEALING BOLT INSTALLATION**

**NOTE: When installing the drain bolt and/or sealing bolt, always use a new washer.**

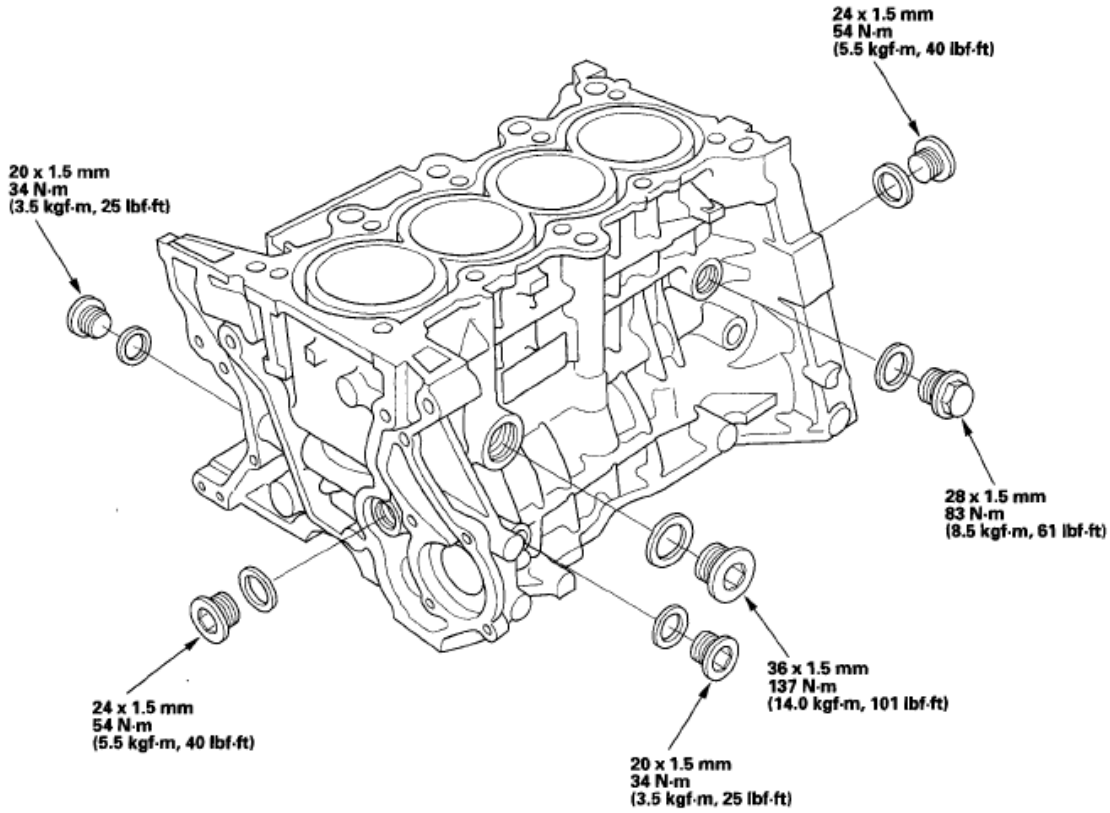



**Fig. 77: Identifying Drain Bolt/Sealing Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## ENGINE BLOCK (K20Z3)

**SPECIAL TOOLS**

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| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07ZAD-PNAA100 | Oil Seal Driver Attachment 96 | 1 |
| ② | 07746-0010700 | Attachment, 24 x 26 mm | 1 |
| ③ | 07749-0010000 | Driver | 1 |

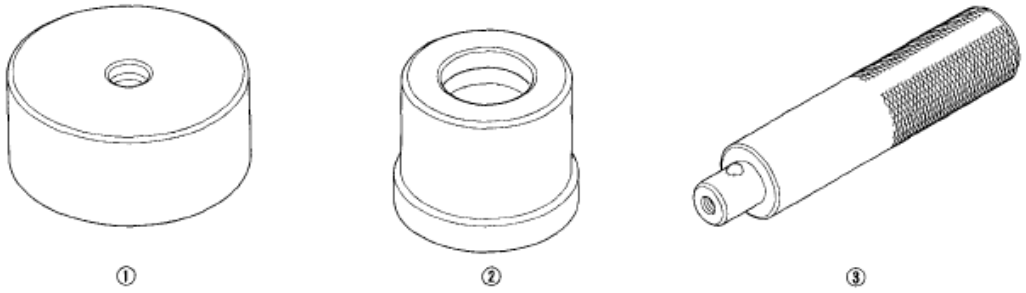



**Fig. 78: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COMPONENT LOCATION INDEX**

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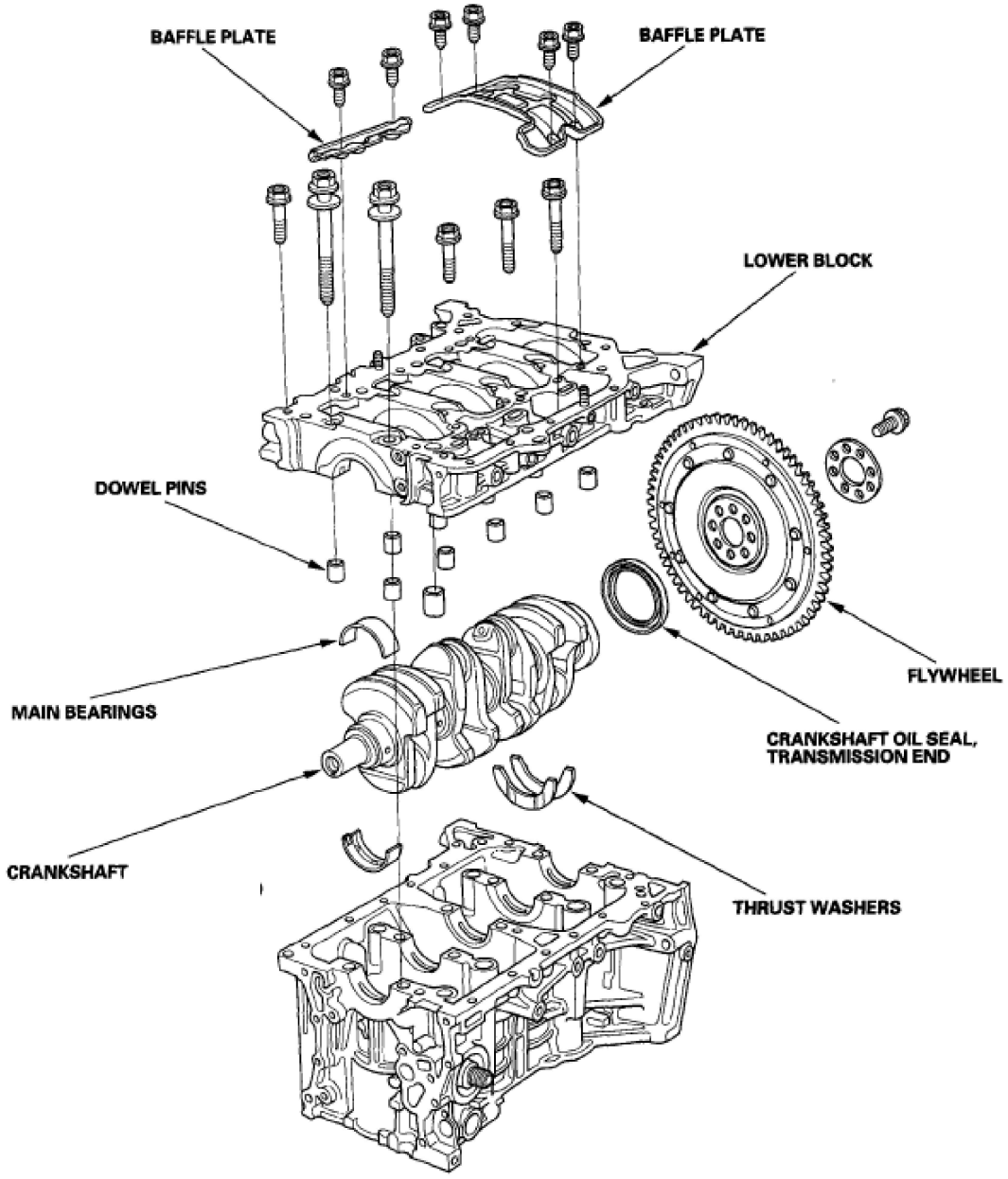



**Fig. 79: Identifying Flywheel, Lower Block And Crankshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

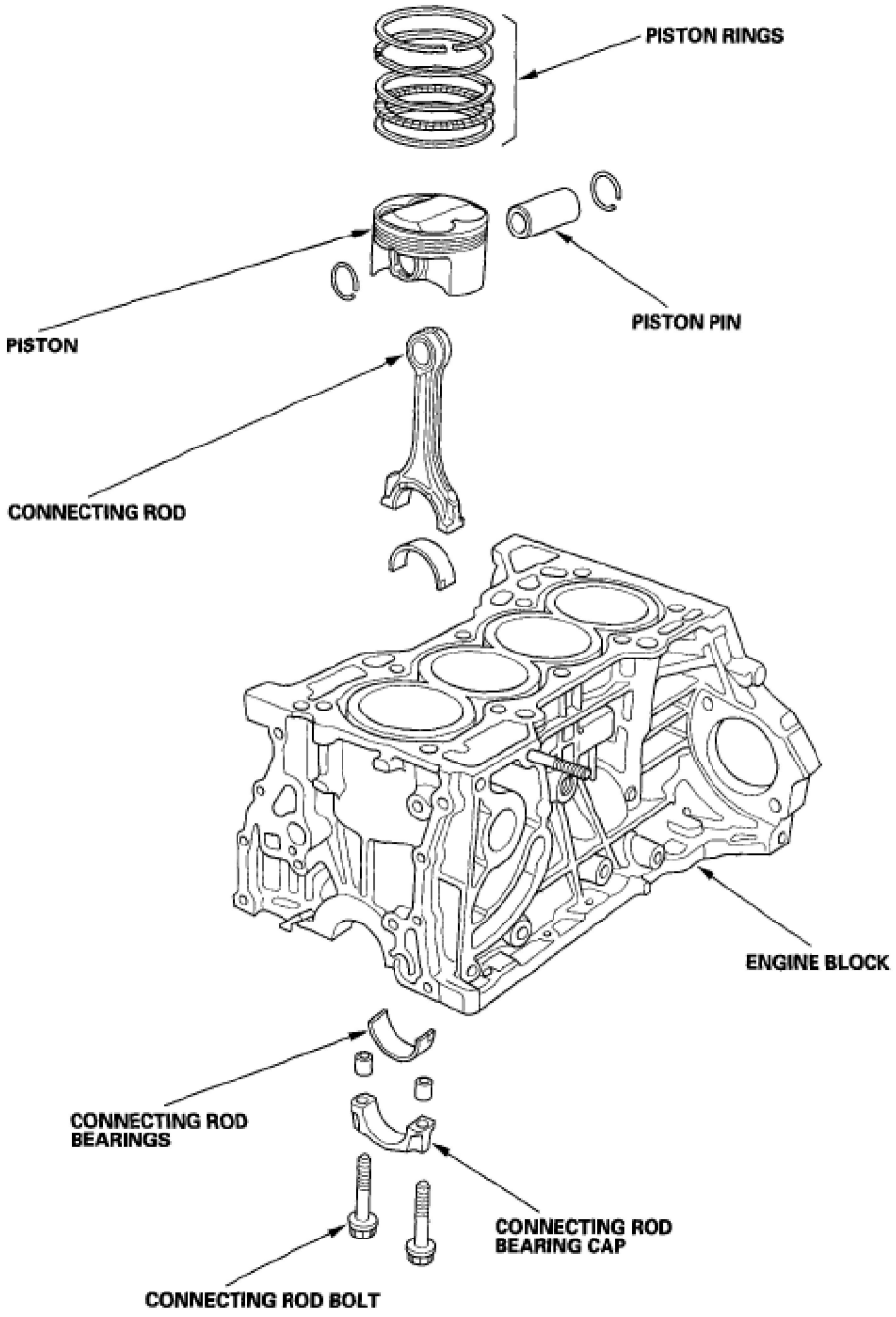



**Fig. 80: Identifying Engine Block, Piston And Connecting Rod**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### CONNECTING ROD AND CRANKSHAFT END PLAY INSPECTION

1. Remove the oil pump (see **OIL PUMP REMOVAL** ).
2. Remove the baffle plates (see step 7 ).

3. Measure the connecting rod end play with a feeler gauge between the connecting rod and crankshaft.

   **Connecting Rod End Play**

   **Standard (New): 0.15-0.30 mm (0.006-0.012 in.)**

   **Service Limit: 0.40 mm (0.016 in.)**

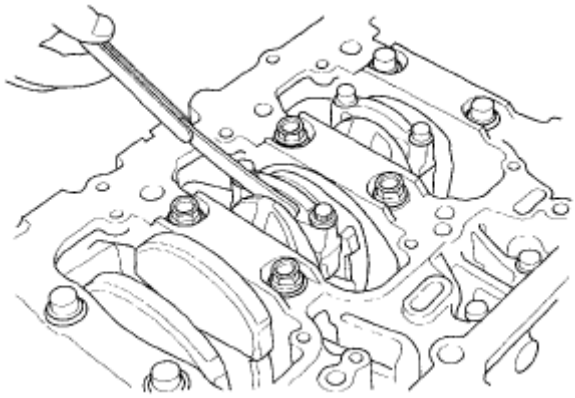


**Fig. 81: Measuring Connecting Rod End Play**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the connecting rod end play is beyond service limit, install a new connecting rod, and recheck. If it is still beyond service limit; replace the crankshaft (see **CRANKSHAFT AND PISTON REMOVAL** ).
5. Push the crankshaft firmly away from the dial indicator, and zero the dial against the end of the crankshaft. Then pull the crankshaft firmly back toward the indicator; the dial reading should not exceed the service limit.

   **Crankshaft End Play**

   **Standard (New): 0.10-0.35 mm (0.004-0.014 in.)**

   **Service Limit: 0.45 mm (0.018 in.)**

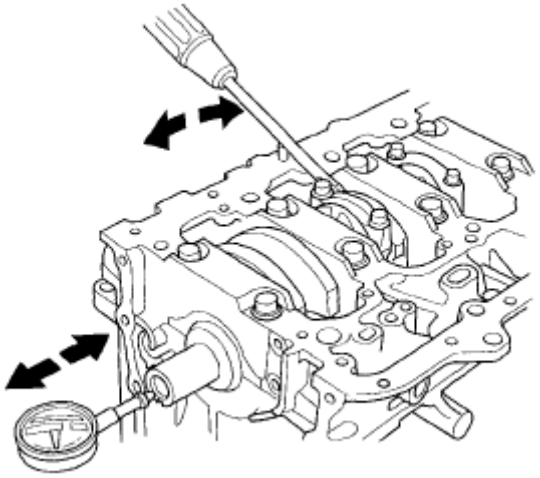


**Fig. 82: Identifying Crankshaft Firmly Away From Dial Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the end play is beyond service limit, replace the thrust washers and recheck, if it is still beyond service limit, replace the crankshaft (see **CRANKSHAFT AND PISTON REMOVAL** ).

**CRANKSHAFT MAIN BEARING REPLACEMENT**

**Main Bearing Clearance Inspection**

1. To check main bearing-to-journal oil clearance, remove the lower block and bearing halves (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Clean each main journal and bearing half with a clean shop towel.
3. Place one strip of plastigage across each main journal.
4. Reinstall the bearings and lower block, then torque the bolts to 29 N.m (3.0 kgf.m, 22 lbf.ft) + 56 ° in the proper sequence (see step 19 ).

**NOTE: Do not rotate the crankshaft during inspection.**

5. Remove the lower block and bearings again, and measure the widest part of the plastigage.

**Main Bearing-to-Journal Oil Clearance**

**No. 1, 2, 4, 5 Journals:**

**Standard (New): 0.017 - 0.041 mm (0.0007 - 0.0016 in.)**

**Service Limit: 0.050 mm (0.0020 in.) No. 3 Journal:**

**Standard (New): 0.025 - 0.049 mm (0.0010 - 0.0019 in.)**

**Service Limit: 0.055 mm (0.0022 in.)**

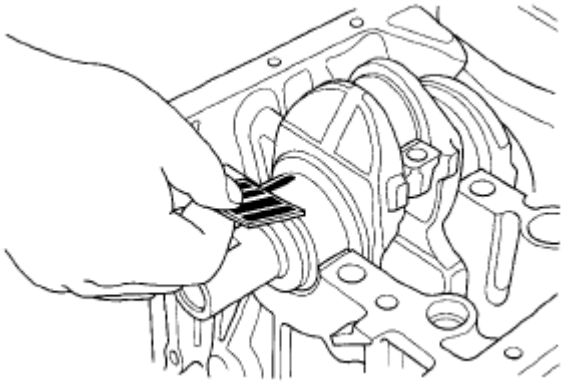


**Fig. 83: Identifying Widest Part Of Plastigage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the plastigage measures too wide or too narrow, remove the crankshaft, and remove the upper half of the bearing. Install a new, complete bearing with the same color code(s), and recheck the clearance. Do not file, shim, or scrape the bearings or the caps to adjust clearance.
7. If the plastigage shows the clearance is still incorrect, try the next larger or smaller bearing (the color listed above or below the current one), and check again. If the proper clearance cannot be obtained by using the appropriate larger or smaller bearings, replace the crankshaft and start over.

**Main Bearing Selection**

**Crankshaft Bore Code Location**

1. Numbers, letters or bars have been stamped on the end of the block as a code for the size of each of the five main journal bores. Write down the crank bore codes.

   If you can't read the codes because of accumulated dirt and dust, do not scrub

them with a wire brush or scraper. Clean them only with solvent or detergent.

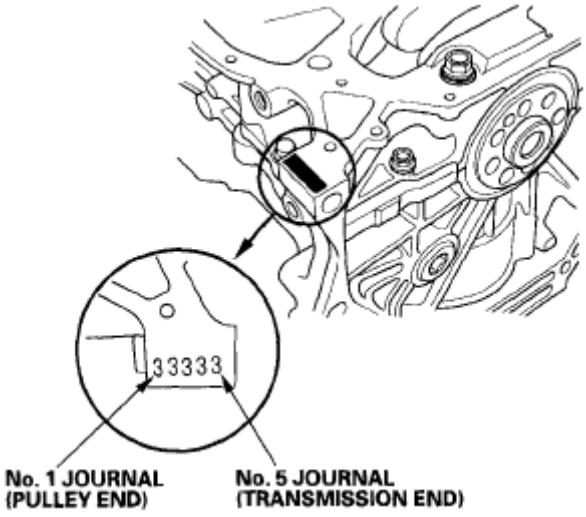



**Fig. 84: Identifying Crankshaft Bore Code Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Main Journal Code Location**

2. The main journal codes are stamped on the crankshaft in either location.

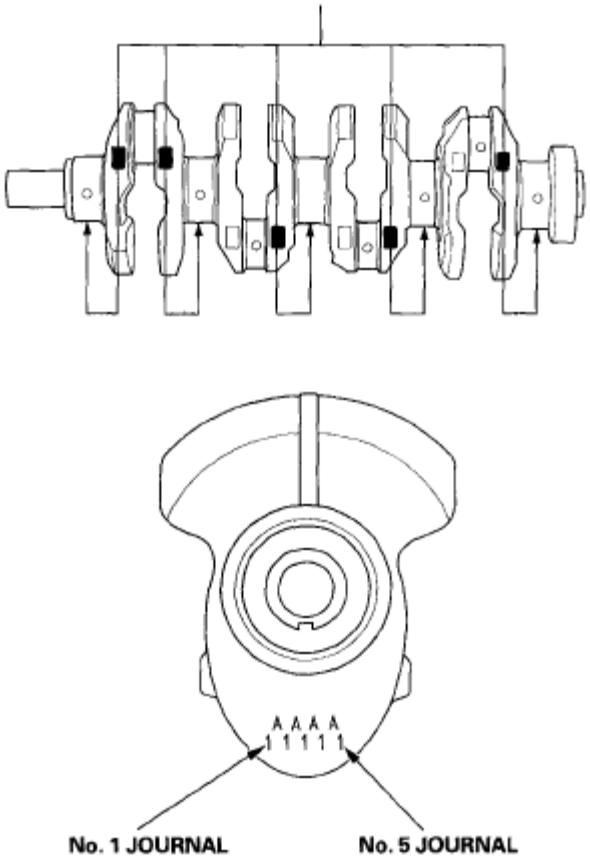



**Fig. 85: Identifying Main Journal Code Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Use the crank bore codes and crank journal codes to select the appropriate replacement bearings from the following table.

**NOTE:**

- **The color code is on the edge of the bearing.**
- **When using bearing halves of different colors, it does not matter which color is used in the top or bottom.**

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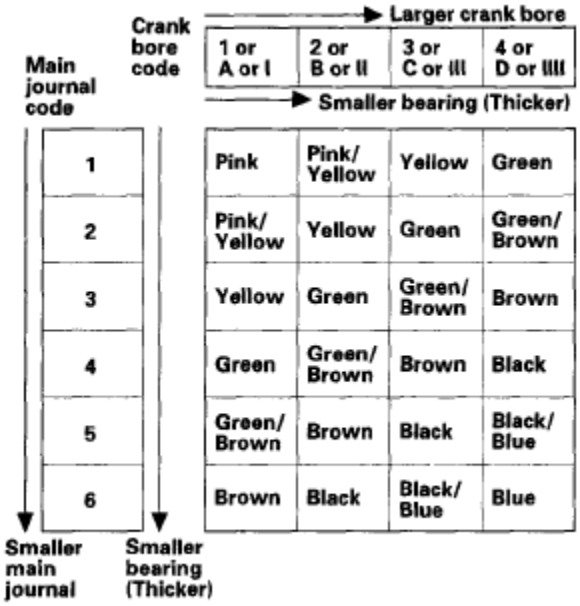



**Fig. 86: Identifying Crank Bore Codes And Crank Journal Codes**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CONNECTING ROD BEARING REPLACEMENT**

**Rod Bearing Clearance Inspection**

1. Remove the oil pump (see **OIL PUMP REMOVAL** ).
2. Remove the baffle plates (see step 7 ).
3. Remove the connecting rod cap and bearing half.
4. Clean the crankshaft rod journal and bearing half with a clean shop towel.
5. Place plastigage across the rod journal.
6. Reinstall the bearing half and cap, and torque the bolts to 29 N.m (3.0 kgf.m, 22 lbf.ft) + 90 °

**NOTE: Do not rotate the crankshaft during inspection.**

7. Remove the rod cap and bearing half, and measure the widest part of the plastigage.

**Connecting Rod Bearing-to-Journal Oil Clearance**

**Standard (New): 0.032-0.066 mm (0.0013-0.0026 in.)**

**Service Limit: 0.077 mm (0.0030 in.)**

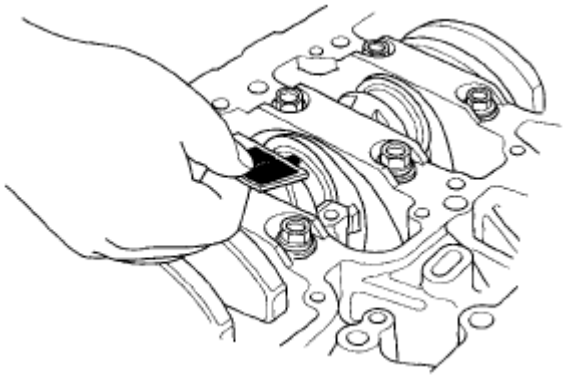


**Fig. 87: Identifying Widest Part Of Plastigage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. If the plastigage measures too wide or too narrow, remove the upper half of the bearing, install a new, complete bearing with the same color code(s), and recheck the clearance. Do not file, shim, or scrape the bearings or the caps to adjust clearance.
9. If the plastigage shows the clearance is still incorrect, try the next larger or smaller bearing (the color listed above or below the current one), and check clearance again. If the proper clearance cannot be obtained by using the appropriate larger or smaller bearing, replace the crankshaft and start over.

**Rod Bearing Selection**

1. Inspect each connecting rod for cracks and heat damage.

**Connecting Rod Big End Bore Code Locations**

2. Each rod has a tolerance range from 0 to 0.024 mm (0.0009 in.), in 0.006 mm (0.0002 in.) increments, depending on the size of its big end bore. It's then stamped with a number or bar (1,2,3, or 4/I, II, III, or Mil) indicating the range. You may find any combination of numbers and bars in any engine. (Half the number or bar is stamped on the bearing cap, the other half is on the rod.)

   If you can't read the code because of an accumulation of oil and varnish, do not

scrub it with a wire brush or scraper. Clean it only with solvent or detergent.

**Normal Bore Size: 51.0 mm (2.01 in.)**

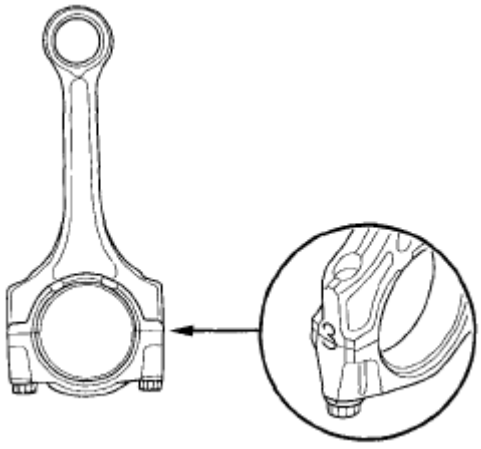


**Fig. 88: Identifying Connecting Rod Big End Bore Code Locations**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Connecting Rod Journal Code Location**

3. The connecting rod journal codes are stamped on the crankshaft in either location.

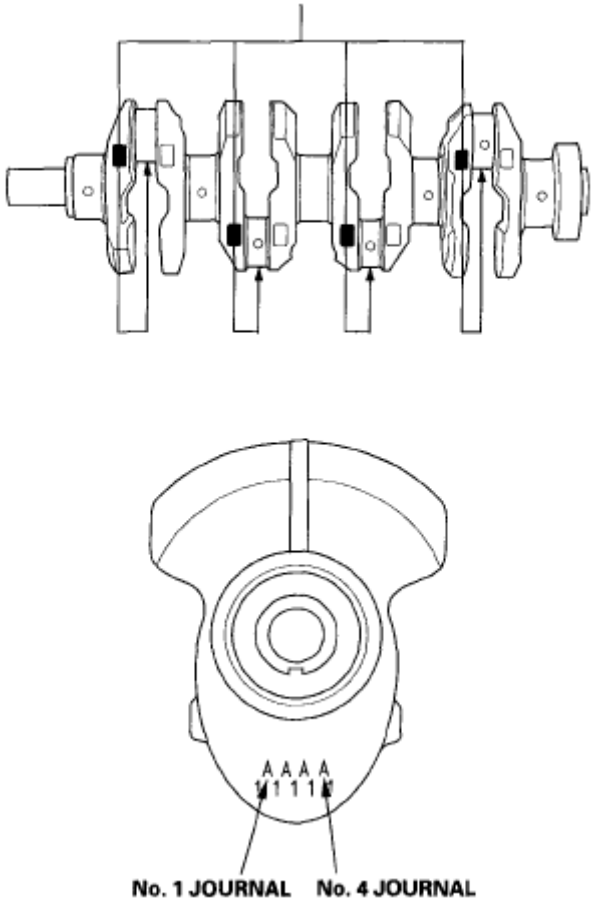



**Fig. 89: Identifying Connecting Rod Journal Code Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Use the big end bore codes and rod journal codes to select appropriate replacement bearings from the following table.

**NOTE:**

- **The color code is on the edge of the bearing.**
- **When using bearing halves of different colors, it does not matter which color is used in the top or bottom.**

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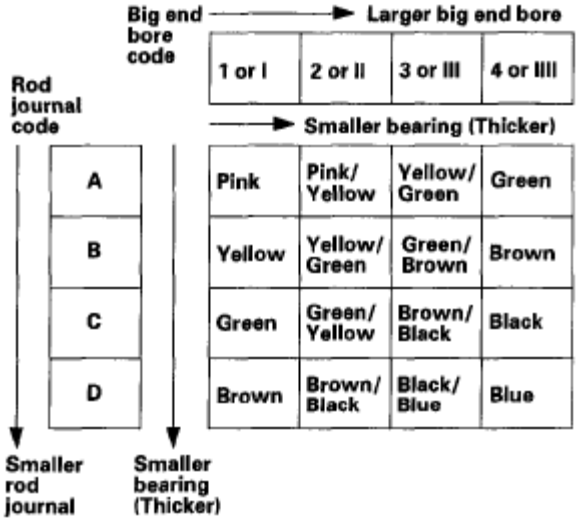



**Fig. 90: Identifying Big End Bore Codes And Rod Journal Codes**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**OIL PAN REMOVAL**

1. If the engine is out of the vehicle, go to step 16.
2. Raise the vehicle on the lift to full height.
3. Drain the engine oil (see **OIL PRESSURE TEST** ).
4. Remove the front wheels.
5. Remove the splash shield (see step 24 on **ENGINE REMOVAL** ).
6. Separate the stabilizer links (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
7. Separate the knuckles from the lower arms (see step 5 on **LOWER ARM REMOVAL/INSTALLATION** ).
8. Remove the steering gearbox bracket. Remove the steering gearbox mounting bolt, stiffener mounting bolt, and stiffener (see step 34 on **ENGINE REMOVAL** ).
9. Remove the steering gearbox mounting bolt, stiffener mounting bolt, and stiffener. Remove the harness clamp from the front subframe (see step 36 on **ENGINE REMOVAL** ).
10. Remove the lower torque rod (see step 46 on **ENGINE REMOVAL** ).

11. Remove the front mount mounting bolt (see step 47 on **ENGINE REMOVAL** ).
12. Note the reference marks on both sides of the front subframe that line up with the body (see step 48 on **ENGINE REMOVAL** ).
13. Loosen the front subframe body mount bracket mounting bolts on both side (see step 49 on **ENGINE REMOVAL** ).
14. Support the front subframe with the front subframe adapter and a jack (see step 50 on **ENGINE REMOVAL** ).
15. Remove the front subframe (see step 52 on **ENGINE REMOVAL** ).
16. Remove the lower torque rod bracket.

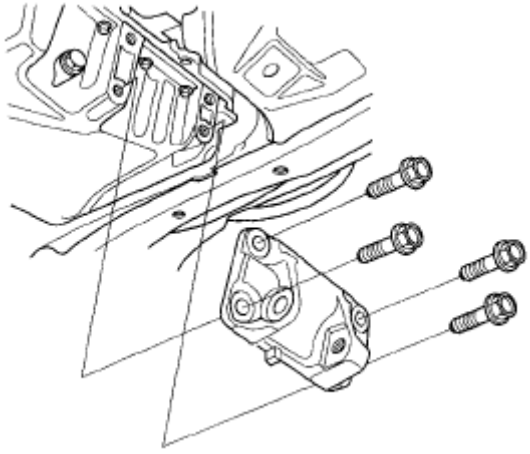


**Fig. 91: Identifying Lower Torque Rod Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Remove the clutch cover (A) and transmission mounting bolts (B).

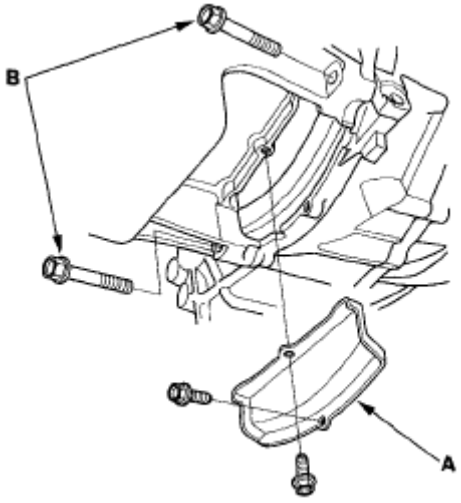



**Fig. 92: Identifying Clutch Cover And Transmission Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Remove the bolts securing the oil pan.
19. Using a flat blade screwdriver, separate the oil pan from the block in the places shown.

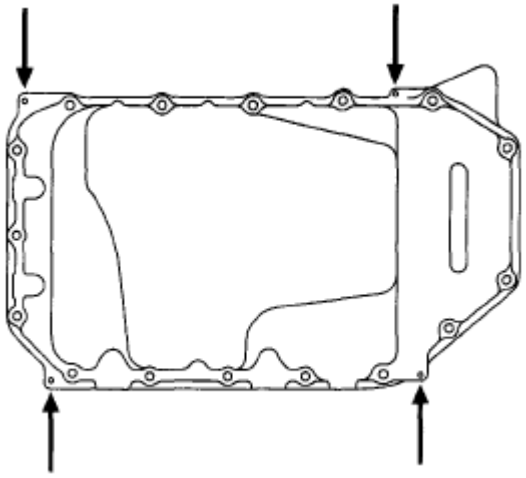


**Fig. 93: Identifying Oil Pan From Block**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Remove the oil pan.

**CRANKSHAFT AND PISTON REMOVAL**

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1. Remove the engine assembly (see **ENGINE REMOVAL** ).
2. Remove the transmission (see **TRANSMISSION REMOVAL** ).
3. Remove the pressure plate , clutch disc and flywheel (see **PRESSURE PLATE AND CLUTCH DISC REMOVAL (5-SPEED MODEL)** ).
4. Remove the oil pan (see **OIL PAN REMOVAL** ).
5. Remove the oil pump (see **OIL PUMP REMOVAL** ).
6. Remove the cylinder head (see **CYLINDER HEAD REMOVAL** ).
7. Remove the baffle plates.

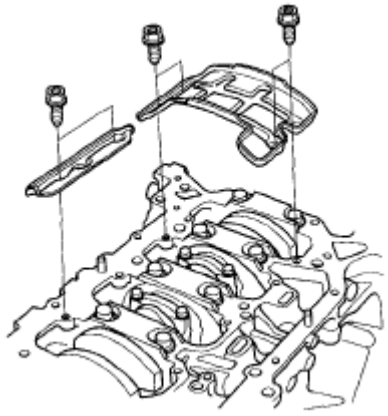


**Fig. 94: Identifying Baffle Plates**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Remove the 8 mm bolts in sequence.

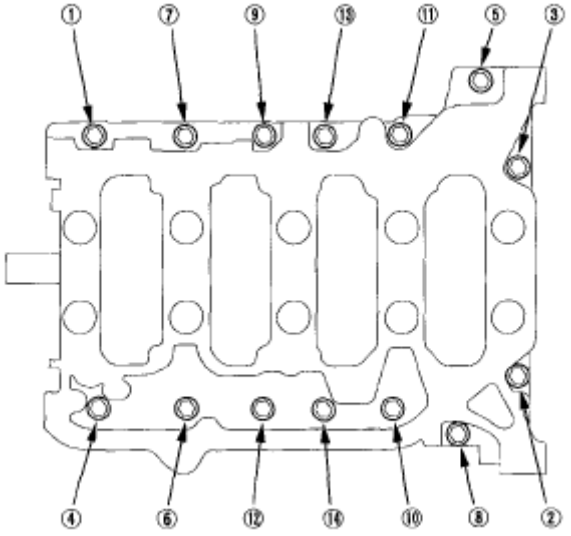



**Fig. 95: Identifying Bolts In Sequence Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the bearing cap bolts. To prevent warpage, unscrew the bolts in sequence 1/3 turn at a time; repeat the sequence until all bolts are loosened.

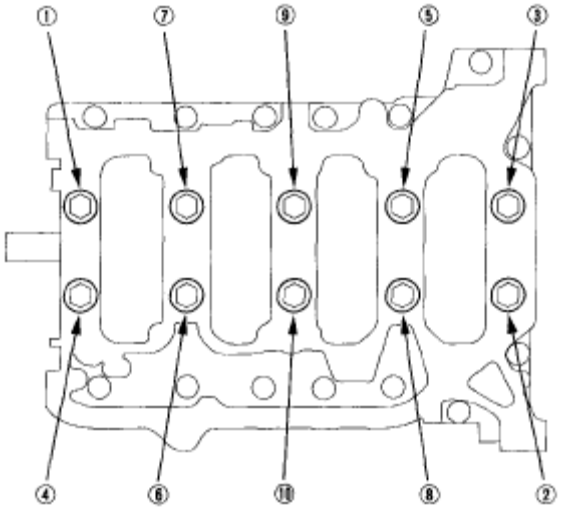



**Fig. 96: Identifying Bearing Cap Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the lower block and bearings. Keep all the bearings in order.

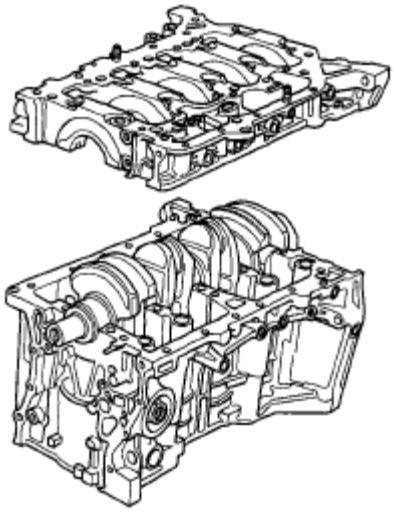


**Fig. 97: Identifying Lower Block And Bearings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the rod caps/bearings. Keep all caps/bearings in order.
12. Lift the crankshaft out of the engine. Being careful not to damage the journals.

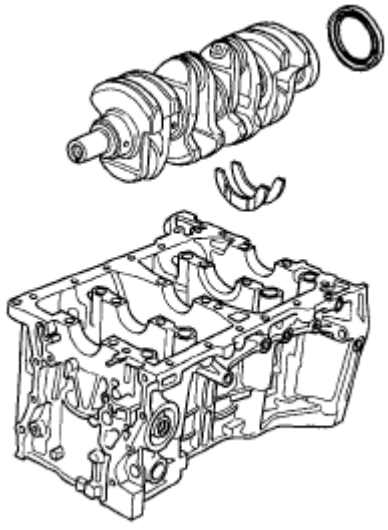


**Fig. 98: Identifying Crankshaft Out Of Engine**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Remove the upper bearing halves from the connecting rods, and set them aside with their respective caps.
14. If you can feel a ridge of metal or hard carbon around the top of each cylinder,

remove it with a ridge reamer (A). Follow the reamer manufacturer's instructions. If the ridge is not removed, it may damage the pistons as they are pushed out.

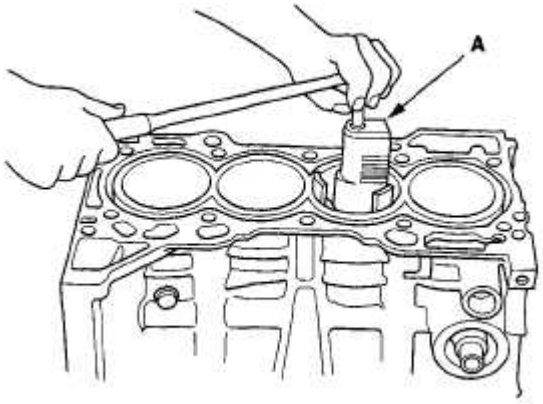



**Fig. 99: Identifying Hard Carbon Around Top Of Each Cylinder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Use the wooden handle of a hammer (A) to drive out the piston/connecting rod assembly (B).

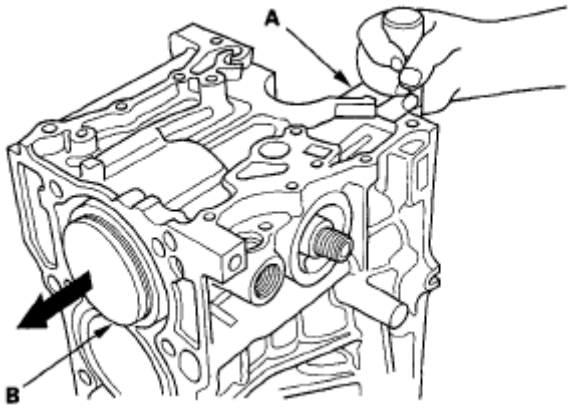



**Fig. 100: Driving Out Piston/Connecting Rod Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Reinstall the lower block and bearings on the engine in the proper order.
17. Reinstall the connecting rod bearings and caps after removing each piston/connecting rod assembly.
18. Mark each piston/connecting rod assembly with its cylinder number to make

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sure they are reused in the original order.

**NOTE: The existing number on the connecting rod does not indicate its position in the engine, it indicates the rod bore size.**

**CRANKSHAFT INSPECTION**

**Out-of-Round and Taper**

1. Remove the crankshaft from the engine block (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Clean the crankshaft oil passages with pipe cleaners or a suitable brush.
3. Clean the keyway and threads.
4. Measure the out-of-round at the middle of each rod and main journal in two places. The difference between measurements on each journal must not be more than the service limit.

**Journal Out-of-Round**

**Standard (New): 0.005 mm (0.0002 in.) max.**

**Service Limit: 0.010 mm (0.0004 in.)**

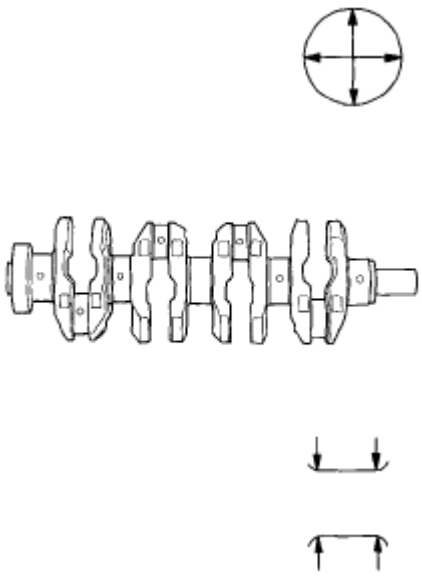


**Fig. 101: Identifying Crankshaft Journal Out-Of-Round**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure the taper at the edges of each rod and main journal. The difference between measurements on each journal must not be more than the service limit.

   **Journal Taper**

   **Standard (New): 0.005 mm (0.0002 in.) max.**

   **Service Limit: 0.010 mm (0.0004 in.)**

   **Straightness**

6. Place the engine block on the surface plate.
7. Clean and install the bearings on the No. 1 and No. 5 journals of the engine block.
8. Lower the crankshaft into the engine block.
9. Measure runout on all main journals. Rotate the crankshaft two complete revolutions. The difference between measurements on each journal must not be more than the service limit.

   **Crankshaft Total Runout**

   **Standard (New): 0.03 mm (0.0012 in.) max.**

   **Service Limit: 0.04 mm (0.0016 in.)**

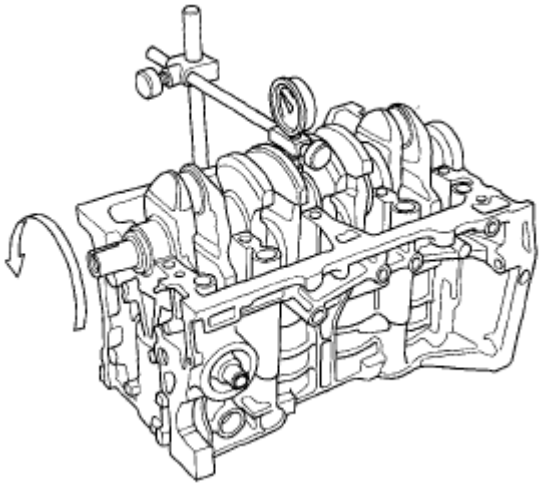


**Fig. 102: Measuring Runout On Main Journals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**BLOCK AND PISTON INSPECTION**

1. Remove the crankshaft and pistons (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Check the piston for distortion or cracks.
3. Measure the piston diameter at a point 11 mm (0.4 in.) from the bottom of the skirt. There are two standard-size pistons (No Letter or A, and B). The letter is stamped on the top of the piston. Letters are also stamped on the block as cylinder bore sizes.

   **Piston Diameter**

   **Standard (New):**

   **No Letter (or A): B: 85.980-85.990 mm (3.3850-3.3854 in.)**

   **B: 85.970-85.980 mm (3.3846-3.3850 in.)**

   **Service Limit:**

   **No Letter (or A): 85.930 mm (3.3831 in.) 85.920 mm (3.3827 in.)**

   **Oversize Piston Diameter**

**0.25: 86.230-86.240 mm (3.3949-3.3953 in.)**

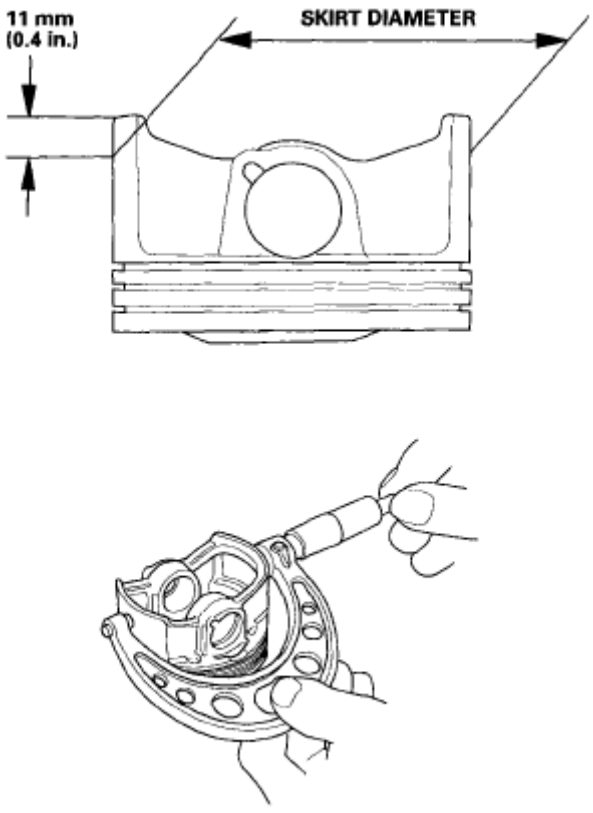



**Fig. 103: Measuring Piston Diameter Point From Bottom Of Skirt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the wear and taper in direction X and Y at three levels in each cylinder as shown. If the measurements in any cylinder are beyond the Oversize Bore Service Limit, replace the engine block. If the engine block is being rebored, refer to step 7 after reboring.

   **Cylinder Bore Size**

   **Standard (New):**

   **A or I: 86.010-86.020 mm (3.3862-3.3866 in.)**

   **B or II: 86.000-86.010 mm (3.3858-3.3862 in.)**

   **Service Limit: 86.070 mm (3.3886 in.**

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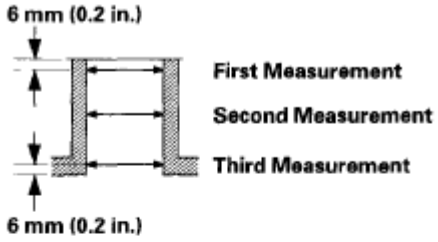
**Oversize**

**0.25: 86.250-86.260 mm (3.3957-3.3961 in.)**

**Reboring Limit: 0.25 mm (0.01 in.) max.**

**Bore Taper**

**Limit: (Difference between first and third measurement) 0.05 mm (0.002 in.)**



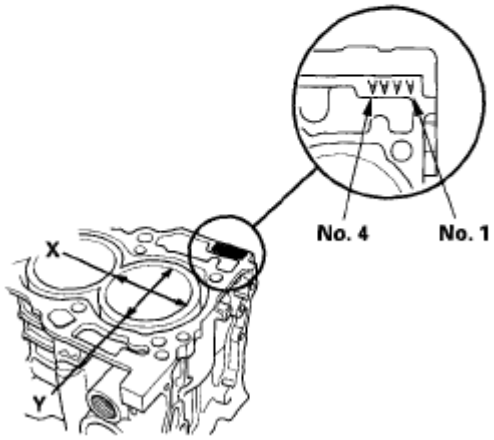




**Fig. 104: Identifying Wear And Taper Direction X And Y Three Levels In Each Cylinder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Scored or scratched cylinder bores must be honed.
6. Check the top of the engine block for warpage. Measure along the edges, and across the center as shown.

**Engine Block Warpage**

**Standard (New): 0.07 mm (0.003 in.) max.**

**Service Limit: 0.10 mm (0.004 in.)**

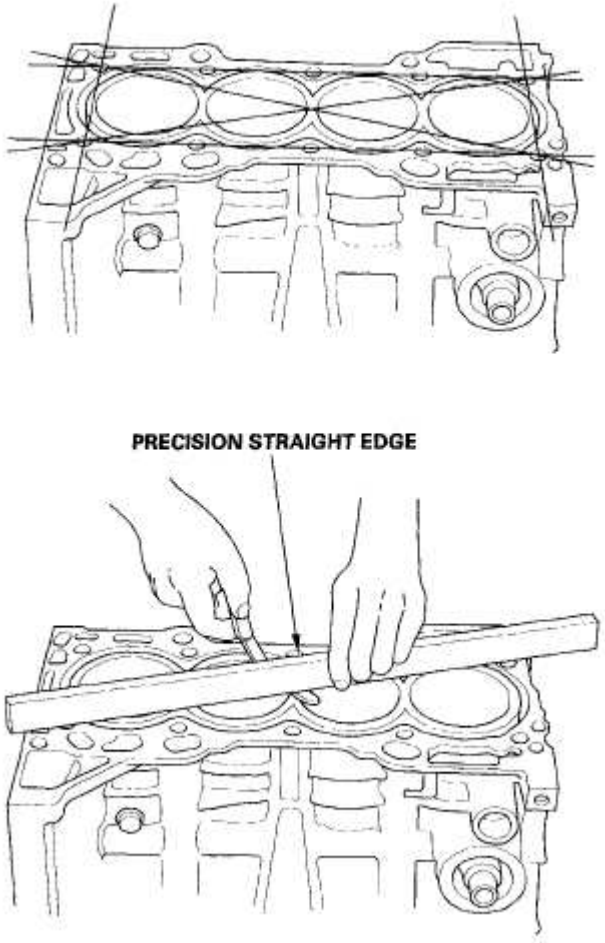



**Fig. 105: Identifying Top Of Engine Block For Warpage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Calculate the difference between the cylinder bore diameter and the piston diameter. If the clearance is near or exceeds the service limit, inspect the piston and cylinder bore for excessive wear.

**Piston-to-Cylinder Bore Clearance**

**Standard (New): 0.020-0.040 mm (0.0008-0.0016 in.)**

**Service Limit: 0.05 mm (0.002 in.)**

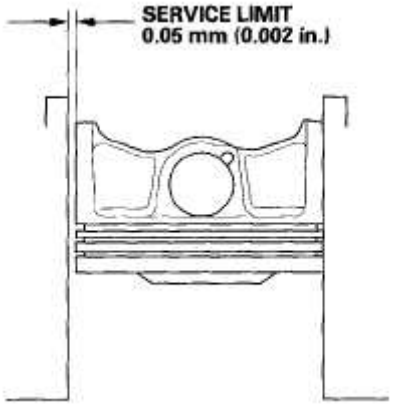



**Fig. 106: Identifying Difference Between Cylinder Bore Diameter And Piston Diameter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CYLINDER BORE HONING**

Only a scored or scratched cylinder bore must be honed.

1. Measure the cylinder bores (see **BLOCK AND PISTON INSPECTION** ). If the engine block is to be reused, hone the cylinders, and remeasure the bores.
2. Hone the cylinder bores with honing oil and a fine (400 grit) stone in a 60 degree cross-hatch pattern (A). Use only a rigid hone with 400 grit or finer stone such as Sunnen, Ammco, or equivalent. Do not use stones that are worn or broken.

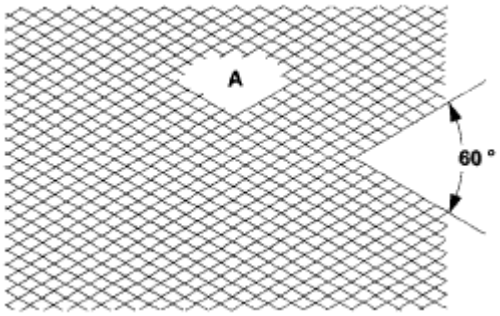



**Fig. 107: Identifying Cross-Hatch Pattern**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. When honing is complete, thoroughly clean the engine block of all metal particles. Wash the cylinder bores with hot soapy water, then dry and oil them

immediately to prevent rusting. Never use solvent, it will only redistribute the grit on the cylinder walls.

4. If scoring or scratches are still present in the cylinder bores after honing the engine block to the service limit, rebore the engine block. Some light vertical scoring and scratching is acceptable if it is not deep enough to catch your fingernail, and does not run the full length of the bore.

**PISTON, PIN, AND CONNECTING ROD REPLACEMENT**

**Disassembly**

1. Remove the piston from the engine block (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Apply new engine oil to the piston pin snap rings (A), and turn them in the ring grooves until the end gaps are lined up with the cutouts in the piston pin bores (B).

**NOTE: Take care not to damage the ring grooves.**

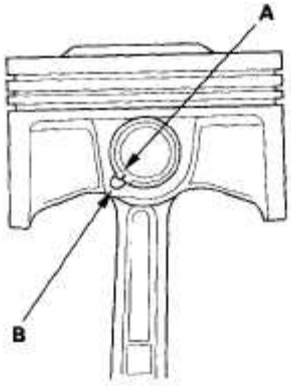



**Fig. 108: Identifying Piston Pin Snap Rings And Piston Pin Bores**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove both snap rings (A). Start at the cutout in the piston pin bore. Remove the snap rings carefully so they do not go flying or get lost. Wear eye protection.




**Fig. 109: Identifying Snap Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Heat the piston and connecting rod assembly to about 158°F (70°C), then remove the piston pin.



**Fig. 110: Heating Piston And Connecting Rod Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Inspection**

**NOTE: Inspect the piston, piston pin, and connecting rod when they are at room temperature.**

1. Measure the diameter of the piston pin.

**Piston Pin Diameter**

**Standard (New): 21.961-21.965 mm (0.8646-0.8648 in.)**

**Service Limit: 21.953 mm (0.8643 in.)**

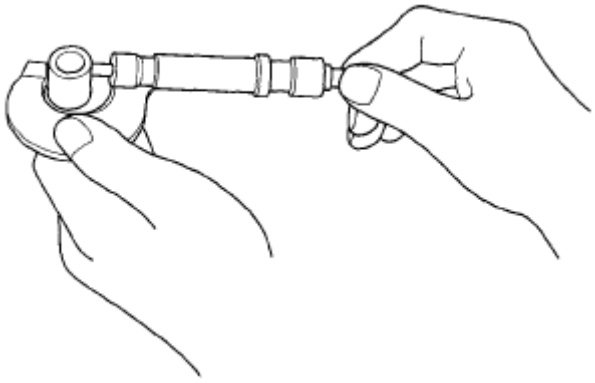


**Fig. 111: Measuring Diameter Of Piston Pin**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Zero the dial indicator to the piston pin diameter.

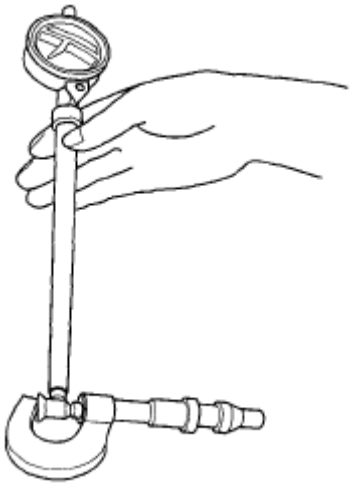


**Fig. 112: Seating Dial Indicator To Piston Pin Diameter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check the difference between the piston pin diameter and piston pin hole diameter in the piston.

**Piston Pin-to-Piston Clearance**

**Standard (New): -0.005 to +0.002 mm (-0.00020 to +0.00008 in.)**

**Service Limit: 0.005 mm (0.0002 in.)**

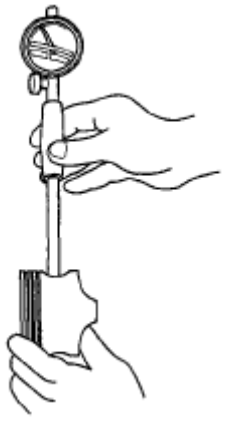


**Fig. 113: Checking Difference Between Piston Pin Diameter And Piston Pin Hole Diameter In Piston**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the piston pin-to-connecting rod clearance.

   **Piston Pin-to-Connecting Rod Clearance**

   **Standard (New): 0.005-0.015 mm (0.0002-0.0006 in.)**

   **Service Limit: 0.02 mm (0.0008 in.)**

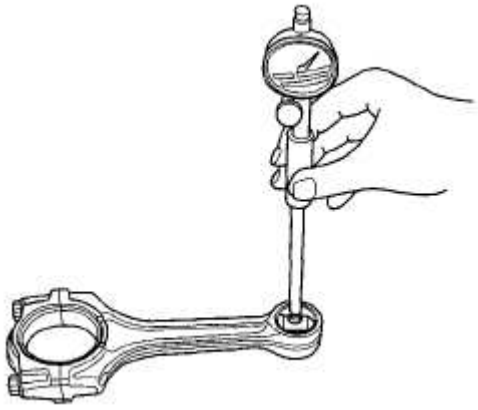


**Fig. 114: Measuring Piston Pin-To-Connecting Rod Clearance**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Reassembly**

1. Install a piston pin snap ring (A).

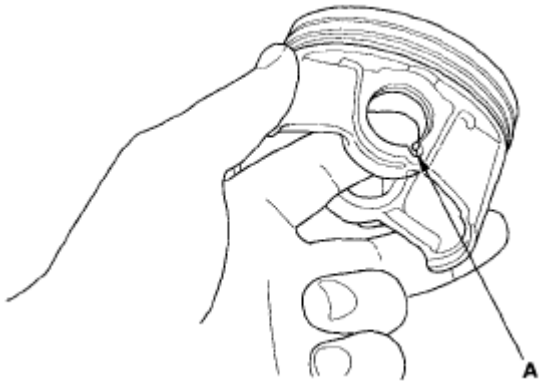



**Fig. 115: Identifying Piston Pin Snap Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Coat the piston pin bore in the piston, the bore in the connecting rod, and the piston pin with new engine oil.
3. Heat the piston to about 158°F (70°C).

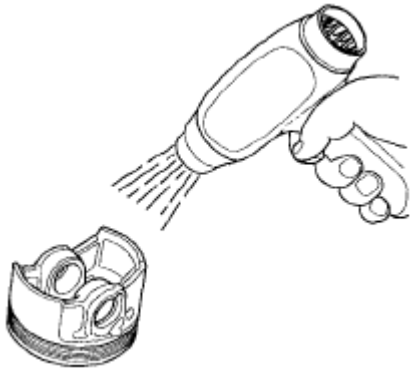


**Fig. 116: Heating Piston**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Assemble the piston (A) and connecting rod (B) with the arrow (C) and the embossed mark (D) on the same side. Install the piston pin (E).

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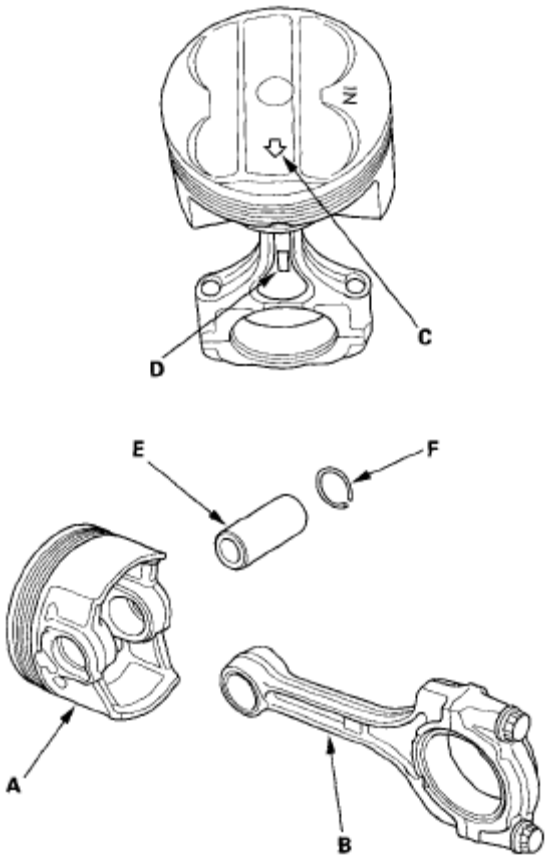



**Fig. 117: Identifying Piston , Connecting Rod And Piston Pin**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the remaining snap ring (F).
6. Turn the snap rings in the ring grooves until the end gaps are positioned at the bottom of the piston.

**PISTON RING REPLACEMENT**

1. Remove the piston from the engine block (see **CRANKSHAFT AND PISTON REMOVAL** ).
2. Using a ring expander (A), remove the old piston rings (B).

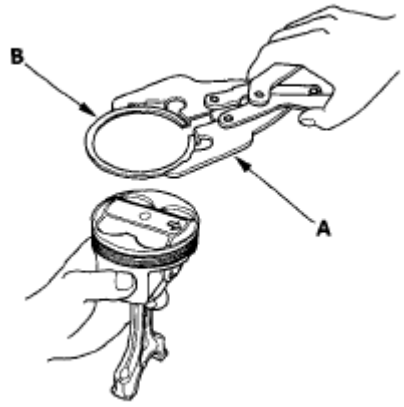



**Fig. 118: Removing Piston Rings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Clean all ring grooves thoroughly with a squared-off broken ring or ring groove cleaner with a blade to fit the piston grooves.

   The top and 2nd ring grooves are 1.2 mm (0.05 in.) wide. The oil ring groove is 2.0 mm (0.08 in.) wide. File down a blade if necessary.

   Do not use a wire brush to clean the ring grooves, or cut the ring grooves deeper with the cleaning tools.

   **NOTE: If the piston is to be separated from the connecting rod, do not install new rings yet.**

4. Using a piston that has its rings removed, push a new ring (A) into the cylinder bore 15-20 mm (0.6-0.8 in.) from the bottom.

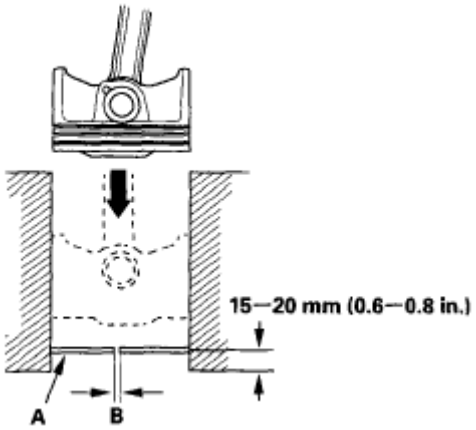


**Fig. 119: Pushing Ring Into Cylinder Bore**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure the piston ring end-gap (B) with a feeler gauge:
   - If the gap is too small, check to see if you have the proper rings for your engine.
   - If the gap is too large, recheck the cylinder bore diameter against the wear limits (see **BLOCK AND PISTON INSPECTION** ). If the bore is beyond the service limit, the engine block must be rebored.

   **Piston Ring End-Gap**

   **Top Ring:**

   **Standard (New): 0.20-0.35 mm (0.008-0.014 in.)**

   **Service Limit: 0.60 mm (0.024 in.)**

   **Second Ring:**

   **Standard (New): 0.50-0.65 mm (0.020-0.026 in.)**

   **Service Limit: 0.75 mm (0.030 in.)**

   **Oil Ring:**

   **Standard (New): 0.20-0.70 mm (0.008-0.028 in.)**

   **Service Limit: 0.80 mm (0.031 in.)**

6. Install the top ring and the second ring as shown. The top ring (A) has a 1R mark and the second ring (B) has a 2R mark. The manufacturing marks (C) must be facing upward.

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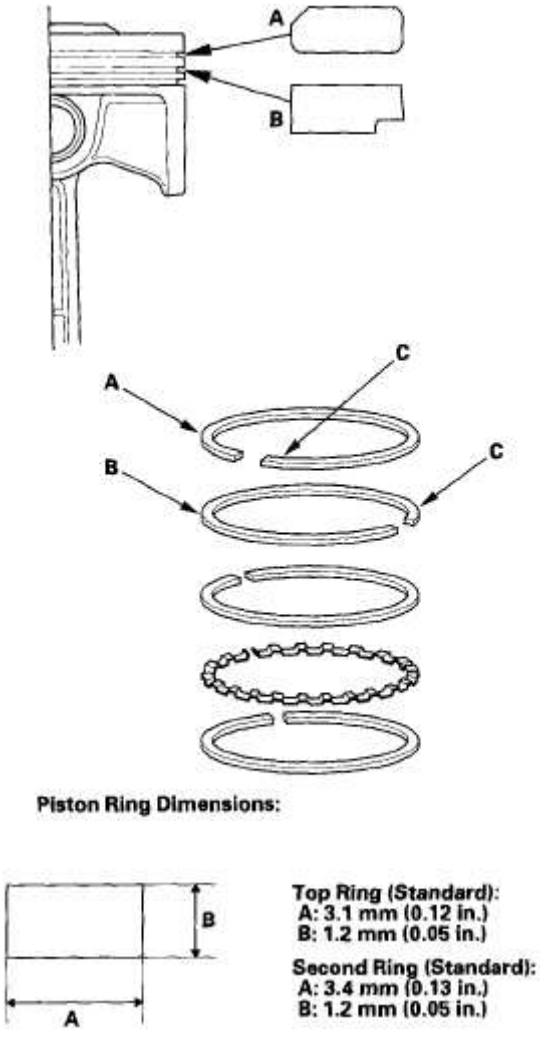



**Fig. 120: Identifying Top Ring And Second Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Rotate the rings in their grooves to make sure they do not bind.
8. Position the ring end gaps as shown: About 90°

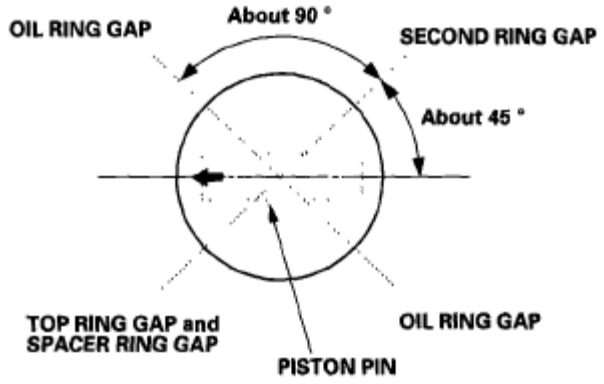



**Fig. 121: Identifying Ring End Gaps Turning Angle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. After installing a new set of rings, measure the ring-to-groove clearances.

   **Top Ring Clearance**

   **Standard (New): 0.045-0.070 mm (0.0018-0.0028 in.)**

   **Service Limit: 0.13 mm (0.005 in.)**

   **Second Ring Clearance**

   **Standard (New): 0.040-0.065 mm (0.0016-0.0026 in.)**

   **Service Limit: 0.13 mm (0.005 in.)**

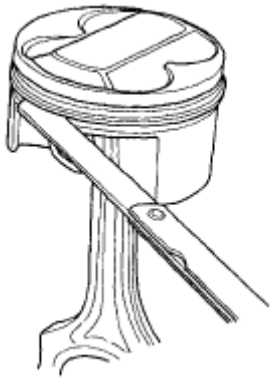


**Fig. 122: Identifying Ring-To-Groove Clearances**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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**PISTON INSTALLATION**

**If the Crankshaft is Already Installed**

1. Set the crankshaft to bottom dead center (BDC) for each cylinder as its piston is installed.
2. Remove the connecting rod caps, then install the ring compressor. Check that the bearing is securely in place.
3. Apply new engine oil to the piston, inside of the ring compressor, and the cylinder bore, then attach the ring compressor to the piston/connecting rod assembly.
4. Position the mark (A) to face the cam chain side of the engine.

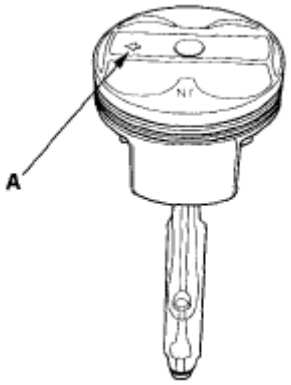



**Fig. 123: Identifying Mark To Face Cam Chain Side Of Engine**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Position the piston in the cylinder, and tap it in using the wooden handle of a hammer (A). Push down on the ring compressor (B) to prevent the rings from expanding before entering the cylinder bore.

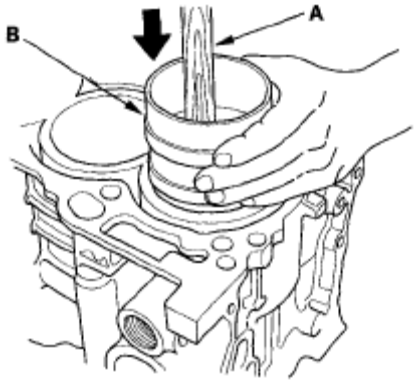



**Fig. 124: Pushing Down On Ring Compressor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Stop after the ring compressor pops free, and check the connecting rod-to-crank journal alignment before pushing the piston into place.
7. Check the connecting rod bearing clearance with plastigage (see **CONNECTING ROD BEARING REPLACEMENT** ).
8. Inspect the connecting rod bolts (see **CONNECTING ROD BOLT INSPECTION** ).
9. Install the rod caps with bearings. Torque the bolts to 29 N.m (3.0 kgf.m, 22 lbf.ft).
10. Tighten the connecting rod bolts an additional 90 °.

**NOTE: Remove the connecting rod bolt if you tightened it beyond the specified angle, and go back to step 8 of the procedure. Do not loosen it back to the specified angle.**

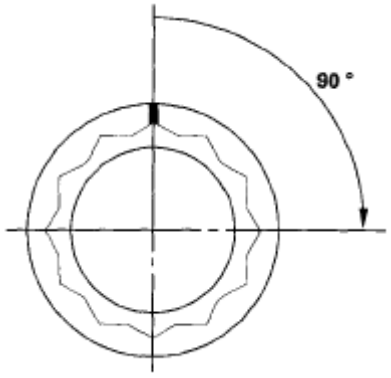



**Fig. 125: Identifying Connecting Rod Bolt Tightening Angle**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**If the Crankshaft is Not Installed**

1. Remove the connecting rod caps, then install the ring compressor, and check that the bearing is securely in place.
2. Apply new engine oil to the piston, inside of the ring compressor, and the cylinder bore, then attach the ring compressor to the piston/connecting rod assembly.
3. Position the mark (A) to face the cam chain side of the engine.

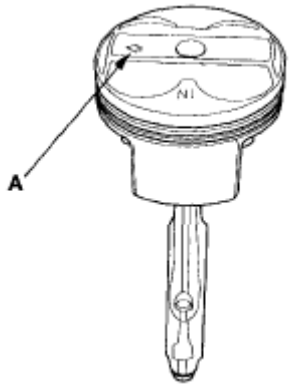



**Fig. 126: Identifying Mark To Face Cam Chain Side Of Engine**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Position the piston in the cylinder, and tap it in using the wooden handle of a hammer (A). Push down on the ring compressor (B) to prevent the rings from expanding before entering the cylinder bore.

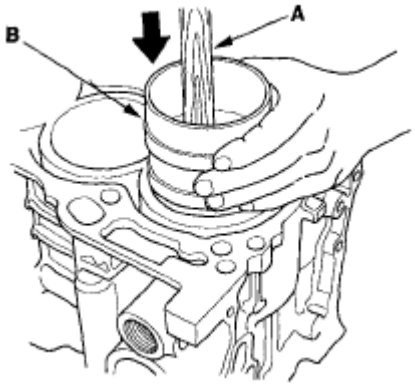



**Fig. 127: Pushing Down On Ring Compressor**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Position all pistons at top dead center (TDC).

**CONNECTING ROD BOLT INSPECTION**

1. Measure the diameter of each connecting rod bolt at point A and point B.

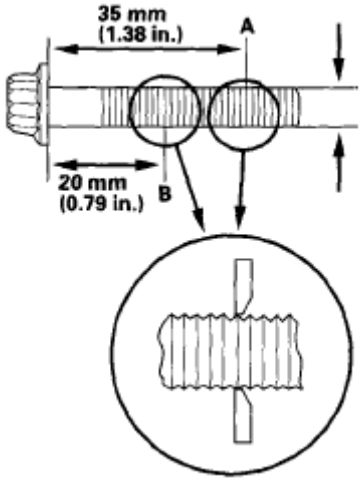



**Fig. 128: Identifying Diameter Of Connecting Rod Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Calculate the difference in diameter between point A and point B.

   **Point A-Point B = Difference in Diameter**

   **Difference in Diameter**

   **Specification: 0-0.1 mm (0-0.004 in.)**

3. If the difference in diameter is out of specification, replace the connecting rod bolt.

**CRANKSHAFT INSTALLATION**

## Special Tools Required

- Driver 07749-0010000

- Attachment, 24 x 26 mm 07746-0010700
- Oil seal driver attachment, 96 mm 07ZAD-PNAA100

1. Install the crankshaft end bushing when replacing the crankshaft.

   Using the special tools, drive in the crankshaft end bushing until the special tools bottom against the crankshaft.

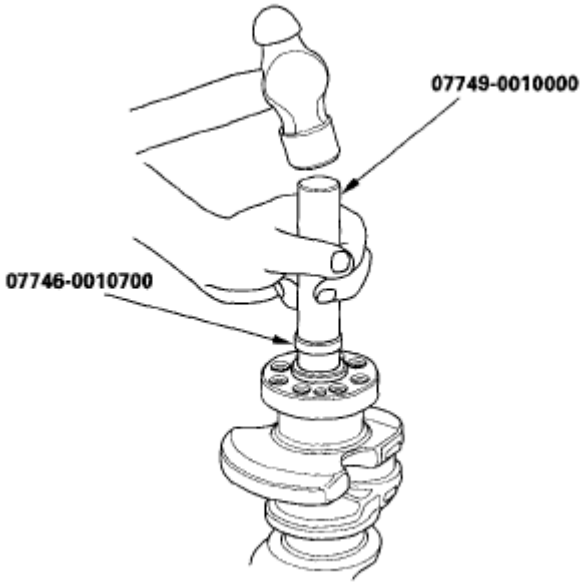



**Fig. 129: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check the connecting rod bearing clearance with plastigage (see **CONNECTING ROD BEARING REPLACEMENT** ).
3. Check the main bearing clearance with plastigage (see **CRANKSHAFT MAIN BEARING REPLACEMENT** ).
4. Install the bearing halves in the engine block and connecting rods.
5. Apply a coat of new engine oil to the main bearings and rod bearings.
6. Hold the crankshaft so that rod journal No. 2 and rod journal No. 3 are straight up, and lower the crankshaft into the engine block.
7. Apply new engine oil to the thrust washer surfaces. Install the thrust washers (A) in the No. 4 journal of the engine block.

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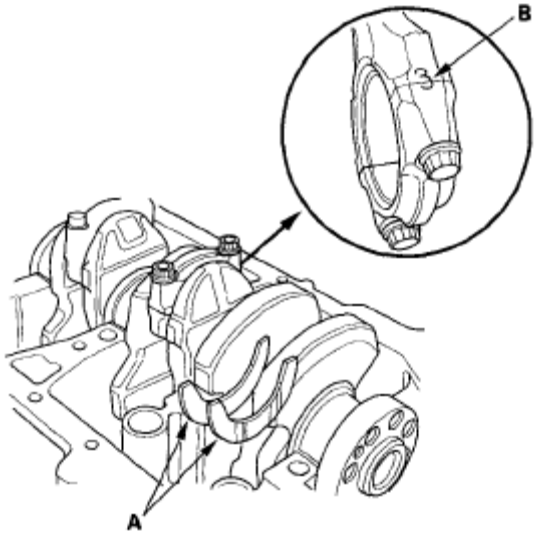



**Fig. 130: Identifying Thrust Washers In Engine Block**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Inspect the connecting rod bolts (see **CONNECTING ROD BOLT INSPECTION** ).
9. Apply engine oil to the threads of the connecting rod bolts.
10. Seat the rod journals into connecting rod No. 1 and connecting rod No. 4. Line up the mark (B) on the connecting rod and cap, then install the caps and bolts finger-tight.
11. Rotate the crankshaft clockwise, and seat the journals into connecting rod No. 2 and connecting rod No. 3. Line up the mark on the connecting rod and cap, then install the caps and bolts finger-tight.
12. Tighten the connecting rod bolts to 29 N.m (3.0 kgf.m, 22 lbf.ft).
13. Tighten the connecting rod bolts an additional 90 °.

**NOTE: Remove the connecting rod bolt if you tightened it beyond the specified angle, and go back to step 8 of the procedure. Do not loosen it back to the specified angle.**

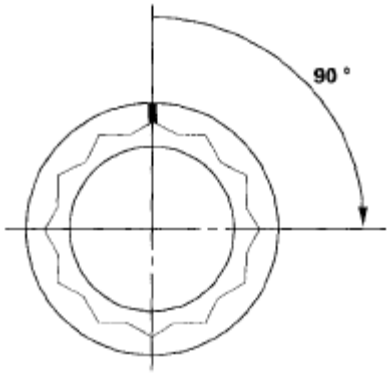



**Fig. 131: Identifying Connecting Rod Bolt Tightening Angle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Remove all of the old liquid gasket from the lower block mating surfaces, bolts, and bolt holes.
15. Clean, and dry the lower block mating surfaces.
16. Apply liquid gasket, P/N 08717-0004, 08718-0001, 08718-0002, 08718-0003, or 08718-0009, evenly to the engine block mating surface of the lower block.

**NOTE: Do not install components if too much time has passed after applying the liquid gasket (for P/N 08718-0002, no more than 4 minutes, for all others, no more than 5 minutes). Instead, remove the old residue and reapply the liquid gasket.**

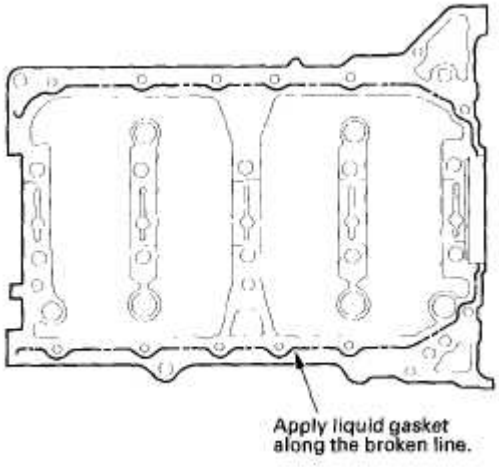



**Fig. 132: Identifying Lower Block**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Put the lower block on the engine block.
18. Apply new engine oil to the threads of the bearing cap bolts.
19. Tighten the bearing cap bolts, in sequence, to 29 N.m (3.0 kgf.m, 22 lbf.ft).

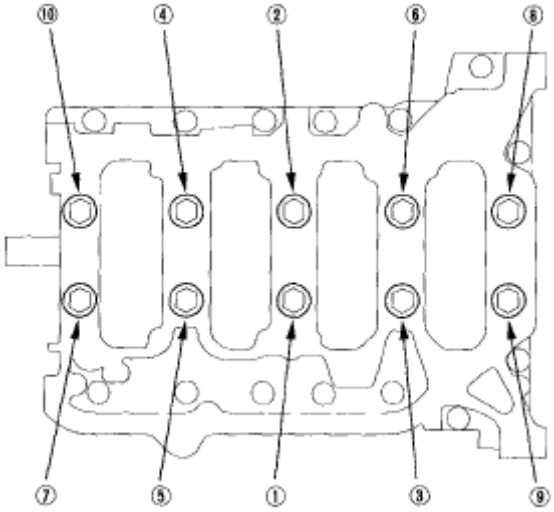



**Fig. 133: Identifying Bearing Cap Bolts Tightening Sequence**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Tighten the bearing cap bolts an additional 56 °.

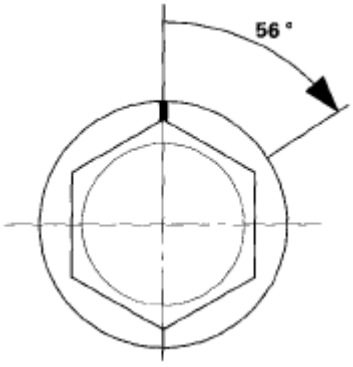



**Fig. 134: Identifying Bearing Cap Bolts Tightening Angle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Tighten the 8 mm bolts, in sequence, to 22 N.m (2.2 kgf.m, 16 lbf-ft).

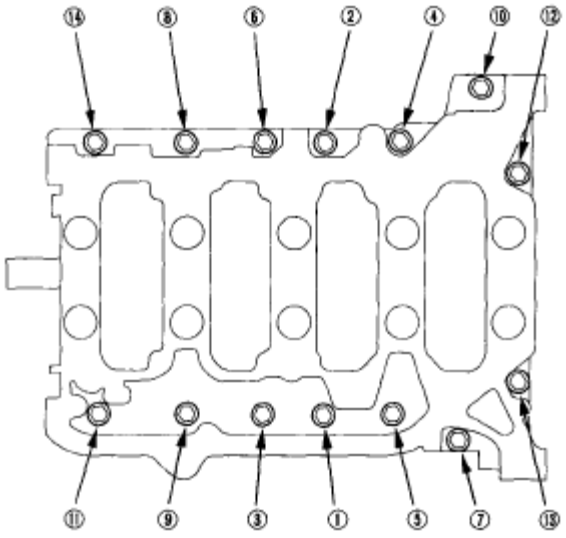



**Fig. 135: Identifying Crank Shaft Bolt Tightening Sequence**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Use the special tools to drive a new oil seal squarely into the engine block to the specified installed height.

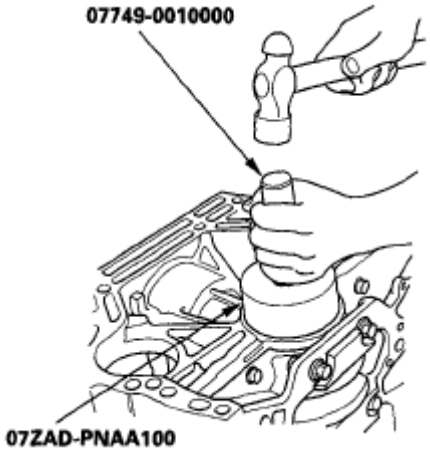



**Fig. 136: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Measure the distance between the engine block (A) and oil seal (B).

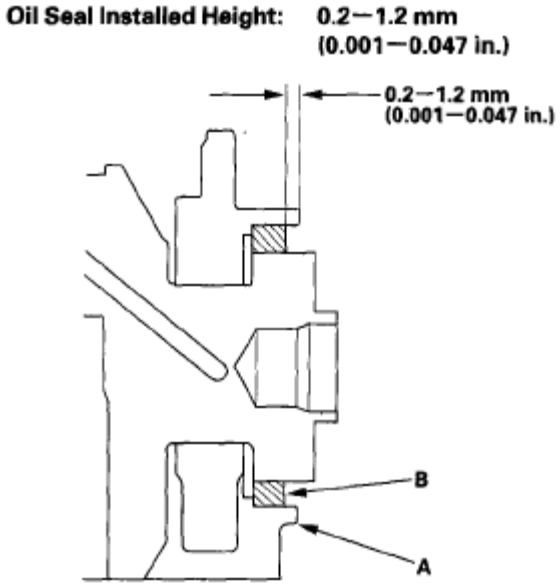



**Fig. 137: Identifying Distance Between Engine Block And Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Install the baffle plates.

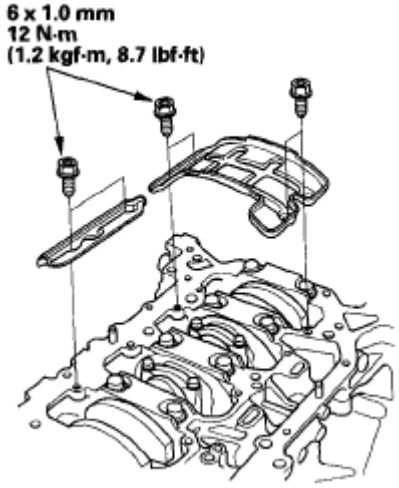



**Fig. 138: Identifying Baffle Plates (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Install the oil pump (see **OIL PUMP INSTALLATION** ).
26. Install the oil pan (see **OIL PAN INSTALLATION** ).
27. Install the cylinder head (see **CYLINDER HEAD INSTALLATION** ).

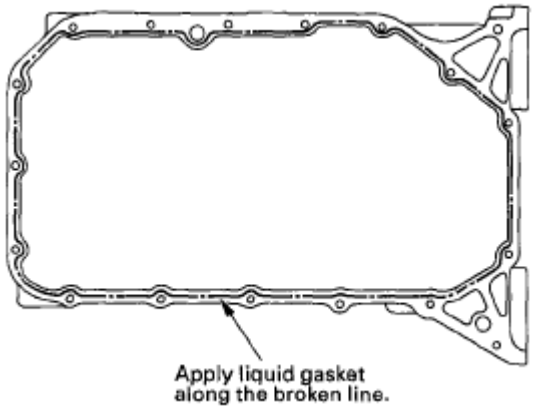
28. Install the flywheel , clutch disc and pressure plate (see **PRESSURE PLATE AND CLUTCH DISC REMOVAL (6-SPEED MODEL)** ).
29. Install the transmission (see **TRANSMISSION INSTALLATION** ).
30. Install the engine assembly (see **ENGINE INSTALLATION** ).

**NOTE: Whenever any crankshaft or connecting rod bearing is replaced, it is necessary after reassembly to run the engine at idle speed until it reaches normal operating temperature, then continue to running it for about 15 minutes.**

**OIL PAN INSTALLATION**

1. Remove all of the old liquid gasket from the oil pan mating surfaces, bolts, and bolt holes.
2. Clean, and dry the oil pan mating surfaces.
3. Apply liquid gasket, P/N 08717-0004,08718-0001, 08718-0002,08718-0003, or 08718-0009, evenly to the lower engine block mating surface and to the inside edge of the bolt holes.

**NOTE: Do not install components if too much time has passed after applying the liquid gasket (for P/N 08718-0002, no more than 4 minutes, for all others, no more than 5 minutes). Instead, remove the old residue and reapply the liquid gasket.**



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**Fig. 139: Identifying Lower Engine Block Mating Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the oil pan.
5. Tighten the bolts in two or three steps. In the final step, tighten all bolts, in sequence, to 12 N.m (1.2 kgf.m, 8.7 lbf.ft). Wipe off the excess liquid gasket on the each side of crankshaft pulley and flywheel.

**NOTE:**

- **Wait at least 30 minutes to allow liquid gasket to cure before filling the engine with oil.**
- **Do not run the engine for at least 3 hours to allow liquid gasket to cure after installing the oil pan.**

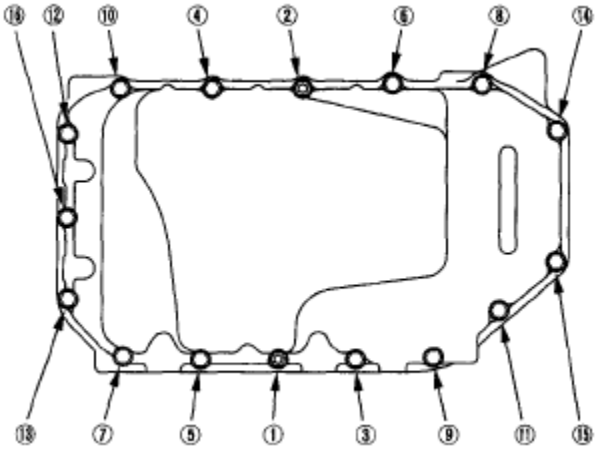



**Fig. 140: Identifying Oil Pan Bolt Tightening Sequence**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the transmission mounting bolts (A) and clutch cover (B).

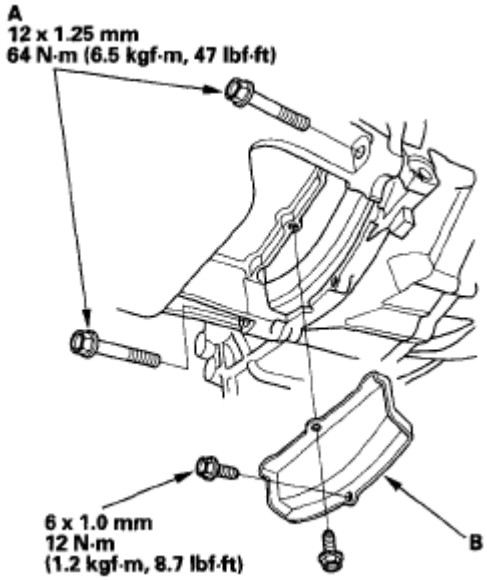



**Fig. 141: Identifying Transmission Mounting Bolts And Clutch Cover (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the lower torque rod bracket.

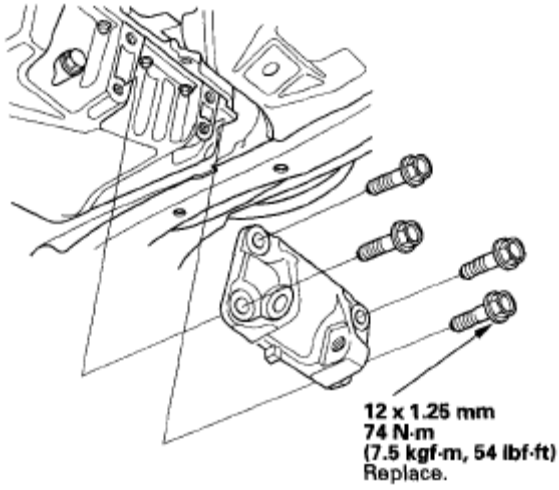



**Fig. 142: Identifying Lower Torque Rod Bracket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. If the engine still in the vehicle, do the following steps.
9. Support the front subframe with the front subframe adapter and a jack, and lift

it up to the body.

10. Loosely install the new front subframe mounting bolts (see step 13 on **ENGINE INSTALLATION** ).
11. Align all reference marks on the front subframe with the body, then tighten the bolts on the front subframe to the specified torque (see step 14 on **ENGINE INSTALLATION** ).
12. Remove the jack and front subframe adapter.
13. Tighten the new front subframe mid-stiffener mounting bolts on both side (see step 16 on **ENGINE INSTALLATION** ).
14. Lower the vehicle on the lift.
15. Loosen the upper torque rod mounting bolt (see step 5 on **ENGINE INSTALLATION** ).
16. Raise the vehicle on the lift.
17. Install the lower torque rod, then tighten the new lower torque rod mounting bolts in the numbered sequence shown (see step 17 on **ENGINE INSTALLATION** ).
18. Loosely tighten the new front mount mounting bolt (see step 18 on **ENGINE INSTALLATION** ).
19. Lower the vehicle on the lift.
20. Tighten the upper torque rod mounting bolt (see step 21 on **ENGINE INSTALLATION** ).
21. Raise the vehicle on the lift to full height.
22. Tighten the front mount mounting bolt (see step 23 on **ENGINE INSTALLATION** ).
23. Install the stiffener, then tighten the steering gearbox mounting bolt and stiffener mounting bolt. Install the harness clamp from the front subframe (see step 25 on **ENGINE INSTALLATION** ).
24. Install the steering gearbox bracket. Install the stiffener, then tighten the steering gearbox mounting bolt and stiffener mounting bolt (see step 27 on **ENGINE INSTALLATION** ).
25. Connect the lower arms to the knuckles (see step 5 on **LOWER ARM REMOVAL/INSTALLATION** ).

26. Connect the stabilizer links (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
27. Install the splash shield (see step 35 on **ENGINE INSTALLATION** ).

**TRANSMISSION END CRANKSHAFT OIL SEAL INSTALLATION - IN CAR**

## Special Tools Required

- Driver 07749-0010000
- Oil seal driver attachment 96 07ZAD-PNAA100

1. Remove the transmission (see **TRANSMISSION REMOVAL** ).
2. Remove the pressure plate , clutch disc and flywheel (see **PRESSURE PLATE AND CLUTCH DISC REMOVAL (5-SPEED MODEL)** ).
3. Clean, and dry the crankshaft oil seal housing.
4. Apply a light coat of multipurpose grease to the crankshaft and to the lip of the seal.
5. Use the special tools to drive a new oil seal squarely into the engine block to the specified installed height.

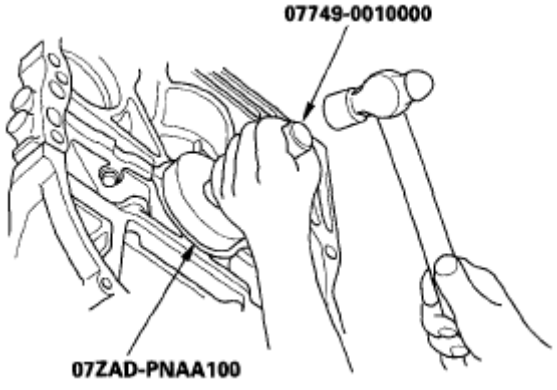



**Fig. 143: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Measure the distance between the engine block (A) and oil seal (B).

**Oil Seal Installed Height: 0.2-1.2 mm (0.001-0.047 in.)**

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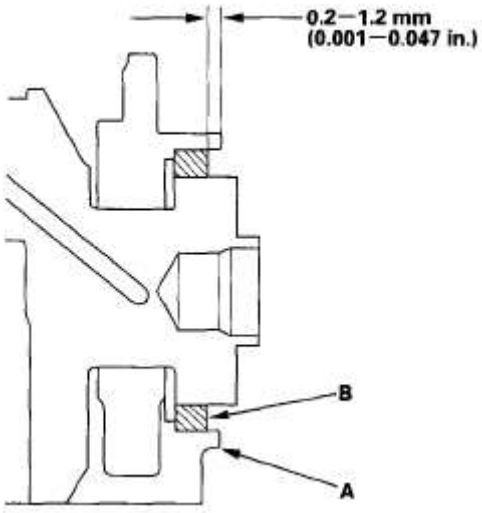



**Fig. 144: Identifying Distance Between Engine Block And Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the flywheel, clutch disc , and pressure plate (see **PRESSURE PLATE AND CLUTCH DISC REMOVAL (6-SPEED MODEL)** ).
8. Install the transmission (see **TRANSMISSION INSTALLATION** ).

**SEALING BOLT AND JOINT PIPE INSTALLATION**

**NOTE:**

- **When installing the sealing bolt, always use a new washer.**
- **When installing the joint pipe, always use a new O-ring.**

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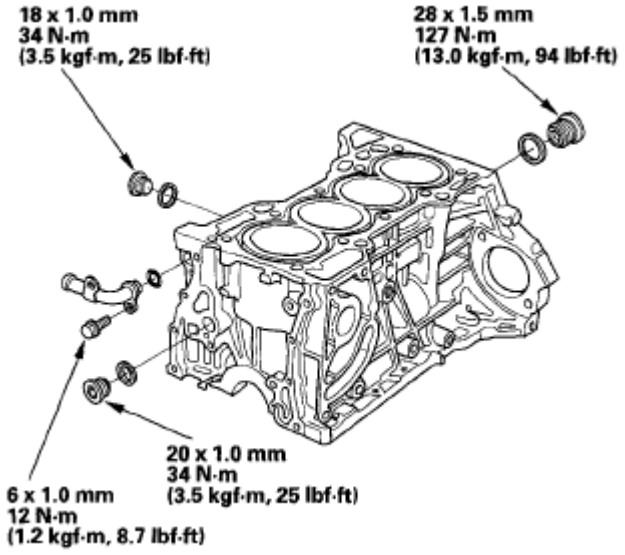



**Fig. 145: Identifying Sealing Bolt And Joint Pipe (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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**2006-08 ENGINE PERFORMANCE**

**EVAP System (K20Z3) - Civic (Except GX & Si)**

## COMPONENT LOCATION INDEX

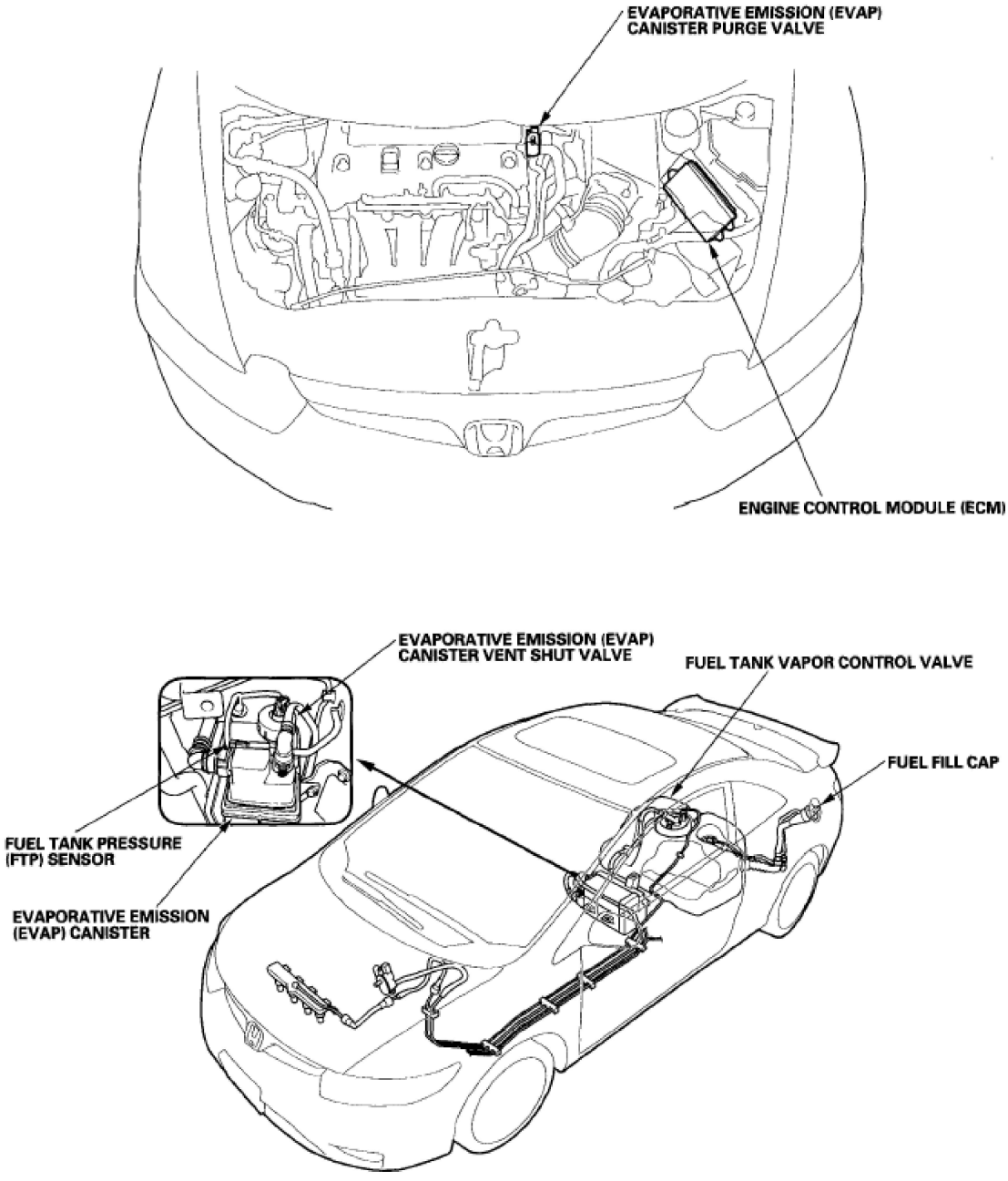



**Fig. 1: Identifying EVAP System Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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# DTC TROUBLESHOOTING

**DTC P0443: EVAP CANISTER PURGE VALVE CIRCUIT MALFUNCTION**

## Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in neutral) until the radiator fan comes on, then let it idle.
4. Check for Temporary DTCs or DTCs with the HDS.

   *Is DTC P0443 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EVAP canister purge valve and the ECM.

5. Turn the ignition switch OFF, and allow the engine to cool below 140°F (60° C).
6. Disconnect the vacuum hose (A) from the purge valve (B) in the engine compartment, and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

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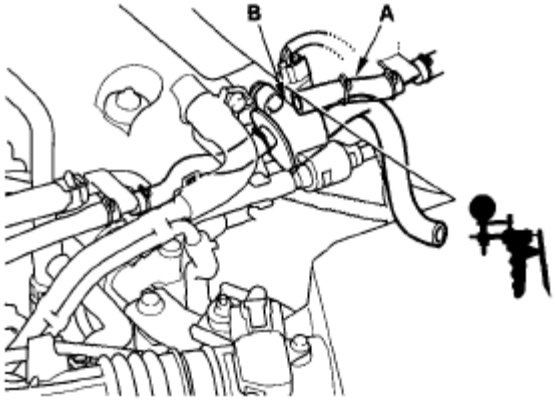



**Fig. 2: Disconnecting Vacuum Hose From Purge Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Start the engine, and let it idle.

   *Is there vacuum?*

   **YES** - Go to step 8.

   **NO** - Go to step 14.

8. Turn the ignition switch OFF.
9. Disconnect the EVAP canister purge valve 2P connector.
10. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

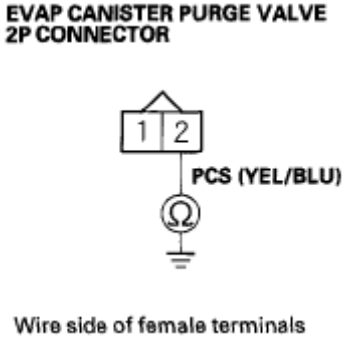



**Fig. 3: Checking Continuity Between EVAP Canister Purge Valve 2P Connector Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 11.

**NO** - Go to step 23.

11. Jump the SCS line with the HDS.
12. Disconnect ECM connector B (44P).
13. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

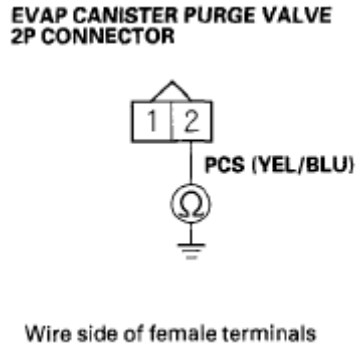



**Fig. 4: Checking Continuity Between EVAP Canister Purge Valve 2P Connector Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the EVAP canister purge valve and the ECM (B3), then go to step 24.

**NO** - Go to step 30.

14. Turn the ignition switch OFF.
15. Disconnect the EVAP canister purge valve 2P connector.
16. Turn the ignition switch ON (II).
17. Measure voltage between EVAP canister purge valve 2P connector terminal No. 1 and body ground.

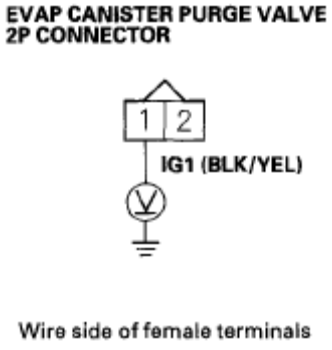



**Fig. 5: Measuring Voltage Between EVAP Canister Purge Valve 2P Connector Terminal No. 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 18.

**NO** - Repair open in the wire between the EVAP canister purge valve and the No. 3 ALTERNATOR (10 A) fuse in the under-dash fuse/relay box, then go to step 24.

18. Turn the ignition switch OFF.
19. Jump the SCS line with the HDS.
20. Disconnect ECM connector B (44P).
21. Check for continuity between ECM connector terminal B3 and EVAP canister purge valve 2P connector terminal No. 2.

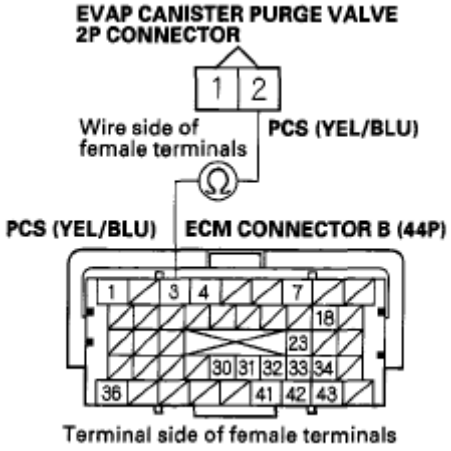


**Fig. 6: Checking Continuity Between ECM Terminal B3 And EVAP Canister Purge Valve 2P Terminal No. 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 22.

**NO** - Repair open in the wire between the EVAP canister purge valve and the ECM (B3), then go to step 24.

22. At the valve side, measure resistance between EVAP canister purge valve 2P connector terminals No. 1 and No. 2.




**Fig. 7: Measuring Resistance Between EVAP Canister Purge Valve 2P Connector Terminals No. 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 25 ohms at room temperature?*

**YES** - Go to step 30.

**NO** - Go to step 23.

23. Replace the EVAP canister purge valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
24. Reconnect all connectors.
25. Turn the ignition switch ON (II).
26. Reset the ECM with the HDS.

27. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
28. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0443 indicated?*

    **YES** - Check for poor connections or loose terminals at the EVAP canister purge valve and the ECM, then go to step 1.

    **NO** - Go to step 29.

29. Monitor the OBD STATUS for DTC P0443 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 28, go to the indicated DTC's troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister purge valve and the ECM, then go to step 1. If the screen indicates EXECUTING or OUT OF CONDITION, keep idling until a result comes on.

30. Reconnect all connectors.
31. Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ).
32. Start the engine, and let it idle.
33. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0443 indicated?*

    **YES** - Check for poor connections or loose terminals at the EVAP canister purge valve and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 32. If the ECM was substituted, go to step 1.

**NO** - Go to step 34.

34. Monitor the OBD STATUS for DTC P0443 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 33, go to the indicated DTC's troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister purge valve and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 32. If the ECM was substituted, go to step 1. If the screen indicates EXECUTING or OUT OF CONDITION, keep idling until a result comes on.

**DTC P0451: FTP SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **If DTC P2422 is stored at the same time as DTC P0451, troubleshoot DTC P2422 first, then recheck for DTC P0451.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle 1 minute.
4. Monitor the OBD STATUS for DTC P0451 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

**YES** - Go to step 5.

**NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

5. Turn the ignition switch OFF.
6. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
7. Turn the ignition switch ON (II).
8. Reset the ECM with the HDS.
9. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
10. Start the engine, and let it idle 1 minute.
11. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0451 indicated?*

    **YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1.

    **NO** - Go to step 12.

12. Monitor the OBD STATUS for DTC P0451 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 11, go to the indicated DTC's troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

**DTC P0452: FTP SENSOR CIRCUIT LOW VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-**

**board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Remove the fuel fill cap.
5. Turn the ignition switch ON (II).
6. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is about - 7.3 kPa (-2.16 in.Hg, - 55 mmHg), or 0.3 V or less indicated?*

   **YES** - Go to step 10.

   **NO** - Go to step 7.

7. Install the fuel fill cap.
8. Start the engine.
9. Monitor the OBD STATUS for DTC P0452 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

   **YES** - Go to step 10.

   **NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM. If the screen indicates NOT COMPLETED, go to step 4 and recheck.

10. Turn the ignition switch OFF.
11. Disconnect the FTP sensor 3P connector.
12. Turn the ignition switch ON (II).
13. Check the FTP SENSOR in the DATA LIST with the HDS.

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*Is about 7.3 kPa (2.15 in.Hg, 54.7 mmHg) or 4.90 V or more indicated?*

**YES** - Go to step 24.

**NO** - Go to step 14.

14. Measure voltage between FTP sensor 3P connector terminal No. 1 and body ground.

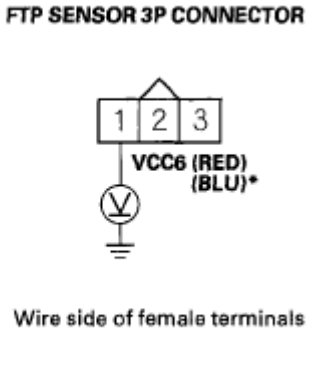



**Fig. 8: Measuring Voltage Between FTP Sensor 3P Connector Terminal No. 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** - Go to step 20.

**NO** - Go to step 15.

15. Turn the ignition switch OFF.
16. Jump the SCS line with the HDS.
17. Disconnect ECM connector A (44P).
18. Connect FTP sensor 3P connector terminal No. 1 to body ground with a jumper wire.

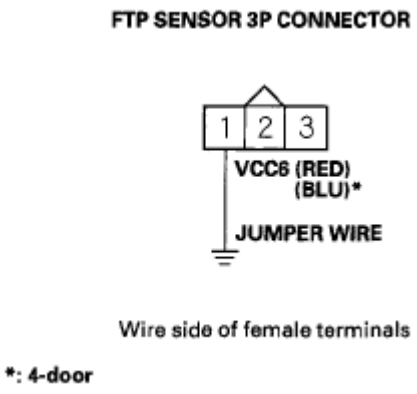



**Fig. 9: Connecting FTP Sensor 3P Connector Terminal No. 1 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Check for continuity between ECM connector terminal A19 and body ground.

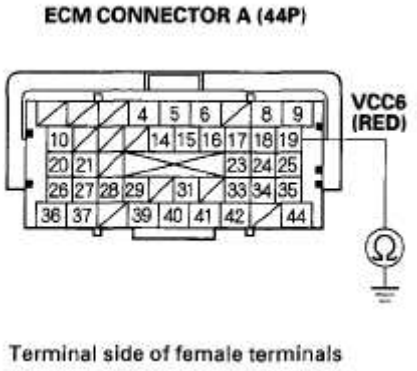



**Fig. 10: Checking Continuity Between ECM Connector Terminal A19 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 32.

**NO** - Repair open in the wire between the ECM (A19) and the FTP sensor, then go to step 26.

20. Turn the ignition switch OFF.
21. Jump the SCS line with the HDS.

22. Disconnect ECM connector A (44P).
23. Check for continuity between FTP sensor 3P connector terminal No. 2 and body ground.

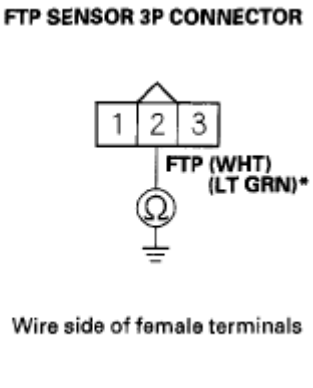



**Fig. 11: Checking Continuity Between FTP Sensor 3P Connector Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the ECM (A26) and the FTP sensor, then go to step 26.

**NO** - Go to step 32.

24. Turn the ignition switch OFF.
25. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
26. Reconnect all connectors.
27. Turn the ignition switch ON (II).
28. Reset the ECM with the HDS.
29. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
30. Check for Temporary DTCs or DTCs with the HDS.

*Is DTC P0452 indicated?*

**YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1.

**NO** - Go to step 31.

31. Monitor the OBD STATUS for DTC P0452 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 30, go to the indicated DTC's troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

32. Reconnect all connectors.
33. Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ).
34. Start the engine and let it idle.
35. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0452 indicated?*

    **YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 34. If the ECM was substituted, go to step 1.

    **NO** - Go to step 36.

36. Monitor the OBD STATUS for DTC P0452 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT** ). If any

other Temporary DTCs or DTCs were indicated in step 35, go to the indicated DTC's troubleshooting.

**NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 34. If the ECM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

**DTC P0453: FTP SENSOR CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Remove the fuel fill cap.
5. Turn the ignition switch ON (II).
6. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is about 7.3 kPa (2.16 in.Hg, 55 mmHg), or 4.7 V or more indicated?*

   **YES** - Go to step 10.

   **NO** - Go to step 7.

7. Install the fuel fill cap.
8. Start the engine.
9. Monitor the OBD STATUS for DTC P0453 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

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**YES** - Go to step 10.

**NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM. If the screen indicates NOT COMPLETED, go to step 6 and recheck.

10. Turn the ignition switch OFF.
11. Disconnect the FTP sensor 3P connector.
12. Connect FTP sensor 3P connector terminals No. 2 and No. 3 with a jumper wire.

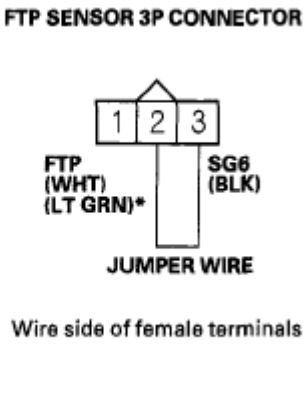



**Fig. 12: Connecting FTP Sensor 3P Connector Terminals No. 2 And 3 With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Turn the ignition switch ON (II).
14. Check the FTP SENSOR in the DATA LIST with the HDS.

*Is about 7.3 kPa (2.16 in.Hg, 55 mmHg), or 4.7 V or more indicated?*

**YES** - Go to step 15.

**NO** - Go to step 26.

15. Measure voltage between FTP sensor 3P connector terminals No. 1 and No. 3.

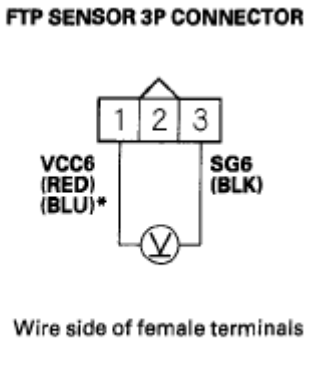



**Fig. 13: Measuring Voltage Between FTP Sensor 3P Connector Terminals No. 1 And 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** - Go to step 21.

**NO** - Go to step 16.

16. Turn the ignition switch OFF.
17. Jump the SCS line with the HDS.
18. Disconnect ECM connector A (44P).
19. Connect FTP sensor 3P connector terminal No. 3 to body ground with a jumper wire.

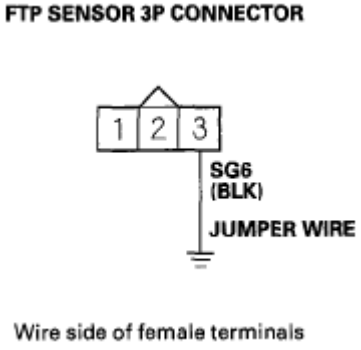



**Fig. 14: Connecting FTP Sensor 3P Connector Terminal No. 3 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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20. Check for continuity between ECM connector terminal A9 and body ground.

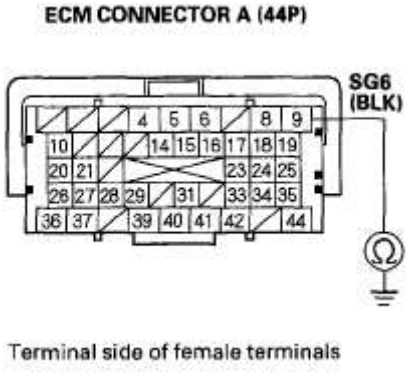


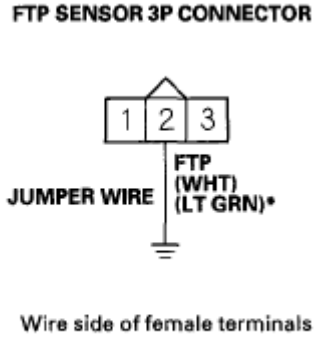

**Fig. 15: Checking Continuity Between ECM Connector Terminal A9 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 34.

**NO** - Repair open in the wire between the ECM (A9) and the FTP sensor, then go to step 28.

21. Turn the ignition switch OFF.
22. Jump the SCS line with the HDS.
23. Disconnect ECM connector A (44P).
24. Connect FTP sensor 3P connector terminal No. 2 to body ground with a jumper wire.




*: 4-door

**Fig. 16: Connecting FTP Sensor 3P Connector Terminal No. 2 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Check for continuity between ECM connector terminal A26 and body ground.

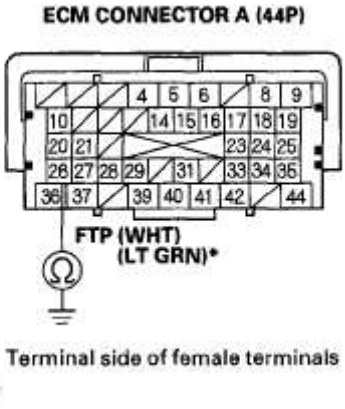



**Fig. 17: Checking Continuity Between ECM Connector Terminal A26 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 34.

**NO** - Repair open in the wire between the ECM (A26) and the FTP sensor, then go to step 28.

26. Turn the ignition switch OFF.
27. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
28. Reconnect all connectors.
29. Turn the ignition switch ON (II).
30. Reset the ECM with the HDS.
31. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
32. Check for Temporary DTCs or DTCs with the HDS.

*Is DTC P0453 indicated?*

**YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1.

**NO** - Go to step 33.

33. Monitor the OBD STATUS for DTC P0453 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 32, go to the indicated DTC's troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

34. Reconnect all connectors.
35. Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ).
36. Start the engine, and let it idle.
37. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0453 indicated?*

    **YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 36. If the ECM was substituted, go to step 1.

    **NO** - Go to step 38.

38. Monitor the OBD STATUS for DTC P0453 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

**YES** - If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 37, go to the indicated DTC's troubleshooting.

**NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 36. If the ECM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

**DTC P0455: EVAP SYSTEM LARGE LEAK DETECTED; DTC P0456: EVAP SYSTEM VERY SMALL LEAK DETECTED**

**NOTE: The fuel system is designed to allow specified maximum vacuum and pressure conditions. Do not deviate from the vacuum and pressure tests as indicated in these procedures. Excessive pressure/vacuum would damage the EVAP components or cause eventual fuel tank failure.**

## Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **Fresh fuel has a higher volatility that will create greater pressure/vacuum. The optimum condition for testing is less than a full tank of fresh fuel. If possible, to assist in leak detection, add 1 gallon of fresh fuel to the tank (as long as it will not fill the tank), just before starting these procedures.**

1. Check the fuel fill cap (the cap must say "TIGHTEN TO CLICK"). It should turn 1/4 turn after it's tight, then it clicks.

   *Is the correct fuel fill cap installed and properly tightened?*

   **YES** - Go to step 2.

   **NO** - Replace or tighten the cap, then go to step 22.

2. Check the fuel fill cap seal (A) and the fuel fill pipe mating surface (B). Verify that the fuel fill cap tether cord (C) is not caught under the cap.

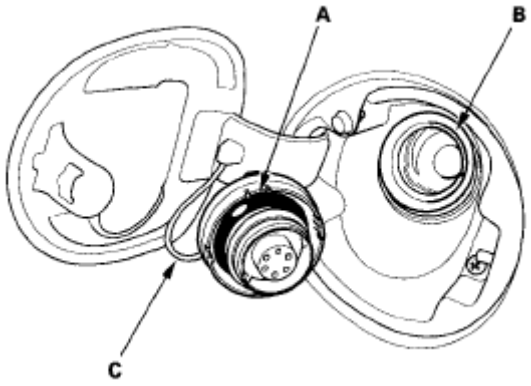



**Fig. 18: Checking Fill Cap Seal And Fuel Fill Pipe Mating Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

   *Is the fuel fill cap seal missing or damaged, is the fuel fill pipe damaged, or is the tether cord caught under the cap?*

   **YES** - Replace the fuel fill cap or the fuel fill pipe, then go to step 22.

   **NO** - Go to step 3.

3. Turn the ignition switch ON (II).
4. Clear the DTC with the HDS.
5. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

**YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, or the EVAP canister vent shut valve and the ECM.

**NO** - Go to step 6.

6. Turn the ignition switch OFF.
7. Check for a poor connection or damage at the fuel tank vapor recirculation tube.

   *Is the tube OK?*

   **YES** - Go to step 8.

   **NO** -

   - Replace the fuel tank vapor recirculation tube, then go to step 22.
   - If necessary, replace the fuel tank (see **FUEL TANK REPLACEMENT** ), then go to step 22.
8. Disconnect the fuel tank vapor recirculation tube (A) from the EVAP canister (B), and plug the EVAP canister port (C).

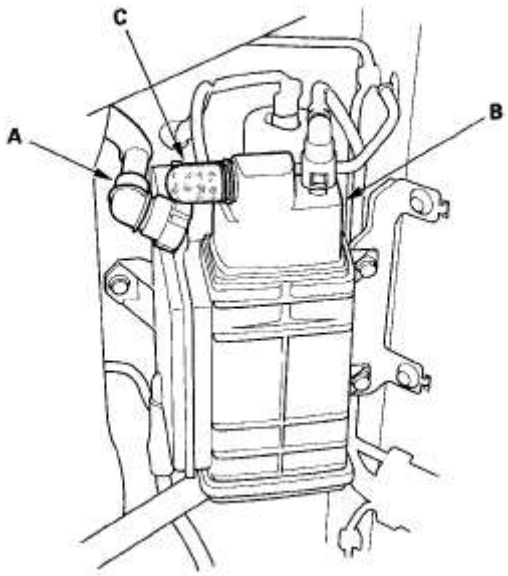



**Fig. 19: Disconnecting Fuel Tank Vapor Recirculation Tube From EVAP Canister**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Disconnect the vacuum hose (purge line) (A) from the EVAP canister purge valve (B) in the engine compartment, and connect a vacuum pump/gauge, 0-30 in.Hg, to the vacuum hose as shown.

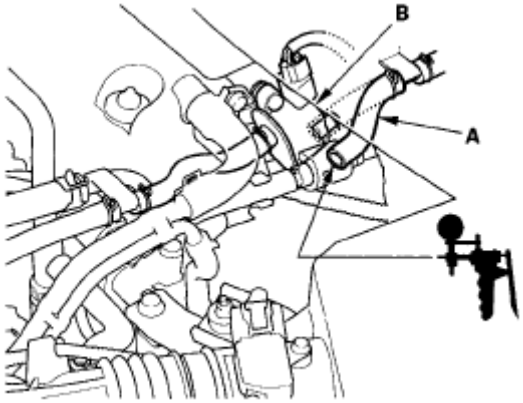



**Fig. 20: Disconnecting Vacuum Hose (Purge Line)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Turn the ignition switch ON (II).
11. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
12. Apply vacuum to the hose until the FTP reads 1.90 V (-0.59 in.Hg, -15.1 mmHg).

**NOTE: Be careful not to exceed the pressure. If you exceed the pressure, the FTP sensor can be damaged.**

13. Monitor the FTP SENSOR in the DATA LIST for 1 minute with the HDS.

*Does the voltage increase more than 0.2 V (0.1 in.Hg, 0.5 mmHg)?*

**YES** - Go to step 14.

**NO** - Go to step 19.

14. Select EVAP CVS OFF in the INSPECTION MENU with the HDS.
15. Disconnect the fresh air hose (A) from the EVAP canister (B), and plug the

EVAP canister port (C).

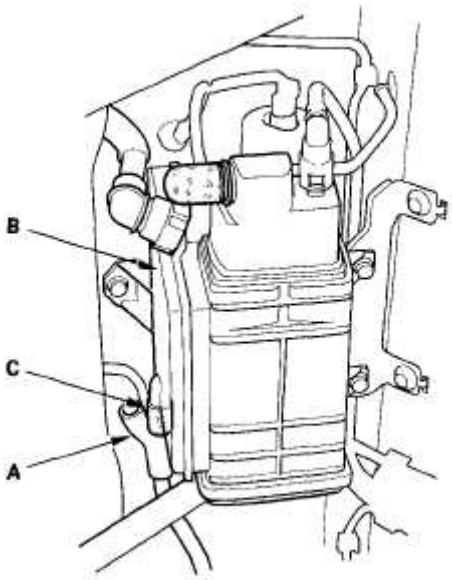



**Fig. 21: Disconnecting Fresh Air Hose From EVAP Canister**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Apply vacuum to the EVAP system until the FTP reads 1.90 V (-0.59 in.Hg, -15.1 mmHg).

**NOTE: Be careful not to exceed the pressure. If you exceed the pressure, the FTP sensor can be damaged.**

17. Monitor the FTP SENSOR in the DATA LIST for 1 minute with the HDS.

*Does the voltage increase more than 0.2 V (0.1 in.Hg, 2.5 mmHg)?*

**YES** - Go to step 18.

**NO** - Replace the EVAP canister vent shut valve, then go to step 21.

18. Check for a loose or damaged EVAP canister purge line between the EVAP canister and the EVAP canister purge valve.

*Is the line OK?*

**YES** - Replace these parts, then go to step 21:

- FTP sensor O-ring
- EVAP canister vent shut valve case and O-ring
- EVAP canister

**NO** - Reconnect or repair the EVAP canister purge hose, then go to step 21.

19. Select EVAP CVS OFF in the INSPECTION MENU with the HDS.
20. Check these parts for looseness or damage:
    - Fuel fill pipe
    - Fuel vapor return pipe

    *Are the parts OK?*

    **YES** - Check the fuel tank unit base gasket (see **FUEL TANK REPLACEMENT** ), and check the fuel tank, then go to step 21.

    **NO** - Repair or replace the damaged parts, then go to step 21.

21. Reconnect all hoses and connectors.
22. Turn the ignition switch ON (II).
23. Reset the ECM with the HDS.
24. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
25. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

    **YES** - Troubleshooting is complete.

    **NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM, then go to step 1.

**DTC P0457: EVAP SYSTEM LEAK DETECTED/FUEL FILL CAP LOOSE OR MISSING**

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Check the fuel fill cap (the cap must say "TIGHTEN TO CLICK"). It should turn 1/4 turn after it's tight, then it clicks.

   *Is the correct fuel fill cap installed and properly tightened?*

   **YES** - Go to step 2.

   **NO** - Replace or tighten the cap, then go to step 19.

2. Check the fuel fill cap seal (A) and the fuel fill pipe mating surface (B). Verify that the fuel fill cap tether cord (C) is not caught under the cap.

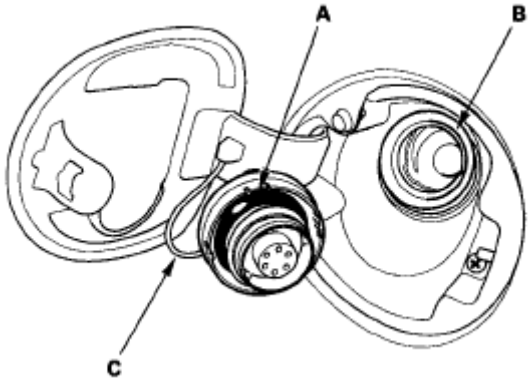



**Fig. 22: Checking Fuel Fill Cap Seal And Fuel Fill Pipe Mating Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

   *Is the fuel fill cap seal missing or damaged, is the fuel fill pipe damaged, or is the tether cord caught under the cap?*

   **YES** - Replace the fuel fill cap or the fuel fill pipe, then go to step 19.

   **NO** - Go to step 3.

3. Turn the ignition switch ON (II).

4. Clear the DTC with the HDS.
5. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, or the EVAP canister vent shut valve, and the ECM.

   **NO** - Go to step 6.

6. Turn the ignition switch OFF.
7. Remove the EVAP canister vent shut valve from the EVAP canister (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
8. Connect the 2P connector to the EVAP canister vent shut valve.
9. Turn the ignition switch ON (II).
10. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
11. Check the EVAP canister vent shut valve (A) operation.




**Fig. 23: Checking EVAP Canister Vent Shut Valve Operation**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Does the valve operate?*

**YES** - Check the routing of the EVAP canister vent tube, then go to step 18.

**NO** - Go to step 12.

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12. Turn the ignition switch OFF.
13. Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
14. Turn the ignition switch ON (II).
15. Reset the ECM with the HDS.
16. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
17. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

    **YES** - Troubleshooting is complete.

    **NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM, then go to step 1.

18. Reinstall the EVAP canister vent shut valve.
19. Turn the ignition switch ON (II).
20. Reset the ECM with the HDS.
21. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
22. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

    **YES** - Troubleshooting is complete.

    **NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM, then go to step 1.

**DTC P0496: EVAP SYSTEM HIGH PURGE FLOW DETECTED**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM.

   **NO** - Go to step 4.

4. Turn the ignition switch OFF.
5. Replace the EVAP canister purge valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
6. Turn the ignition switch ON (II).
7. Reset the ECM with the HDS.
8. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
9. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Troubleshooting is complete.

   **NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM, then go to step 1.

**DTC P0497: EVAP SYSTEM LOW PURGE FLOW DETECTED ('06 MODEL)**

## Special Tools Required

- Vacuum/pressure gauge, 0-4 in.Hg, 07JAZ-001000B
- Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Check the fuel fill cap installation (The cap must say "TIGHTEN TO CLICK". The cap should tighten 1/4 turn after it is tight.).

   *Is the fuel fill cap installed and properly tightened?*

   **YES** - Go to step 2.

   **NO** - Properly install the fuel fill cap, then go to step 23.

2. Turn the ignition switch ON (II).
3. Clear the DTC with the HDS.
4. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, or the EVAP canister vent shut valve and the ECM.

   **NO** - Go to step 5.

5. Check for a loose or damaged EVAP canister purge line between the intake manifold and the EVAP canister purge valve.

   *Is the line OK?*

   **YES** - Go to step 6.

   **NO** - Reconnect or repair the EVAP canister purge line, then go to step 23.

6. Disconnect the vacuum hose (A) from the EVAP canister purge valve (B) in the engine compartment, and connect a T-fitting (C) from the vacuum gauge

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and the vacuum pump/gauge, 0-30 in.Hg, to the vacuum hose as shown.

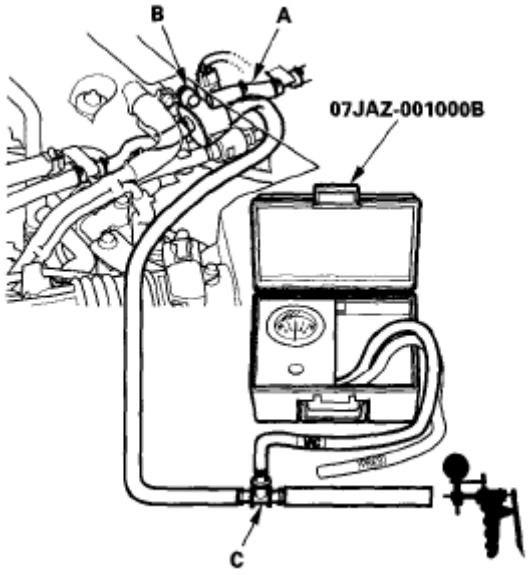



**Fig. 24: Disconnecting Vacuum Hose From EVAP Canister Purge Valve In Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Select EVAP PCS ON in the INSPECTION MENU with the HDS.
8. Slowly apply about 0.6 in.Hg (15 mmHg) of vacuum to the hose.

   *Does it hold vacuum?*

   **YES** - Replace the EVAP canister purge valve, then go to step 22.

   **NO** - Go to step 9.

9. Reconnect the vacuum hose to the EVAP canister purge valve.
10. Disconnect the vacuum hose from the purge line (at the EVAP canister side), and connect a T-fitting (A) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

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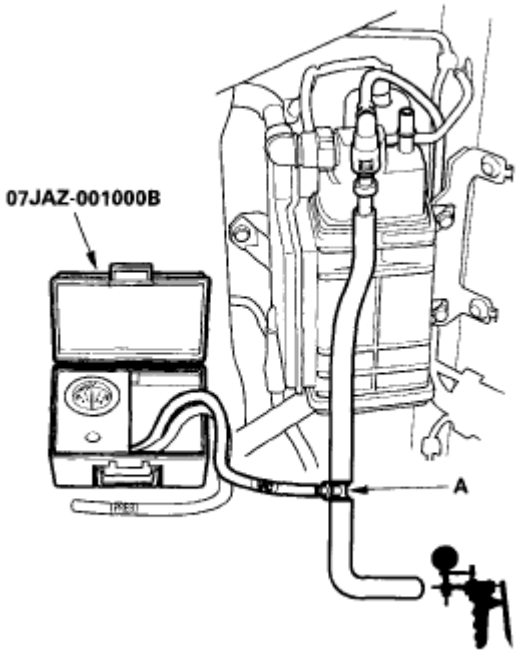



**Fig. 25: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge To Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Select EVAP PCS ON in the INSPECTION MENU with the HDS.
12. Slowly apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.

    *Does it hold vacuum?*

    **YES** - Check for a restrictied EVAP canister purge line between the EVAP canister purge valve and the EVAP canister, then go to step 22.

    **NO** - Go to step 13.

13. Remove the FTP sensor with its connector connected (see **FTP SENSOR REPLACEMENT** ).
14. Connect a T-fitting (A) from the vacuum pump/gauge, 0-30 in.Hg, and the vacuum pump to the FTP sensor (B) as shown.

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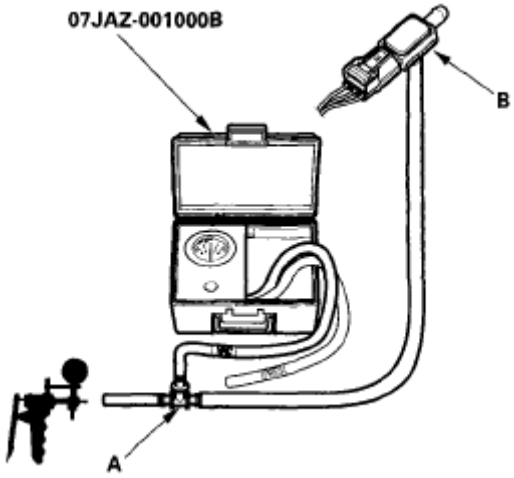



**Fig. 26: Connecting T-Fitting From Vacuum Pump/Gauge And Vacuum Pump To FTP Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Check and record the FTP SENSOR reading in the DATA LIST with the HDS.
16. Slowly apply about 1.3 kPa (0.4 in.Hg, 10 mmHg) of vacuum to the hose.
17. Check the FTP SENSOR in the DATA LIST with the HDS.

    *Is the difference more than 1.1 kPa (0.31 in.Hg, 8 mmHg) before and after applying vacuum?*

    **YES** - Go to step 18.

    **NO** - Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ), then go to step 22.

18. Reconnect the vacuum hoses to the EVAP canister purge line (EVAP canister side), and reinstall the FTP sensor.
19. Disconnect the vacuum hose (purge line) (A) from the EVAP canister purge valve (B), and connect a T-fitting (C) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

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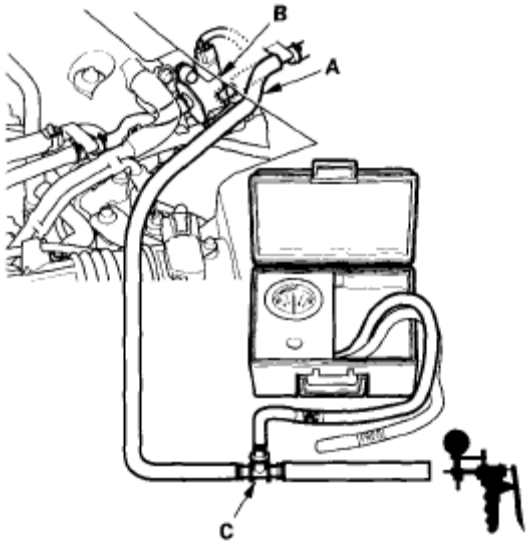



**Fig. 27: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge To Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
21. Slowly apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.

    *Does the hose hold vacuum?*

    **YES** - Check for blockage at the EVAP canister port, then go to step 22.

    **NO** - Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ), then go to step 22.

22. Reconnect all hoses.
23. Turn the ignition switch ON (II).
24. Reset the ECM with the HDS.
25. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
26. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

    **YES** - Troubleshooting is complete.

**NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM, then go to step 1.

**DTC P0497: EVAP SYSTEM LOW PURGE FLOW DETECTED ('07 MODEL)**

## Special Tools Required

- Vacuum/pressure gauge, 0-4 in.Hg 07JAZ-001000B
- Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM.

   **NO** - Go to step 4.

4. Turn the ignition switch OFF.
5. Check for poor connection, blockage, or damage at the EVAP canister purge line between the throttle body and the EVAP canister.

   *Is the line OK?*

   **YES** - Go to step 5.

   **NO** - Reconnect or repair the EVAP canister purge line, then go to step 24.

6. Disconnect the vacuum hose (A) from the EVAP canister purge valve (B).

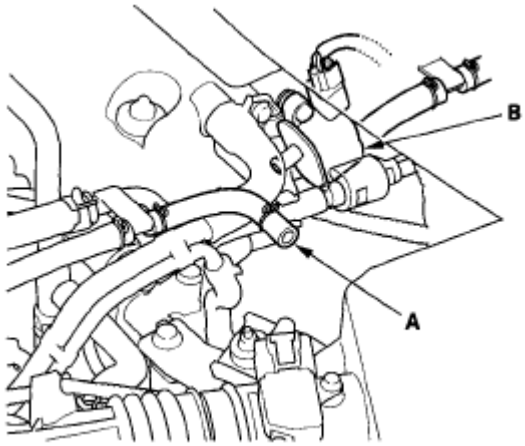



**Fig. 28: Disconnecting Vacuum Hose From EVAP Canister Purge Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the vacuum hose from the purge line (at the EVAP canister side), and connect a T-fitting (A) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

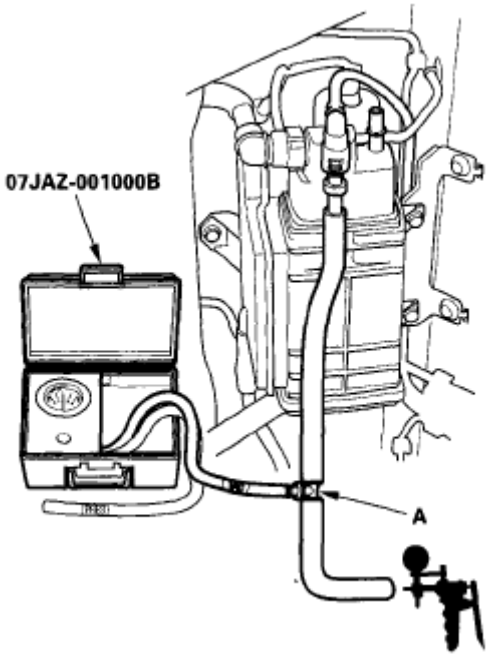



**Fig. 29: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge To Hose**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.
9. Select EVAP PCS ON in the INSPECTION MENU with the HDS.

*Does the vacuum release momentary?*

**YES** - Go to step 14.

**NO** - Go to step 10.

10. Select EVAP PCS OFF in the INSPECTION MENU with the HDS.
11. Disconnect the vacuum hose (A) from the EVAP canister purge valve (B). Connect a T-fitting (C) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, and the EVAP canister purge valve as shown.

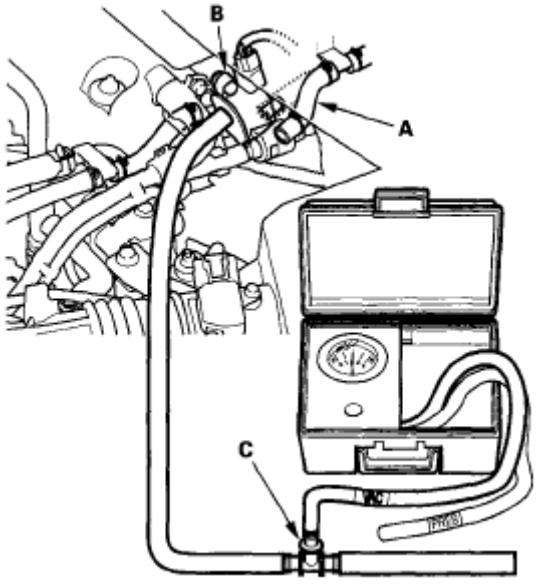



**Fig. 30: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge And EVAP Canister Purge Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.
13. Select EVAP PCS ON in the INSPECTION MENU with the HDS.

*Does the vacuum release momentary?*

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**YES** - Check for blockage in the EVAP canister purge line between the EVAP canister purge valve and the EVAP canister, then go to step 24.

**NO** - Replace the EVAP canister purge valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ), then go to step 24.

14. Connect the vacuum pump/gauge, 0-30 in.Hg, to the vacuum hose (A) as shown.

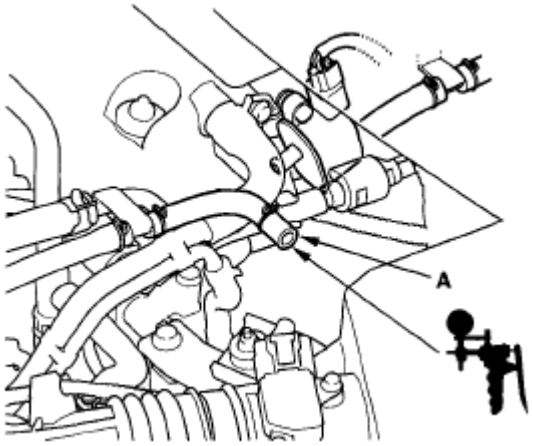



**Fig. 31: Connecting Vacuum Pump/Gauge To Vacuum Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Start the engine, and let it idle.

    *Is there vacuum?*

    **YES** - Go to step 16.

    **NO** - Check for blockage at the EVAP purge line between the throttle body and the EVAP canister purge valve, then go to step 24.

16. Turn the ignition switch OFF.
17. Remove the FTP sensor with its connector connected (see **FTP SENSOR REPLACEMENT** ).
18. Connect a T-fitting (A) from the vacuum pump/gauge, 0-30 in.Hg, and the vacuum pump, to the FTP sensor (B) as shown.

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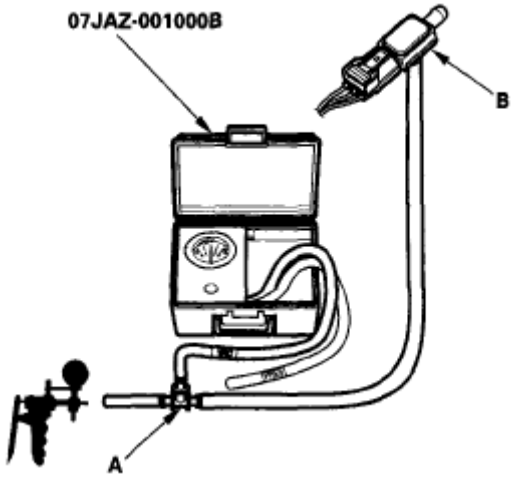



**Fig. 32: Identifying T-Fitting And FTP Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Turn the ignition switch ON (II).
20. Check and record the FTP SENSOR reading in the DATA LIST with the HDS.
21. Slowly apply about 1.3 kPa (0.4 in.Hg, 10 mmHg) of vacuum to the hose.
22. Check the FTP SENSOR in the DATA LIST with the HDS.

    *Does the value change?*

    **YES** - Check for debris or blockage at the EVAP canister port, then go to step 24.

    **NO** - Go to step 23.

23. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
24. Reconnect all hoses.
25. Turn the ignition switch ON (II).
26. Reset the ECM with the HDS.
27. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
28. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

**YES** - Troubleshooting is complete.

**NO** - Check for poor connections or loose terminals at the FTP sensor and the ECM, then go to step 1.

**DTC P0498: EVAP CANISTER VENT SHUT VALVE CIRCUIT LOW VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs with the HDS.

   *Is DTC P0498 indicated?*

   **YES** - Go to step 6.

   **NO** - Go to step 4.

4. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
5. Check for Temporary DTCs or DTCs with the HDS.

   *Is DTC P0498 indicated?*

   **YES** - Go to step 6.

   **NO** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM.

6. Turn the ignition switch OFF.
7. Disconnect the EVAP canister vent shut valve 2P connector.
8. Turn the ignition switch ON (II).
9. Measure voltage between EVAP canister vent shut valve 2P connector terminal

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No. 2 and body ground.

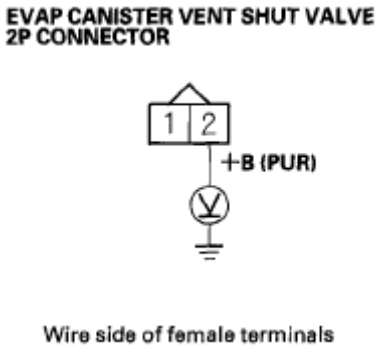



**Fig. 33: Measuring Voltage Between EVAP Canister Vent Shut Valve 2P Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 10.

**NO** - Repair open in the wire between the EVAP canister vent shut valve and the PGM-FI subrelay, then go to step 18.

10. Turn the ignition switch OFF.
11. At the valve side, measure resistance between EVAP canister vent shut valve 2P connector terminals No. 1 and No. 2.

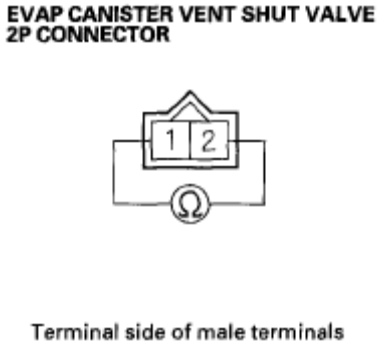



**Fig. 34: Measuring Resistance Between EVAP Canister Vent Shut Valve 2P Connector Terminals No. 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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*Is there about 25-30 0, at room temperature?*

**YES** - Go to step 12.

**NO** - Go to step 17.

12. Jump the SCS line with the HDS.
13. Disconnect ECM connector A (44P).
14. Check for continuity between ECM connector terminal A10 and body ground.

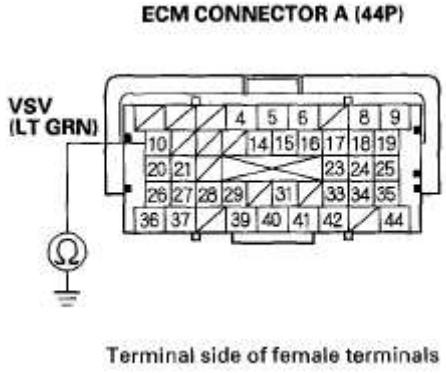



**Fig. 35: Checking Continuity Between ECM Connector Terminal A10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the EVAP canister vent shut valve and the ECM (A10), then go to step 18.

**NO** - Go to step 15.

15. Connect EVAP canister vent shut valve 2P connector terminal No. 1 to body ground with a jumper wire.

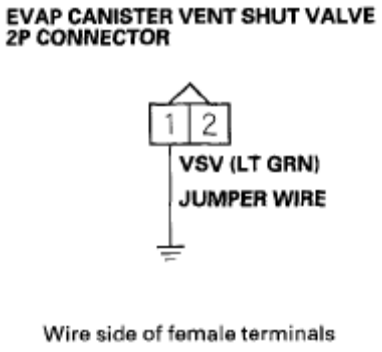



**Fig. 36: Connecting EVAP Canister Vent Shut Valve 2P Terminal No. 1 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Check for continuity between ECM connector terminal A10 and body ground.

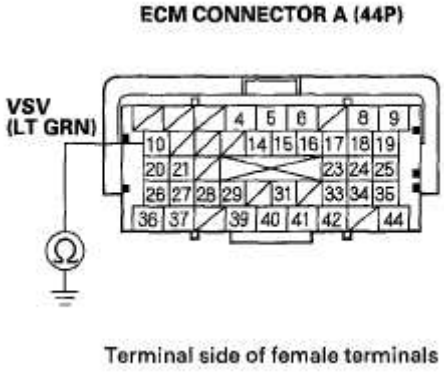



**Fig. 37: Checking Continuity Between ECM Connector Terminal A10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 25.

**NO** - Repair open in the wire between the EVAP canister vent shut valve and the ECM (A10), then go to step 18.

17. Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
18. Reconnect all connectors.

19. Turn the ignition switch ON (II).
20. Reset the ECM with the HDS.
21. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
22. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
23. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0498 indicated?*

    **YES** - Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM, then go to step 1.

    **NO** - Go to step 24.

24. Monitor the OBD STATUS for DTC P0498 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTSs were indicated in step 23, go to the indicated DTC's troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 22.

25. Reconnect all connectors.
26. Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ).
27. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
28. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0498 indicated?*

    **YES** - Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM. If the ECM was updated, substitute a known-

good ECM (see **SUBSTITUTING THE ECM** ), then go to step 27. If the ECM was substituted, go to step 1.

**NO** - Go to step 29.

29. Monitor the OBD STATUS for DTC P0498 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 28, go to the indicated DTC's troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 27. If the ECM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 27.

**DTC P0499: EVAP CANISTER VENT SHUT VALVE CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
4. Check for Temporary DTCs or DTCs with the HDS.

   *Is DTC P0499 indicated?*

   **YES** - Go to step 5.

**NO** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM.

5. Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ).
6. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
7. Check for Temporary DTCs or DTCs with the HDS.

   *Is DTC P0499 indicated?*

   **YES** - Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 6. If the ECM was substituted, go to step 1.

   **NO** - Go to step 8.

8. Monitor the OBD STATUS for DTC P0499 in the DTCs MENU with the HDS.

   *Does the screen indicate PASSED?*

   **YES** - If the ECM was updated, troubleshooting is complete. If the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 7, go to the indicated DTC's troubleshooting.

   **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM. If the ECM was updated, substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then go to step 6. If the ECM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 6.

**DTC P1454: FTP SENSOR RANGE/PERFORMANCE PROBLEM; DTC P2422: EVAP CANISTER VENT SHUT VALVE STUCK CLOSED MALFUNCTION**

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Remove the fuel fill cap, and wait 1 minute.
5. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is it between - 0.67 and 0.67 kPa (- 0.2 and 0.2 in.Hg, - 5 and 5 mmHg), or 2.4 and 2.6 V?*

   **YES** - Go to step 6.

   **NO** - Go to step 17.

6. Install the fuel fill cap.
7. Clear the DTC with the HDS.
8. Start the engine. Hold the engine speed at 3,000 rpm without load (in neutral) until the radiator fan comes on, then let it idle.
9. Monitor the OBD STATUS for DTC P1454 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

   **YES** - Go to step 10.

   **NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM. Also check for a blockage in the vent hoses and the drain joint. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

10. Clear the DTC with the HDS.

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11. Turn the ignition switch OFF.
12. Remove the EVAP canister vent shut valve from the EVAP canister (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
13. Connect the 2P connector to the EVAP canister vent shut valve.
14. Turn the ignition switch ON (II).
15. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
16. Check the EVAP canister vent shut valve (A) operation.




**Fig. 38: Checking EVAP Canister Vent Shut Valve Operation**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Does the valve operate?*

**YES** - Check for a blockage in the EVAP canister, vent hoses, and drain joint, then install the EVAP canister vent shut valve, and go to step 23.

**NO** - Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ), then go to step 23.

17. Disconnect the air tube (A) from the FTP sensor (B).

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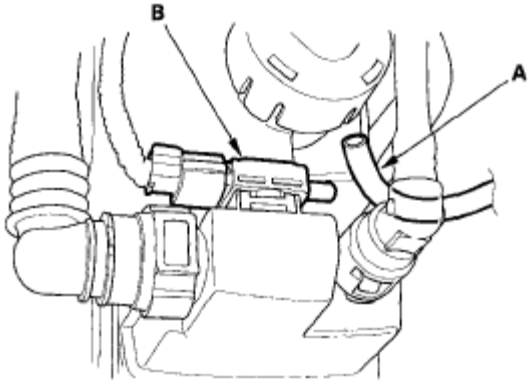



**Fig. 39: Disconnecting Air Tube From FTP Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Check the FTP SENSOR in the DATA LIST with the HDS.

    *Is it between - 0.67 and 0.67 kPa (- 0.2 and 0.2 in.Hg, - 5 and 5 mmHg), or 2.4 and 2.6 V?*

    **YES** - Check for a blockage in the FTP sensor air tube or vent, then go to step 23.

    **NO** - Go to step 19.

19. Turn the ignition switch OFF.
20. Remove the FTP sensor (A) from the EVAP canister with its connector connected (see **EVAP CANISTER REPLACEMENT** ).

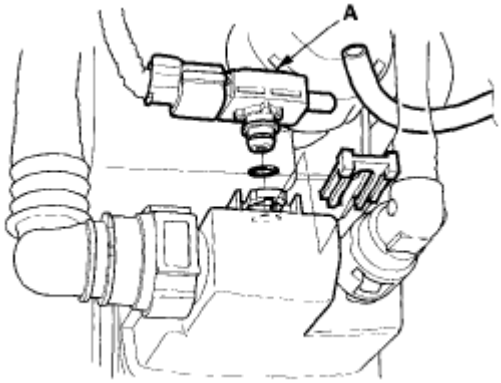



**Fig. 40: Removing FTP Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Turn the ignition switch ON (II).
22. Check the FTP SENSOR in the DATA LIST with the HDS.

    *Is it between - 0.67 kPa and 0.67 kPa (- 0.2 and 0.2 in.Hg, - 5 and 5 mmHg), or 2.4 and 2.6 V?*

    **YES** - Check for debris or clogging at the EVAP canister and the FTP sensor port, then go to step 23.

    **NO** - Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ), then go to step 23.

23. Turn the ignition switch ON (II).
24. Reset the ECM with the HDS.
25. Do the ECM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).
26. Start the engine. Hold the engine speed at 3,000 rpm without load (in neutral) until the radiator fan comes on, then let it idle.
27. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1454 and/or P2422 indicated?*

    **YES** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM, then go to step 1.

    **NO** - Go to step 28.

28. Monitor the OBD STATUS for DTC PI 454 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 27, go to the indicated DTC's troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until

a result comes on.

**DTC P145C: EVAP SYSTEM PURGE FLOW MALFUNCTION ('07 MODEL)**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **If DTC P145C is indicated alone, do the troubleshooting for DTC P0496 and P0497 using freeze date for P145C.**
- **If any of the DTCs listed below are indicated at the same time as DTC P145C, troubleshoot those DTC first, then recheck for P145C:**

  **P0496, P0497: EVAP system purge flow**

## FUEL CAP WARNING MESSAGE SYSTEM TROUBLESHOOTING

### Special Tools Required

- Vacuum/pressure gauge, 0-4 in.Hg 07JAZ-001000B
- Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

When the fuel cap warning message does not go off after fuel cap tightened, or the message turned on frequently, do this troubleshooting procedure.

**'07-08 model**

1. Check the fuel fill cap (the cap must say "TIGHTEN TO CLICK"). It should turn 1/4 after it's tight, then it clicks.

   *Is the correct fuel fill cap installed and properly tightened?*

   **YES** - Go to step 2.

   **NO** - Replace or tighten the cap, then go to step 13.

2. Check the fuel fill cap seal (A) and the fuel fill pipe mating surface (B). Verify that the fuel fill cap tether cord (C) is not caught under the cap.

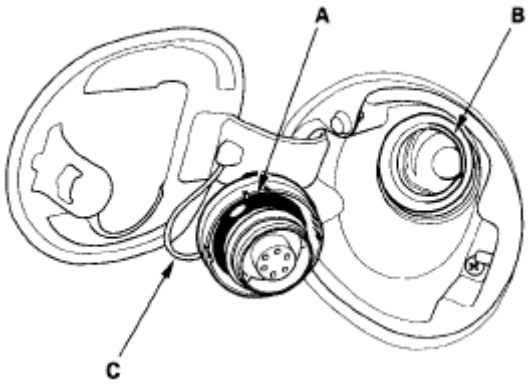



**Fig. 41: Checking Fuel Fill Cap Seal And Fuel Fill Pipe Mating Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the fuel fill cap seal missing or damaged, is the fuel fill pipe damaged, or is the tether cord caught under the cap?*

**YES** - Replace the fuel fill cap or the fuel fill pipe, then go to step 13.

**NO** - Go to step 3.

3. Reinstall and tighten the fuel fill cap.
4. Clear the DTC with the HDS.
5. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle for 1 minute.
6. Test drive at 45 mph (72 km/h) for 1 minute or more.

*Does fuel cap warning message come on?*

**YES** - Go to step 7.

**NO** - Intermittent failure, the system is OK at this time.

7. Turn the ignition switch OFF.
8. Disconnect the vacuum hose (A) from the EVAP canister purge valve (B) in the engine compartment, and connect a T-fitting (C) from the vacuum gauge

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and the vacuum pump/gauge 0-30 in.Hg, to the EVAP canister purge valve as shown.

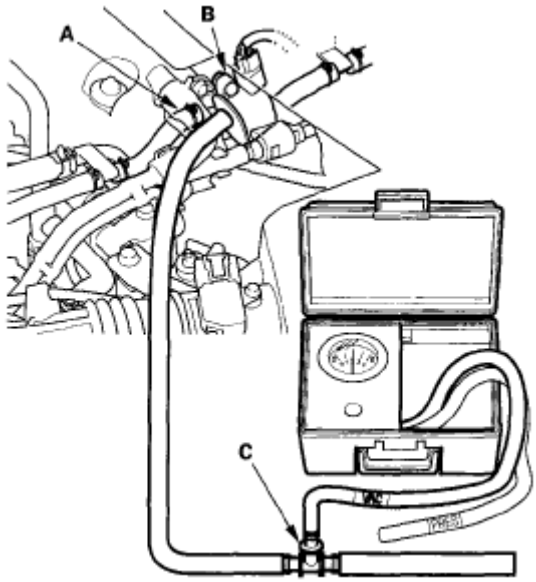



**Fig. 42: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge To EVAP Canister Purge Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Turn the ignition switch ON (II).
10. Apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.
11. Select the EVAP PCS ON in the INSPECTION MENU with the HDS.

    *Does the vacuum release momentary?*

    **YES** - Check for blockage at the EVAP canister purge line between EVAP canister purge valve and the EVAP canister, then go to step 12.

    **NO** - Replace the EVAP canister purge valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ), then go to step 12.

12. Reconnect all hoses.
13. Turn the ignition switch ON (II).
14. Reset the PCM with the HDS.
15. Do the PCM idle learn procedure (see **ECM IDLE LEARN PROCEDURE** ).

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16. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until a radiator fan comes on, then let it idle for 1 minute.
17. Test drive at 45 mph (72 km/h) for 1 minute or more.

    *Does the fuel cap message come on?*

    **YES** - Go to step 1 and recheck.

    **NO** - Troubleshooting is complete.

## EVAP CANISTER REPLACEMENT

1. Remove the cover (A).

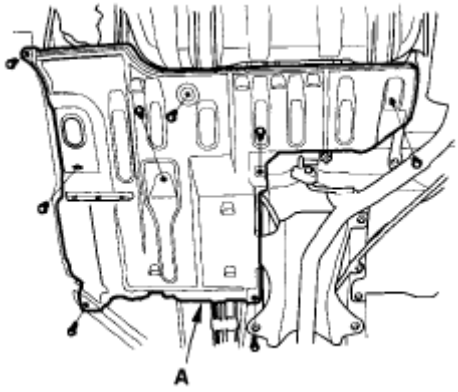



**Fig. 43: Removing Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the EVAP canister guard pipe (A).

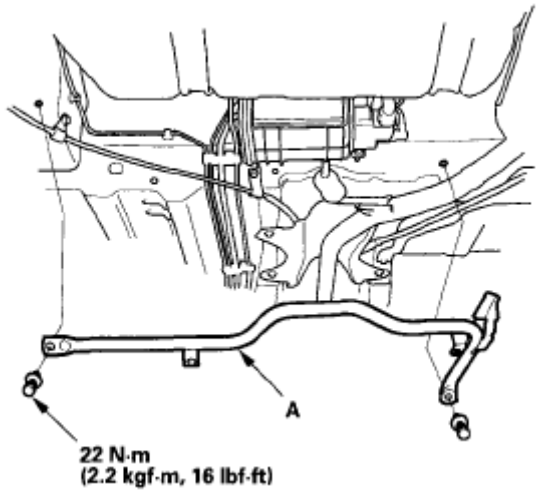



**Fig. 44: Removing EVAP Canister Guard Pipe (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the hoses (A), the FTP sensor connector (B), the EVAP canister vent shut valve connector (C) and the bolts (D).

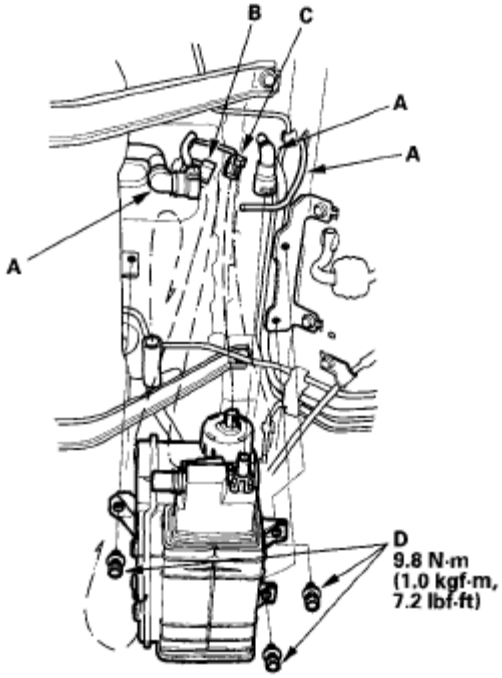



**Fig. 45: Removing Hoses, FTP Sensor Connector, EVAP Canister Vent Shut Valve Connector And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the EVAP canister.
5. Remove the cap (A).

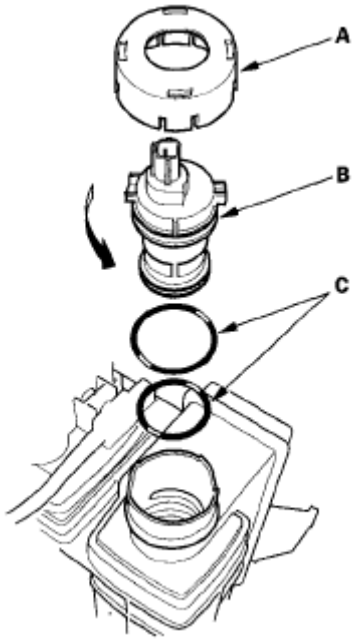



**Fig. 46: Removing Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the EVAP canister vent shut valve (B).
7. Install the EVAP canister vent shut valve on the new EVAP canister with new O-rings (C).

**NOTE: Do not coat the O-rings with oil.**

8. Install the parts in the reverse order of removal.

## FTP SENSOR REPLACEMENT

1. Remove the cover (see step 1 in **EVAP CANISTER REPLACEMENT** ).
2. Disconnect the FTP sensor connector (A).

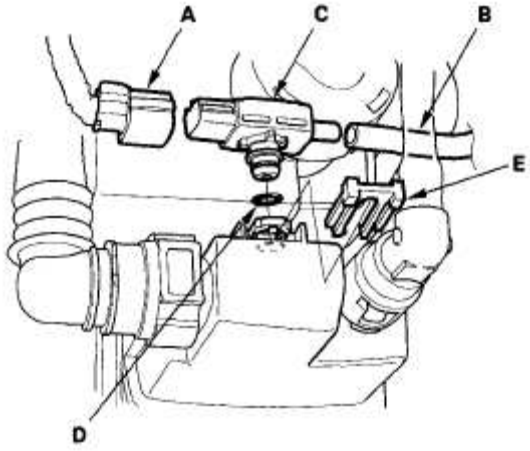



**Fig. 47: Disconnecting FTP Sensor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the hose (B), and then remove the FTP sensor (C).
4. Install the parts in the reverse order of removal with a new O-ring (D) and a new retainer (E).

## EVAP CANISTER VENT SHUT VALVE REPLACEMENT

1. Remove the EVAP canister (see **EVAP CANISTER REPLACEMENT** ).
2. Remove the cap (A).

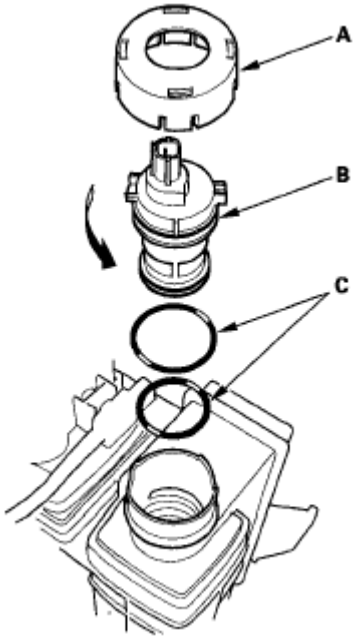


**Fig. 48: Removing Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the EVAP canister vent shut valve (B).
4. Install the parts in the reverse order of removal with new O-rings (C) and a new cap (A).

**NOTE: Do not coat the O-rings with oil.**

## EVAP CANISTER PURGE VALVE REPLACEMENT

1. Remove the intake manifold cover (see **INTAKE MANIFOLD AND EXHAUST SYSTEM (K20Z3)** ).
2. Remove the air cleaner (see **AIR CLEANER REMOVAL/INSTALLATION** ).
3. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
4. Remove the fuel line (A).

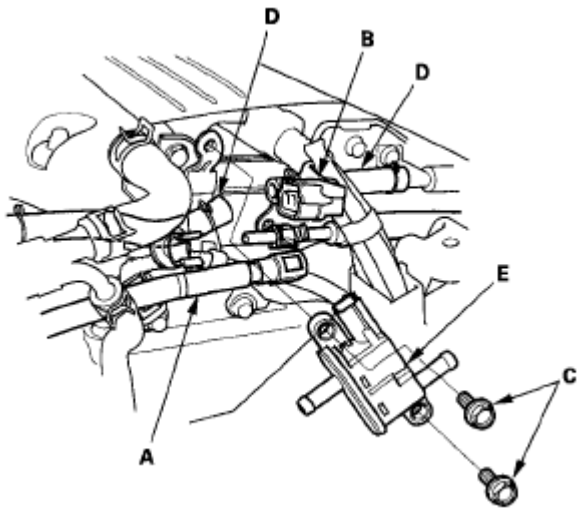



**Fig. 49: Removing Fuel Line**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Disconnect the EVAP canister purge valve 2P connector (B).
6. Remove the bolts (C) and the hoses (D), then remove the EVAP canister purge valve (E).

7. Install the parts in the reverse order of removal.

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**2006-08 ENGINE PERFORMANCE**

**EVAP System (R18A1) - Civic (All Except Hybrid)**

## COMPONENT LOCATION INDEX

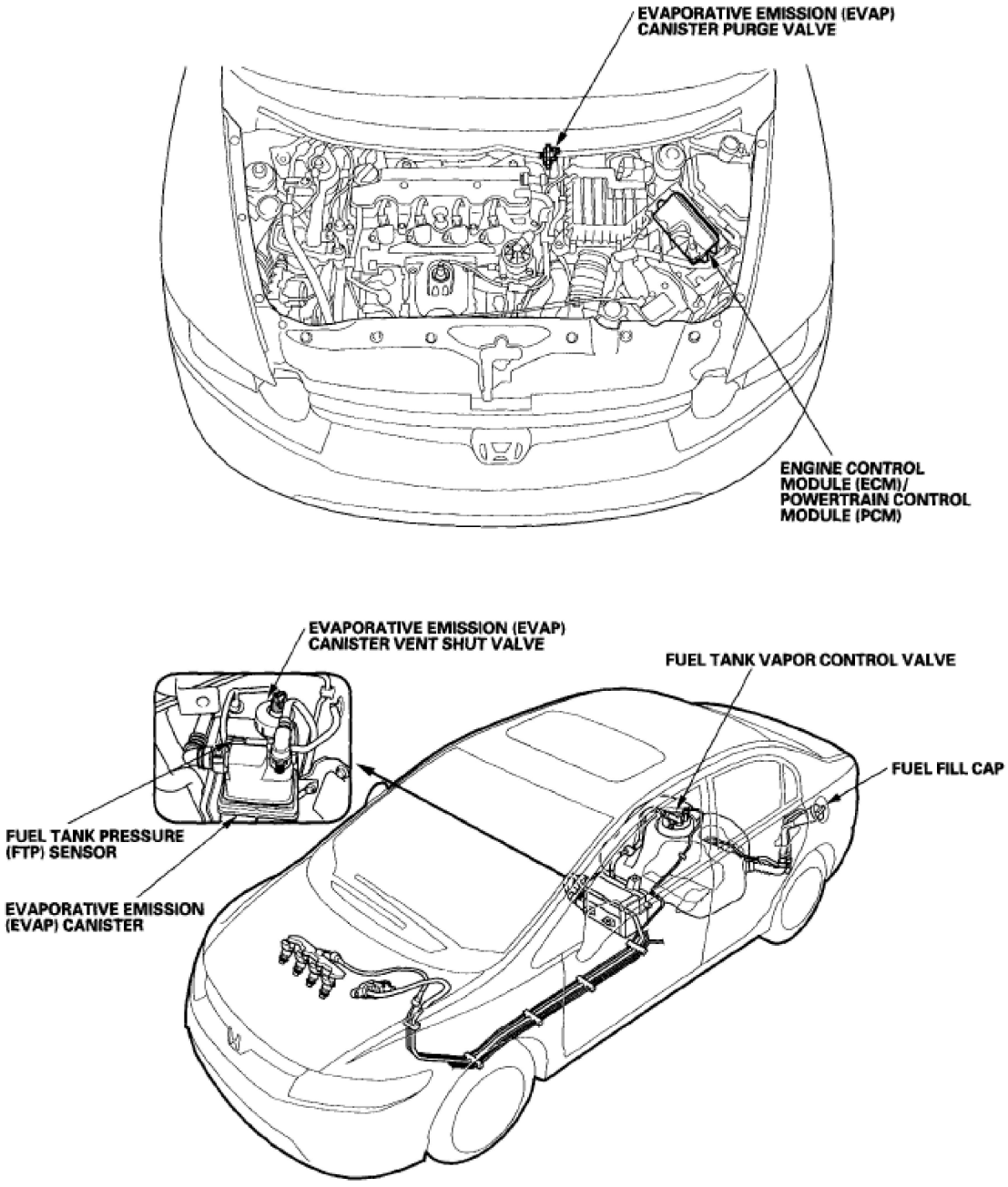



**Fig. 1: Identifying EVAP System Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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# DTC TROUBLESHOOTING

**DTC P0443: EVAP CANISTER PURGE VALVE CIRCUIT MALFUNCTION**

## Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
4. Check for Temporary DTCs or DTCs with the HDS. Is DTC P0443 indicated?

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EVAP canister purge valve and the ECM/PCM.

5. Turn the ignition switch OFF, and allow the engine to cool below HOT (60°C).
6. Disconnect the vacuum hose (A) from the EVAP canister purge valve (B) in the engine compartment, and connect a vacuum pump/gauge, 0-30 in.Hg, to the hose.

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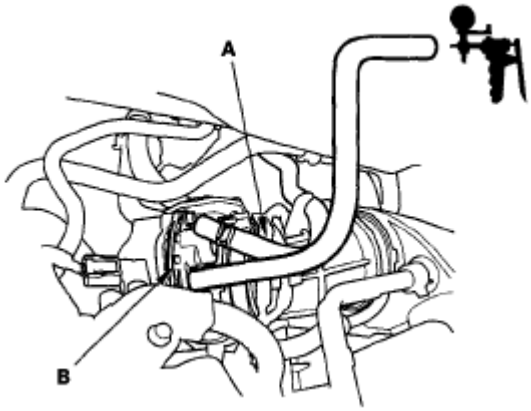



**Fig. 2: Disconnecting Vacuum Hose From EVAP Canister Purge Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Start the engine, and let it idle.

   *Is there vacuum?*

   **YES** - Go to step 8.

   **NO** - Go to step 14.

8. Turn the ignition switch OFF.
9. Disconnect the EVAP canister purge valve 2P connector.
10. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

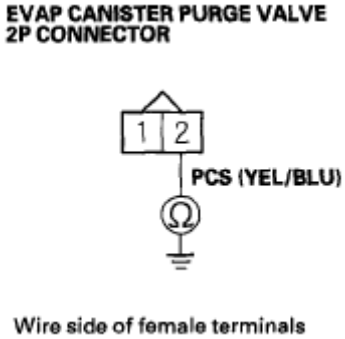



**Fig. 3: Checking Continuity Between EVAP Canister Purge Valve 2P Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 11.

**NO** - Go to step 23.

11. Jump the SCS line with the HDS.
12. Disconnect ECM/PCM connector B (44P).
13. Check for continuity between EVAP canister purge valve 2P connector terminal No. 2 and body ground.

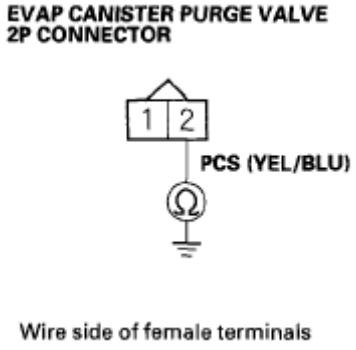



**Fig. 4: Checking Continuity Between EVAP Canister Purge Valve 2P Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the EVAP canister purge valve and the ECM/PCM (B3), then go to step 24.

**NO** - Go to step 30.

14. Turn the ignition switch OFF.
15. Disconnect the EVAP canister purge valve 2P connector.
16. Turn the ignition switch ON (II).
17. Measure voltage between EVAP canister purge valve 2P connector terminal No. 1 and body ground.

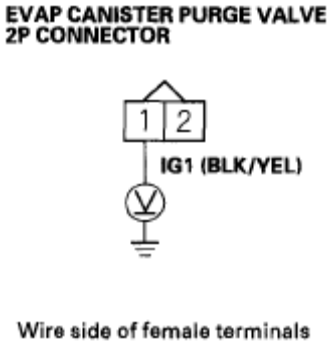



**Fig. 5: Measuring Voltage Between EVAP Canister Purge Valve 2P Connector Terminal No. 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 18.

**NO** - Repair open in the wire between the EVAP canister purge valve and the No. 3 ALTERNATOR (10 A) fuse in the under-dash fuse/relay box, then go to step 24.

18. Turn the ignition switch OFF.
19. Jump the SCS line with the HDS.
20. Disconnect ECM/PCM connector B (44P).
21. Check for continuity between ECM/PCM connector terminal B3 and EVAP canister purge valve 2P connector terminal No. 2.

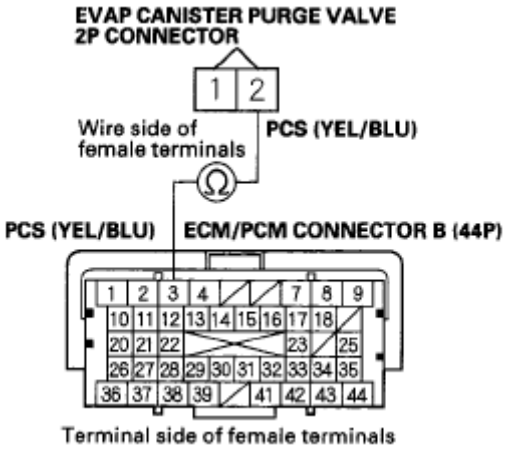


**Fig. 6: Checking Continuity Between ECM/PCM Terminal B3 And EVAP Canister Purge Valve 2P Terminal No. 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 22.

**NO** - Repair open in the wire between the EVAP canister purge valve and the ECM/PCM (B3), then go to step 24.

22. At the purge valve side, measure resistance between EVAP canister purge valve 2P connector terminals No. 1 and No. 2.




**Fig. 7: Measuring Resistance Between EVAP Canister Purge Valve 2P Connector Terminals No. 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 25 ohms at room temperature?*

**YES** - Go to step 30.

**NO** - Go to step 23.

23. Replace the EVAP canister purge valve (see **EVAP CANISTER PURGE VALVE REPLACEMENT** ).
24. Reconnect all connectors.
25. Turn the ignition switch ON (II).
26. Reset the ECM/PCM with the HDS.

27. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
28. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0443 indicated?*

    **YES** - Check for poor connections or loose terminals at the EVAP canister purge valve and the ECM/PCM, then go to step 1.

    **NO** - Go to step 29.

29. Monitor the OBD STATUS for DTC P0443 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 28, go to the indicated DTCs troubleshooting.

    **NO** -If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister purge valve and the ECM/PCM, then go to step 1. If the screen indicates EXECUTING or OUT OF CONDITION, keep idling until a result comes on.

30. Reconnect all connectors.
31. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
32. Start the engine, and let it idle.
33. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0443 indicated?*

    **YES** - Check for poor connections or loose terminals at the EVAP canister purge valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 32. If the ECM/PCM was substituted, go to step 1.

**NO** - Go to step 34.

34. Monitor the OBD STATUS for DTC P0443 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 33, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister purge valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 32. If the ECM/PCM was substituted, go to step 1. If the screen indicates EXECUTING or OUT OF CONDITION, keep idling until a result comes on.

**DTC P0451: FTP SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM**

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **If DTC P2422 is stored at the same time as DTC P0451, troubleshoot DTC P2422 first, then recheck for DTC P0451.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Start the engine, and let it idle 1 minute.
4. Monitor the OBD STATUS for DTC P0451 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

**YES** - Go to step 5.

**NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM/PCM. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

5. Turn the ignition switch OFF.
6. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
7. Turn the ignition switch ON (II).
8. Reset the ECM/PCM with the HDS.
9. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
10. Start the engine, and let it idle 1 minute.
11. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0451 indicated?*

    **YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM/PCM, then go to step 1.

    **NO** - Go to step 12.

12. Monitor the OBD STATUS for DTC P0451 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 11, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

**DTC P0452: FTP SENSOR CIRCUIT LOW VOLTAGE**

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Remove the fuel fill cap.
5. Turn the ignition switch ON (II).
6. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is about - 7.3 kPa (-2.16 in.Hg, - 55 mmHg), or 0.3 V or less indicated?*

   **YES** - Go to step 10.

   **NO** - Go to step 7.

7. Install the fuel fill cap.
8. Start the engine.
9. Monitor the OBD STATUS for DTC P0452 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

   **YES** - Go to step 10.

   **NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM/PCM. If the screen indicates NOT COMPLETED, go to step 4 and recheck.

10. Turn the ignition switch OFF.
11. Disconnect the FTP sensor 3P connector.
12. Turn the ignition switch ON (II).

13. Check the FTP SENSOR in the DATA LIST with the HDS.

    *Is about 7.3 kPa (2.15 in.Hg, 54.7 mmHg) or 4.90 V indicated?*

    **YES** - Go to step 24.

    **NO** - Go to step 14.

14. Measure voltage between FTP sensor 3P connector terminal No. 1 and body ground.

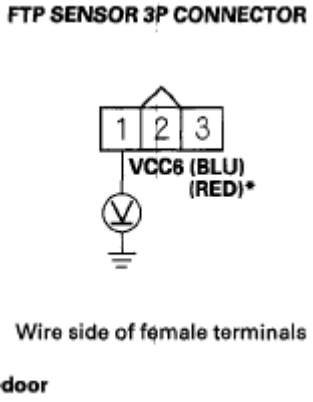



**Fig. 8: Measuring Voltage Between FTP Sensor 3P Connector Terminal No. 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

    *Is there about 5 V?*

    **YES** - Go to step 20.

    **NO** - Go to step 15.

15. Turn the ignition switch OFF.
16. Jump the SCS line with the HDS.
17. Disconnect ECM/PCM connector A (44P).
18. Connect FTP sensor 3P connector terminal No. 1 to body ground with a jumper wire.

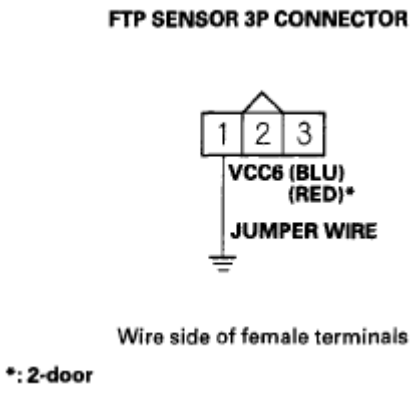



**Fig. 9: Connecting FTP Sensor 3P Connector Terminal No. 1 To Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Check for continuity between ECM/PCM connector terminal A19 and body ground.

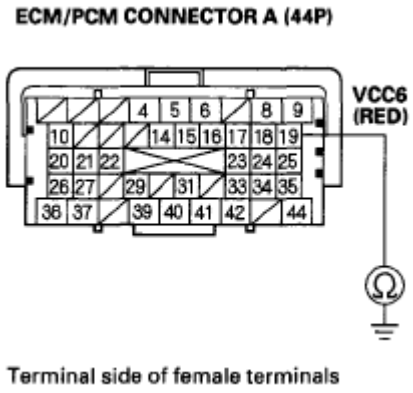



**Fig. 10: Checking Continuity Between ECM/PCM Connector Terminal A19 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 32.

**NO** - Repair open in the wire between the ECM/PCM (A19) and the FTP sensor, then go to step 26.

20. Turn the ignition switch OFF.

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21. Jump the SCS line with the HDS.
22. Disconnect ECM/PCM connector A (44P).
23. Check for continuity between FTP sensor 3P connector terminal No. 2 and body ground.

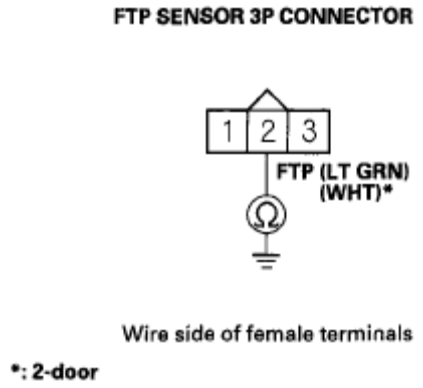



**Fig. 11: Checking Continuity Between FTP Sensor 3P Connector Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the ECM/PCM (A26) and the FTP sensor, then go to step 26.

**NO** - Go to step 32.

24. Turn the ignition switch OFF.
25. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
26. Reconnect all connectors.
27. Turn the ignition switch ON (II).
28. Reset the ECM/PCM with the HDS.
29. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
30. Check for Temporary DTCs or DTCs with the HDS.

*Is DTC P0452 indicated?*

**YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM/PCM, then go to step 1.

**NO** - Go to step 31.

31. Monitor the OBD STATUS for DTC P0452 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 30, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

32. Reconnect all connectors.
33. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
34. Start the engine, and let it idle.
35. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0452 indicated?*

    **YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 34. If the ECM/PCM was substituted, go to step 1.

    **NO** - Go to step 36.

36. Monitor the OBD STATUS for DTC P0452 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

**YES** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 35, go to the indicated DTCs troubleshooting.

**NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 34. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

**DTC P0453: FTP SENSOR CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Remove the fuel fill cap.
5. Turn the ignition switch ON (II).
6. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is about 7.3 kPa (2.16 in.Hg, 55 mmHg), or 4.7 V or more Indicated?*

   **YES** - Go to step 10.

   **NO** - Go to step 7.

7. Install the fuel fill cap.
8. Start the engine.
9. Monitor the OBD STATUS for DTC P0453 in the DTCs MENU with the HDS.

*Does the screen indicate FAILED?*

**YES** - Go to step 10.

**NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the ECM/PCM. If the screen indicates NOT COMPLETED, go to step 6 and recheck.

10. Turn the ignition switch OFF.
11. Disconnect the FTP sensor 3P connector.
12. Connect FTP sensor 3P connector terminals No. 2 and No. 3 with a jumper wire.

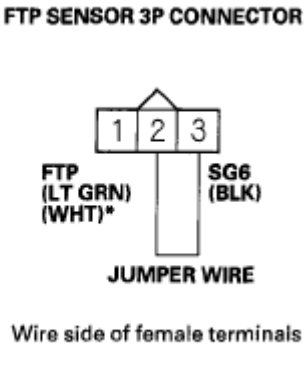



**Fig. 12: Connecting FTP Sensor 3P Connector Terminals No. 2 And 3 With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Turn the ignition switch ON (II).
14. Check the FTP SENSOR in the DATA LIST with the HDS.

*Is about 7.3 kPa (2.16 in.Hg, 55 mmHg), or 4.7 V or more indicated?*

**YES** - Go to step 15.

**NO** - Go to step 26.

15. Measure voltage between FTP sensor 3P connector terminals No. 1 and No. 3.

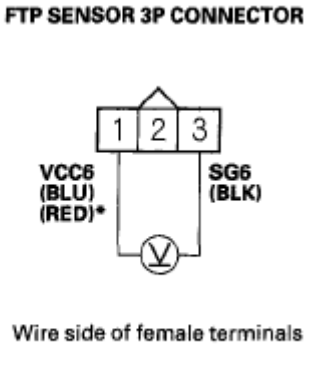



**Fig. 13: Measuring Voltage Between FTP Sensor 3P Connector Terminals No. 1 And 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 5 V?*

**YES** - Go to step 21.

**NO** - Go to step 16.

16. Turn the ignition switch OFF.
17. Jump the SCS line with the HDS.
18. Disconnect ECM/PCM connector A (44P).
19. Connect FTP sensor 3P connector terminal No. 3 to body ground with a jumper wire.

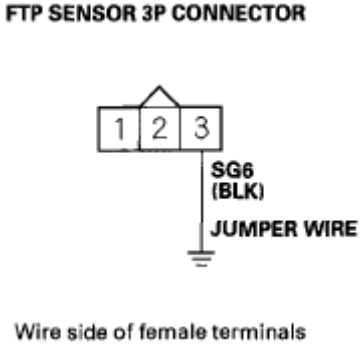



**Fig. 14: Connecting FTP Sensor 3P Connector Terminal No. 3 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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20. Check for continuity between ECM/PCM connector terminal A9 and body ground.

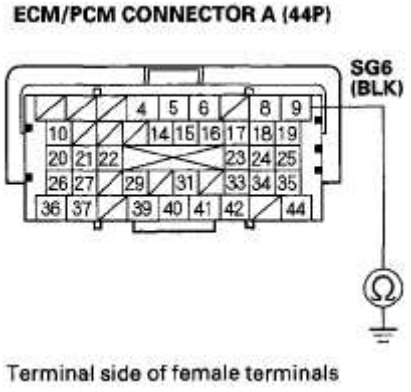



**Fig. 15: Checking Continuity Between ECM/PCM Connector Terminal A9 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 34.

**NO** - Repair open in the wire between the ECM/PCM (A9) and the FTP sensor, then go to step 28.

21. Turn the ignition switch OFF.
22. Jump the SCS line with the HDS.
23. Disconnect ECM/PCM connector A (44P).
24. Connect FTP sensor 3P connector terminal No. 2 to body ground with a jumper wire.

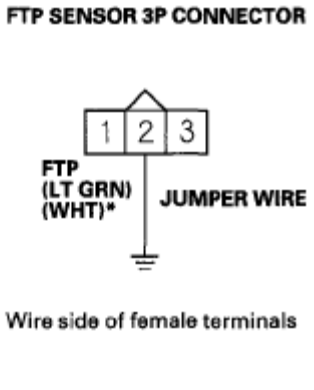



**Fig. 16: Connecting FTP Sensor 3P Connector Terminal No. 2 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Check for continuity between ECM/PCM connector terminal A26 and body ground.

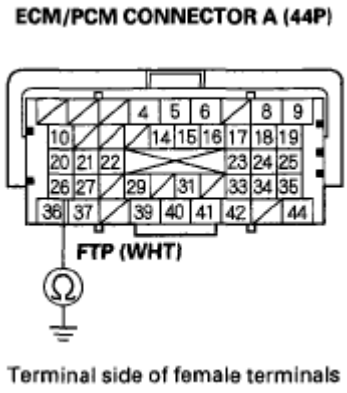



**Fig. 17: Checking Continuity Between ECM/PCM Connector Terminal A26 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 34.

**NO** - Repair open in the wire between the ECM/PCM (A26) and the FTP sensor, then go to step 28.

26. Turn the ignition switch OFF.

27. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
28. Reconnect all connectors.
29. Turn the ignition switch ON (II).
30. Reset the ECM/PCM with the HDS.
31. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
32. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0453 indicated?*

    **YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM/PCM, then go to step 1.

    **NO** - Go to step 33.

33. Monitor the OBD STATUS for DTC P0453 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 32, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

34. Reconnect all connectors.
35. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
36. Start the engine, and let it idle.
37. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0453 indicated?*

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**YES** - Check for poor connections or loose terminals at the FTP sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 36. If the ECM/PCM was substituted, go to step 1.

**NO** - Go to step 38.

38. Monitor the OBD STATUS for DTC P0453 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 37, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 36. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

**DTC P0455: EVAP SYSTEM LARGE LEAK DETECTED; DTC P0456: EVAP SYSTEM VERY SMALL LEAK DETECTED**

**NOTE: The fuel system is designed to allow specified maximum vacuum and pressure conditions. Do not deviate from the vacuum and pressure tests as indicated in these procedures. Excessive pressure/vacuum would damage the EVAP components or cause eventual fuel tank failure.**

## Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

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**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **Fresh fuel has a higher volatility that will create greater pressure/vacuum. The optimum condition for testing is less than a full tank of fresh fuel. If possible, to assist in leak detection, add 1 gallon of fresh fuel to the tank (as long as it will not fill the tank), just before starting these procedures.**

1. Check the fuel fill cap (the cap must say "TIGHTEN TO CLICK"). It should turn 1/4 turn after it's tight, then it clicks.

   **Is the correct fuel fill cap installed and properly tightened?**

   **YES** - Go to step 2.

   **NO** - Replace or tighten the cap, then go to step 22.

2. Check the fuel fill cap seal (A) and the fuel fill pipe mating surface (B). Verify that the fuel fill cap tether cord (C) is not caught under the cap.

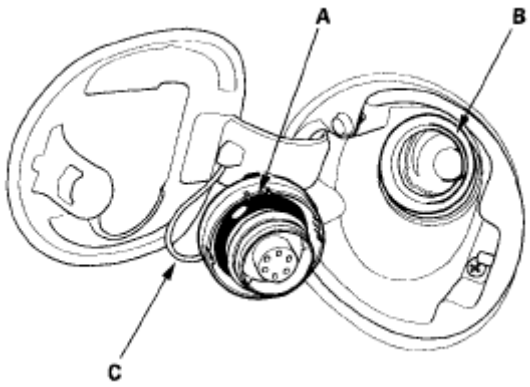



**Fig. 18: Checking Fuel Fill Cap Seal And Mating Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the fuel fill cap seal missing or damaged, is the fuel fill pipe damaged, or is*

*the tether cord caught under the cap?*

**YES** - Replace the fuel fill cap or the fuel fill pipe, then go to step 22.

**NO** - Go to step 3.

3. Turn the ignition switch ON (II).
4. Clear the DTC with the HDS.
5. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, or the EVAP canister vent shut valve and the ECM/PCM.

   **NO** - Go to step 6.

6. Turn the ignition switch OFF.
7. Check for a poor connection or damage at the fuel tank vapor recirculation tube.

   *Is the tube OK?*

   **YES** - Go to step 8.

   **NO** -

   - Replace the fuel tank vapor recirculation tube, then go to step 22.
   - If necessary, replace the fuel tank (see **FUEL TANK REPLACEMENT** ), then go to step 22.
8. Disconnect the fuel tank vapor recirculation tube (A) from the EVAP canister (B), and plug the EVAP canister port (C).

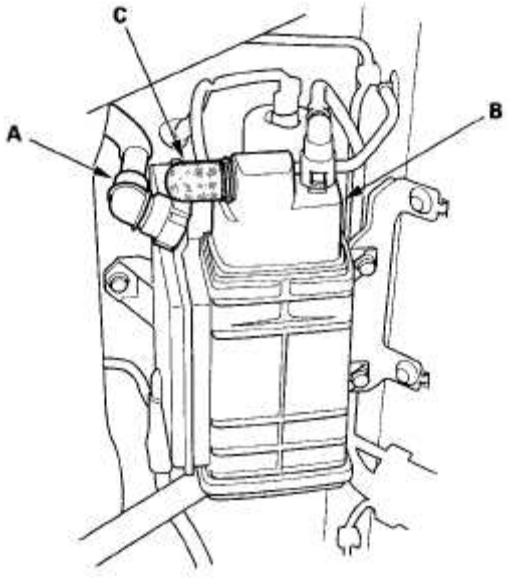



**Fig. 19: Disconnecting Fuel Tank Vapor Recirculation Tube From EVAP Canister**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Disconnect the vacuum hose (purge line) (A) from the EVAP canister purge valve (B) in the engine compartment, and connect a vacuum pump/gauge, 0-30 in.Hg, to the vacuum hose as shown.

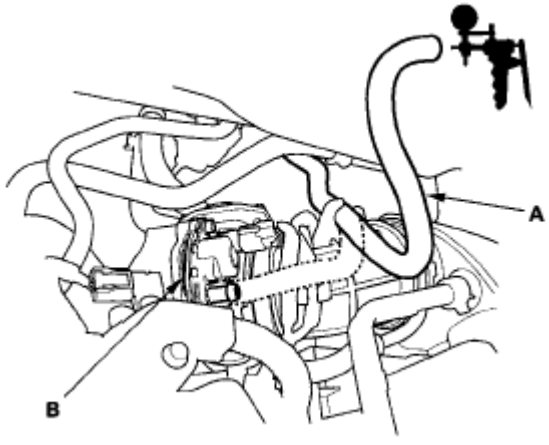



**Fig. 20: Disconnecting Vacuum Hose (Purge Line) And EVAP Canister Purge Valve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Turn the ignition switch ON (II).

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11. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
12. Apply vacuum to the hose until the FTP reads 1.90 V (-0.59 in.Hg,-15.1 mmHg).

**NOTE: Be careful not to exceed the pressure. If you exceed the pressure, the FTP sensor can be damaged.**

13. Monitor the FTP SENSOR in the DATA LIST for 1 minute with the HDS.

    *Does the voltage increase more than 0.2 V (0.1 in.Hg, 0.5 mmHg)?*

    **YES** - Go to step 14.

    **NO** - Go to step 19.

14. Select EVAP CVS OFF in the INSPECTION MENU with the HDS.
15. Disconnect the fresh air hose (A) from the EVAP canister (B), and plug the EVAP canister port (C).

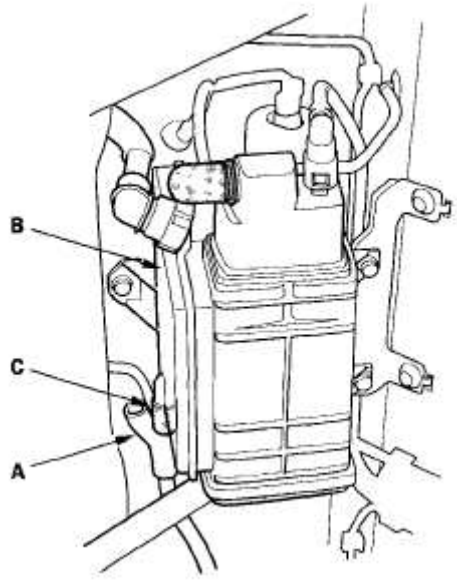



**Fig. 21: Disconnecting Fresh Air Hose From EVAP Canister**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Apply vacuum to the EVAP system until the FTP reads 1.90 V (-0.59 in.Hg,-

15.1 mmHg).

**NOTE: Be careful not to exceed the pressure. If you exceed the pressure, the FTP sensor can be damaged.**

17. Monitor the FTP SENSOR in the DATA LIST for 1 minute with the HDS.

    *Does the voltage increase more than 0.2 V (0.1 in.Hg, 2.5 mmHg)?*

    **YES** - Go to step 18.

    **NO** - Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ), then go to step 21.

18. Check for a loose or damaged EVAP canister purge line between the EVAP canister and the EVAP canister purge valve.

    *Is the line OK?*

    **YES** - Replace these parts, then go to step 21:

    - FTP sensor O-ring
    - EVAP canister vent shut valve case and O-ring
    - EVAP canister

    **NO** - Reconnect or repair the EVAP canister purge hose, then go to step 21.

19. Select EVAP CVS OFF in the INSPECTION MENU with the HDS.
20. Check these parts for looseness or damage:
    - Fuel fill pipe
    - Fuel vapor return pipe

    *Are the parts OK?*

    **YES** - Check the fuel tank unit base gasket (see **FUEL TANK REPLACEMENT** ), and check the fuel tank, then go to step 21.

**NO** - Repair or replace the damaged parts, then go to step 21.

21. Reconnect all hoses and connectors.
22. Turn the ignition switch ON (II).
23. Reset the ECM/PCM with the HDS.
24. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
25. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

    **YES** - Troubleshooting is complete.

    **NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM/PCM, then go to step 1.

**DTC P0457: EVAP SYSTEM LEAK DETECTED/FUEL FILL CAP LOOSE OR MISSING**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Check the fuel fill cap (the cap must say "TIGHTEN TO CLICK"). It should turn 1/4 turn after it's tight, then it clicks.

   *Is the correct fuel fill cap installed and properly tightened?*

   **YES** - Go to step 2.

   **NO** - Replace or tighten the cap, then go to step 19.

2. Check the fuel fill cap seal (A) and the fuel fill pipe mating surface (B). Verify that the fuel fill cap tether cord (C) is not caught under the cap.

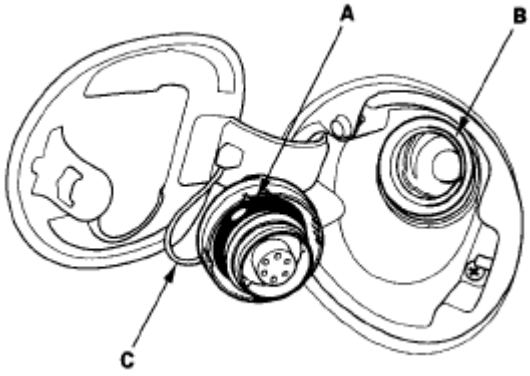



**Fig. 22: Checking Fuel Fill Cap Seal And Fuel Fill Pipe Mating Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is the fuel fill cap seal missing or damaged, is the fuel fill pipe damaged, or is the tether cord caught under the cap?*

**YES** - Replace the fuel fill cap or the fuel fill pipe, then go to step 19.

**NO** - Go to step 3.

3. Turn the ignition switch ON (II).
4. Clear the DTC with the HDS.
5. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, or the EVAP canister vent shut valve and the ECM/PCM.

   **NO** - Go to step 6.

6. Turn the ignition switch OFF.
7. Remove the EVAP canister vent shut valve from the EVAP canister (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
8. Connect the 2P connector to the EVAP canister vent shut valve.
9. Turn the ignition switch ON (II).

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10. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
11. Check the EVAP canister vent shut valve (A) operation.




**Fig. 23: Checking EVAP Canister Vent Shut Valve Operation**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Does the valve operate?*

**YES** - Check the routing of the EVAP canister vent tube, then go to step 18.

**NO** - Go to step 12.

12. Turn the ignition switch OFF.
13. Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
14. Turn the ignition switch ON (II).
15. Reset the ECM/PCM with the HDS.
16. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
17. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

*Is the result OK?*

**YES** - Troubleshooting is complete.

**NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM/PCM, then go to step 1.

18. Reinstall the EVAP canister vent shut valve.
19. Turn the ignition switch ON (II).
20. Reset the ECM/PCM with the HDS.
21. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
22. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

    **YES** - Troubleshooting is complete.

    **NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM/PCM, then go to step 1.

**DTC P0496: EVAP SYSTEM HIGH PURGE FLOW DETECTED**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM/PCM.

   **NO** - Go to step 4.

4. Turn the ignition switch OFF.
5. Replace the EVAP canister purge valve (see **EVAP CANISTER PURGE VALVE REPLACEMENT** ).

6. Turn the ignition switch ON (II).
7. Reset the ECM/PCM with the HDS.
8. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
9. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Troubleshooting is complete.

   **NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM/PCM, then go to step 1.

**DTC P0497: EVAP SYSTEM LOW PURGE FLOW DETECTED**

## Special Tools Required

- Vacuum/pressure gauge, 0-4 in.Hg, 07JAZ-001000B
- Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Check the fuel fill cap installation. (The cap must say "TIGHTEN TO CLICK." The cap should tighten 1/4 turn after it is tight.)

   *Is the fuel fill cap installed and properly tightened?*

   **YES** - Go to step 2.

   **NO** - Properly install the fuel fill cap, then go to step 23.

2. Turn the ignition switch ON (II).

3. Clear the DTC with the HDS.
4. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

   *Is the result OK?*

   **YES** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, or the EVAP canister vent shut valve and the ECM/PCM.

   **NO** - Go to step 5.

5. Check for a loose or damaged EVAP canister purge line between the intake manifold and the EVAP canister purge valve.

   *Is the line OK?*

   **YES** - Go to step 6.

   **NO** - Reconnect or repair the EVAP canister purge line, then go to step 23.

6. Disconnect the vacuum hose (A) from the EVAP canister purge valve (B) in the engine compartment, and connect a T-fitting (C) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the vacuum hose (A) as shown.

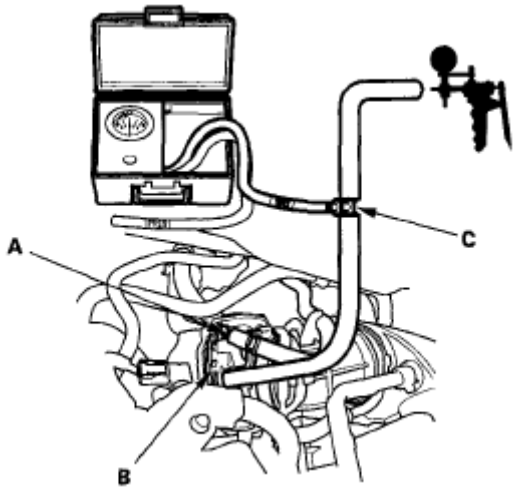



**Fig. 24: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge, To Vacuum Hose**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Select EVAP PCS ON in the INSPECTION MENU with the HDS.
8. Slowly apply about 0.6 in.Hg (15 mmHg) of vacuum to the hose.

   *Does it hold vacuum?*

   **YES** - Replace the EVAP canister purge valve, then go to step 22.

   **NO** - Go to step 9.

9. Reconnect the vacuum hose to the EVAP canister purge valve.
10. Disconnect the vacuum hose from the purge line (at the EVAP canister side), and connect a T-fitting (A) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

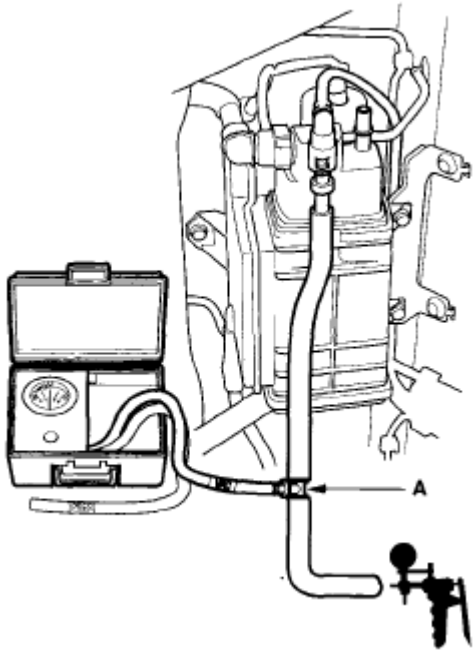



**Fig. 25: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/ Gauge To Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Select EVAP PCS ON in the INSPECTION MENU with the HDS.
12. Slowly apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.

*Does it hold vacuum?*

**YES** - Check for a restricted EVAP canister purge line between the EVAP canister purge valve and the EVAP canister, then go to step 22.

**NO** - Go to step 13.

13. Remove the FTP sensor with its connector connected (see **FTP SENSOR REPLACEMENT** ).
14. Connect a T-fitting (A) from the vacuum pump/gauge, 0-30 in.Hg, and the vacuum pump to the FTP sensor (B) as shown.

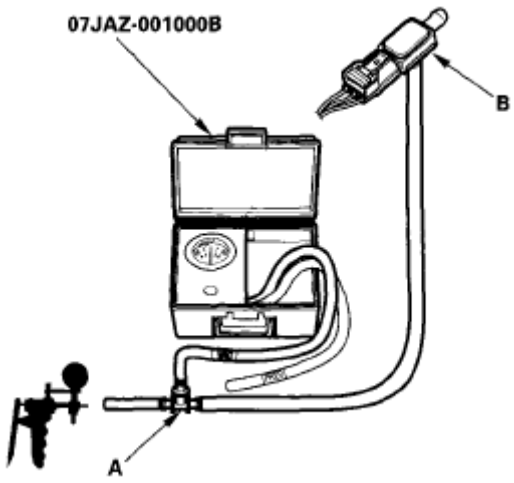



**Fig. 26: Connecting T-Fitting From Vacuum Pump/Gauge And Vacuum Pump To FTP Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Check and record the FTP SENSOR reading in the DATA LIST with the HDS.
16. Slowly apply about 1.3 kPa (0.4 in.Hg, 10 mmHg) of vacuum to the hose.
17. Check the FTP SENSOR in the DATA LIST with the HDS.

*Is the difference more than 1.1 kPa (0.31 in.Hg, 8 mmHg) before and after applying vacuum?*

**YES** - Go to step 18.

**NO** - Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ), then

go to step 22.

18. Reconnect the vacuum hoses to the EVAP canister purge line (EVAP canister side), and reinstall the FTP sensor.
19. Disconnect the vacuum hose (purge line) (A) from the EVAP canister purge valve (B), and connect a T-fitting (C) from the vacuum gauge and the vacuum pump/gauge, 0-30 in.Hg, to the hose as shown.

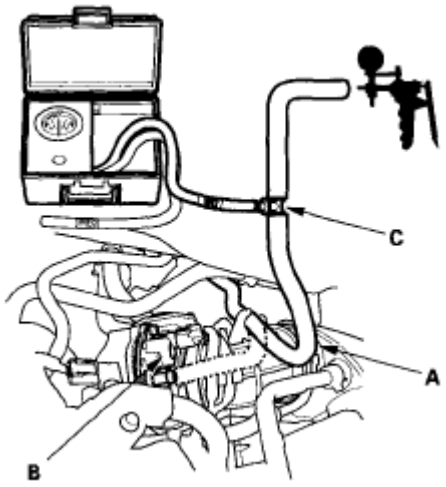



**Fig. 27: Connecting T-Fitting From Vacuum Gauge And Vacuum Pump/Gauge To Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
21. Slowly apply about 2 kPa (0.6 in.Hg, 15 mmHg) of vacuum to the hose.

    *Does the hose hold vacuum?*

    **YES** - Check for a blockage at the EVAP canister port, then go to step 22.

    **NO** - Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ), then go to step 22.

22. Reconnect all hoses.
23. Turn the ignition switch ON (II).
24. Reset the ECM/PCM with the HDS.

25. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
26. Do the EVAP FUNCTION TEST in the INSPECTION MENU with the HDS.

    *Is the result OK?*

    **YES** - Troubleshooting is complete.

    **NO** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister purge valve, the EVAP canister vent shut valve, and the ECM/PCM, then go to step 1.

**DTC P0498: EVAP CANISTER VENT SHUT VALVE CIRCUIT LOW VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Check for Temporary DTCs or DTCs with the HDS. Is DTC P0498 indicated?

   **YES** - Go to step 6.

   **NO** - Go to step 4.

4. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
5. Check for Temporary DTCs or DTCs with the HDS. Is DTC P0498 indicated?

   **YES** - Go to step 6.

   **NO** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM/PCM.

6. Turn the ignition switch OFF.

7. Disconnect the EVAP canister vent shut valve 2P connector.
8. Turn the ignition switch ON (II).
9. Measure voltage between EVAP canister vent shut valve 2P connector terminal No. 2 and body ground.

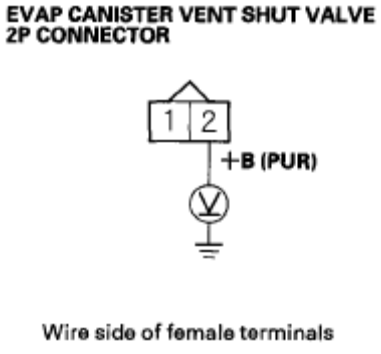



**Fig. 28: Measuring Voltage Between EVAP Canister Vent Shut Valve 2P Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 10.

**NO** - Repair open in the wire between the EVAP canister vent shut valve and the PGM-FI subrelay (E), then go to step 18.

10. Turn the ignition switch OFF.
11. At the valve side, measure resistance between EVAP canister vent shut valve 2P connector terminals No. 1 and No. 2.

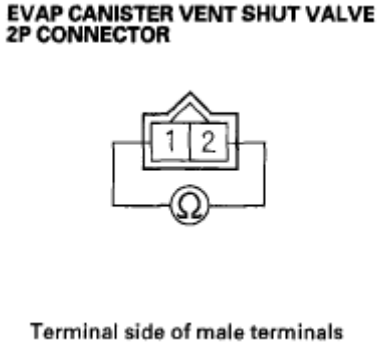


**Fig. 29: Measuring Resistance Between EVAP Canister Vent Shut Valve 2P Connector Terminals No. 1 And 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there about 25-30 ohms at room temperature?*

**YES** - Go to step 12.

**NO** - Go to step 17.

12. Jump the SCS line with the HDS.
13. Disconnect ECM/PCM connector A (44P).
14. Check for continuity between ECM/PCM connector terminal A10 and body ground.

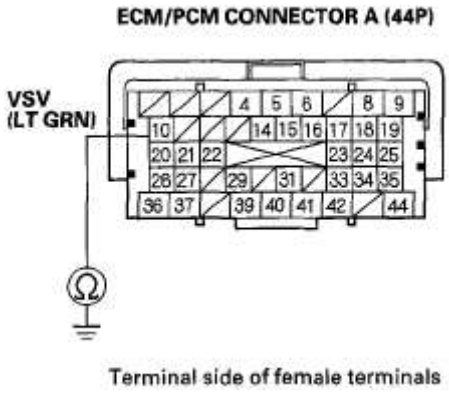



**Fig. 30: Checking Continuity Between ECM/PCM Connector Terminal A10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the EVAP canister vent shut valve and the ECM/PCM (A10), then go to step 18.

**NO** - Go to step 15.

15. Connect EVAP canister vent shut valve 2P connector terminal No. 1 to body ground with a jumper wire.

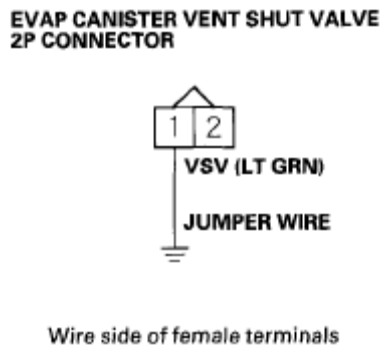



**Fig. 31: Connecting EVAP Canister Vent Shut Valve Terminal No. 1 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Check for continuity between ECM/PCM connector terminal A10 and body ground.

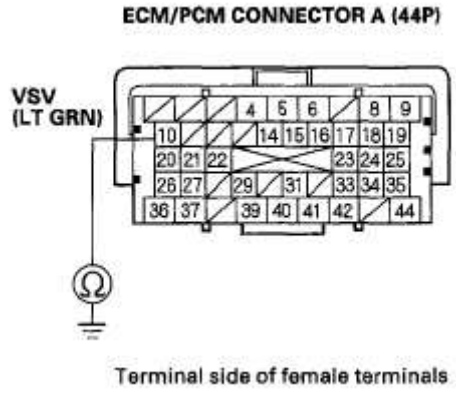



**Fig. 32: Checking Continuity Between ECM/PCM Connector Terminal A10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 25.

**NO** - Repair open in the wire between the EVAP canister vent shut valve and the ECM/PCM (A10), then go to step 18.

17. Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).

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18. Reconnect all connectors.
19. Turn the ignition switch ON (II).
20. Reset the ECM/PCM with the HDS.
21. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
22. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
23. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0498 indicated?*

    **YES** - Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM/PCM, then go to step 1.

    **NO** - Go to step 24.

24. Monitor the OBD STATUS for DTC P0498 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 23, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 22.

25. Reconnect all connectors.
26. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
27. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
28. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0498 indicated?*

**YES** - Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 27. If the ECM/PCM was substituted, go to step 1.

**NO** - Go to step 29.

29. Monitor the OBD STATUS for DTC P0498 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 28, go to the indicated DTCs troubleshooting.

    **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 27. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 27.

**DTC P0499: EVAP CANISTER VENT SHUT VALVE CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
4. Check for Temporary DTCs or DTCs with the HDS. Is DTC P0499 indicated?

   **YES** - Go to step 5.

**NO** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM/PCM.

5. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
6. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
7. Check for Temporary DTCs or DTCs with the HDS.

   *Is DTC P0499 indicated?*

   **YES** - Check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 6. If the ECM/PCM was substituted, go to step 1.

   **NO** - Go to step 8.

8. Monitor the OBD STATUS for DTC P0499 in the DTCs MENU with the HDS.

   *Does the screen indicate PASSED?*

   **YES** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs were indicated in step 7, go to the indicated DTCs troubleshooting.

   **NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the EVAP canister vent shut valve and the ECM/PCM. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then go to step 6. If the ECM/PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 6.

**DTC P1454: FTP SENSOR RANGE/PERFORMANCE PROBLEM; DTC P2422: EVAP CANISTER**

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**VENT SHUT VALVE STUCK CLOSED MALFUNCTION**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF.
4. Remove the fuel fill cap, and wait 1 minute.
5. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is it between - 0.67 and 0.67 kPa (- 0.2 and 0.2 in.Hg, -5 and 5 mmHg), or 2.4 and 2.6 V?*

   **YES** - Go to step 6.

   **NO** - Go to step 17.

6. Install the fuel fill cap.
7. Clear the DTC with the HDS.
8. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park on neutral) until the radiator fan comes on, then let it idle.
9. Monitor the OBD STATUS for DTC P1454 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

   **YES** - Go to step 10.

   **NO** - If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM/PCM. Also check for a blockage in the vent hoses and the drain joint. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

10. Clear the DTC with the HDS.
11. Turn the ignition switch OFF.
12. Remove the EVAP canister vent shut valve from the EVAP canister (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ).
13. Connect the 2P connector to the EVAP canister vent shut valve.
14. Turn the ignition switch ON (II).
15. Select EVAP CVS ON in the INSPECTION MENU with the HDS.
16. Check the EVAP canister vent shut valve (A) operation.

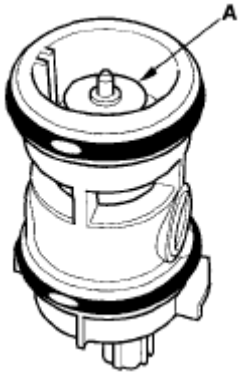



**Fig. 33: Checking EVAP Canister Vent Shut Valve Operation**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Does the valve operate?*

**YES** - Check for a blockage in the EVAP canister, vent hoses, and drain joint, then install the EVAP canister vent shut valve, and go to step 23.

**NO** - Replace the EVAP canister vent shut valve (see **EVAP CANISTER VENT SHUT VALVE REPLACEMENT** ), then go to step 23.

17. Disconnect the air tube (A) from the FTP sensor (B).

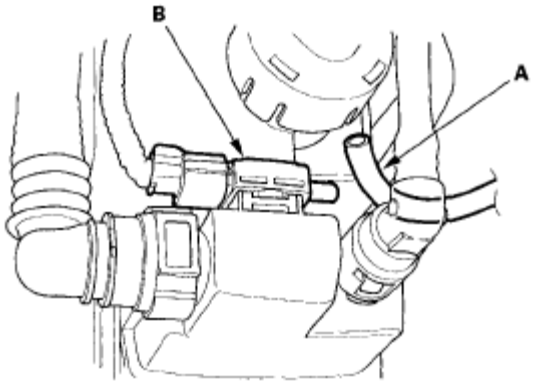



**Fig. 34: Disconnecting Air Tube From FTP Sensor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Check the FTP SENSOR in the DATA LIST with the HDS.

    *Is it between - 0.67 and 0.67 kPa (- 0.2 and 0.2 in.Hg, -5 and 5 mmHg), or 2.4 and 2.6 V?*

    **YES** - Check for a blockage in the FTP sensor air tube or vent, then go to step 23.

    **NO** - Go to step 19.

19. Turn the ignition switch OFF.
20. Remove the FTP sensor (A) from the EVAP canister with its connector connected (see **FTP SENSOR REPLACEMENT** ).

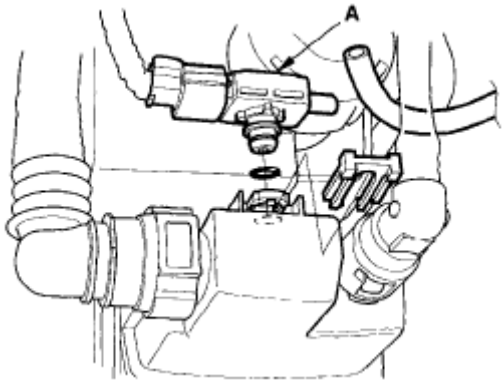



**Fig. 35: Removing FTP Sensor From EVAP Canister With Connector Connected**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Turn the ignition switch ON (II).
22. Check the FTP SENSOR in the DATA LIST with the HDS.

    *Is it between - 0.67 kPa and 0.67 kPa (- 0.2 and 0.2 in.Hg, -5 and 5 mmHg), or 2.4 and 2.6 V?*

    **YES** - Check for debris or clogging at the EVAP canister and the FTP sensor port, then go to step 23.

    **NO** - Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ), then go to step 23.

23. Turn the ignition switch ON (II).
24. Reset the ECM/PCM with the HDS.
25. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
26. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
27. Check for Temporary DTCs or DTCs with the HDS.

    *If DTC P1454 and/or P2422 indicated?*

    **YES** - Check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM/PCM, then go to step 1.

    **NO** - Go to step 28.

28. Monitor the OBD STATUS for DTC P1454 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** - Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 27, go to the indicated DTCs troubleshooting.

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**NO** - If the screen indicates FAILED, check for poor connections or loose terminals at the FTP sensor, the EVAP canister vent shut valve, and the ECM/PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

## EVAP CANISTER REPLACEMENT

1. Remove the cover (A).

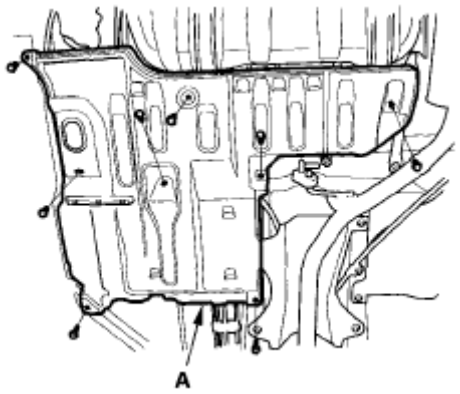



**Fig. 36: Removing Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the EVAP canister guard pipe (A).

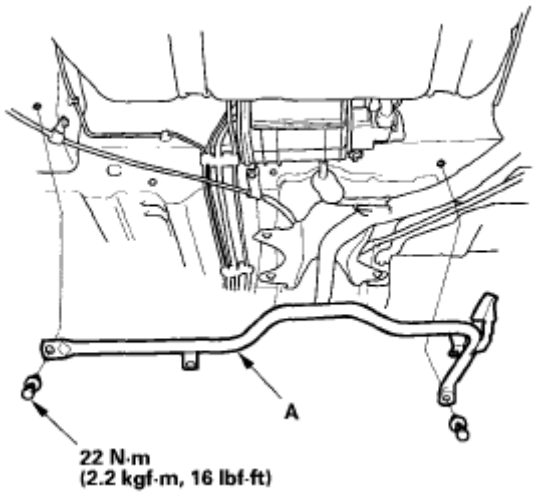



**Fig. 37: Removing EVAP Canister Guard Pipe (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the hoses (A), the FTP sensor connector (B), the EVAP canister vent shut valve connector (C) and the bolts (D).

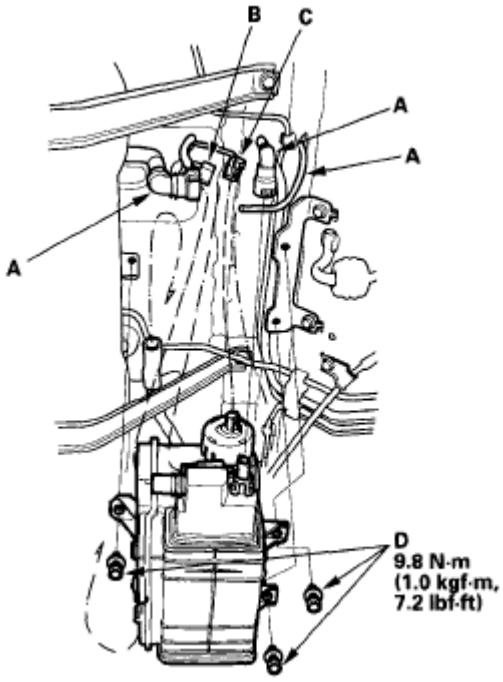



**Fig. 38: Removing Hoses, FTP Sensor Connector, EVAP Canister Vent Shut Valve Connector And Bolts (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the EVAP canister.
5. Remove the cap (A).

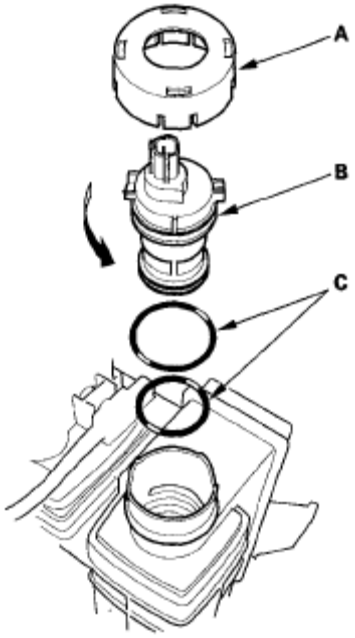



**Fig. 39: Removing Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the EVAP canister vent shut valve (B).
7. Install the EVAP canister vent shut valve in the new EVAP canister with new O-rings (C).

**NOTE: Do not coat the O-rings with oil.**

8. Install the parts in the reverse order of removal.

## FTP SENSOR REPLACEMENT

1. Remove the cover (see step 1 in **EVAP CANISTER REPLACEMENT** ).
2. Disconnect the FTP sensor connector (A).

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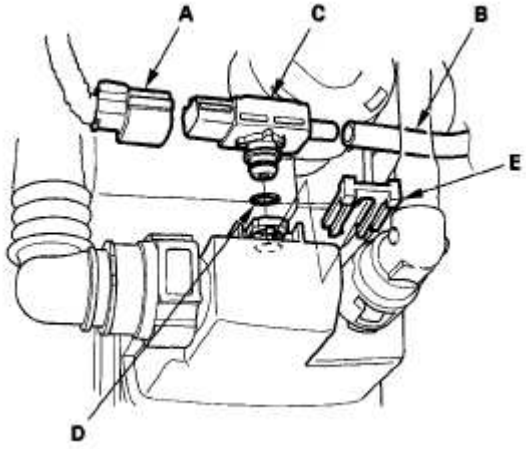



**Fig. 40: Disconnecting FTP Sensor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the hose (B), and remove the FTP sensor (C).
4. Install the sensor in the reverse order of removal with a new O-ring (D) and a new retainer (E).

## EVAP CANISTER VENT SHUT VALVE REPLACEMENT

1. Remove the EVAP canister (see **EVAP CANISTER REPLACEMENT** ).
2. Remove the cap (A).

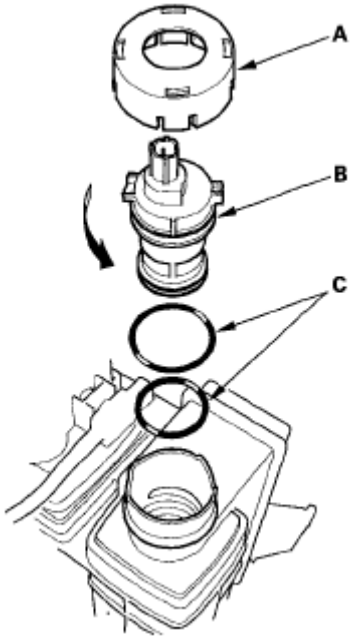


**Fig. 41: Removing Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the EVAP canister vent shut valve (B).
4. Install the parts in the reverse order of removal with new O-rings (C) and a new cap.

**NOTE: Do not coat the O-rings with oil.**

## EVAP CANISTER PURGE VALVE REPLACEMENT

1. Remove the cowl cover and under-cowl panel (see **COWL COVER REPLACEMENT** ).
2. Disconnect the hose (A) and the EVAP canister purge valve 2P connector (B).

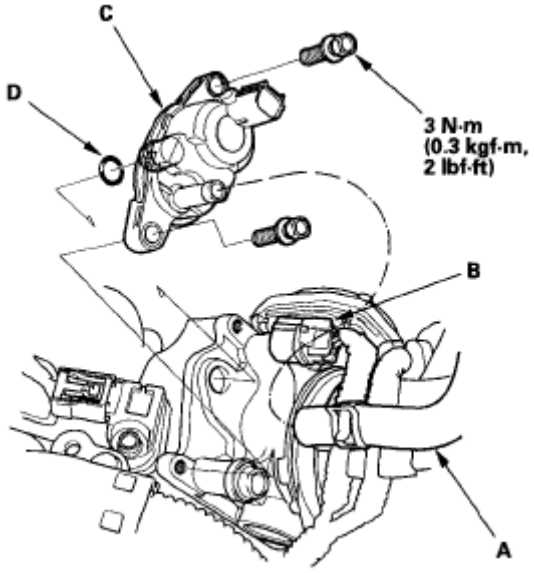



**Fig. 42: Disconnecting Hose And EVAP Canister Purge Valve 2P Connector (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the EVAP canister purge valve (C).
4. Install the parts in the reverse order of removal with a new O-ring (D).

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**2006-08 ACCESSORIES & EQUIPMENT**

**Exterior Lights - Civic (All Except Hybrid)**

# COMPONENT LOCATION INDEX

## 4-door except Si model

4-door except Si model

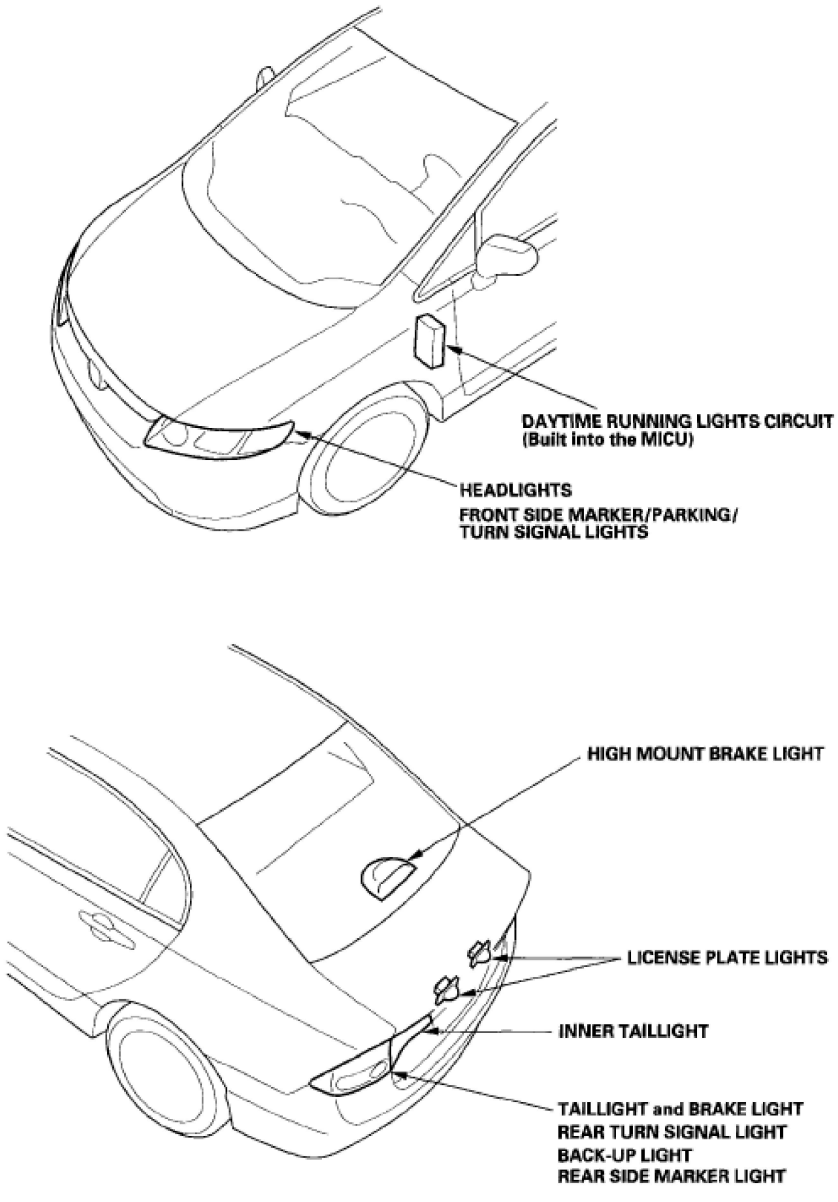



**Fig. 1: Locating Exterior Lights Components (4-Door Except Si Model - 1 Of**

**2)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

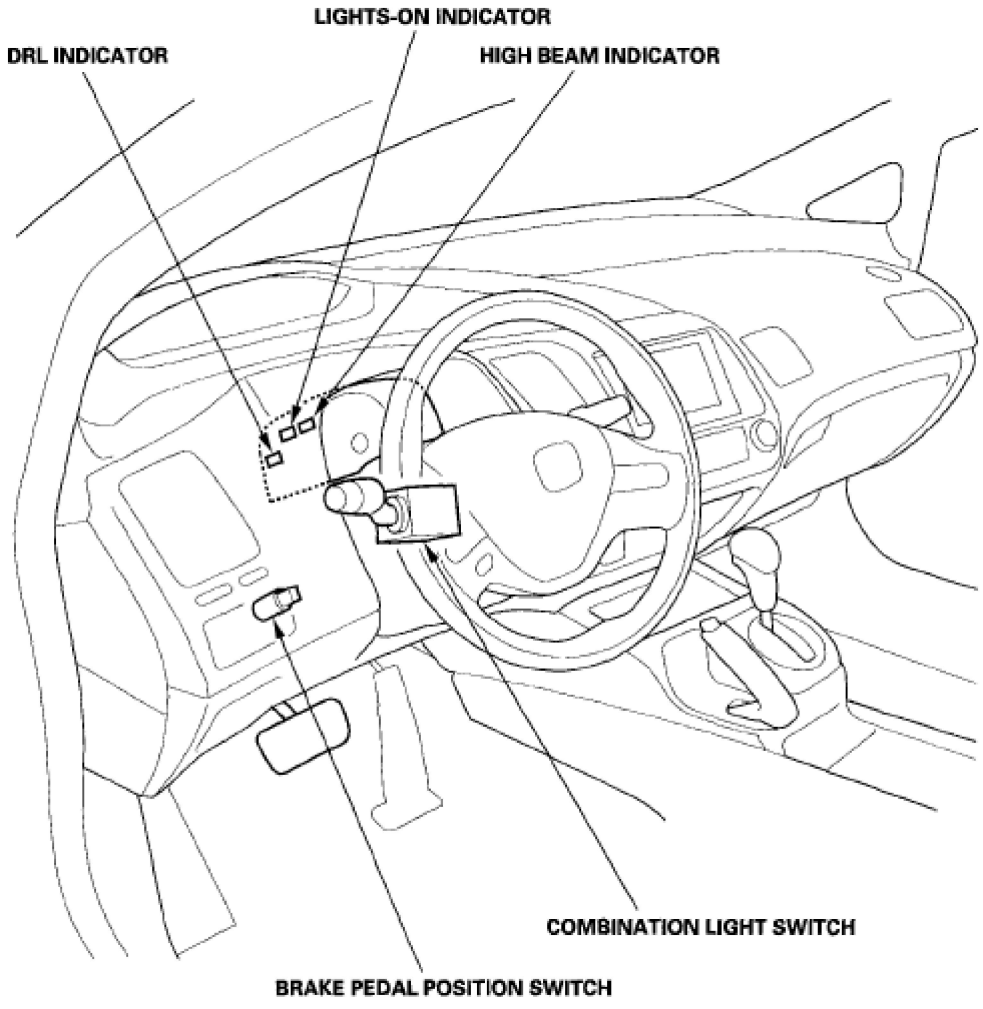



**Fig. 2: Locating Exterior Lights Components (4-Door Except Si Model - 2 Of 2)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2-door except Si model**

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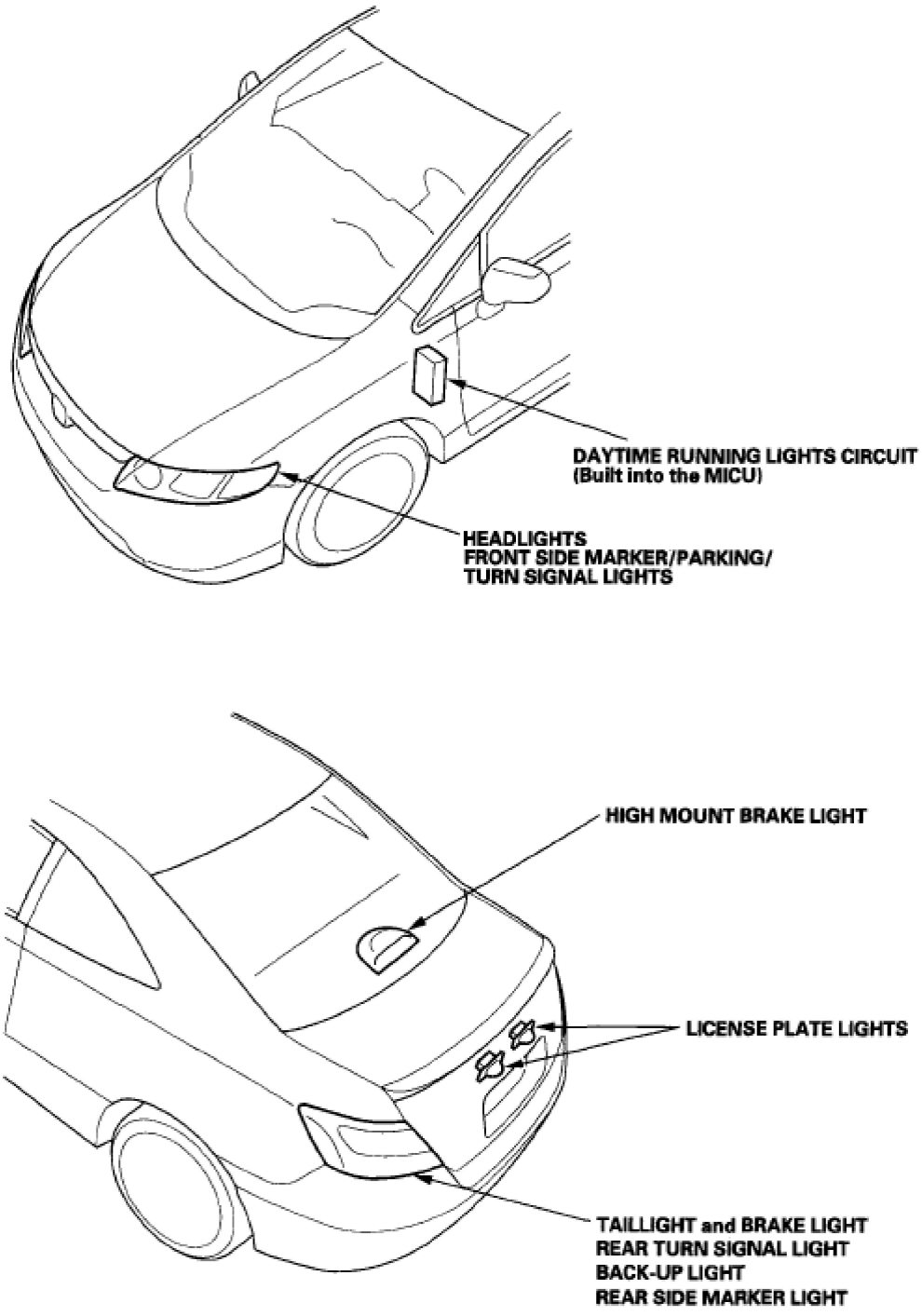



**Fig. 3: Locating Exterior Lights Components (2-Door Except Si Model - 1 Of 2)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

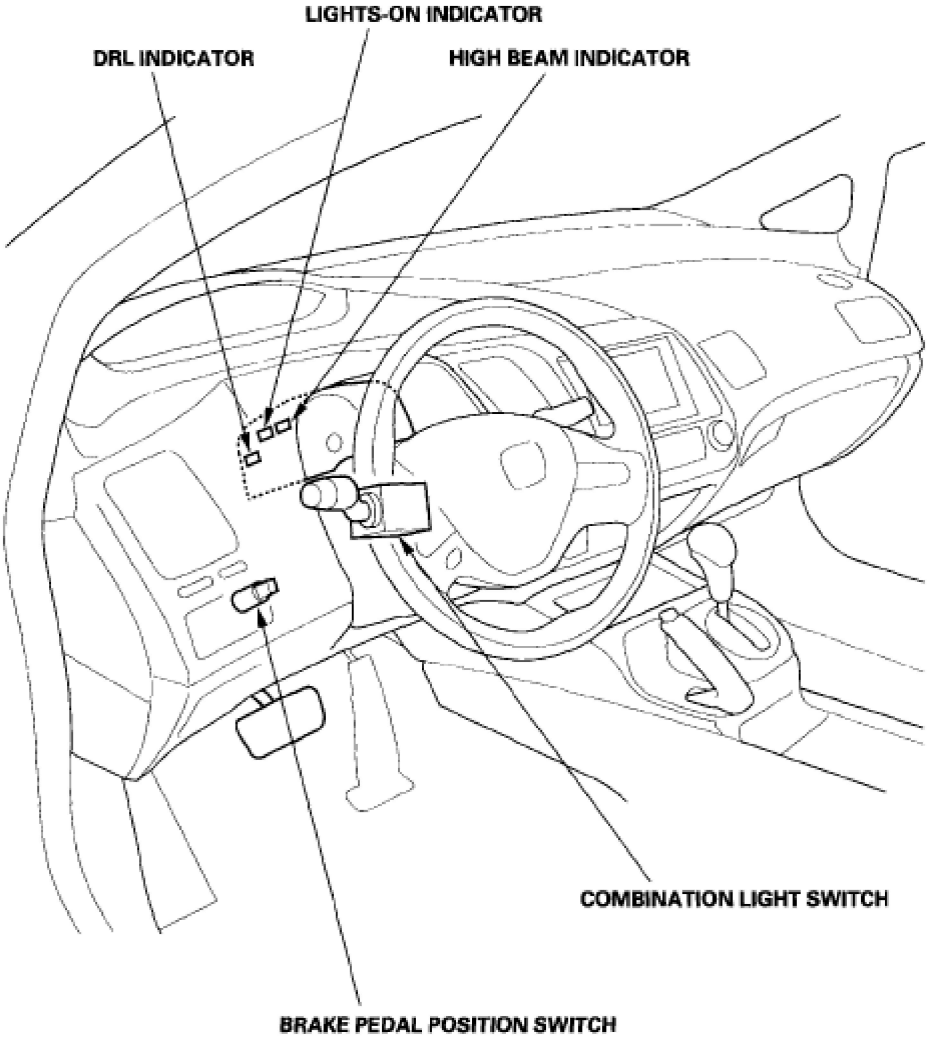



**Fig. 4: Locating Exterior Lights Components (2-Door Except Si Model - 2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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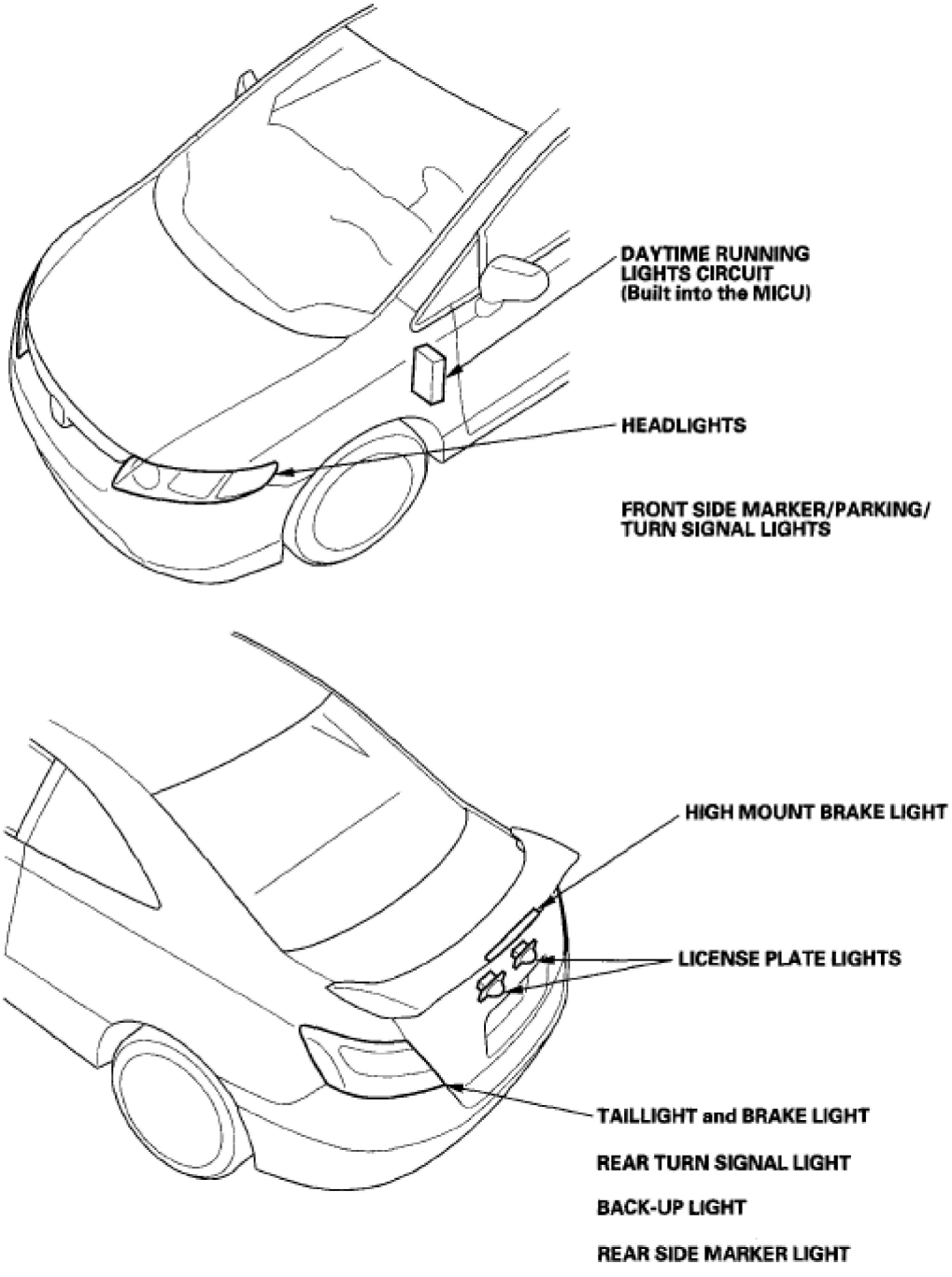



**Fig. 5: Locating Exterior Lights Components (2-Door Si Model - 1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Si model

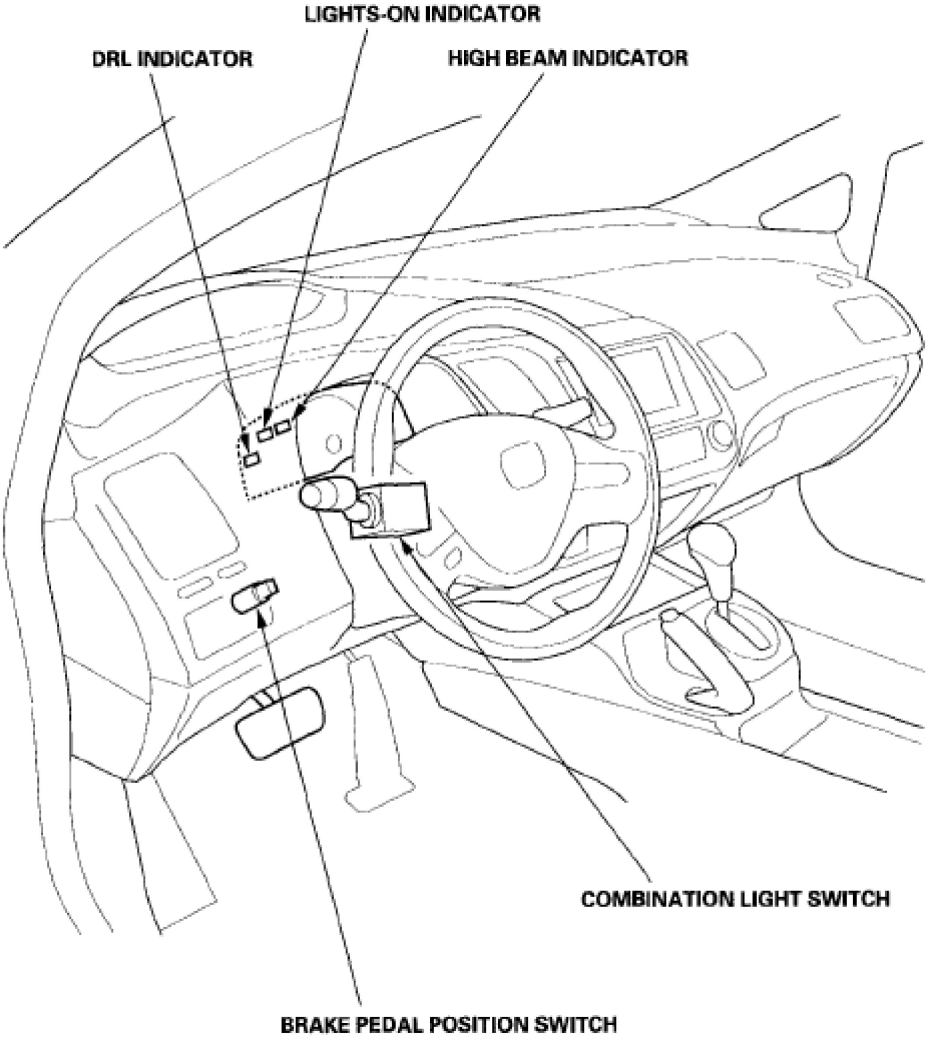



**Fig. 6: Locating Exterior Lights Components (2-Door Si Model - 2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CIRCUIT DIAGRAM

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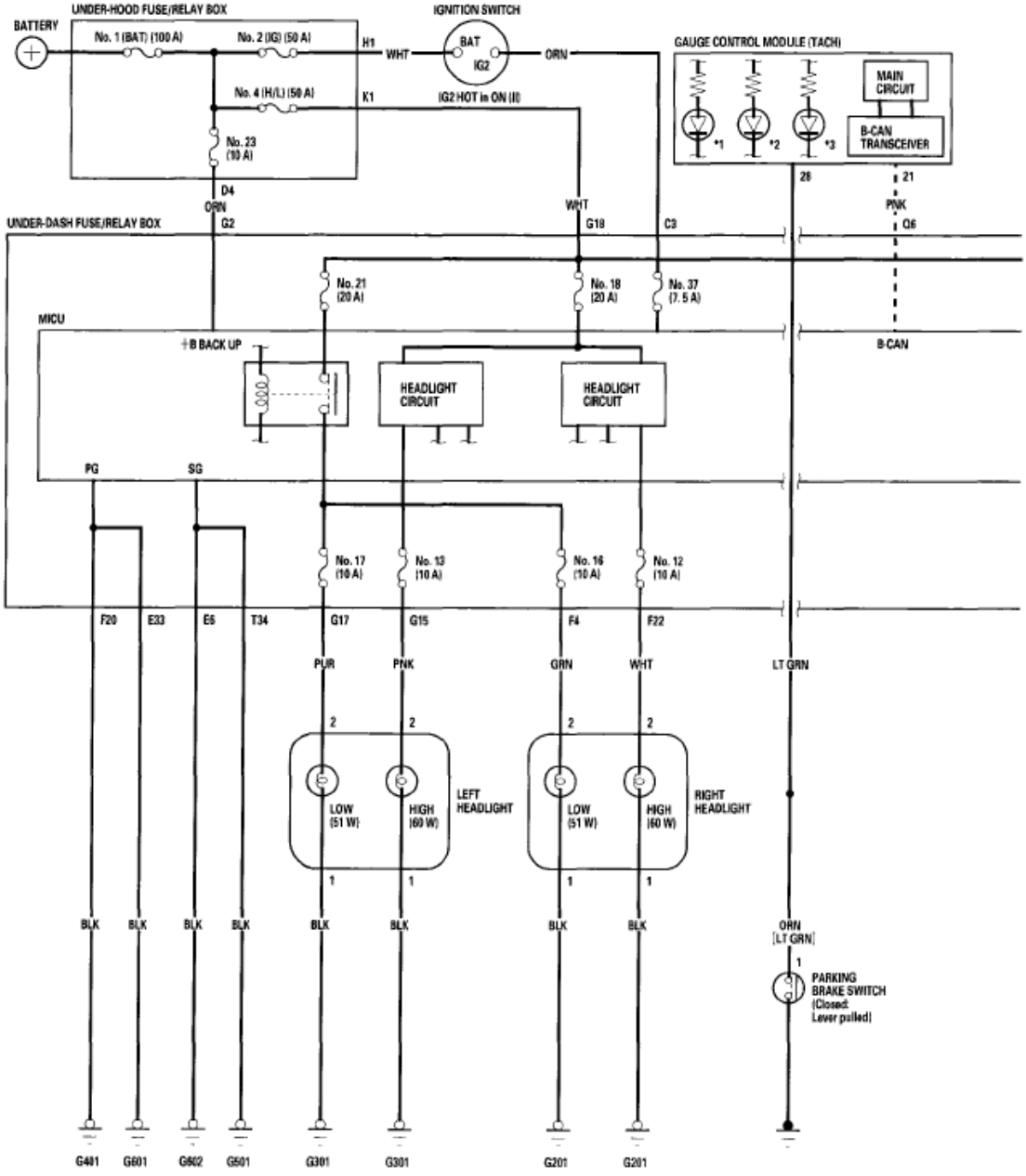



**Fig. 7: Exterior Light - Circuit Diagram (1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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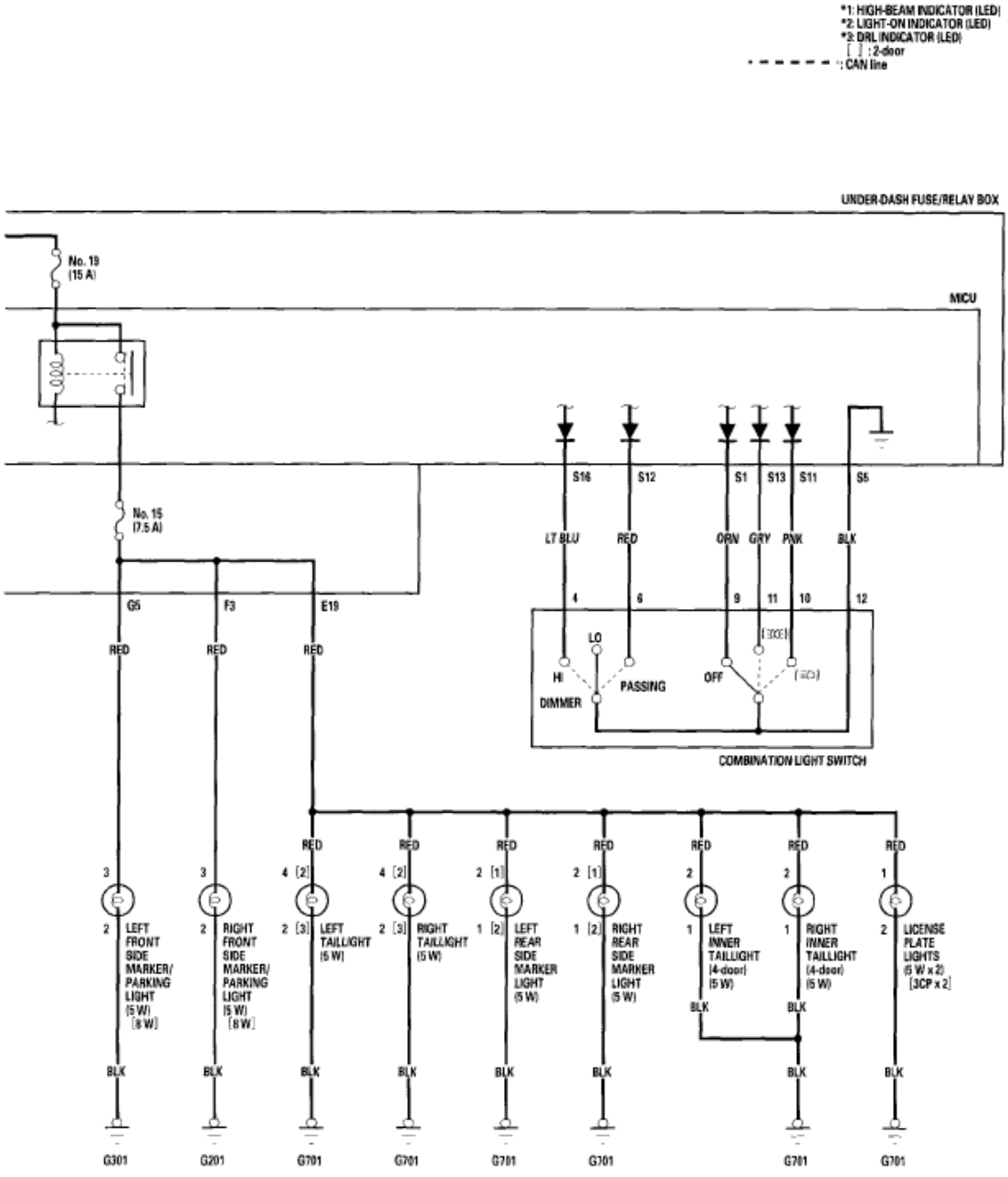



**Fig. 8: Exterior Light - Circuit Diagram (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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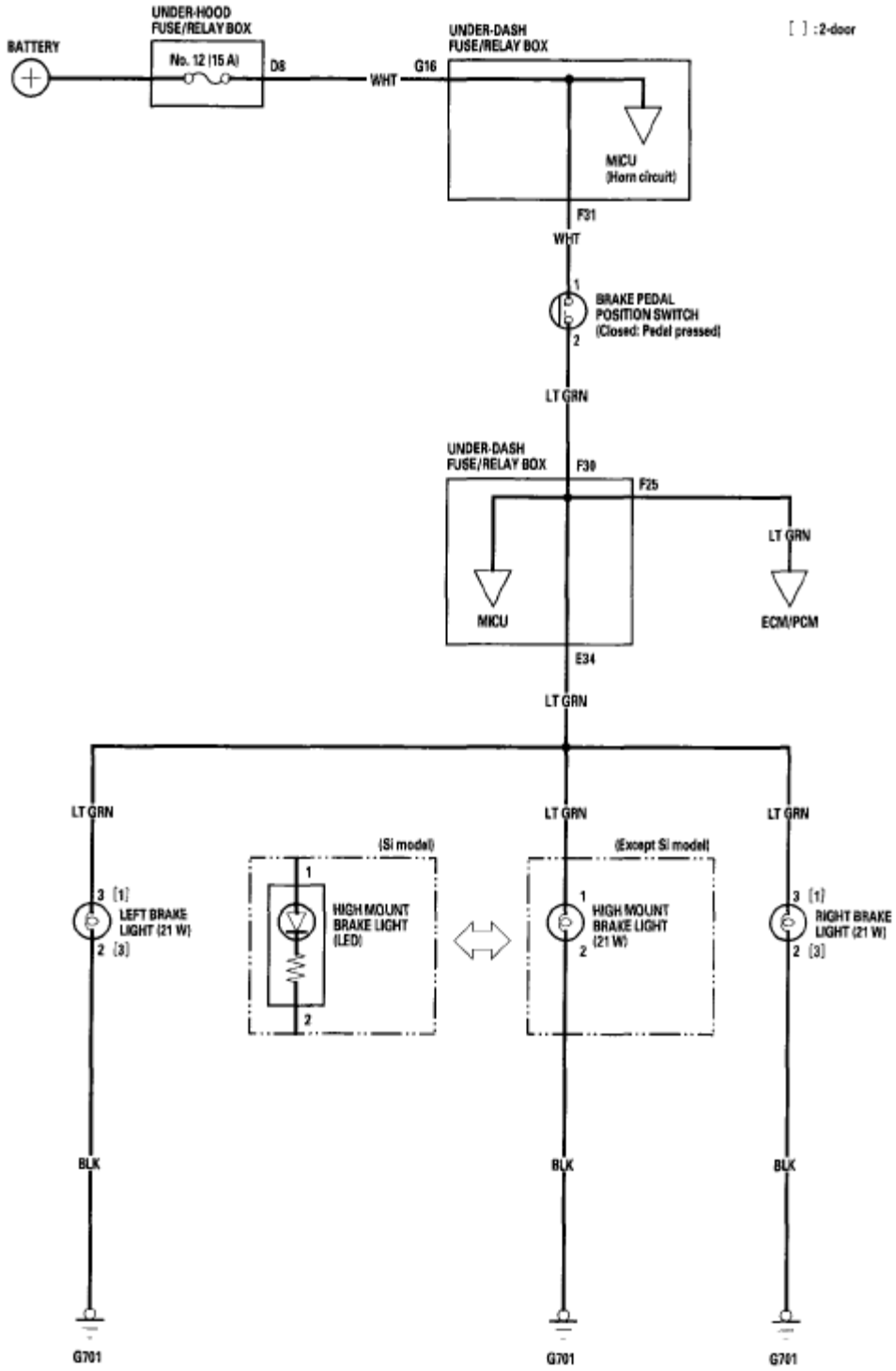
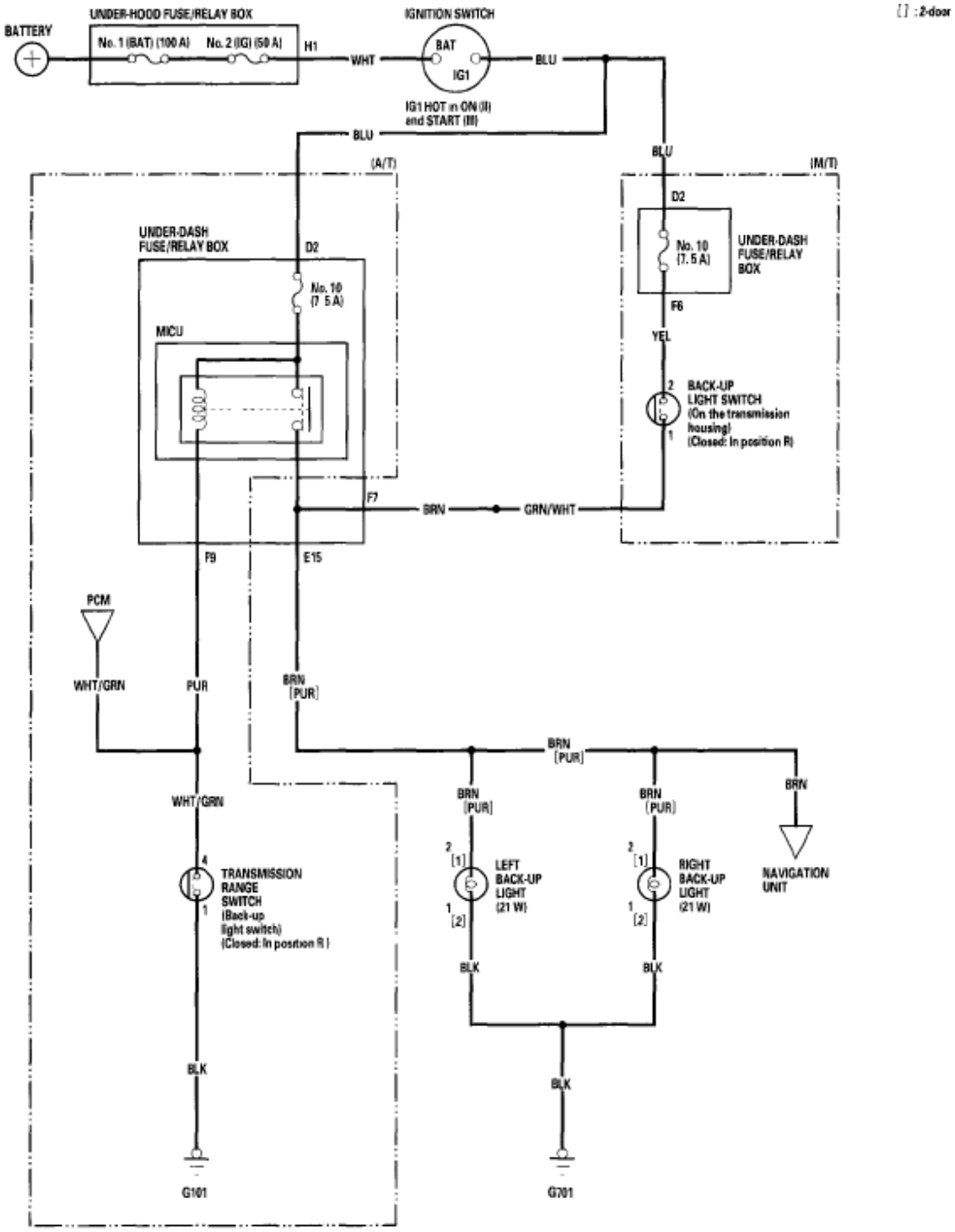



**Fig. 9: Brake Lights - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

# 2008 Honda Civic LX

2006-08 ACCESSORIES & EQUIPMENT Exterior Lights - Civic (All Except Hybrid)




## Fig. 10: Back-Up Lights - Circuit Diagram
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DTC TROUBLESHOOTING

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**DTC B1078: DAYTIME RUNNING LIGHTS SIGNAL ERROR (CANADA); DTC B1079: DAYTIME RUNNING LIGHTS SIGNAL ERROR (USA)**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Turn the ignition switch ON (II).
2. Pull the parking brake lever.
3. Clear the DTCs with the HDS.
4. Release the parking brake lever.
5. Turn the ignition switch OFF, and then back ON (II).
6. Check for DTCs with the HDS.

   *Is DTC B1078 indicated?*

   **YES** - Go to step 7.

   **NO** - Intermittent failure. The daytime running lights system is OK at this time. Check for loose or poor connections.

7. Turn the headlight switch ON (high beam).

   *Do both headlights (high beam) come on?*

   **YES** - Go to step 8.

   **NO** - Go to step 10.

8. Turn the ignition switch OFF.
9. Check the voltage between the No. 6 and No. 33 terminals of the under-dash fuse/relay box connector E (42P) and body ground, and between the No. 20 terminal of the under-dash fuse/relay box connector F (34P) and body ground individually.

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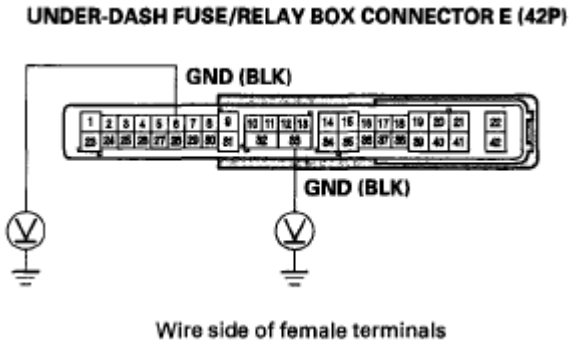



**Fig. 11: Checking Voltage Between No. 6 Terminal Of Under-Dash Fuse/Relay Box Connector E (42P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

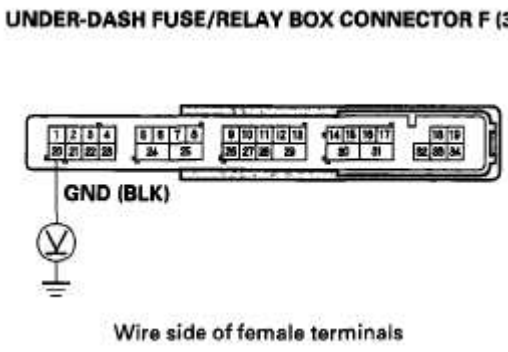



**Fig. 12: Checking Voltage Between No. 20 Terminal Of Under-Dash Fuse/Relay Box Connector F (34P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.5 V?*

**YES** - Faulty MICU; replace the under-dash fuse/relay box.

**NO** - Repair an open in the BLK wire or poor ground (G401, G501, G601, G602).

10. Turn the ignition and headlight switches OFF.
11. Check the No. 12, No. 13, and No. 18 fuses in the under-dash fuse/relay box.

*Are all fuses OK?*

**YES** - Go to step 12.

**NO** - Replace the blown fuse and recheck. If the No. 18 (30 A) fuse is blown again, replace the under-dash fuse/relay box. If the No. 12(10 A) or No. 13 (10 A) fuse is blown again, repair a short in the wire between the under-dash fuse/relay box and appropriate headlight (high beam).

12. Check the headlight bulbs.

    *Are the headlight bulbs OK?*

    **YES** - Go to step 13.

    **NO** - Replace the faulty bulb.

13. Disconnect the under-dash fuse/relay box connectors F (34P) and G (21P).
14. Disconnect both of the headlight (high beam) 2P connectors.
15. Check for continuity between the No. 2 terminal of the right headlight (high beam) 2P connector and No. 22 terminal of the under-dash fuse/relay box connector F (34P).

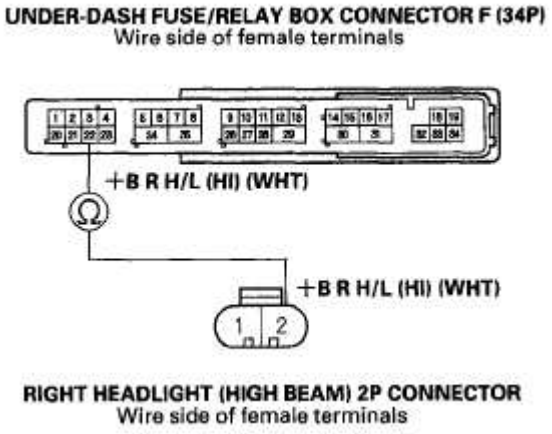



**Fig. 13: Checking Continuity Between Right Headlight 2P Connector Terminal And Under-Dash Fuse/Relay Box Connector F Terminal (34P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 16.

**NO** - Repair an open in the wire between the right headlight (high beam) and the under-dash fuse/relay box.

16. Check for continuity between the No. 2 terminal of the left headlight (high beam) 2P connector and No. 15 terminal of the under-dash fuse/relay box connector G (21P).

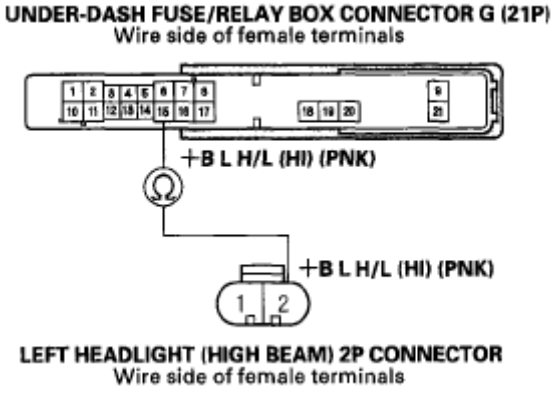



**Fig. 14: Checking Continuity Between Left Headlight 2P Connector Terminal And Under-Dash Fuse/Relay Box Connector G Terminal (21P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 17.

**NO** - Repair an open in the wire between the left headlight (high beam) and the under-dash fuse/relay box.

17. Check for continuity between the No. 1 terminal of each headlight (high beam) 2P connector and body ground.

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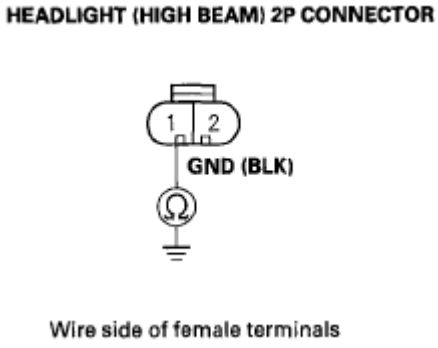



**Fig. 15: Checking Continuity Between No 1 Terminal Of Headlight (High Beam) 2P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Faulty MICU; replace the under-dash fuse/relay box.

**NO** - Repair an open in the BLK wire or poor ground (G201-right side, G301-left side).

## MICU INPUT TEST

**NOTE:**

- **The MICU turns on the headlights (high beams) in a dimming mode for the Daytime Running Lights under the following conditions:**
  - **With the ignition switch ON (II)**
  - **The headlight switch OFF**
  - **The parking brake is released (parking brake switch OFF)**
- **The DRL indicator will come when one of the headlight (high beams) bulbs is blown, or if the high beam wiring has an open circuit with the daytime running lights ON.**
- **For Canada models: If the vehicle is equipped with an optional remote control engine start system, the daytime running lights will not function when started with the remote start.**

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1. Before troubleshooting the lighting system, troubleshoot the B-CAN System Diagnosis Test Mode A (see **TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A** ).
2. Check the No. 12 (10 A), No. 13 (10 A), No. 15 (7.5 A), No. 16 (10 A), No. 17 (10 A), No. 18 (20 A), No. 19 (15 A), and No. 21 (20 A), and No. 37 (7.5 A) fuses in the under-dash fuse/relay box. If any fuse is blown, replace it and go to step 3.
3. Disconnect the under-dash fuse/relay box connectors E, F, G, S, and T.

**NOTE: All connector views are shown from wire side of female terminals.**

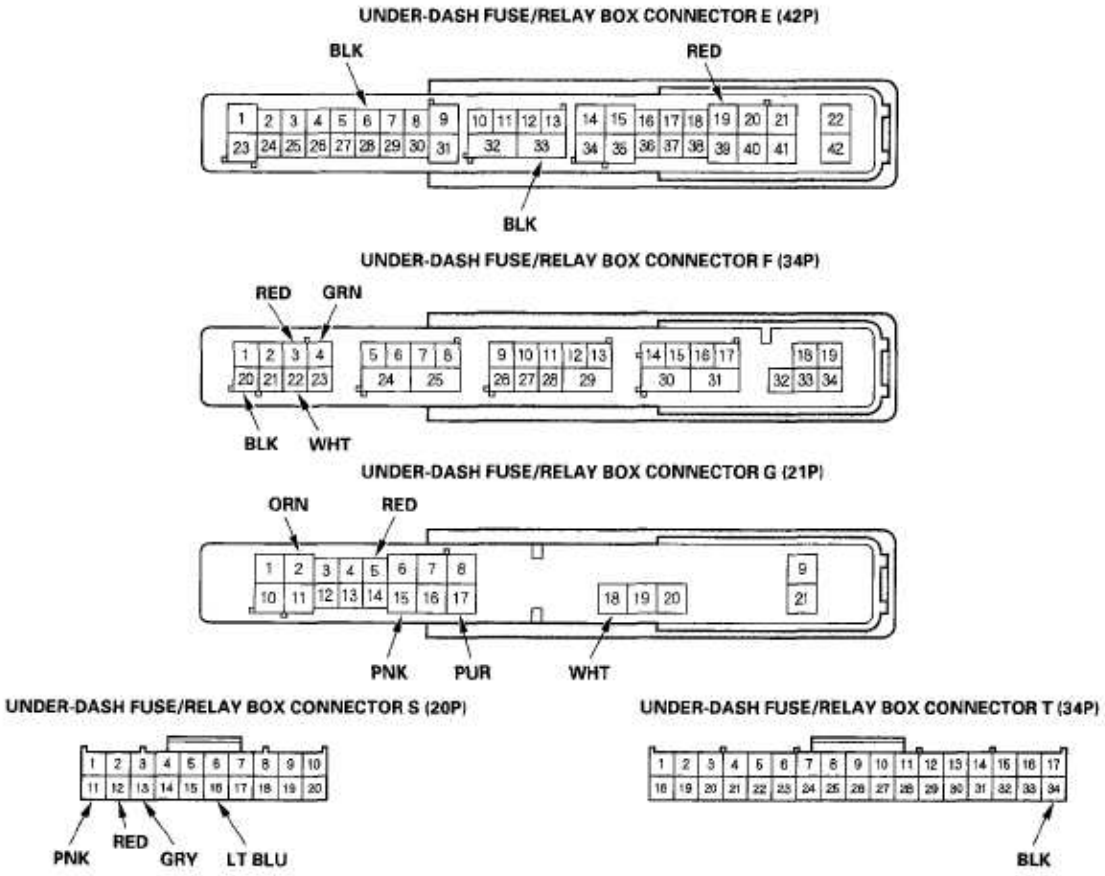



**Fig. 16: Identifying Under-Dash Fuse/Relay Box Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Inspect the connector and socket terminals to be sure they are all making good

contact.

- If the terminals are bent, loose or corroded, repair them as necessary and recheck the system.
- If the terminals look OK, go to step 5.

5. With the connector still disconnected, make these input tests at the appropriate connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 6.

**MICU INPUT TEST (CONNECTOR DISCONNECTED)**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E19 | RED | Under all conditions | Connect battery power to the E19 terminal: The taillights, rear side marker lights, and license plate lights should come on. | • Poor ground (G701)<br>• Blown bulb<br>• An open in the wire |
| F3 | RED | Under all conditions | Connect battery power to the F3 terminal: The right front side marker/parking light should come on. | • Poor ground (G201)<br>• Blown bulb<br>• An open in the wire |
| F4 | GRN | Under all conditions | Connect battery power to the F4 terminal: The right headlight (high beam) should come on. | • Poor ground (G201)<br>• Blown bulb<br>• An open in the wire |
| F22 | WHT | Under all | Connect battery power to the F22 terminal: The right headlight (low | • Poor ground (G201)<br>• Blown bulb |

| | | | | |
|---|---|---|---|---|
| | | conditions | beam) should come on. | • An open in the wire |
| G5 | RED | Under all conditions | Connect battery power to the G5 terminal: The left front side marker/parking light should come on. | • Poor ground (G301)<br>• Blown bulb<br>• An open in the wire |
| G15 | PNK | Under all conditions | Connect battery power to the G15 terminal: The left headlight (high beam) should come on. | • Poor ground (G301)<br>• Blown bulb<br>• An open in the wire |
| G17 | PUR | Under all conditions | Connect battery power to the G17 terminal: The left headlight (low beam) should come on. | • Poor ground (G301)<br>• Blown bulb<br>• An open in the wire |

6. Reconnect the connectors to the under-dash fuse/relay box, and make these input tests at the connectors.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the MICU must be faulty; replace the under-dash fuse/relay box.

**MICU INPUT TEST (CONNECTORS DISCONNECTED)**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| G2 | ORN | Under all conditions | Check for voltage between G2 terminal and body ground: There should be | • Blown No. 23 (10 A) fuse in the under-hood fuse/relay box |

| | | | | |
|---|---|---|---|---|
| | | | battery voltage. | • An open in the wire |
| G18 | WHT | Under all conditions | Check for voltage between G18 terminal and body ground: There should be battery voltage. | • Blown No. 4 (50 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| C3 | ORN | Ignition switch ON (II) | Check for voltage between C3 and body ground there should be battery voltage. | • Faulty ignition switch<br>• An open in the wire |
| E6 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G602)<br>• An open in the wire |
| E33 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| F20 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G401)<br>• An open in the wire |
| T34 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G501)<br>• An open in the wire |
| | | Combination light | Check for voltage between S1 and S5 terminals: There | • Faulty combination light switch |

| | | | | |
|---|---|---|---|---|
| S1 | ORN | switch OFF | should be less than 1 V. | • An open in the wire |
| | | Combination light switch in any other position than OFF | Check for voltage between S1 and S5 terminals: There should be 5 V or more. | • Faulty combination light switch<br>• Short to ground in the wire |
| S11 | PNK | Combination light switch (Headlight position) ON | Check for voltage between S11 and S5 terminals: There should be less than 1 V. | • Faulty combination light switch<br>• An open in the wire |
| | | Combination light switch OFF | Check for voltage between S11 and S5 terminals: There should be 5 V or more. | • Faulty combination light switch<br>• Short to ground in the wire |
| S12 | RED | Combination light switch lever pulled (Passing) | Check for voltage between S12 and S5 terminals: There should be less than 1 V. | • Faulty combination light switch<br>• An open in the wire |
| | | Combination light switch lever released from passing position | Check for voltage between S12 and S5 terminals: There should be 5 V or more. | • Faulty combination light switch<br>• Short to ground in the wire |
| | | Combination light switch (SMALL position) ON | Check for voltage between S13 and S5 terminals: There should be less than 1 V. | • Faulty combination light switch<br>• An open in the wire |

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| | | | | |
|---|---|---|---|---|
| S13 | GRY | Combination light switch OFF | Check for voltage between S13 and S5 terminals: There should be 5 V or more. | • Faulty combination light switch<br>• Short to ground in the wire |
| S16 | LT BLU | Combination light switch (Dimmer) in high beam position | Check for voltage between S16 and S5 terminals: There should be less than 1 V. | • Faulty combination light switch<br>• An open in the wire |
| | | Combination light switch (Dimmer) in low beam position | Check for voltage between S16 and S5 terminals: There should be 5 V or more. | • Faulty combination light switch<br>• Short to ground in the wire |

## COMBINATION LIGHT SWITCH TEST/REPLACEMENT

1. Remove the dashboard lower cover (see **DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ).
2. Remove the steering column covers (see **STEERING COLUMN REMOVAL AND INSTALLATION** ).
3. Disconnect the 12P connector (A) from the combination light switch (B).

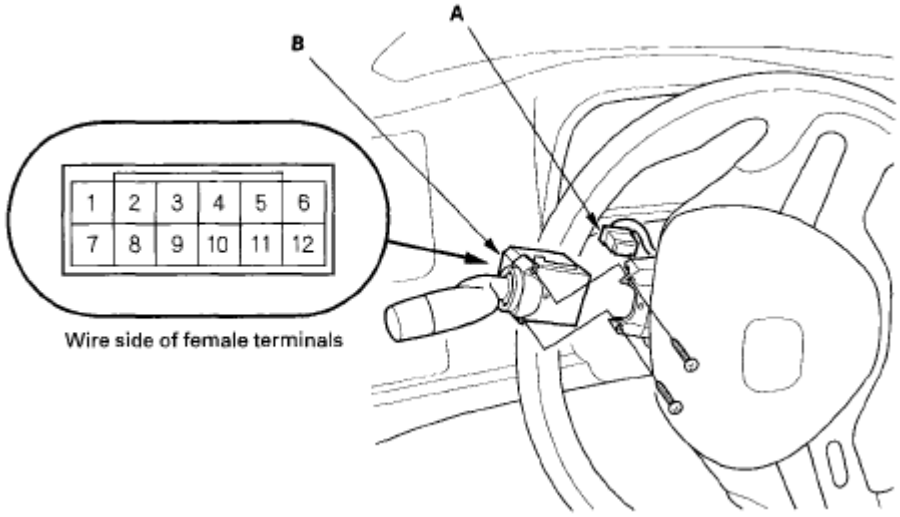



**Fig. 17: Disconnecting 12P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the two screws, then slide out the combination light switch.
5. Inspect the connector terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, check for continuity between the terminals in each switch position according to the tables.
     - If the continuity is not as specified, replace the switch.

**Light switch:**

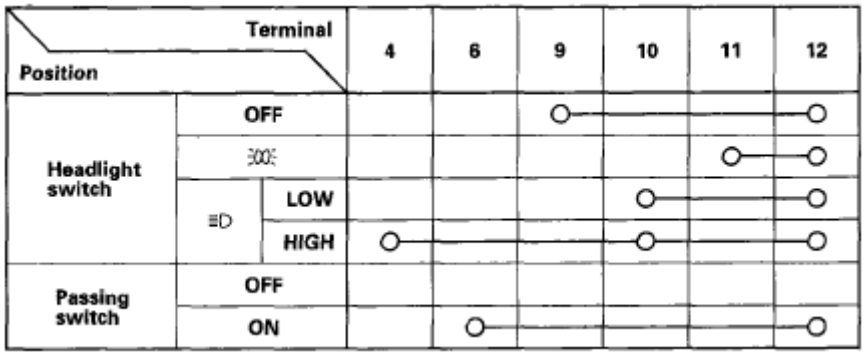



**Fig. 18: Checking Continuity Between Light Switch Terminals Chart**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Turn signal switch:

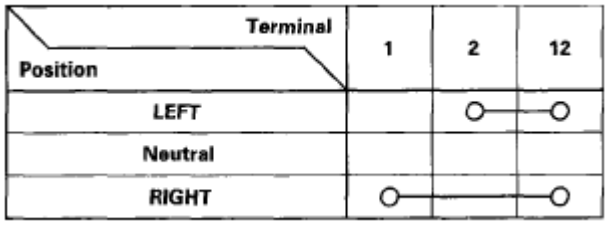



**Fig. 19: Checking Continuity Between Turn Signal Switch Terminals Chart**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## HEADLIGHT ADJUSTMENT

**CAUTION: Headlights become very hot during use; do not touch them or any attaching hardware immediately after they have been turned off.**

Before adjusting the headlights:

- Park the vehicle on a level surface.
- Make sure the tire pressures are correct.
- The driver or someone who weighs the same should sit in the driver's seat.

1. Clean the outer lens so that you can see the center (A) of the headlights.

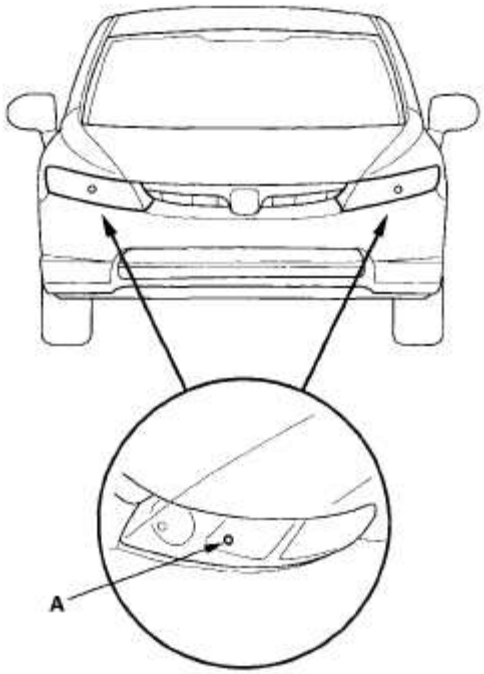



**Fig. 20: Cleaning Outer Lens Of Headlights**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Park the vehicle in front of a wall or a screen (A).

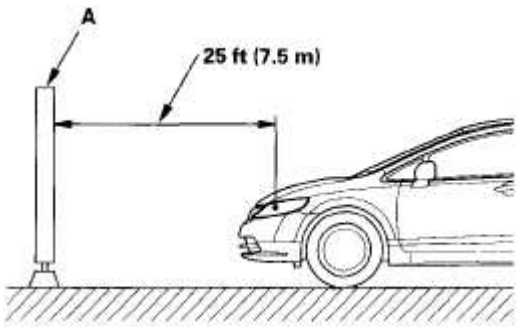



**Fig. 21: Parking Vehicle In Front Of Wall Or Screen**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the low beams on.
4. Determine if the headlights are aimed properly.

**Vertical adjustment:**

Measure the height of the headlights (A). Adjust the cut line (B) to the lights

height.

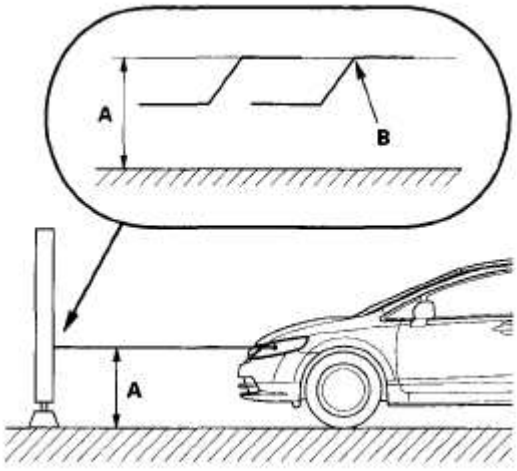



**Fig. 22: Measuring Headlights**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. If necessary, open the hood and adjust the headlights to local requirements by turning the vertical adjuster.




**Fig. 23: Adjusting Vertically**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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## HEADLIGHT REPLACEMENT

1. Remove the front bumper (see **FRONT BUMPER REMOVAL/INSTALLATION** ).
2. Remove the connectors (A) from the headlight assembly (B).

**NOTE: 4-door shown, the 2-door is similar.**

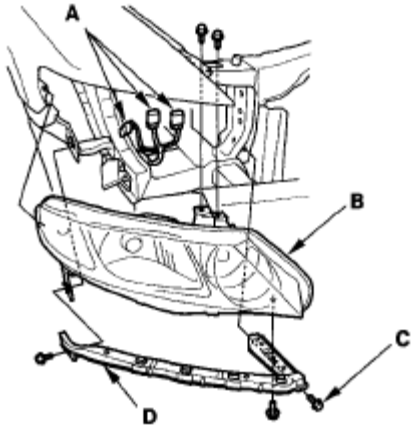



**Fig. 24: Removing Connectors From Headlight Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the four bolts, then remove the headlight.
4. Remove the bolt (C) and the corner upper beam (D) from the headlight.
5. Install the headlight in the reverse order of removal.
6. After replacement, adjust the headlight to local requirement.

## BULB REPLACEMENT

### HEADLIGHT

1. For low beam: Remove the inner fender.
   - 2-door (see **FRONT INNER FENDER REPLACEMENT** )
   - 4-door (see **4-DOOR** )
2. Disconnect the 2P connector (A) from the headlight.

**Headlight (high beam): 60 W**

**Headlight (low beam): 51 W**

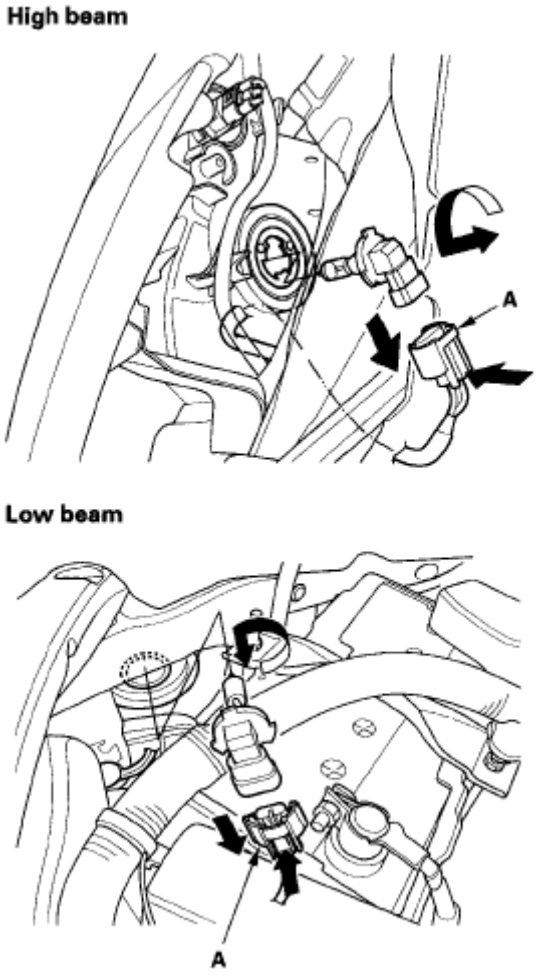



**Fig. 25: Disconnecting 2P Connector From Headlight**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the bulb socket 45° counterclockwise to remove the bulb.
4. Install a new bulb in the reverse order of removal.

**FRONT SIDE MARKER/PARKING/TURN SIGNAL LIGHTS**

1. Remove the inner fender.
   - 2-door (see **FRONT INNER FENDER REPLACEMENT** )
   - 4-door (see **4-DOOR** )
2. Disconnect the 3P connector (A) from the front side marker/parking/turn signal

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light.

**Front Side Marker/Parking/Turn Signal Lights:**

**21/5 W (4-door)**
**28/8 W (2-door)**

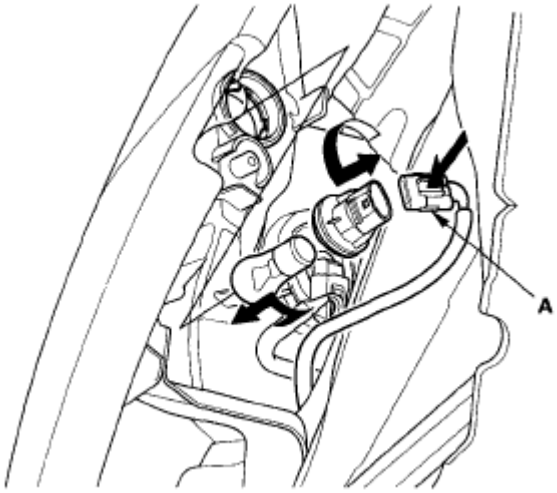



**Fig. 26: Disconnecting 3P Connector From Front Side Marker/Parking/Turn Signal Light**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the bulb socket 45° counterclockwise to remove the bulb.
4. Install a new bulb in the reverse order of removal.

## TAILLIGHT REPLACEMENT

**4-DOOR**

1. Remove the rear bumper (see **REAR BUMPER REMOVAL/INSTALLATION** ).
2. Disconnect the connectors (A) from the taillights (B).

**Brake Lights/Taillights: 21/5 W**
**Rear Turn Signal Light: 21 W**
**Back-up Light: 21 W**
**Rear Side Maker Light: 5 W**

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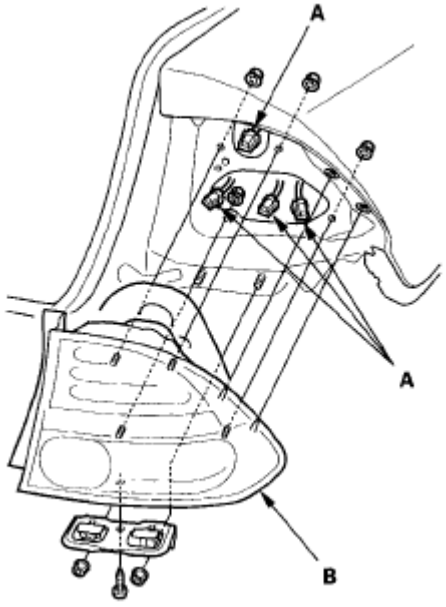



**Fig. 27: Disconnecting Connectors From Taillights**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the bulb sockets 45° counterclockwise to remove the bulbs.
4. Remove the nuts and screws, then remove the taillight.
5. Install the light in the reverse order of removal.

**2-DOOR**

1. Remove the rear bumper (see **REAR BUMPER REMOVAL/INSTALLATION** ).
2. Disconnect the connectors (A) from the taillights (B).

**Brake Lights/Taillights: 21/5W**

**Rear Turn Signal Light: 21 W**

**Back-up Light: 21 W**

**Rear Side Marker Light: 5 W**

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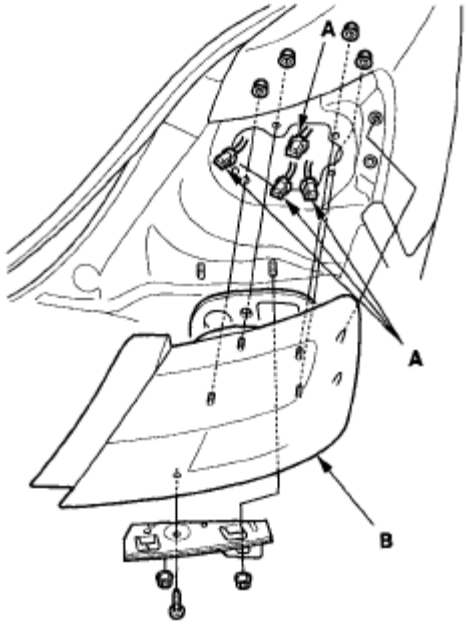



**Fig. 28: Disconnecting Connectors From Taillights**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the bulb sockets 45° counterclockwise to remove the bulbs.
4. Remove the nuts and screws, then remove the taillight.
5. Install the light in the reverse order of removal.

## INNER TAILLIGHT REPLACEMENT

### 4-DOOR

1. Open the trunk lid, and remove the rear license trim (see **4-DOOR** ).
2. Disconnect the connector (A) from the inner taillight (B).

**Taillight: 5W**

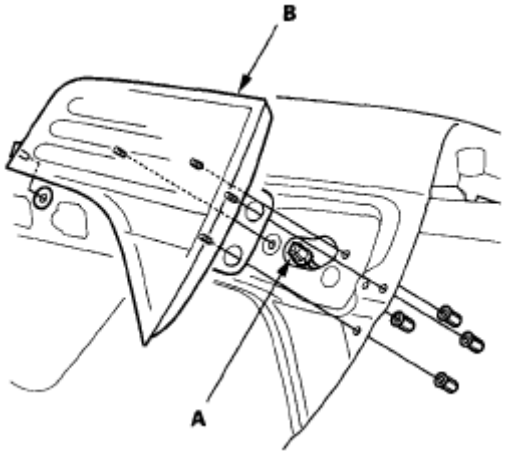



**Fig. 29: Disconnecting Connector From Inner Taillight**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the bulb socket 45° counterclockwise to remove the bulb.
4. Remove the nuts, then remove the taillight.
5. Install the light in the reverse order of removal.

## LICENSE PLATE LIGHT REPLACEMENT

1. Open the trunk lid, and remove the rear license trim (see **SIDE SILL PROTECTION TAPE REPLACEMENT** ).
2. Disconnect the 2P connector (A) from the license plate light.

**NOTE: 4-door shown, the 2-door is similar.**

**License Plate Light: 5 W (4-door) 3 CP (2-door)**

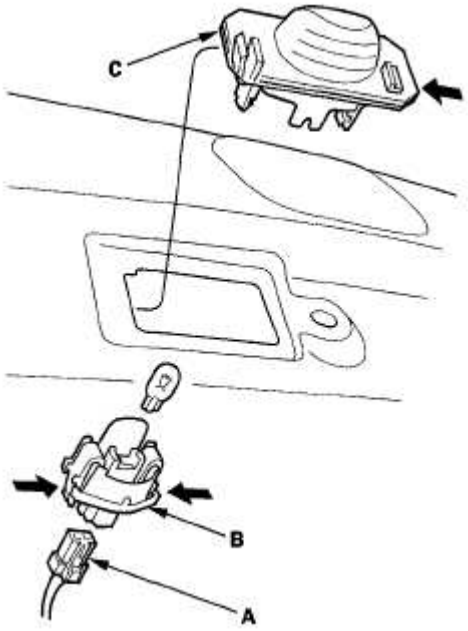



**Fig. 30: Disconnecting 2P Connector From License Plate Light**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Release the bulb socket (B) from the lens (C) by pressing on the tabs.
4. Remove the lens from the trunk lid by pressing on the tabs.
5. Install the light in the reverse order of removal.

## HIGH MOUNT BRAKE LIGHT REPLACEMENT

### EXCEPT SI MODELS

1. Open the trunk lid.
2. Disconnect the 2P connector (A) from the high mount brake light.

**Bulb: 21 W**

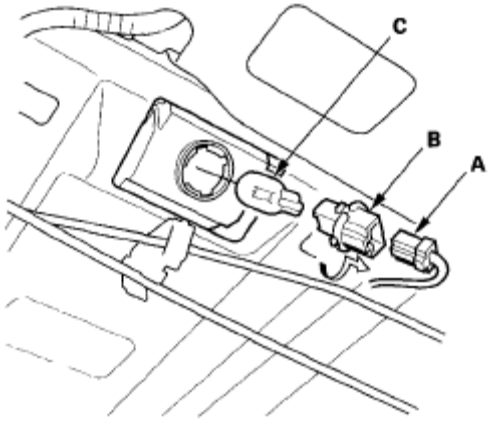



**Fig. 31: Disconnecting 2P Connector From High Mount Brake Light**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Turn the bulb socket (B) 45° counterclockwise to remove the bulb (C).
4. Remove the rear shelf.
   - 2-door (see **TRIM REMOVAL/INSTALLATION - REAR SHELF AREA** )
   - 4-door (see **REAR SHELF EXTENSION - 2-DOOR** )
5. Remove the high mount brake light (A).

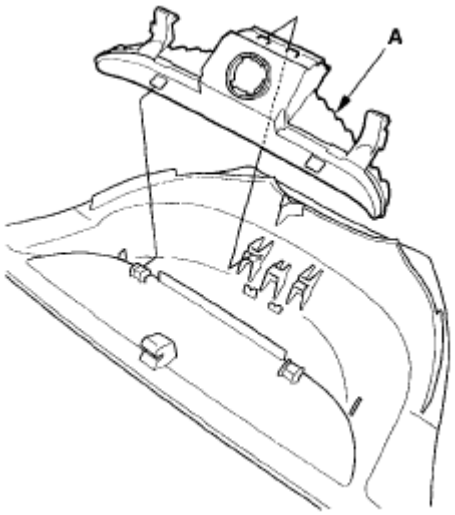



**Fig. 32: Removing High Mount Brake Light**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the light in the reverse order of removal.

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**SI MODEL**

1. Remove the two screws from the high mount brake light (A).

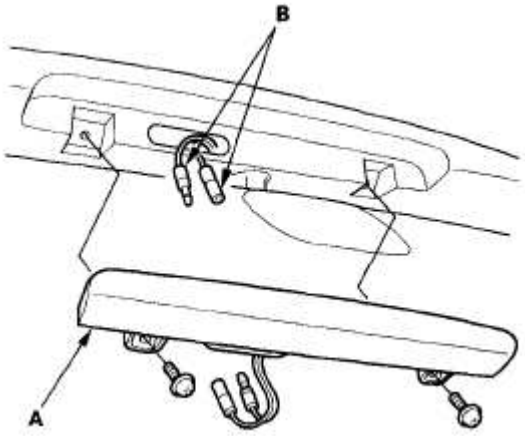



**Fig. 33: Removing Hight Mount Brake Light Screws**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Disconnect the terminals (B) and remove the high mount brake light.

## BRAKE PEDAL POSITION SWITCH TEST

1. Disconnect the 4P connector (A) from the brake pedal position switch (B).

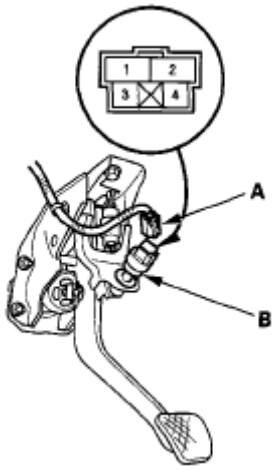



**Fig. 34: Disconnecting 4P Connector And Brake Pedal Position Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check for continuity between the No. 1 and No. 2 terminals.

- There should be continuity when the brake pedal is pressed.
- There should be no continuity when the brake pedal is released.

3. Check for continuity between the No. 3 and No. 4 terminals (with cruise control).
   - There should be no continuity when the brake pedal is pressed.
   - There should be continuity when the brake pedal is released.
4. If necessary, adjust or replace the switch, or adjust the pedal height (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).

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# 2006-08 ACCESSORIES AND EQUIPMENT

## Exterior Trim - Civic GX

## EMBLEM/STICKER REPLACEMENT

**NOTE: When removing the stickers, take care not to scratch the body.**

1. Clean the body surface with a sponge dampened in alcohol. After cleaning, keep oil, grease, and water from getting on the surface.
2. Apply the stickers where shown:
   - When installing the AT-PZEV sticker on the inside surface of the left rear door quarter glass, align the sticker with the edge of the glass mark as shown, then press the sticker into place, and remove the application tape.
   - When installing the side NGV stickers on both rear doors, align the application tape with the edges of the rear door and rear door molding as shown, then press the sticker into place, and remove the application tape.
   - When installing the CNG sticker on the trunk lid, align the application tape with the edge of the trunk lid as shown, then press the sticker into place, and remove the application tape.

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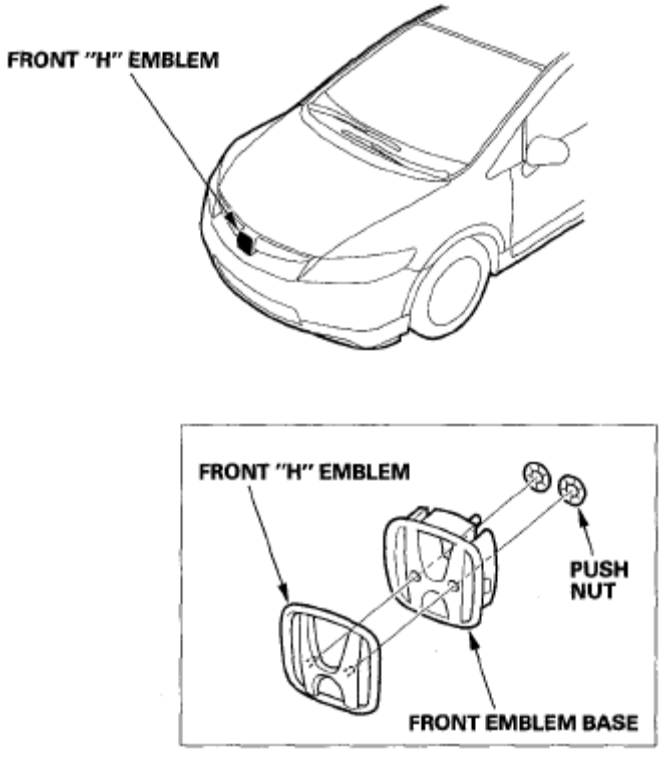



**Fig. 1: Identifying Front Emblem**

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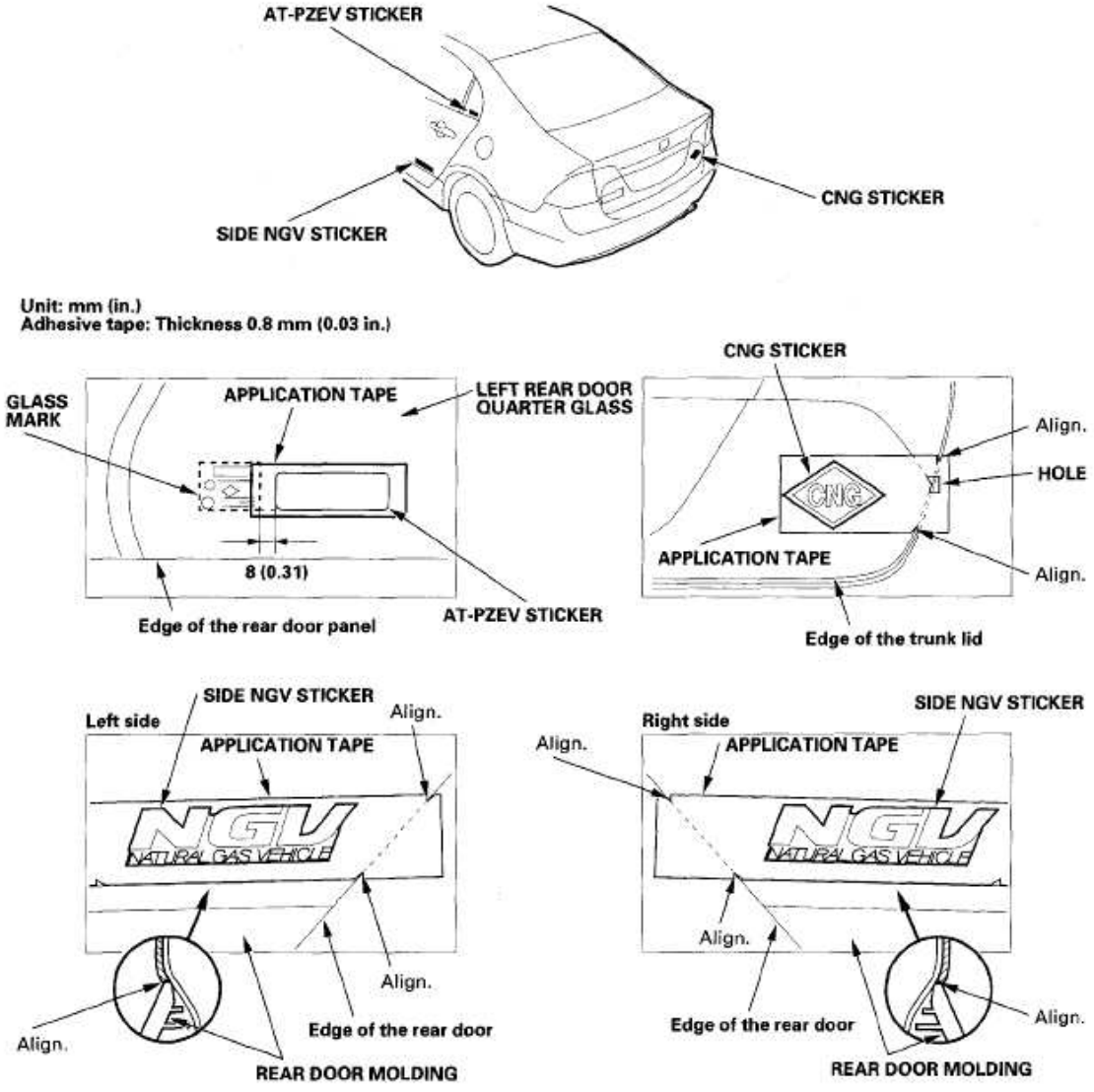



**Fig. 2: Identifying Side NGV Sticker And Rear Door Molding**

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**2006-08 ACCESSORIES & EQUIPMENT)**

**Exterior Trim - Civic (All Except Hybrid)**

## FRONT GRILLE REPLACEMENT

**NOTE: Refer to the EXTERIOR TRIM (GX) (SUPPLEMENT) article for additional information for the GX model.**

**2-DOOR (EXCEPT SI MODEL)**

**NOTE: Take care not to scratch the bumper and grille.**

1. Remove the front bumper (see **FRONT BUMPER REMOVAL/INSTALLATION** ).
2. Remove the screws, and remove the front grille (A) from the front bumper (B).

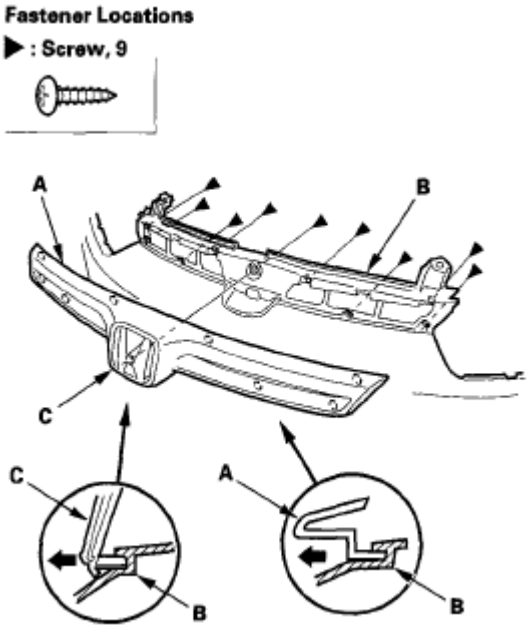



**Fig. 1: Identifying Front Bumper Front Grille**

3. If emblem (C) replacement is necessary, refer to **EMBLEM/STICKER REPLACEMENT** .
4. Install the grille in the reverse order of removal.

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**4-DOOR (EXCEPT SI MODEL)**

## NOTE: Take care not to scratch the bumper and grille.

1. Remove the front bumper (see **FRONT BUMPER REMOVAL/INSTALLATION** ).
2. Remove the nuts, and release the hooks (A), then remove the front grille (B) from the front bumper (C).

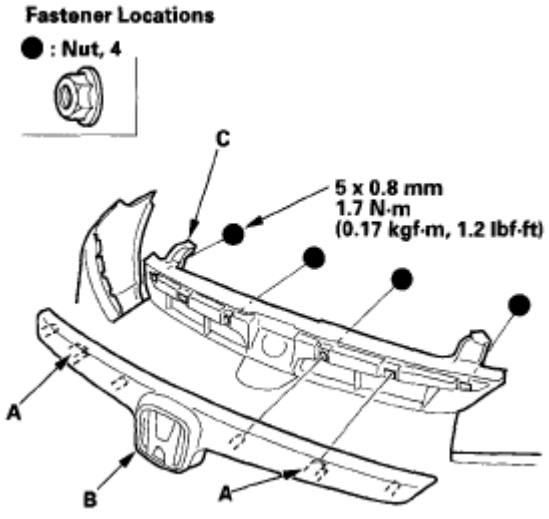



**Fig. 2: Removing Front Grille From Front Bumper (With Specifications)**

3. If necessary, remove the screw, and release the hooks, then remove the front emblem base (A) from the front grille (B).

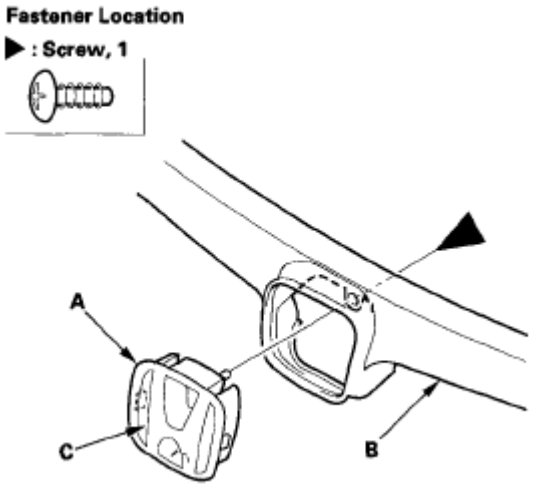


**Fig. 3: Removing Front Emblem Base From Front Grille**

4. If emblem (C) replacement is necessary, refer to **EMBLEM/STICKER REPLACEMENT** .
5. Install the grille in the reverse order of removal.

**SI MODEL**

**NOTE: Take care not to scratch the bumper and grille.**

1. Remove the front bumper (see **FRONT BUMPER REMOVAL/INSTALLATION** ).
2. Remove the screws, and remove the front grille (A) from the front bumper (B).

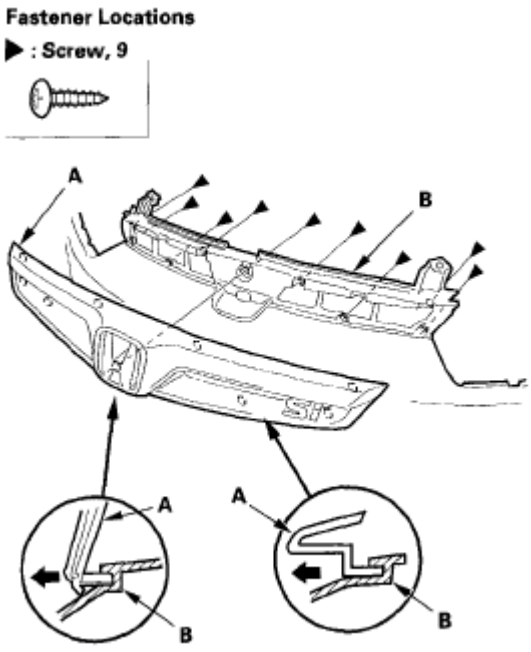



**Fig. 4: Removing Front Grille From Front Bumper**

3. Remove the screws, then separate the front grille molding (A) and the front grille base (B).

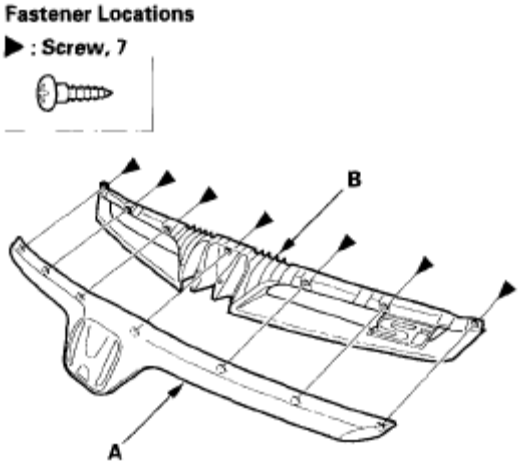



**Fig. 5: Separating Front Grille Molding And Front Grille Base**

4. If emblems replacement is necessary, refer to **EMBLEM/STICKER REPLACEMENT** .
5. Install the grille in the reverse order of removal.

## FRONT FENDER TRIM REPLACEMENT

**NOTE:**

- **Take care not to scratch the fender trim and body.**
- **When removing components, use the trim tool or equivalent.**

1. Move the steering fluid reservoir (A) as needed.

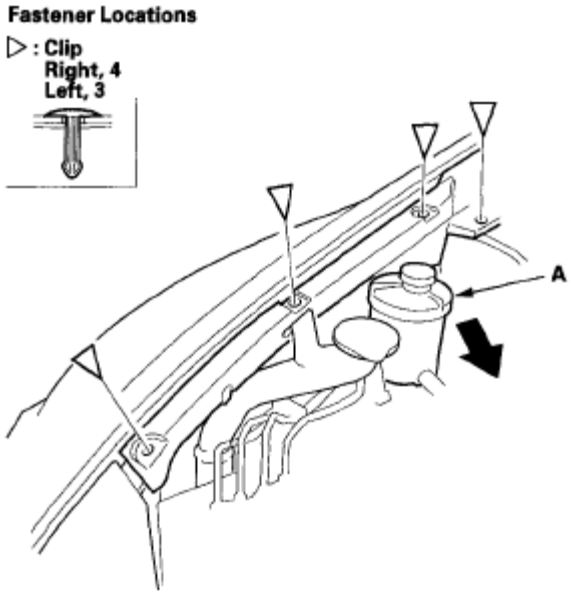



**Fig. 6: Moving Steering Fluid Reservoir**

2. Remove the clips.
3. Disconnect the washer mouth (A) from the washer reservoir (B). Release the hook (C), then remove the front fender trim (D) and the washer mouth.

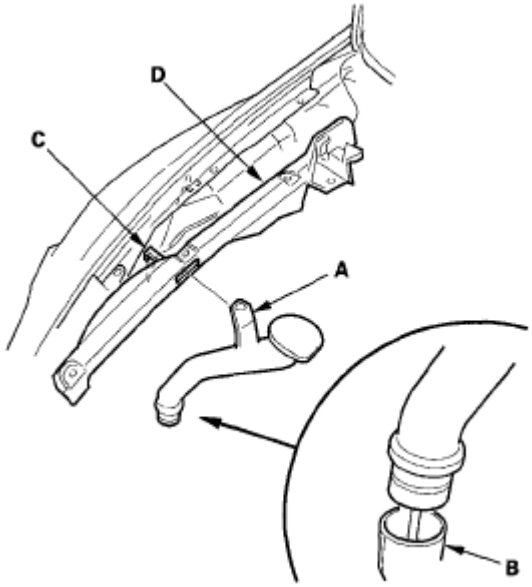



**Fig. 7: Disconnecting Washer Mouth From Washer Reservoir**

4. Install the fender trim in the reverse order of removal, and note these items:

- Replace the clips (A) with new ones.
- Push the clips into place securely.

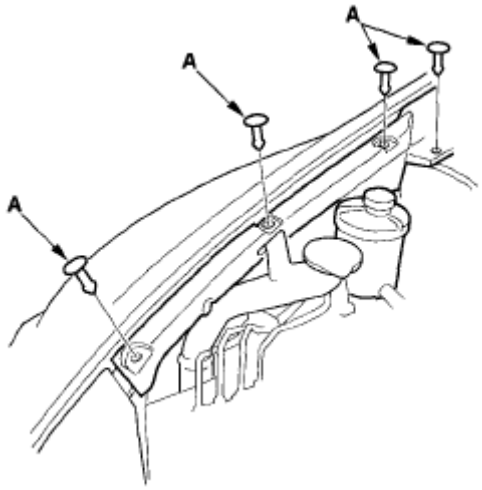



**Fig. 8: Installing Fender Trim**

## FRONT GRILLE COVER REPLACEMENT

**NOTE:**

- **When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage.**
- **Take care not to scratch the rear bumper and body.**

1. Remove the front fender trim from both sides (see **FRONT FENDER TRIM REPLACEMENT** ).
2. Remove the clips by carefully pulling the front grille cover (A) up, then remove the cover by releasing the front edge of the cover from the grille (B). Take care not to scratch the body.

**NOTE: To remove the clips, pry the inner clip up at the edge near the line (C) on its head.**

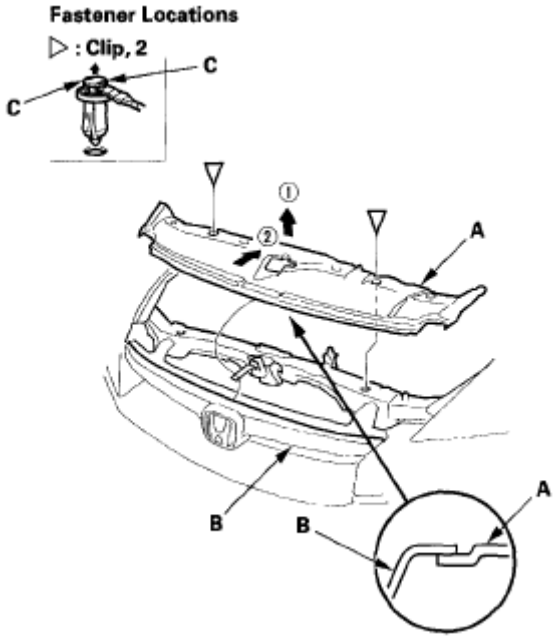



**Fig. 9: Removing Cover By Releasing Front Edge Of Cover From Grille**

3. Install the covers in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clip portions into place securely.

## COWL COVER REPLACEMENT

**NOTE: Take care not to scratch the body.**

1. Turn on the wiper switch, and move the windshield wiper arms 90°.
2. Remove the center cowl cover (A).
   - 1 Remove the hood rear seal (B) by pulling it out.
   - 2 Remove the clips (C).
   - 3 Release three front hooks (D) from the edge of the under-cowl panel (E).
   - 4 Detach the clips (F, G) by carefully pulling the cover up, then remove the cover by releasing the hooks (H). Take care not to scratch the body.

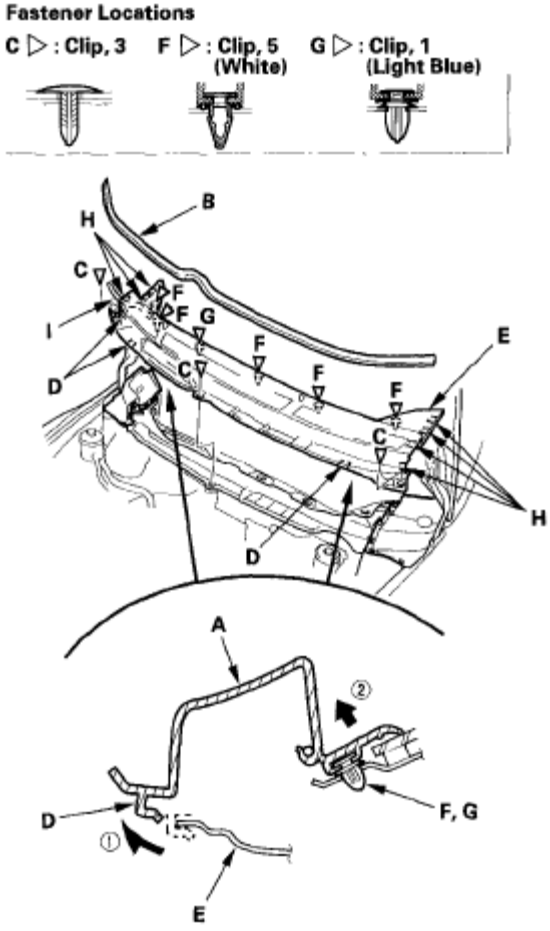



**Fig. 10: Removing Center Cowl Cover**

3. Disconnect the windshield washer tube (I).
4. If necessary, remove the bolts (A, B), then remove the under-cowl panel (C).

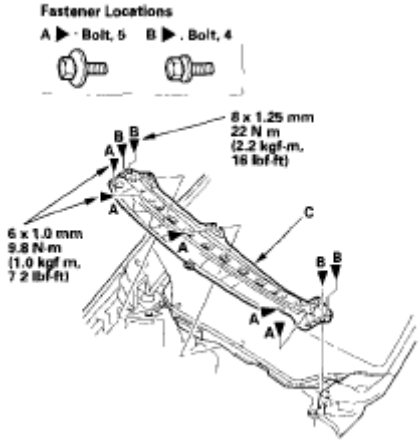


**Fig. 11: Removing Under-Cowl Panel (With Specifications)**

5. Remove these items:
   - Windshield wiper arms:
     - 2-door (see **2-DOOR** )
     - 4-door (see **WIPER MOTOR REPLACEMENT** )
   - Front fender trim, both sides (see **FRONT FENDER TRIM REPLACEMENT** )
6. Detach the clips by carefully pulling the side cowl cover (A) up, then remove the cover by releasing the hooks (B) from the front fender. Take care not to scratch the body. Repeat this step for the other side cowl cover, and disconnect the windshield washer tube.

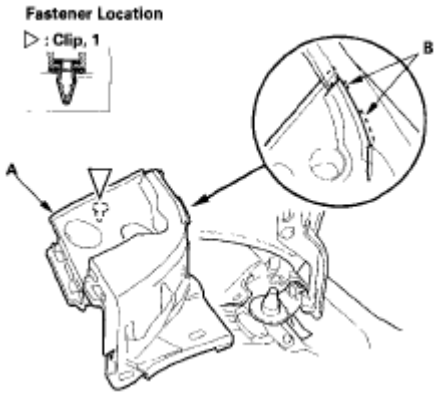



**Fig. 12: Removing Cover By Releasing Hooks Form Front Fender**

7. Install the parts in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Make sure the washer tubes are connected securely.
   - Push the clips into place securely.

## ROOF MOLDING REPLACEMENT

### Special Tools Required

KTC trim tool set SOJATP2014 *

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* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**MOLDING REPLACEMENT - 2-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to damage the windshield.**
- **Do not use any metallic tools to remove the roof molding, or you may chip the edge of the windshield and some cracks in the windshield will occur.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to bend the roof molding.**

1. Remove the cowl cover (see **COWL COVER REPLACEMENT** ).
2. Detach the bottom clip (A) at the lower corner of the windshield.

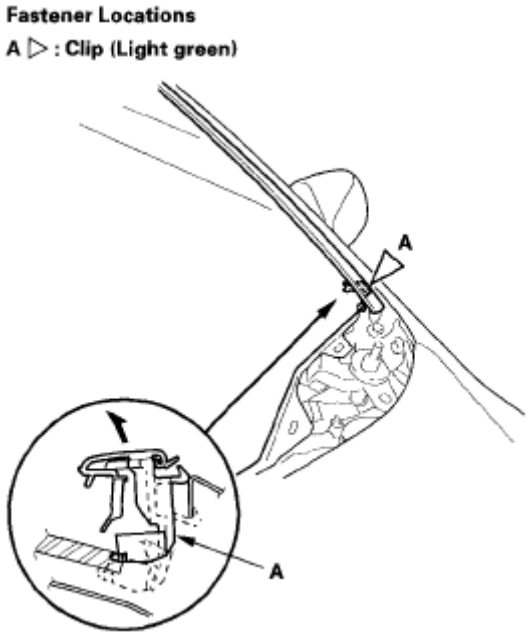



**Fig. 13: Detaching Bottom Clip At Lower Corner Of Windshield**

3. Remove the windshield portion of the roof molding (A).
   - 1 Carefully insert a trim tool (B) under the molding next to the lower clip

(C).

- 2 While pulling the clip portion of the molding up by hand, push each of the small hooks (D) to release the clip from the retainer (E). Do not try to pry up the clip if it is hard to release from the retainer.
- 3 Gradually work your way up to release each of the clips.

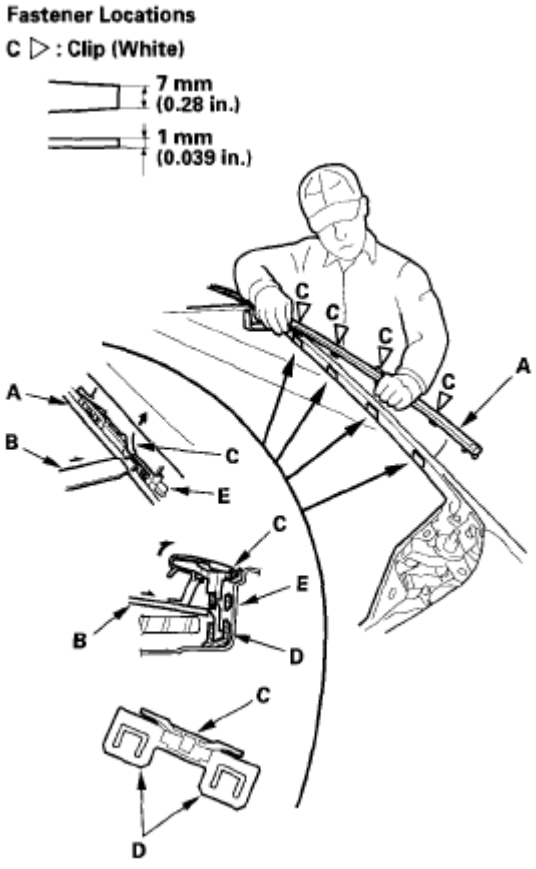



**Fig. 14: Removing Windshield Portion Of Roof Molding (With Specifications)**

4. Pull up the middle portion of the roof molding (A) to release it from the retainers (B).

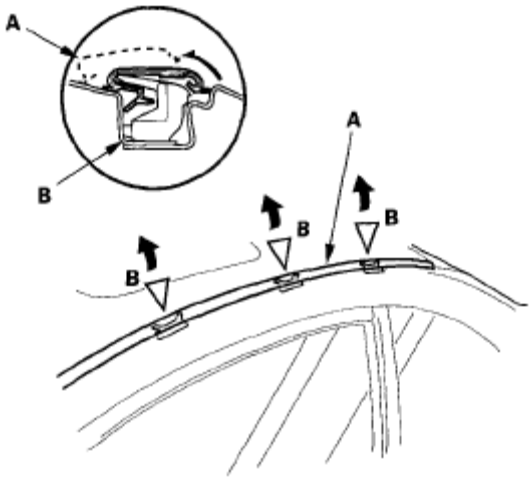



**Fig. 15: Pulling Up Middle Portion Of Roof Molding**

5. Pull up and release the rear end of the roof molding (A) from the pin (B), then remove the roof molding.

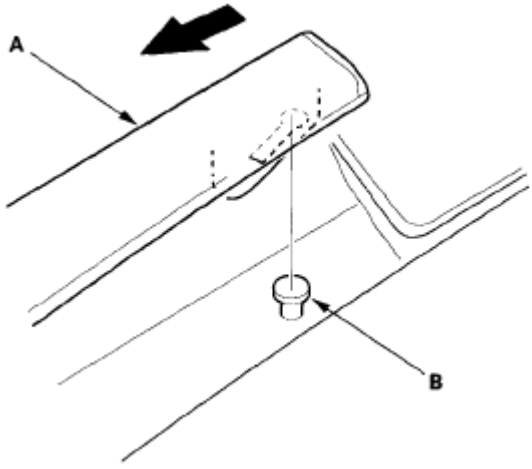



**Fig. 16: Releasing Rear End Of Roof Molding**

6. Install the molding in the reverse order of removal, and note these items:
   - Make sure the roof molding is installed securely.
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

**MOLDING REPLACEMENT - 4-DOOR**

**NOTE:**

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- **Put on gloves to protect your hands.**
- **Take care not to damage the windshield.**
- **Do not use any metallic tools to remove the roof molding, or you may chip the edge of the windshield and some cracks in the windshield will occur.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to bend the roof molding.**

1. Remove the cowl cover (see **COWL COVER REPLACEMENT** ).
2. Detach the bottom clip (A) at the lower corner of the windshield.

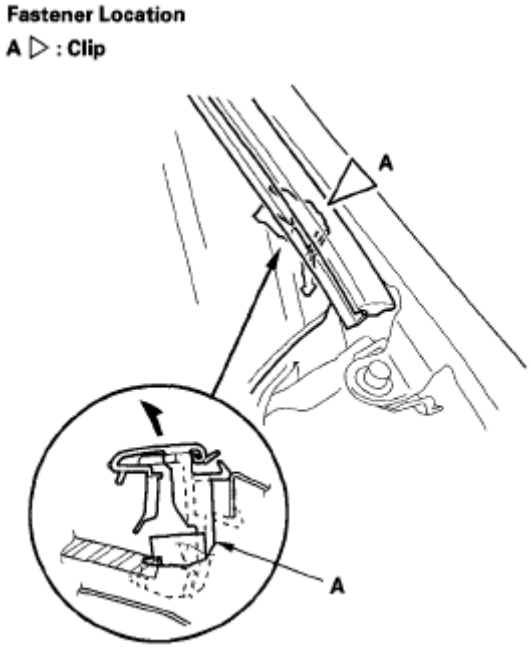



**Fig. 17: Detaching Bottom Clip At Lower Corner Of Windshield**

3. Remove the windshield portion of the roof molding (A).
   - 1 Carefully insert a plastic spatula (B) in under the molding next to the lower clip (C).
   - 2 While pulling the clip portion of the molding up by hand, push hooks (D) to release the clip from the retainer (E). Do not try to pry up the clip if it is hard to release from the retainer.

- 3 Gradually work your way up to release each of the clips (F, G).

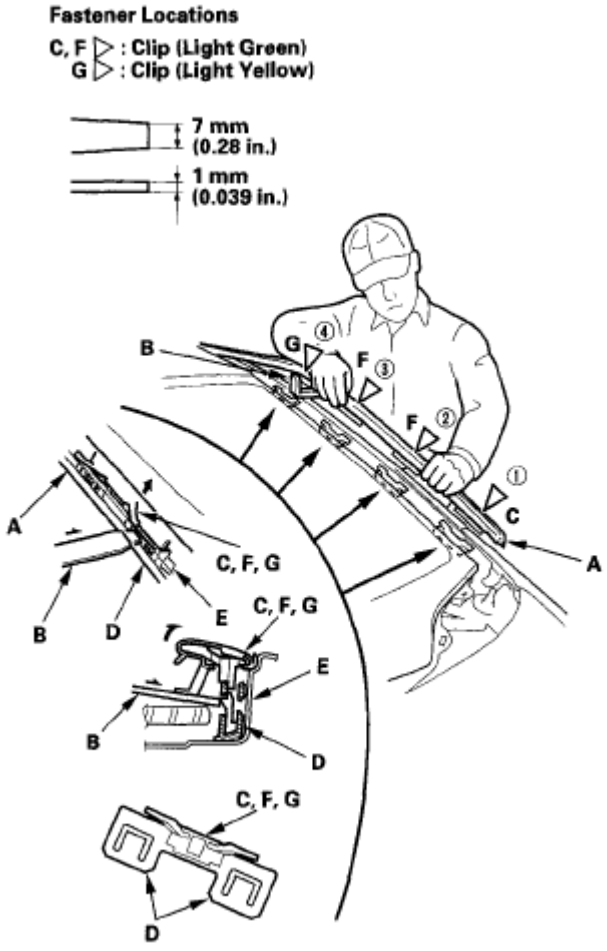



**Fig. 18: Removing Windshield Portion Of Roof Molding (With Specifications)**

4. Pull up the middle portion of the roof molding (A) to release it from the retainers (B).

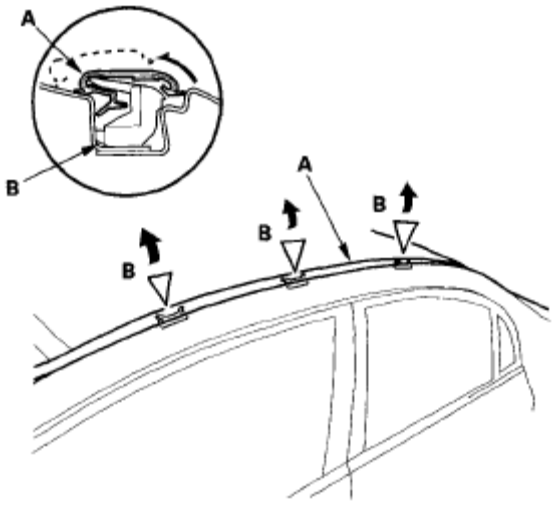



**Fig. 19: Pulling Up Middle Portion Of Roof Molding**

5. Pull up and release the rear end of the roof molding (A) from the pin (B), then remove the roof molding.

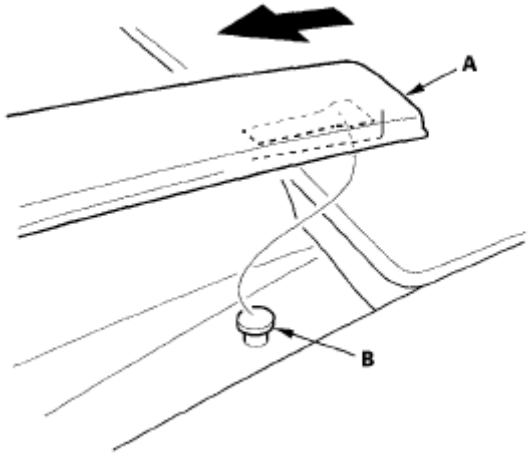



**Fig. 20: Releasing Rear End Of Roof Molding From Pin**

6. Install the molding in the reverse order of removal, and note these items:
   - Make sure the roof molding is installed securely.
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

**RETAINER REPLACEMENT**

1. While prying the middle hook (A) with a flat-tip screwdriver, slide the upper

retainer (C), upward to release them from the T-studs (D) on the A-pillar and roof drip portion. Take care not to scratch the body.

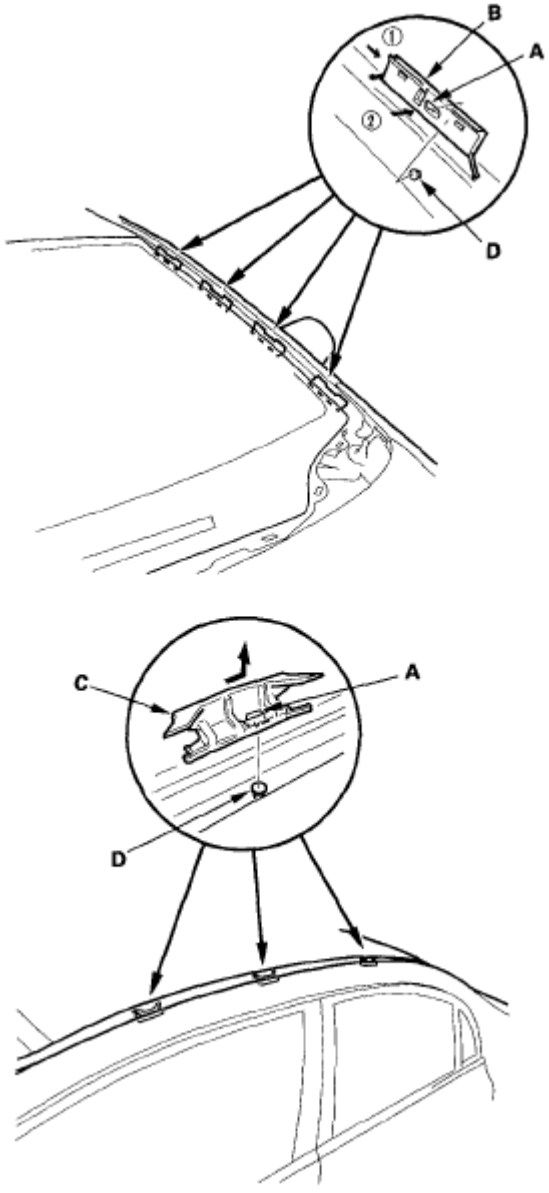



**Fig. 21: Sliding Upper Retainer Upward To Release**

2. Install the retainers in the reverse order removal.

## A-PILLAR CORNER TRIM REPLACEMENT

**2-DOOR**

1. Open the front door.
2. Wrap a flat-tip screwdriver with protective tape, and apply protective tape around the body to prevent damage. Carefully insert a flat-tip screwdriver trim tool next to the upper clip, and detach the clip by prying on the A-pillar corner trim (A). Take care not to scratch the body and related parts.

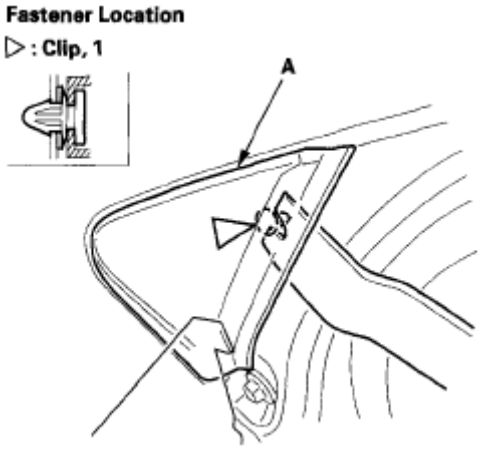



**Fig. 22: Prying A-Pillar Corner Trim**

3. Pull the A-pillar corner trim (A) back by hand to detach remaining lower clips, then remove the trim.

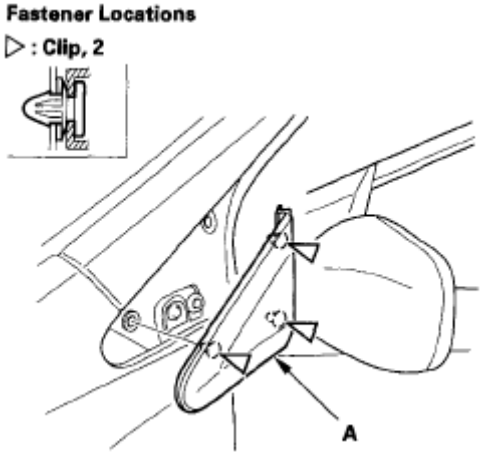



**Fig. 23: Removing A-Pillar Corner Trim**

4. Install the trim in the reverse order of removal, and note these items:
    - Check if the clips are damaged or stress-whitened, and if necessary,

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replace them with new ones.

- Push the clip portions into place securely.

## DOOR MOLDING REPLACEMENT

**4-DOOR**

**NOTE:**

- **Be careful not to pry too far or you may bend the molding.**
- **Put on gloves to protect your hands.**
- **When removing components, use the trim tool or equivalent.**

1. Remove these items:
   - Front door panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ) and plastic cover (see step 4 in **FRONT DOOR OUTER HANDLE REPLACEMENT** )
   - Rear door panel (see **REAR DOOR PANEL REMOVAL/INSTALLATION** ) and plastic cover (see step 4 in **REAR DOOR OUTER HANDLE REPLACEMENT** )
2. Release the clips (A), and gently pry the front door molding (B) or rear door molding (C) away from the door while separating the adhesive tape (D, E, F, G).

   **Adhesive tape (D): Thickness 1.2 mm (0.047 in.) Width 5 mm (0.2 in.) Length 30 mm (1.2 in.)**

   **Adhesive tape (E): Thickness 1.2 mm (0.047 in.) Width 10 mm (0.39 in.) Length 930 mm (36.6 in.)**

   **Adhesive tape (F): Thickness 1.2 mm (0.047 in.) Width 10 mm (0.39 in.) Length 580 mm (22.8 in.)**

   **Adhesive tape (G): Thickness 1.2 mm (0.047 in.) Width 5 mm (0.2 in.) Length 24 mm (0.94 in.)**

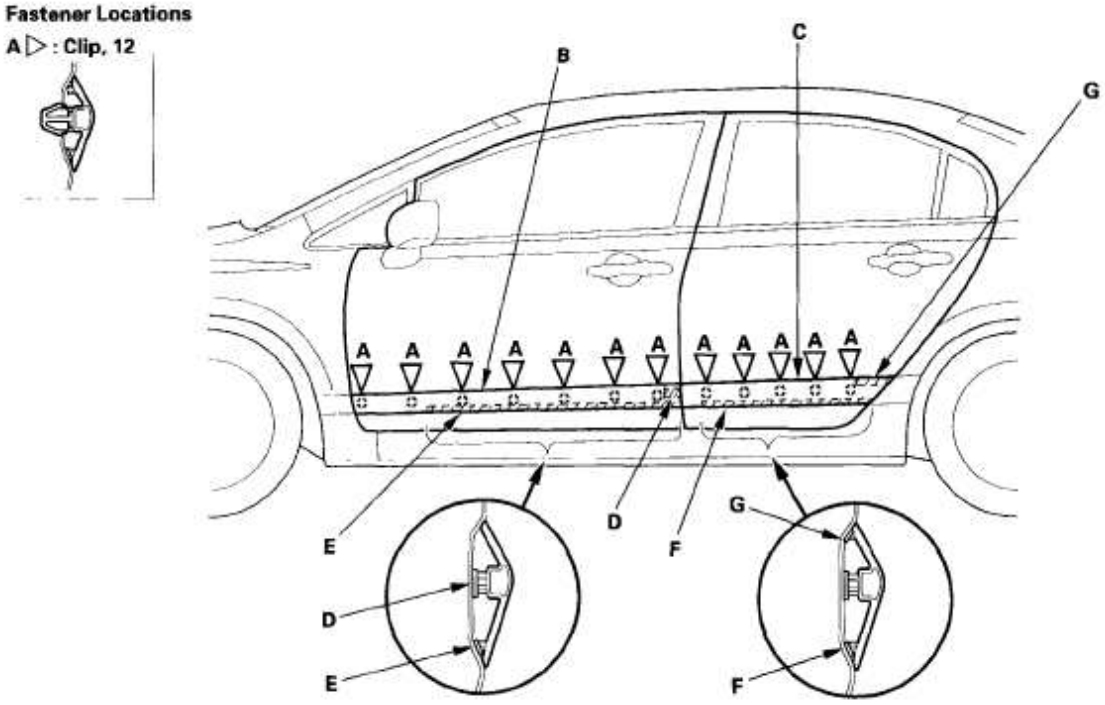



**Fig. 24: Releasing Clips And Prying Front Door Molding Or Rear Door Molding**

3. Install the moldings in the reverse order of removal, check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

## SIDE SILL PROTECTION TAPE REPLACEMENT

**4-DOOR**

1. Slowly peel up the old side sill protection tape.
2. Clean the body bonding surface with a sponge dampened in alcohol. After cleaning, keep oil, grease, and water from getting on the surface.
3. Peel the adhesive backing from the side sill protection tape.
4. Align the alignment marks (A) of the side sill protection tape (B) with the body line (C), and align the alignment marks (D) of the application tape (E) with the convex portion (F), then press the side sill protection tape into place.

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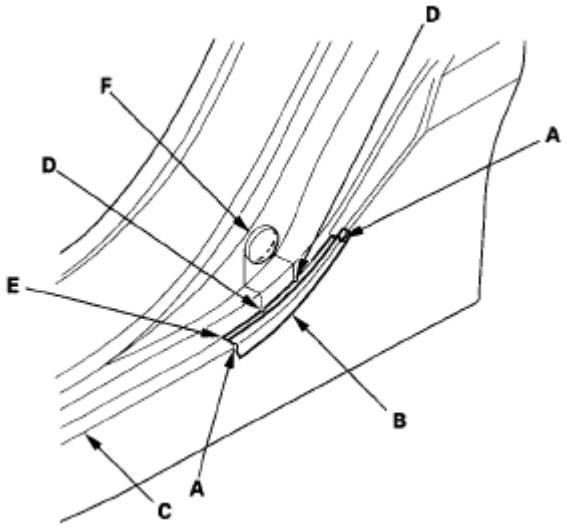



**Fig. 25: Replacing Side Sill Protection Tape**

## REAR LICENSE TRIM REPLACEMENT

**2-DOOR**

**NOTE: Put on gloves to protect your hands.**

1. From inside the trunk lid, remove the nuts (A) securing the rear license trim (B), and push out the clips (C).

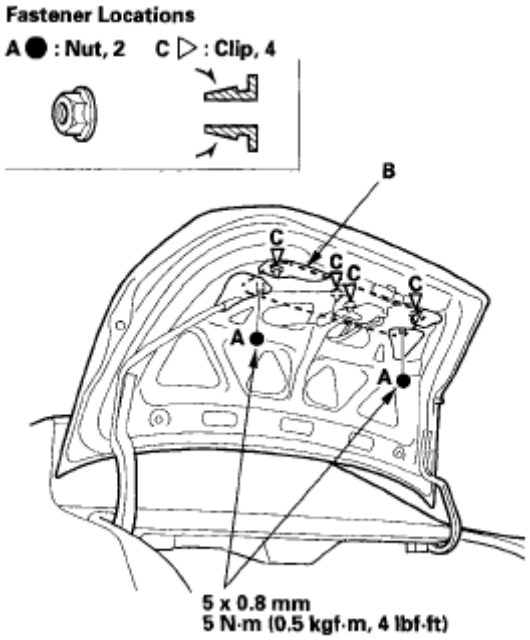


**Fig. 26: Removing Rear License Trim Nuts (With Specifications)**

2. Gently close the trunk lid, release the clip, and pull the rear license trim (A) out to detach the clips, then remove the trim. Take care not to scratch the trunk lid.

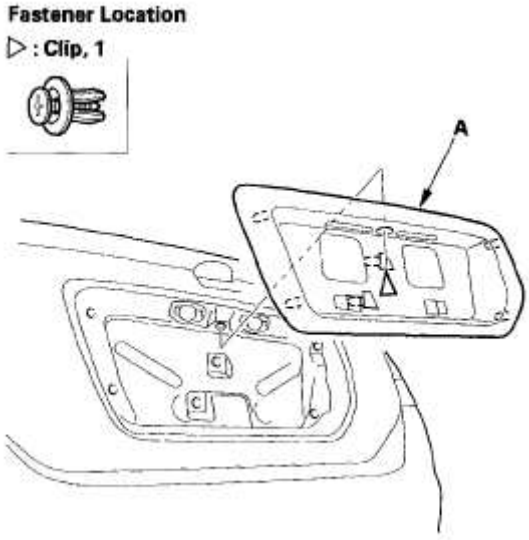



**Fig. 27: Pulling Rear License Trim Out To Detach Clips**

3. Install the trim in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

**4-DOOR**

1. If equipped, remove the trunk lid trim {see **TRIM REMOVAL/INSTALLATION - TRUNK LID** ).
2. Remove the bolt securing the trunk lid lock cylinder (see step 2 on page 20-261).
3. Detach the clips by pushing it from the hole in the trunk lid (A), then remove the rear license trim (B). Take care not to scratch the trunk lid.

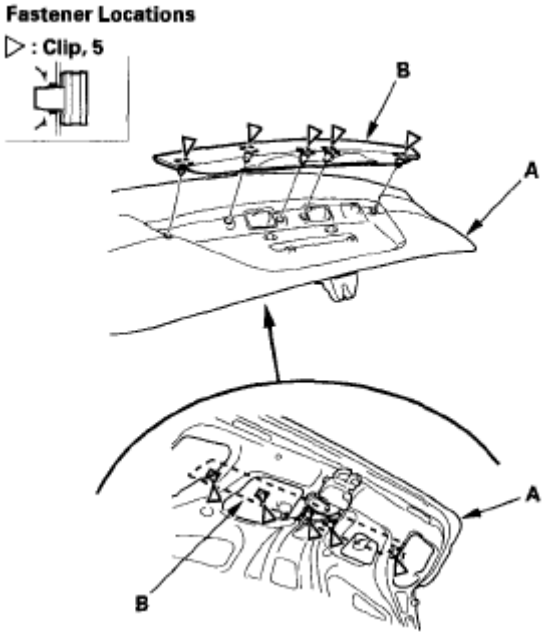



**Fig. 28: Removing Rear License Trim**

4. Install the trim in the reverse order of removal, and check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

## TRUNK LID SPOILER REPLACEMENT

### 2-DOOR (EXCEPT SI MODEL)

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the trunk lid.**

1. Open the trunk lid, and remove the nuts (A) from inside the trunk lid, and push out the clips (B).

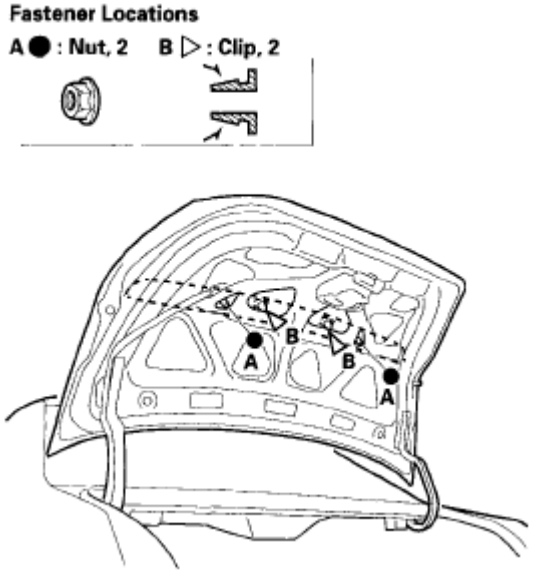



**Fig. 29: Removing Nuts Inside Trunk Lid**

2. Close the trunk lid. Pull the trunk lid spoiler (A) up to release the clips from the grommets (B) on the trunk lid while removing the adhesive tape (C), then remove the spoiler.

**Adhesive tape:**

**Thickness 1.2 mm (0.05 in.)**
**Width 8 mm (0.3 in.)**
**Length 15 mm (0.59 in.)**

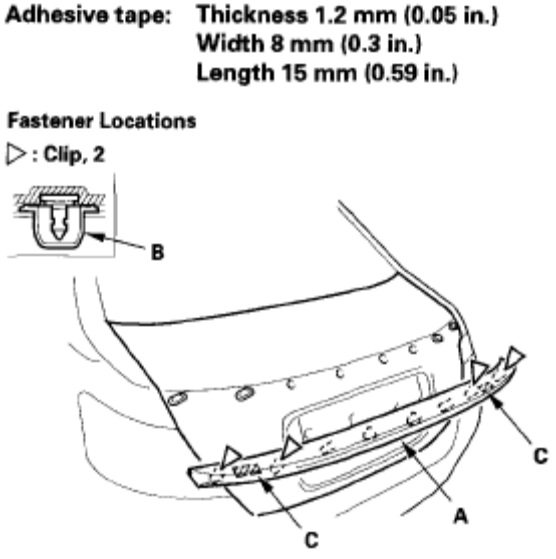



**Fig. 30: Releasing Clips From Grommets**

3. Install the spoiler in the reverse order of removal. Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

**2-DOOR (SI MODEL)**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the trunk lid.**

1. Open the trunk lid, and remove the nut (A) and bolts (B) from inside the trunk lid.

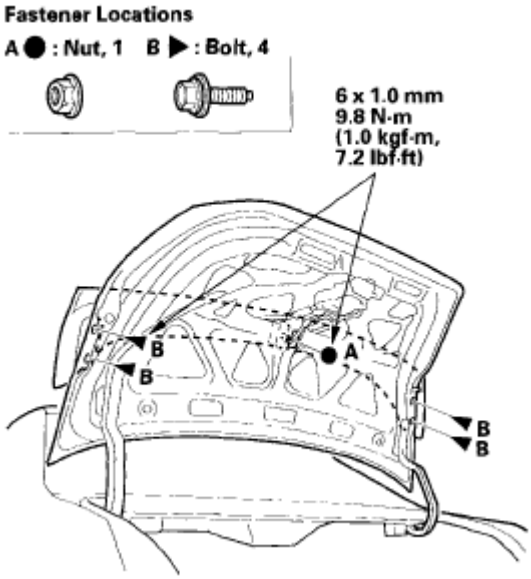



**Fig. 31: Removing Trunk Lid Bolts And Nut (With Specifications)**

2. Close the trunk lid. While lifting the trunk lid spoiler (A) up, disconnect the high mount brake light terminals (B) from the spoiler subharness (C), then remove the spoiler.

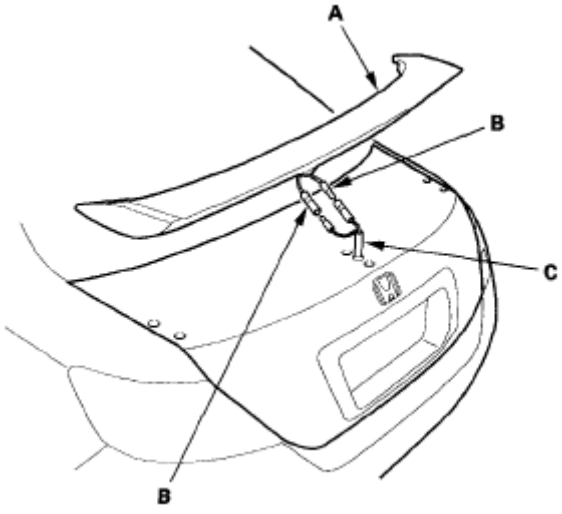



**Fig. 32: Disconnecting High Mount Brake Light Terminals**

3. Install the spoiler in the reverse order of removal, and make sure the high mount brake light terminals are plugged in properly.

**4-DOOR (SI MODEL)**

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**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the trunk lid.**

1. Open the trunk lid, and remove the nuts from inside the trunk lid.

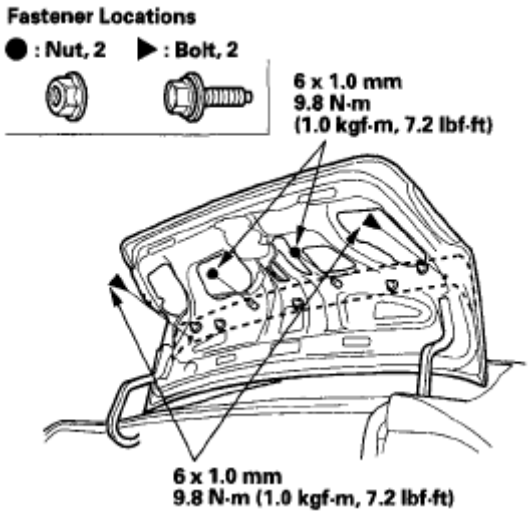



**Fig. 33: Removing Trunk Lid Nuts (With Specifications)**

2. Push out the clips from inside the trunk lid.

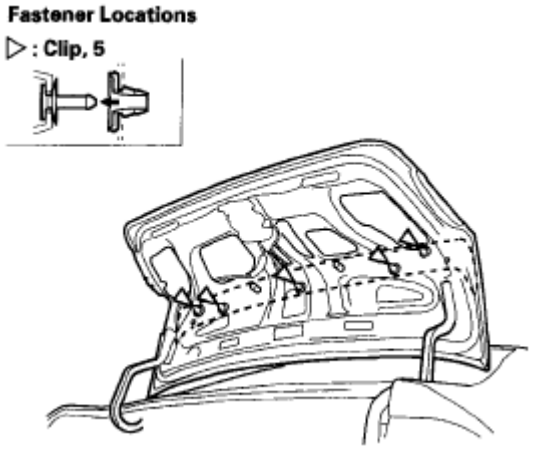



**Fig. 34: Pushing Out Clips From Inside Trunk Lid**

3. Close the trunk lid. While lifting the trunk lid spoiler (A) up, disconnect the high mount brake light terminals (B) from the spoiler subharness (C), then remove the spoiler.

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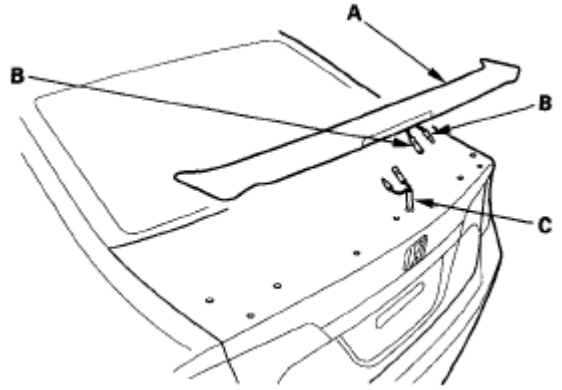



**Fig. 35: Disconnecting High Mount Brake Light Terminals**

4. Install the spoiler in the reverse order of removal, and make sure the high mount brake light terminals are plugged in properly.

## EMBLEM/STICKER REPLACEMENT

**NOTE: When removing the emblems, take care not to scratch the body.**

**2-DOOR**

1. Except Si model: To remove the front "H" emblem, remove the front grille (see **FRONT GRILLE REPLACEMENT** ).
2. Si model: To remove the front "H" emblem, or the front Si emblem, remove the front grille (see **SI MODEL** ).
3. Clean the body surface with a sponge dampened in alcohol. After cleaning, keep oil, grease, and water from getting on the surface.
4. Apply the emblem/sticker where shown:
   - When installing the LEV sticker on the inside surface of the left quarter glass, align the sticker with the edge of the glass mark and black ceramic as shown, then press the sticker into place, and remove the application tape.
   - When installing the side i-VTEC sticker on the body, align notches in the application tape with the edge of the body and door opening, then press the sticker into place, and remove the application tape.

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5. Except Si model: After installing the front "H" emblem, reinstall the front grille (see **FRONT GRILLE REPLACEMENT** ).
6. Si model: After installing the front "H" emblem or the front Si emblem, reinstall the front grille (see **SI MODEL** ).

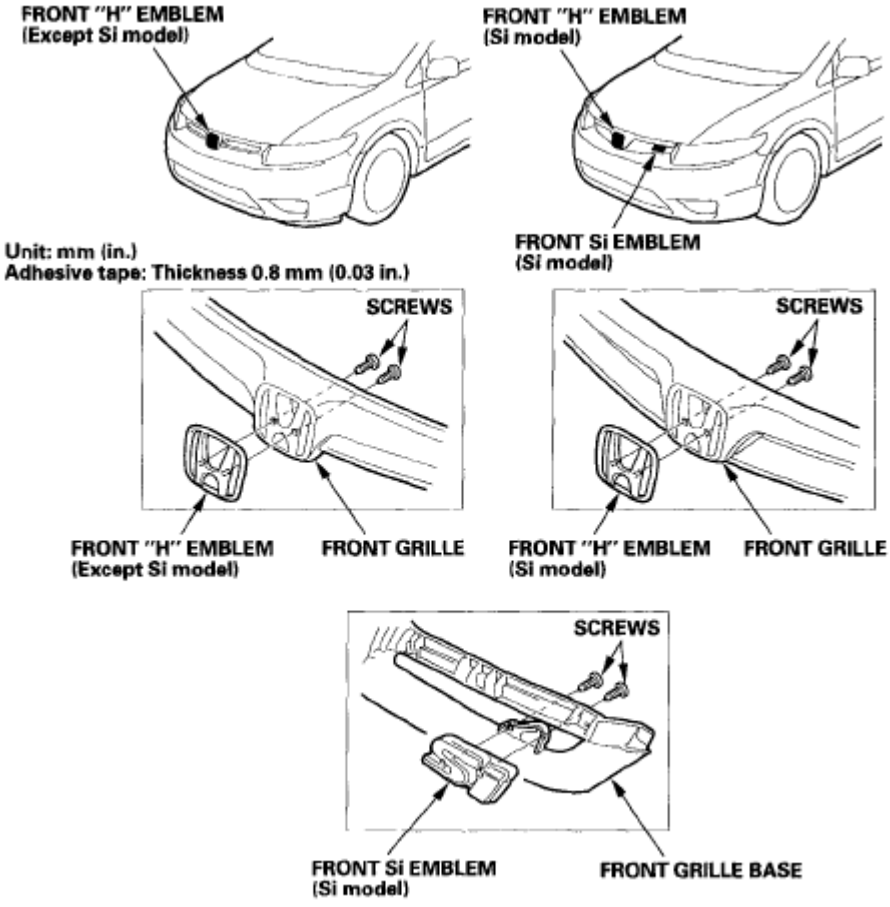
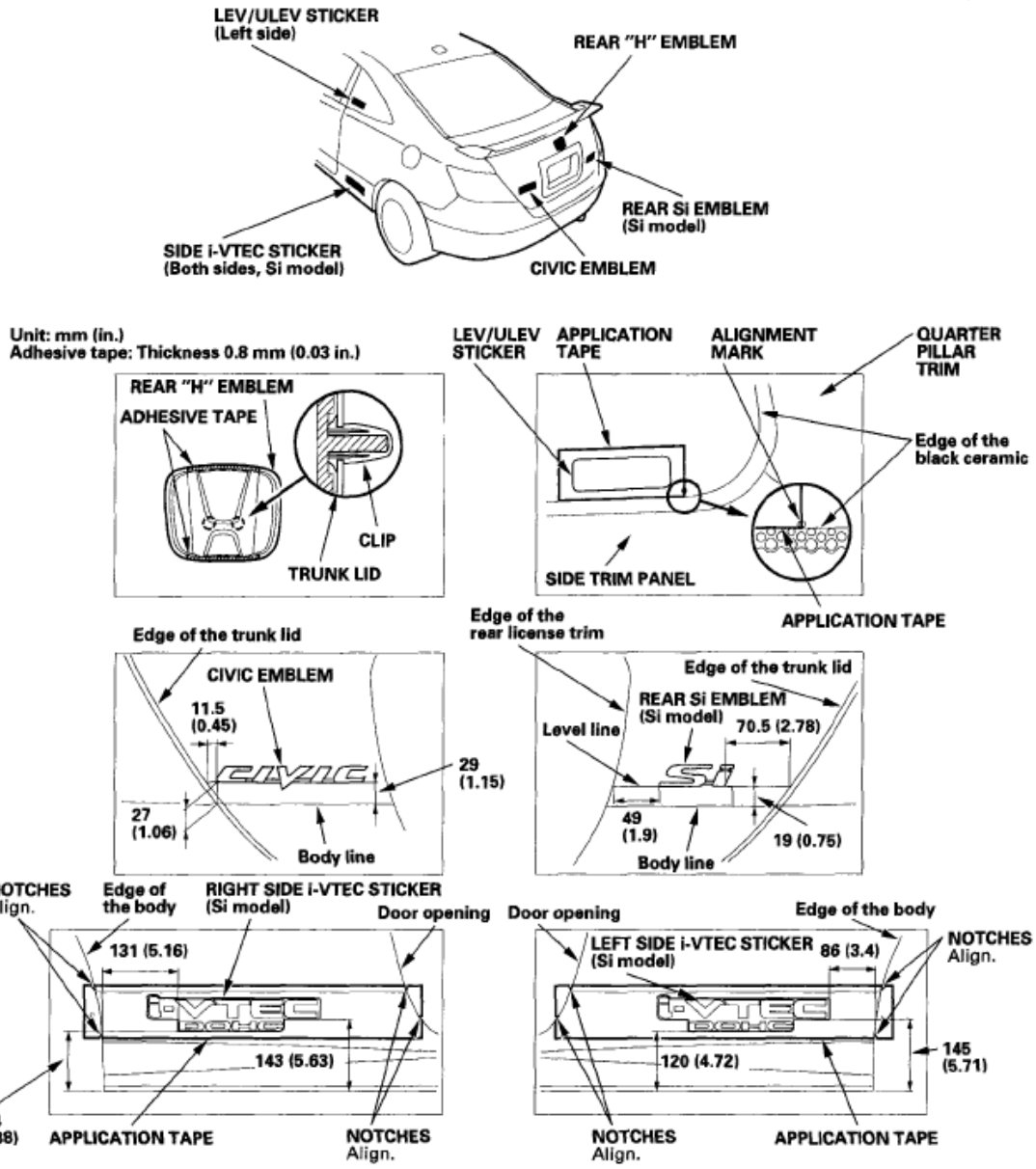



**Fig. 36: Replacing Emblem/Sticker (With Specifications) (1 Of 2)**




## Fig. 37: Replacing Emblem/Sticker (With Specifications) (2 Of 2)

**NOTE: When removing the emblems, take care not to scratch the body.**

**4-DOOR**

1. Except Si model: To remove the front "H" emblem, remove the front grille (see **FRONT GRILLE REPLACEMENT** ).
2. Si model: To remove the front "H" emblem or the front Si emblem, remove the

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front grille (see **SI MODEL** ).

3. Clean the body surface with a sponge dampened in alcohol. After cleaning, keep oil, grease, and water from getting on the surface.
4. Apply the emblem/sticker where shown:
   - When installing the LEV sticker on the inside surface of the left quarter glass, align the sticker with the edge of the glass mark and black ceramic as shown, then press the sticker into place, and remove the application tape.
   - When installing the side i-VTEC sticker on the body, align notches in the application tape with the edge of the body and door opening, then press the sticker into place, and remove the application tape.
5. Except Si model: After installing the front "H" emblem, reinstall the front grille (see **FRONT GRILLE REPLACEMENT** ).
6. Si model: After installing the front "H" emblem or the front Si emblem, reinstall the front grille (see **SI MODEL** ).

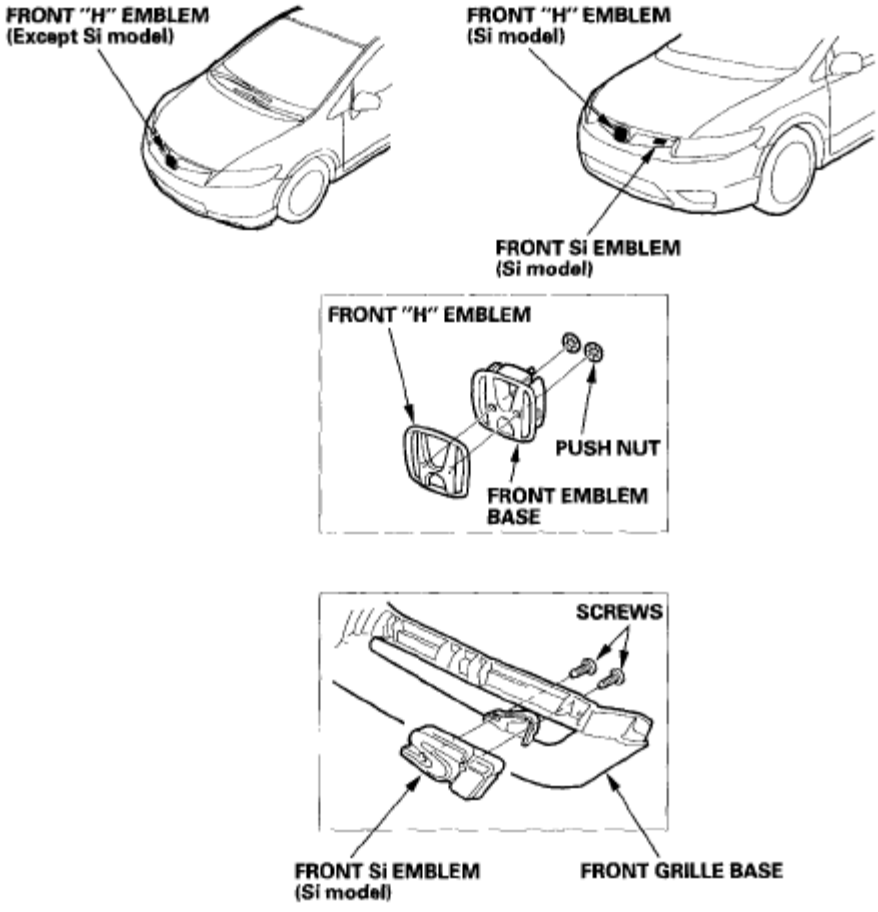



**Fig. 38: Removing Emblem/Sticker (With Specifications) (1 Of 2)**

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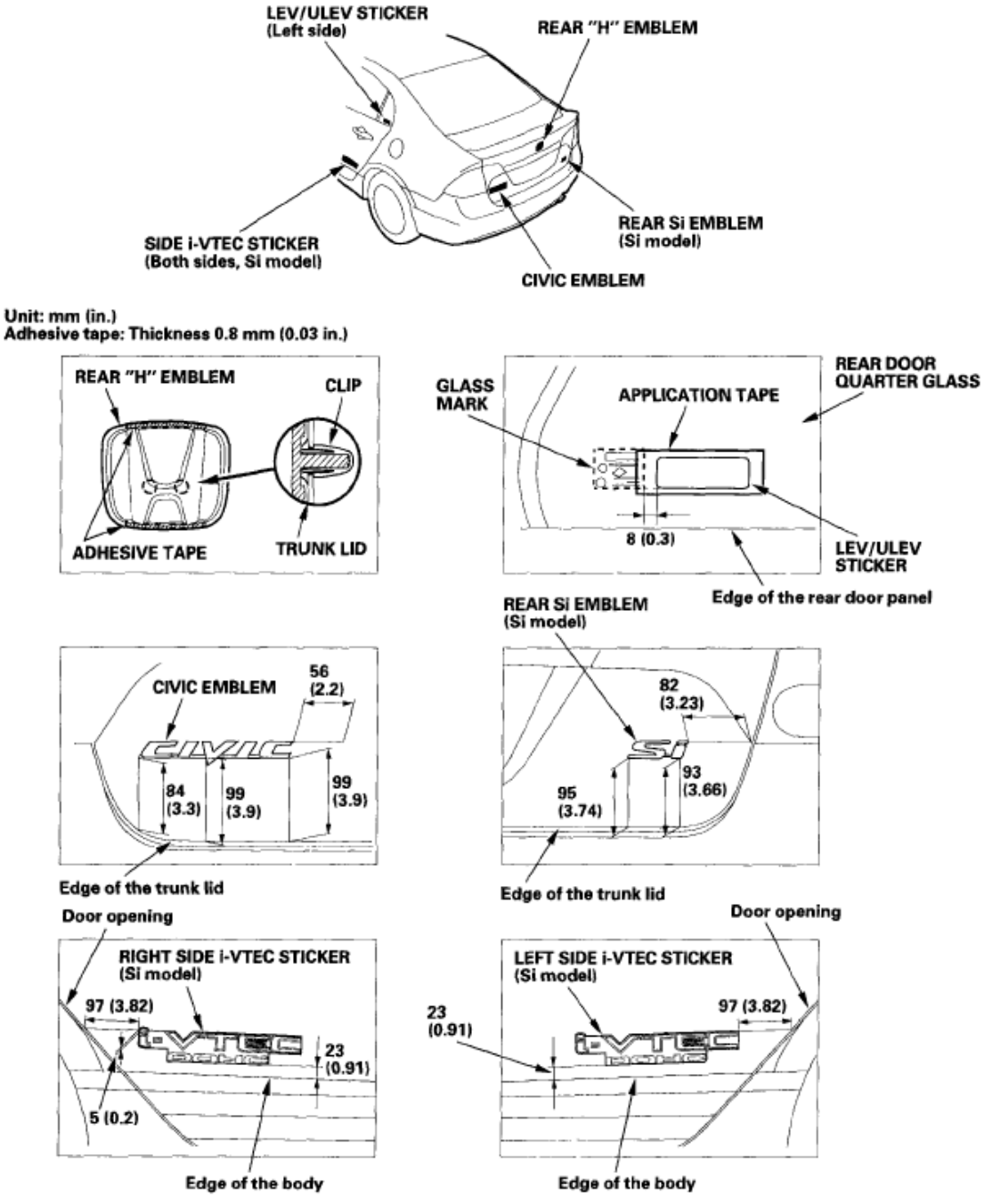



**Fig. 39: Removing Emblem/Sticker (With Specifications) (2 Of 2)**

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**2006-08 ENGINE**

**Fan Controls (R18A1) - Civic (All Except Hybrid)**

## COMPONENT LOCATION INDEX

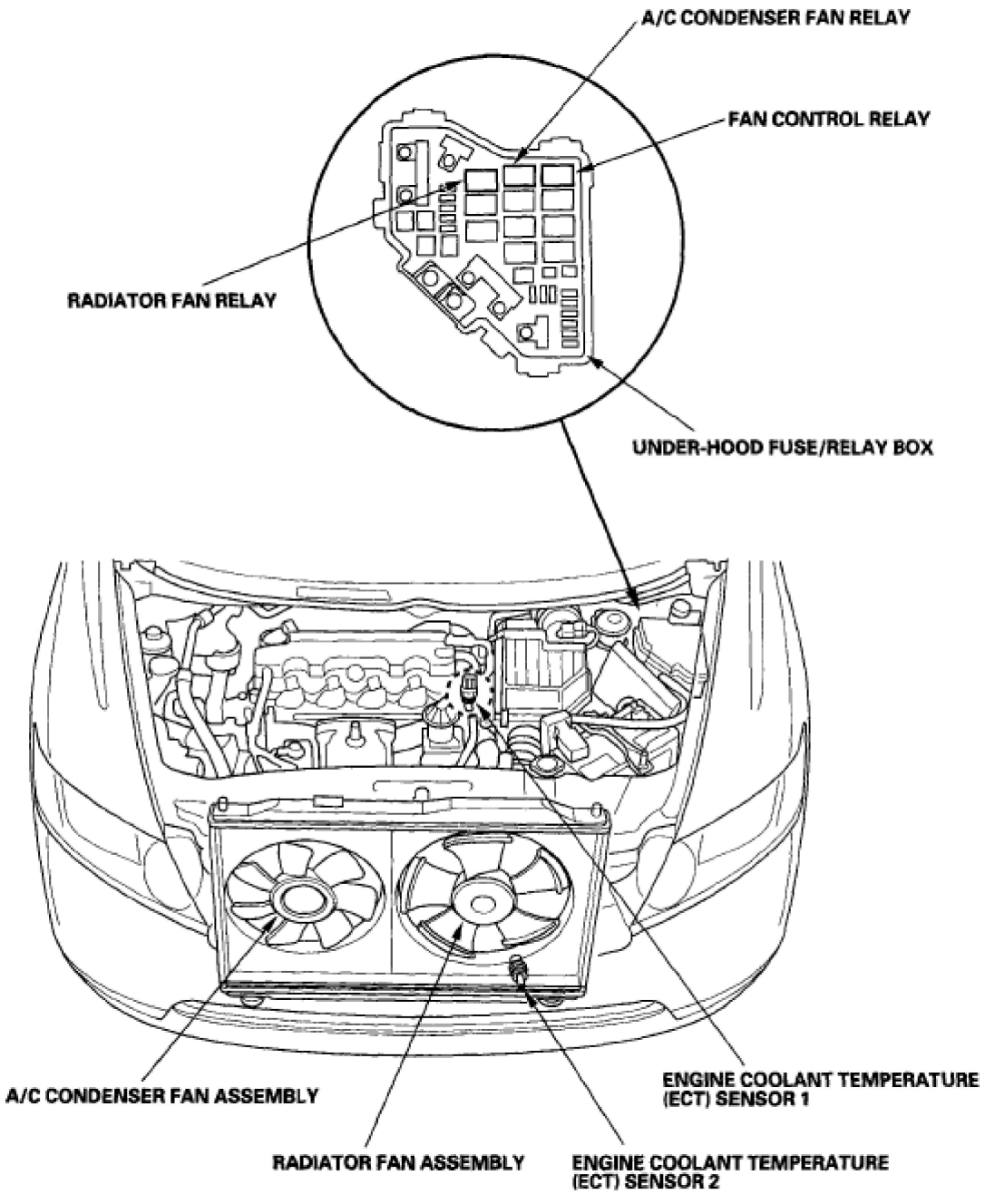



**Fig. 1: Identifying Fan Controls Component Locations**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic Procedure | Also check for |
|---|---|---|
| Engine overheats | 1. Check the coolant level.<br>2. Check for any engine coolant leakage (from gaskets, hoses, O-rings, etc.).<br>3. Check for dirt, leaves, or insects on radiator and condenser.<br>4. Check for deteriorated coolant.<br>5. Check for a damaged or deformed fan shroud.<br>6. Inspect the fan motors (see **FAN MOTOR TEST** ) or fan relays (see **POWER RELAY TEST** ).<br>7. Check the radiator cap (see **RADIATOR CAP TEST** ).<br>8. Check the thermostat (see **FAN MOTOR TEST** ).<br>9. Inspect the water pump (see **WATER PUMP INSPECTION** ).<br>10. Check for a plugged or deteriorated radiator hoses.<br>11. Check for plugged heater core or hoses.<br>12. Check for a damaged cylinder head gasket. | |
| The A/C condenser fan runs at low speed, but it | A/C condenser fan high speed circuit | Cleanliness |

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| | | |
|---|---|---|
| does not run at high speed when the engine coolant temperature is above 206 °F (96.5 °C) | troubleshooting (see **A/C CONDENSER FAN HIGH SPEED CIRCUIT TROUBLESHOOTING** ). | and tightness of all connectors |
| With the A/C off (if equipped) and the engine coolant temperature at 206 °F (96.5 CC) or below, the radiator fan runs at high speed and the A/C condenser fan does not run. When the engine coolant temperature is above 206 °F (96.5 °C), both fans run at high speed | Remove the fan control relay, and test.<br>• If the relay is faulty, replace it.<br>• If the relay is OK, check for a short in the wire between the fan control relay 5P socket terminal No. 1 and radiator fan motor 2P connector terminal No. 1. | Cleanliness and tightness of all connectors |
| Both the radiator fan and the A/C condenser fan run at high speed with the ignition switch ON (II), the A/C off (if equipped), and the engine coolant temperature below 202 T (94.5 °C) | Check for short in the wire between A/C condenser fan relay 4P socket terminal No. 3 and ECM/PCM connector terminal A5. | Cleanliness and tightness of all connectors |
| Both the radiator fan and the A/C condenser fan run at low speed with the ignition switch ON (II) and the A/C off (if equipped) | Check for short in the wire between radiator fan relay 4P socket terminal No. 3 and ECM/PCM connector terminal A4. | Cleanliness and tightness of all connectors |
| Both the radiator fan and the A/C condenser fan do not run at low speed with the A/C on (if equipped) | Radiator and A/C condenser fans low speed circuit troubleshooting (see **RADIATOR AND A/C CONDENSER FAN LOW SPEED CIRCUIT TROUBLESHOOTING** ). | Cleanliness and tightness of all connectors |
| Both the radiator fan and | | |

| | | |
|---|---|---|
| the A/C condenser fan run at low speed, but the radiator fan does not run at high speed when the engine coolant temperature is above 206 °F (96.5 °C) | **RADIATOR FAN HIGH SPEED CIRCUIT TROUBLESHOOTING** (see ). | Cleanliness and tightness of all connectors |
| Both the radiator fan and the A/C condenser fan do not run at high speed when the engine coolant temperature is above 206 ° F (96.5 °C) | Check for open in the wire between A/C condenser fan relay 4P socket terminal No. 3 and ECM/PCM connector terminal A5. | Cleanliness and tightness of all connectors |

## CIRCUIT DIAGRAM

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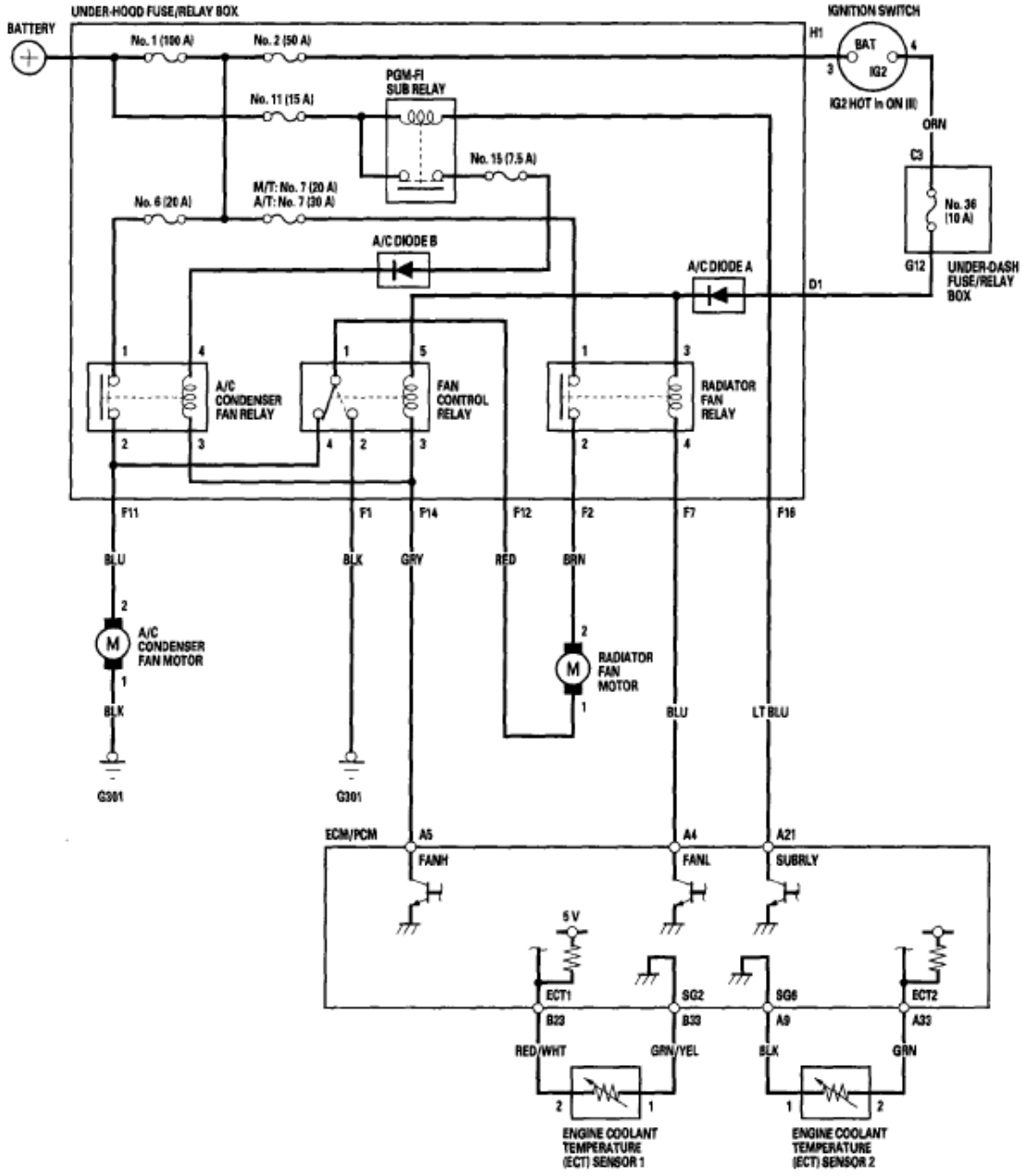



**Fig. 2: Fan Controls Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## RADIATOR FAN HIGH SPEED CIRCUIT TROUBLESHOOTING

1. Remove the fan control relay from the under-hood fuse/relay box, and test it (see **POWER RELAY TEST** ).

   *Is the relay OK?*

**YES** -Go to step 2.

**NO** -Replace the fan control relay.

2. Check the No. 36 (10 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

   **YES** -Go to step 3.

   **NO** -Replace the fuse.

3. Turn the ignition switch ON (II).
4. Measure the voltage between the fan control relay 5P socket terminal No. 5 and body ground.

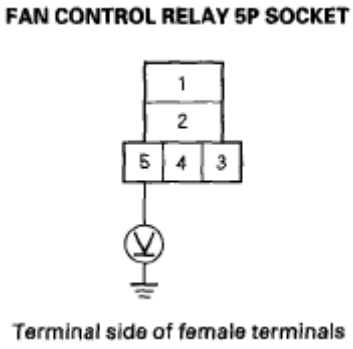



**Fig. 3: Measuring Voltage Between Fan Control Relay 5P Socket Terminal No. 5 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 5.

**NO** -Repair open in the wire between the under-hood fuse/relay box and the under-dash fuse/relay box.

5. Turn the ignition switch to LOCK (0).
6. Check for continuity between the fan control relay 5P socket terminal No. 2

and body ground.

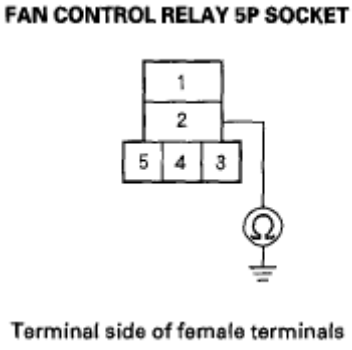



**Fig. 4: Checking For Continuity Between Fan Control Relay 5P Socket Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the under hood fuse/relay box.

**NO** -Repair open in the wire between the fan control relay 5P socket terminal No. 2 and body ground (G301). If the wire is OK, check for poor ground at G301.

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**2006-08 ACCESSORIES AND EQUIPMENT**

**Fenderwell - Civic (All Except Hybrid)**

# FRONT INNER FENDER REPLACEMENT

**NOTE: Refer to the FENDERWELL (GX) (SUPPLEMENT) article for additional information for the GX model.**

**2-DOOR (EXCEPT SI MODEL)**

**NOTE: Take care not to scratch the body.**

1. Remove the front inner fender (A).
   - 1 On the back of the wheel arch, remove the screws (B), and remove the front splash guard (C) (Canada models).
   - 2 From under the front bumper (D), remove the clip (E), securing the splash shield (F), and front inner fender, and remove the bolt (G) and clip (H) securing the front bumper and front inner fender.
   - 3 From the wheel arch, remove the clips (I, J, K) securing the front inner fender (and splash shield) to the body.
   - 4 Release the hook(L) of the splash shield, then remove the front inner fender.

**NOTE: To remove the clips E, H and I, pry the inner the clip up at the edge near the line (M) on its head.**

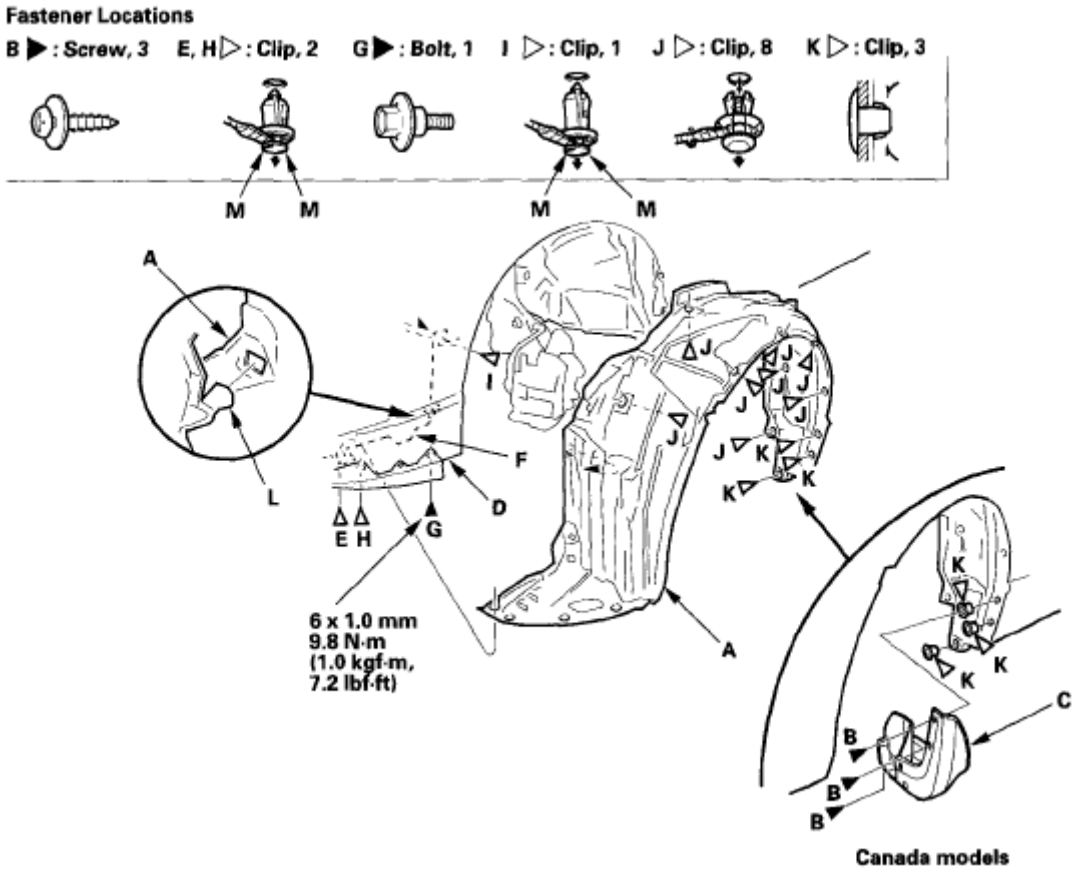



**Fig. 1: Identifying Front Inner Fender Clip - 2-Door (With Torque Specifications) (Except Si Model)**

2. Install the inner fender in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

**2-DOOR (SI MODEL)**

**NOTE: Take care not to scratch the body.**

1. Remove the front inner fender (A).
   - 1 On the back of the wheel arch, remove the screws (B), and remove the front splash guard (C) (Canada models).
   - 2 From under the front bumper (D), remove the clip (E) securing the

splash shield (F) and front inner fender, remove the bolt (G) securing the front strake (H), front bumper, and front inner fender, and remove the clip (I) securing the front bumper and front inner fender.

- 3 From the wheel arch, remove the clips (J, K, L) securing the front inner fender (and splash shield) to the body.
- 4 Release the hook (M) of the splash shield, then remove the front inner fender.

**NOTE: To remove the clips E, I and J, pry the inner pin up at the edge near the line (N) on its head.**

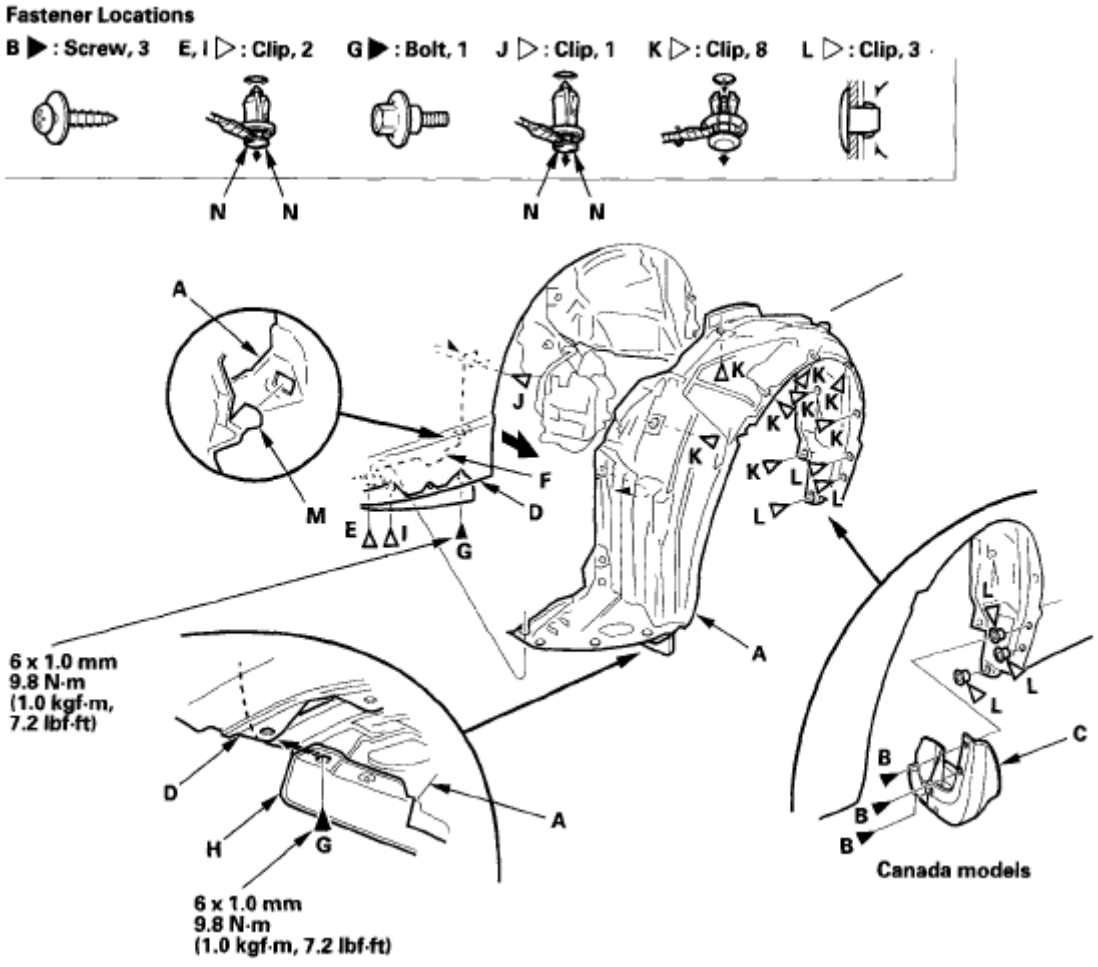



**Fig. 2: Identifying Front Bumper Clip - 2-Door (With Torque Specifications) (Si Model)**

2. Install the inner fender in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

**4-DOOR**

**NOTE: Take care not to scratch the body.**

1. Remove the front inner fender (A).
   - 1 On the back of the wheel arch, remove the screws (B), and remove the front splash guard (C) (Canada models).
   - 2 From under the front bumper (D), remove the clips (E) securing the front bumper, splash shield (F), and front inner fender.
   - 3 From the wheel arch, remove the clips (G, H, I) securing the front inner fender (and splash shield) to the body.
   - 4 Release the hook (J) of the splash shield, then remove the front inner fender.

**NOTE: To remove the clips E and G, pry the inner the clip up at the edge near the line (K) on its head.**

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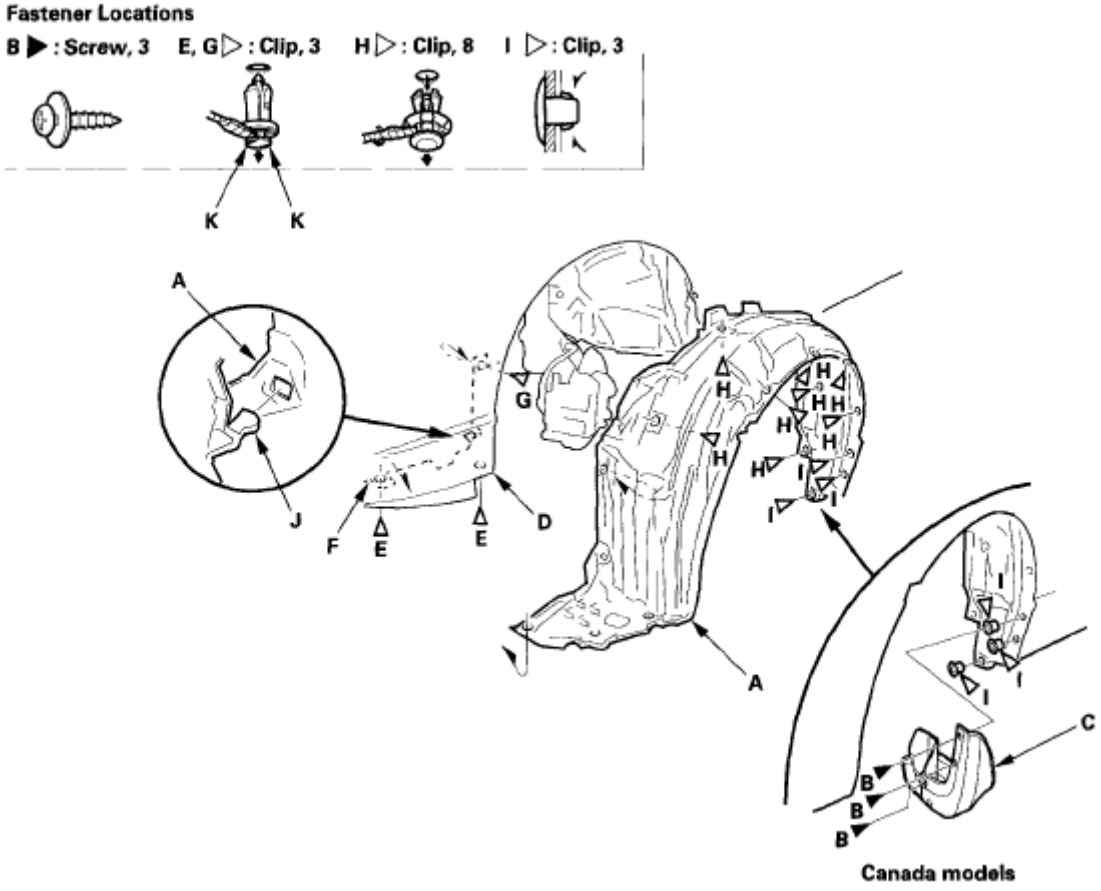



**Fig. 3: Identifying Front Bumper Clips - 4-Door**

2. Install the inner fender in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## FRONT SPLASH SHIELD REPLACEMENT

**2-DOOR**

**NOTE: Take care not to scratch the body.**

1. Remove the splash shield (A).
   - 1 Remove the clips (B, C) that secure the front inner fender (D) and splash shield to the body.

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- 2 From under the front bumper (E), remove the clips (F).
- 3 From under the body, remove the clips (G).
- 4 Release the hooks (H) of the splash shield, then pull the splash shield out.

**NOTE: To remove the clips B, C, F and G, pry the inner the clip up at the edge near the line (I) on its head.**

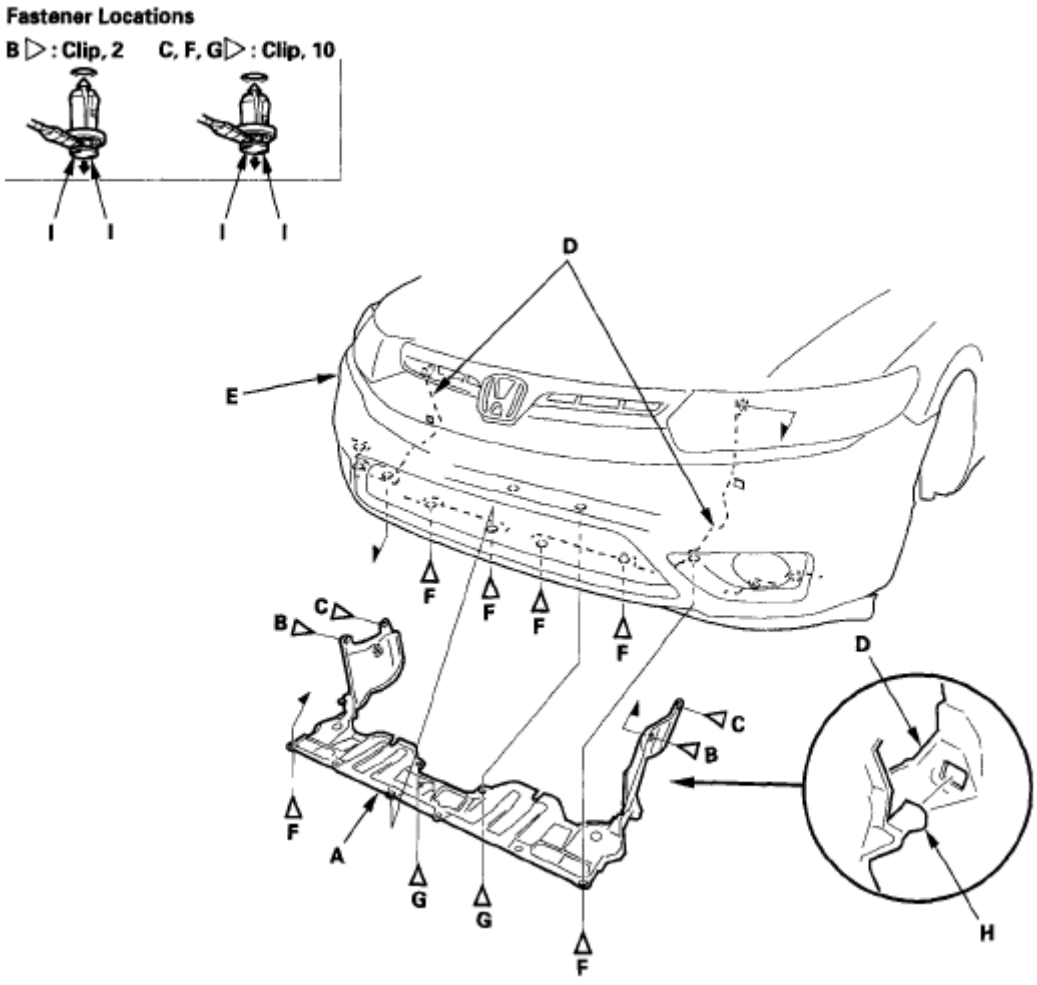



**Fig. 4: Identifying Front Bumper Clips - 2-Door**

2. Install the splash shield in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

- Push the clips into place securely.

**4-DOOR**

**NOTE: Take care not to scratch the body.**

1. Remove the splash shield (A).
   - 1 Remove the clips (B) that secure the front inner fender (C) and front splash shield to the body.
   - 2 From under the front bumper (D), remove the clips (E, F).
   - 3 From under the body, remove the clips (G).
   - 4 Release the hooks (H) of the front splash shield, then pull the splash shield out.

**NOTE: To remove the clips B, E, F and G, pry the inner the clip up at the edge near the line (I) on its head.**

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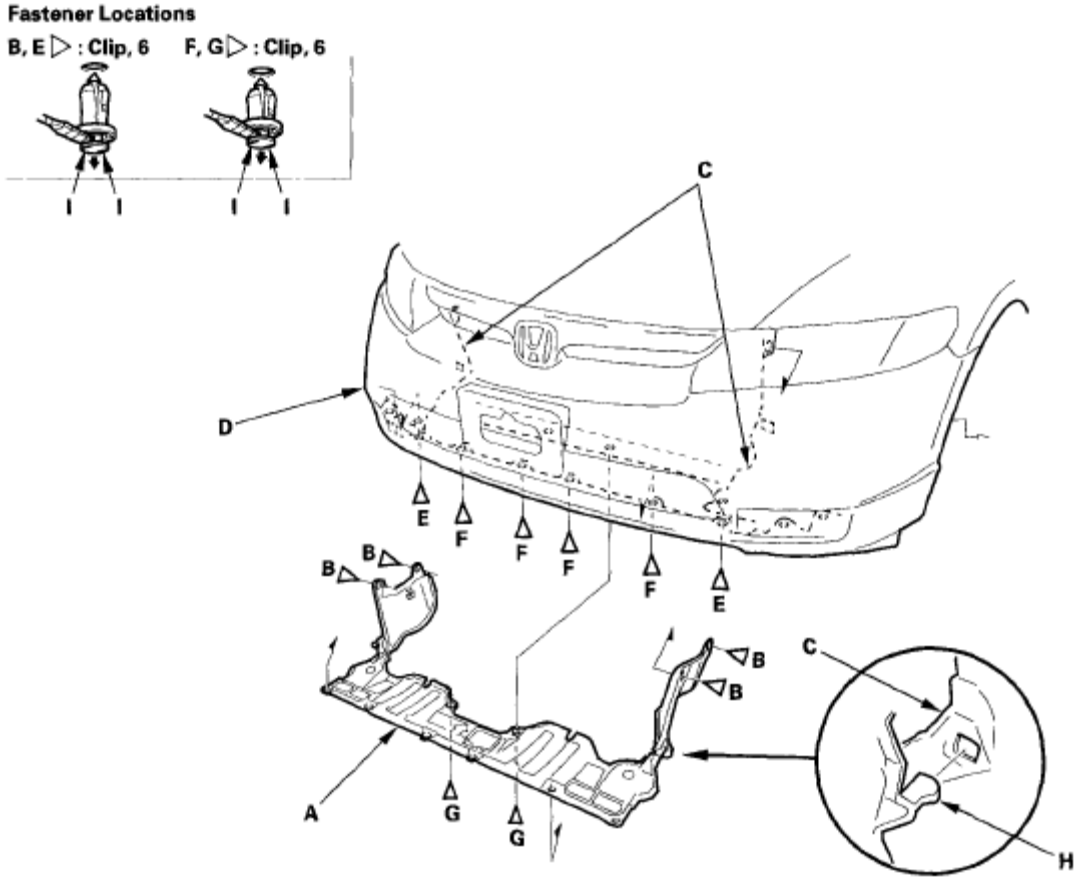



**Fig. 5: Identifying Front Bumper Clips - 4-Door**

2. Install the splash shield in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## FRONT FENDER FAIRING REPLACEMENT

1. Remove the front inner fender as needed:
   - 2-door (see **2-door (Except Si model)** )
   - 4-door (see **4-door** )
2. From the wheel arch, remove the clips.

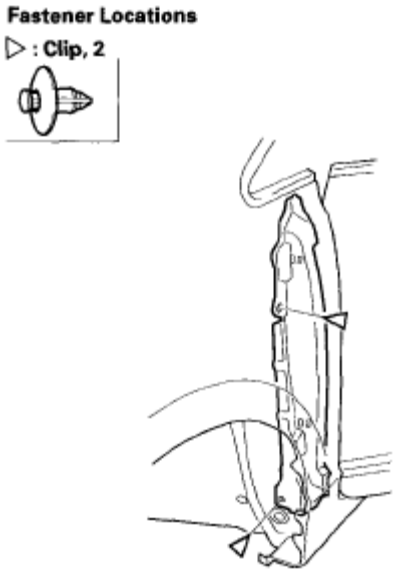



**Fig. 6: Identifying Wheel Clips**

3. Open the front door. Detach the hooks (A) securing the front fender fairing (B).

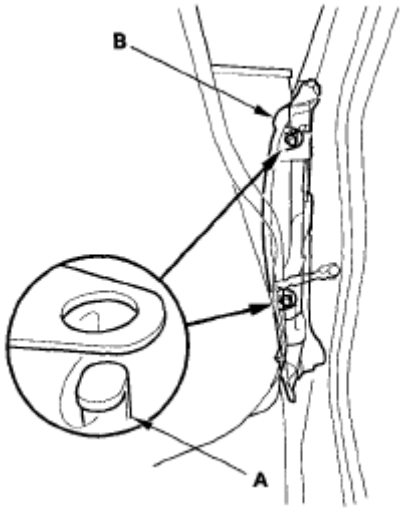



**Fig. 7: Identifying Front Door Hooks**

4. Remove the front fender fairing (A).

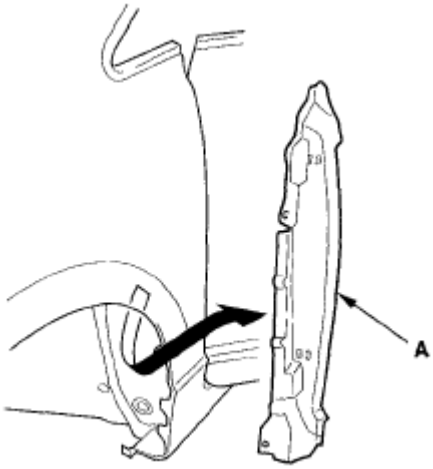



**Fig. 8: Identifying Front Fender Fairing**

5. Install the fender fairing in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips and hooks into place securely.

## MIDDLE FLOOR UNDERCOVER REPLACEMENT

**FOR SOME MODELS**

**NOTE: Take care not to scratch the body.**

1. Remove the bolts (A), and detach the clips (B), then remove the left middle floor undercover (C) and right middle undercover (D).

**NOTE: To remove the clips B, pry the inner clip up at the edge near the line (E) on its head.**

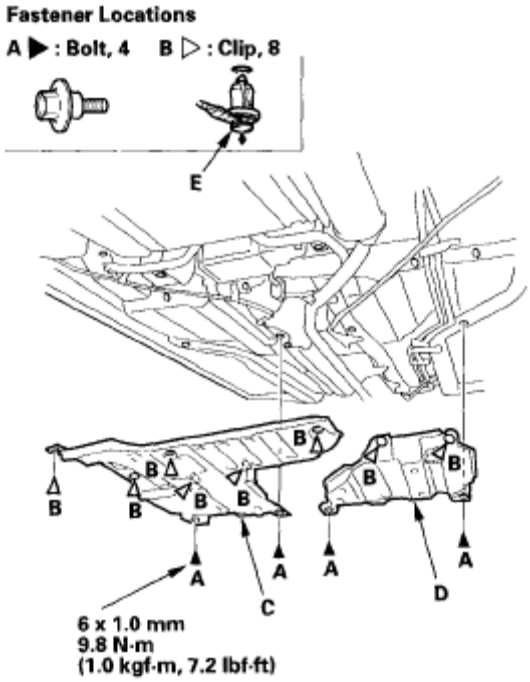



**Fig. 9: Identifying Middle Floor Undercover Clips (With Torque Specifications)**

2. Install the undercover in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## REAR FLOOR UNDERCOVER REPLACEMENT

**FOR SOME MODELS**

1. Remove the clips (A) and bolts (B), then remove the rear floor undercover (C). Take care not to scratch the rear bumper (D).

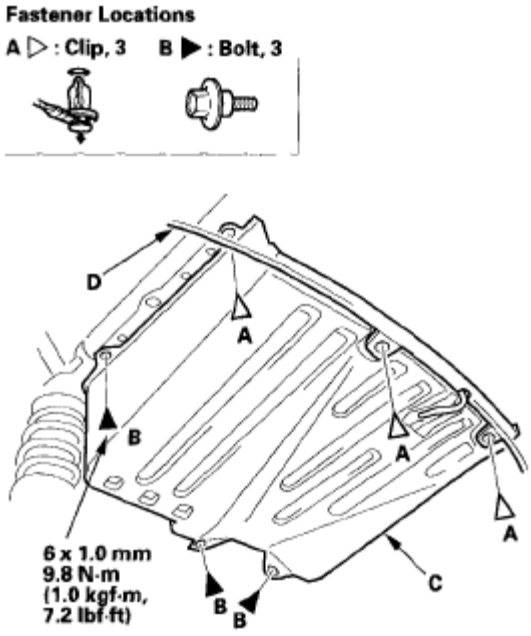



**Fig. 10: Identifying Rear Floor Undercover Clips (With Torque Specifications)**

2. Install the cover in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## FUEL PIPE PROTECTOR REPLACEMENT

**NOTE:**
- **Take care not to scratch the body.**
- **Put on gloves to protect your hands.**

1. Remove the left rear wheel (see **HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE** ).
2. Remove the clips, then remove the fuel pipe protector (A).

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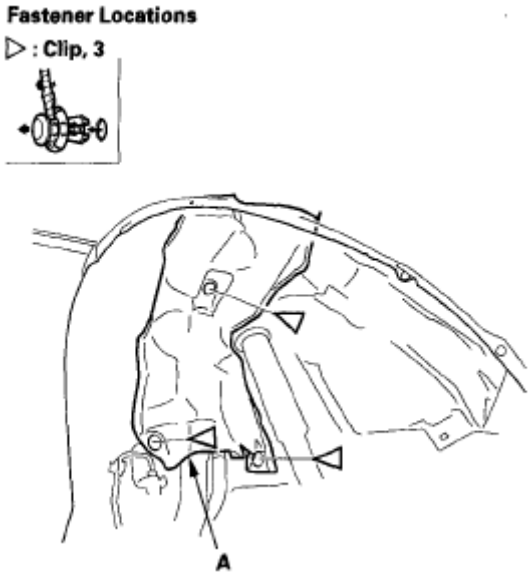



**Fig. 11: Identifying Fuel Pipe Protector Clips**

3. Install the protector in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## REAR FENDER COVER REPLACEMENT

**FOR SOME MODELS**

**NOTE: Take care not to scratch the rear bumper and body.**

1. Remove the screws, then remove the rear fender cover (A) from the rear bumper (B) and body.

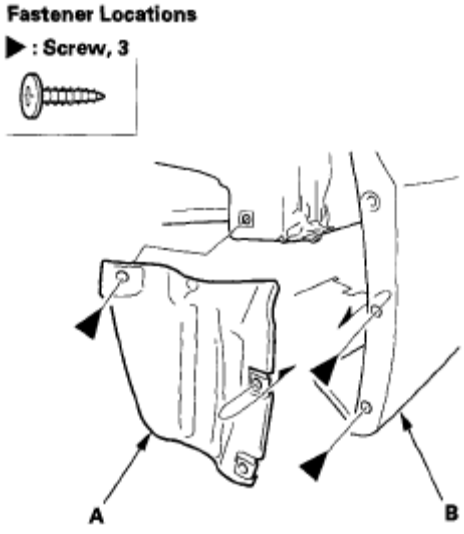



**Fig. 12: Identifying Rear Fender Cover Screws**

2. Install the fender cover in the reverse order of removal.

## REAR STRAKE REPLACEMENT

**FOR SOME MODELS**

Remove the bolts, then remove the rear strake (A) from the body.

1. Remove the clips (A) and bolts (B), then remove the rear floor undercover (C). Take care not to scratch the rear bumper (D).

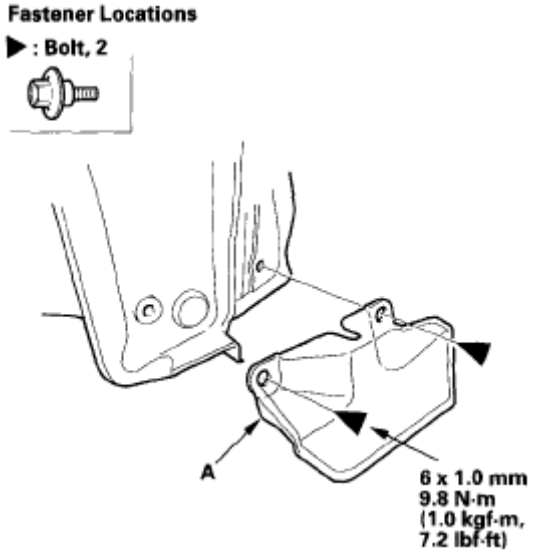


**Fig. 13: Identifying Rear Floor Undercover Clips (With Torque Specifications)**

2. Install the strike in the reverse order of removal,

## REAR AIR OUTLET REPLACEMENT

1. Remove the rear bumper (see **REAR BUMPER REMOVAL/INSTALLATION** ).
2. Detach the hooks (A), then remove the rear air outlet (B). Take care not to scratch the body.

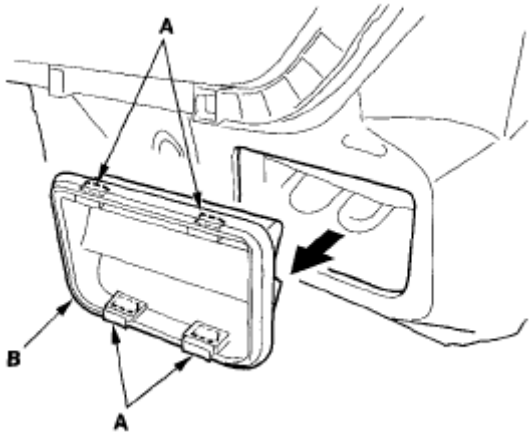



**Fig. 14: Removing Rear Air Outlet**

3. Install the air outlet by pushing on the hook portions until the hooks snap into place.

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## 2006-08 ACCESSORIES AND EQUIPMENT

## Frame - Civic (Except Hybrid)

# UPPER DASHBOARD SUPPORT GUSSET REPLACEMENT

**NOTE: Refer to the FUEL FILL DOOR (GX) (SUPPLEMENT) article for additional information for the GX model.**

### UPPER DASHBOARD SUPPORT GUSSET TORQUE

**NOTE: Take care not to scratch the body.**

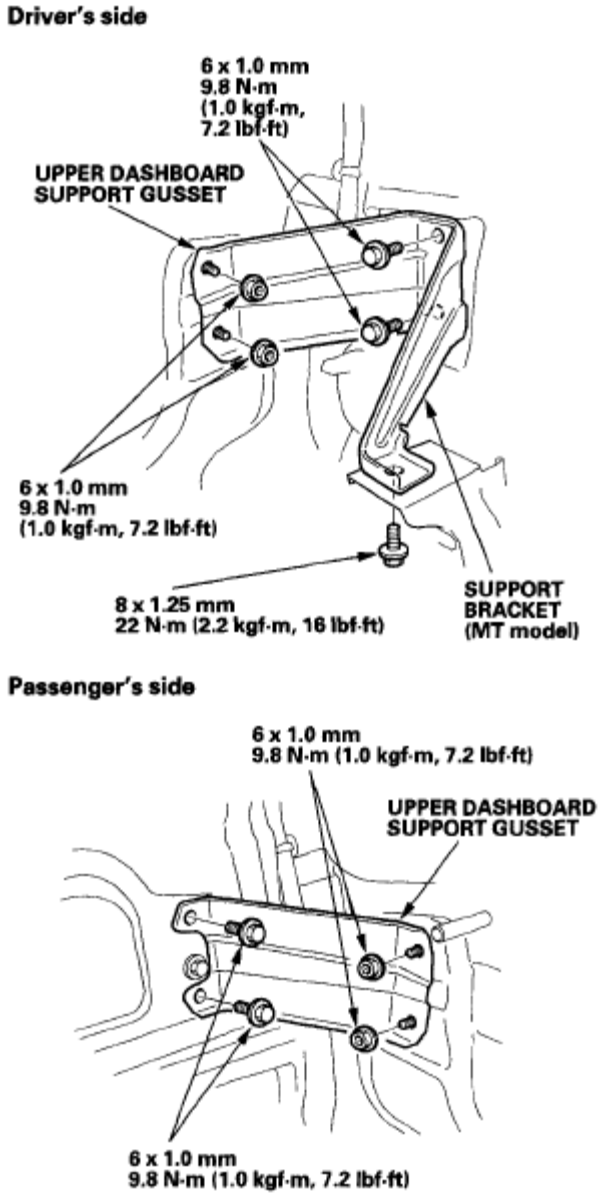



**Fig. 1: Identifying Upper Dashboard Support Gusset Components (With Torque Specifications)**

## REAR FLOOR UPPER CROSS-MEMBER GUSSET REPLACEMENT

### REAR FLOOR UPPER CROSS-MEMBER GUSSET TORQUE

**NOTE: Take care not to scratch the body.**

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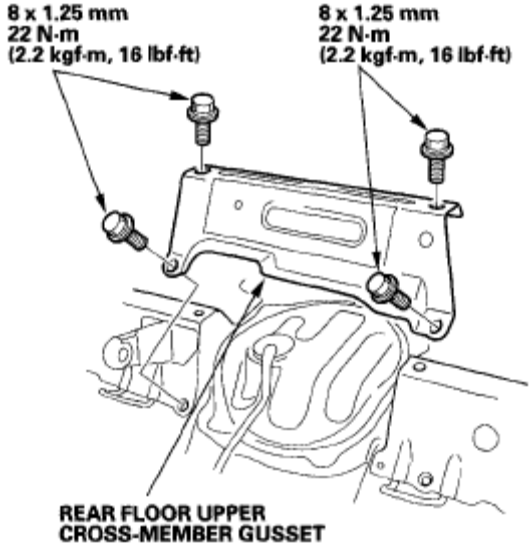



**Fig. 2: Identifying Rear Floor Upper Cross-Member Gusset Components (With Torque Specifications)**

## MIDDLE CROSS-MEMBER GUSSET REPLACEMENT

**2-DOOR**

**NOTE: Take care not to scratch the body.**

1. Remove the rear side trim panel (see **2-DOOR** ).
2. Pull back the rear part of the carpet, as needed.
3. Remove the insulator (A). A

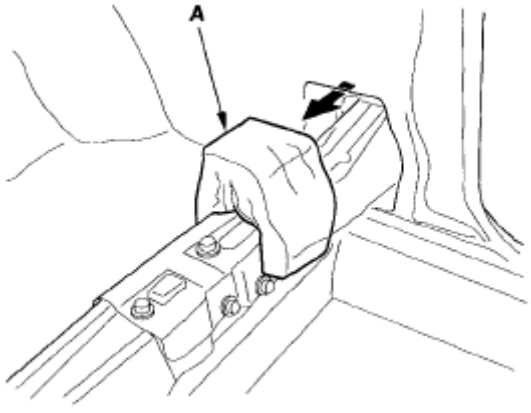



**Fig. 3: Identifying Insulator**

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4. Detach the floor wire harness clips (A).

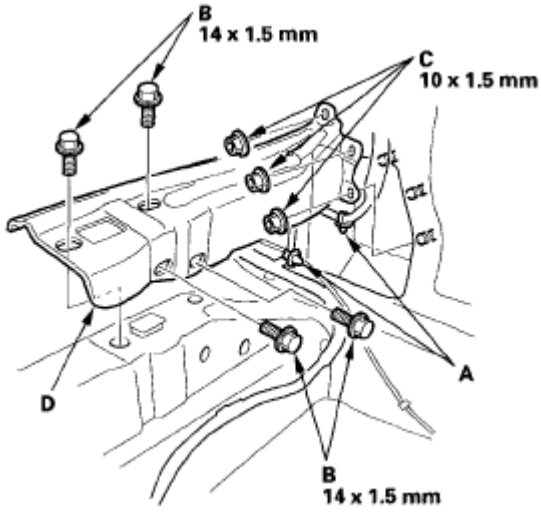



**Fig. 4: Identifying Floor Wire Harness Clips**

5. Remove the bolts (B) and nuts (C), then remove the middle cross-member gusset (D).
6. Install the gusset in the reverse order of removal. When installing the mounting bolts for the middle cross-member gusset (A), torque the mounting hardware in the sequence shown. If the mounting bolts are not torqued in this sequence, damage to the quarter panel will occur.

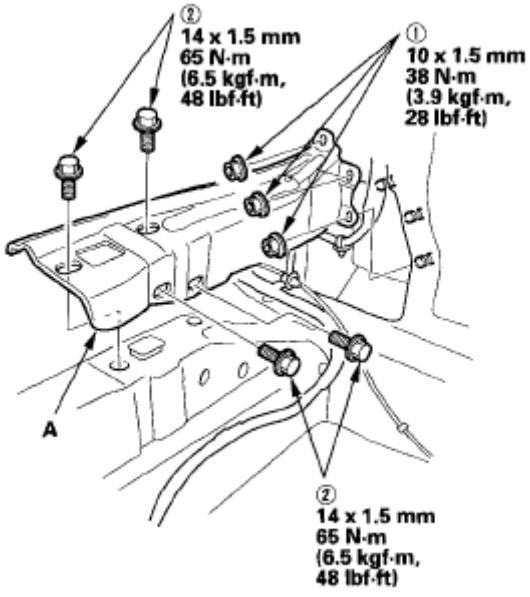


**Fig. 5: Identifying Mounting Bolts For Middle Cross-Member Gusset (With Torque Specifications)**

## SUBFRAME REPLACEMENT

### FRONT SUBFRAME TORQUE

**NOTE:**

- **After loosening the subframe mounting bolts, be sure to replace them with new ones.**
- **When installing, align both installation reference holes in the subframe with both reference holes in the body using a screwdriver or tapered punch as a guide.**

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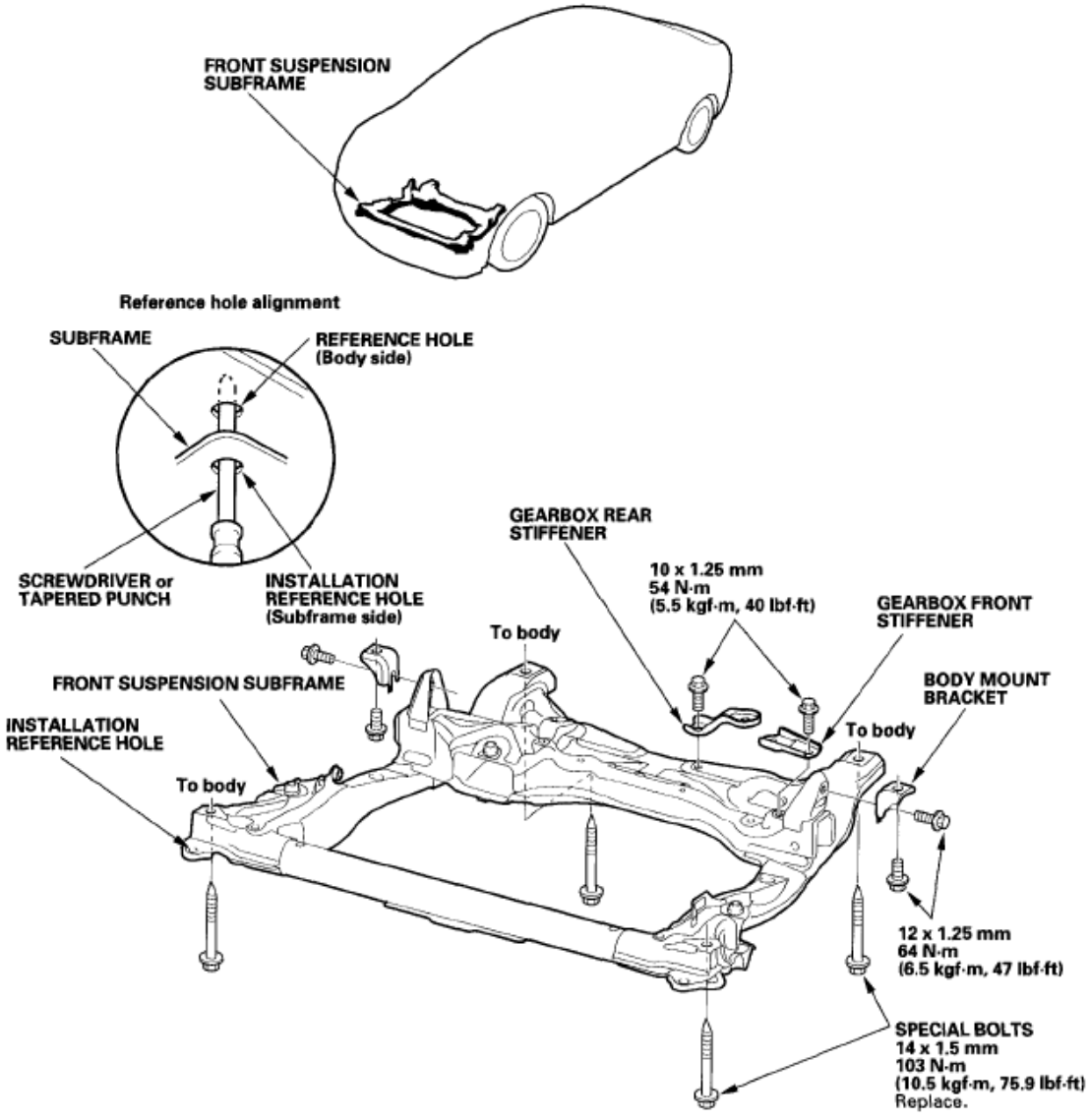


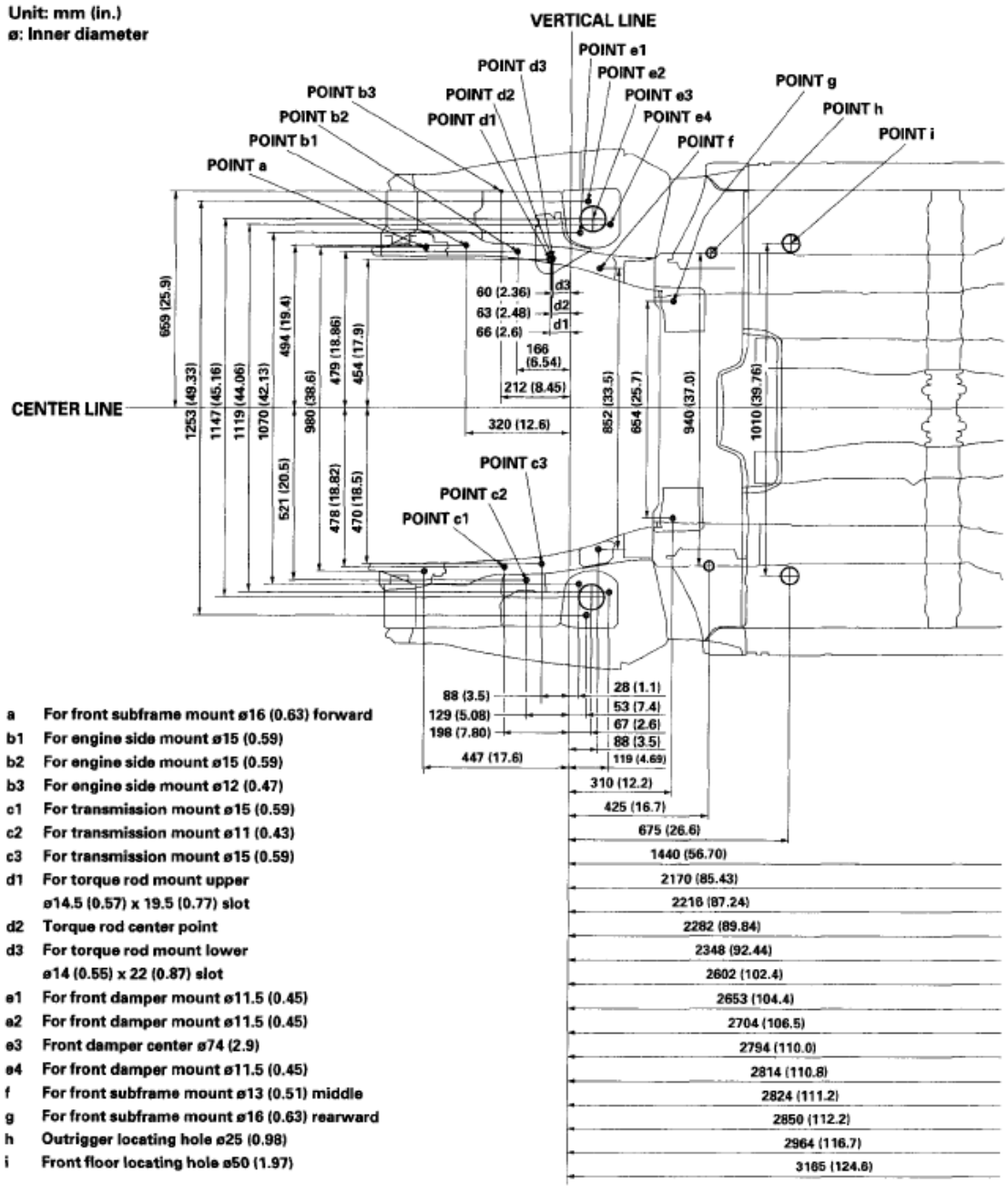

**Fig. 6: Identifying Subframe Components (With Torque Specifications)**

## FRAME REPAIR CHART

### EXCEPT SI MODEL TOP VIEW

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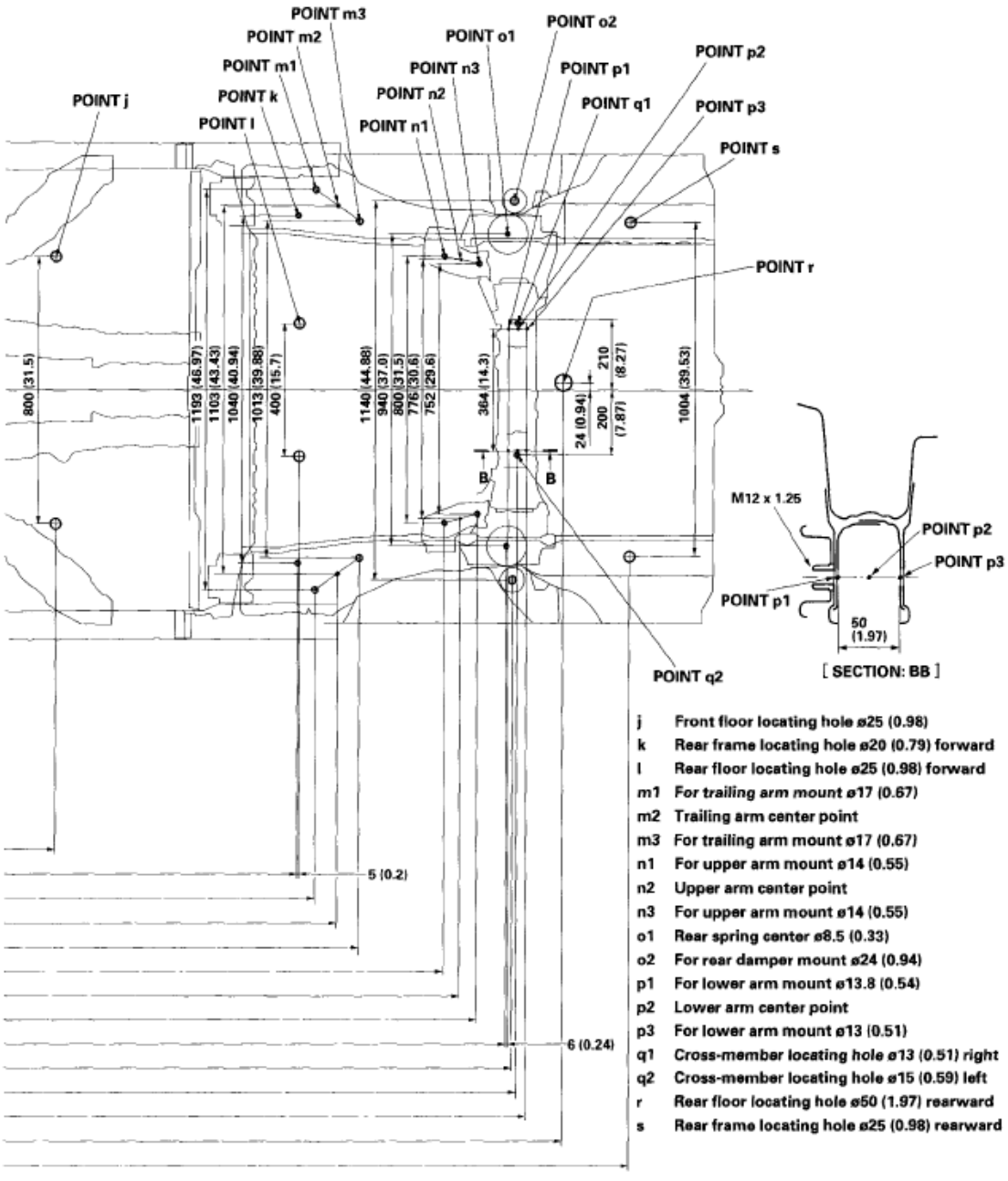



a For front subframe mount ø16 (0.63) forward
b1 For engine side mount ø15 (0.59)
b2 For engine side mount ø15 (0.59)
b3 For engine side mount ø12 (0.47)
c1 For transmission mount ø15 (0.59)
c2 For transmission mount ø11 (0.43)
c3 For transmission mount ø15 (0.59)
d1 For torque rod mount upper ø14.5 (0.57) x 19.5 (0.77) slot
d2 Torque rod center point
d3 For torque rod mount lower ø14 (0.55) x 22 (0.87) slot
e1 For front damper mount ø11.5 (0.45)
e2 For front damper mount ø11.5 (0.45)
e3 Front damper center ø74 (2.9)
e4 For front damper mount ø11.5 (0.45)
f For front subframe mount ø13 (0.51) middle
g For front subframe mount ø16 (0.63) rearward
h Outrigger locating hole ø25 (0.98)
i Front floor locating hole ø50 (1.97)

**Fig. 7: Frame Repair Chart - Except Si Model Top View (1 Of 2)**

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## Fig. 8: Frame Repair Chart - Except Si Model Top View (2 Of 2)

**SI MODEL TOP VIEW**

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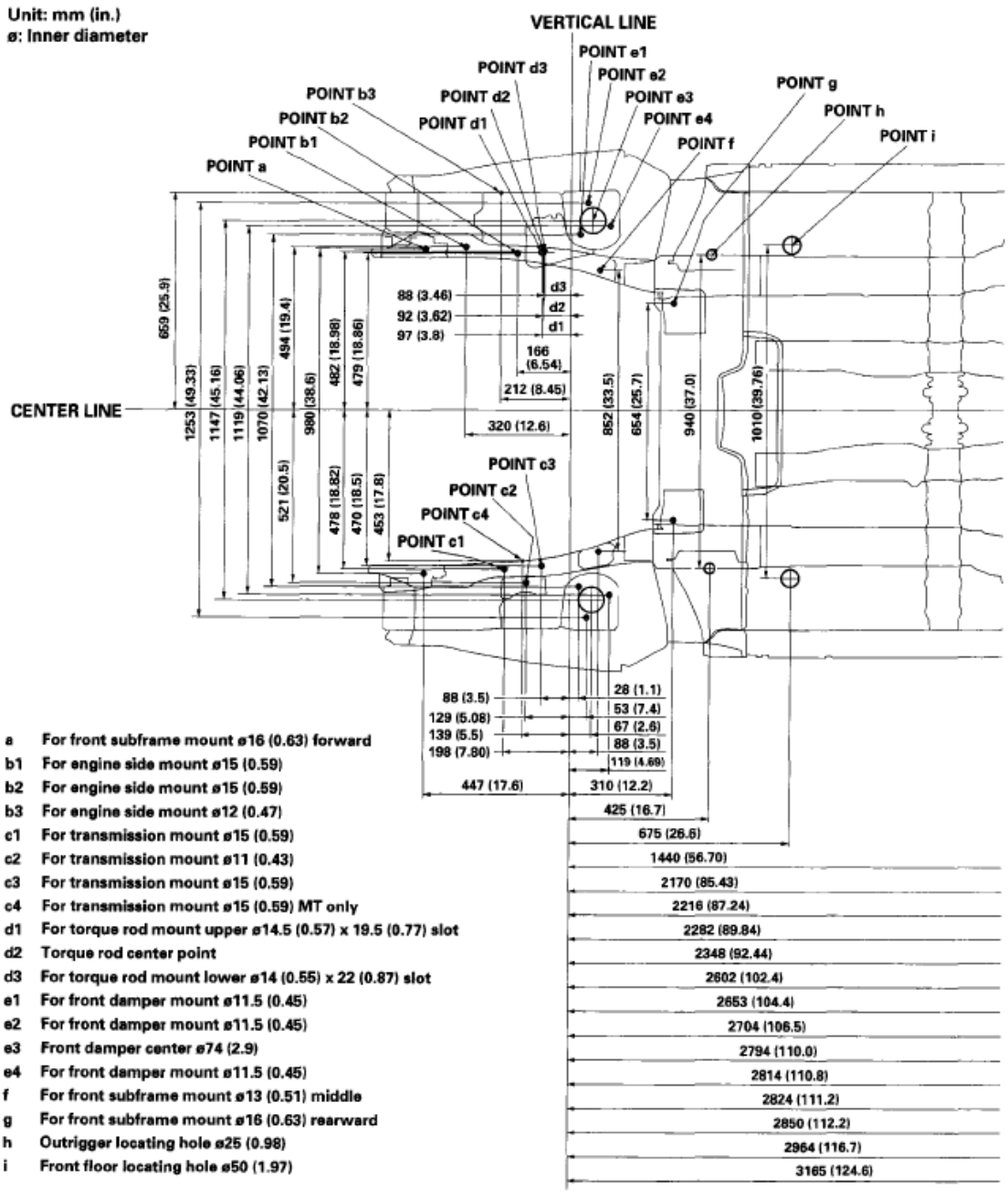
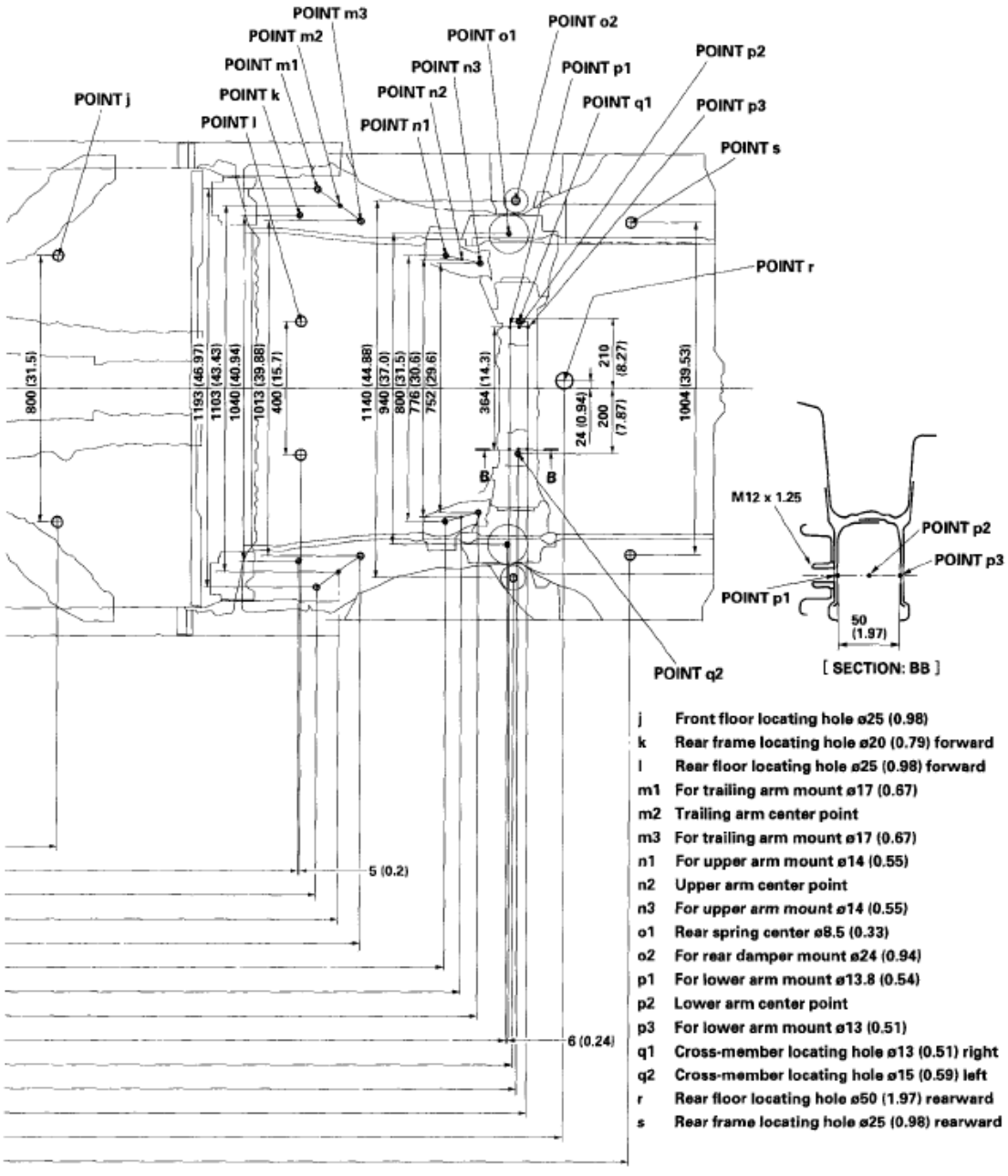



**Fig. 9: Frame Repair Chart - Si Model Top View (1 Of 2)**

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## Fig. 10: Frame Repair Chart - Si Model Top View (2 Of 2)

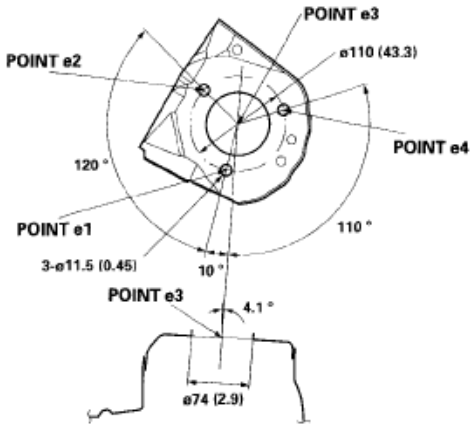
**EXCEPT SI MODEL SIDE VIEW**

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Unit: mm (in.)
ø: Inner diameter

| | |
|---|---|
| a | For front subframe mount ø16 (0.63) forward |
| b1 | For engine side mount ø15 (0.59) |
| b2 | For engine side mount ø15 (0.59) |
| b3 | For engine side mount ø12 (0.47) |
| c1 | For transmission mount ø15 (0.59) |
| c2 | For transmission mount ø11 (0.43) |
| c3 | For transmission mount ø15 (0.59) |
| d1 | For torque rod mount upper ø14.5 (0.57) x 19.5 (0.77) slot |
| d2 | Torque rod center point |
| d3 | For torque rod mount lower ø14 (0.55) x 22 (0.87) slot |
| e1 | For front damper mount ø11.5 (0.45) |
| e2 | For front damper mount ø11.5 (0.45) |
| e3 | Front damper center ø74 (2.9) |
| e4 | For front damper mount ø11.5 (0.45) |
| f | For front subframe mount ø13 (0.51) middle |
| g | For front subframe mount ø16 (0.63) rearward |
| h | Outrigger locating hole ø25 (0.98) |
| i | Front floor locating hole ø50 (1.97) |




[ SECTION: AA ]

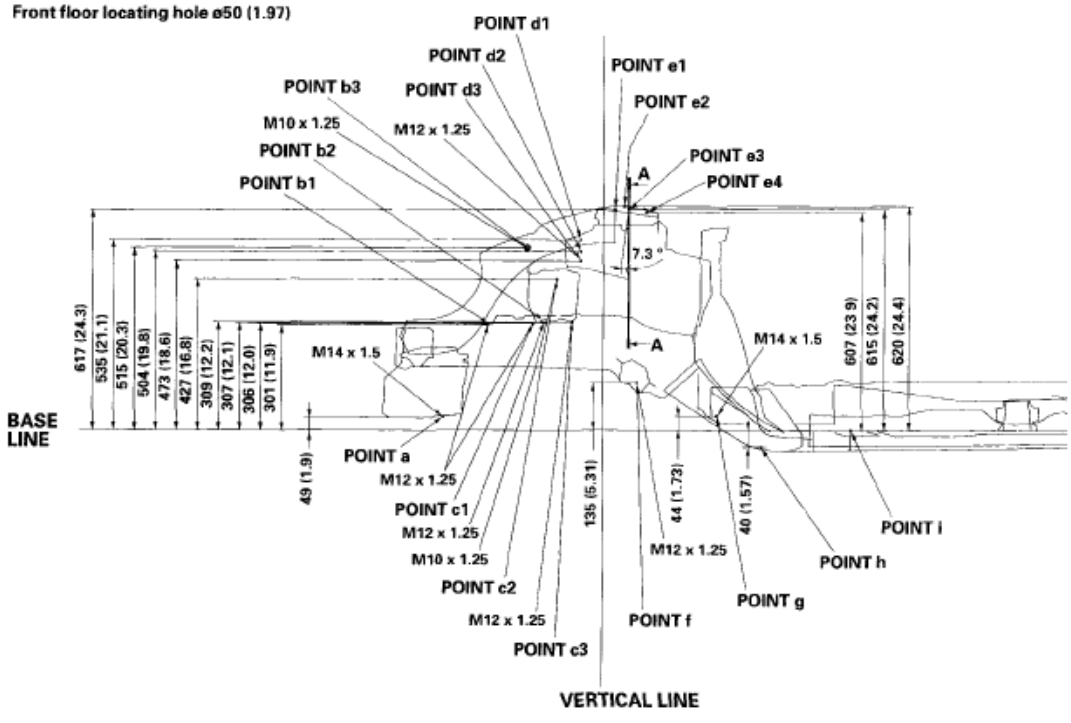
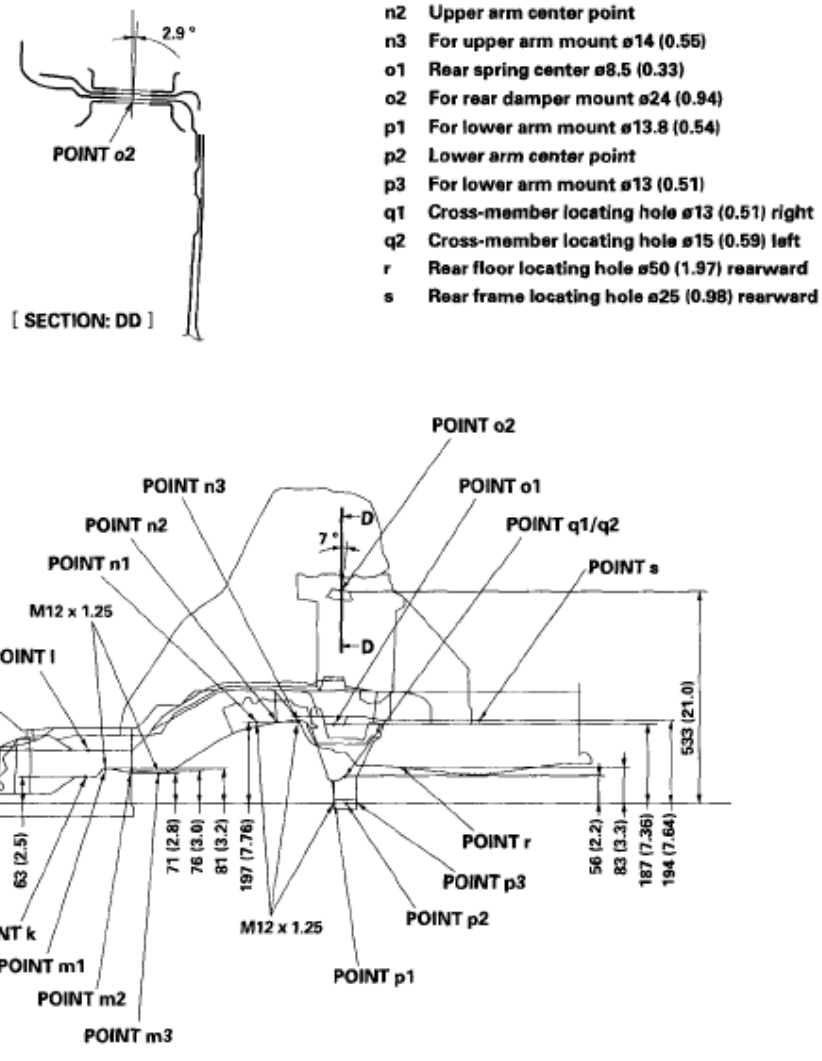



**Fig. 11: Frame Repair Chart - Except Si Model Side View (1 Of 2)**

# 2008 Honda Civic EX

2006-08 ACCESSORIES AND EQUIPMENT Frame - Civic (Except Hybrid)




## Fig. 12: Frame Repair Chart - Except Si Model Side View (2 Of 2)

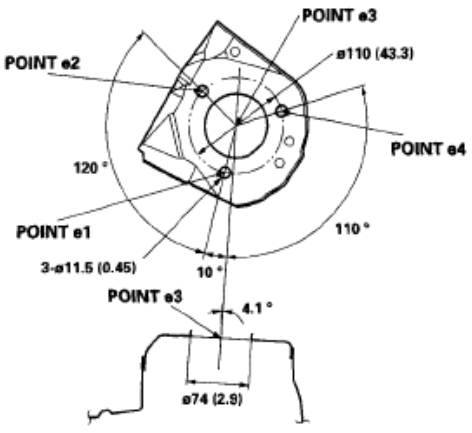
**SI MODEL SIDE VIEW**

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Unit: mm (in.)
ø: Inner diameter

| | |
|---|---|
| a | For front subframe mount ø16 (0.63) forward |
| b1 | For engine side mount ø15 (0.59) |
| b2 | For engine side mount ø15 (0.59) |
| b3 | For engine side mount ø12 (0.47) |
| c1 | For transmission mount ø15 (0.59) |
| c2 | For transmission mount ø11 (0.43) |
| c3 | For transmission mount ø15 (0.59) |
| c4 | For transmission mount ø15 (0.59) |
| d1 | For torque rod mount upper ø14.5 (0.57) x 19.5 (0.77) slot |
| d2 | Torque rod center point |
| d3 | For torque rod mount lower ø14 (0.55) x 22 (0.87) slot |
| e1 | For front damper mount ø11.5 (0.45) |
| e2 | For front damper mount ø11.5 (0.45) |
| e3 | Front damper center ø74 (2.9) |
| e4 | For front damper mount ø11.5 (0.45) |
| f | For front subframe mount ø13 (0.51) middle |
| g | For front subframe mount ø16 (0.63) rearward |
| h | Outrigger locating hole ø25 (0.98) |
| i | Front floor locating hole ø50 (1.97) |




[ SECTION: AA ]

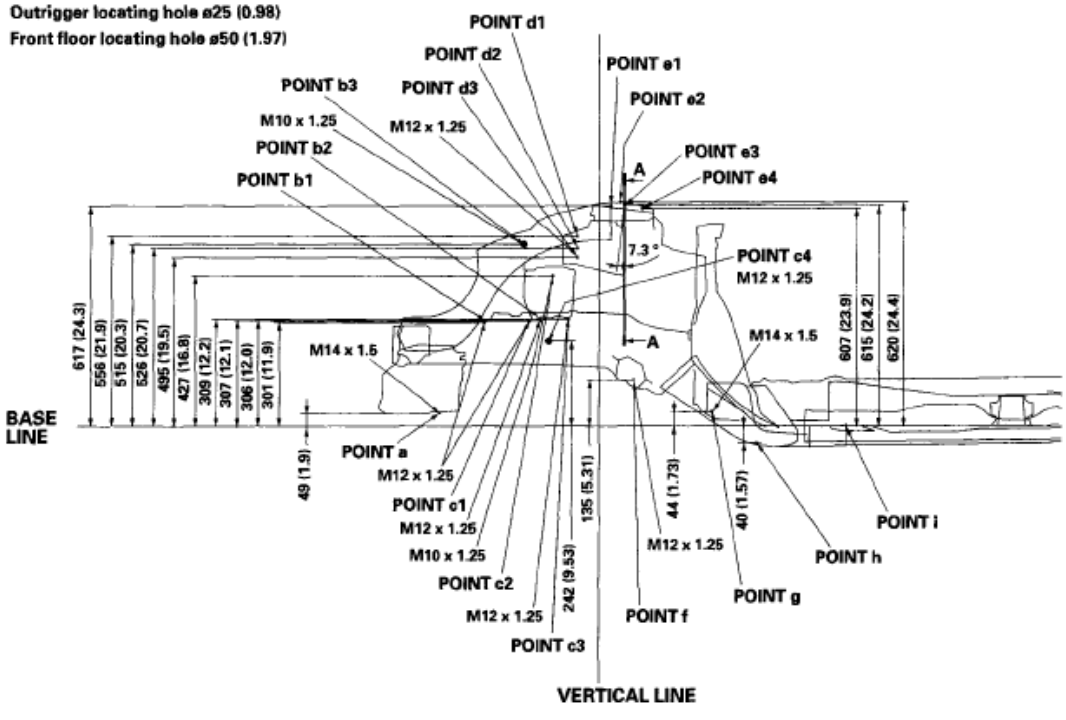
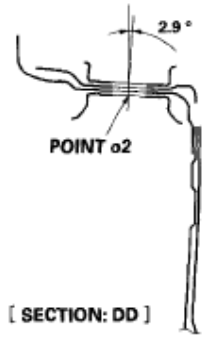


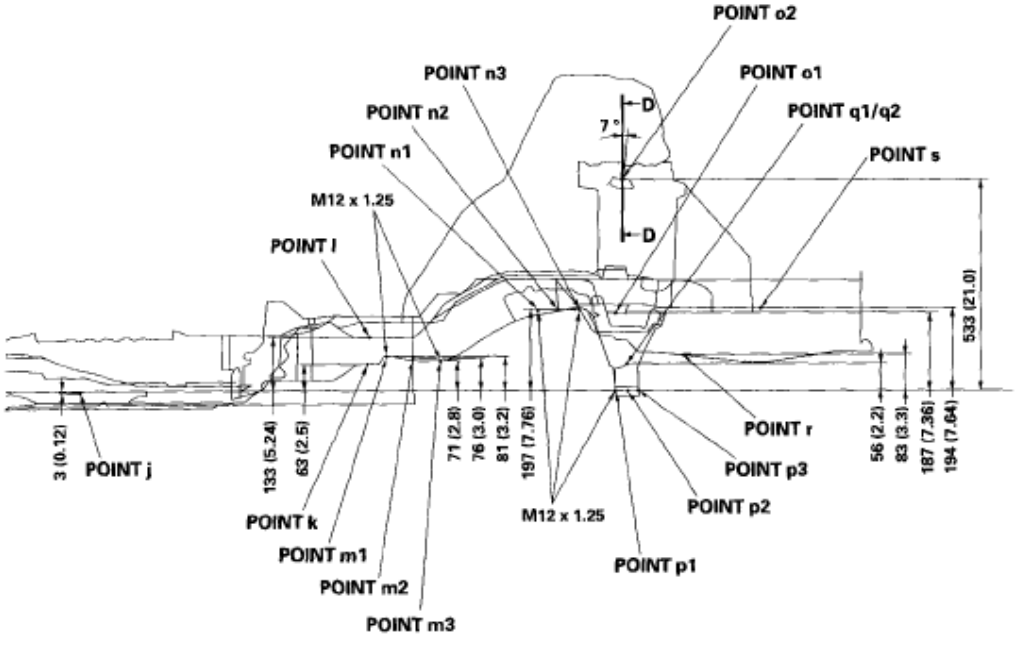

**Fig. 13: Frame Repair Chart - Si Model Side View (1 Of 2)**

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| | |
|---|---|
| j | Front floor locating hole ø25 (0.98) |
| k | Rear frame locating hole ø20 (0.79) forward |
| l | Rear floor locating hole ø25 (0.98) forward |
| m1 | For trailing arm mount ø17 (0.67) |
| m2 | Trailing arm center point |
| m3 | For trailing arm mount ø17 (0.67) |
| n1 | For upper arm mount ø14 (0.55) |
| n2 | Upper arm center point |
| n3 | For upper arm mount ø14 (0.55) |
| o1 | Rear spring center ø8.5 (0.33) |
| o2 | For rear damper mount ø24 (0.94) |
| p1 | For lower arm mount ø13.8 (0.54) |
| p2 | Lower arm center point |
| p3 | For lower arm mount ø13 (0.51) |
| q1 | Cross-member locating hole ø13 (0.51) right |
| q2 | Cross-member locating hole ø15 (0.59) left |
| r | Rear floor locating hole ø50 (1.97) rearward |
| s | Rear frame locating hole ø25 (0.98) rearward |




## Fig. 14: Frame Repair Chart - Si Model Side View (2 Of 2)

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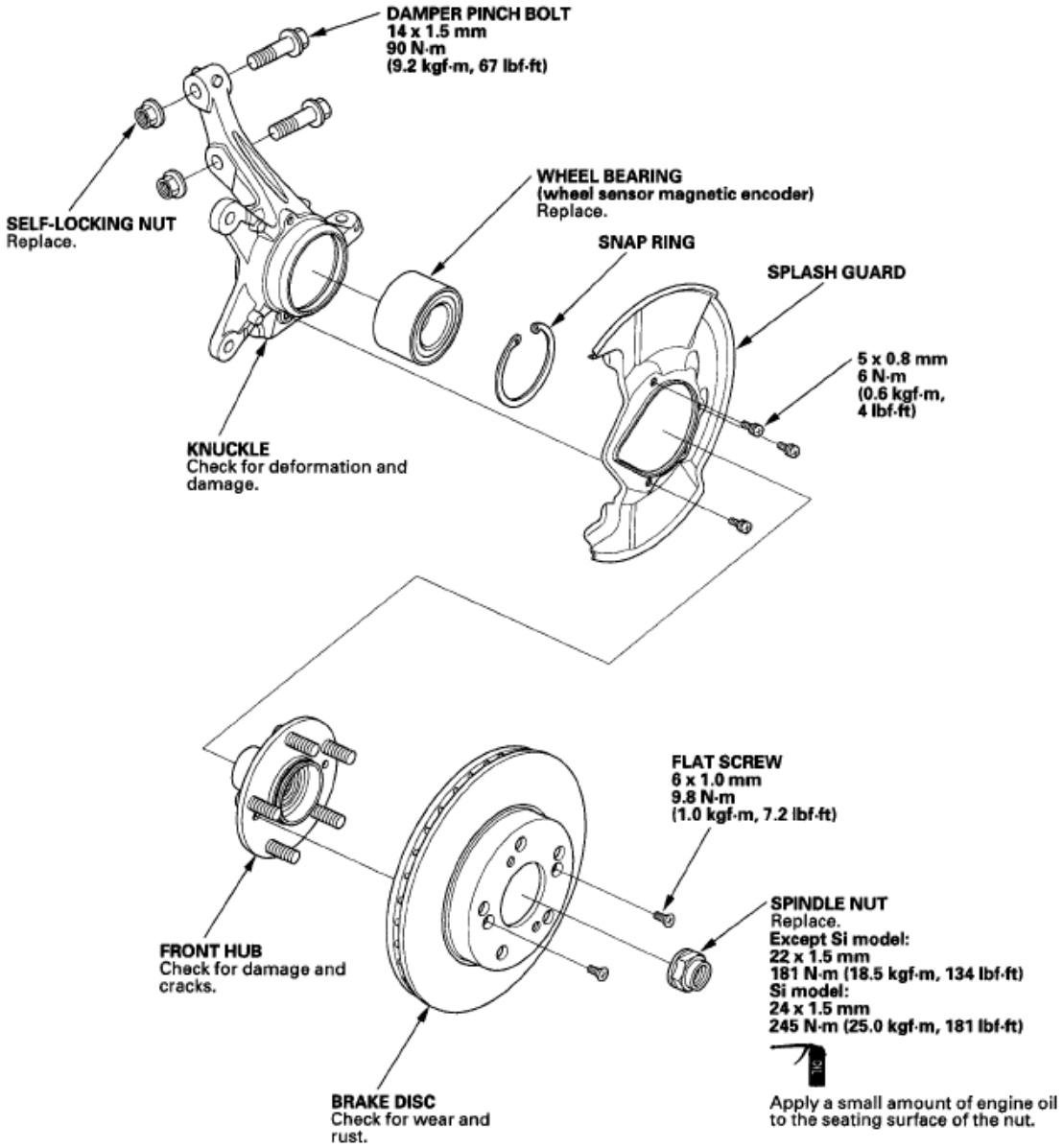


## 2006-08 SUSPENSION

## Front Suspension Civic (All Except Hybrid)

# KNUCKLE/HUB/WHEEL BEARING REPLACEMENT

### EXPLODED VIEW




## Fig. 1: Exploded View Of Knuckle/Hub/Wheel Bearing (With Torque Specifications)

## Special Tools Required

- Hub dis/assembly tool 07GAF-SD40100
- Hub dis/assembly tool 07GAF-SE00100
- Ball joint remover, 32 mm 07MAC-SL0A102
- Ball joint remover, 28 mm 07MAC-SL0A202
- Ball joint thread protector, 14 mm 071AF-S3VA000
- Attachment, 62 x 68 mm 07746-0010500
- Driver 07749-0010000
- Attachment, 96 mm 07948-SB00101
- Support base 07965-SD90100

**KNUCKLE/HUB REPLACEMENT**

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the wheel nuts (A) and the front wheel.

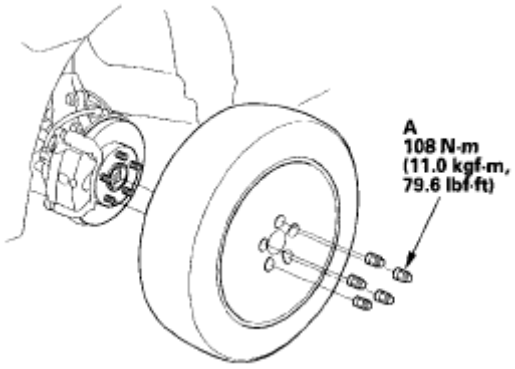



**Fig. 2: Identifying Front Wheel And Nut (With Torque Specifications)**

3. Remove the brake hose mounting bolt (A).

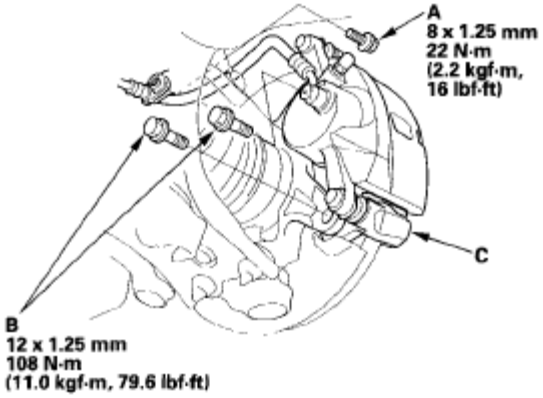



**Fig. 3: Identifying Brake Hose Mounting Bolt (With Torque Specifications)**

4. Remove the brake caliper bracket mounting bolts (B), and remove the caliper assembly (C) from the knuckle. To prevent damage to the caliper assembly or brake hose, use a short piece of wire to hang the caliper assembly from the undercarriage. Do not twist the brake hose excessively.
5. Remove the wheel sensor (A) from the knuckle (B). Do not disconnect the wheel sensor connector.

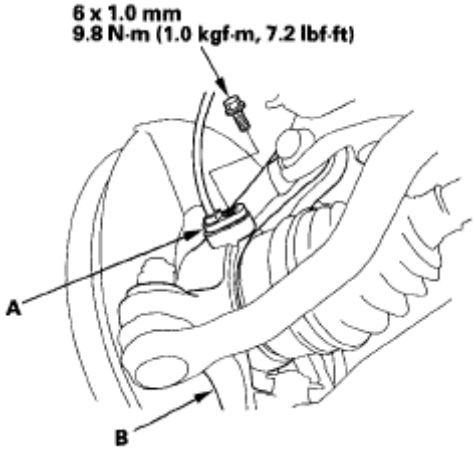



**Fig. 4: Identifying Wheel Sensor And Knuckle (With Torque Specifications)**

6. Raise the stake (A), then remove the spindle nut (B).

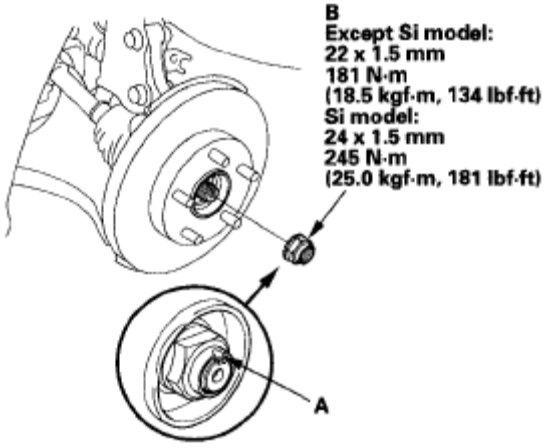



**Fig. 5: Identifying Spindle Nut (With Torque Specifications)**

7. Remove the 6 mm brake disc retaining screws (A).

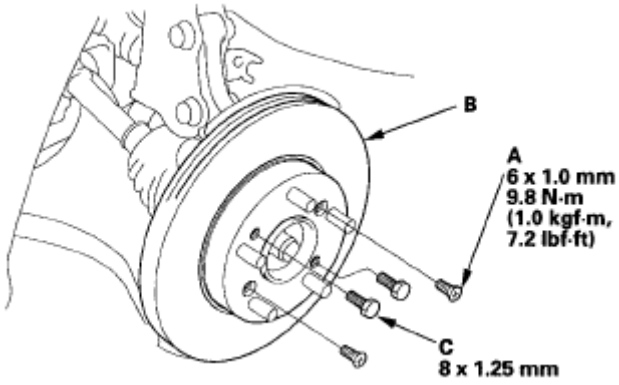



**Fig. 6: Identifying Brake Disc Retaining Screws (With Torque Specifications)**

8. Remove the brake disc (B) from the hub.

**NOTE: If the brake disc has clung to the hub. Screw two 8 x 1.25 mm bolts (C) into the brake disc to push it away from the hub. Turn each bolt 90 degrees to prevent the brake disc from binding.**

9. Check the front hub for damage and cracks.
10. Remove the cotter pin (A) from the tie-rod end ball joint, then remove the nut (B).

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**NOTE: During installation, install the new cotter pin after tightening the nut, and bend its end as shown.**

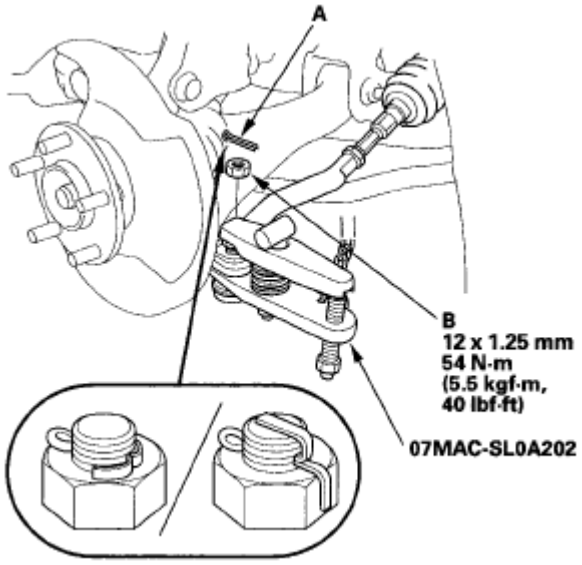



**Fig. 7: Identifying Cotter Pin Position (With Torque Specifications)**

11. Disconnect the tie-rod ball joint from the knuckle using the ball joint remover (see **BALL JOINT REMOVAL** ).
12. Remove the flange bolt and flange nuts from the lower arm (A).

**NOTE: During installation, install a new flange bolt and new flange nuts. After lightly tightening all three fasteners, tighten them to the specified torque in the following order; the nut on the front (B), the nut on the rear (C), then the bolt (D).**

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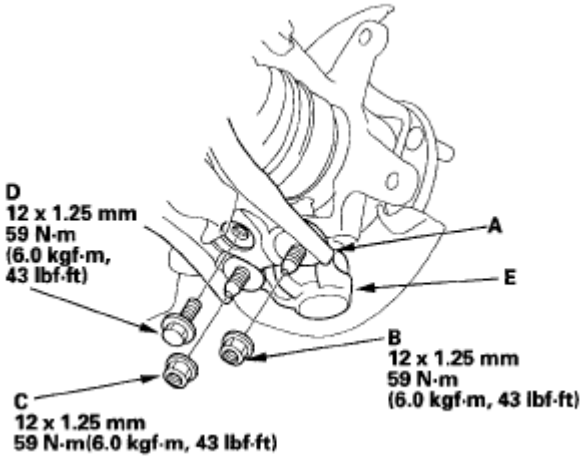



**Fig. 8: Identifying Lower Ball Joint (With Torque Specifications)**

13. Disconnect the lower ball joint (E) from the lower arm.
14. Remove the damper pinch bolts (A) and the self-locking nuts (B) from the damper.

**NOTE: During installation, install the new damper pinch bolts and the new self-locking nuts.**

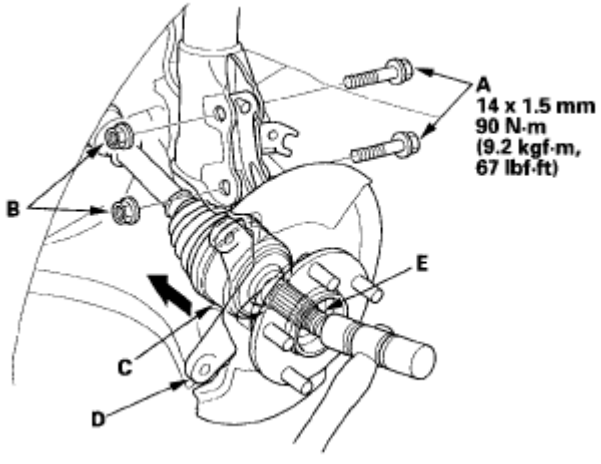



**Fig. 9: Identifying Damper Pinch Bolts (With Torque Specifications)**

15. Remove the driveshaft outboard joint (C) from the knuckle (D) by tapping the driveshaft end (E) with a plastic hammer while drawing the hub outward, then remove the knuckle.

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**NOTE:**

- **Do not pull the driveshaft end outward. The inner driveshaft joint may come apart.**
- **During installation, apply grease to the mating surface of the wheel bearing and driveshaft outboard joint (see DRIVESHAFT INSTALLATION ).**

16. Remove the lock pin (A) from the lower ball joint pin (B), then remove the nut (C).

**NOTE: During installation, install a lock pin after tightening the new castle nut.**

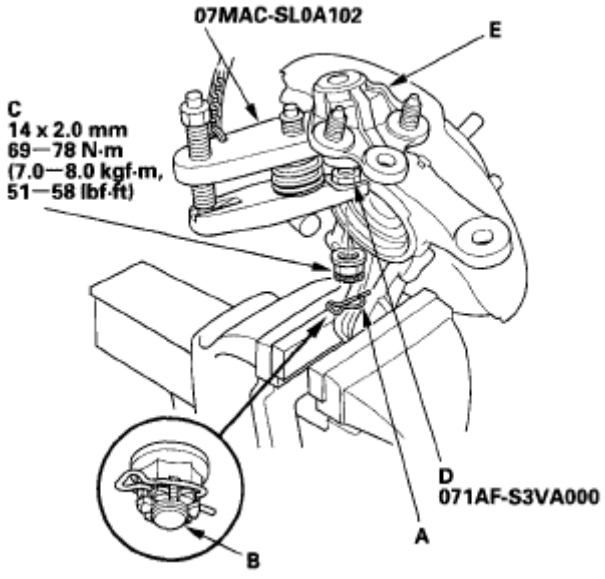



**Fig. 10: Identifying Lower Ball Joint Pin (With Torque Specifications)**

17. Install the ball joint thread protector (D).
18. Disconnect the lower ball joint (E) from the knuckle using the ball joint remover (see **BALL JOINT REMOVAL** ).
19. Install the knuckle/hub in the reverse order of removal, and note these items:
    - Be careful not to damage the ball joint boot when installing the knuckle.
    - Tighten all mounting hardware to the specified torque values.
    - Before connecting the lower ball joint to the knuckle, degrease the threaded section and tapered portion of the ball joint pin, the knuckle

connecting hole, the threaded section, and mating surface of the castle nut.

- First install all the components, and lightly tighten the bolts and nuts, then raise the suspension to load it with the vehicle's weight before fully tightening to the specified torque values.
- Torque the castle nut to the lower torque specification, then tighten it only far enough to align the slot with the ball joint pin hole. Do not align the castle nut by loosening it.
- Use a new spindle nut during reassembly.
- Before installing the spindle nut, apply a small amount of engine oil to the seating surface of the nut. After tightening, use a drift to stake the spindle nut shoulder against the driveshaft.
- Before installing the brake disc, clean the mating surface of the front hub and the inside of the brake disc.
- Before installing the wheel, clean the mating surface of the brake disc and the inside of the wheel.
- Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

**WHEEL BEARING REPLACEMENT**

1. Separate the hub (A) from the knuckle (B) using the hub dis/assembly tool and a hydraulic press. Hold the knuckle with the attachment (C) of the hydraulic press or equivalent tool. Be careful not to deform the splash guard. Hold onto the hub to keep it from falling when pressed clear.

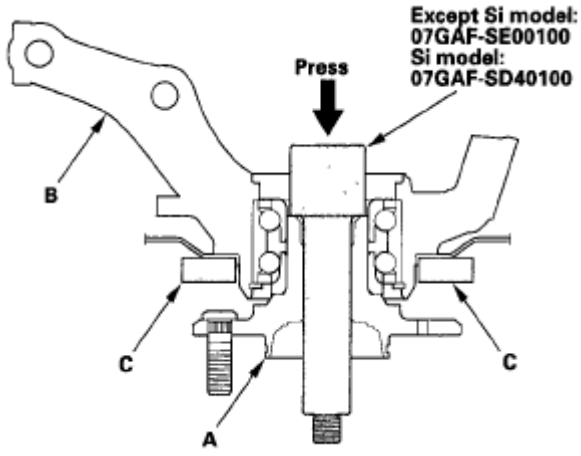


**Fig. 11: Separating Hub From Knuckle**

2. Press the wheel bearing inner race (A) off of the hub (B) using the hub dis/assembly tool, a commercially available bearing separator (C), and a press.

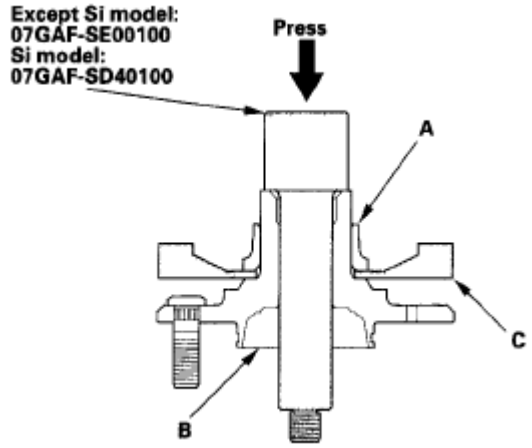



**Fig. 12: Pressing Wheel Bearing Inner Race**

3. Remove the splash guard (A) and the snap ring (B) from the knuckle (C).

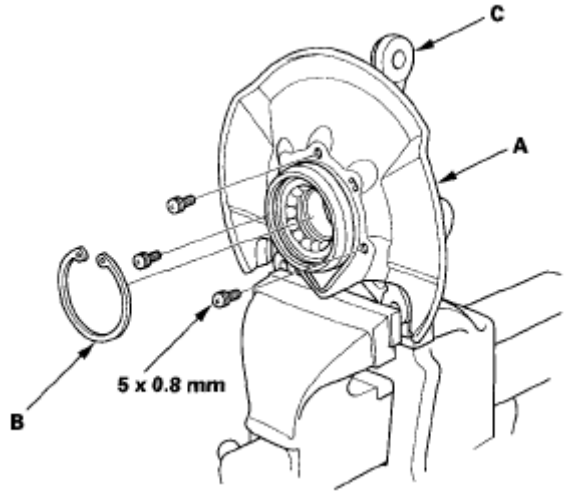



**Fig. 13: Identifying Splash Guard And Snap Ring**

4. Press the wheel bearing (A) out of the knuckle (B) using the attachment, the driver, and a press.

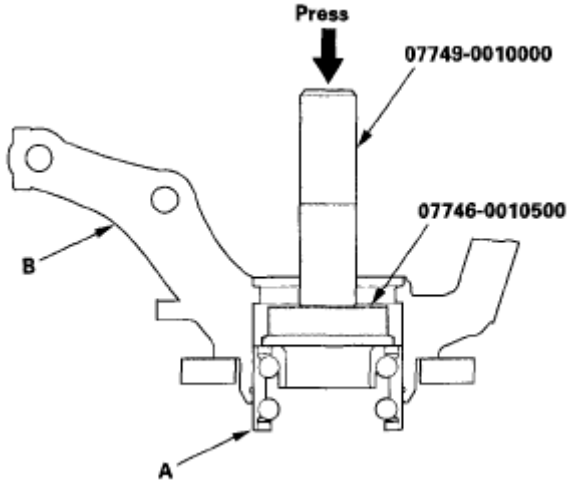



**Fig. 14: Pressing Wheel Bearing Out Of Knuckle**

5. Wash the knuckle and hub thoroughly in high flashpoint solvent before reassembly.
6. Press a new wheel bearing (A) into the knuckle (B) using the old bearing (C), a steel plate (D), the attachment, the support base, and a press.

**NOTE:**

- **Install the wheel bearing with the wheel sensor magnetic encoder (E) (brown color), toward the inside of the knuckle.**
- **Remove any oil, grease, dust, metal debris, and other foreign material from the encoder surface.**
- **Keep all magnetic tools away from the encoder surface.**
- **Be careful not to damage the encoder surface when you insert the wheel bearing.**

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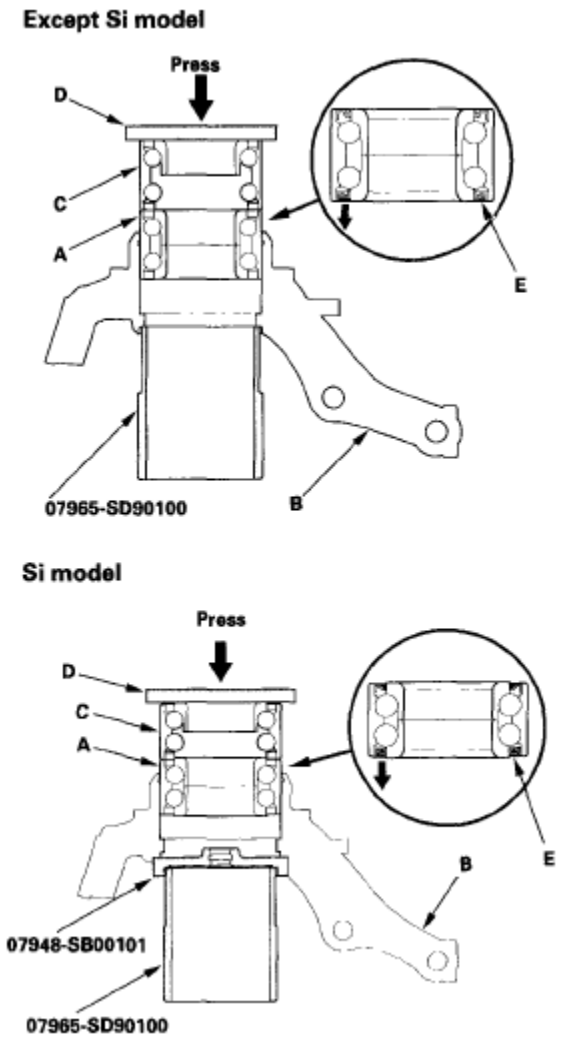



**Fig. 15: Pressing Wheel Bearing Into Knuckle**

7. Install the snap ring (A) securely in the knuckle (B).

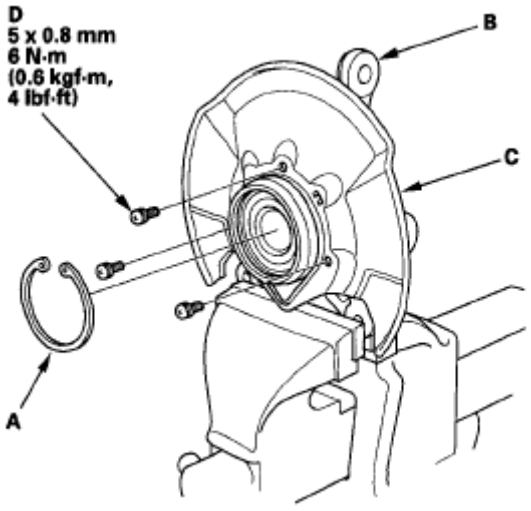



**Fig. 16: Identifying Snap Ring In Knuckle (With Torque Specifications)**

8. Install the splash guard (C), and tighten the screws (D) to the specified torque value.
9. Install the hub (A) onto the knuckle (B) using the attachment, the driver, the support base, and a hydraulic press. Be careful not to distort the splash guard (C).

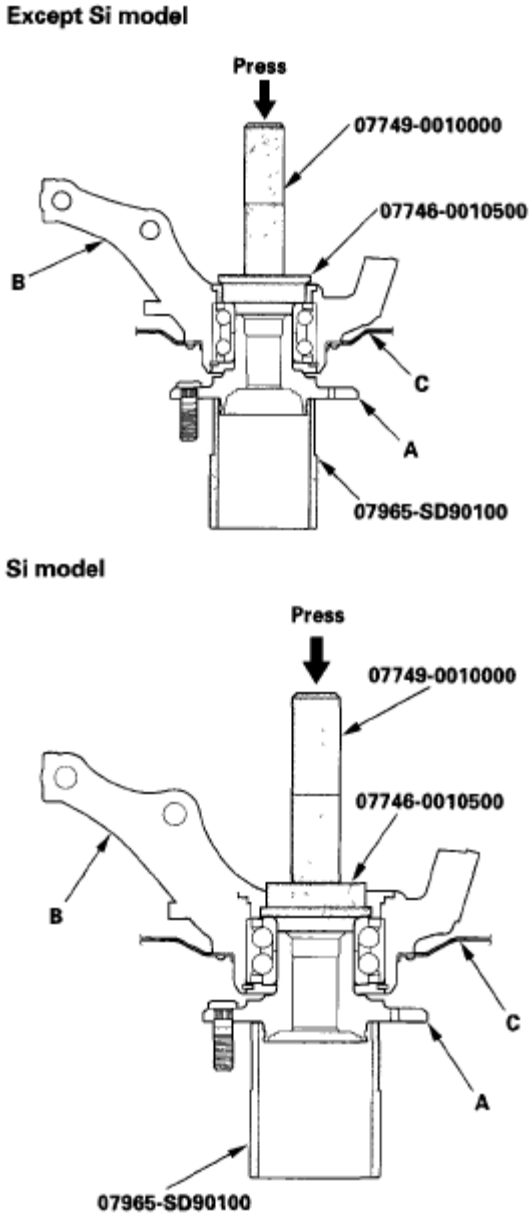



**Fig. 17: Installing Hub Onto Knuckle**

## LOWER BALL JOINT REPLACEMENT

### Special Tools Required

- Ball joint remover, 32 mm 07MAC-SL0A102
- Ball joint thread protector, 14 mm 071AF-S3VA000

1. Remove the front wheel (see **KNUCKLE/HUB REPLACEMENT** ).

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2. Remove the flange bolt and flange nuts from the lower arm (A).

**NOTE: During installation, install a new flange bolt and new flange nuts. After lightly tightening all three fasteners, tighten them to the specified torque in the following order; the nut on the front (B), the nut on the rear (C), then the bolt (D).**

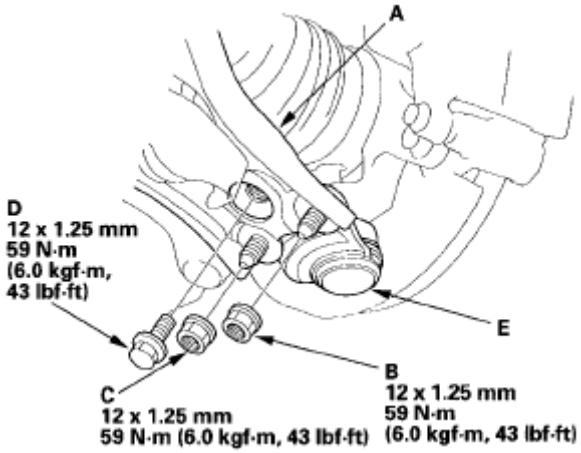



**Fig. 18: Tightening Bolts (With Torque Specifications)**

3. Disconnect the lower ball joint (E) from the lower arm.
4. Remove the spindle nut (see step 6 ), and remove the outboard joint (A) from the knuckle (B) by tapping the driveshaft end (C) with a plastic hammer while drawing the hub outward.

**NOTE:**

- **Do not pull the driveshaft end outward. The inner driveshaft joint may come apart.**
- **During installation, apply grease to the mating surface of the wheel bearing and driveshaft outboard joint (see DRIVESHAFT INSTALLATION ).**

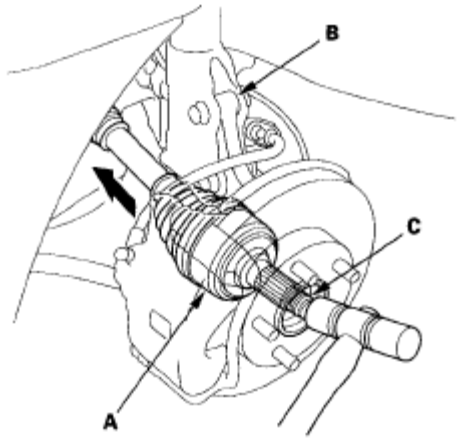



**Fig. 19: Tapping Driveshaft**

5. Remove the lock pin (A) from the lower ball joint pin (B), then remove the castle nut (C).

**NOTE: During installation, install a lock pin after tightening the new castle nut.**

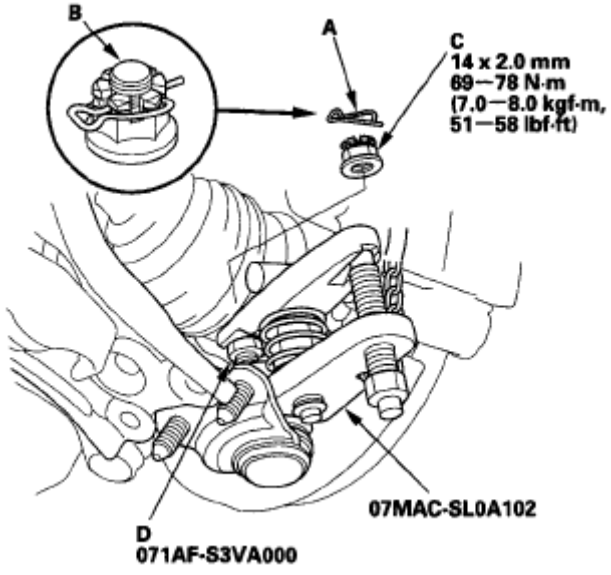



**Fig. 20: Identifying Lock Pin And Lower Ball Joint Pin (With Torque Specifications)**

6. Install the ball joint thread protector (D).
7. Disconnect the lower ball joint from the knuckle using the ball joint remover

(see **BALL JOINT REMOVAL** ), then remove the lower ball joint.

8. Install the lower ball joint in the reverse order of removal, and note these items:
   - First install all the components, and lightly tighten the bolts and nuts, then tighten the lower ball joint to the lower arm to the specified torque. Raise the suspension to load it with the vehicle's weight before fully tightening the lower ball joint to the knuckle to the specified torque values.
   - Tighten all mounting hardware to the specified torque values.
   - Use a new spindle nut during reassembly.
   - Before installing the wheel, clean the mating surface of the brake disc and inside of the wheel.
   - Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

## BALL JOINT BOOT REPLACEMENT

### Special Tools Required

Attachment, 40 mm 07GAF-SE00200

1. Remove the lower ball joint (see **LOWER BALL JOINT REPLACEMENT** ).
2. Remove the boot clip and the boot.
3. Pack the interior and lip (A) of a new boot with grease. Keep the grease off of the boot-to-lower ball housing mating surfaces (B).

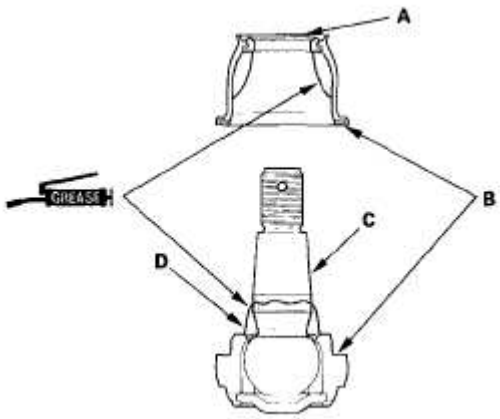


**Fig. 21: Identifying Area Applying Grease**

4. Wipe the grease off the tapered portion of the pin (C), and pack fresh grease into the base (D). Do not let dirt or other foreign materials get into the boot.
5. Install the boot on the ball joint, then squeeze it gently to force out any air.
6. Press the boot with the attachment until the bottom seats on the lower ball housing (A) all the way around.

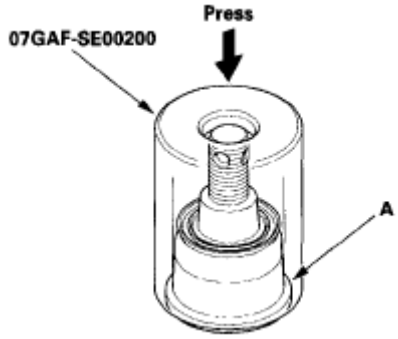



**Fig. 22: Pressing Boot With Attachment Until Bottom Seats On Lower Ball Housing**

7. After installing a boot, wipe any grease off the exposed portion of the ball joint pin.
8. Install the lower ball joint (see **LOWER BALL JOINT REPLACEMENT** ).

## LOWER ARM REMOVAL/INSTALLATION

### Special Tools Required

- Bushing driver 07AAF-SVAA100
- Receiver set 07AAF-SVAA200

#### REMOVAL/INSTALLATION

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the center cap and front wheel.
3. Remove the flange nut (A) while holding the respective joint pin (B) with a

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hex wrench (C), then disconnect the stabilizer links from the lower arm (D).

**NOTE: Use a new flange nut during reassembly.**

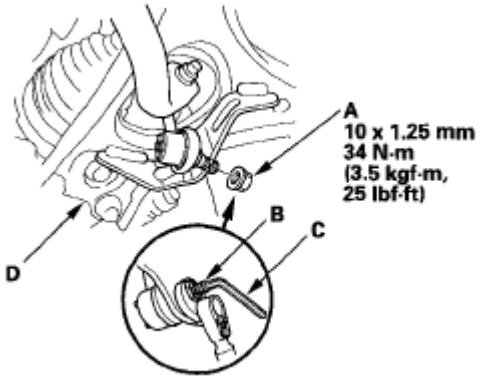
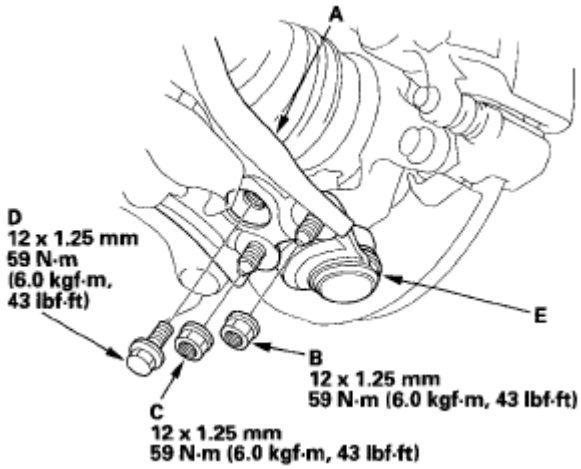



**Fig. 23: Identifying Respective Joint Pin With Hex Wrench (With Torque Specifications)**

4. Turn the stabilizer bar backward to gain easier access to the front side of the lower arm mounting bolt.
5. Remove the flange bolt and flange nuts from the lower arm (A).

**NOTE: During installation, install a new flange bolt and new flange nuts. After lightly tightening all three fasteners, tighten them to the specified torque in the following order; the nut on the front (B), the nut on the rear (C), then the bolt (D).**



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**Fig. 24: Identifying Lower Arm Bolts (With Torque Specifications)**

6. Disconnect the lower ball joint (E) from the lower arm.
7. Remove the lower arm mounting bolt (A).

**NOTE: During installation, install a new mounting bolt.**

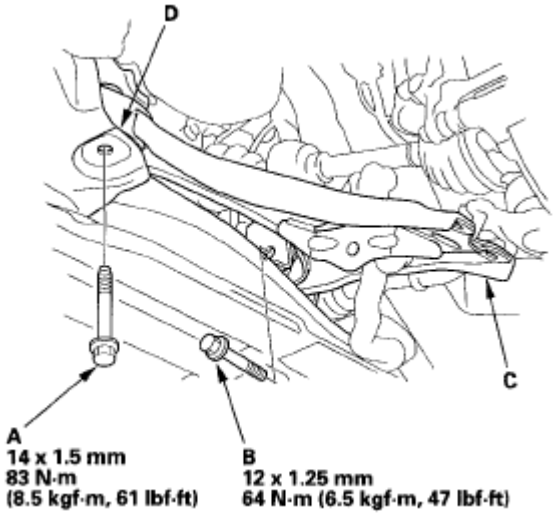



**Fig. 25: Identifying Lower Arm Mounting Bolt (With Torque Specifications)**

8. Remove the lower arm mounting bolt (B), then remove the lower arm (C) from the front suspension subframe (D).

**NOTE: During installation, install a new mounting bolt.**

9. Install the lower arm in the reverse order of removal, and note these items:
   - First install all the components, and lightly tighten the bolts and nuts, then tighten the lower ball joint to the lower arm to the specified torque. Raise the suspension the lower ball joint to the knuckle and the lower arm to the subframe to load it with the vehicle's weight before fully tightening to the specified torque.
   - Tighten all mounting hardware to the specified torque values.
   - Before installing the wheel, clean the mating surface of the brake disc and the inside of the wheel.

- Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

**BUSHING REPLACEMENT**

**NOTE: Replace the lower arm (A) as an assembly if the lower arm has the paint mark (B) around the hole near the front bushing. The paint mark can also be seen around a hole on the bottom side of the lower arm in the same area. Paint marks indicate a oversize bushing has been installed.**

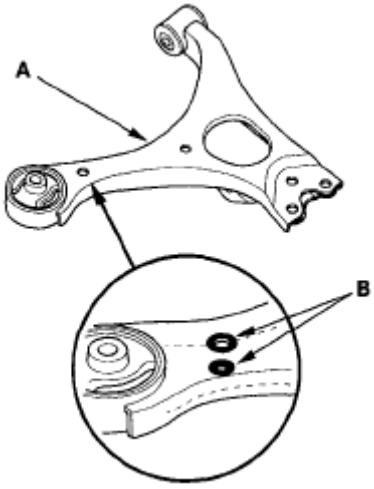



**Fig. 26: Identifying Paint Mark On Lower Arm**

1. Press out the bushing (A) with the bushing driver, receiver set (attachment A) and a hydraulic press, and remove the bushing from the lower arm (B).

**NOTE: Be careful not to damage the inside of the bushing hole when pressing on the bushing.**

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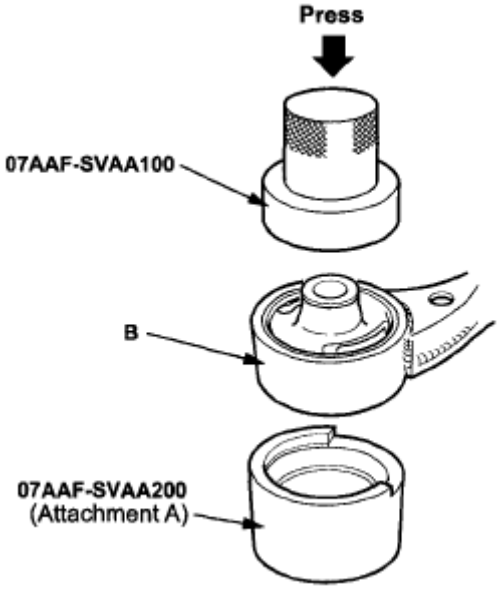



**Fig. 27: Pressing Out Bushing**

2. Clean the mating surface of the new bushing and the lower arm.
3. Position the tab (A) of the bushing (B) with the lower arm (C) as shown.

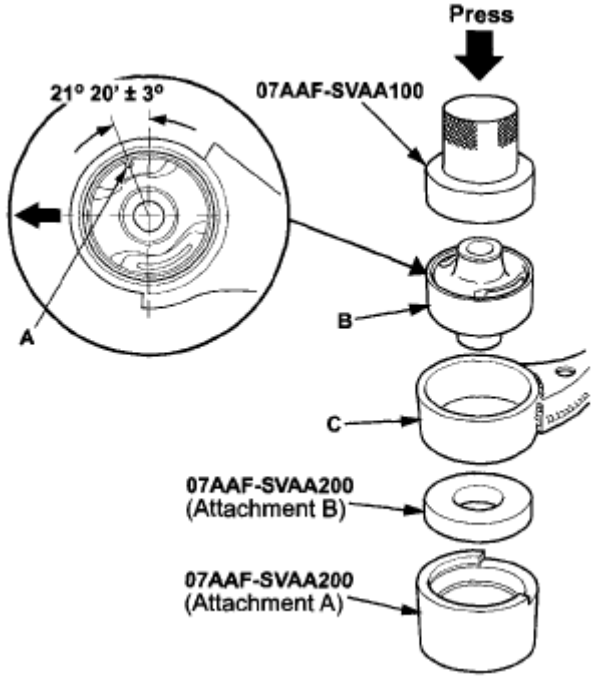



**Fig. 28: Identifying Tab Position**

4. Using a hydraulic press, bushing driver, and receiver set attachments, press in

the bushing into the lower arm.

5. Using a yellow oil-based paint marker, paint a mark (A) around the hole (B) near the front bushing (C). Also paint a mark around the hole on the bottom side of the lower arm in the same area.

**NOTE: These marks are used to identify a lower control arm that has had the bushing replaced. Do not replace the bushing in a lower arm with there paint marks; you must replace the lower arm.**

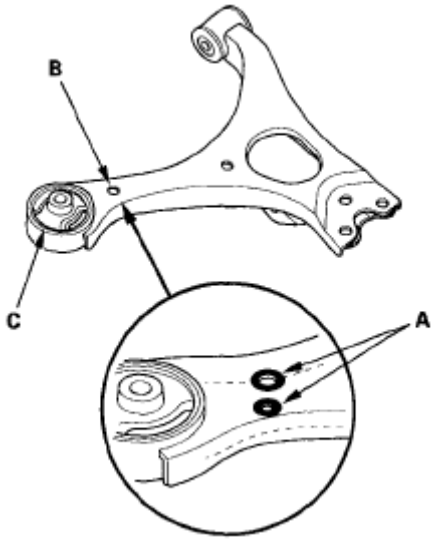



**Fig. 29: Identifying Paint Marks On Lower Arm**

## STABILIZER LINK REMOVAL/INSTALLATION

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheel.
3. Remove the self-locking nut (A) and the flange nut (B) while holding the respective joint pin (C) with a hex wrench (D), then remove the stabilizer link (E).

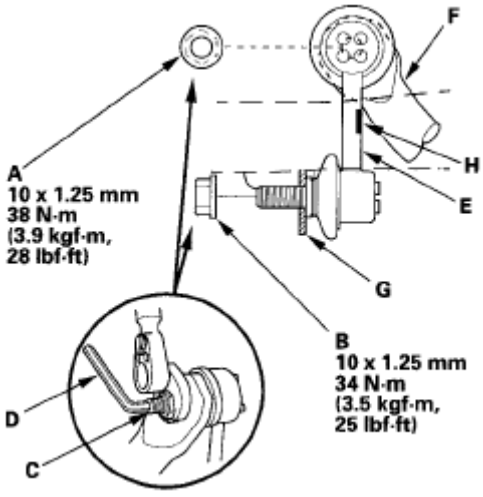



**Fig. 30: Identifying Self-Locking Nut (With Torque Specifications)**

4. Install the stabilizer link on the stabilizer bar (F) and lower arm (G) with the joint pins set at the center of their range of movement.

**NOTE: The stabilizer link has a paint mark (H). Align the paint mark on the stabilizer link facing rearward.**

5. Install a new self-locking nut and a new flange nut, and lightly tighten them.
6. Place a jack under the lower arm, and raise the suspension to load it with the vehicle's weight.
7. Tighten the self-locking nut and flange nut to the specified torque values while holding the respective joint pin with a hex wrench.
8. Reinstall all removed parts and test-drive the vehicle.
9. After 5 minutes of driving, torque the self-locking nut again to the specified torque value.

## STABILIZER BAR REPLACEMENT

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the front wheels.
3. Disconnect both stabilizer links from the stabilizer bar (see **STABILIZER LINK REMOVAL/INSTALLATION** ).

4. Remove the flange bolts (A) and the bushing holders (B), then remove the bushings (C) and the stabilizer bar (D) from the front suspension subframe (E).

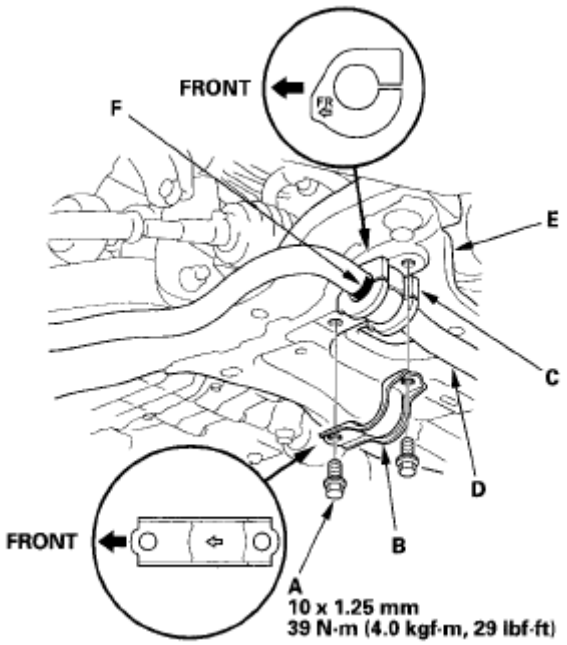



**Fig. 31: Identifying Flange Bolts And Bushing Holders**

5. Install the stabilizer bar in the reverse order of removal, and note these items:
   - Note the right and left direction of the stabilizer bar.
   - Align the paint marks (F) on the stabilizer bar with the sides of the bushings.
   - Note the fore/aft direction of the bushing holders.
   - Refer to **STABILIZER LINK REMOVAL/INSTALLATION** to connect the stabilizer bar to the links .
   - Before installing the wheel, clean the mating surface of the brake disc and inside of the wheel.
   - Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

## DAMPER/SPRING REMOVAL AND INSTALLATION

**REMOVAL**

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1. Turn the ignition switch ON (II), then turn on the windshield wipers. Turn the ignition switch off when the wipers are near the A-pillars.
2. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
3. Remove the front wheel.
4. Remove the wheel sensor harness clip (A) and the brake hose bracket (B) from the damper. Do not disconnect the wheel sensor connector.

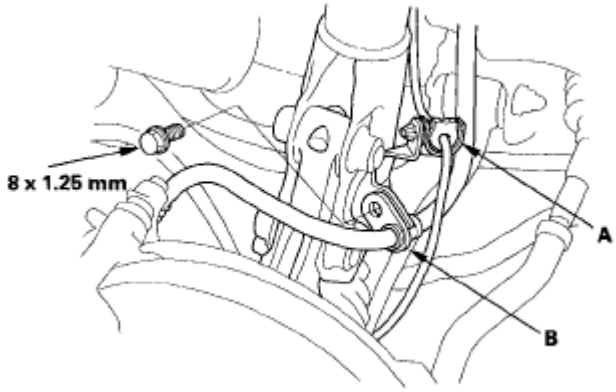



**Fig. 32: Identifying Wheel Sensor Harness Clip And Brake Hose Bracket**

5. Remove the damper pinch bolts (A) and self-locking nuts (B) from the damper.

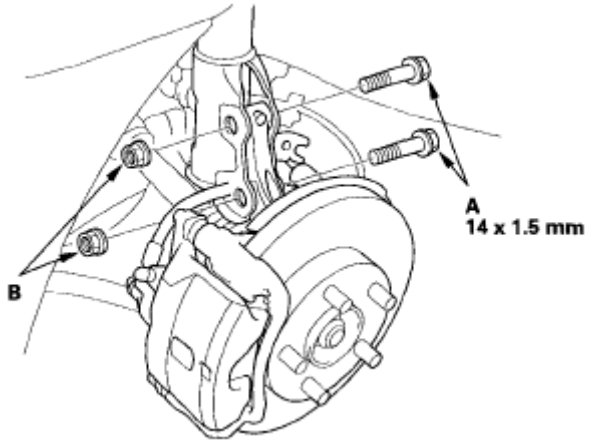



**Fig. 33: Identifying Damper Pinch Bolts And Self-Locking Nuts**

6. Remove the service cap (A) and the lid (B).

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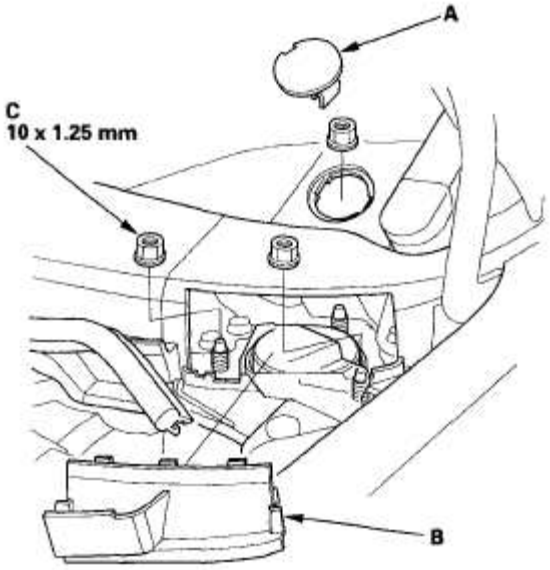



**Fig. 34: Identifying Service Cap And Lid**

7. Remove the three flange nuts (C) from the top of the damper.

**NOTE:**

- **Damper springs are different, left and right. Mark the springs L and R before you continue.**
- **Be careful not to damage the body.**

8. Remove the damper assembly (A).

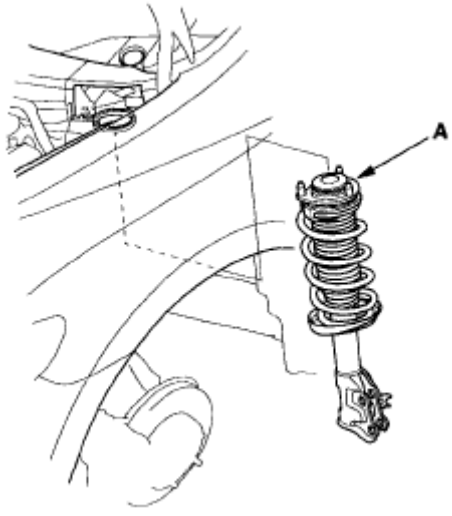



**Fig. 35: Identifying Damper Assembly**

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**INSTALLATION**

1. Install the damper assembly (A) onto the frame.

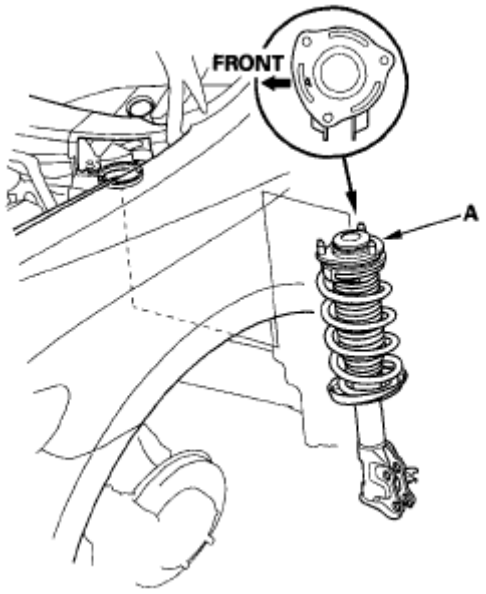



**Fig. 36: Identifying Damper Assembly**

2. Loosely install the new flange nuts (A).

**NOTE: Install the service cap (B) and the lid (C) after tightening the flange nuts to the specified torque value.**

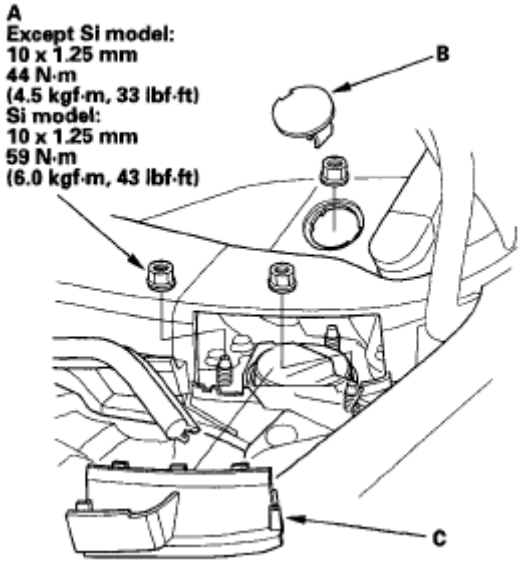


**Fig. 37: Identifying Flange Nuts (With Torque Specifications)**

3. Loosely install new damper pinch bolts (A) and new self-locking nuts (B) to the damper (C).

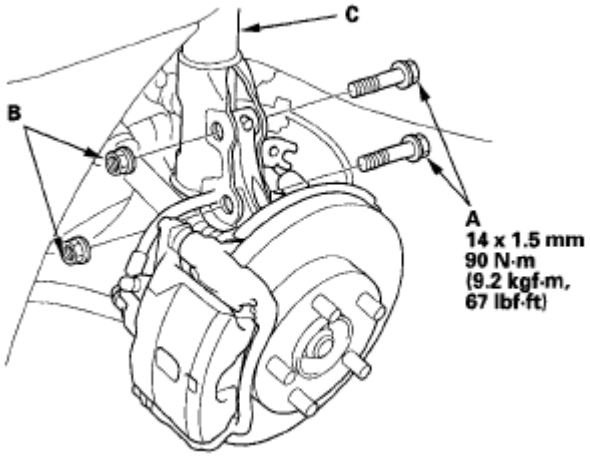



**Fig. 38: Identifying Damper Pinch Bolts (With Torque Specifications)**

4. Install the wheel sensor harness clip (A) and the brake hose bracket (B) to the damper (C).

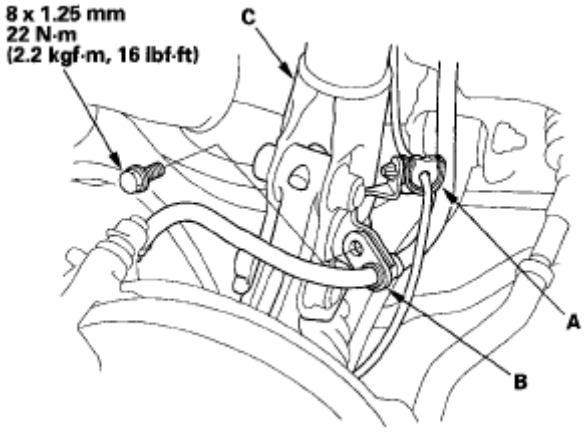



**Fig. 39: Identifying Wheel Sensor Harness Clip And Brake Hose Bracket (With Torque Specifications)**

5. Raise the front suspension with a floor jack to load the suspension with the vehicle's weight.
6. Tighten the damper pinch bolts to the specified torque value.

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7. Tighten the flange nuts on top of the damper to the specified torque value.
8. Install the service cap and the lid.
9. Clean the mating surface of the brake disc and the inside of the wheel, then install the front wheel.
10. Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).
11. Turn the ignition switch to ON (II), then turn the windshield wipers to the default positions, and turn the ignition switch to LOCK (0).

## DAMPER/SPRING DISASSEMBLY, INSPECTION, AND REASSEMBLY

### EXPLODED VIEW

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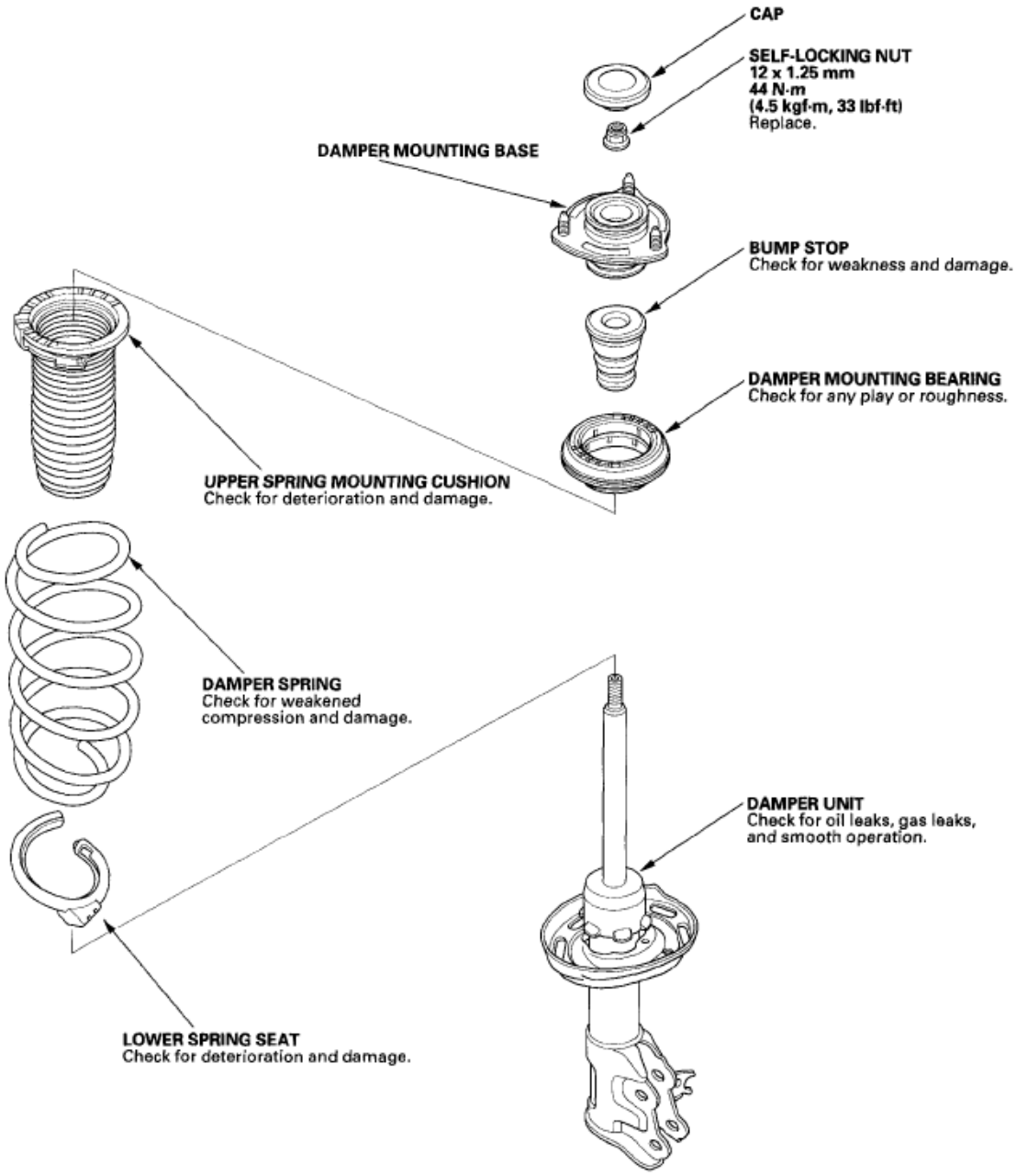



**Fig. 40: Exploded View Of Damper/Spring (With Torque Specifications)**

## Special Tools Required

Strut nut adapter 07AAA-SVAA100

**NOTE: When compressing the damper spring, use a commercially available strut spring compressor (Branick MST-580A or**

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**Model 7200, or equivalent) according to the manufacturer's instructions.**

**DISASSEMBLY**

1. Remove the cap (A) from the top of the damper.

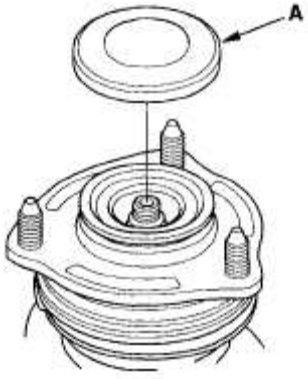



**Fig. 41: Identifying Damper Cap**

2. Compress the damper spring, then remove the self-locking nut (A) using the strut nut adapter (B) while holding the damper shaft with a hex wrench (C). Do not compress the spring more than necessary to remove the nut.

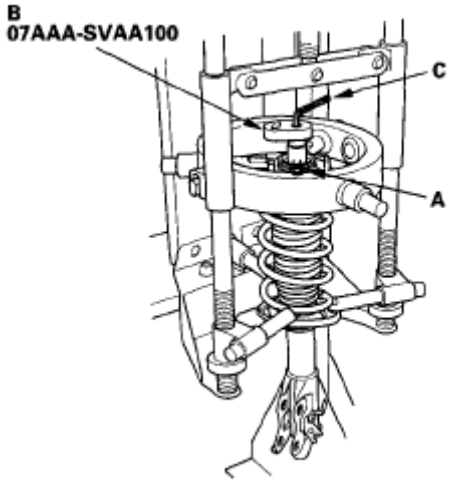



**Fig. 42: Identifying Compress Damper Spring**

3. Release the pressure from the strut spring compressor, then disassemble the damper as shown in the Exploded View.

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**INSPECTION**

1. Reassemble all the parts, except for the upper spring mounting cushion, the bump stop, and the damper spring.
2. Compress the damper assembly by hand, and check for smooth operation through a full stroke, both compression and extension. The damper should extend smoothly and constantly when compression is released. If it does not, the gas is leaking and the damper should be replaced.

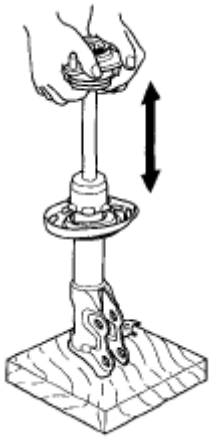
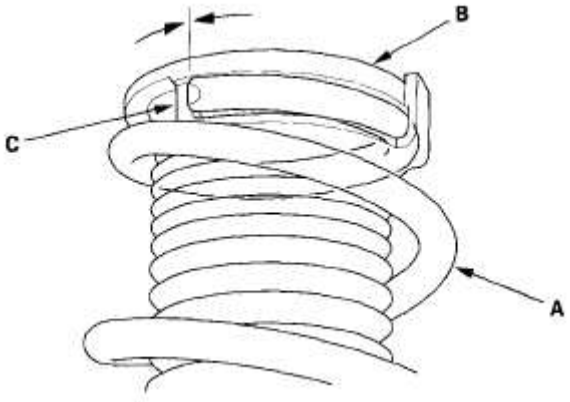


**Fig. 43: Identifying Compress Damper Assembly By Hand**

3. Check for oil leaks, abnormal noises, or binding during these tests.

**REASSEMBLY**

1. Install the damper spring (A) on the upper spring mounting cushion (B) by aligning the ledge portion (C).



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**Fig. 44: Aligning Ledge Portion**

2. Compress the damper spring.
3. Install all the parts except the damper mounting washer and self-locking nut onto the damper unit (A) by referring to the Exploded View.

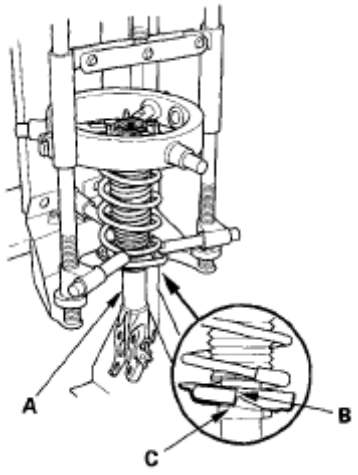



**Fig. 45: Exploded View Of Damper**

4. Align the bottom of the spring (B) and the stepped part of the lower spring seat (C).
5. Align the damper bracket (A) and the damper mounting base (B) so that the "delta" stamp (C) points toward the front.

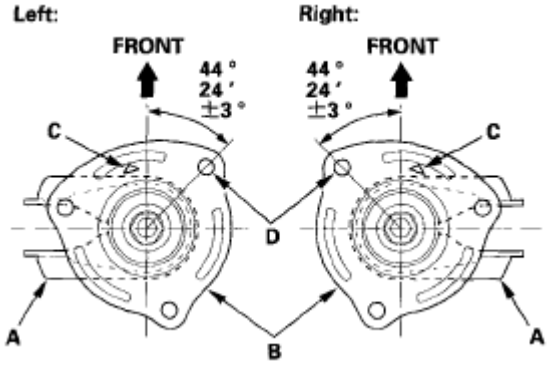



**Fig. 46: Aligning Angle Of Strut Bolt On Damper Bracket**

6. Align the angle of the strut bolt (D) on the damper bracket as shown.
7. Install a new self-locking nut (A).

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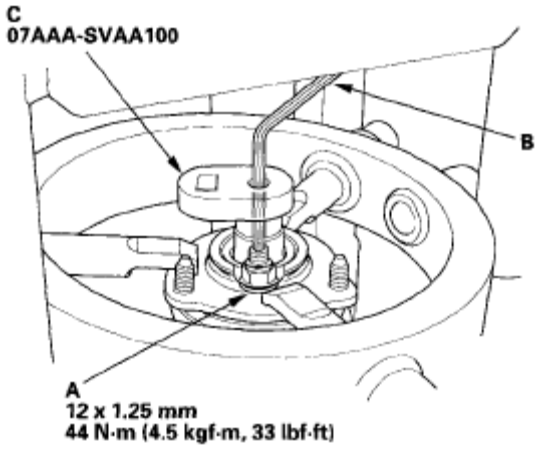



**Fig. 47: Identifying Self-Locking Nut (With Torque Specifications)**

8. Hold the damper shaft using a hex wrench (B), and tighten the new self-locking nut using the strut nut adapter (C) to the specified torque value.
9. Install the cap.

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# 2006-08 ENGINE PERFORMANCE

## Fuel Supply System - Civic GX

## COMPONENT LOCATION INDEX

**NOTE: Refer to the FUEL SUPPLY SYSTEM (R18A1) (EXCEPT HYBRID) article for additional information that is not shown in this article.**

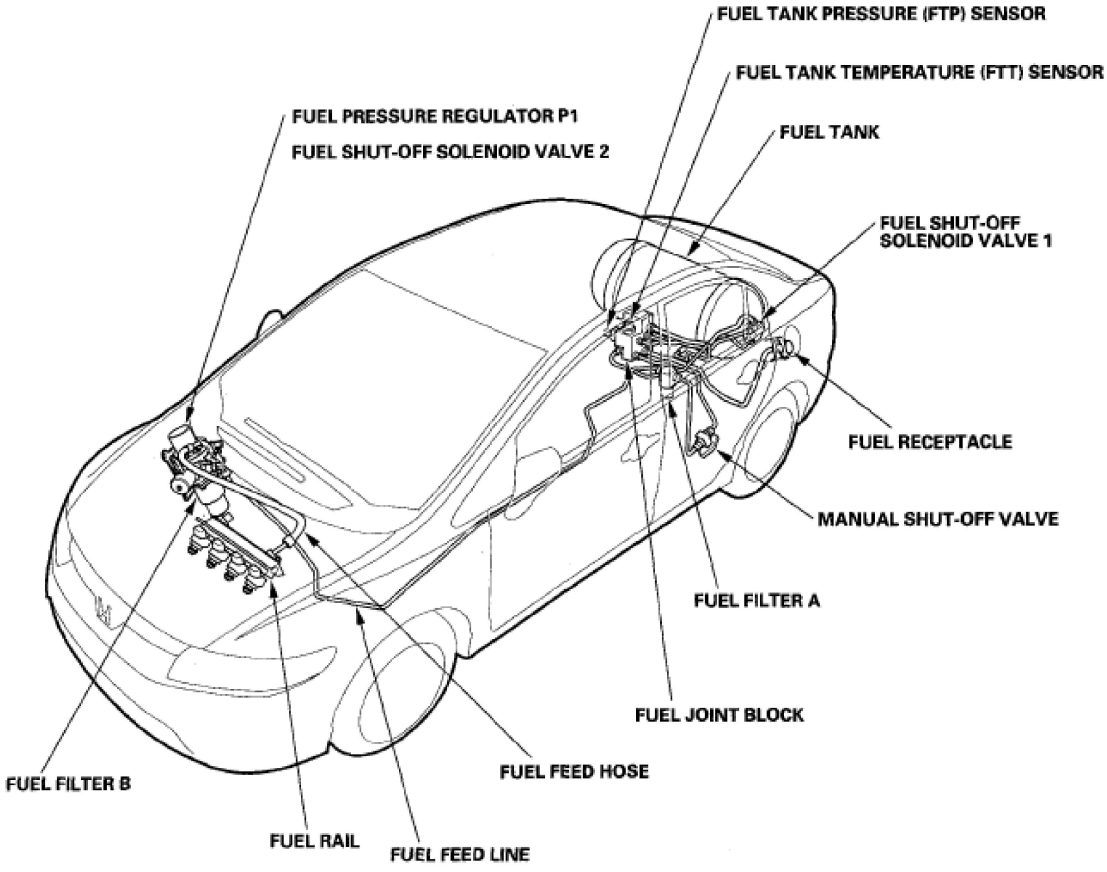



**Fig. 1: Identifying Fuel Supply System Components (1 Of 2)**

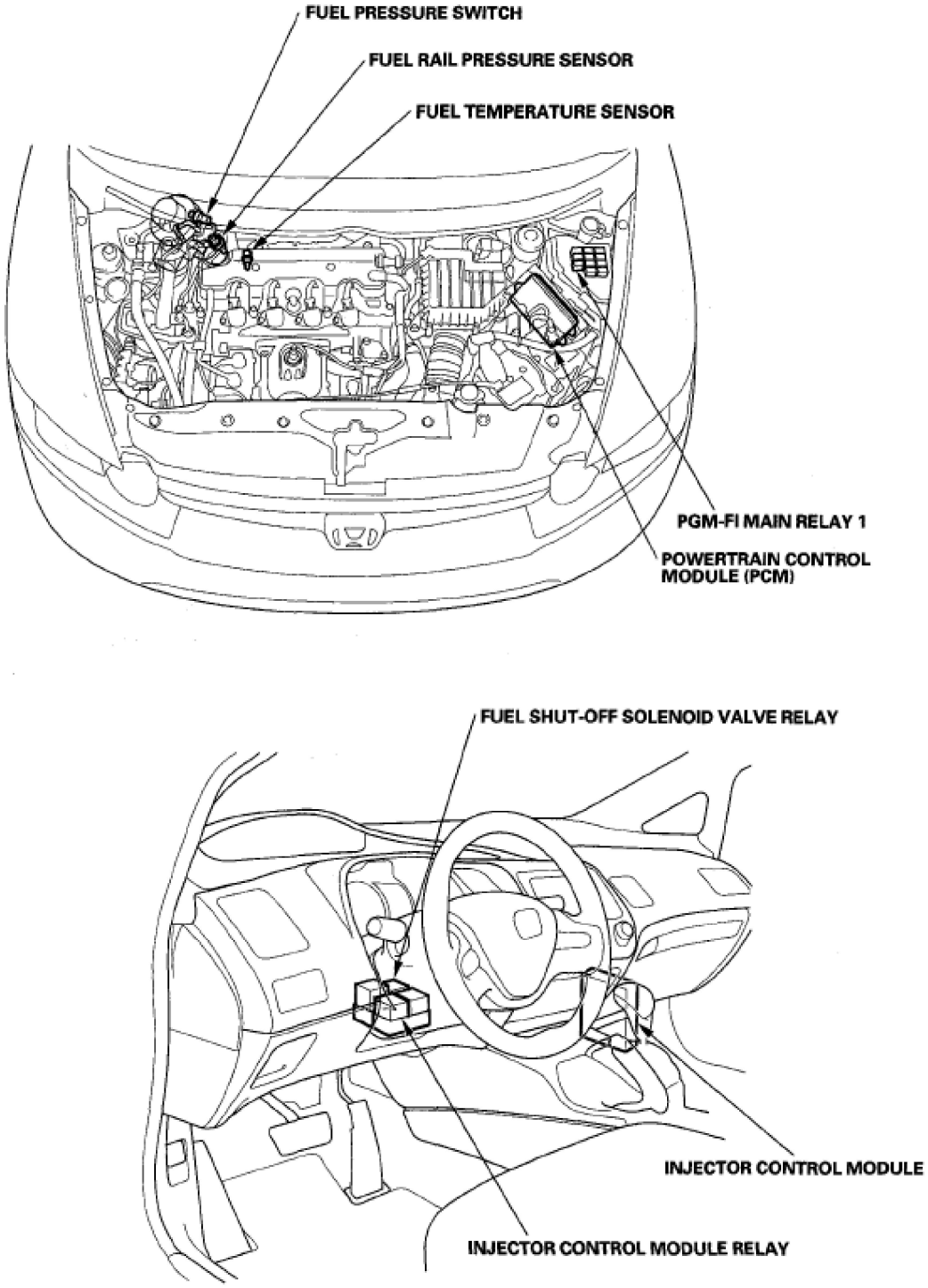



**Fig. 2: Identifying Fuel Supply System Components (2 Of 2)**

## DTC TROUBLESHOOTING

### DTC P0181: FUEL TEMPERATURE SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Note the ambient temperature.
3. Check the IAT SENSOR in the DATA LIST with the HDS.
4. Compare the value of the IAT SENSOR and the ambient temperature.

   *Is the value of the IAT SENSOR and the ambient temperature same?*

   **YES** -Go to step 5.

   **NO** -Allow the IAT SENSOR to cool to ambient temperature, then go to step 5.

5. Note the value of the FUEL TEMPERATURE SENSOR in the DATA LIST with the HDS.
6. Compare the value of the IAT SENSOR and the value of the FUEL TEMPERATURE SENSOR.

   *Does the value of the FUEL TEMPERATURE SENSOR differ 45 °F (25 °C) or more?*

   **YES** -Go to step 7.

   **NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the fuel temperature sensor and the PCM.

7. Replace the fuel temperature sensor (see **FUEL TEMPERATURE SENSOR REPLACEMENT** ).
8. Reset the PCM with the HDS.
9. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
10. Allow the IAT SENSOR to cool to ambient temperature.

11. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
12. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0181 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel temperature sensor and the PCM, then go to step 1.

    **NO** -Go to step 13.

13. Monitor the OBD STATUS for DTC P0181 in the DTCs MENU with the HDS.

    *Does the screen indicate PASSED?*

    **YES** -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 12, go to the indicated DTC's troubleshooting.

    **NO** -If the screen indicates FAILED, check for poor connections or loose terminals at the fuel temperature sensor and the PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 10.

**DTC P0182: FUEL TEMPERATURE SENSOR CIRCUIT LOW VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check the FUEL TEMPERATURE SENSOR in the DATA LIST with the HDS.

   *Is about 356 °F (180 °C) or more, or 0.08 V or less indicated?*

   **YES** -Go to step 3.

**NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the fuel temperature sensor and the PCM.

3. Turn the ignition switch OFF.
4. Disconnect the fuel temperature sensor 2P connector.
5. Turn the ignition switch ON (II).
6. Check the FUEL TEMPERATURE SENSOR in the DATA LIST with the HDS.

   *Is about 356 °F (180 °C) or more, or 0.08 V or less indicated?*

   **YES** -Go to step 7.

   **NO** -Go to step 11 11.

7. Turn the ignition switch OFF.
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector B (44P).
10. Check for continuity between fuel temperature sensor 2P connector terminal No. 2 and body ground.

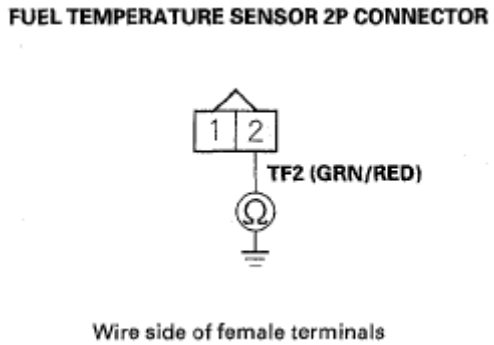



**Fig. 3: Checking Continuity Between Fuel Temperature Sensor 2P Connector Terminal No. 2 And Body Ground**

*Is there continuity?*

**YES** -Repair short in the wire between the PCM (B5) and the fuel temperature sensor, then go to step 13.

**NO** -Go to step 18.

11. Turn the ignition switch OFF.
12. Replace the fuel temperature sensor (see **FUEL TEMPERATURE SENSOR REPLACEMENT** ).
13. Reconnect all connectors.
14. Turn the ignition switch ON (II).
15. Reset the PCM with the HDS.
16. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
17. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0182 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel temperature sensor and the PCM, then go to step 1.

    **NO** -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

18. Reconnect all connectors.
19. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
20. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0182 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the PCM was substituted, go to step 1.

    **NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** . If any other Temporary DTCs or DTCs are indicated, go

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to the indicated DTC's troubleshooting.

**DTC P0183: FUEL TEMPERATURE SENSOR CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check the FUEL TEMPERATURE SENSOR in the DATA LIST with the HDS.

   *Is about - 40°F (-40°C) or less, or 4.92 V or more indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the fuel temperature sensor and the PCM.

3. Turn the ignition switch OFF.
4. Disconnect the fuel temperature sensor 2P connector.
5. Connect fuel temperature sensor 2P connector terminals No. 1 and No. 2 with a jumper wire.

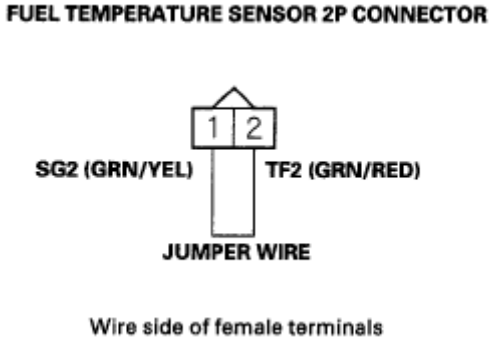



**Fig. 4: Connecting Fuel Temperature Sensor 2P Connector Terminals No. 1 And 2 With Jumper Wire**

6. Turn the ignition switch ON (II).

7. Check the FUEL TEMPERATURE SENSOR in the DATA LIST with the HDS.

   *Is about -40°F (-40 °C) or less, or 4.92 V or more indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 11 20.

8. Turn the ignition switch OFF.
9. Remove the jumper wire from the fuel temperature sensor 2P connector.
10. Turn the ignition switch ON (II).
11. Measure voltage between fuel temperature sensor 2P connector terminal No. 2 and body ground.

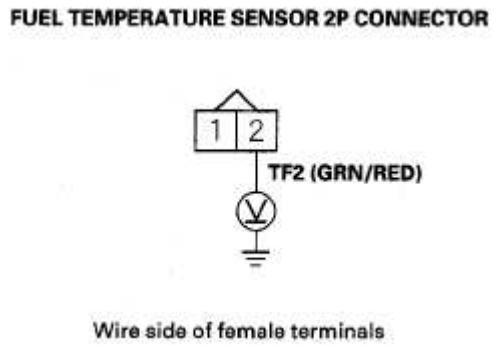



**Fig. 5: Measuring Voltage Between Fuel Temperature Sensor 2P Connector Terminal No. 2 And Body Ground**

   *Is there about 5 V?*

   **YES** -Go to step 12.

   **NO** -Go to step 16.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector B (44P).
15. Check for continuity between fuel temperature sensor 2P connector terminal

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No. 1 and PCM connector terminal B33.

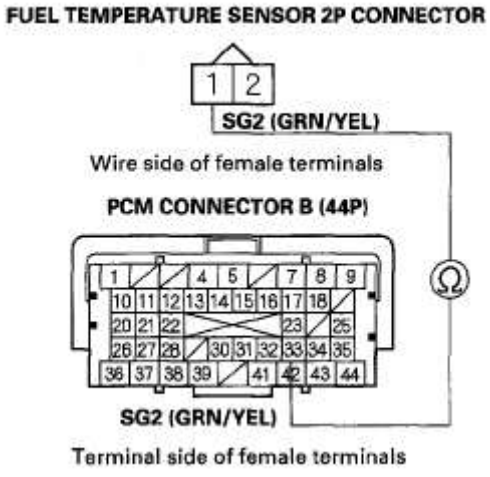



**Fig. 6: Checking Continuity Between Fuel Temperature Sensor 2P Connector Terminals**

*Is there continuity?*

**YES** -Go to step 27.

**NO** -Repair open in the wire between the PCM (B33) and the fuel temperature sensor, then go to step 22.

16. Turn the ignition switch OFF.
17. Jump the SCS line with the HDS.
18. Disconnect PCM connector B (44P).
19. Check for continuity between fuel temperature sensor 2P connector terminal No. 2 and PCM connector terminal B5.

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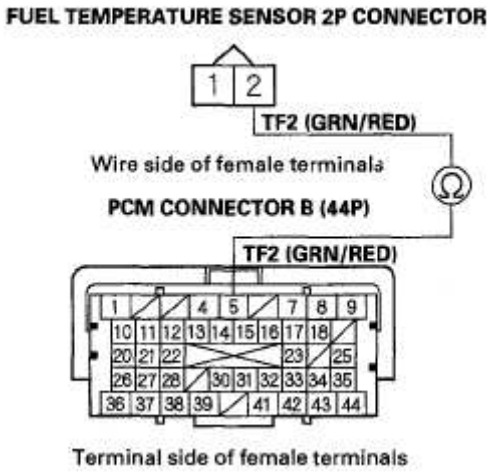



**Fig. 7: Checking Continuity Between Fuel Temperature Sensor 2P Connector Terminals**

*Is there continuity?*

**YES** -Go to step 27.

**NO** -Repair open in the wire between the PCM (B5) and the fuel temperature sensor, then go to step 22.

20. Turn the ignition switch OFF.
21. Replace the fuel temperature sensor (see **FUEL TEMPERATURE SENSOR REPLACEMENT** ).
22. Reconnect all connectors.
23. Turn the ignition switch ON (II).
24. Reset the PCM with the HDS.
25. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
26. Check for Temporary DTCs or DTCs with the HDS.

*Is DTC P0183 indicated?*

**YES** -Check for poor connections or loose terminals at the fuel temperature sensor and the PCM, then go to step 1.

**NO** -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

27. Reconnect all connectors.
28. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
29. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0183 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel temperature sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the PCM was substituted, go to step 1.

    **NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

**DTC P0191: FUEL RAIL PRESSURE SENSOR CIRCUIT RANGE/PERFORMANCE PROBLEM**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch OFF.
2. Check for a loose or damaged fuel pressure regulator P1 vacuum line.

   *Is the line OK?*

   **YES** -Go to step 3.

   **NO** -Reconnect or repair the fuel pressure regulator P1 vacuum line, then go to step 21.

3. Check the fuel system for any leaking parts (see **LEAK INSPECTION** ).

   *Are any parts leaking?*

   **YES** -Replace the leaking part(s), then go to step 21.

   **NO** -Go to step 4.

4. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
5. Test-drive the vehicle for several minutes in the range of these recorded on-board snapshot parameters:
   - ENGINE SPEED
   - MAP SENSOR
6. Monitor the OBD STATUS for DTC P0191 in the DTCs MENU with the HDS.

   *Does the screen indicate FAILED?*

   **YES** -Go to step 7.

   **NO** -If the screen indicates PASSED, intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 4 and recheck.

7. Start the engine. Hold the engine speed at 3,000 rpm without load (in Park or neutral) until the radiator fan comes on, then let it idle.
8. Snap the throttle to an engine speed of 3,000 rpm or more.
9. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS while snapping the throttle.

   *Does the reading change 4 kPa (0.58 psi, 0.04 kgf/cm$^2$ ) or more?*

   **YES** -Go to step 10.

**NO** -Replace the fuel rail pressure sensor (see **FUEL PRESSURE SWITCH REPLACEMENT** ), then go to step 19.

10. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS at idle.

    *Is about 204-326 kPa (29.58-47.3 psi, 2.08-3.32 kgf/cm$^2$ ) indicated?*

    **YES** -Go to step 16.

    **NO** -Go to step 11.

11. Turn the ignition switch OFF.
12. Remove the fuel rail pressure sensor (see **FUEL PRESSURE SWITCH REPLACEMENT** ).
13. Reconnect the fuel rail pressure sensor 3P connector to the sensor.
14. Turn the ignition switch ON (II).
15. Compare the value of the BARO SENSOR and the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS.

    *Does the reading differ 22.3 kPa (3.23 psi, 0.23 kgf/cm$^2$ ) or more?*

    **YES** -Replace the fuel rail pressure sensor (see **FUEL PRESSURE SWITCH REPLACEMENT** ), then go to step 19.

    **NO** -Replace the fuel pressure regulator P1 (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ), then go to step 19.

16. Check the MAP SENSOR in the DATA LIST with the HDS.

    *Is about 53.2 kPa (15.7 in.Hg, 399 mmHg), or 1.59 V or more indicated?*

    **YES** -Go to step 17.

    **NO** -Replace the MAP sensor, refer to the **MAP SENSOR REPLACEMENT** , then go to step 19.

17. Start the engine.
18. Check the MAP SENSOR in the DATA LIST with the HDS while snapping the throttle to fuel cut engine speed.

    *Is about 36.9 kPa (10.9 in.Hg, 277 mmHg), or 1.51 V or less indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM. Also check for a loose or damage fuel pressure regulator P1 vacuum line. Then go to step 19.

    **NO** -Replace the MAP sensor, refer to the **MAP SENSOR REPLACEMENT** , then go to step 19.

19. Turn the ignition switch OFF.
20. Reconnect all connectors.
21. Turn the ignition switch ON (II).
22. Reset the PCM with the HDS.
23. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
24. Test-drive the vehicle for several minutes in the range of these recorded on-board snapshot parameters:
    - ENGINE SPEED
    - MAP SENSOR
25. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0191 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM, then go to step 1.

    **NO** -Go to step 26.

26. Monitor the OBD STATUS for DTC P0191 in the DTCs MENU with the HDS.

*Does the screen indicate PASSED?*

**YES** -Troubleshooting is complete. If any other Temporary DTCs or DTCs were indicated in step 25, go to the indicated DTC's troubleshooting.

**NO** -If the screen indicates FAILED, check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM, then go to step 1. If the screen indicates EXECUTING, keep driving until a result comes on. If the screen indicates OUT OF CONDITION, go to step 23.

**DTC P0192: FUEL RAIL PRESSURE SENSOR CIRCUIT LOW VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS.

   *Is there about 0.23 V or less?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM.

3. Turn the ignition switch OFF.
4. Disconnect the fuel rail pressure sensor 3P connector.
5. Turn the ignition switch ON (II).
6. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS.

   *Is there about 0.23 V or less?*

   **YES** -Go to step 8.

**NO** -Go to step 7.

7. Measure voltage between fuel rail pressure sensor 3P connector terminals No. 1 and No. 3.

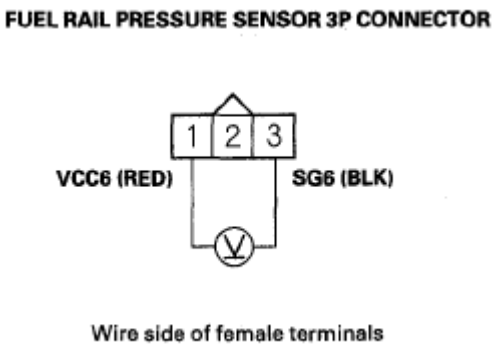



**Fig. 8: Measuring Voltage Between Fuel Rail Pressure Sensor 3P Connector Terminals No. 1 And 3**

*Is there about 5 V?*

**YES** -Go to step 16.

**NO** -Go to step 12.

8. Turn the ignition switch OFF.
9. Jump the SCS line with the HDS.
10. Disconnect PCM connector C (44P).
11. Check for continuity between fuel rail pressure sensor 3P connector terminal No. 2 and body ground.

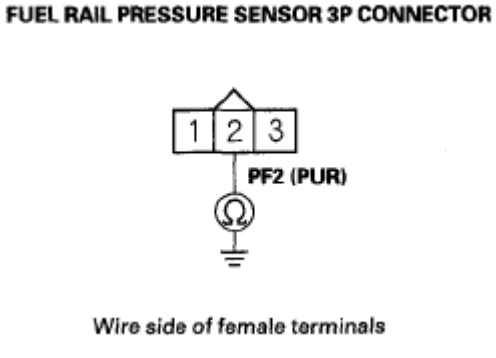


**Fig. 9: Checking Continuity Between Fuel Rail Pressure Sensor 3P Connector Terminals**

*Is there continuity?*

**YES** -Repair short in the wire between the PCM (C10) and the fuel rail pressure sensor, then go to step 18.

**NO** -Go to step 23.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector A (44P).
15. Check for continuity between fuel rail pressure sensor 3P connector terminal No. 1 and PCM connector terminal A19.

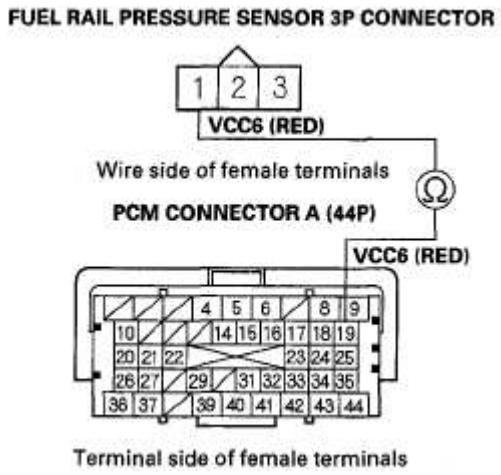



**Fig. 10: Checking Continuity Between Fuel Rail Pressure Sensor 3P Connector Terminals**

*Is there continuity?*

**YES** -Repair open in the wire between the PCM (A19) and the fuel rail pressure sensor, then go to step 18.

**NO** -Go to step 23.

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16. Turn the ignition switch OFF.
17. Replace the fuel rail pressure sensor (see **FUEL PRESSURE SWITCH REPLACEMENT** ).
18. Reconnect all connectors.
19. Turn the ignition switch ON (II).
20. Reset the PCM with the HDS.
21. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
22. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0192 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM, then go to step 1.

    **NO** -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

23. Reconnect all connectors.
24. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
25. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0192 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the PCM was substituted, go to step 1.

    **NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

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**DTC P0193: FUEL RAIL PRESSURE SENSOR CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS.

   *Is there about 4.77 V or more?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM.

3. Try to start the engine when the ambient temperature is 32 °F (0 °C) or more.

   *Does the engine start?*

   **YES** -Go to step 8.

   **NO** -Go to step 4.

4. Turn the ignition switch OFF.
5. Disconnect the fuel pressure regulator switch 2P connector (see **FUEL PRESSURE SWITCH REPLACEMENT** ).
6. Turn the ignition switch ON (II).
7. Check the LOW FUEL INDICATOR in the DATA LIST with the HDS.

   *Is OFF indicated?*

   **YES** -Replace fuel pressure regulator P1 (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ), then go to step 35.

**NO** -Repair short in the wire between the PCM (A41) and the fuel pressure regulator switch 2P connector, the fuel shut-off solenoid valve relay. Also replace fuel pressure regulator P1 (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ). Then go to step 35.

8. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS, and note the value.
9. Turn the ignition switch OFF.
10. Close the manual shut-off valve.
11. Start the engine, and let it idle until it stops.
12. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS.
13. Compare the current value of the FUEL RAIL PRESSURE SENSOR with the value from step 8.

    *Is the current value lower than the value from step 4?*

    **YES** -Go to step 14.

    **NO** -Go to step 18.

14. Turn the ignition switch OFF.
15. Disconnect the fuel pressure regulator switch 2P connector (see **FUEL PRESSURE SWITCH REPLACEMENT** ).
16. Turn the ignition switch ON (II).
17. Check the LOW FUEL INDICATOR in the DATA LIST with the HDS.

    *Is OFF indicated?*

    **YES** -Replace fuel pressure regulator P1 (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ), then go to step 35.

    **NO** -Repair short in the wire between the PCM (A41) and the fuel pressure regulator switch 2P connector, the fuel shut-off solenoid valve relay. Also replace fuel pressure regulator P1 (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ). Then go to step 35.

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18. Turn the ignition switch OFF.
19. Disconnect the fuel rail pressure sensor 3P connector (see **FUEL PRESSURE SWITCH REPLACEMENT** ).
20. Connect fuel rail pressure sensor 3P connector terminals No. 2 and No. 3 with a jumper wire.

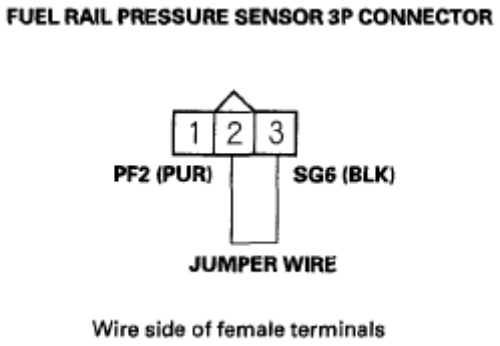



**Fig. 11: Connecting Fuel Rail Pressure Sensor 3P Connector Terminals No. 2 And 3 With Jumper Wire**

21. Turn the ignition switch ON (II).
22. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS.

    *Is there about 4.77 V or more?*

    **YES** -Go to step 23.

    **NO** -Replace the fuel rail pressure sensor (see **FUEL PRESSURE SWITCH REPLACEMENT** ), then go to step 35.

23. Turn the ignition switch OFF.
24. Remove the jumper wire from the fuel rail pressure sensor 3P connector.
25. Turn the ignition switch ON (II).
26. Measure voltage between fuel rail pressure sensor 3P connector terminals No. 1 and No. 3.

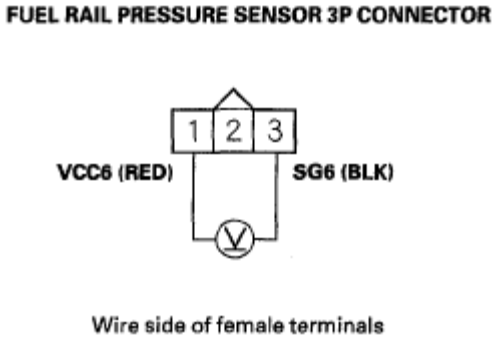



**Fig. 12: Measuring Voltage Between Fuel Rail Pressure Sensor 3P Connector Terminals No. 1 And 3**

*Is there about 5 V?*

**YES** -Go to step 27.

**NO** -Go to step 31.

27. Turn the ignition switch OFF.
28. Jump the SCS line with the HDS.
29. Disconnect PCM connector C (44P).
30. Check for continuity between fuel rail pressure sensor 3P connector terminal No. 2 and PCM connector terminal C10.

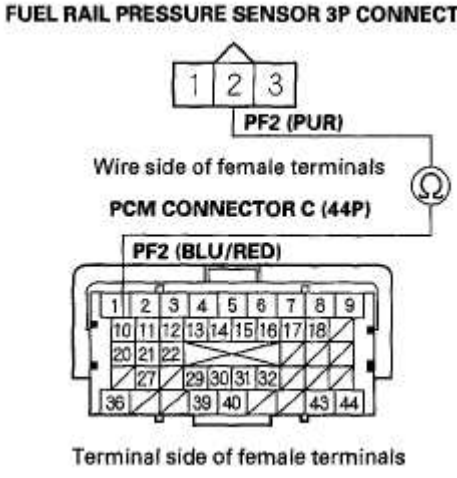



**Fig. 13: Checking Continuity Between Fuel Rail Pressure Sensor 3P Connector Terminals**

*Is there continuity?*

**YES** -Go to step 41.

**NO** -Repair open in the wire between the PCM (C10) and the fuel rail pressure sensor, then go to step 35.

31. Turn the ignition switch OFF.
32. Jump the SCS line with the HDS.
33. Disconnect PCM connector A (44P).
34. Check for continuity between fuel rail pressure sensor 3P connector terminal No. 3 and PCM connector terminal A9.

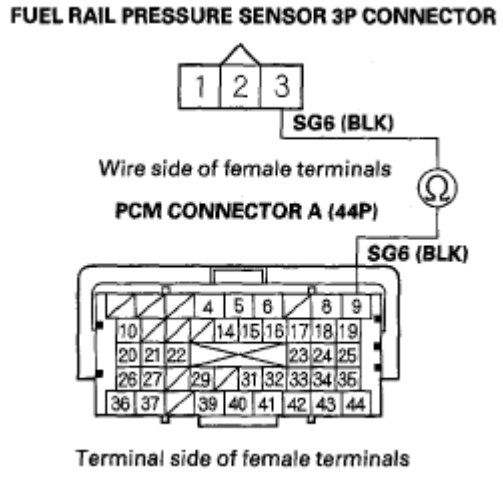



**Fig. 14: Checking Continuity Between Fuel Rail Pressure Sensor 3P Connector Terminals**

*Is there continuity?*

**YES** -Go to step 41.

**NO** -Repair open in the wire between the PCM (A9) and the fuel rail pressure sensor, then go to step 35.

35. Turn the ignition switch OFF.
36. Reconnect all connectors.

37. Turn the ignition switch ON (II).
38. Reset the PCM with the HDS.
39. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
40. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0193 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM, then go to step 1.

    **NO** -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

41. Reconnect all connectors.
42. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
43. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0193 indicated?*

    **YES** -Check for poor connections or loose terminals at the fuel rail pressure sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the PCM was substituted, go to step 1.

    **NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

**DTC P1187: FTT SENSOR CIRCUIT LOW VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting**

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**information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check the FTT SENSOR in the DATA LIST with the HDS.

   *Is about 356 °F (180 °C) or more, or 0.08 V or less indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTT sensor and the PCM.

3. Turn the ignition switch OFF.
4. Disconnect the FTT sensor 2P connector (see **FTP SENSOR REPLACEMENT** ).
5. Turn the ignition switch ON (II).
6. Check the FTT SENSOR in the DATA LIST with the HDS.

   *Is about 356 °F (180 °C) or more, or 0.08 V or less indicated?*

   **YES** -Go to step 7.

   **NO** -Go to step 11.

7. Turn the ignition switch OFF.
8. Jump the SCS line with the HDS.
9. Disconnect PCM connector A (44P).
10. Check for continuity between FTT sensor 2P connector terminal No. 2 and body ground.

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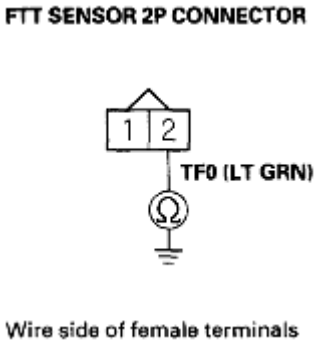



**Fig. 15: Checking Continuity Between FTT Sensor 2P Connector Terminal No. 2 And Body Ground**

*Is there continuity?*

**YES** -Repair short in the wire between the PCM (A32) and the FTT sensor, then go to step 13.

**NO** -Go to step 18.

11. Turn the ignition switch OFF.
12. Replace the FTT sensor (see **FTP SENSOR REPLACEMENT** ).
13. Reconnect all connectors.
14. Turn the ignition switch ON (II).
15. Reset the PCM with the HDS.
16. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
17. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1187 indicated?*

    **YES** -Check for poor connections or loose terminals at the FTT sensor and the PCM, then go to step 1.

    **NO** -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

18. Reconnect all connectors.

19. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
20. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1187 indicated?*

    **YES** -Check for poor connections or loose terminals at the FTT sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the PCM was substituted, go to step 1.

    **NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

**DTC P1188: FTT SENSOR CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check the FTT SENSOR in the DATA LIST with the HDS.

   *Is about -40°F (-40 °C) or less, or 4.92 V or more indicated?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTT sensor and the PCM.

3. Turn the ignition switch OFF.
4. Disconnect the FTT sensor 2P connector.
5. Connect FTT sensor 2P connector terminals No. 1 and No. 2 with a jumper

wire.

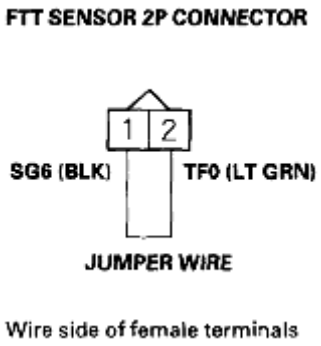



**Fig. 16: Connecting FTT Sensor 2P Connector Terminals No. 1 And 2 With Jumper Wire**

6. Turn the ignition switch ON (II).
7. Check the FTT SENSOR in the DATA LIST with the HDS.

   *Is about -40°F (-40 °C) or less, or 4.92 V or more indicated?*

   **YES** -Go to step 8.

   **NO** -Go to step 22.

8. Turn the ignition switch OFF.
9. Remove the jumper wire from the FTT sensor 2P connector.
10. Turn the ignition switch ON (II).
11. Measure voltage between FTT sensor 2P connector terminal No. 2 and body ground.

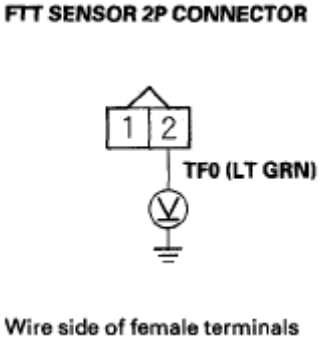


**Fig. 17: Measuring Voltage Between FTT Sensor 2P Connector Terminal No. 2 And Body Ground**

*Is there about 5 V?*

**YES** -Go to step 12.

**NO** -Go to step 17.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector A (44P).
15. Connect FTT sensor 2P connector terminal No. 1 to body ground with a jumper wire.

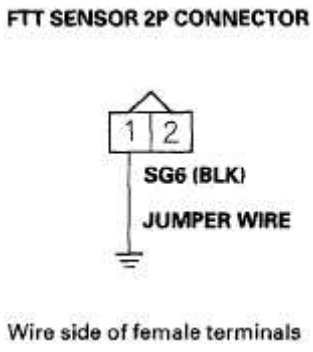



**Fig. 18: Connecting FTT Sensor 2P Connector Terminal No. 1 To Body Ground With Jumper Wire**

16. Check for continuity between PCM connector terminal A9 and body ground.

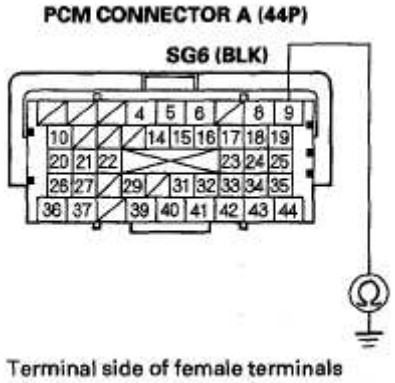


**Fig. 19: Checking Continuity Between PCM Connector Terminal A9 And Body Ground**

*Is there continuity?*

**YES** -Go to step 29.

**NO** -Repair open in the wire between the PCM (A9) and the FTT sensor, then go to step 24.

17. Turn the ignition switch OFF.
18. Jump the SCS line with the HDS.
19. Disconnect PCM connector A (44P).
20. Connect FTT sensor 2P connector terminal No. 2 to body ground with a jumper wire.

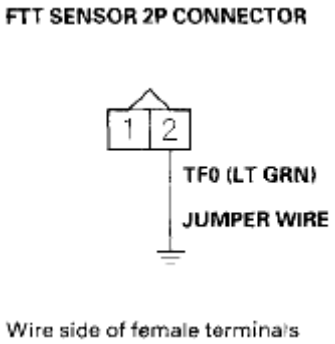



**Fig. 20: Connecting FTT Sensor 2P Connector Terminal No. 2 To Body Ground With Jumper Wire**

21. Check for continuity between PCM connector terminal A32 and body ground.

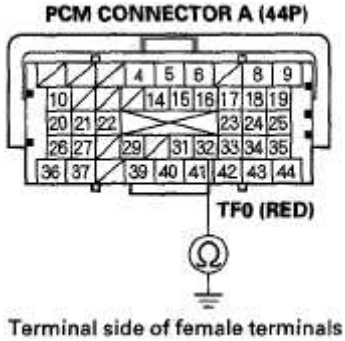


**Fig. 21: Checking Continuity Between PCM Connector Terminal A32 And Body Ground**

*Is there continuity?*

**YES** -Go to step 29.

**NO** -Repair open in the wire between the PCM (A32) and the FTT sensor, then go to step 24.

22. Turn the ignition switch OFF.
23. Replace the FTT sensor (see **FTP SENSOR REPLACEMENT** ).
24. Reconnect all connectors.
25. Turn the ignition switch ON (II).
26. Reset the PCM with the HDS.
27. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
28. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1188 indicated?*

    **YES** -Check for poor connections or loose terminals at the FTT sensor and the PCM, then go to step 1.

    **NO** -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

29. Reconnect all connectors.
30. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
31. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1188 indicated?*

    **YES** -Check for poor connections or loose terminals at the FTT sensor and the

PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the PCM was substituted, go to step 1.

**NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

**DTC P1192: FTP SENSOR CIRCUIT LOW VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is there about 0.23 V or less?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the PCM.

3. Turn the ignition switch OFF.
4. Disconnect the FTP sensor 3P connector.
5. Turn the ignition switch ON (II).
6. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is there about 0.23 V or less?*

   **YES** -Go to step 8.

   **NO** -Go to step 7.

7. Measure voltage between FTP sensor 3P connector terminals No. 1 and No. 2.

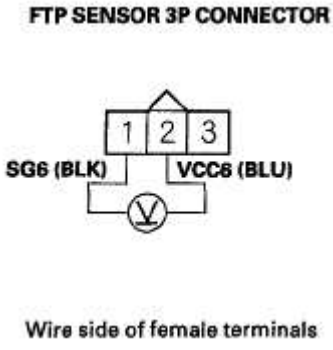



**Fig. 22: Measuring Voltage Between FTP Sensor 3P Connector Terminals No. 1 And 2**

*Is there about 5 V?*

**YES** -Go to step 17.

**NO** -Go to step 12.

8. Turn the ignition switch OFF.
9. Jump the SCS line with the HDS.
10. Disconnect PCM connector A (44P).
11. Check for continuity between FTP sensor 3P connector terminal No. 3 and body ground.

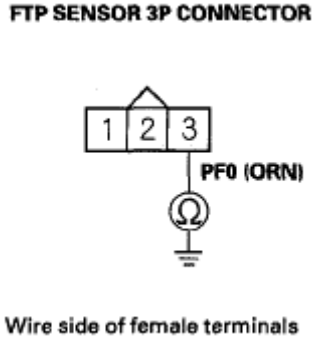



**Fig. 23: Checking Continuity Between FTP Sensor 3P Connector Terminal No. 3 And Body Ground**

*Is there continuity?*

**YES** -Repair open in the wire between the PCM (A26) and the FTP sensor, then go to step 19.

**NO** -Go to step 24.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector A (44P).
15. Connect FTP sensor 3P connector terminal No. 2 to body ground with a jumper wire.

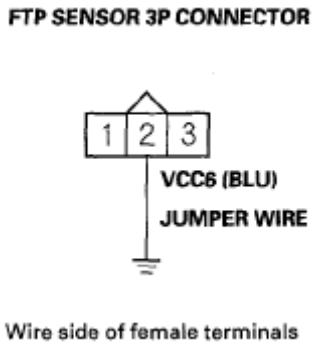



**Fig. 24: Connecting FTP Sensor 3P Connector Terminal No. 2 To Body Ground With Jumper Wire**

16. Check for continuity between PCM connector terminal A19 and body ground.

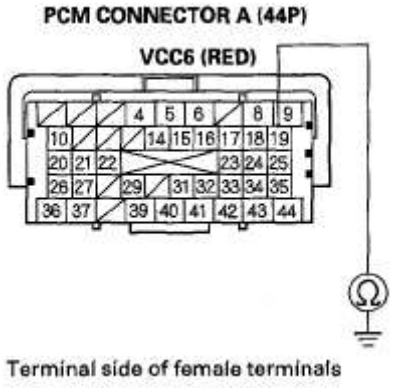



**Fig. 25: Checking Continuity Between PCM Connector Terminal A19 And**

**Body Ground**

*Is there continuity?*

**YES** -Go to step 24.

**NO** -Repair open in the wire between the PCM (A19) and the FTP sensor, then go to step 19.

17. Turn the ignition switch OFF.
18. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
19. Reconnect all connectors.
20. Turn the ignition switch ON (II).
21. Reset the PCM with the HDS.
22. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
23. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1192 indicated?*

    **YES** -Check for poor connections or loose terminals at the FTP sensor and the PCM, then go to step 1.

    **NO** -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

24. Reconnect all connectors.
25. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
26. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1192 indicated?*

    **YES** -Check for poor connections or loose terminals at the FTP sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see

**SUBSTITUTING THE PCM** ), then recheck. If the PCM was substituted, go to step 1.

**NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

**DTC P1193: FTP SENSOR CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is there about 4.61 V or more?*

   **YES** -Go to step 3.

   **NO** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the FTP sensor and the PCM.

3. Turn the ignition switch OFF.
4. Disconnect the FTP sensor 3P connector.
5. Connect FTP sensor 3P connector terminals No. 1 and No. 3 with a jumper wire.

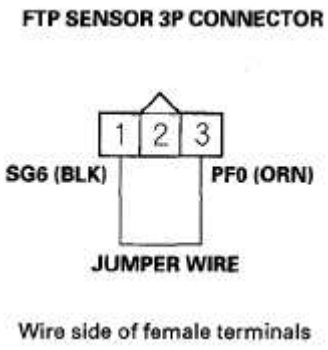



**Fig. 26: Connecting FTP Sensor 3P Connector Terminals No. 1 And 3 With Jumper Wire**

6. Turn the ignition switch ON (II).
7. Check the FTP SENSOR in the DATA LIST with the HDS.

   *Is there about 4.61 V or more?*

   **YES** -Go to step 8.

   **NO** -Go to step 22.

8. Turn the ignition switch OFF.
9. Remove the jumper wire from the FTP sensor 3P connector.
10. Turn the ignition switch ON (II).
11. Measure voltage between FTP sensor 3P connector terminals No. 1 and No. 2.

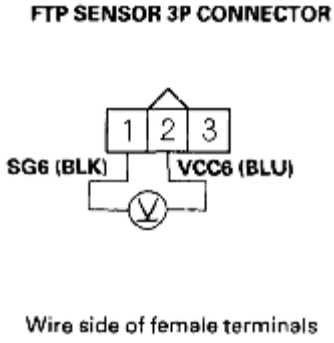



**Fig. 27: Measuring Voltage Between FTP Sensor 3P Connector Terminals No. 1 And 2**

*Is there about 5 V?*

**YES** -Go to step 12.

**NO** -Go to step 17.

12. Turn the ignition switch OFF.
13. Jump the SCS line with the HDS.
14. Disconnect PCM connector A (44P).
15. Connect FTP sensor 3P connector terminal No. 3 to body ground with a jumper wire.

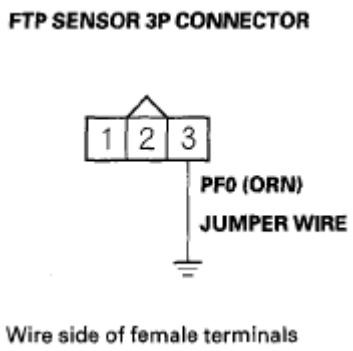



**Fig. 28: Connecting FTP Sensor 3P Connector Terminal No. 3 To Body Ground With Jumper Wire**

16. Check for continuity between PCM connector terminal A26 and body ground.

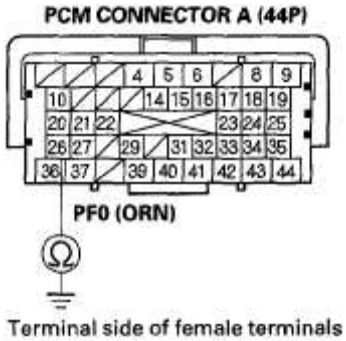



**Fig. 29: Checking Continuity Between PCM Connector Terminal A26 And Body Ground**

*Is there continuity?*

**YES** -Go to step 29.

**NO** -Repair open in the wire between the PCM (A26) and the FTP sensor, then go to step 24.

17. Turn the ignition switch OFF.
18. Jump the SCS line with the HDS.
19. Disconnect PCM connector A (44P).
20. Connect FTP sensor 3P connector terminal No. 1 to body ground with a jumper wire.

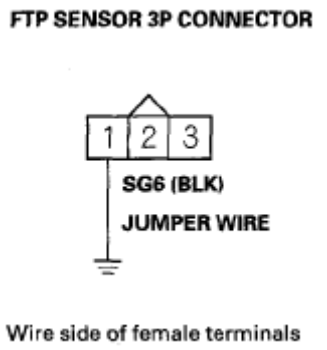



**Fig. 30: Connecting FTP Sensor 3P Connector Terminal No. 1 To Body Ground With Jumper Wire**

21. Check for continuity between PCM connector terminal A9 and body ground.

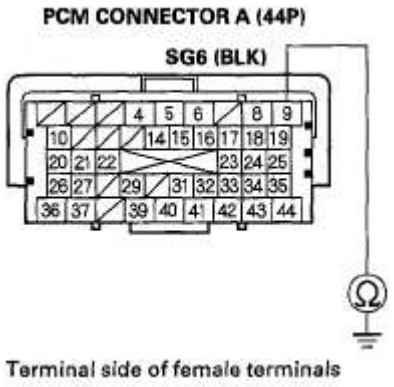



**Fig. 31: Checking Continuity Between PCM Connector Terminal A9 And Body Ground**

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*Is there continuity?*

**YES** -Go to step 29.

**NO** -Repair open in the wire between the PCM (A9) and the FTP sensor, then go to step 24.

22. Turn the ignition switch OFF.
23. Replace the FTP sensor (see **FTP SENSOR REPLACEMENT** ).
24. Reconnect all connectors.
25. Turn the ignition switch ON (II).
26. Reset the PCM with the HDS.
27. Do the PCM idle learn procedure, refer to the **ECM/PCM IDLE LEARN PROCEDURE** .
28. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1193 indicated?*

    **YES** -Check for poor connections or loose terminals at the FTP sensor and the PCM, then go to step 1.

    **NO** -Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

29. Reconnect all connectors.
30. Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ).
31. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P1193 indicated?*

    **YES** -Check for poor connections or loose terminals at the FTP sensor and the PCM. If the PCM was updated, substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the PCM was substituted, go to step 1.

**NO** -If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** . If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

## LOW FUEL INDICATOR TROUBLESHOOTING

If the low fuel indicator is blinking, do this:

**NOTE: If the PCM has any DTCs, do the DTC troubleshooting first.**

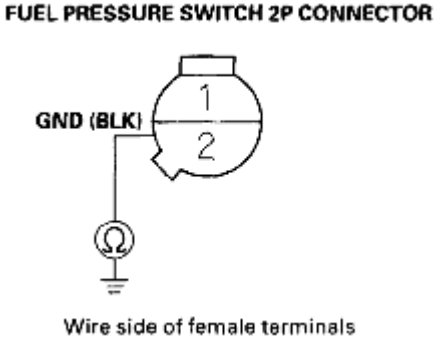
1. Turn the ignition switch ON (II).
2. Check the LOW FUEL INDICATOR in the DATA LIST with the HDS.

   *Is ON indicated?*

   **YES** -Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the fuel pressure switch and the PCM, then disconnect the negative cable from the battery for a few seconds to reset the low fuel indicator.

   **NO** -Go to step 3.

3. Turn the ignition switch OFF.
4. Disconnect the fuel pressure switch 2P connector (see **FUEL PRESSURE SWITCH REPLACEMENT** ).
5. Check for continuity between fuel pressure switch 2P connector terminal No. 2 and body ground.



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**Fig. 32: Checking Continuity Between Fuel Pressure Switch 2P Connector Terminal No. 2 And Body Ground**

*Is there continuity?*

**YES** -Go to step 6.

**NO** -Repair open in the wire between the fuel pressure switch and G401 (see **CONNECTOR INDEX** ), then disconnect the negative cable from the battery for a few seconds to reset the low fuel indicator.

6. Remove the driver's dashboard undercover, refer to the **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** .
7. Remove the fuel shut-off solenoid valve relay (A).

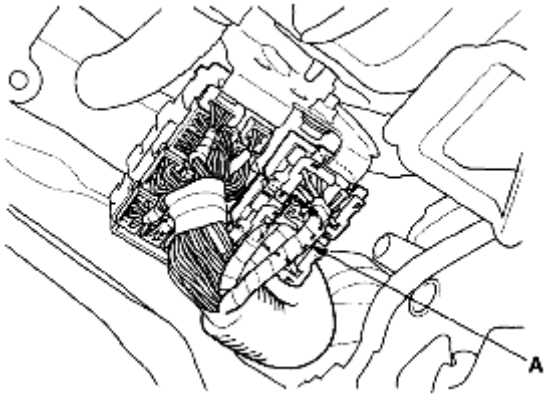



**Fig. 33: Identifying Fuel Shut-Off Solenoid Valve Relay**

8. Turn the ignition switch ON (II).
9. Measure voltage between fuel pressure switch 2P connector terminal No. 1 and body ground.

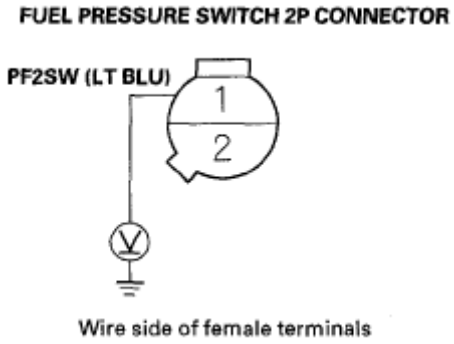



**Fig. 34: Measuring Voltage Between Fuel Pressure Switch 2P Connector Terminal No. 1 And Body Ground**

*Is there about 5 V?*

**YES** -Go to step 15.

**NO** -Go to step 10.

10. Turn the ignition switch OFF.
11. Connect fuel pressure switch 2P connector terminal No. 1 to body ground with a jumper wire.

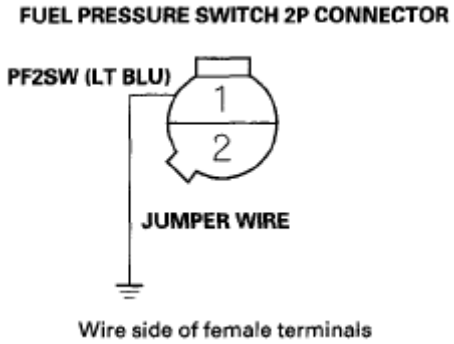



**Fig. 35: Connecting Fuel Pressure Switch 2P Connector Terminal No. 1 To Body Ground With Jumper Wire**

12. Jump the SCS line with the HDS.
13. Disconnect PCM connector A (44P).
14. Check for continuity between body ground and PCM connector terminal A41.

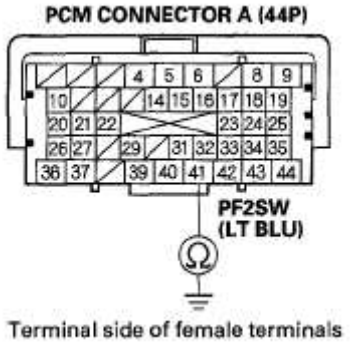



**Fig. 36: Checking Continuity Between Body Ground And PCM Connector Terminal A41**

*Is there continuity?*

**YES** -Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the symptom/indication goes away with a known-good PCM, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** , then disconnect the negative cable from the battery for a few seconds to reset the low fuel indicator.

**NO** -Repair open in the wire between the fuel pressure switch and the PCM (A41), then disconnect the negative cable from the battery for a few seconds to reset the low fuel indicator.

15. Check the FUEL RAIL PRESSURE SENSOR in the DATA LIST with the HDS.

    *Is about 500 kPa indicated?*

    **YES** -Replace the fuel pressure regulator P1 (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ), then disconnect the negative cable from the battery for a few seconds to reset the low fuel indicator.

    **NO** -Replace the original fuel pressure switch (see **FUEL PRESSURE SWITCH REPLACEMENT** ), then disconnect the negative cable from the battery for a few seconds to reset the low fuel indicator.

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## FUEL SHUT-OFF SOLENOID VALVE 1/FUEL SHUT-OFF SOLENOID VALVE 2 CIRCUIT TROUBLESHOOTING

1. Turn the ignition switch OFF.
2. Remove the driver's dashboard undercover, refer to the **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** .
3. Remove the fuel shut-off solenoid valve relay (A).

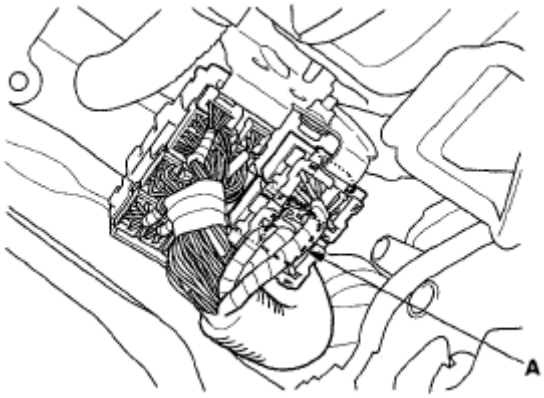



**Fig. 37: Identifying Fuel Shut-Off Solenoid Valve Relay**

4. Turn the ignition switch ON (II).
5. Measure voltage between fuel shut-off solenoid valve relay 5P connector terminal No. 5 and body ground.

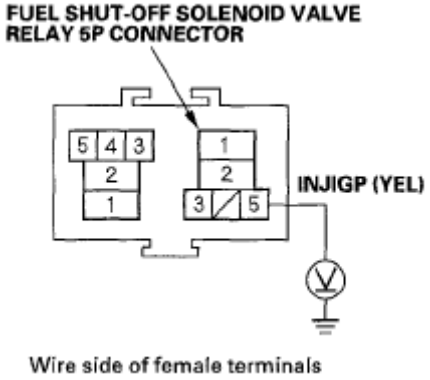



**Fig. 38: Measuring Voltage Between Fuel Shut-Off Solenoid Valve Relay 5P Connector Terminal No. 5 And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 6.

**NO** -Go to step 11.

6. Measure voltage between fuel shut-off solenoid valve relay 5P connector terminal No. 1 and body ground.

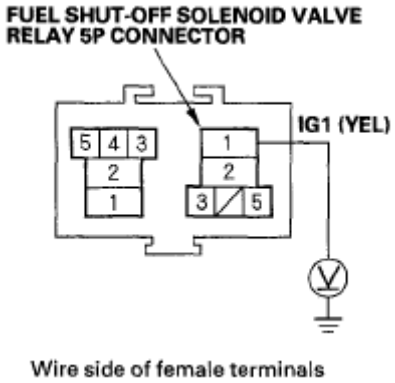



**Fig. 39: Measuring Voltage Between Fuel Shut-Off Solenoid Valve Relay 5P Connector Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 14.

**NO** -Go to step 7.

7. Turn the ignition switch OFF, then check the No. 2 FUEL PUMP (15 A) fuse in the under-dash fuse/relay box.

*Is the fuse OK?*

**YES** -Go to step 8.

**NO** -

- Repair short in the wire between the No. 2 FUEL PUMP (15 A) fuse and the PCM (C36), between the No. 2 FUEL PUMP (15 A) fuse and the fuel shut-off solenoid valve relay, or between the No. 2 FUEL PUMP (15 A) fuse and the immobilizer control unit. Also replace the No. 2 FUEL

PUMP (15A) fuse.

- If the wire is OK, update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the symptom/indication goes away with a known-good PCM, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** .

8. Disconnect the under-dash fuse/relay box 12P connector.
9. Connect under-dash fuse/relay box 12P connector terminal No. 12 to body ground with a jumper wire.

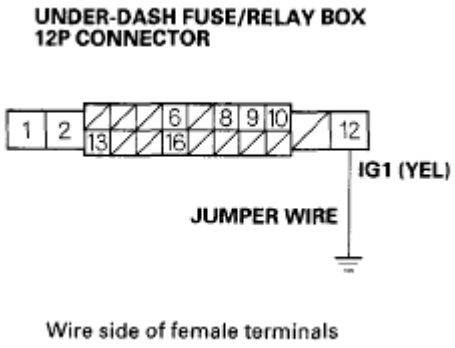



**Fig. 40: Connecting Under-Dash Fuse/Relay Box 12P Connector Terminal No. 12 To Body Ground With Jumper Wire**

10. Check for continuity between body ground and fuel shut-off solenoid valve relay 5P connector terminal No. 1.

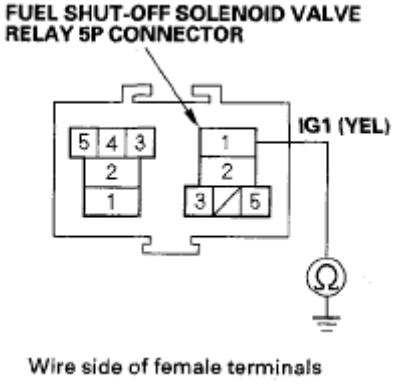



**Fig. 41: Checking Continuity Between Body Ground And Fuel Shut-Off Solenoid Valve Relay**

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*Is there continuity?*

**YES** -Replace the under-dash fuse/relay box, refer to the **UNDER-DASH FUSE/RELAY BOX (ALL EXCEPT HYBRID)** .

**NO** -Repair open in the wire between the under-dash fuse/relay box and the fuel shut-off solenoid valve relay.

11. Turn the ignition switch OFF.
12. Remove the injector control module relay (A).

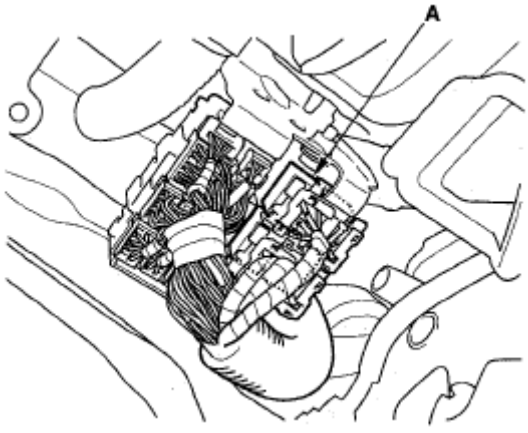



**Fig. 42: Identifying Injector Control Module Relay**

13. Check for continuity between injector control module relay 5P connector terminal No. 2 and fuel shut-off solenoid valve relay 5P connector terminal No. 5.

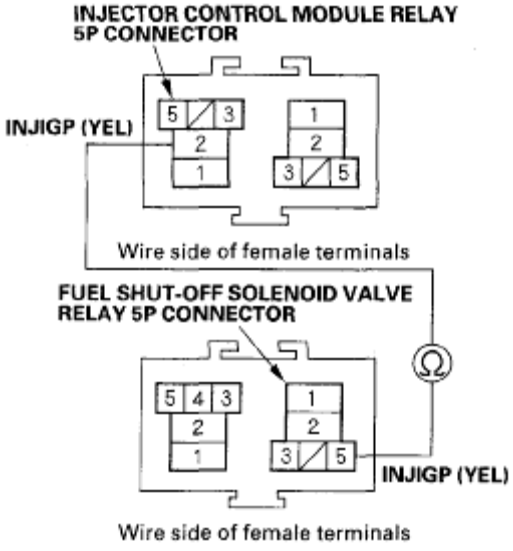



**Fig. 43: Checking Continuity Between Module Relay Terminals And Fuel Shut-Off Solenoid Terminals**

*Is there continuity?*

**YES** -Do the injector control module relay circuit troubleshooting (see **INJECTOR CONTROL MODULE RELAY CIRCUIT TROUBLESHOOTING** ).

**NO** -Repair open in the wire between the injector control module relay and the fuel shut-off solenoid valve relay.

14. Check for continuity between fuel shut-off solenoid valve relay 5P connector terminal No. 3 and body ground.

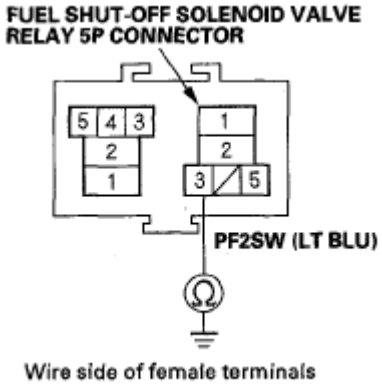


**Fig. 44: Checking Continuity Between Fuel Shut-Off Solenoid Valve Relay 5P Connector Terminals**

*Is there continuity?*

**YES** -Go to step 15.

**NO** -Repair open in the wire between the fuel pressure regulator switch and the fuel shut-off solenoid valve relay. If the wire is OK, replace the fuel pressure switch (see **FUEL PRESSURE SWITCH REPLACEMENT** ).

15. Reinstall the fuel shut-off solenoid valve relay.
16. Turn the ignition switch ON (II).
17. Measure voltage between fuel shut-off solenoid valve relay 5P connector terminal No. 3 and body ground.

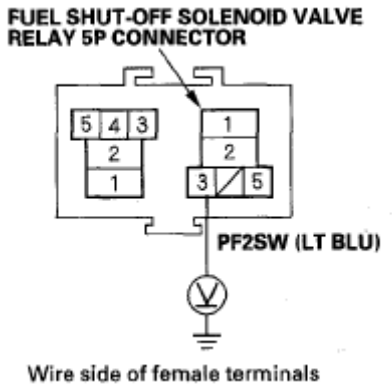



**Fig. 45: Measuring Voltage Between Fuel Shut-Off Solenoid Valve Relay 5P Connector Terminals**

*Is there battery voltage?*

**YES** -Go to step 18.

**NO** -Replace the fuel shut-off solenoid valve relay.

18. Turn the ignition switch OFF.
19. Disconnect the fuel shut-off solenoid valve 2 2P connector (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ).

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20. Turn the ignition switch ON (II), then measure voltage between fuel shut-off solenoid valve 2 2P connector terminal No. 2 and body ground within 2 seconds.

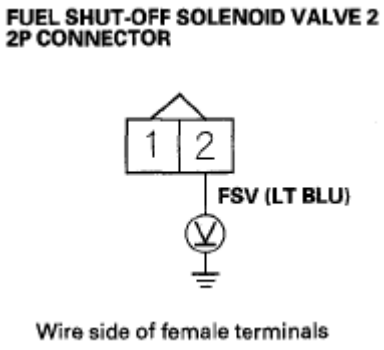



**Fig. 46: Measuring Voltage Between Fuel Shut-Off Solenoid Valve 2 2P Connector Terminals**

*Is there battery voltage?*

**YES** -Go to step 28.

**NO** -Go to step 21.

21. Turn the ignition switch OFF.
22. Disconnect the fuel subharness 6P connector (see **FUEL PRESSURE RELIEVING** ).
23. Turning the ignition switch ON (II), then measure voltage between fuel subharness 6P connector terminal No. 2 and body ground within 2 seconds.

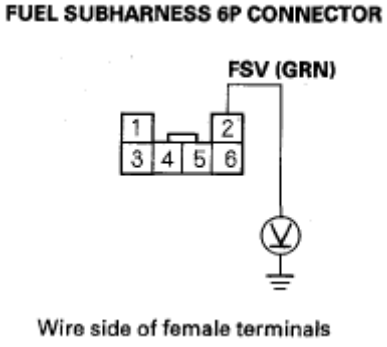



**Fig. 47: Measuring Voltage Between Fuel Subharness 6P Connector**

**Terminal No. 2 And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 30.

**NO** -Go to step 24.

24. Turn the ignition switch OFF.
25. Remove the fuel shut-off solenoid valve relay (A).

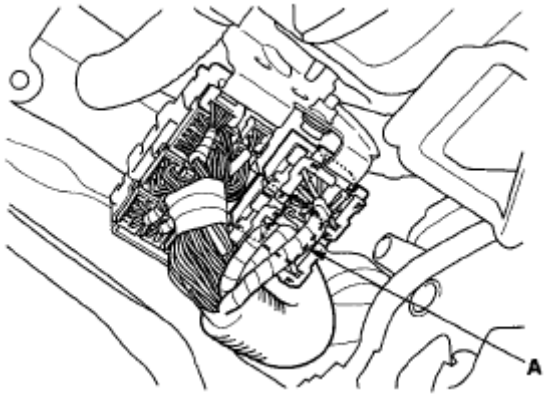



**Fig. 48: Identifying Fuel Shut-Off Solenoid Valve Relay**

26. Connect fuel shut-off solenoid valve relay 5P connector terminals No. 1 and No. 2 with a jumper wire.

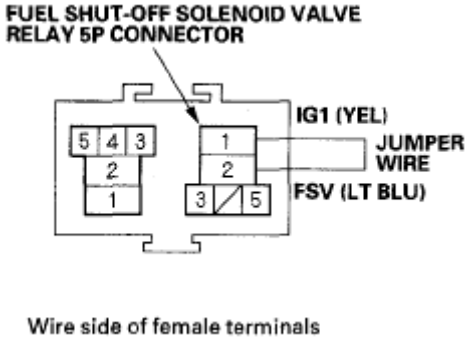



**Fig. 49: Connecting Fuel Shut-Off Solenoid Valve Relay 5P Connector Terminals 1 And 2 With Jumper Wire**

27. Turn the ignition switch ON (II), then measure voltage between fuel shut-off

solenoid valve 2 2P connector terminal No. 2 and body ground within 2 seconds.

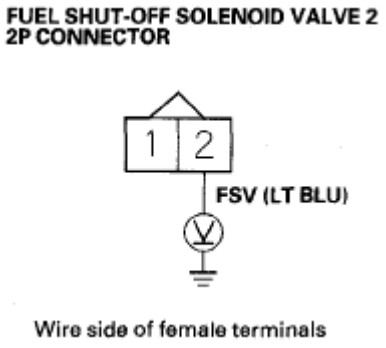



**Fig. 50: Measuring Voltage Between Fuel Shut-Off Solenoid Valve 2 2P Connector Terminal No. 2 And Body Ground**

*Is there battery voltage?*

**YES** -Check the fuel subharness, and repair it as necessary. Replace the fuel shut-off solenoid valve relay.

**NO** -Repair open in the wire between the fuel shut-off solenoid valve relay, fuel shut-off solenoid valve 2, and the fuel subharness 6P connector.

28. Turn the ignition switch OFF.
29. Check for continuity between fuel shut-off solenoid valve 2 2P connector terminal No. 1 and body ground.

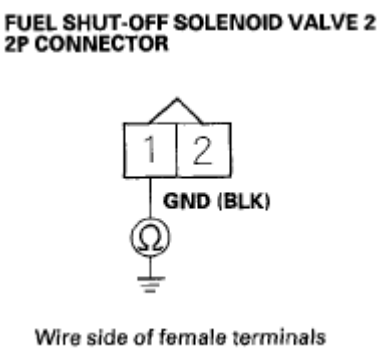



**Fig. 51: Checking Continuity Between Fuel Shut-Off Solenoid Valve 2 2P Connector Terminals**

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*Is there continuity?*

**YES** -Replace the fuel pressure regulator P1 solenoid valve (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ).

**NO** -Repair open in the wire between fuel shut-off solenoid valve 2 and G401 (see **CONNECTOR INDEX** ).

30. Turn the ignition switch OFF.
31. Check for continuity between fuel subharness 6P connector terminal No. 1 and body ground.

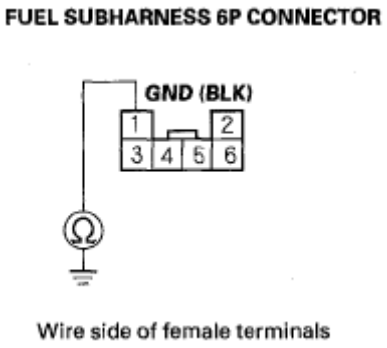



**Fig. 52: Checking Continuity Between Fuel Subharness 6P Connector Terminal No. 1 And Body Ground**

*Is there continuity?*

**YES** -Check the fuel subharness, and replace it if necessary. If the fuel subharness is OK, replace the fuel tank (see **FUEL TANK REMOVAL/INSTALLATION** ).

**NO** -Repair open in the wire between the fuel subharness 6P connector and G601 (see **CONNECTOR INDEX** ).

## INJECTOR CONTROL MODULE CIRCUIT TROUBLESHOOTING

1. Turn the ignition switch OFF.
2. Disconnect the injector control module 26P connector (see **FUEL TEMPERATURE SENSOR REPLACEMENT** ).

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3. Disconnect the injector 2P connector.
4. Check for continuity between each injector 2P connector terminal No. 2 and body ground (see table).

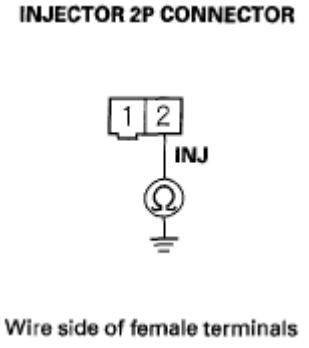



**Fig. 53: Checking Continuity Between Injector 2P Connector Terminal No. 2 And Body Ground**

**CONTINUITY REFERENCE**

| INJECTOR | INJECTOR CONTROL MODULE TERMINAL | WIRE COLOR |
|---|---|---|
| No. 1 | No. 2 | BRN |
| No. 2 | No. 1 | RED |
| No. 3 | No. 15 | BLU |
| No. 4 | No. 14 | YEL |

*Is there continuity?*

**YES** -Repair short in the wire between the injector control module and the injector.

**NO** -Go to step 5.

5. Connect each injector 2P connector terminal No. 2 to body ground with a jumper wire.

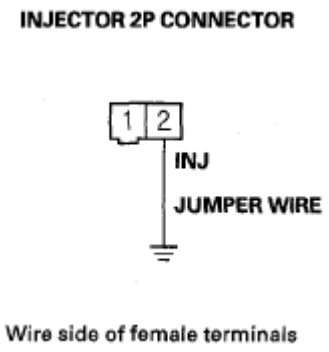



**Fig. 54: Connecting Injector 2P Connector Terminal No. 2 To Body Ground With Jumper Wire**

6. Check for continuity between body ground and injector control module 26P connector terminals No. 1, No. 2, No. 14, and No. 15.

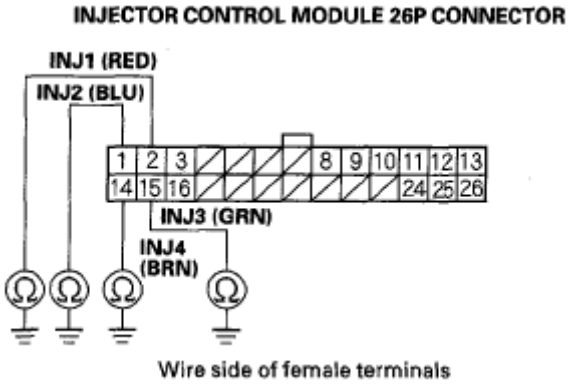



**Fig. 55: Checking Continuity Between Body Ground And Injector Control Module 26P Terminals**

*Is there continuity?*

**YES** -Go to step 7.

**NO** -Repair open in the wire between the injector control module and the injector.

7. Jump the SCS line with the HDS.
8. Disconnect PCM connectors A (44P) and C (44P).
9. Check for continuity between body ground and the PCM connector terminals (see table).

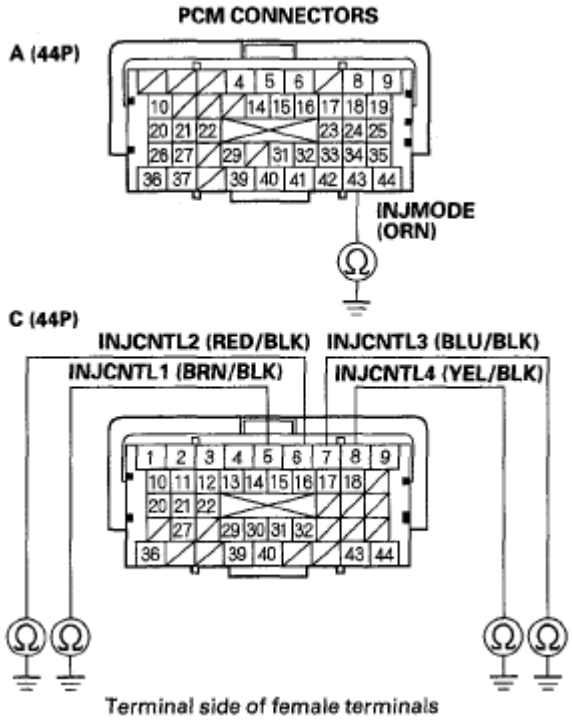



**Fig. 56: Checking Continuity Between Body Ground And PCM Connector Terminals**

**CONTINUITY REFERENCE**

| PCM TERMINAL | PCM TERMINAL NAME | INJECTOR CONTROL MODULE TERMINAL | WIRE COLOR |
|---|---|---|---|
| C5 | INJCNTL1 | No. 11 | BRN/BLK |
| C6 | INJCNTL2 | No. 10 | RED/BLK |
| C7 | INJCNTL3 | No. 9 | BLU/BLK |
| C8 | INJCNTL4 | No. 8 | YEL/BLK |
| A43 | INJMODE | No. 24 | ORN |

*Is there continuity?*

**YES** -Repair short in the wire between the PCM and the injector control module.

**NO** -Go to step 10.

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10. Connect injector control module 26P connector terminals No. 8, No. 9, No. 10, No. 11, and No. 24 to body ground with a jumper wire (see table).

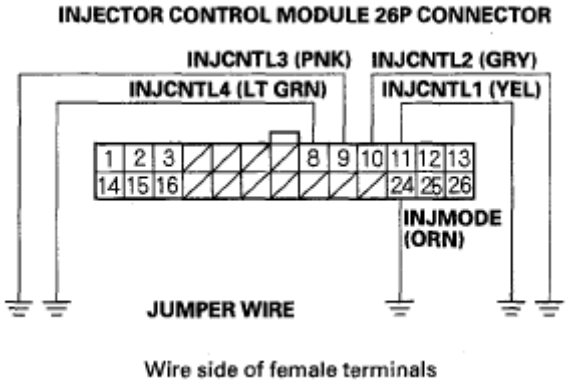



**Fig. 57: Connecting Injector Control Module 26P Connector Terminals No. 8, 9, 10, 11 And 24 To Body Ground With Jumper Wire**

**INJECTOR CONTROL MODULE CONNECTOR TERMINALS CONNECTION REFERENCE**

| PCM TERMINAL | PCM TERMINAL NAME | INJECTOR CONTROL MODULE TERMINAL | WIRE COLOR |
|---|---|---|---|
| C5 | INJCNTL1 | No. 11 | YEL |
| C6 | INJCNTL2 | No. 10 | GRY |
| C7 | INJCNTL3 | No. 9 | PNK |
| C8 | INJCNTL4 | No. 8 | LT GRN |
| A43 | INJMODE | No. 24 | ORN |

11. Check for continuity between body ground and the PCM connector terminals (see table).

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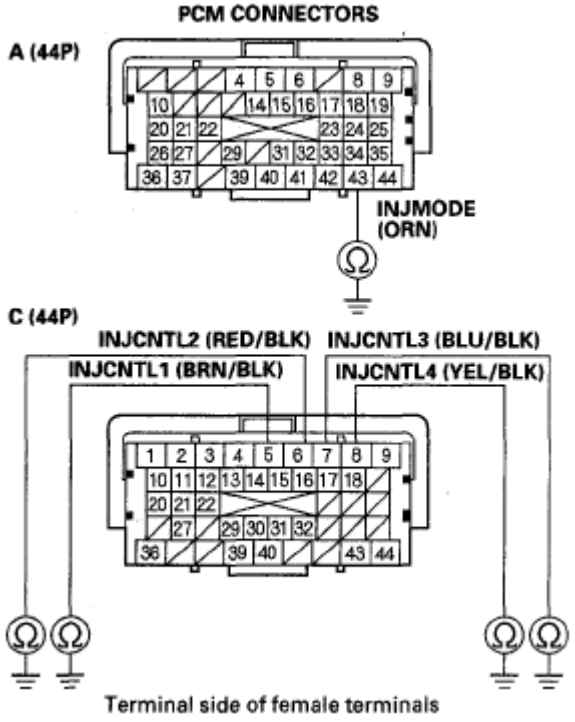



**Fig. 58: Checking Continuity Between Body Ground And PCM Connector Terminals**

**CONTINUITY REFERENCE**

| PCM TERMINAL | PCM TERMINAL NAME | INJECTOR CONTROL MODULE TERMINAL | WIRE COLOR |
|---|---|---|---|
| C5 | INJCNTL1 | No. 11 | BRN/BLK |
| C6 | INJCNTL2 | No. 10 | RED/BLK |
| C7 | INJCNTL3 | No. 9 | BLU/BLK |
| C8 | INJCNTL4 | No. 8 | YEL/BLK |
| A43 | INJMODE | No. 24 | ORN |

*Is there continuity?*

**YES** -Go to step 12.

**NO** -Repair open in the wire between the PCM and the injector control module.

12. Turn the ignition switch ON (II), then measure voltage between body ground and injector control module 26P connector terminals No. 13, No. 26, and injector 2P connector terminal No. 1 within 2 seconds.

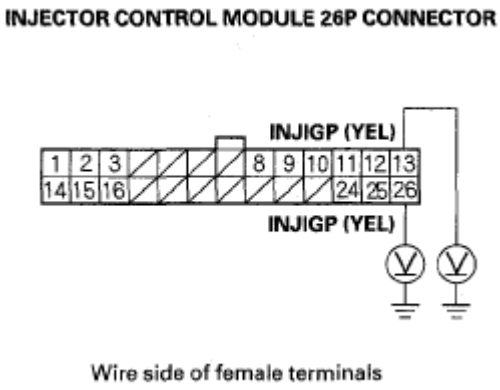



**Fig. 59: Measuring Voltage Between Body Ground And Injector Control Module 26P Connector Terminals No. 13 And 26**

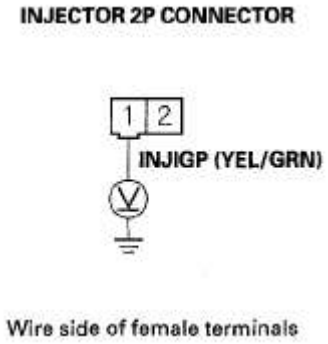



**Fig. 60: Measuring Voltage Between Body Ground And Injector 2P Connector Terminal No. 1**

*Is there battery voltage?*

**YES** -Go to step 13.

**NO** -Check the injector relay circuit (see **INJECTOR CONTROL MODULE RELAY CIRCUIT TROUBLESHOOTING** ).

13. Check for continuity between body ground and injector control module 26P connector terminals No. 3, No. 12, No. 16, and No. 25 individually.

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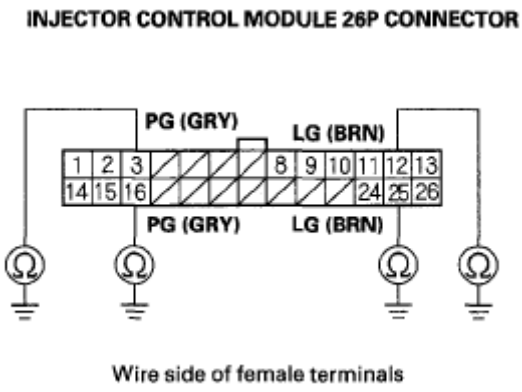



**Fig. 61: Checking Continuity Between Body Ground And Injector Control Module 26P Terminals**

*Is there continuity?*

**YES** -Go to step 14.

**NO** -Repair open in the wire(s) between the injector control module, G101, and the PCM.

14. Turn the ignition switch OFF.
15. Substitute a known-good injector control module (see **FUEL TEMPERATURE SENSOR REPLACEMENT** ).
16. Reconnect all connectors.
17. Try to start the engine.

*Does the engine start?*

**YES** -Replace the original injector control module (see **FUEL TEMPERATURE SENSOR REPLACEMENT** ).

**NO** -Go to step 18.

18. Turn the ignition switch OFF.
19. Turn the ignition switch ON (II), and listen for a clicking sound from the injectors within 2 seconds.

*Do all the injectors click?*

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**YES** -Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the symptom/indication goes away with a known-good PCM, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** .

**NO** -Go to step 20.

20. Disconnect the injector 2P connector from the problem cylinder.
21. At injector side, measure resistance between injector 2P connector terminals No. 1 and No. 2.

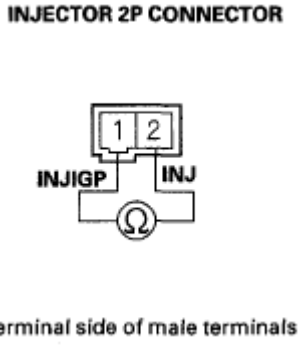



**Fig. 62: Measuring Resistance Between Injector 2P Connector Terminals No. 1 And 2**

*Is there 1.14-1.26 ohms at 68 °F (20 °C)?*

**YES** -Check for poor connections or loose terminals at the injector control module, the injector, and the PCM.

**NO** -Replace the injector(s) (see **INJECTOR REPLACEMENT** ).

## INJECTOR CONTROL MODULE RELAY CIRCUIT TROUBLESHOOTING

1. Turn the ignition switch OFF.
2. Remove the driver's dashboard undercover, refer to the **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** .
3. Remove the injector control module relay (A).

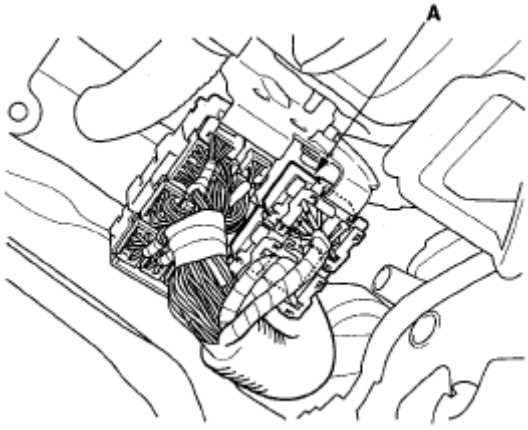



**Fig. 63: Identifying Injector Control Module Relay**

4. Connect injector control module relay 5P connector terminal No. 3 to body ground with a jumper wire.

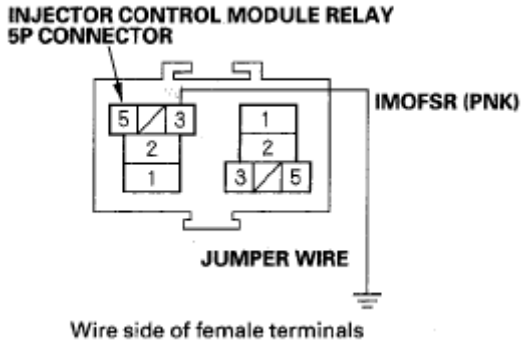



**Fig. 64: Connecting Injector Control Module Relay 5P Connector Terminal No. 3 To Body Ground With Jumper Wire**

5. Jump the SCS line with the HDS.
6. Disconnect PCM connector A (44P).
7. Check for continuity between body ground and PCM connector terminal A15.

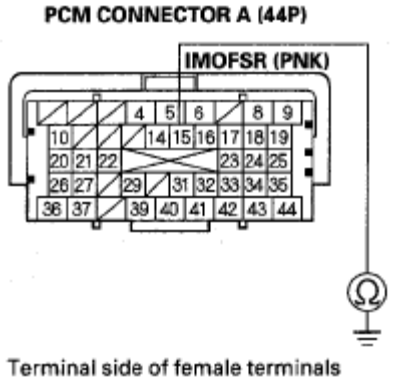



**Fig. 65: Checking Continuity Between Body Ground And PCM Connector Terminal A15**

*Is there continuity?*

**YES** -Go to step 8.

**NO** -Repair open in the wire between the injector control module relay and the PCM (A15).

8. Measure voltage between injector control module relay 5P connector terminal No. 1 and body ground.

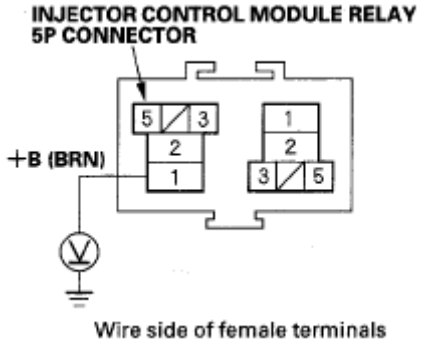



**Fig. 66: Measuring Voltage Between Injector Control Module Relay 5P Connector Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 9.

**NO** -

- Repair open in the wire between the injector control module relay and the No. 5 +B INJ (15 A) fuse in the under-dash fuse/relay box. Also replace the No. 5 +B INJ (15 A) fuse in the under-dash fuse/relay box.
- Repair open in the wire between the No. 5 +B INJ (15 A) fuse in the under-dash fuse/relay box and the No. 5 +B OP MAIN (80 A) fuse in the under-hood fuse/relay box. Also replace the No. 5 +B OP MAIN (80 A) fuse in the under-hood fuse/relay box.
- If needed, replace the under-hood fuse/relay box, refer to the **UNDER-HOOD FUSE/RELAY BOX (ALL EXCEPT HYBRID)** , or the under-dash fuse/relay box, refer to the **UNDER-DASH FUSE/RELAY BOX (ALL EXCEPT HYBRID)** .

9. Turn the ignition switch ON (II).
10. Measure voltage between injector control module relay 5P connector terminal No. 5 and body ground.

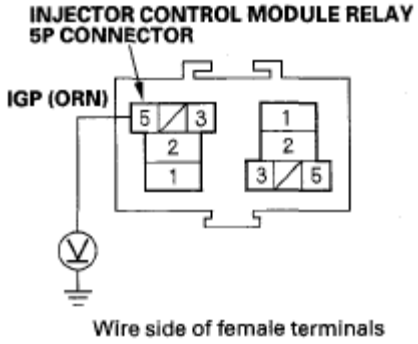



**Fig. 67: Measuring Voltage Between Injector Control Module Relay 5P Connector Terminal No. 5 And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 11.

**NO** -Repair open in the wire between the injector control module relay and PGM-FI main relay 1.

11. Turn the ignition switch OFF.

12. Reconnect the injector control module relay and PCM connector A (44P).
13. Open the SCS line with the HDS.
14. Turn the ignition switch ON (II).
15. Measure voltage between injector control module relay 5P connector terminal No. 2 and body ground.

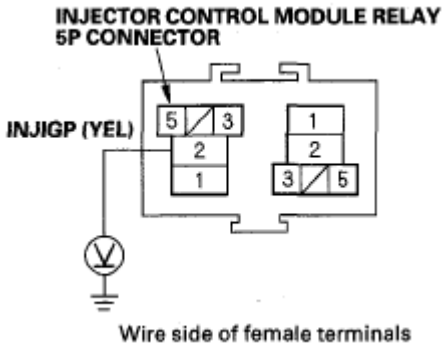



**Fig. 68: Measuring Voltage Between Injector Control Module Relay 5P Connector Terminal No. 2 And Body Ground**

*Is there battery voltage?*

**YES** -Repair open in the wire between the injector control module relay, the injector control module, the injector, or the fuel shut-off solenoid valve relay.

**NO** -Go to step 16.

16. Test the injector control module relay (see **POWER RELAY TEST** ).

*Is the injector control module relay OK?*

**YES** -Update the PCM if it does not have the latest software (see **UPDATING THE PCM** ), or substitute a known-good PCM (see **SUBSTITUTING THE PCM** ), then recheck. If the symptom/indication goes away with a known-good PCM, replace the original PCM, refer to the **ECM/PCM REPLACEMENT** .

**NO** -Replace the injector control module relay.

## LEAK INSPECTION

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## Special Tools Required

Vacuum pump/gauge, 0-30 in.Hg, Snap-on YA4000A or equivalent, commercially available

**WARNING: Compressed natural gas is flammable and highly explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks and flames away.**

Check for a gas leak if there is an odor coming from the vehicle. Compressed natural gas (CNG) can only be smelled, not seen.

1. Open the hood and the fuel fill door.
2. Connect a vacuum pump/gauge, 0-30 in.Hg, to the hose (A) from fuel pressure regulator P1, and apply 67.7 kPa (20 in.Hg, 508 mmHg) of vacuum.

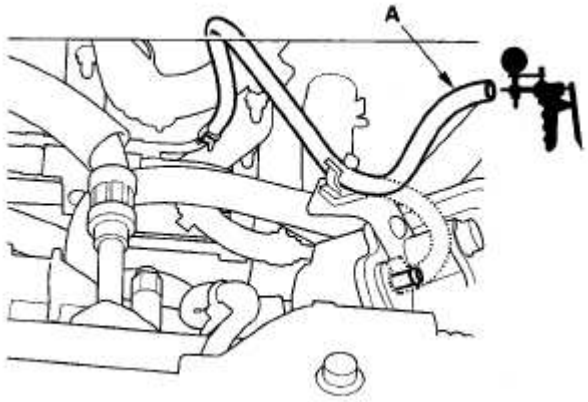



**Fig. 69: Identifying Hose**

3. If fuel pressure regulator P2 does not hold vacuum, replace it before continuing to the next step.
4. Inspect the fuel lines and hoses under the hood for kinks, abrasion, and other signs of damage.
5. With the manual shut-off valve open, turn the ignition switch ON (II), but do not start the engine. After the fuel pressure regulator shut-off solenoid valve/fuel tank internal solenoid valve operates for about 2 seconds, the fuel

pressure in the fuel lines rises. Turn the ignition switch OFF. Repeat this two or three times.

6. Within 1 minute, check for any damaged lines with a leak detector (A) (Matheson Leak Hunter Plus, model number 8066 or Snoop Soap Suds (B)).

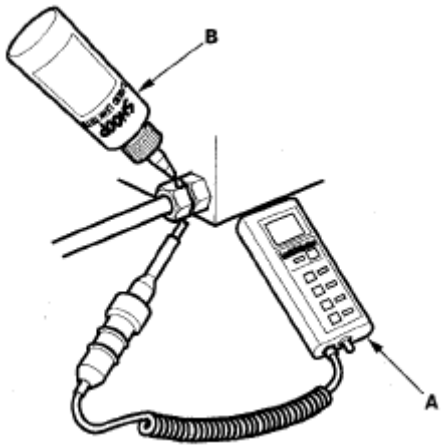



**Fig. 70: Identifying Leak Detector And Snoop Soap Suds**

7. If no damage was noticed during the inspection, turn the ignition switch ON (II) for 2 seconds, then turn the ignition switch OFF. Within 1 minute, check for a leak at the vent hose outlet inside the fuel pipe protector (A).

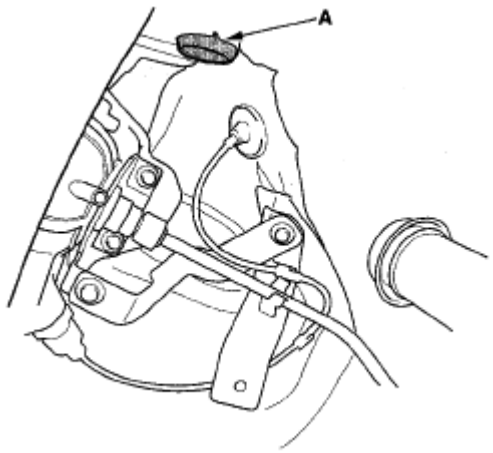



**Fig. 71: Identifying Fuel Pipe Protector**

8. If you detect a leak, remove the vent hose, and check the fuel lines and fittings at the solenoid valve with a leak detector.
9. If you cannot find the leak, raise the vehicle on a hoist, remove the under-floor

cover, and inspect all the fuel lines under the vehicle visually and with a leak detector.

10. If you still cannot find the leak, remove the rear seat, and check all fuel lines and fittings at the fuel tank and the fuel joint block.

## FUEL PRESSURE RELIEVING

**WARNING: Compressed natural gas is flammable and highly explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks and flames away.**

This procedure should be done outside in a well-ventilated area or in a properly equipped CNG shop.

### BETWEEN THE ENGINE AND THE MANUAL SHUT-OFF VALVE

This procedure will allow you to safely work on any part of the fuel system downstream of the manual shut-off valve, such as fuel pressure regulator P1 or the fuel injectors.

1. Lift the vehicle, and support it with jackstands.
2. Close the manual shut-off valve (A).

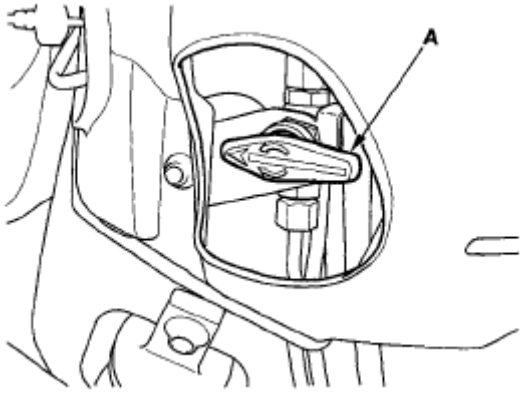



**Fig. 72: Identifying Manual Shut-Off Valve**

3. Start the engine, and let it idle. After a few minutes, the engine will stall.

4. Turn the ignition switch OFF.

**BETWEEN THE FUEL TANK AND THE ENGINE**

This procedure will allow you to safely work on any part of the fuel system downstream of the fuel tank such as the fuel joint block or the manual shut-off valve.

**NOTE: Make sure the manual shut-off valve is open.**

1. Remove the rear seat (see **REAR SEAT REMOVAL/INSTALLATION** ).
2. Disconnect the fuel subharness 6P connector (A) (this prevents the tank from supplying fuel to the system).

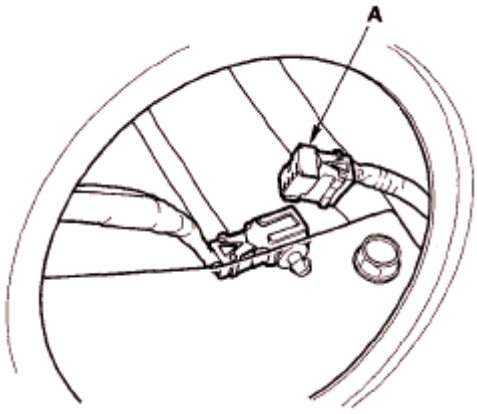



**Fig. 73: Identifying Fuel Subharness 6P Connector**

3. Start the engine, and let it idle. After a few minutes, the engine will stall.
4. Turn the ignition switch OFF.

**BETWEEN THE FUEL RECEPTACLE AND THE FUEL TANK**

This procedure will allow you to safely work on any part of the fuel system between the fuel joint block and fuel receptacle.

1. Relieve the fuel pressure between the fuel tank and the manual shut-off valve (see the previous procedure).
2. Remove the under floor cover (A).

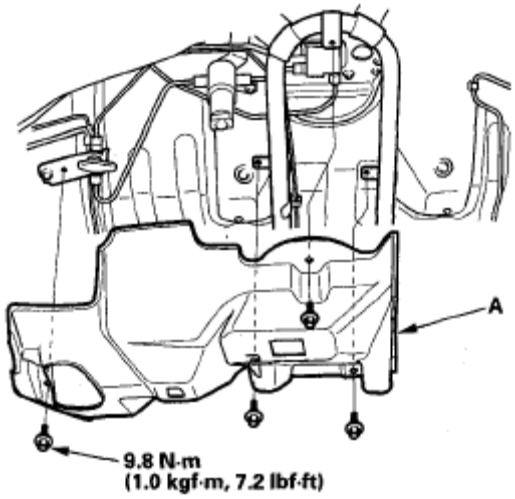



**Fig. 74: Identifying Floor Cover With Torque Specifications**

3. Loosen the sealing bolt (A) on the fuel joint block slowly.

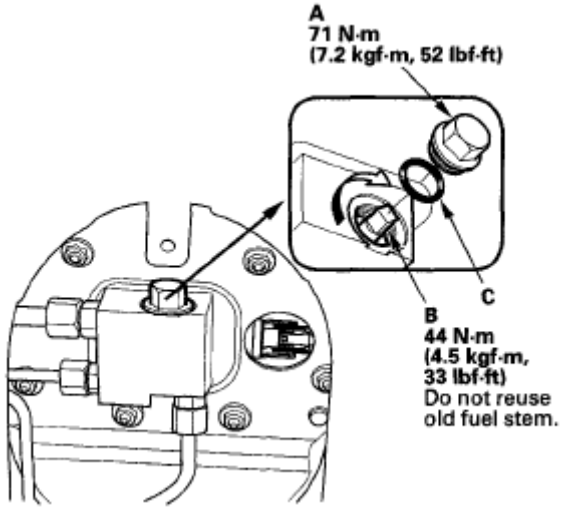



**Fig. 75: Identifying Sealing Bolt And Fuel Stem With Torque Specifications**

4. Turn the fuel stem assembly (B) 1/2-1 turn counterclockwise.
5. Replace the fuel stem assembly and sealing bolt O-ring (C).

**AT THE FUEL TANK**

**NOTE: This procedure degrades the integrity of the fuel tank. Do it only if you are replacing the fuel tank.**

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1. Lift the vehicle and support it with jackstands.
2. Close the manual shut-off valve (A).

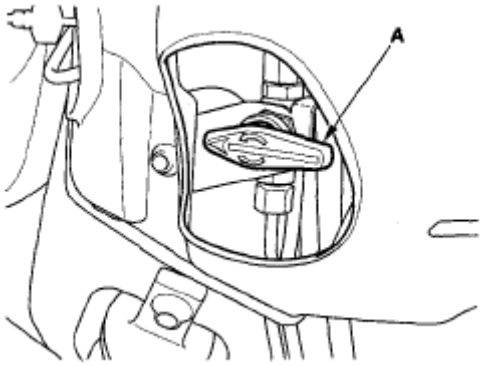



**Fig. 76: Identifying Manual Shut-Off Valve**

3. Start the engine, and let it idle. After a few minutes, the engine will stall.
4. Turn the ignition switch OFF, and disconnect the negative cable from the battery.
5. Connect a ground wire (A) (available from AH special tools department) to the fuel line to eliminate any static electricity.

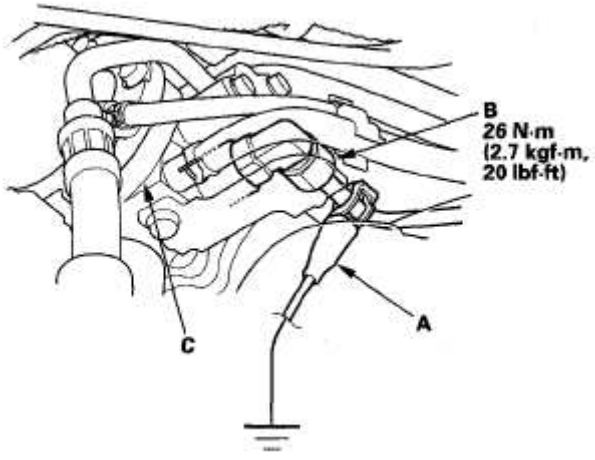



**Fig. 77: Identifying Ground Wire, Fuel Supply Pipe And Fuel Pressure Regulator P1**

6. Disconnect the fuel supply pipe (B) from fuel pressure regulator P1 (C). Be careful not to lose the O-rings.

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**NOTE: Always use two wrenches when removing or installing the fuel pipe nut (see FUEL LINE INSPECTION ).**

7. Connect the vent tube to the fuel supply pipe.
8. Secure the other end of the vent tube to the highest possible location.
9. Remove the fuel pipe duct, and slowly remove the manual lock-down valve (A). Install the manual override vent tool (B) (available from AH special tools department) in its place.

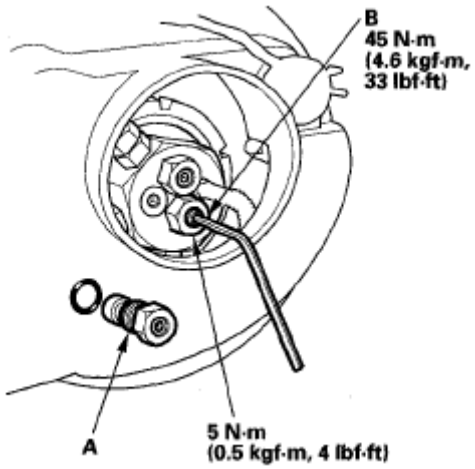



**Fig. 78: Identifying Manual Lock-Down Valve, Manual Override Vent Tool With Torque Specifications**

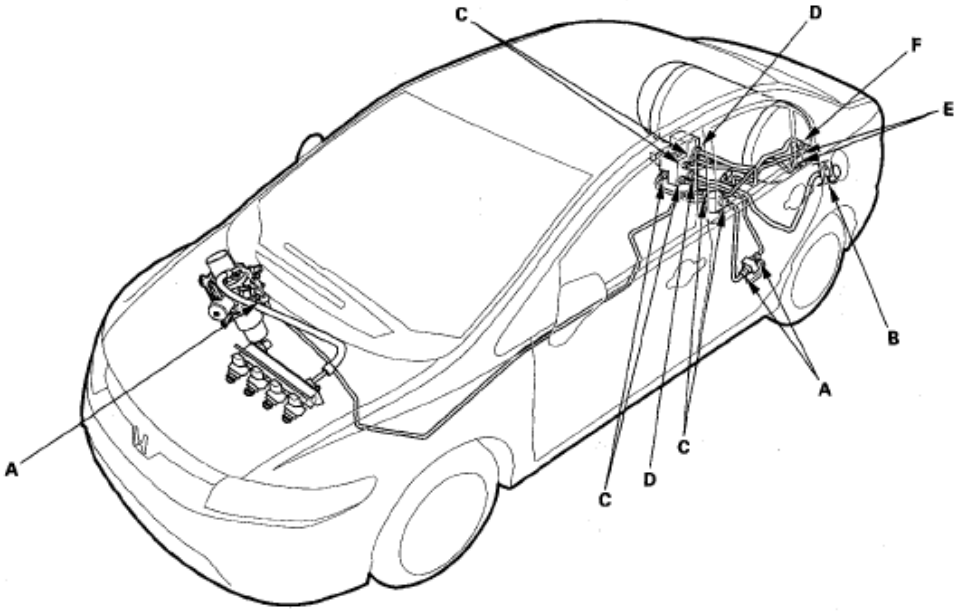
10. Slowly turn the tool's Allen bolt clockwise until it stops. This opens the line between the fuel tank and the manual shut-off valve.
11. Open the manual shut-off valve so fuel can vent from the fuel tank. The fuel tank is empty when the hissing sound goes away.
12. Remove the manual override vent tool.

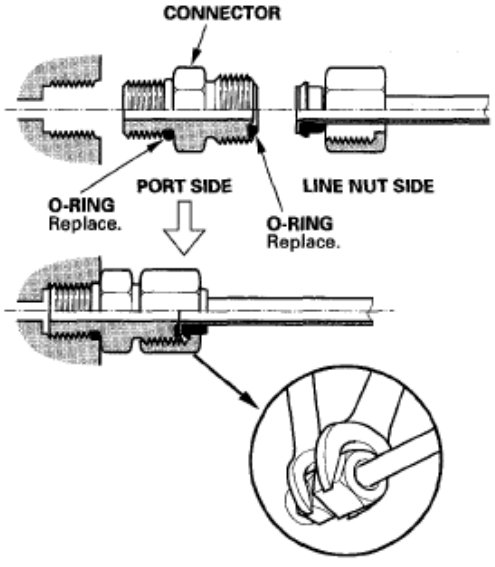
## FUEL LINE INSPECTION

Check the fuel system lines, hoses, fuel filter, and other components for damage, leaks, and deterioration, and replace them if necessary.

**NOTE: When installing a new O-ring, apply silicone oil or polyalkyleneglycol (PAG) oil to the O-ring, and carefully**

**install it into its proper position.**




| PART | PORT SIDE TORQUE | LINE NUT SIDE TORQUE |
|---|---|---|
| A | — | 26 N·m (2.7 kgf·m, 20 lbf·ft) |
| B | — | 47 N·m (4.8 kgf·m, 35 lbf·ft) |
| C | 31 N·m (3.2 kgf·m, 23 lbf·ft) | 26 N·m (2.7 kgf·m, 20 lbf·ft) |
| D | 56 N·m (5.7 kgf·m, 41 lbf·ft) | 47 N·m (4.8 kgf·m, 35 lbf·ft) |
| E | 21 N·m (2.1 kgf·m, 15 lbf·ft) | 26 N·m (2.7 kgf·m, 20 lbf·ft) |
| F | 34 N·m (3.5 kgf·m, 25 lbf·ft) | 47 N·m (4.8 kgf·m, 35 lbf·ft) |

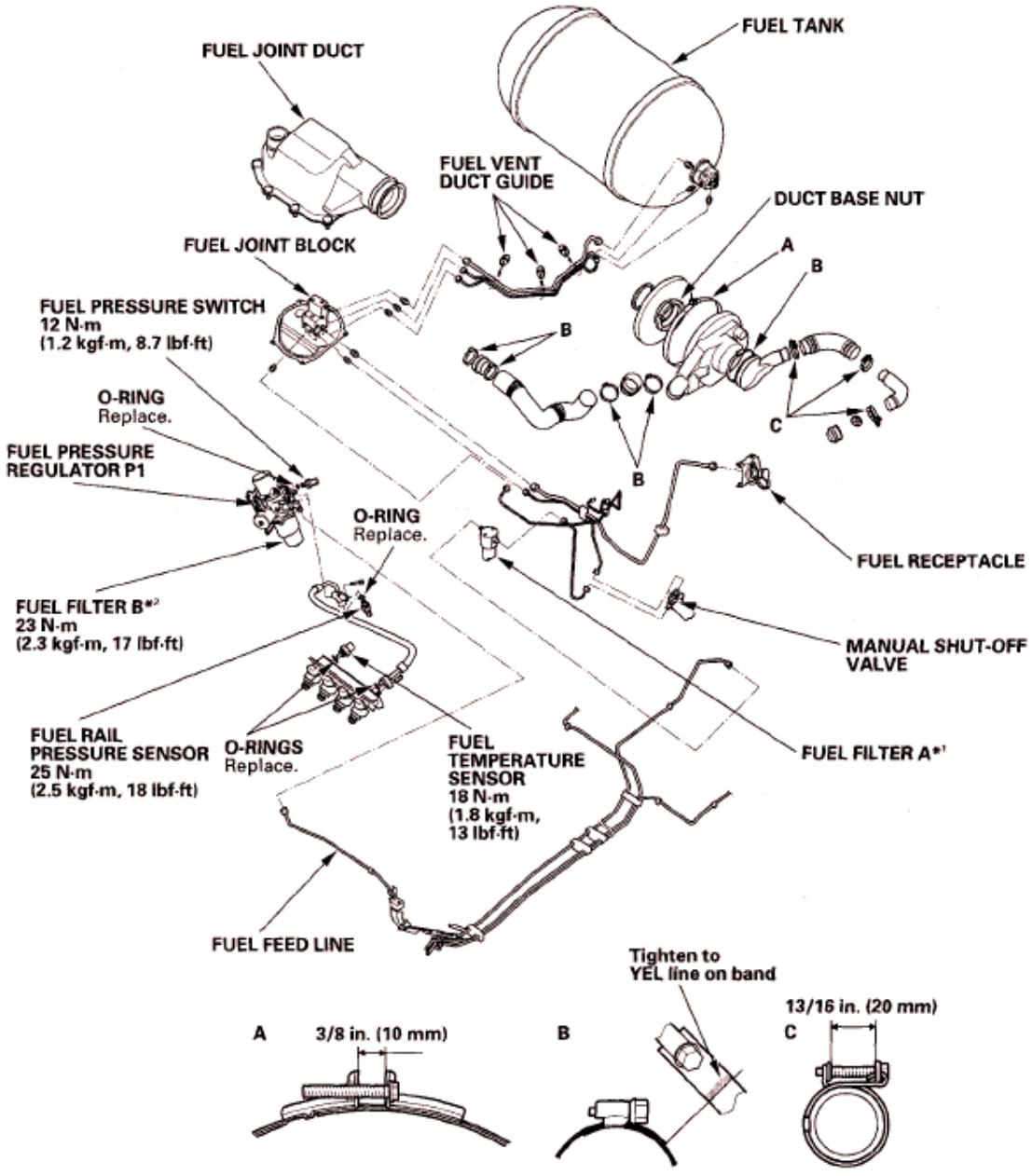
Always use two wrenches when removing or installing the fuel line nuts.

**Fig. 79: Identifying Fuel Line Nuts With Torque Specifications**

**NOTE: Check all hose clamps and retighten them if necessary.**

*** 1: Apply silicone grease (PARKER CHRISTO-LUBE) to a new O-ring at the fuel filter housing and drain plug, and carefully install it into its proper position.**

*** 2: Apply silicone oil silicone grease (Shinetsu silicone GR 10M) to a new rubber seal, and carefully install it into its proper position.**




## Fig. 80: Exploded View Of Fuel System Line

## FUEL FILTER A WATER BLEEDING

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**WARNING: Compressed natural gas is flammable and highly explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks and flames away.**

1. Relieve the fuel pressure (between the engine and the manual shut-off valve) (see **FUEL PRESSURE RELIEVING** ).
2. Lift the vehicle and support it with jackstands.
3. Remove the under-floor cover (see step 3 on page 11-147).
4. Loosen the drain plug (A) on fuel filter A slowly, and bleed the water from fuel filter A. Hold the fuel filter housing (B) when loosening the drain plug.

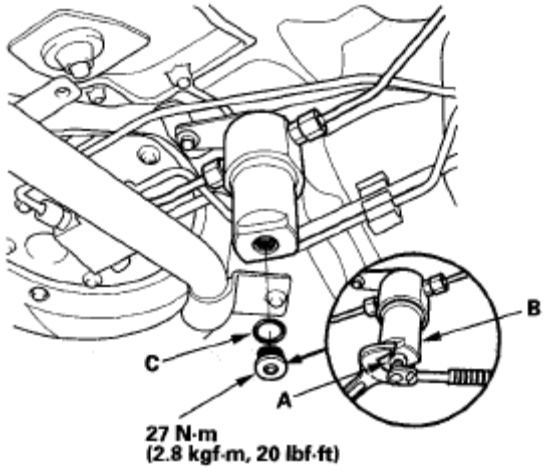



**Fig. 81: Loosening Drain Plug**

5. Apply silicone grease (PARKER CHRISTO-LUBE) to a new O-ring (C), and carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).
6. Install parts in reverse order of removal.
7. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL RECEPTACLE INSPECTION

1. Check the nozzle O-ring (A), and replace it if it is damaged.

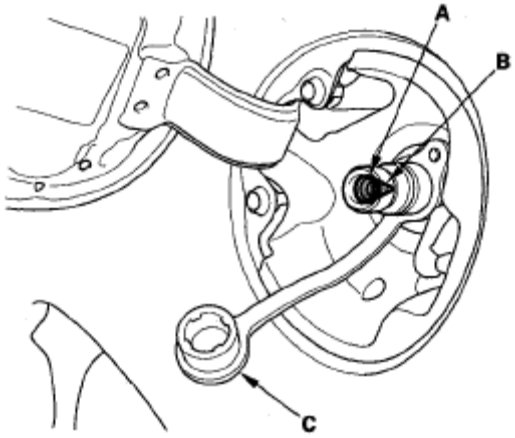



**Fig. 82: Identifying Nozzle O-Ring, Filter And Dust Cap**

2. Check the filter (B) for contamination, and clean it if it is dirty.
3. Check the dust cap (C), and replace it if it is damaged.
4. If you detect a leak at the fuel receptacle valve (A) after fuel filling, blow fuel on the valve from the nozzle to remove the contamination.

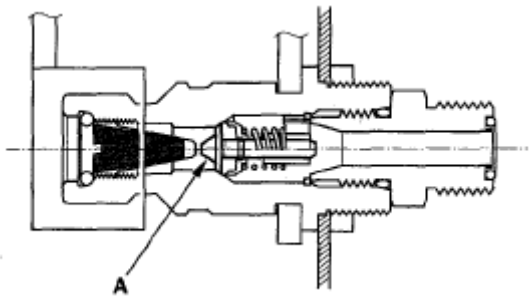



**Fig. 83: Identifying Receptacle Valve**

## FUEL TANK INSPECTION

**NOTE:**

- **You must be an SCI-certified technician to do fuel tank inspection or replacement work.**
- **You do not need to remove the fuel tank for the inspection.**

1. Remove the rear seat (see **REAR SEAT REMOVAL/INSTALLATION** ).
2. Remove the trunk lid from and the trunk partition (see **TRIM**

**REMOVAL/INSTALLATION - TRUNK AREA** ).

3. Check the fuel tank's expiration date at the label (A). If the tank is expired, replace the tank (see **FUEL TANK REMOVAL/INSTALLATION** ).

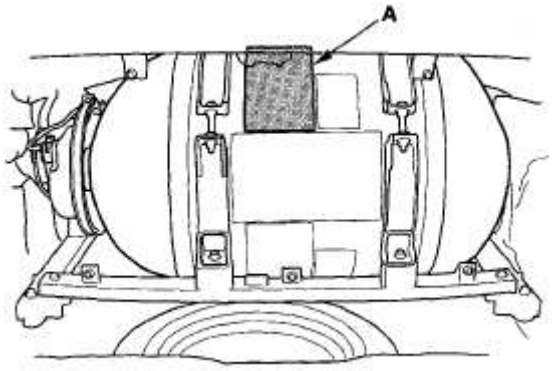



**Fig. 84: Identifying Fuel Tank Expiration Date Label**

4. Using a flashlight and an inspection mirror, thoroughly check the exterior of the fuel tank for any of these problems:
   - Excessive rust on the bands or the mounting frame
   - Abrasions
   - Cuts
   - Dents
   - Expansion or deformation
   - Evidence of overheating
   - Loose fuel tank frame bolts, and loose fuel tank band bolts and nuts
   - Incorrect alignment of the tank and bands

**NOTE: The horizontal alignment of marks (A) on the tank (B) and the bands (C) do not need to be perfectly aligned.**

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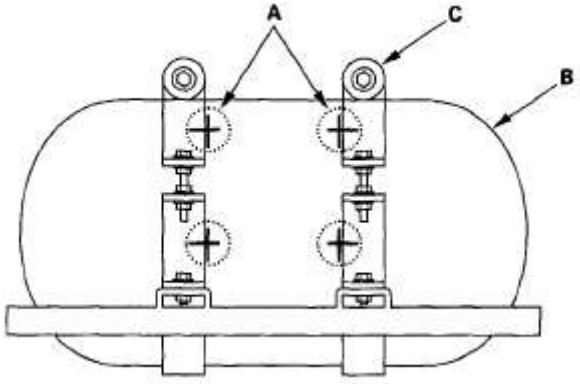



**Fig. 85: Identifying Alignment Marks, Tank And Bands**

5. If the tank has any problems listed in step 4, refer to the NGV Fuel Container Inspection Guidelines booklet for further information.

## FUEL TANK SCRAPPING

**NOTE: The fuel tank must be replaced 15 years after its production date.**

1. Slowly remove the manual lock-down valve. Install the manual override vent tool in its place. Relieve the fuel pressure from the fuel tank (see **FUEL PRESSURE RELIEVING** ).
2. Purge any remaining fuel from the tank with compressed air.
3. Remove the fuel tank (see **FUEL TANK REMOVAL/INSTALLATION** ).
4. Dispose of the fuel tank according to your local regulations.

## FUEL PIPE CONNECTOR O-RING REPLACEMENT

**NOTE:**

**a. To prevent O-ring contamination, be sure O-rings and mating surfaces are clean just before assembly.**

**b. Install O-rings with clean hands. Do not install O-rings while wearing fibrous gloves.**

**c. Do not twist O-rings.**

1. Remove the old O-ring.

2. Wrap vinyl tape around the threads, and coat the surface of the tape with silicone oil or grease.

**NOTE: Wrap the vinyl tape (A) so that there is no stepped portion.**

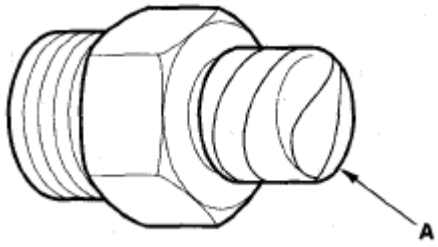



**Fig. 86: Identifying Vinyl Tape**

3. Install a new O-ring (A) into the groove.

**NOTE: Be careful not damage the sealing face of the O-ring.**

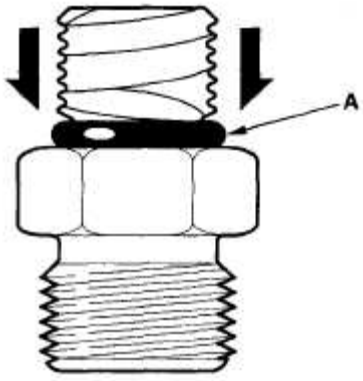



**Fig. 87: Identifying O-Ring**

4. Using a small brush, apply silicone oil or grease to the outer surface of the O-ring.
5. Remove the vinyl tape.

## FUEL PRESSURE REGULATOR P1 REPLACEMENT

**WARNING: Compressed natural gas is flammable and highly**

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**explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks and flames away.**

1. Relieve fuel pressure between the engine and the manual shut-off valve (see **FUEL PRESSURE RELIEVING** ).
2. Drain the engine coolant, refer to the **COOLANT REPLACEMENT** .
3. Remove the cowl cover and under-cowl panel, refer to the **COWL COVER REPLACEMENT** .
4. Remove the fuel pressure regulator protector (A).

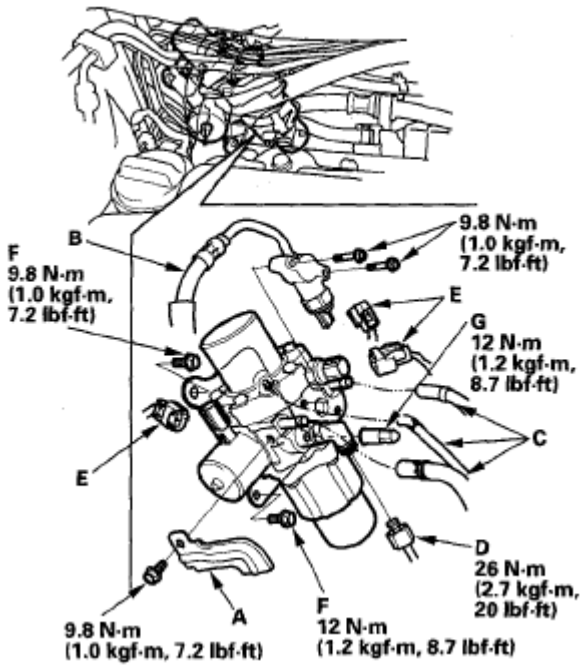



**Fig. 88: Exploded View Of Fuel Pressure Regulator With Torque Specifications**

5. Remove the fuel feed hose (B), then disconnect the hoses (C) and the fuel line (D).

**NOTE: Always use two wrenches when removing or installing the fuel line nuts (see FUEL LINE INSPECTION ).**

6. Disconnect the connectors (E), and remove the bolt (F) and the nut (G).
7. Lift the vehicle and support it with jackstands.
8. Remove exhaust pipe A, refer to the **EXHAUST PIPE AND MUFFLER REPLACEMENT** .
9. Remove the heat shield (A).

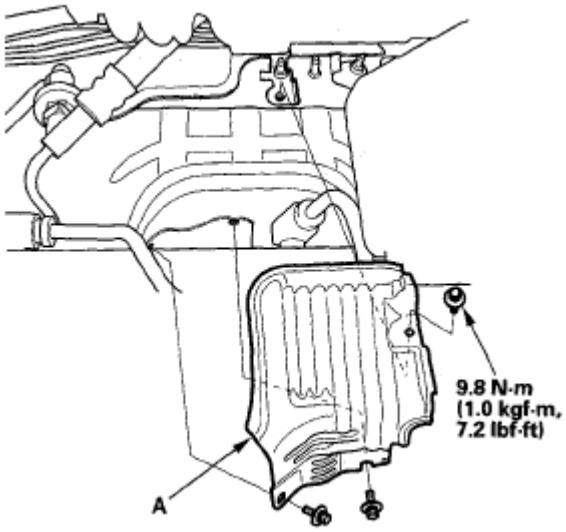



**Fig. 89: Identifying Heat Shield With Torque Specifications**

10. Remove fuel pressure regulator P1 (A) from the bracket (B).

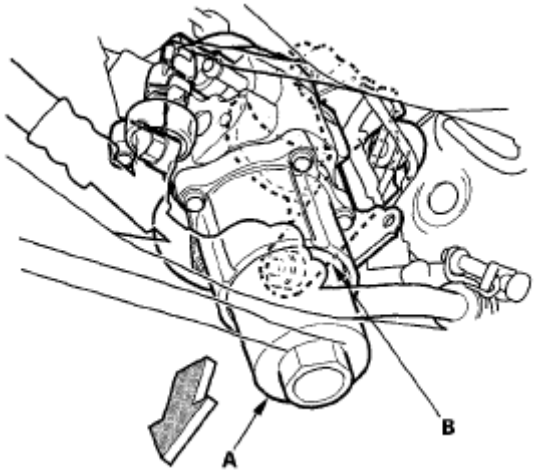



**Fig. 90: Removing Fuel Pressure Regulator From Bracket**

11. Move fuel pressure regulator P1 (A) as shown.

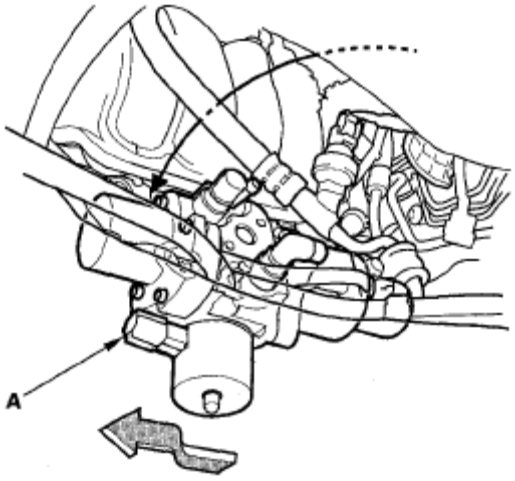



**Fig. 91: Moving Fuel Pressure Regulator**

12. Remove fuel pressure regulator P1 (A).

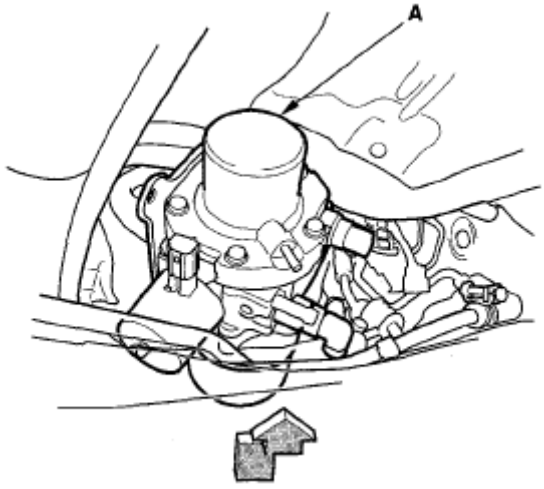



**Fig. 92: Identifying Fuel Pressure Regulator**

13. Remove the stay (A).

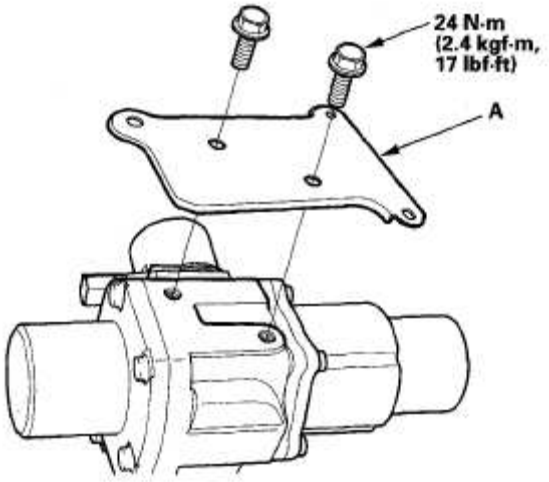



**Fig. 93: Identifying Stay With Torque Specifications**

14. Install fuel pressure regulator P1 in the reverse order of removal. Be careful not to deform any of the lines, and assemble them securely when you reinstall the heater hoses.

**NOTE: Apply silicone oil or polyalkyleneglycol (PAG) oil to a new O-ring and the fuel pressure regulator (see FUEL TANK SCRAPPING ).**

15. Refill the radiator with engine coolant, refer to the **COOLANT REPLACEMENT** .
16. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL PRESSURE SWITCH REPLACEMENT

1. Remove fuel pressure regulator P1 (see **FUEL PRESSURE REGULATOR P1 REPLACEMENT** ).
2. Remove the fuel pressure switch (A).

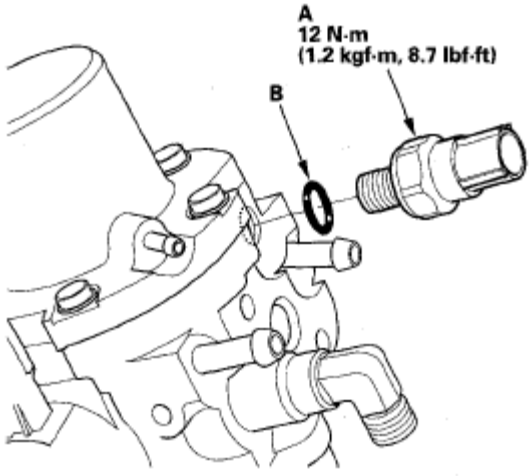



**Fig. 94: Identifying Fuel Pressure Switch And O-Ring**

3. Apply silicone oil or polyalkyleneglycol (PAG) oil to a new O-ring (B) and carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).
4. Install the parts in the reverse order of removal.
5. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL RAIL PRESSURE SENSOR REPLACEMENT

1. Relieve fuel pressure between the engine and the manual shut-off valve (see **FUEL PRESSURE RELIEVING** ).
2. Remove the cowl cover and under-cowl panel, refer to the **COWL COVER REPLACEMENT** .
3. Remove the fuel feed hose (A).

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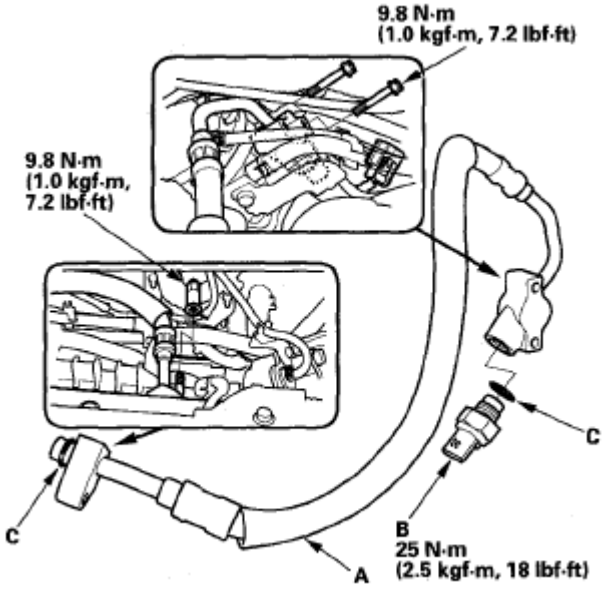



**Fig. 95: Identifying Fuel Feed Hose, Fuel Rail Pressure Sensor With Torque Specifications**

4. Remove the fuel rail pressure sensor (B).
5. Apply silicone oil or polyalkyleneglycol (PAG) oil to a new O-ring (C) and carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).
6. Install the parts in the reverse order of removal.
7. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL TEMPERATURE SENSOR REPLACEMENT

1. Relieve fuel pressure between the engine and the manual shut-off valve (see **FUEL PRESSURE RELIEVING** ).
2. Remove the cowl cover and under-cowl panel, refer to the **COWL COVER REPLACEMENT** .
3. Disconnect the fuel temperature sensor connector (A).

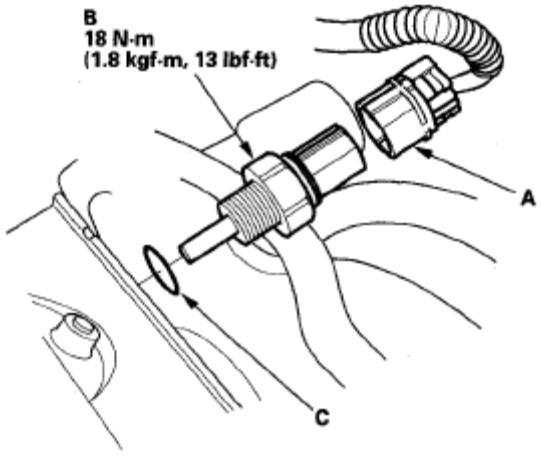



**Fig. 96: Identifying Fuel Temperature Sensor Connector, Fuel Temperature Sensor And O-Ring**

4. Remove the fuel temperature sensor (B).
5. Apply silicone oil or polyalkyleneglycol (PAG) oil to a new O-ring (C) and carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).
6. Install the parts in the reverse order of removal.
7. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## INJECTOR CONTROL MODULE REPLACEMENT

1. Remove the passenger's dashboard undercover, refer to the **PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** .
2. Remove the right kick panel, refer to the **TRIM REMOVAL/INSTALLATION - PILLAR AREAS** .
3. Disconnect the injector control module connector (A).

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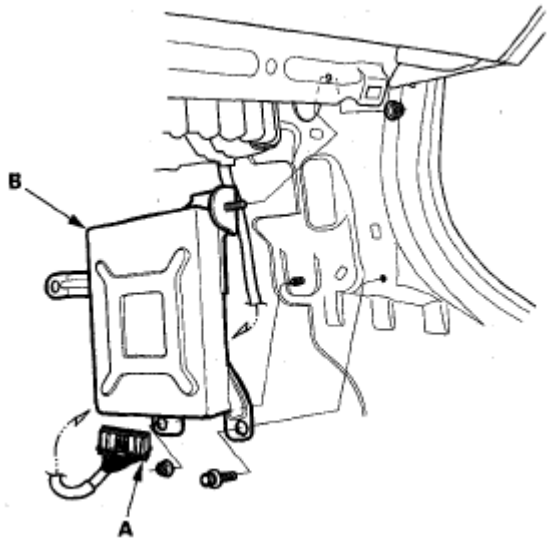



**Fig. 97: Identifying Injector Control Module And Injector Control Module Connector**

4. Remove the injector control module (B).
5. Install the parts in the reverse order of removal.

## MANUAL SHUT-OFF VALVE REPLACEMENT

1. Relieve fuel pressure between the engine and the fuel tank (see **FUEL PRESSURE RELIEVING** ).
2. Lift the vehicle, and support it with jackstands.
3. Remove the under-floor cover (A).

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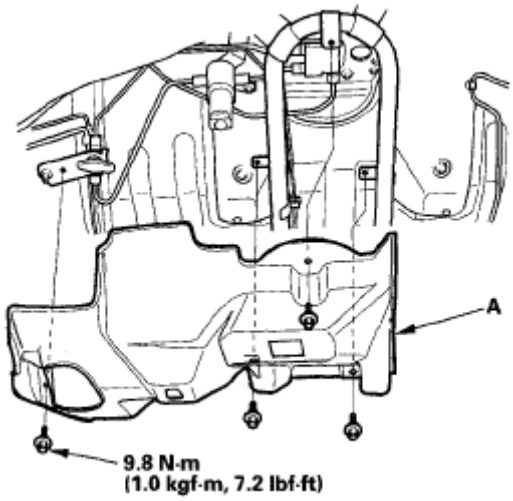



**Fig. 98: Identifying Under-Floor Cover With Torque Specifications**

4. Disconnect the fuel lines (A).

**NOTE: Always use two wrenches when removing or installing the fuel line nuts (see FUEL LINE INSPECTION ).**

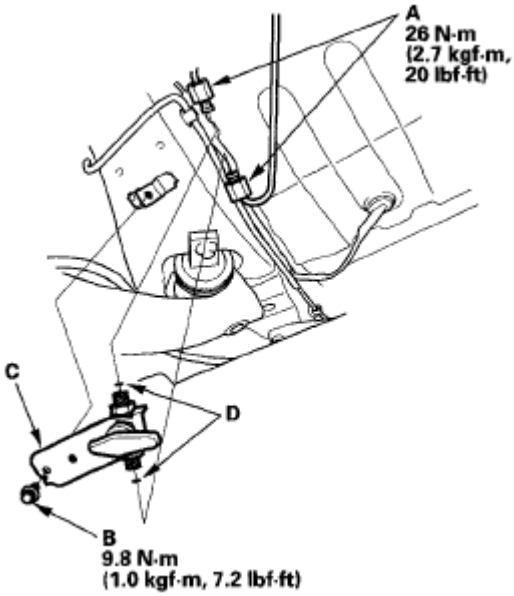



**Fig. 99: Identifying Manual Shut-Off Valve, Fuel Lines, O-Rings With With Torque Specifications**

5. Remove the bolt (B) and the manual shut-off valve (C).

6. Apply silicone grease (PARKER CHRISTO-LUBE) to the new O-rings (D) and carefully install them into their proper positions (see **FUEL TANK SCRAPPING** ).
7. Install the parts in the reverse order of removal.
8. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL RECEPTACLE REPLACEMENT

1. Relieve fuel pressure between the fuel receptacle and the fuel tank (see **BETWEEN THE FUEL RECEPTACLE AND THE FUEL TANK** ).
2. Remove the fuel pipe protector, refer to **FUEL PIPE PROTECTOR REPLACEMENT** .
3. Remove the bolts (A).

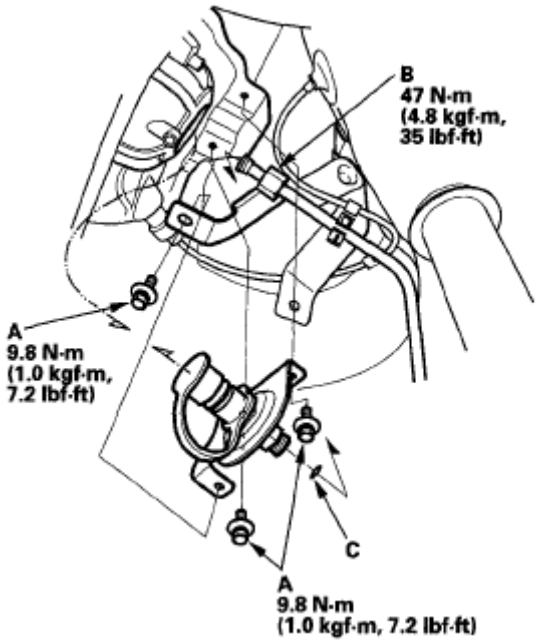



**Fig. 100: Identifying Fuel Fill Pipe, Bolts With Torque Specifications**

4. Remove the fuel fill pipe (B).

**NOTE: Always use two wrenches when removing or installing the fuel pipe nut (see FUEL LINE INSPECTION ).**

5. Apply silicone grease (PARKER CHRISTO-LUBE) to a new O-ring (C), and carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).
6. Install the parts in the reverse order of removal.
7. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL FILTER A ELEMENT REPLACEMENT

**WARNING: Compressed natural gas is flammable and highly explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks and flames away.**

1. Relieve fuel pressure between the engine and the manual shut-off valve (see **FUEL PRESSURE RELIEVING** ).
2. Lift the vehicle, and support it with jackstands.
3. Remove the under-floor cover (see step 3 on page 11-147).
4. Remove the fuel filter A housing (A), and replace the fuel filter A element (B).

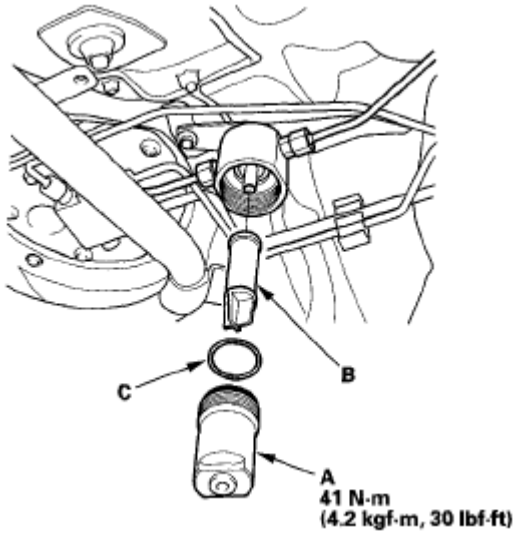



**Fig. 101: Identifying Fuel Filter A Housing, Fuel Filter A Element And O-Ring**

5. Apply silicone grease (PARKER CHRISTO-LUBE) to a new O-ring (C) and

carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).

6. Install the parts in the reverse order of removal.
7. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL FILTER A REPLACEMENT

**WARNING: Compressed natural gas is flammable and highly explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks and flames away.**

1. Relieve fuel pressure between the engine and the manual shut-off valve (see **FUEL PRESSURE RELIEVING** ).
2. Lift the vehicle, and support it with jackstands.
3. Remove the under-floor cover (see step 3 on page 11-147).
4. Remove the fuel lines (B), stay (C), and bolts (D). Replace fuel filter A. Make sure the arrow is pointing towards the engine.

**NOTE: Always use two wrenches when removing or installing fuel line nuts (see FUEL LINE INSPECTION ).**

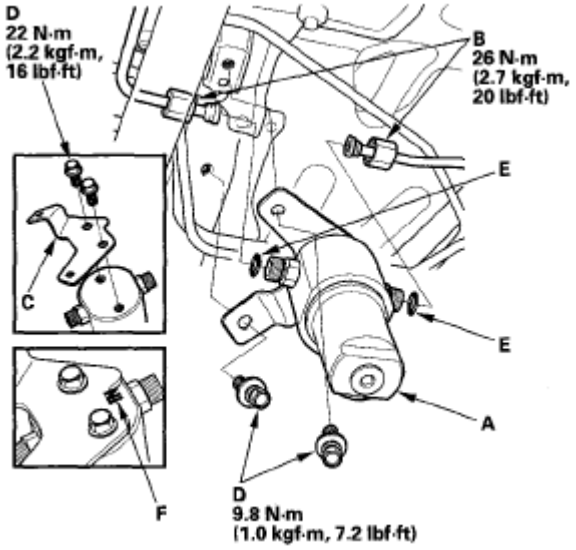



**Fig. 102: Exploded View Of Fuel Filter**

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5. Apply silicone grease (PARKER CHRISTO-LUBE) to the new O-rings (E), and carefully install them into their proper positions (see **FUEL TANK SCRAPPING** ).
6. Install the parts in the reverse order of removal.

**NOTE: When assembling the stay and fuel filter A, make sure to assembly them that the "IN" mark (F) is visible.**

7. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL FILTER B ELEMENT REPLACEMENT

**WARNING: Compressed natural gas is flammable and highly explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks, and flames away.**

1. Relieve fuel pressure between the engine and the manual shut-off valve (see **FUEL PRESSURE RELIEVING** ).
2. Lift the vehicle, and support it with jackstands.
3. Remove the fuel filter B housing (A), and replace the fuel filter B element (B).

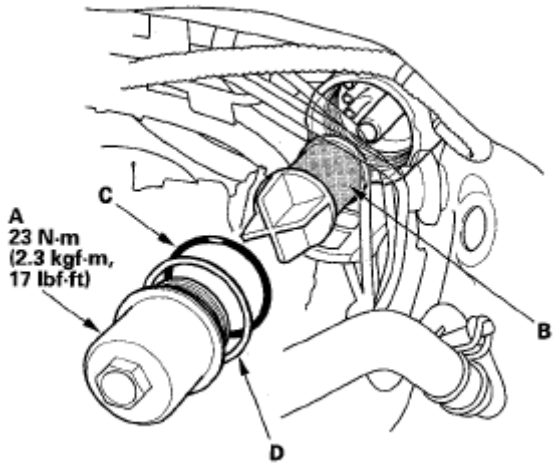



**Fig. 103: Identifying Fuel Filter B Housing, Element And O-Ring**

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4. Apply silicone grease (Shinetsu silicone GR 10M) to a new O-ring (C) and carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).
5. Install the parts in the reverse order of removal.

**NOTE: If the fuel filter B housing is rusty or damaged, replace the fuel filter B housing and seal (D).**

6. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL JOINT BLOCK REPLACEMENT

**WARNING: Compressed natural gas is flammable and highly explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks, and flames away.**

1. Remove the fuel tank (see **FUEL TANK REMOVAL/INSTALLATION** ).
2. Remove the fuel pipe duct (A), then remove the fuel pipes (B) from the fuel tank, and disconnect the connector (C).

**NOTE: Always use two wrenches when removing or installing fuel pipe nuts (see FUEL LINE INSPECTION ).**

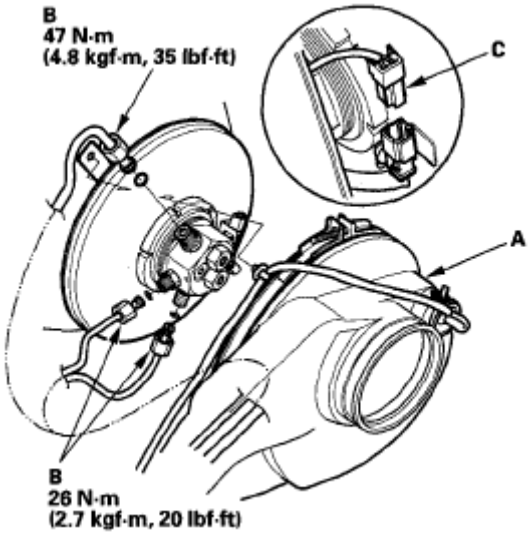


**Fig. 104: Identifying Fuel Pipe Duct, Connector, Fuel Pipes With Torque Specifications**

3. Remove the fuel joint duct (A), and the fuel pipes (B).

**NOTE: Always use two wrenches when removing or installing the fuel pipe nuts (see FUEL LINE INSPECTION ).**

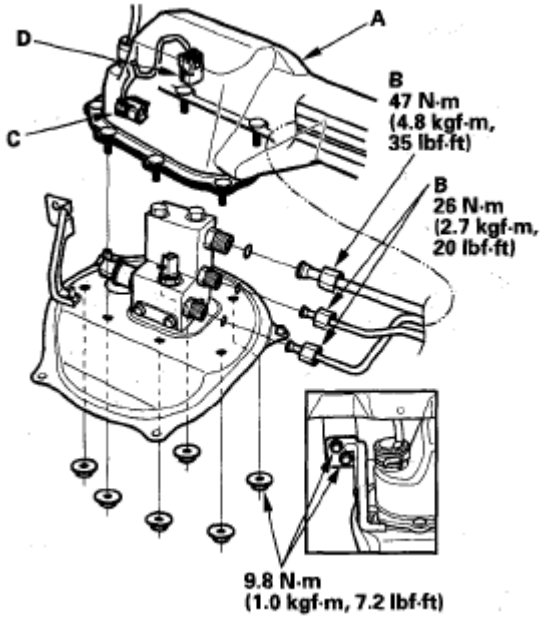



**Fig. 105: Exploded View Of Fuel Joint Block With Torque Specifications**

4. Disconnect the FTP sensor connector (C) and the FTT sensor connector (D).
5. Remove the connectors (A).

**NOTE: Always use two wrenches when removing or installing fuel pipe nuts (see FUEL LINE INSPECTION ).**

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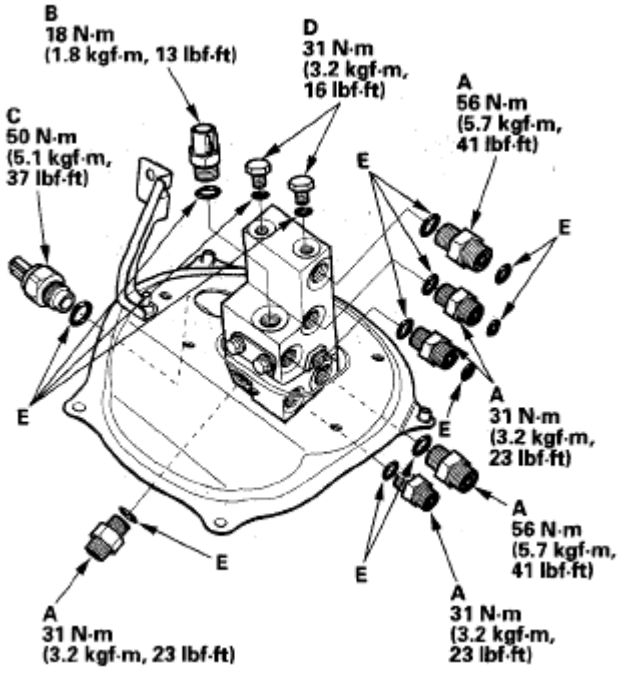



**Fig. 106: Exploded View Of FTT And FTP Sensor With Torque Specifications**

6. Remove the FTT sensor (B), the FTP sensor (C), and the bolts (D).
7. Apply silicone oil or polyalkyleneglycol (PAG) oil to the new O-rings (E), and carefully install them into their proper positions (see **FUEL TANK SCRAPPING** ).
8. Install the parts in the reverse order of removal.
9. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FTP SENSOR REPLACEMENT

1. Remove the fuel joint block (see **FUEL JOINT BLOCK REPLACEMENT** ).
2. Remove the FTP sensor (A).

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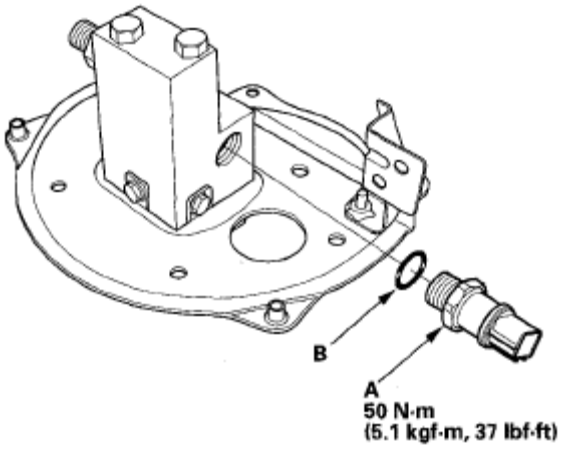
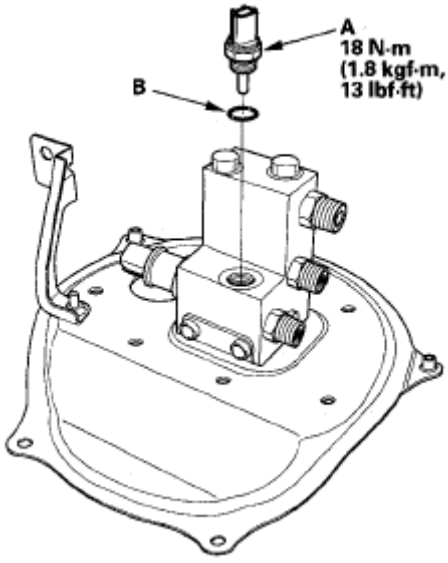



**Fig. 107: Identifying FTP Sensor And O-Ring**

3. Apply silicone oil or polyalkyleneglycol (PAG) oil to a new O-ring (B) and carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).
4. Install the parts in the reverse order of removal.
5. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FTT SENSOR REPLACEMENT

1. Remove the fuel joint block (see **FUEL JOINT BLOCK REPLACEMENT** ).
2. Remove the FTT sensor (A).



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**Fig. 108: Identifying FTT Sensor And O-Ring**

3. Apply silicone oil or polyalkyleneglycol (PAG) oil to a new O-ring (B) and carefully install it into its proper position (see **FUEL TANK SCRAPPING** ).
4. Install the parts in the reverse order of removal.
5. Do the leak inspection procedure (see **LEAK INSPECTION** ).

## FUEL TANK REMOVAL/INSTALLATION

**WARNING: Compressed natural gas is flammable and highly explosive. You could be killed or seriously injured if leaking natural gas is ignited.**
**Stop the engine, and keep heat, sparks, and flames away.**

**NOTE:**

- **You must be an SCI-certified technician to do fuel tank inspection or replacement work.**
- **This procedure degrades the integrity of the fuel tank. If you do it, do not reinstall the original fuel tank. Install a new one.**
- **Wear gloves while handing the fuel tank.**

### REMOVAL/INSTALLATION

1. Relieve fuel pressure between the engine and the fuel tank (see **FUEL PRESSURE RELIEVING** ).
2. Lift the vehicle, and support it with jackstands.
3. Remove the under-floor cover (A).

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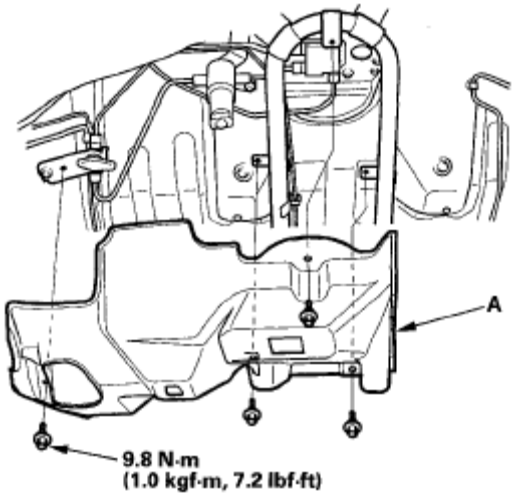



**Fig. 109: Identifying Under-Floor Cover With Torque Specifications**

4. Remove the three fuel pipes (A) at the fuel joint block (B) and the two fuel joint block mounting bolts (C).

**NOTE:**

- **Always use two wrenches when removing or installing fuel pipe nuts (see FUEL LINE INSPECTION ).**
- **Apply silicone oil or polyalkyleneglycol (PAG) oil to a new O-ring (D) and carefully install it into its proper position (see FUEL TANK SCRAPPING ).**

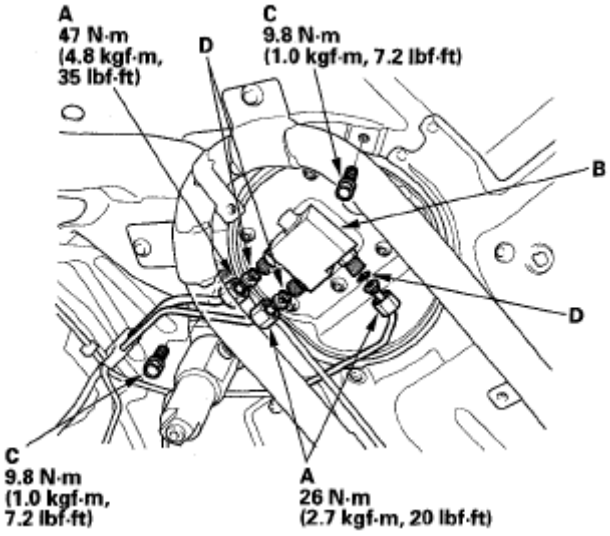


**Fig. 110: Identifying Fuel Pipes, Fuel Joint Block With Mounting Bolts Torque Specifications**

5. Lower the vehicle. Remove the left-rear door, refer to the **REAR DOOR PANEL REMOVAL/INSTALLATION** , then disconnect the connector (A).

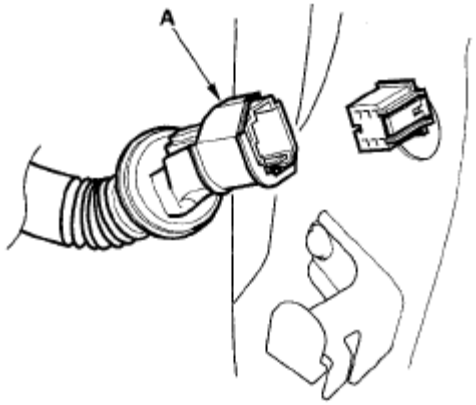



**Fig. 111: Identifying Connector**

6. Remove the rear seat (see **REAR SEAT REMOVAL/INSTALLATION** ).
7. Remove the rear seat belt, refer to the **REAR SEAT BELT REPLACEMENT** .
8. Remove the rear pillar trim, refer to the **TRIM REMOVAL/INSTALLATION - PILLAR AREAS** .
9. Remove the rear shelf (see **TRIM REMOVAL/INSTALLATION - REAR SHELF AREA** ) and the trunk floor lid (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA** ).
10. Remove the trunk partition (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA** ).
11. Remove the gussets (A).

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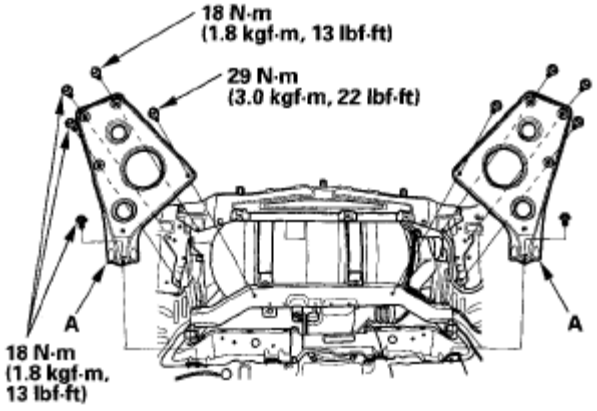



**Fig. 112: Identifying Gussets With Torque Specifications**

12. Remove the harness clip (A) and the rear parcel cover (B).

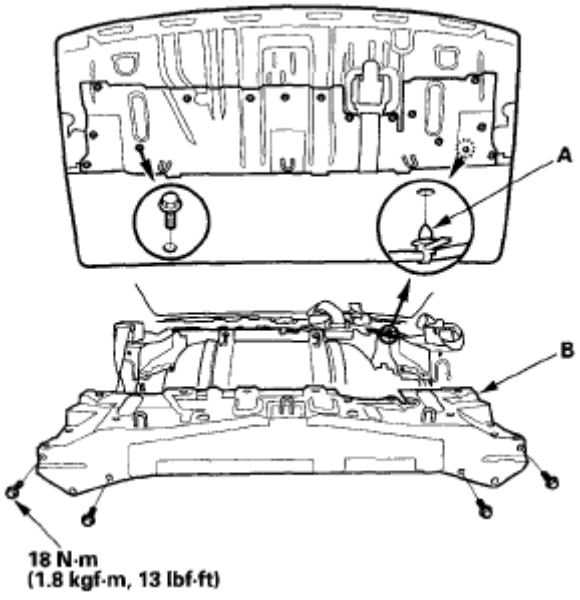



**Fig. 113: Identifying Harness Clip, Rear Parcel Cover With Torque Specifications**

13. Remove the harness clip (A) and the rear shelf gussets (B).

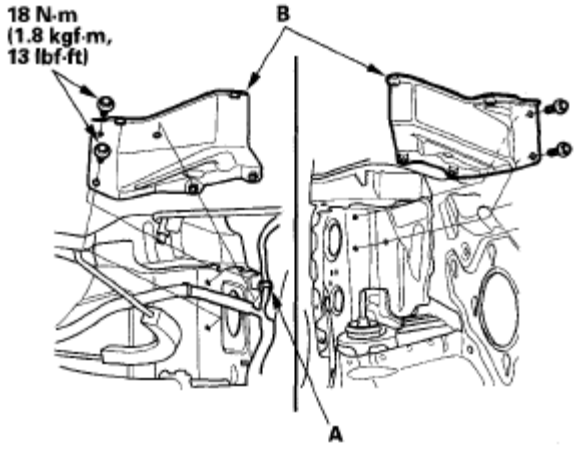



**Fig. 114: Identifying Harness Clip, Rear Shelf Gussets With Torque Specifications**

14. Remove the rear floor upper cross-member gusset, refer to the **REAR FLOOR UPPER CROSS-MEMBER GUSSET REPLACEMENT** .
15. Remove the bolts (A).

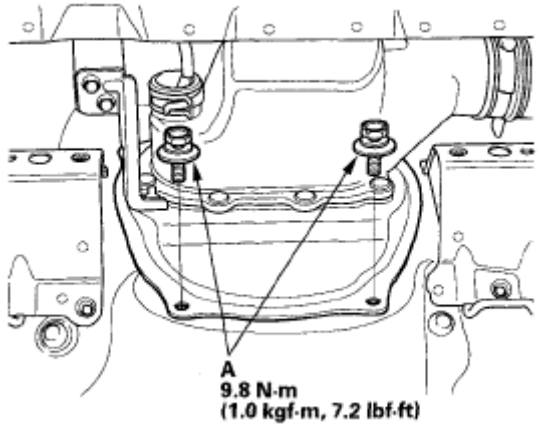



**Fig. 115: Identifying Bolts Torque Specifications**

16. Disconnect the vent hose (A) from the fuel tank (B).

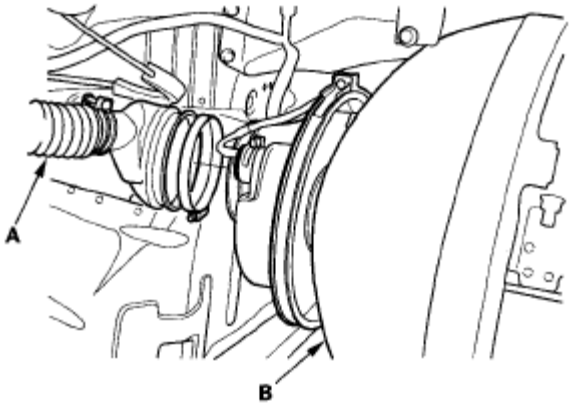



**Fig. 116: Identifying Vent Hose And Fuel Tank**

17. Remove the tank frame mounting bolts (A).

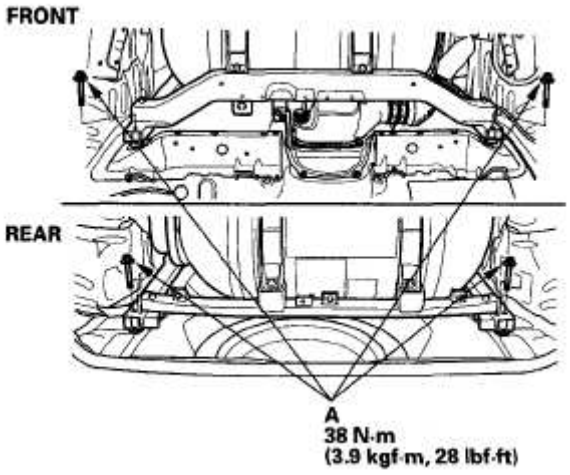



**Fig. 117: Identifying Tank Frame Mounting Bolts Torque Specifications**

18. Push the front seats forward, then cover the seats and floor with a tarp or similar material.
19. With the help of two other technicians, lift the frame, and slide the entire fuel tank assembly (A) into the passenger compartment. Be careful not to damage the fuel joint block.

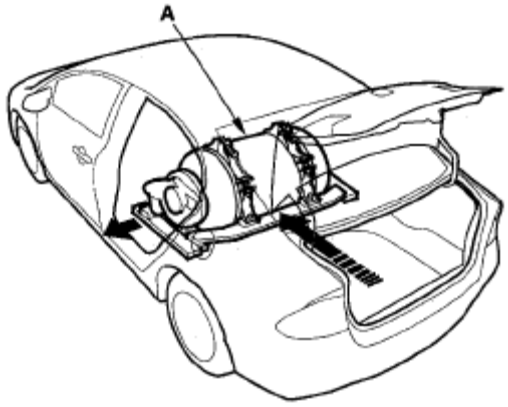



**Fig. 118: Sliding Entire Fuel Tank Assembly**

20. Rotate the fuel tank so the fuel joint block and the frame can clear the door opening, then carefully remove the fuel tank assembly from the vehicle.
21. Install the new fuel tank assembly in the reverse order of removal.

**NOTE: Do this when you install the left rear door:**

- **Tighten the door checker mounting bolt, refer to the REAR DOOR WEATHERSTRIP REPLACEMENT .**
- **Adjust the door position, refer to the FRONT AND REAR DOOR POSITION ADJUSTMENT .**

22. Open the manual look-down valves on the new tank. (New tank come with these valves closed).
23. Do the leak inspection procedure (see **LEAK INSPECTION** ).

**FILL PROCEDURE**

If a tank has less than 690±340 kPa (7.0±3.5 kgf/cm$^2$ , 100±50 psi) of internal pressure and is at an ambient temperature of 32 °F (0 °C) or less, follow the procedure below. Otherwise, fill the tank normally.

1. Fill the fuel tank to 4,800±340 kPa (49.2±3.5 kgf/cm$^2$ , 700±50 psi) slowly (from a compressor, not from a cascade storage system).
2. Wait 1 hour.

3. Fill the rest of the tank normally.

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# 2006-08 ENGINE PERFORMANCE

## Fuel Supply System (R18A1) - Civic (Except Hybrid)

## COMPONENT LOCATION INDEX

**NOTE: Refer to the FUEL SUPPLY SYSTEM (GX) (SUPPLEMENT) article for additional information for the GX model.**

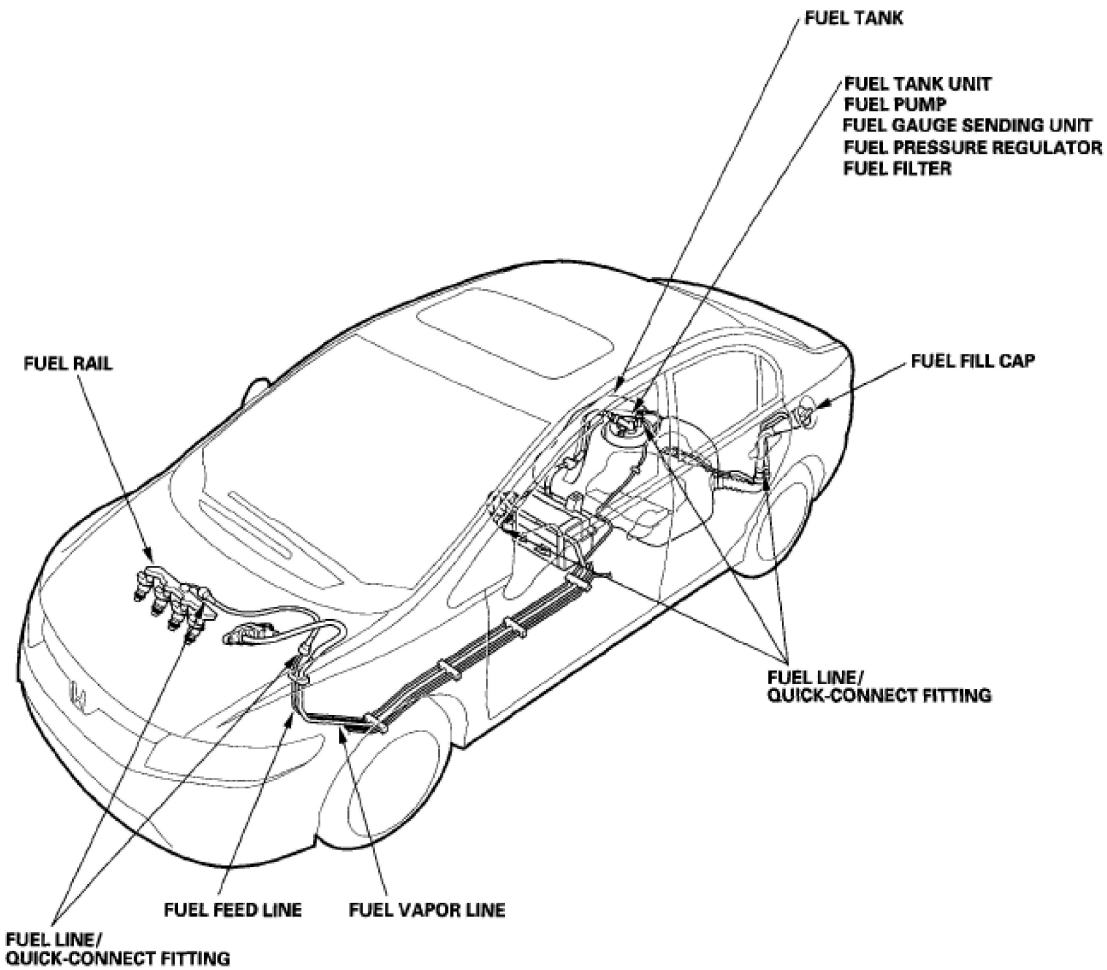
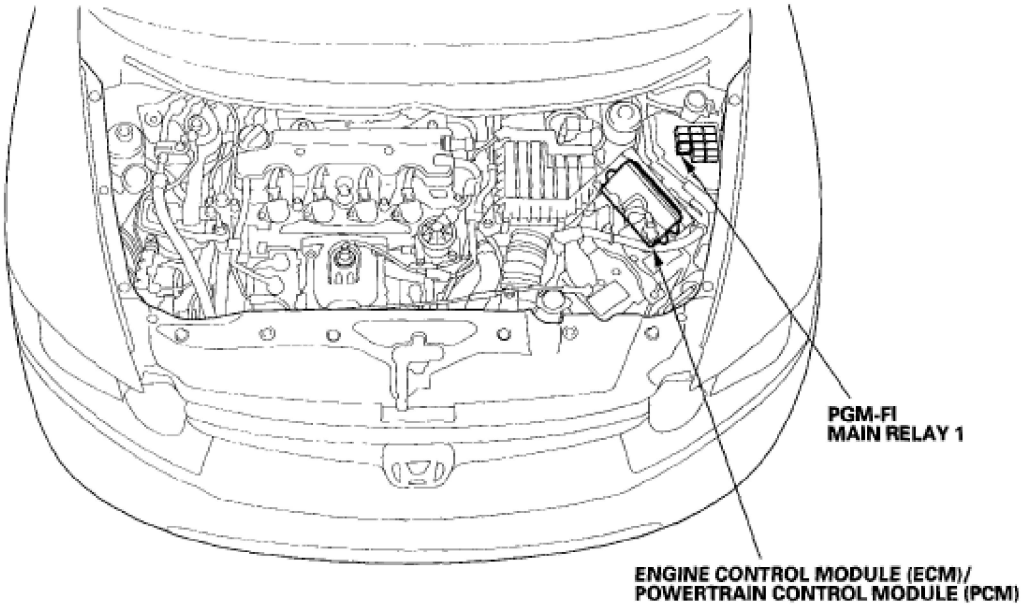



**Fig. 1: Identifying Fuel Supply System Component Location (1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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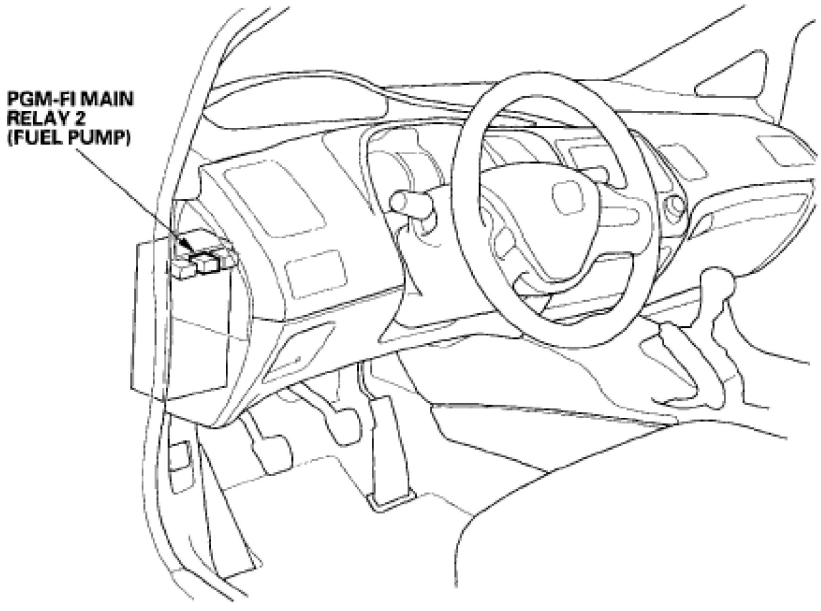




**Fig. 2: Identifying Fuel Supply System Component Location (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DTC TROUBLESHOOTING

### DTC P0461: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) CIRCUIT RANGE/PERFORMANCE PROBLEM

**NOTE:**

- **Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**
- **Because it requires 162 miles (260 km) of driving without refueling to complete this diagnosis, DTC P0461 cannot be duplicated during this troubleshooting.**

1. Test the fuel gauge sending unit (see **FUEL GAUGE SENDING UNIT TEST** ).

   *Is the fuel gauge sending unit OK?*

   **YES** - Check for poor connections or loose terminals at the fuel gauge sending unit and the gauge assembly.

   **NO** - Replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ), then go to step 2.

2. Turn the ignition switch ON (II).
3. Reset the ECM/PCM with the HDS.
4. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
5. Check for Temporary DTCs or DTCs with the HDS.

   *Is DTC P0461 indicated?*

   **YES** - Check for poor connections or loose terminals at the fuel gauge sending unit and the gauge control module, then go to step 1.

   **NO** - Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

**DTC P0462: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) CIRCUIT LOW VOLTAGE**

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**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS, and wait 5 seconds.
3. Check for Temporary DTCs or DTCs with the HDS.

   *Is DTC P0462 indicated?*

   **YES** - Go to step 4.

   **NO** - Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the gauge control module (tach) and the fuel gauge sending unit.

4. Turn the ignition switch OFF.
5. Remove the rear seat cushion (see **REAR SEAT REMOVAL/INSTALLATION** ).
6. Remove the rear floor upper cross-member and the access panel from the floor (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
7. Disconnect the fuel tank unit 4P connector.
8. Turn the ignition switch ON (II).
9. Clear the DTC with the HDS, and wait 5 seconds.
10. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0463 indicated?*

    **YES** - Replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ), then go to step 22.

    **NO** - Go to step 11.

11. Turn the ignition switch OFF.

12. Remove the gauge control module (tach) (see **TACHOMETER** ).
13. Disconnect the gauge control module (tach) 36P connector.
14. Check for continuity between fuel tank unit 4P connector terminal No. 1 and body ground.

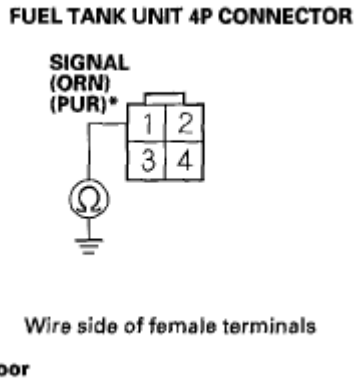



**Fig. 3: Checking Continuity Between Fuel Tank Unit 4P Connector Terminal No. 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair short in the wire between the gauge control module (tach) (signal line) and the fuel gauge sending unit, then go to step 23.

**NO** - Go to step 15.

15. Reconnect the gauge control module (tach) 36P connector.
16. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
17. Connect the fuel tank unit 4P connector.
18. Turn the ignition switch ON (II).
19. Clear the DTC with the HDS.
20. Set the float (A) to the E position.

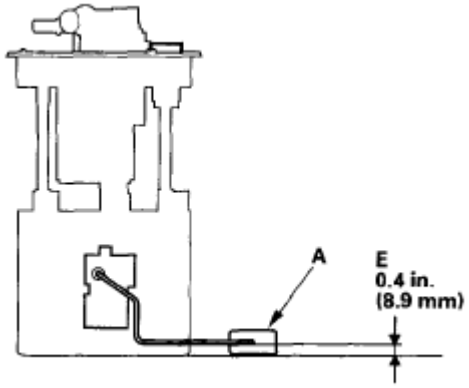



**Fig. 4: Setting Float To E Position (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Check the fuel gauge.

    *Does the gauge move to the empty position?*

    **YES** - Go to step 29.

    **NO** - Replace the gauge control module (tach) (see **TACHOMETER** ), then go to step 22.

22. Turn the ignition switch OFF.
23. Reconnect all connectors.
24. Install the parts in the reverse order of removal.
25. Turn the ignition switch ON (II).
26. Reset the ECM/PCM with the HDS.
27. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
28. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0462 indicated?*

    **YES** - Check for poor connections or loose terminals at the gauge control module (tach) and the fuel gauge sending unit, then go to step 1.

    **NO** - Troubleshooting is complete. If any other Temporary DTCs or DTCs are

indicated, go to the indicated DTC's troubleshooting.

29. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
30. Reconnect all connectors.
31. Install the parts in the reverse order of removal.
32. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0462 indicated?*

    **YES** - Check for poor connections or loose terminals at the gauge control module (tach) and the fuel gauge sending unit. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then recheck. If the ECM/PCM was substituted, go to step 1.

    **NO** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

**DTC P0463: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) CIRCUIT HIGH VOLTAGE**

**NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS, and wait 5 seconds.
3. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0463 indicated?*

    **YES** - Go to step 4.

    IMO-Intermittent failure, the system is OK at this time. Check for poor

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connections or loose terminals at the gauge control module (tach) and the fuel gauge sending unit.

4. Turn the ignition switch OFF.
5. Remove the rear seat cushion (see **REAR SEAT REMOVAL/INSTALLATION** ).
6. Remove the rear floor upper cross-member and the access panel from the floor (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
7. Disconnect the fuel tank unit 4P connector.
8. Connect fuel tank unit 4P connector terminal No. 3 to body ground with a jumper wire.

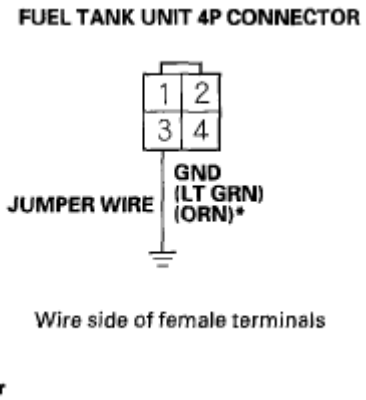



**Fig. 5: Connecting Fuel Tank Unit 4P Connector Terminal No. 3 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the gauge control module (tach) (see **TACHOMETER** ).
10. Disconnect the gauge control module (tach) 36P connector.
11. Check for continuity between gauge control module (tach) 36P connector terminal No. 33 and body ground.

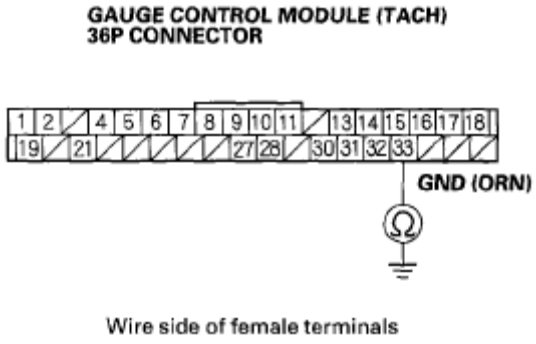



**Fig. 6: Checking Continuity Between Gauge Control Module (TACH) Terminal No. 33 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 12.

**NO** - Repair open in the wire between the gauge control module (tach) (GND line) and the fuel gauge sending unit, then go to step 24.

12. Connect fuel tank unit 4P connector terminal No. 1 to body ground with a jumper wire.

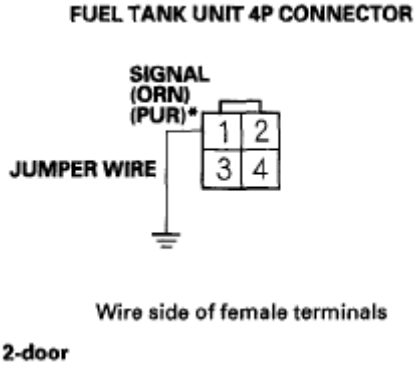



**Fig. 7: Connecting Fuel Tank Unit 4P Connector Terminal No. 1 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Check for continuity between gauge control module (tach) 36P connector terminal No. 32 and body ground.

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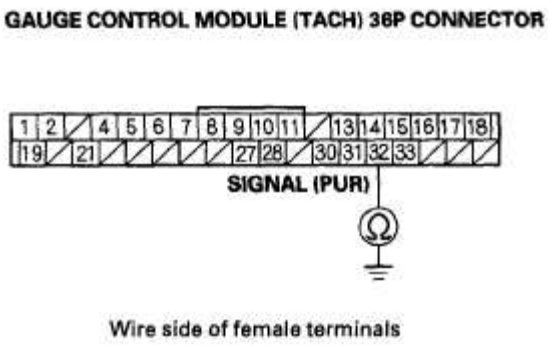



**Fig. 8: Checking Continuity Between Gauge Control Module (TACH) Terminal No. 32 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 14.

**NO** - Repair open in the wire between the gauge control module (tach) (signal line) and the fuel gauge sending unit, then go to step 24.

14. Remove the jumper wire from the fuel tank unit 4P connector.
15. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
16. Test the fuel gauge sending unit (see **FUEL GAUGE SENDING UNIT TEST** ).

    *Is the fuel gauge sending unit OK?*

    **YES** - Go to step 17.

    **NO** - Replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ), then go to step 23.

17. Connect the fuel tank unit 4P connector.
18. Reconnect the gauge control module (tach) 36P connector.
19. Turn the ignition switch ON (II).
20. Clear the DTC with the HDS.

21. Set the float (A) to the F position.

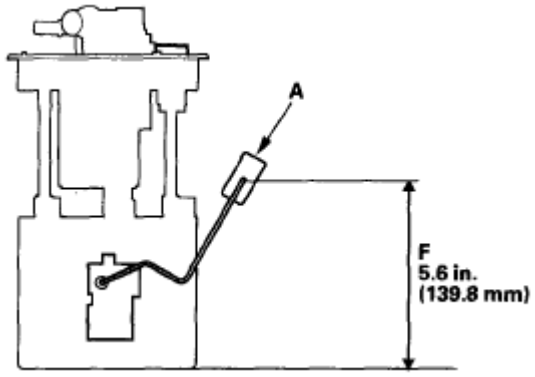



**Fig. 9: Setting Float To F Position (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Check the fuel gauge.

    *Does the gauge move to the full position?*

    **YES** - Go to step 32.

    **NO** - Replace the gauge control module (tach) (see **TACHOMETER** ), then go to step 23.

23. Turn the ignition switch OFF.
24. Reconnect all connectors.
25. Install the parts in the reverse order of removal.
26. Turn the ignition switch ON (II).
27. Reset the ECM/PCM with the HDS.
28. Do the ECM/PCM idle learn procedure (see **ECM/PCM IDLE LEARN PROCEDURE** ).
29. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0463 indicated?*

    **YES** - Check for poor connections or loose terminals at the gauge control module (tach) and the fuel gauge sending unit, then go to step 1.

**NO** - Troubleshooting is complete. If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

30. Reconnect all connectors.
31. Install the parts in the reverse order of removal.
32. Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ).
33. Check for Temporary DTCs or DTCs with the HDS.

    *Is DTC P0463 indicated?*

    **YES** - Check for poor connections or loose terminals at the gauge control module (tach) and the fuel gauge sending unit. If the ECM/PCM was updated, substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then recheck. If the ECM/PCM was substituted, go to step 1.

    **NO** - If the ECM/PCM was updated, troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ). If any other Temporary DTCs or DTCs are indicated, go to the indicated DTC's troubleshooting.

## FUEL PUMP CIRCUIT TROUBLESHOOTING

If you suspect a problem with the fuel pump, check that the fuel pump actually runs; when it is on, you will hear some noise if you listen to the fuel fill port with the fuel fill cap removed. The fuel pump should run for 2 seconds when the ignition switch is first turned on. If the fuel pump does not make noise, check as follows:

1. Turn the ignition switch OFF.
2. Remove the under-dash fuse/relay box (see **REMOVAL AND INSTALLATION** ), then remove PGM-FI main relay 2 (FUEL PUMP) (A) from the under-dash fuse/relay box.

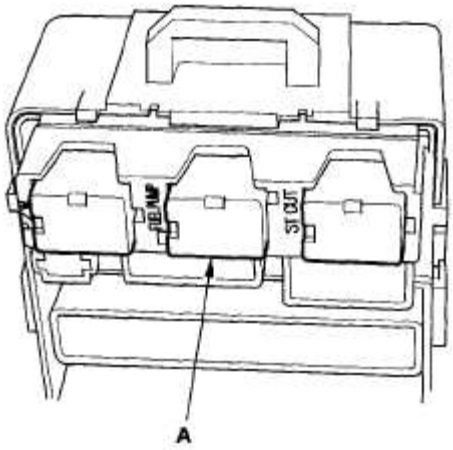



**Fig. 10: Removing PGM-FI Main Relay (Fuel Pump)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Reinstall the under-dash fuse/relay box.
4. Turn the ignition switch ON (II).
5. Measure voltage between PGM-FI main relay 2 (FUEL PUMP) 4P connector terminal No. 4 and body ground.

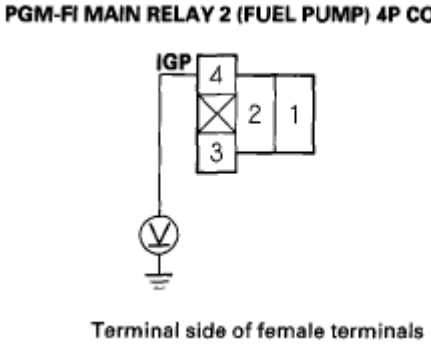



**Fig. 11: Measuring Voltage Between PGM-FI Main Relay 2 (FUEL PUMP) 4P Connector Terminal No. 4 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 12.

**NO** - Go to step 6.

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6. Turn the ignition switch OFF.
7. Disconnect the under-hood fuse/relay box connector E (10P).
8. Disconnect C101 connector at left side of engine compartment; A/T model (see **CONNECTOR TO HARNESS INDEX** ), M/T model (see **CONNECTOR TO HARNESS INDEX** ).
9. Disconnect the under-dash fuse/relay box connector G (21P).
10. Connect under-dash fuse/relay box connector G (21P) terminal No. 4 to body ground with a jumper wire.

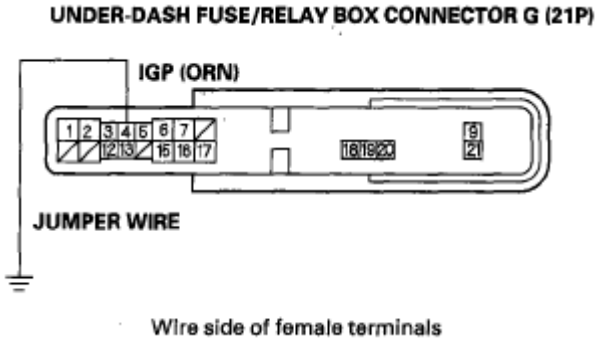



**Fig. 12: Connecting Fuse/Relay Box Connector G (21P) Terminal No. 4 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Check for continuity between under-hood fuse/relay box connector E (10P) terminal No. 5 and body ground.

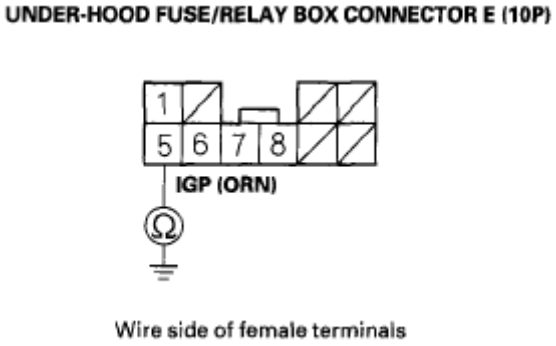



**Fig. 13: Checking Continuity Between Fuse/Relay Box Connector E (10P) Terminal No. 5 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -

- Replace PGM-FI main relay 1.
- If needed, replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

**NO** - Repair open in the wire between the under-hood fuse/relay box and the under-dash fuse/relay box.

12. Measure voltage between PGM-FI main relay 2 (FUEL PUMP) 4P connector terminal No. 1 and body ground.

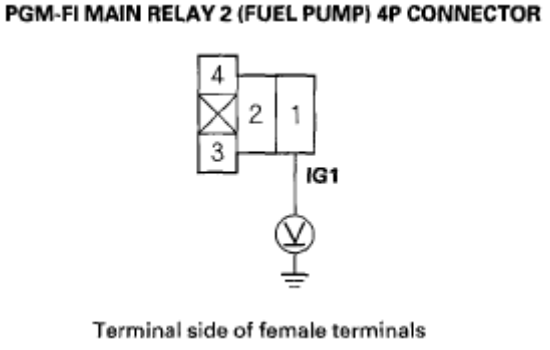



**Fig. 14: Measuring Voltage Between PGM-FI Main Relay 2 (FUEL PUMP) 4P Connector Terminal No. 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 13.

**NO** -

- Check the No. 2 FUEL PUMP (15 A) fuse in the under-dash fuse/relay box.
- If needed, replace the under-dash fuse/relay box (see **REMOVAL AND INSTALLATION** ).

13. Turn the ignition switch OFF.

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14. Connect PGM-FI main relay 2 (FUEL PUMP) 4P connector terminal No. 3 to body ground with a jumper wire.

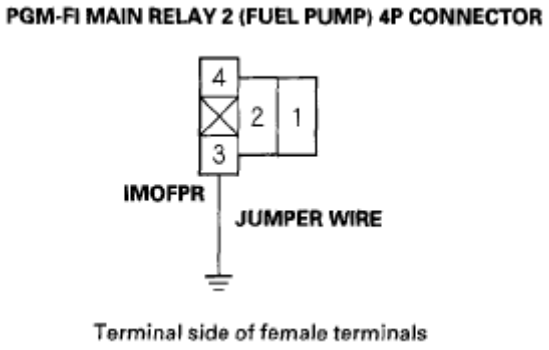



**Fig. 15: Connecting PGM-FI Main Relay 2 (FUEL PUMP) 4P Connector Terminal No. 3 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Jump the SCS line with the HDS.
16. Disconnect ECM/PCM connector A (44P).
17. Check for continuity between body ground and ECM/PCM connector terminal A15.

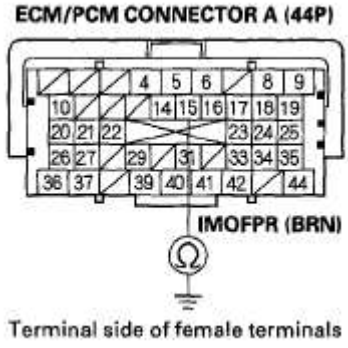



**Fig. 16: Checking Continuity Between Body Ground And ECM/PCM Connector Terminal A15**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 18.

**NO** - Repair open in the wire between PGM-FI main relay 2 (FUEL PUMP) and the ECM/PCM (A15).

18. Remove the under-dash fuse/relay box (see **REMOVAL AND INSTALLATION** ), then reinstall PGM-FI main relay 2 (FUEL PUMP).
19. Reinstall the under-dash fuse/relay box (see **REMOVAL AND INSTALLATION** ).
20. Connect ECM/PCM connector terminal A6 to body ground with a jumper wire.

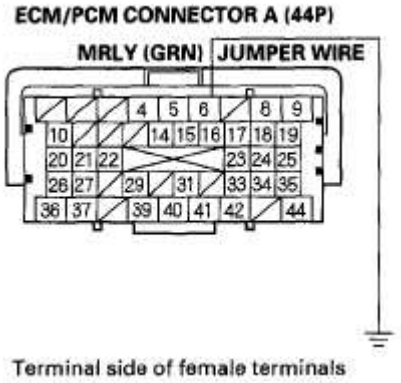



**Fig. 17: Connecting ECM/PCM Connector Terminal A6 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Turn the ignition switch ON (II).
22. Measure voltage between ECM/PCM connector terminal A15 and body ground.

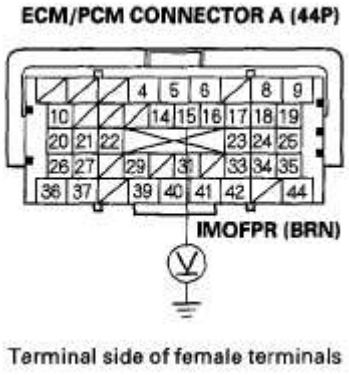



**Fig. 18: Measuring Voltage Between ECM/PCM Connector Terminal A15**

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**And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 23.

**NO** - Replace PGM-FI main relay 2 (FUEL PUMP).

23. Turn the ignition switch OFF.
24. Reconnect ECM/PCM connector A (44P).
25. Open the SCS line with the HDS.
26. Turn the ignition switch OFF.
27. Turn the ignition switch ON (II), and measure voltage between under-dash fuse/relay box connector F (34P) terminal No. 10 and body ground within 2 seconds.

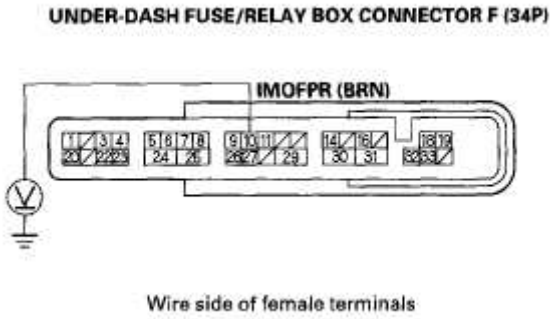



**Fig. 19: Measuring Voltage Between Fuse/Relay Box Connector F (34P) Terminal No. 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Update the ECM/PCM if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ).

**NO** - Go to step 28.

28. Turn the ignition switch ON (II), and measure voltage between under-dash fuse/relay box connector F (34P) terminal No. 10 and body ground after 2 seconds.

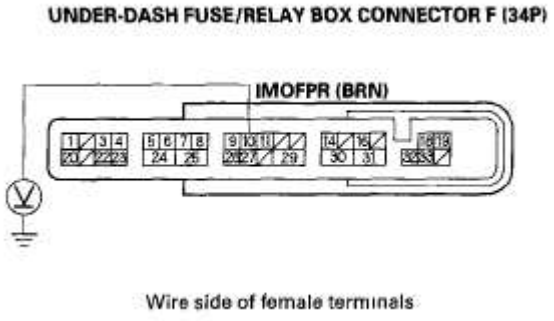



**Fig. 20: Measuring Voltage Between Fuse/Relay Box Connector F Terminal No. 10 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 29.

**NO** - If needed, replace the under-dash fuse/relay box (see **REMOVAL AND INSTALLATION** ), then go to step 29.

29. Turn the ignition switch OFF.
30. Remove the rear seat cushion (see **REAR SEAT REMOVAL/INSTALLATION** ).
31. Remove the rear floor upper cross-member, then remove the access panel from the floor (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
32. Turn the ignition switch ON (II), and measure voltage between fuel tank unit 4P connector terminal No. 2 and body ground within 2 seconds.

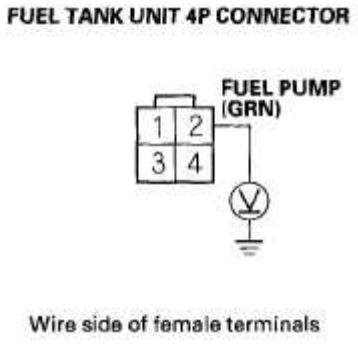



**Fig. 21: Measuring Voltage Between Fuel Tank Unit 4P Connector Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 37.

**NO** - Go to step 33.

33. Turn the ignition switch OFF.
34. Remove PGM-FI main relay 2 (FUEL PUMP).
35. Connect PGM-FI main relay 2 (FUEL PUMP) 4P connector terminals No. 1 and No. 2 with a jumper wire.

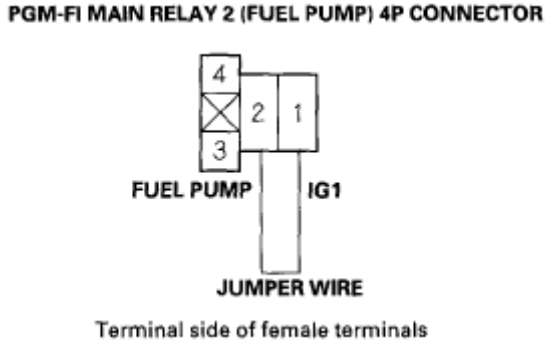



**Fig. 22: Connecting PGM-FI Main Relay 4P Connector Terminals No. 1 And 2 With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

36. Turn the ignition switch ON (II), and measure voltage between fuel tank unit 4P connector terminal No. 2 and body ground within 2 seconds.

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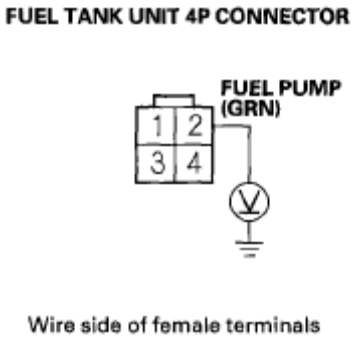



**Fig. 23: Measuring Voltage Between Fuel Tank Unit 4P Connector Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Replace PGM-FI main relay 2 (FUEL PUMP).

**NO** - Repair open in the wire between PGM-FI main relay 2 (FUEL PUMP) and the fuel tank unit 4P connector.

37. Turn the ignition switch OFF.
38. Check for continuity between fuel tank unit 4P connector terminal No. 4 and body ground.

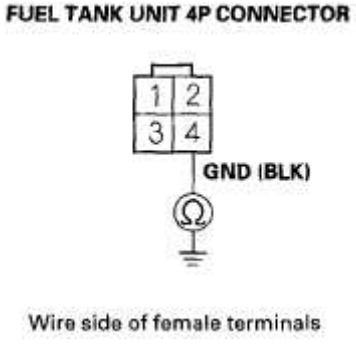



**Fig. 24: Checking Continuity Between Fuel Tank Unit 4P Connector Terminal No. 4 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Replace the fuel pump (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ).

**NO** - Repair open in the wire between the fuel tank unit 4P connector and G601; 4-door (see **CONNECTOR TO HARNESS INDEX** ), 2-door (see **CONNECTOR TO HARNESS INDEX** ).

## FUEL PRESSURE RELIEVING

Before disconnecting fuel lines or hoses, relieve pressure from the system by disabling the fuel pump and disconnecting the fuel tube/quick connect fitting in the engine compartment.

### WITH THE HDS

1. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped).
2. Turn the ignition switch OFF.
3. Connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.

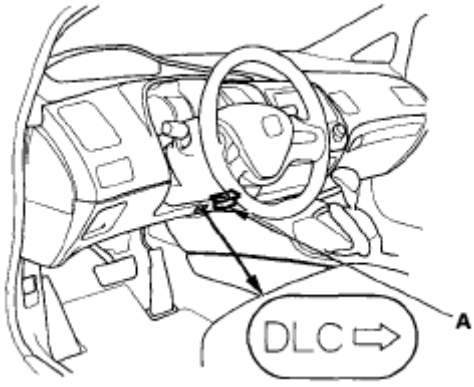



**Fig. 25: Connecting HDS To DLC**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Turn the ignition switch ON (II).
5. Make sure the HDS communicates with the ECM/PCM and other vehicle systems. If it doesn't, go to the DLC circuit troubleshooting (see **DLC CIRCUIT TROUBLESHOOTING** ).

6. Turn the ignition switch OFF.
7. Remove the fuel fill cap to relieve the pressure in the fuel tank.
8. Turn the ignition switch ON (II).
9. From the INSPECTION MENU of the HDS, select Fuel Pump OFF, then start the engine, and let it idle until it stalls.

**NOTE:**

- **Do not allow the engine to idle above 1,000 rpm or the ECM/PCM will continue to operate the fuel pump.**
- **A DTC or a Temporary DTC may be set during this procedure. Check for DTCs, and clear them as needed (see HDS CLEAR COMMAND ).**

10. Turn the ignition switch OFF.
11. Disconnect the negative cable from the battery.
12. Remove the quick-connect fitting cover (A).

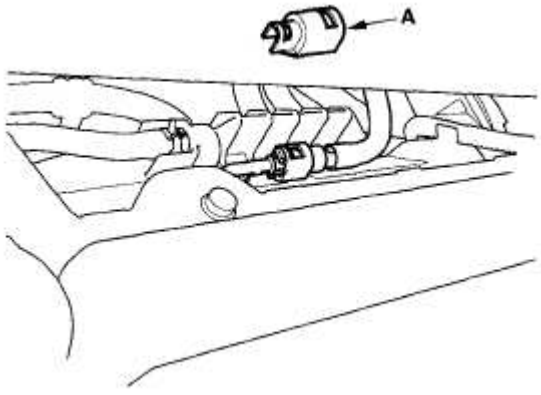



**Fig. 26: Removing Quick-Connect Fitting Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Check the fuel quick-connect fitting for dirt, and clean it if needed.
14. Place a rag or shop towel over the quick-connect fitting (A).

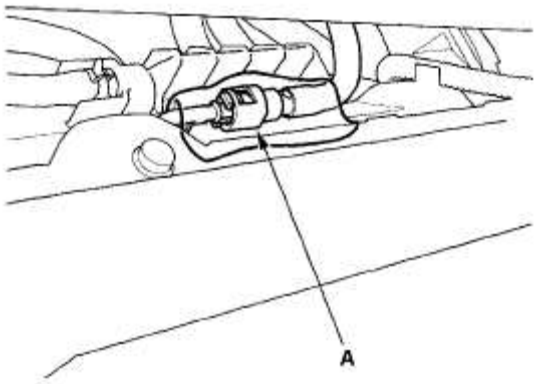



**Fig. 27: Placing Rag Or Shop Towel Over Quick-Connect Fitting Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Disconnect the quick-connect fitting (A): Hold the connector (B) with one hand, and squeeze the retainer tabs (C) with the other hand to release them from the locking tabs (D). Pull the connector off.

**NOTE:**

- **Be careful not to damage the line (E) or other parts.**
- **Do not use tools.**
- **If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it comes off easily.**
- **Do not remove the retainer from the line; once removed, the retainer must be replaced with a new one.**

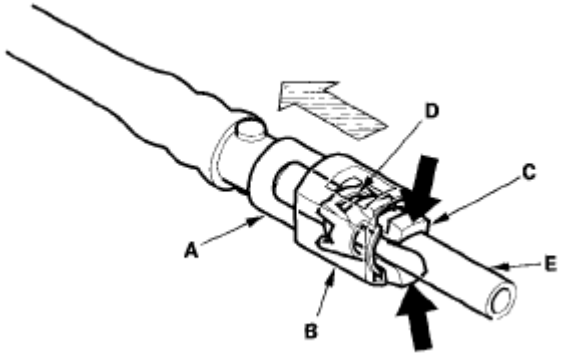



**Fig. 28: Disconnecting Quick-Connect Fitting**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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16. After disconnecting the quick-connect fitting, check it for dirt or damage (see step 4 in **FUEL LINE/QUICK-CONNECT FITTING REMOVAL** ).
17. Reconnect the negative cable to the battery, then do this:
18. Enter the anti-theft code for the audio system or the navigation system (if equipped), then enter the audio presets. Set the clock ( on vehicles without navigation).

**WITHOUT THE HDS**

1. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped).
2. Remove the under-dash fuse/relay box (see **REMOVAL AND INSTALLATION** ), then remove PGM-FI main relay 2 (FUEL PUMP) (A) from the under-dash fuse/relay box.

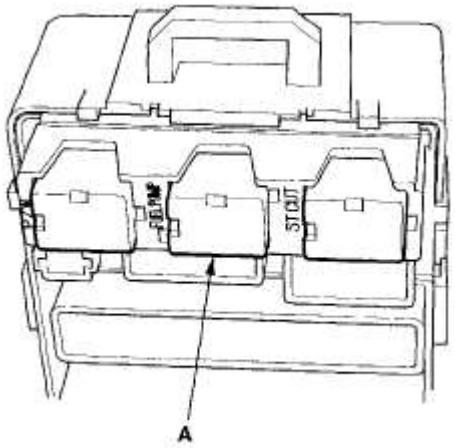



**Fig. 29: Removing PGM-FI Main Relay (Fuel Pump)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Reinstall the under-dash fuse/relay box.
4. Start the engine, and let it idle until it stalls.

**NOTE: If any DTCs are stored, clear and ignore them.**

5. Turn the ignition switch OFF.
6. Remove the fuel fill cap.

7. Disconnect the negative cable from the battery.
8. Remove the quick-connect fitting cover (A).

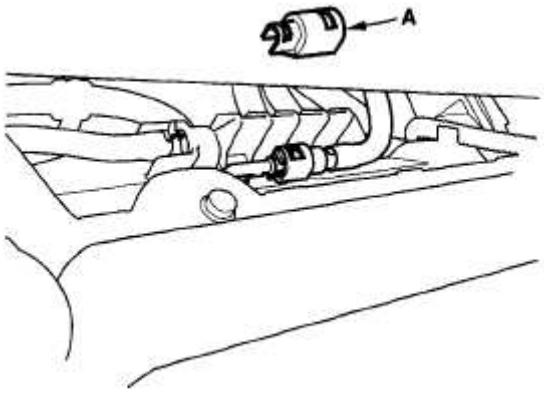



**Fig. 30: Removing Quick-Connect Fitting Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Check the fuel quick-connect fitting for dirt, and clean it if needed.
10. Place a rag or shop towel over the quick-connect fitting (A).

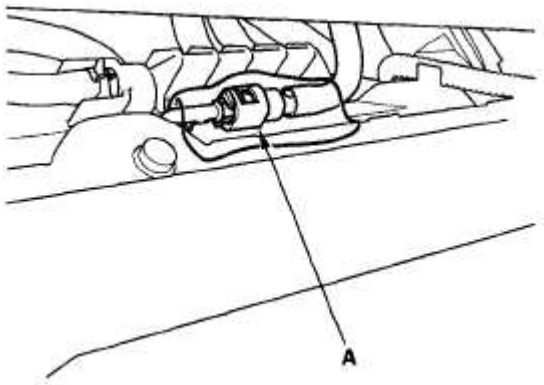



**Fig. 31: Placing Rag Or Shop Towel Quick-Connect Fitting Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Disconnect the quick-connect fitting (A): Hold the connector (B) with one hand, and squeeze the retainer tabs (C) with the other hand to release them from the locking tabs (D). Pull the connector off.

**NOTE:**

- **Be careful not to damage the line (E) or other parts.**

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- **Do not use tools.**
- **If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it comes off easily.**
- **Do not remove the retainer from the line; once removed, the retainer must be replaced with a new one.**

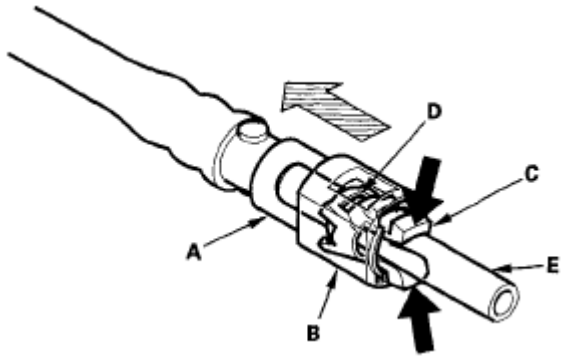



**Fig. 32: Disconnecting Quick-Connect Fitting**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. After disconnecting the quick-connect fitting, check it for dirt or damage (see step 4 in **FUEL LINE/QUICK-CONNECT FITTING REMOVAL** ).
13. Reconnect the negative cable to the battery, then do this:
14. Enter the anti-theft code for the audio system or the navigation system (if equipped), then enter the audio presets. Set the clock ( on vehicles without navigation).

## FUEL PRESSURE TEST

### Special Tools Required

- Fuel pressure gauge 07406-004000B
- Fuel pressure gauge attachment set 07AAJ-S6MA150

1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
2. Disconnect the quick-connect fitting. Attach the fuel pressure gauge set and the

fuel pressure gauge.

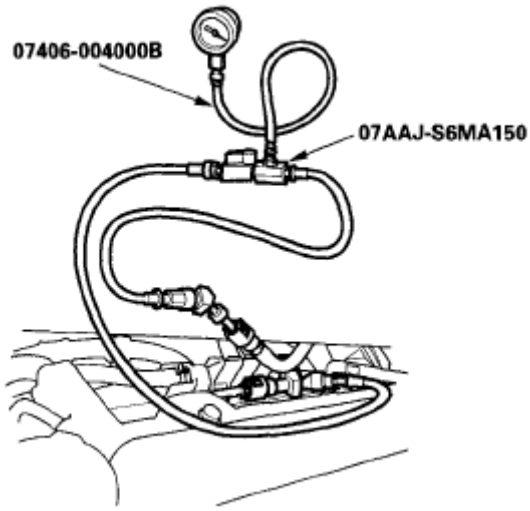



**Fig. 33: Attaching Fuel Pressure Gauge Set And Fuel Pressure Gauge**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Start the engine, and let it idle.
   - If the engine starts, go to step 5.
   - If the engine does not start, go to step 4.
4. Check to see if the fuel pump is running: Listen to the fuel filler port with the fuel fill cap removed. The fuel pump should run for 2 seconds when the ignition switch is first turned on.
   - If the pump runs, go to step 5.
   - If the pump does not run, do the fuel pump circuit troubleshooting (see **FUEL PUMP CIRCUIT TROUBLESHOOTING** ).
5. Read the fuel pressure gauge. The pressure should be 380-430 kPa (3.9-4.4 $kgf/cm^2$ , 55-63 psi).
   - If the pressure is OK, the test is complete.
   - If the pressure is out of specification, replace the fuel pressure regulator (see **FUEL PRESSURE REGULATOR REPLACEMENT** ) and the fuel filter (see **FUEL PRESSURE REGULATOR REPLACEMENT** ), then recheck the fuel pressure.

## FUEL TANK DRAINING

1. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
2. Using a hand pump, a hose, and a container suitable for fuel, draw the fuel from the fuel tank.
3. Reinstall the fuel tank unit (see **INSTALLATION** ).

## FUEL LINE INSPECTION

Check the fuel system lines and hoses for damage, leaks, and deterioration. Replace any damaged parts.

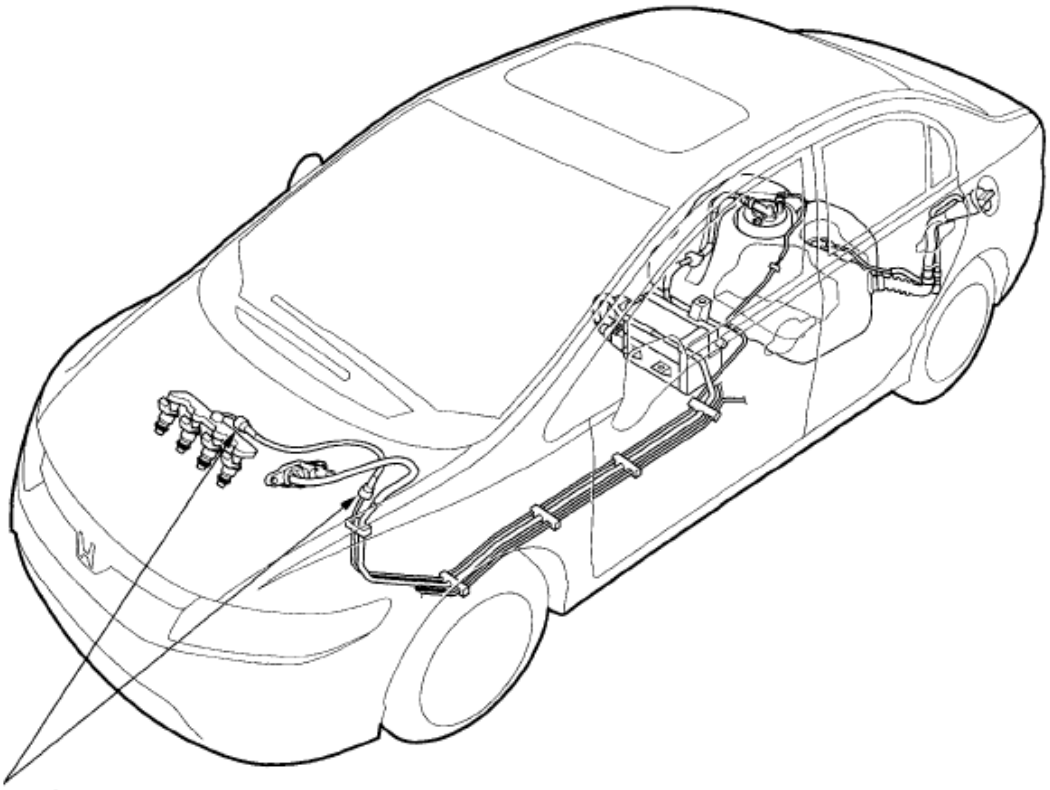



**Fig. 34: Checking Fuel System Lines And Hoses**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Check all clamps, and make sure they are properly positioned and tightened.

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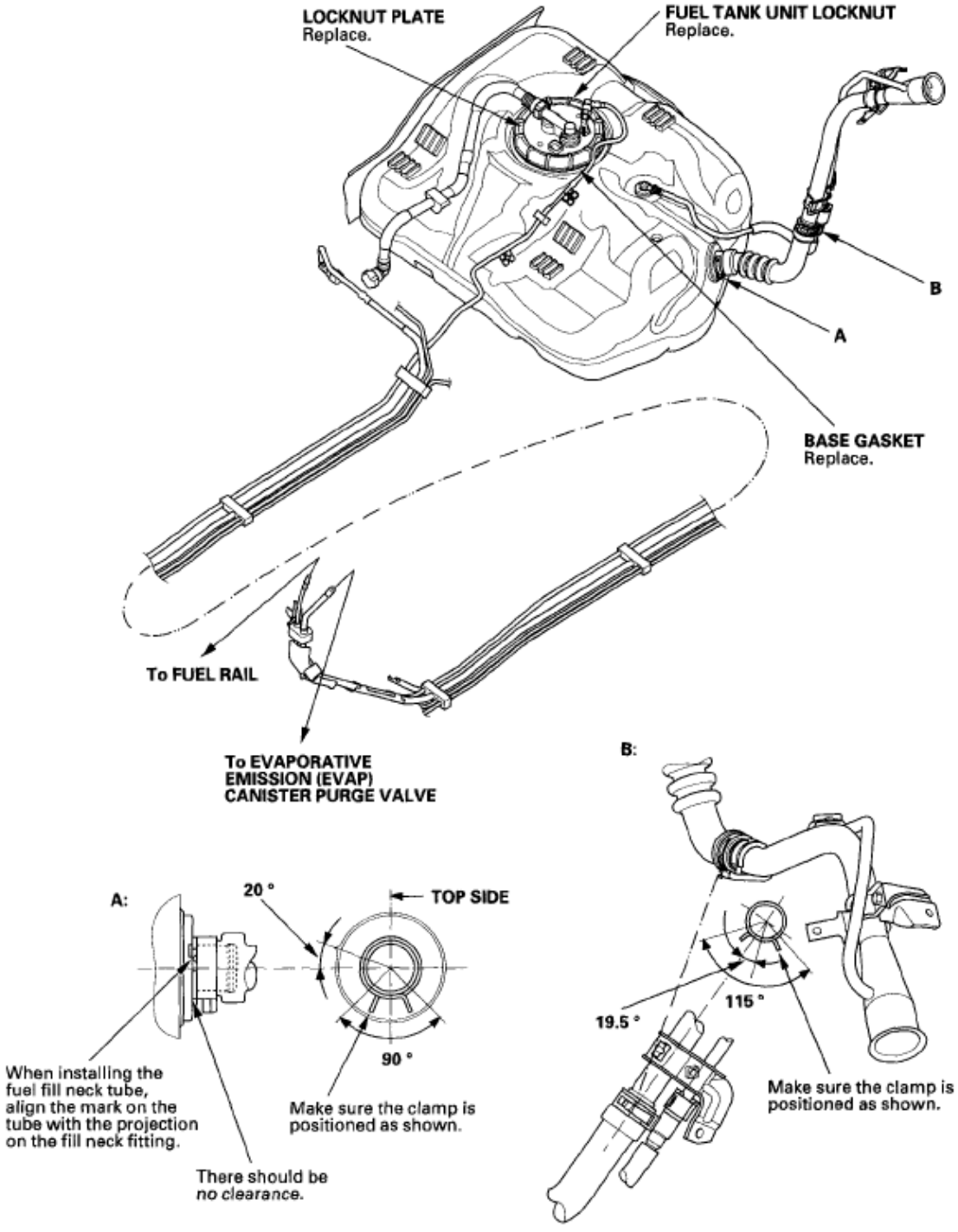



**Fig. 35: Checking All Clamps**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS

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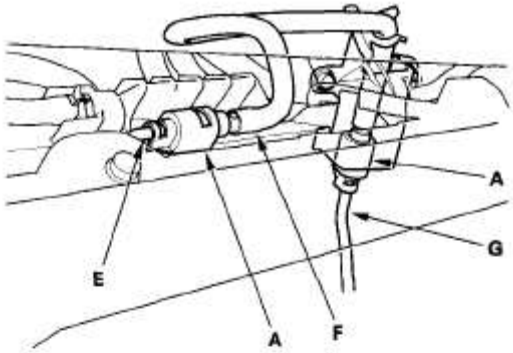
The fuel line/quick-connect fittings (A), (B), (C), and (D) connect the fuel rail (E) to the fuel feed hose (F), the fuel feed hose to the fuel line (G), the fuel line (H) to the fuel tank unit (I), the fuel vapor line (J) to the EVAP canister (K), and the fuel tank vapor recirculation tube (L) to the fuel fill pipe (M). When removing or installing the fuel feed hose, the fuel tank unit, or the fuel tank, it is necessary to disconnect or connect the quick-connect fittings. Pay attention to the following:

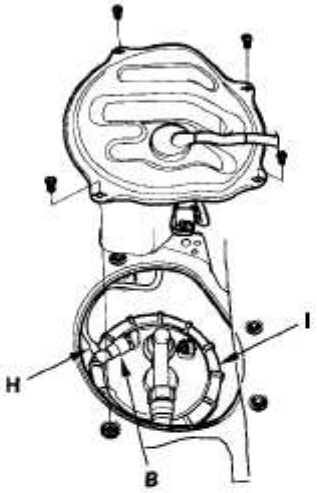
- The fuel feed hoses, fuel line, and quick-connect fittings are not heat-resistant; be careful not to damage them during welding or other heat-generating procedures.
- The fuel feed hoses, fuel line, and quick-connect fittings are not acid-proof; do not touch them with a shop towel that was used for wiping battery electrolyte. Replace them if they come in contact with electrolyte or something similar.
- When connecting or disconnecting the fuel feed hoses, fuel line, and quick-connect fittings, be careful not to bend or twist them excessively. Replace them if they are damaged.

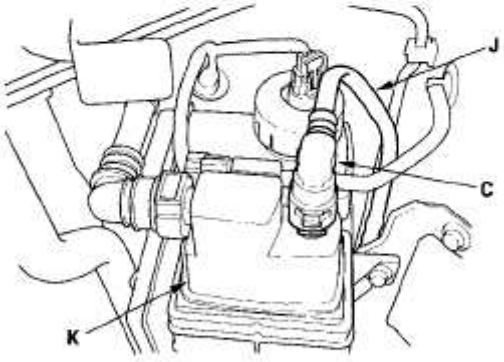
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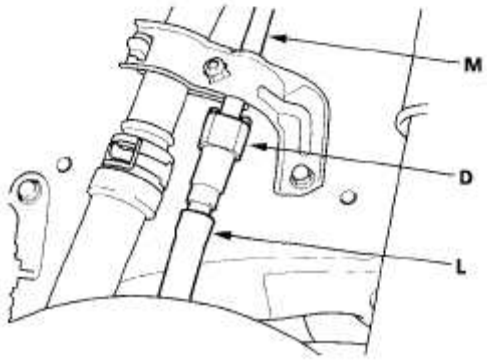
# 2008 Honda Civic GX

2006-08 ENGINE PERFORMANCE Fuel Supply System (R18A1) - Civic (Except Hybrid)



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**Fig. 36: Precautions For Fuel Line/Quick-Connect Fitting**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

A disconnected quick-connect fitting can be reconnected, but the retainer on the mating line cannot be reused once it has been removed from the line. Replace the retainer when:

- replacing the fuel rail.
- replacing the fuel line.
- replacing the fuel pump.
- replacing the fuel filter.
- replacing the fuel gauge sending unit.
- replacing the EVAP purge line.
- replacing the EVAP canister.
- replacing the fuel tank.
- replacing the fuel fill pipe.
- it has been removed from the line.
- it is damaged.

**FUEL LINE/QUICK-CONNECT FITTING**

| Location | Manufacturer | Retainer color | Line diameter |
|---|---|---|---|
| A | Tokai | Green | 0.25 in. (6.3 mm) |
| B | Sanoh | White | 0.4 in. (9.5 mm) |
| C | Sanoh | White | 0.5 in. (12 mm) |
| D | Tokai | Natural | 0.5 in. (12 mm) |

## FUEL LINE/QUICK-CONNECT FITTING REMOVAL

**NOTE: Before you work on the fuel lines and fittings, read the "Fuel Line/Quick-Connect Fitting Precautions" (see FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS ).**

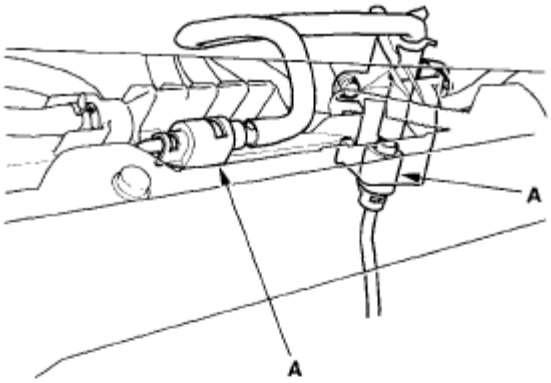
1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).

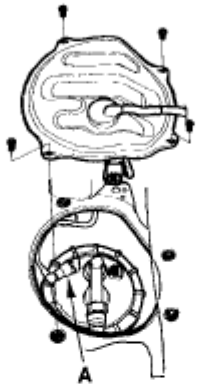
2. Check the fuel quick-connect fittings (A) for dirt, and clean them if needed.

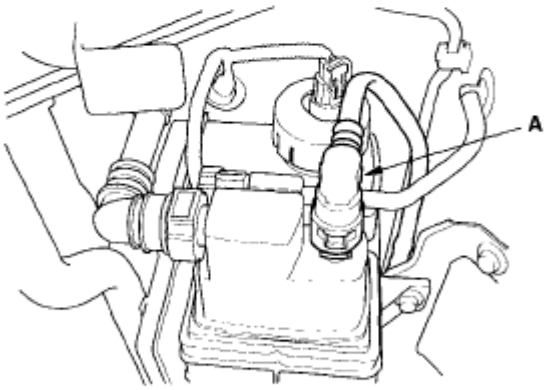
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# 2008 Honda Civic GX

2006-08 ENGINE PERFORMANCE Fuel Supply System (R18A1) - Civic (Except Hybrid)



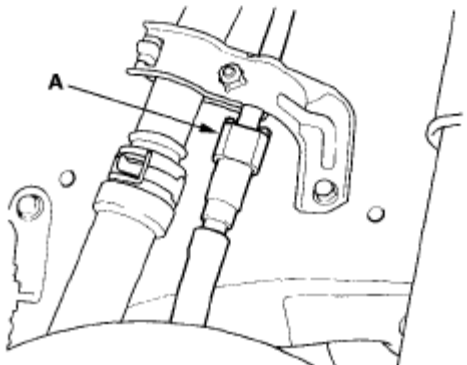



**Fig. 37: Checking Fuel Quick-Connect Fittings**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Place a rag or shop towel over the quick-connect fitting. Hold the connector (A) with one hand, and squeeze the retainer tabs (B) with the other hand to release them from the locking tabs (C). Pull the connector off.

**NOTE:**

- **Be careful not to damage the line (D) or other parts. Do not use tools.**
- **If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it comes off easily.**
- **Do not remove the retainer from the line; once removed, the retainer must be replaced with a new one.**

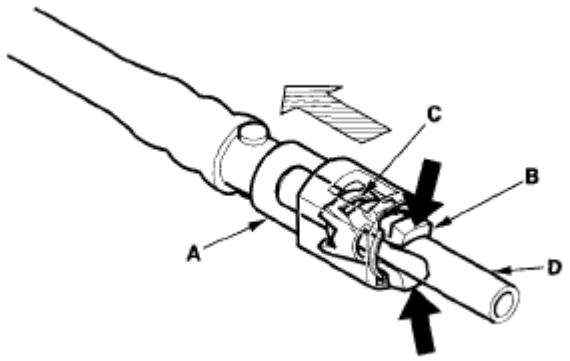



**Fig. 38: Pulling Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check the contact area (A) of the line (B) for dirt or damage.
   - If it is dirty, clean the connector with a pressure washer, and dry it with the compressed air.
   - If it is rusty or damaged, replace the fuel filter or the fuel feed line.

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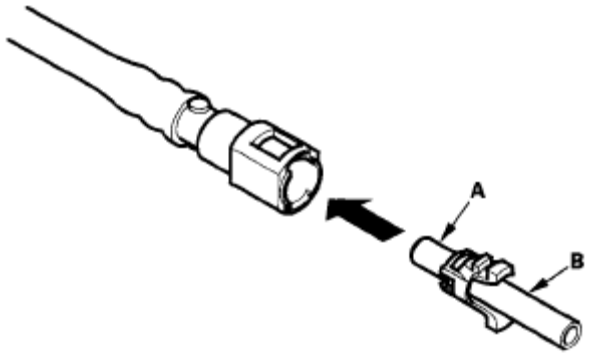



**Fig. 39: Checking Contact Area Of Line**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. To prevent damage and keep foreign matter out, cover the disconnected connector and line ends with plastic bags (A).

**NOTE: The retainer cannot be reused once it has been removed from the line. Replace the retainer when:**

- **replacing the fuel rail.**
- **replacing the fuel feed line.**
- **replacing the fuel pump.**
- **replacing the fuel filter.**
- **replacing the fuel gauge sending unit.**
- **replacing the EVAP purge pipe.**
- **replacing the EVAP canister.**
- **replacing the fuel tank.**
- **replacing the fuel fill pipe.**
- **it has been removed from the line.**
- **it is damaged.**

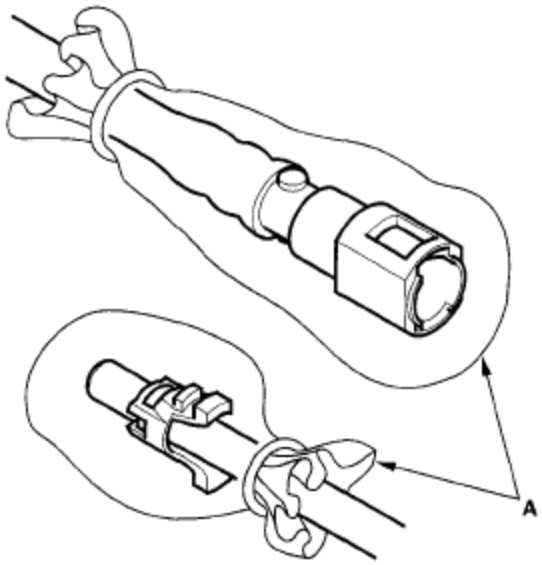



**Fig. 40: Covering Connector And Line In Plastic Bags**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## FUEL LINE/QUICK-CONNECT FITTING INSTALLATION

**NOTE: Before you work on the fuel lines and fittings, read the "Fuel Line/Quick-Connect Fitting Precautions" (see FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS ).**

1. Check the contact area (A) of the line (B) for dirt or damage, and clean it if needed.

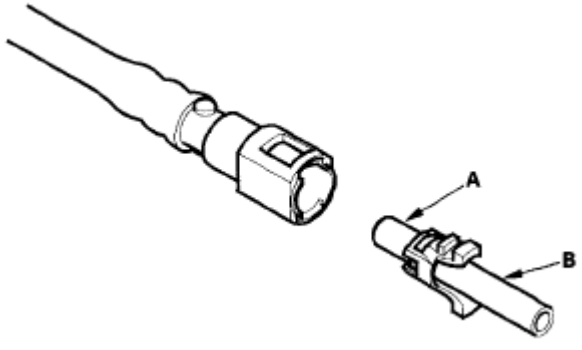



**Fig. 41: Checking Contact Area And Line**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Insert a new retainer (A) into the connector (B) if the retainer is damaged, or after:
   - replacing the fuel rail.
   - replacing the fuel feed line.
   - replacing the fuel pump.
   - replacing the fuel filter.
   - replacing the fuel gauge sending unit.
   - replacing the EVAP purge pipe.
   - replacing the EVAP canister.
   - replacing the fuel tank.
   - replacing the fuel fill pipe.
   - removing the retainer from the line.
   - Use the same manufacturer retainer and the same size retainer when replacing the retainer (see **FUEL LINE/QUICK-CONNECT FITTING PRECAUTIONS** ).

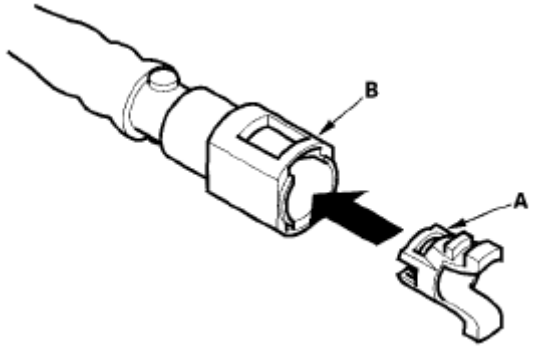


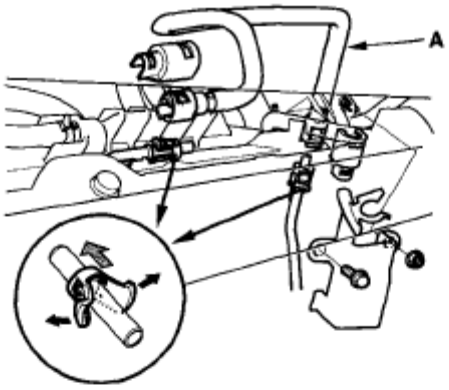

**Fig. 42: Inserting Retainer Into Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

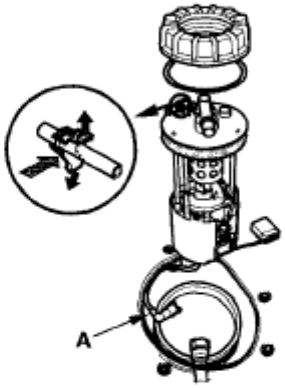
3. Before connecting a new fuel tube/quick-connect fitting assembly (A), remove the old retainer from the mating line.

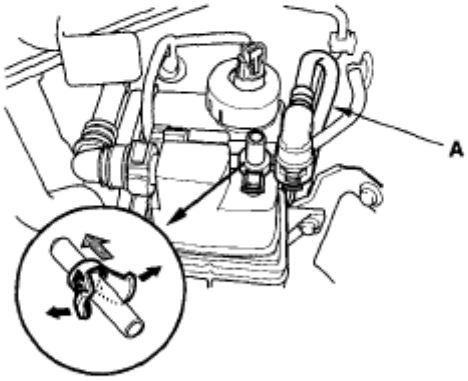
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# 2008 Honda Civic GX

2006-08 ENGINE PERFORMANCE Fuel Supply System (R18A1) - Civic (Except Hybrid)



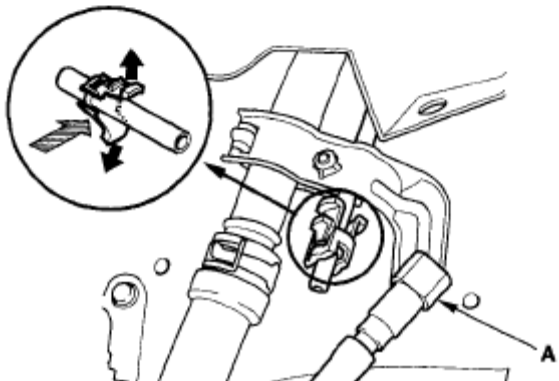



**Fig. 43: Removing Old Retainer From Mating Line Before Connecting Fuel Tube/Quick-Connect Fitting Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Align the quick-connect fittings with the line (A), and align the retainer locking tabs (B) with the connector grooves (C). Then press the quick-connect fittings onto the line until both retainer tabs lock with a clicking sound.

**NOTE: If it is hard to connect, put a small amount of new engine oil on the line end.**

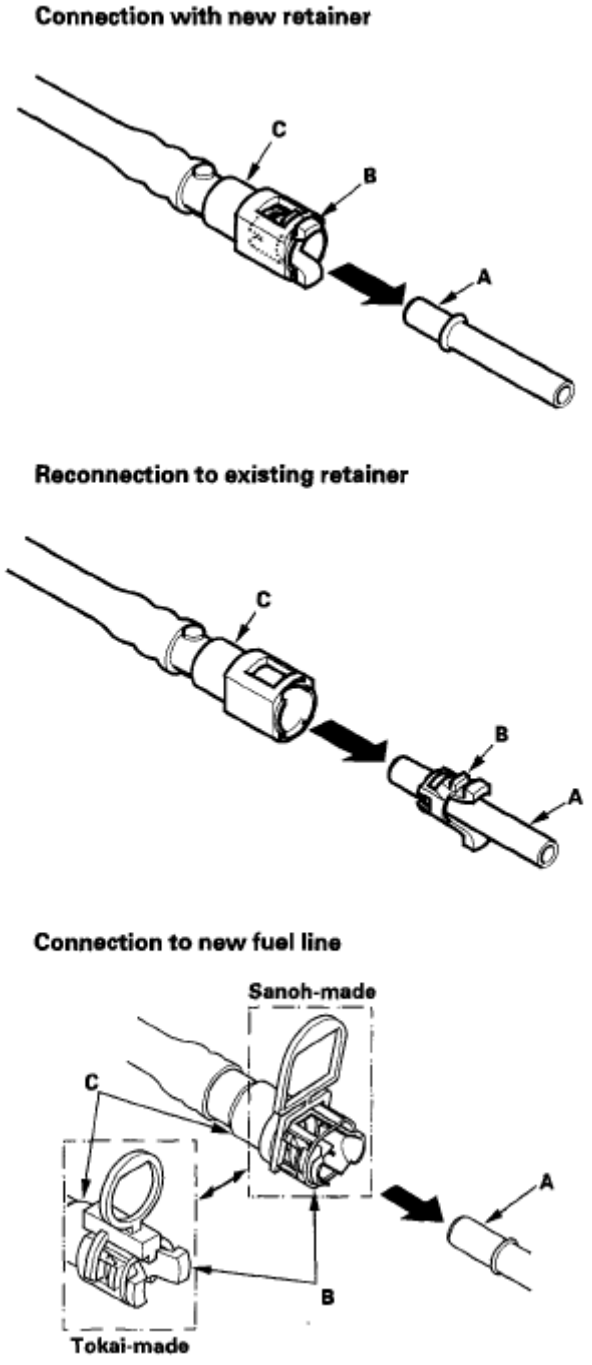



**Fig. 44: Aligning Quick-Connect Fittings With Line And Retainer Locking Tabs With Connector Grooves**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. When you reconnect the connector with the old retainer, make sure the connection is secure and the tabs are firmly locked into place; check visually

and also by pulling the connector. When you replace the fuel line with a new one, make sure you remove the ring pull upwards after you confirm the connection is secure.

**NOTE: Before you remove the ring pull, make sure the fuel line connection is secure. If the connection is not secure, the ring pull could break when you try to remove it.**

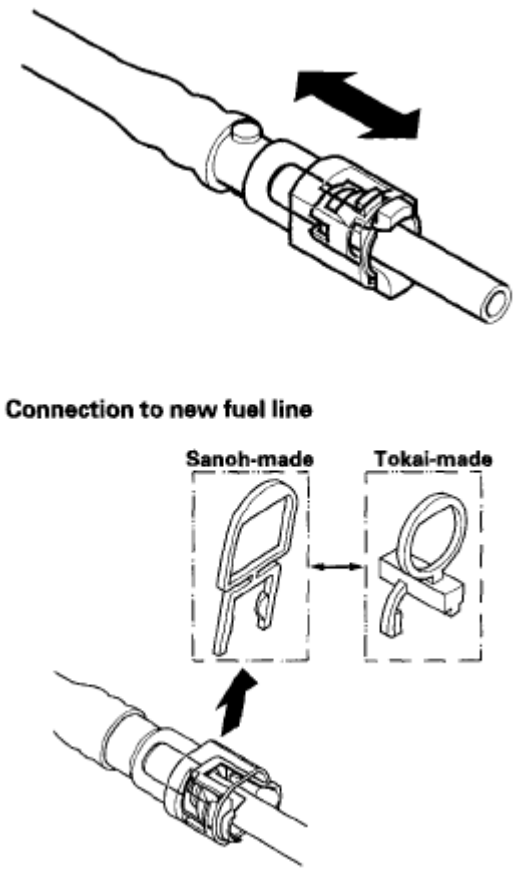



**Fig. 45: Making Sure Connection Is Secure And Tabs Are Firmly Locked Into Place**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Reconnect the negative cable to the battery, and turn the ignition switch ON (II) (but do not operate the starter motor). The fuel pump will run for about 2 seconds, and fuel pressure will rise. Repeat this two or three times, and check that there is no leakage in the fuel supply system.

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# FUEL TANK UNIT REMOVAL/INSTALLATION

## Special Tools Required

Fuel pump module locknut wrench 07AAA-SNAA100

**REMOVAL**

1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
2. Remove the fuel fill cap.
3. Remove the rear seat cushion (see **REAR SEAT REMOVAL/INSTALLATION** ).
4. Remove the rear floor upper cross-member (A).

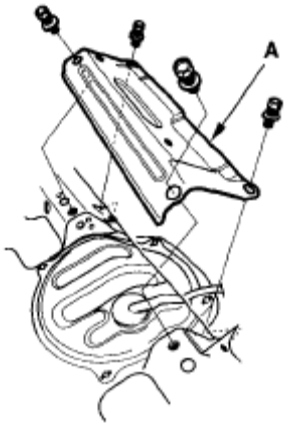



**Fig. 46: Removing Rear Floor Upper Cross-Member Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the access panel (A) from the floor.

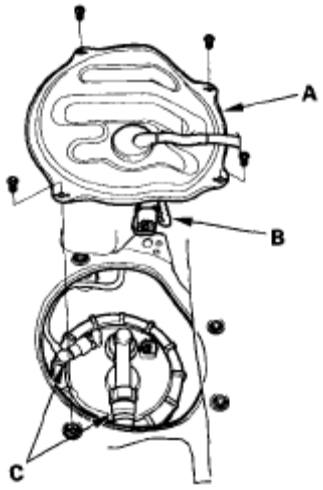



**Fig. 47: Removing Access Panel From Floor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Disconnect the fuel tank unit 4P connector (B).
7. Disconnect the quick-connect fittings (C) from the fuel tank unit.
8. Using the special tool, loosen the locknut (A).

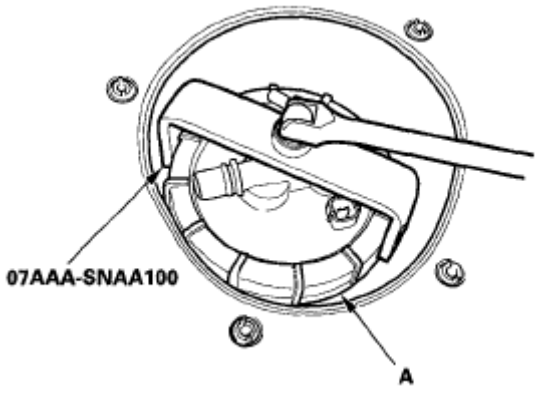



**Fig. 48: Loosening Locknut Using Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the locknut (A) and the fuel tank unit (B).

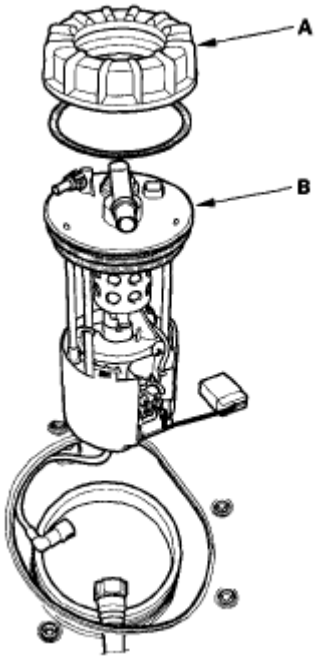



**Fig. 49: Identifying Locknut And Fuel Tank Unit**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Temporarily attach a new base gasket (A) to the fuel tank unit (B), then insert the fuel tank unit partially into the fuel tank.
   - Be careful not to damage a new base gasket.
   - Be careful not to bend the fuel gauge sending unit.
   - Do not coat the base gasket with oil.

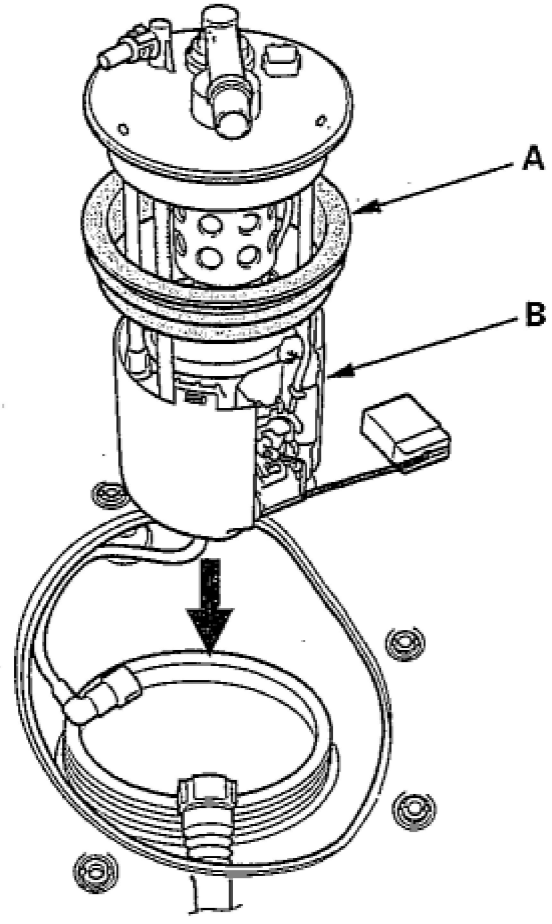



**Fig. 50: Identifying Base Gasket And Fuel Tank Unit**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Transfer the base gasket (A) from the fuel tank unit onto the fuel tank.

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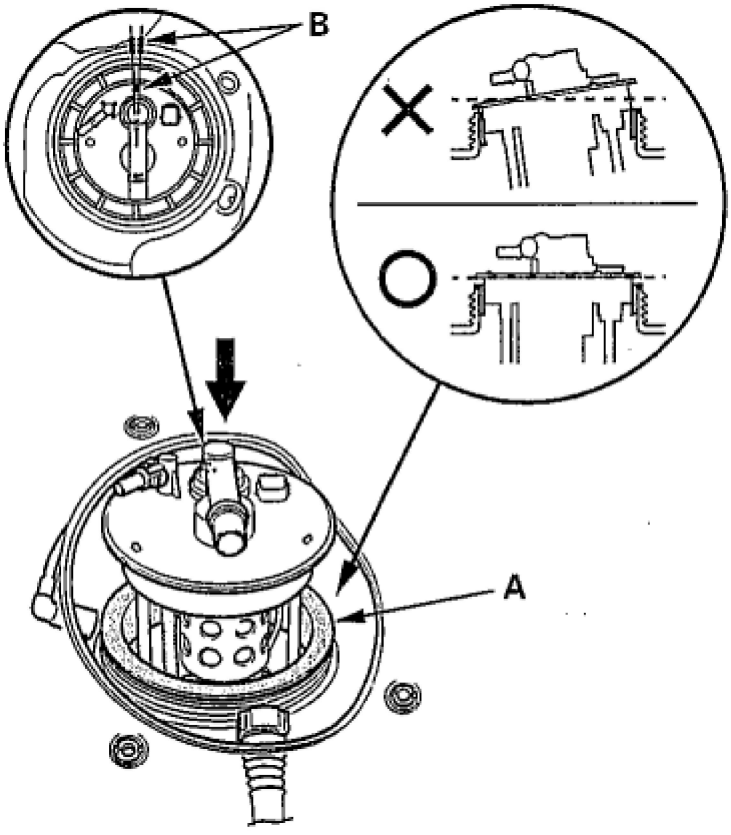



**Fig. 51: Identifying Base Gasket From The Fuel Tank, Alignment Marks And Fuel Tank**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Align the marks (B) on the fuel tank and the fuel tank unit, then insert the fuel tank unit into the fuel tank until it sits on the base gasket.

**NOTE: To prevent a fuel leak, check the base gasket, visually or by hand, to make sure it is not pinched**

4. Install the new locknut plate (A) and the new locknut (B).

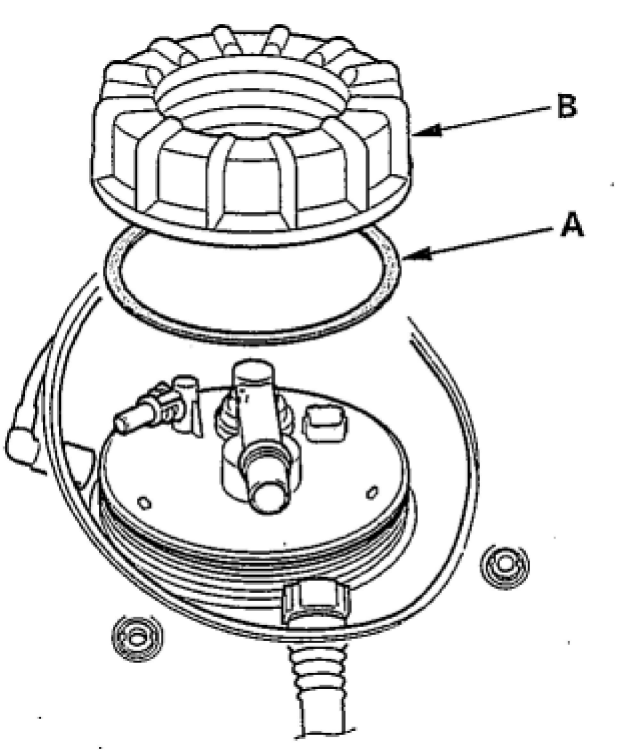



**Fig. 52: Identifying Locknut Plate And The Locknut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Using the special tool, tighten a locknut (A) to the specified torque.
   - After tightening, make sure the marks are still aligned.
   - After installation, check the base gasket, visually o by hand, to make sure it is not pinched.

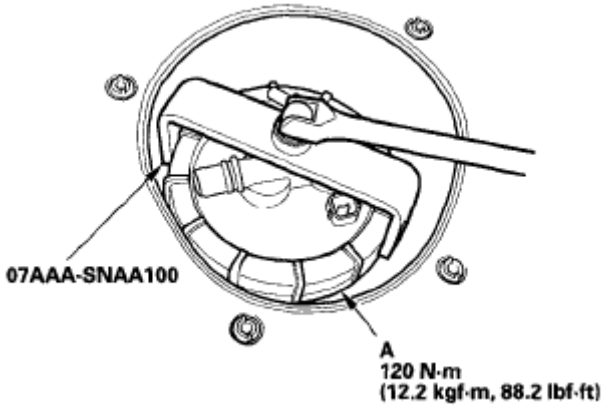



**Fig. 53: Tightening Fuel Tank Unit Locknut (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Connect the fuel tank unit 4P connector, then connect the quick-connect fitting.
7. Reconnect the negative cable to the battery, and turn the ignition switch ON (II) (but do not operate the starter motor). The fuel pump will run for about 2 seconds, and fuel pressure will rise. Repeat this two or three times, then check that there is no leakage in the fuel supply system.
8. Install the access panel (A) to the floor.

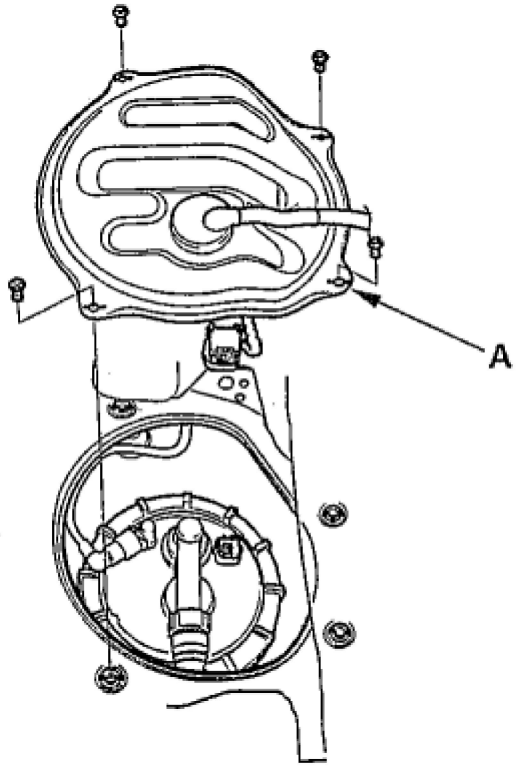



**Fig. 54: Installing The Access Panel To The Floor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install the rear floor upper cross-member (A).

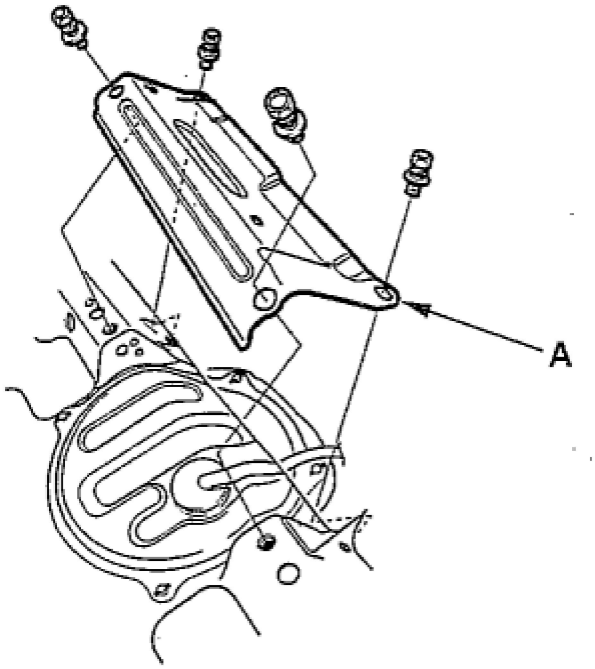



**Fig. 55: Installing The Rear Floor Upper Cross-Member**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the rear seat cushion (see **SEAT CUSHION** )

## FUEL PRESSURE REGULATOR REPLACEMENT

1. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
2. Remove the bracket (A).

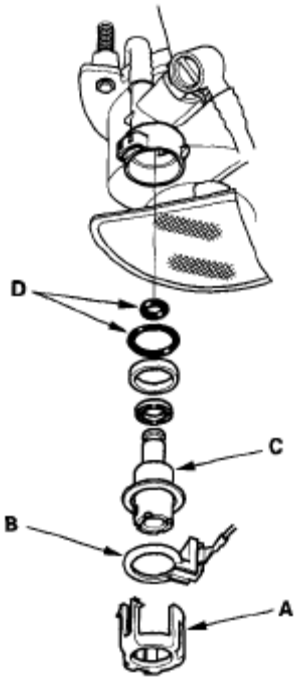



**Fig. 56: Removing Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the ground ring (B).
4. Remove the fuel pressure regulator (C).
5. Install the parts in the reverse order of removal with new O-rings (D) and a new bracket (A). When installing the fuel tank unit, align the marks on the unit and the fuel tank (see **INSTALLATION** ).

**NOTE: Coat the O-rings with clean engine oil; do not use any other oil. Do not pinch the O-rings during installation.**

## FUEL FILTER REPLACEMENT

The fuel filter should be replaced whenever the fuel pressure drops below the specified value (see **FUEL PRESSURE TEST** ), after making sure that the fuel pump and the fuel pressure regulator are OK.

1. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
2. Remove the fuel filter (A).

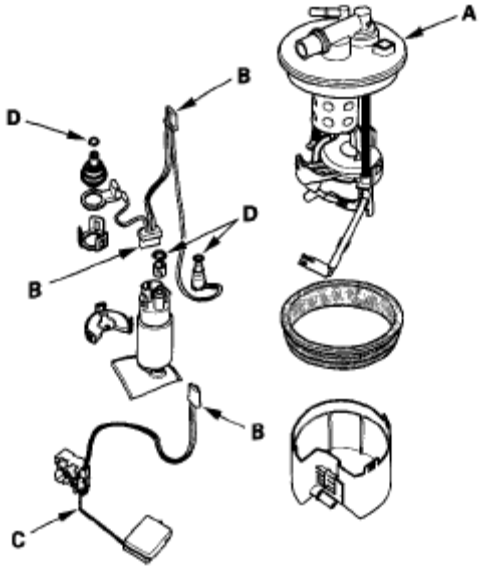



**Fig. 57: Removing Fuel Filter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check these items before installing the fuel tank unit:
   - When connecting the wire harness, make sure the connection is secure and the connectors (B) are firmly locked into place.
   - When installing the fuel gauge sending unit (C), make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.
4. Install the parts in the reverse order of removal with new O-rings (D). When installing the fuel tank unit, align the marks on the unit and the fuel tank (see **INSTALLATION** ).

**NOTE: Coat the O-rings with clean engine oil; do not use any other oil.**

## FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT

1. Remove the fuel tank unit (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
2. Remove the fuel level sensor (fuel sending unit) (A) from the fuel tank unit (B).

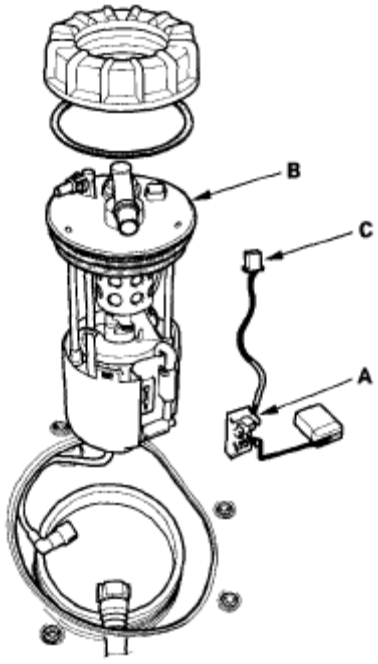



**Fig. 58: Removing Fuel Level Sensor From Fuel Tank Unit**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check these items before installing the fuel tank unit:
   - When connecting the wire harness, make sure the connection is secure and the connectors (C) are firmly locked into place.
   - When installing the fuel gauge sending unit, make sure the connection is secure and the connector is firmly locked into place. Be careful not to bend or twist it excessively.
4. Install the parts in the reverse order of removal. When installing the fuel tank unit, align the marks on the unit and the fuel tank (see **INSTALLATION** ).

## FUEL TANK REPLACEMENT

1. Drain the fuel tank (see **FUEL PRESSURE TEST** ), then disconnect the fuel tank unit 4P connector (A) and the quick-connect fitting (B).

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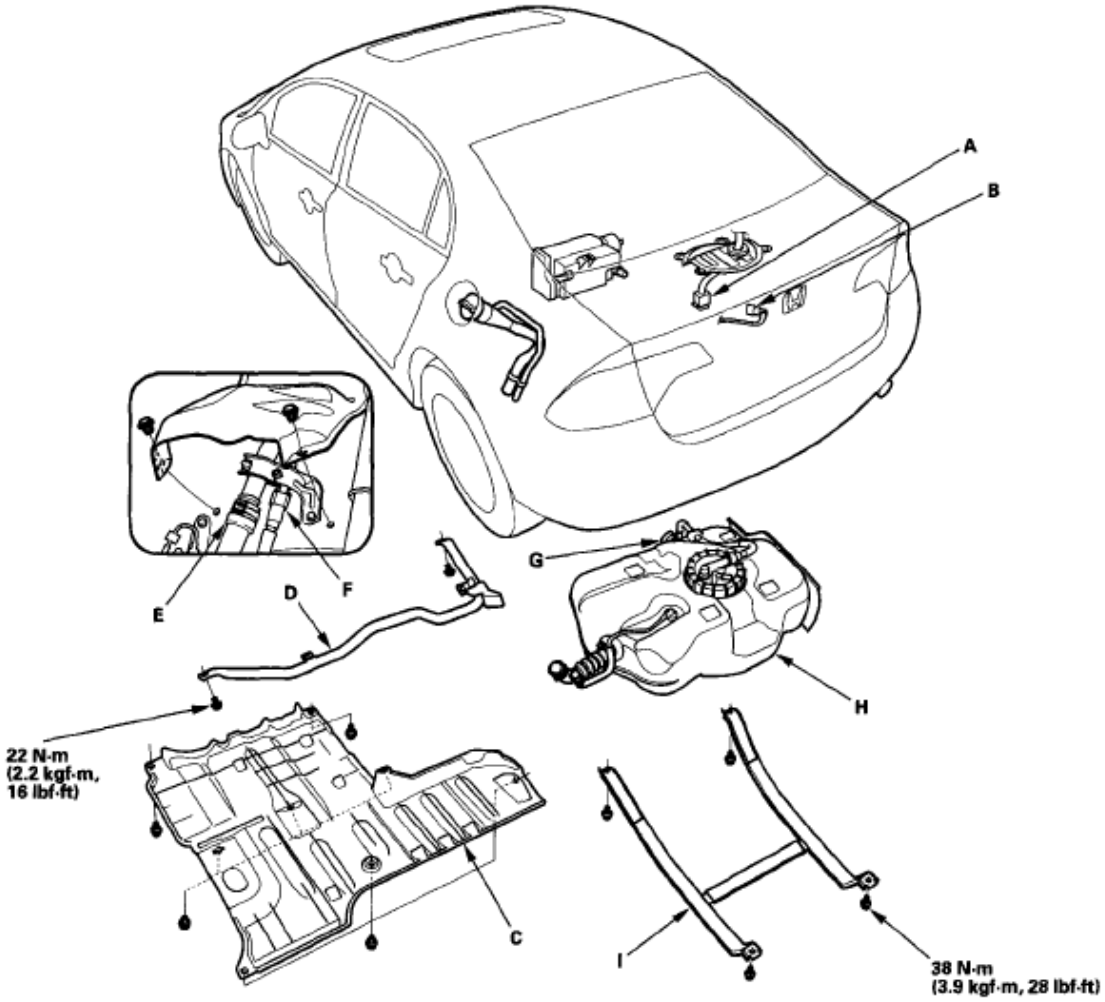



**Fig. 59: Disconnecting Fuel Tank Unit 4P Connector And Quick-Connect Fitting (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Lift the vehicle, and support it with jackstands.
3. Remove the cover (C), and the EVAP canister guard (D).
4. Disconnect the fuel fill tube (E). Slide back the clamps, then twist the hoses as you pull to avoid damaging them.
5. Disconnect the quick-connect fitting (F) and the fuel tank vapor recirculation tube (G).
6. Place a jack or other support under the tank (H).
7. Remove the strap bolts and the strap (I).
8. Remove the fuel tank.

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9. Install the parts in the reverse order of removal.

## FUEL GAUGE SENDING UNIT TEST

**NOTE: For the fuel gauge system circuit diagram, refer to the (see CIRCUIT DIAGRAM - GAUGE CONTROL MODULE (TACH) ).**

1. Check the No. 10 METER (7.5 A) fuse in the under-dash fuse/relay box before testing.
2. Check for body electrical system DTCs.
   - If no problem is found, go to step 3.
   - If DTC B1175 or B1176 is indicated, go to the indicated DTC's troubleshooting.
3. Turn the ignition switch OFF.
4. Remove the rear seat cushion (see **REAR SEAT REMOVAL/INSTALLATION** ).
5. Remove the rear floor upper cross-member (A).

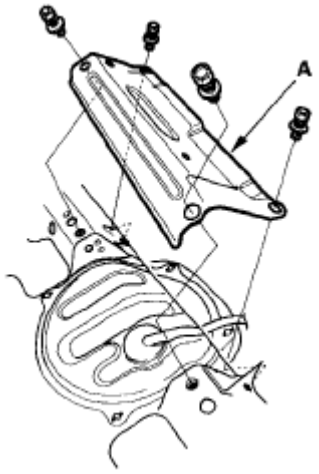



**Fig. 60: Removing Rear Floor Upper Cross-Member**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the access panel (A) from the floor.

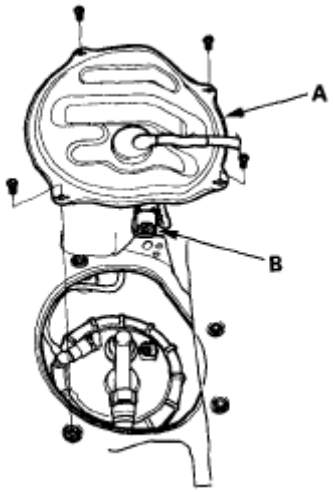



**Fig. 61: Removing Access Panel From Floor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the fuel tank unit 4P connector (B).
8. Measure voltage between fuel tank unit 4P connector terminals No. 1 and No. 3 with the ignition switch ON (II). There should be battery voltage.
   - If the voltage is OK, go to step 9.
   - If the voltage is not as specified, check for:
     - a short in the ORN (2-door: PUR) wire to ground.
     - an open in the ORN (2-door: PUR) or LT GRN (2-door: ORN) wire.

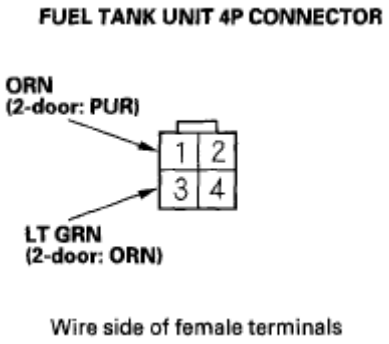



**Fig. 62: Measuring Voltage Between Fuel Tank Unit 4P Connector Terminals No. 1 And 3 With Ignition Switch ON (II)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Turn the ignition switch OFF.

10. Remove the fuel tank unit from the fuel tank (see **FUEL TANK UNIT REMOVAL/INSTALLATION** ).
11. Measure resistance between fuel tank unit 4P connector terminals No. 1 and No. 3 with the float at E (EMPTY), LOW (LOW FUEL INDICATOR), 1/2 (HALF FULL), and F (FULL) positions. If you do not get the following readings, replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** ).

**FLOAT POSITION RESISTANCE SPECIFICATION**

| Float Position | F 5.6 in. (139.8 mm) | 1/2 2.9 in. (72.1 mm) | LOW 0.8 in. (19.5 mm) | E 0.4 in. (8.9 mm) |
|---|---|---|---|---|
| Resistance (ohms) | 19 to 21 | 205.8 to 215.8 | 537.5 to 707 | 772 to 788 |

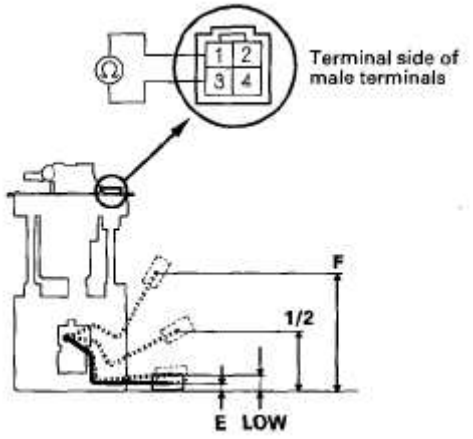



**Fig. 63: Measuring Resistance Between Fuel Tank Unit 4P Connector Terminals No 1 And 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Reconnect the fuel tank unit 4P connector.
13. Remove the No. 23 BACK UP (10 A) fuse from the under-hood fuse/relay box for at least 10 seconds, then reinstall it.
14. Turn the ignition switch ON (II).
15. Check that the pointer of the fuel gauge indicates "F" with the float at F.
    - If the pointer of the fuel gauge does not indicate "F", replace the gauge assembly.

- If the gauge is OK, the test is complete.

**NOTE:**

- **The pointer of the fuel gauge returns to the bottom of the gauge dial when the ignition switch is OFF, regardless of the fuel level.**
- **Remove the No. 23 BACK UP (10 A) fuse from the under-hood fuse/relay box for at least 10 seconds after completing troubleshooting, otherwise it may take up to 20 minutes for the fuel gauge to indicate the correct fuel level.**

## LOW FUEL INDICATOR TEST

1. Do the gauge self-diagnostic function (see **SELF-DIAGNOSTIC FUNCTION** ).
   - If the low fuel indicator flashes, go to step 2.
   - If the low fuel indicator does not flash, replace the gauge control module (tach) (see **TACHOMETER** ).
2. Check for body electrical system DTCs.
   - If any DTCs are indicated, do the indicated DTC's troubleshooting.
   - If no DTCs are indicated, go to step 3.
3. Do the fuel gauge sending unit test (see **FUEL GAUGE SENDING UNIT TEST** ).

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# 2006-08 ACCESSORIES & EQUIPMENT

## Gauges - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX

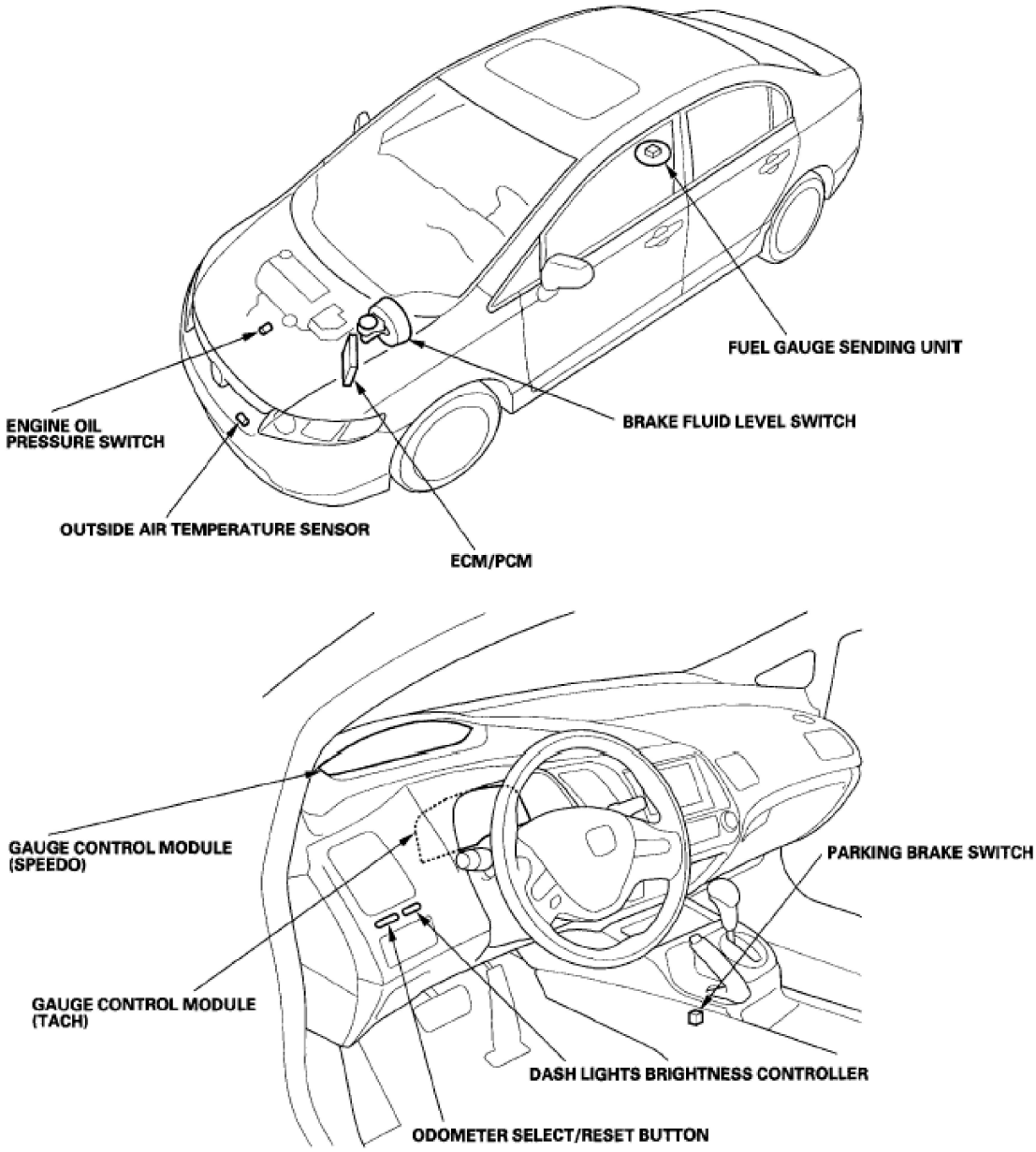



**Fig. 1: Locating Gauges Components**

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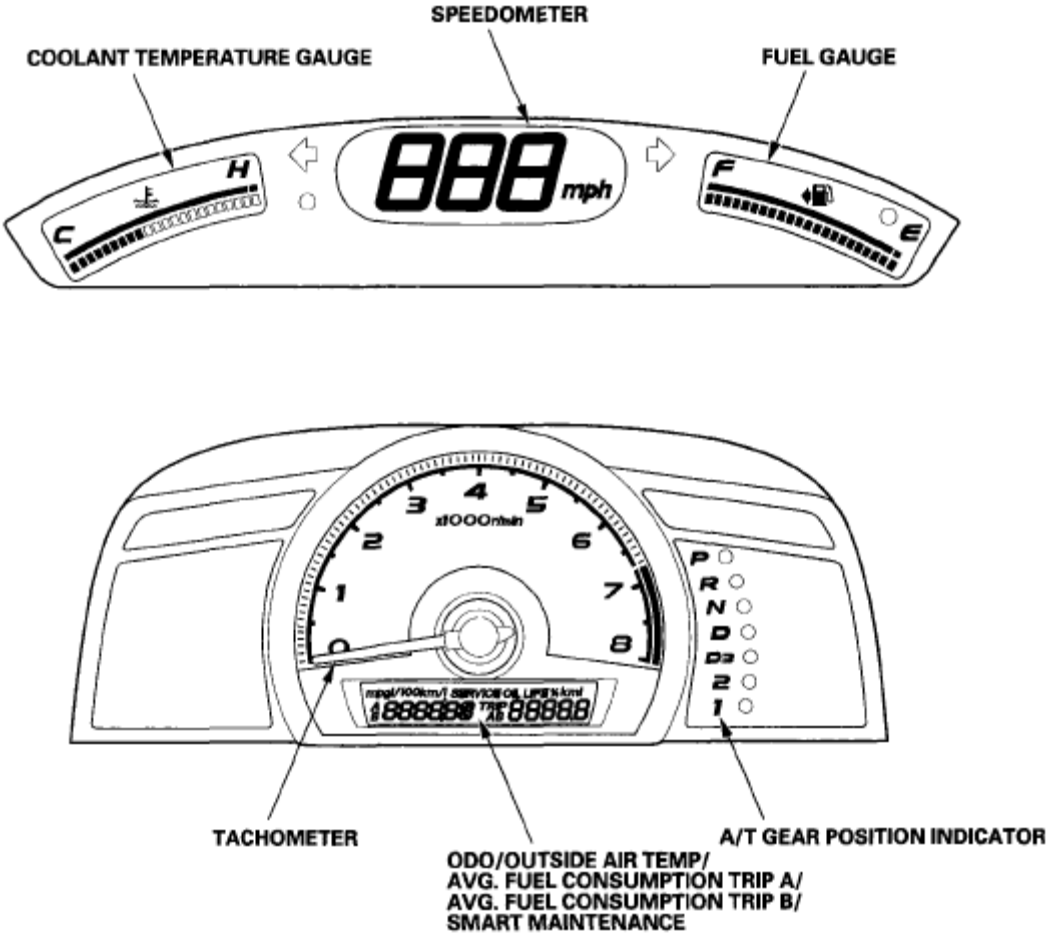
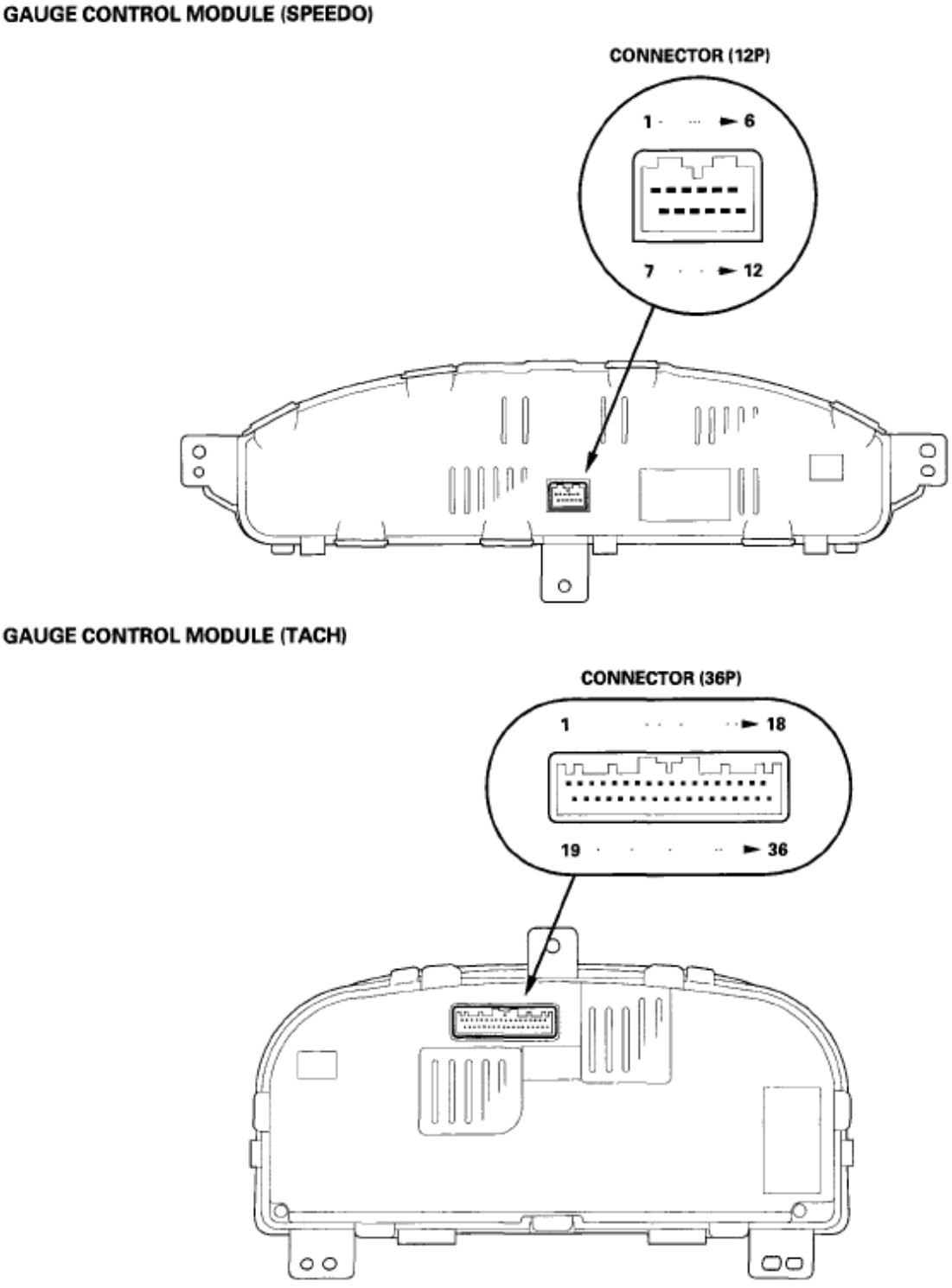



**Fig. 2: Identifying Speedometer And Tachometer Components**

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## Fig. 3: Identifying Gauge Control Modules

## SELF-DIAGNOSTIC FUNCTION

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Before troubleshooting the gauge system, refer to multiplex integrated control system B-CAN System Diagnosis Test Mode A (see **TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A** ).

The gauge control module (tach) has a self-diagnostic function shown, and also has a customizable reset function.

- The beeper drive circuit check.
- The indicator drive circuit check.
- The switch input test.
- The LCD segments check.
- 4-door: The gauges drive circuit check (Tachometer, Fuel gauge, Coolant temperature gauge).
- 2-door: The self-diagnostic function does not operate the Fuel gauge and Coolant temperature gauge.
- The communication line check (of the body-controller area network (B-CAN) communication line and the fast-controller area network (F-CAN) communication line between the gauges).

**NOTE: Indicators are also controlled via the communication line.**

#### ENTERING THE SELF-DIAGNOSTIC FUNCTION WITH THE HDS

4-door: Using the HDS, select Body Electrical, Gauges, then Function Test and do the self-diagnostic Function.

2-door: Use the manual method.

#### ENTERING THE SELF-DIAGNOSTIC FUNCTION (MANUAL METHOD)

Before doing the self-diagnostic function, check the No. 10 (7.5 A) fuse in the under-dash fuse/relay box and the No. 23 (10 A) fuse in the under-hood fuse/relay box.

1. Push and hold the SEL/RESET switch button.
2. Turn the headlights ON.

3. Turn the ignition switch ON (II).
4. Within 5 sec, turn the headlights OFF, then ON and OFF again.
5. Within 5 sec, release the SEL/RESET switch button, and then push and release the button three times repeatedly.

**NOTE:**

- **While in the self-diagnostic mode, the dash lights brightness controller operates normally.**
- **While in the self-diagnostic mode, the SEL/RESET button is used to start the Beeper Drive Circuit Test and the Gauge Drive Circuit Check.**
- **If the vehicle speed exceeds 1.2 mph (2 km/h) or the ignition switch is turned OFF, the self-diagnostic mode ends.**

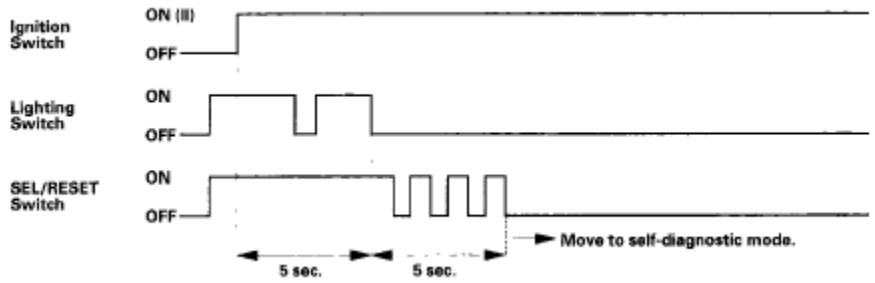



**Fig. 4: Self-Diagnostic Function Blinking Pattern**

**THE INDICATOR DRIVE CIRCUIT CHECK**

When entering the self-diagnostic mode, the following indicators blink:

ABS indicator, A/T gear position indicator, brake system indicator, charging system indicator, cruise control indicator, cruise indicator, door indicator, DRL indicator, high beam indicator, immobilizer indicator, lights-on indicator, low fuel indicator, malfunction indicator lamp (MIL), oil pressure indicator, Seat belt indicator, security indicator, side airbag off indicator, smart maintenance indicator, SRS indicator, trunk indicator, and washer fluid level indicator (Canada models).

**SWITCH INPUT CHECK**

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At the initial stage of the self-diagnostic function, the beep sounds intermittently, the beeper sounds continuously when any of the following switch inputs are switched from OFF to ON:

Cruise control master, SET, RESUME, CANCEL switches, SEL/RESET switch, mph-km/h switch, illumination volume (+), (-) switch, parking brake switch, and VSA OFF switch.

**THE BEEPER DRIVE CIRCUIT CHECK**

When entering the self-diagnostic mode, the beeper sounds five times.

**THE LCD SEGMENT CHECK**

4-door: When entering the self-diagnostic mode, all the segments blink five times.

2-door: Self-diagnostic function does not operate the Fuel gauge and Coolant temperature gauge.

**THE GAUGE DRIVE CIRCUIT CHECK**

When entering the self-diagnostic mode, the tachometer, needle sweeps from the minimum position to maximum position, then returns to the minimum position.

**NOTE: After the beeper stops sounding and the gauge needle returns to the minimum position, pushing the SEL/RESET switch starts the Beeper Drive Circuit Check (one beep) and the Gauge Drive Circuit Check again.**

The check cannot be started again until the gauge needle returns to the minimum position.

The needle sweeps from the minimum position to the maximum position, then return to the minimum position.

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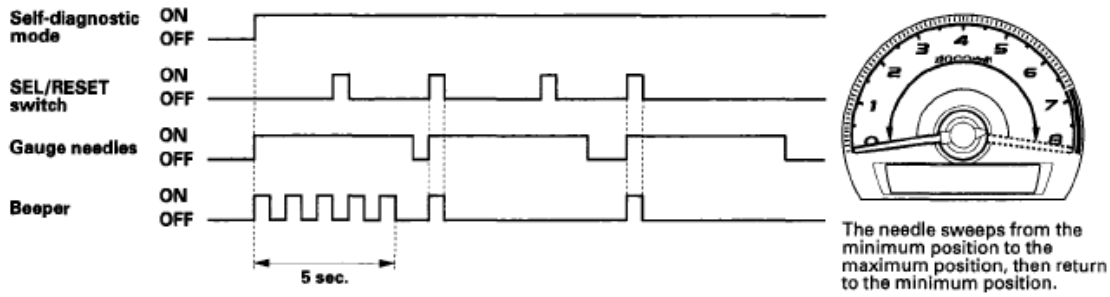



**Fig. 5: Checking Gauge Drive Circuit Blinking Pattern**

If the needle fails to sweep, or the beeper does not sound, replace the gauge control module (tach).

#### THE COMMUNICATION LINE CHECK

While in the self-diagnostic mode, the Communication Line Check starts after the LCD Segments Check.

If all segments come on, the communication line is OK. If faulty, the word "Error" will be indicated on the odometer display followed by number(s).

### 4-DOOR ERROR CODE LIST

| Error code | Type of communication line(s) error |
|---|---|
| Error 1 | F-CAN communication |
| Error 2 | B-CAN communication |
| Error 3 | UART communication |
| Error 12 | F-CAN and B-CAN communication |
| Error 13 | F-CAN and UART communication |
| Error 23 | B-CAN and UART communication |
| Error 123 | F-CAN, B-CAN and UART communication |

### 2-DOOR ERROR CODE LIST

| Error code | Type of communication line(s) error |
|---|---|
| Error 1 | F-CAN communication |
| Error 2 | B-CAN communication |
| Error 3 | F-CAN and B-CAN communication |

| | |
|---|---|
| Error 12 | F-CAN and B-CAN communication |
| Error 13 | F-CAN and B-CAN communication |
| Error 23 | F-CAN and B-CAN communication |
| Error 123 | F-CAN and B-CAN communication |

## Example Indication




**Fig. 6: Example Of Indication**

- If the word "Error 1" is indicated, there is a malfunction in the communication line between the gauge control module (tach) and the fast-controller area network (F-CAN). Check for DTCs in the ECM/PCM and troubleshoot any DTCs found. If no DTCs are found, go to indicated troubleshooting.
- If the word "Error 2" is indicated, there is a malfunction in the communication line between the gauge control module (tach) and the body-controller area network (B-CAN). Go to troubleshooting **DTC B1155** to **DTC B1160** .
- 4-door: the word "Error 3" is indicated, there is a malfunction in the UART communication line between the gauge control module (tach) and the gauge control module (speedo). Go to **GAUGE CONTROL MODULE (TACH) INPUT TEST** and check the No. 20 terminal . If the wire harness is OK, substitute a known-good gauge control module (speedo) and recheck.

If any F-CAN or B-CAN communication line errors are found, go to DTC check using HDS .

#### ENDING THE SELF-DIAGNOSTIC FUNCTION

Turn the ignition switch OFF.

**NOTE: If the vehicle speed exceeds 1.2 mph (2 km/h), the self-**

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**diagnostic function ends.**

## CIRCUIT DIAGRAM - GAUGE CONTROL MODULE (TACH)

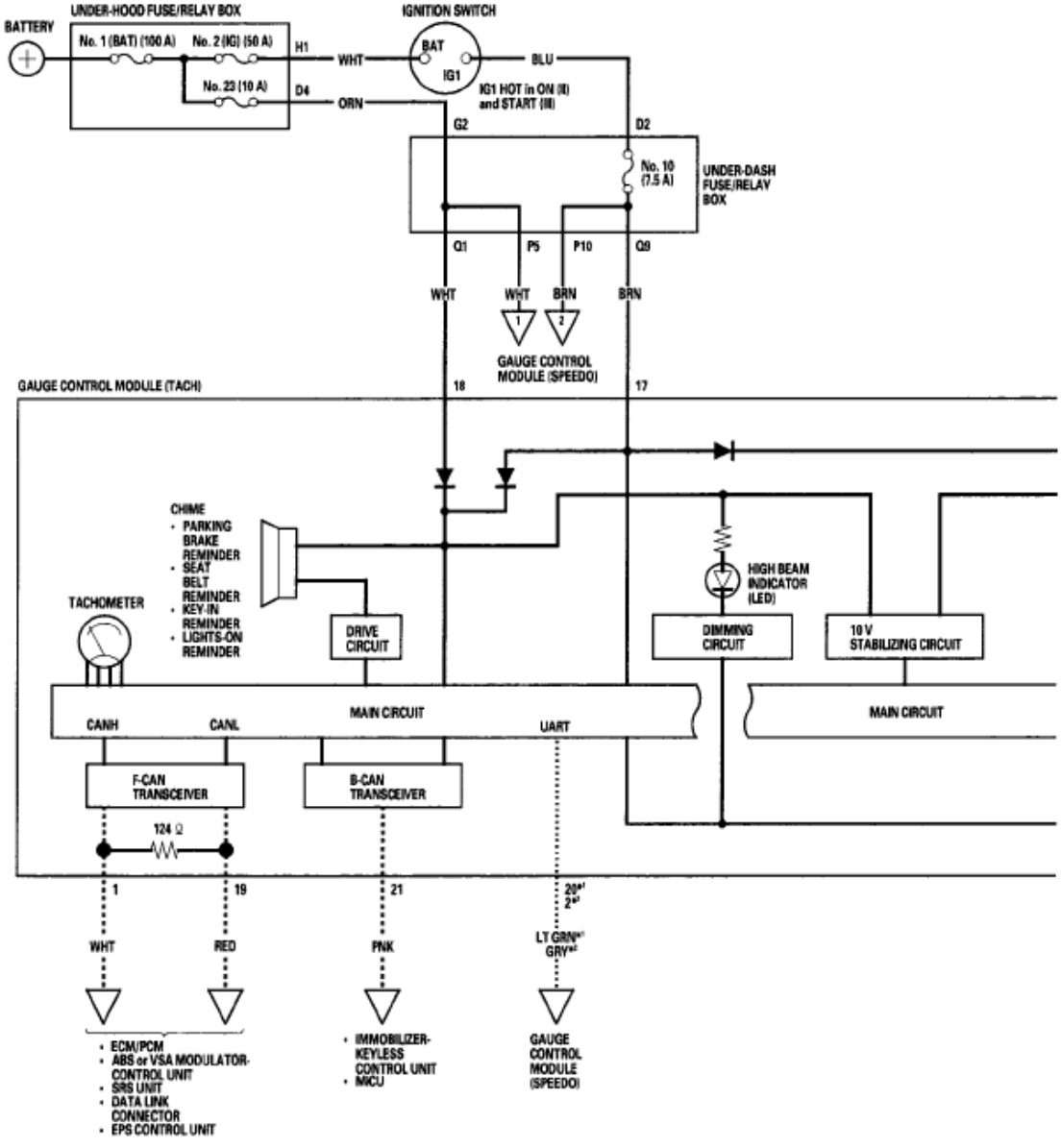



**Fig. 7: Circuit Diagram - Gauge Control Module (Tach) (1 Of 5)**

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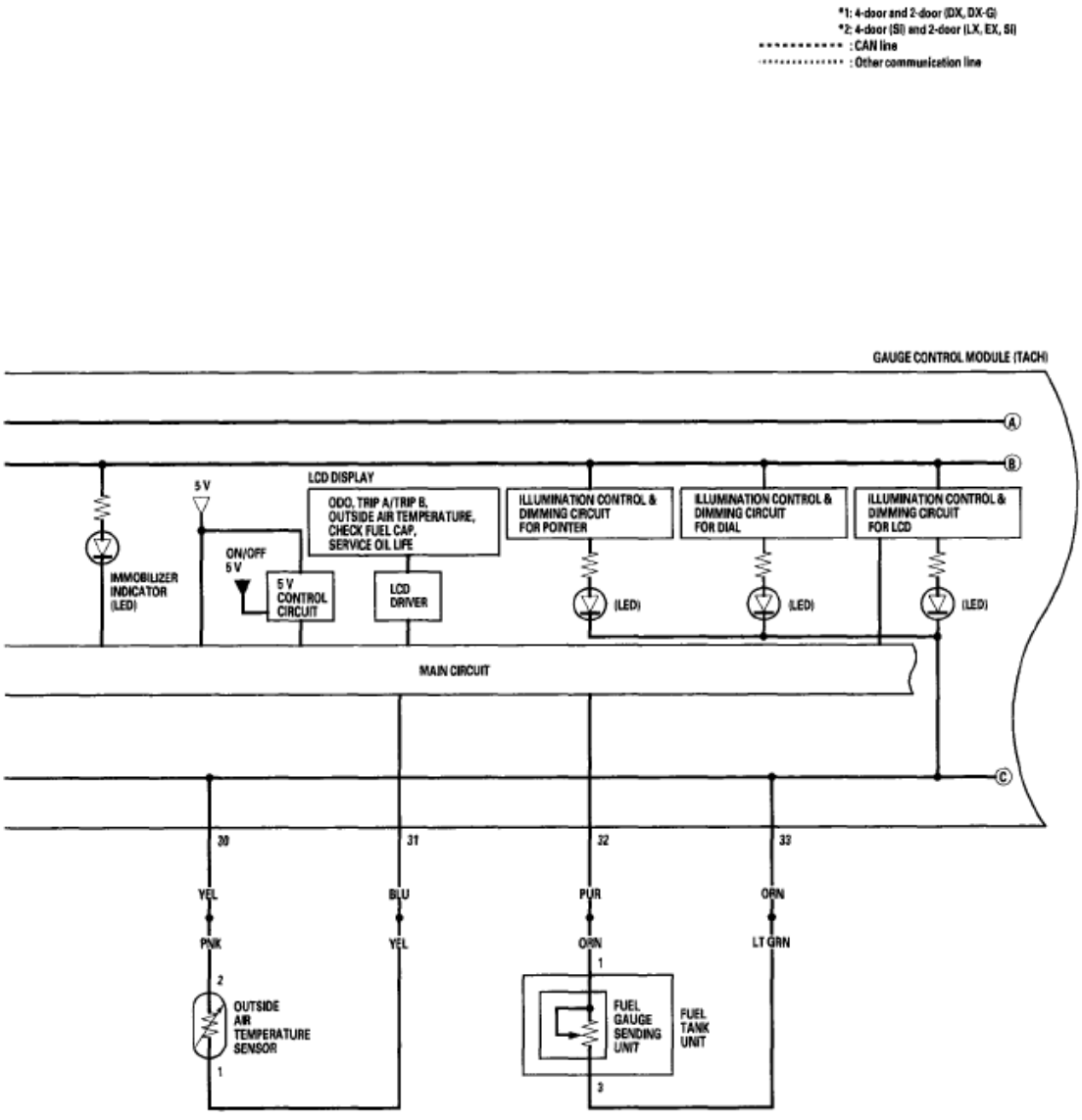
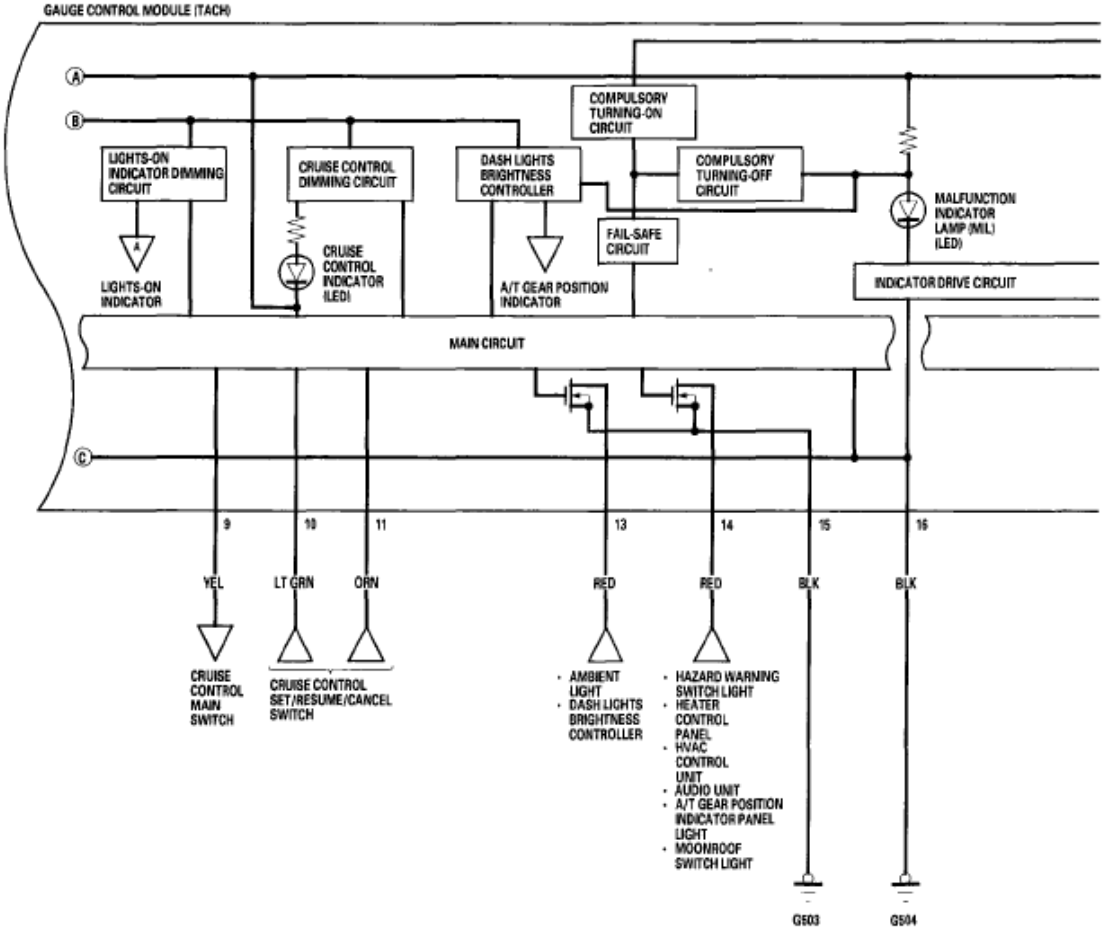



**Fig. 8: Circuit Diagram - Gauge Control Module (Tach) (2 Of 5)**

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## Fig. 9: Circuit Diagram - Gauge Control Module (Tach) (3 Of 5)

# 2008 Honda Civic EX

2006-08 ACCESSORIES & EQUIPMENT Gauges - Civic (All Except Hybrid)

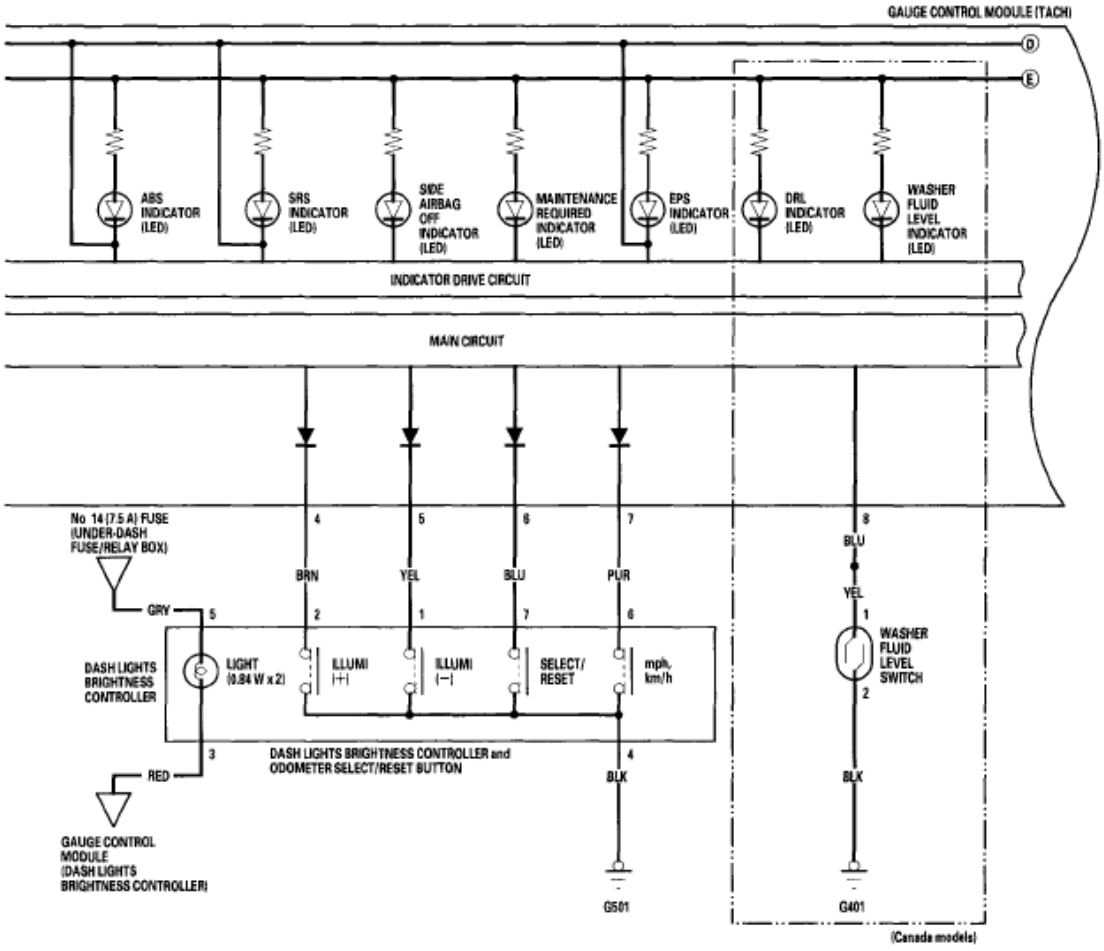
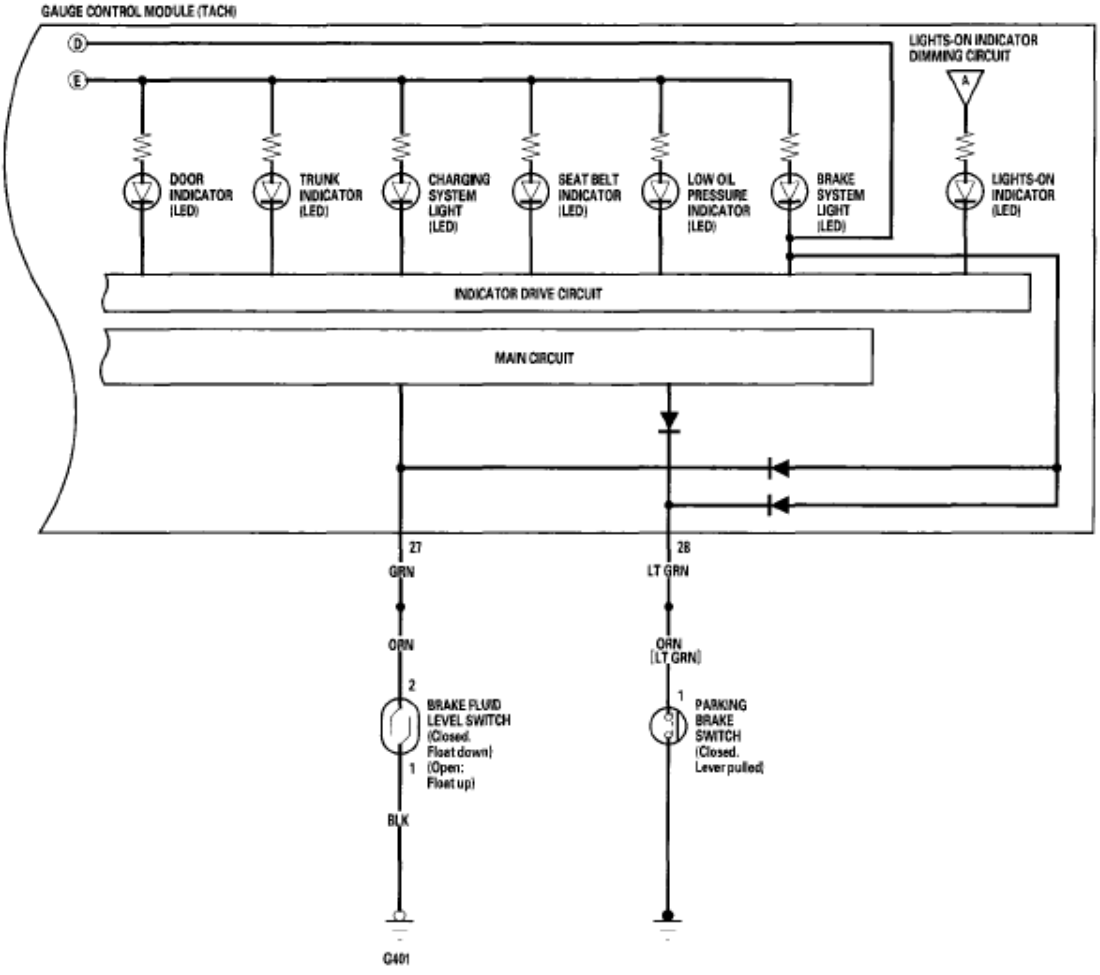



**Fig. 10: Circuit Diagram - Gauge Control Module (Tach) (4 Of 5)**

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## Fig. 11: Circuit Diagram - Gauge Control Module (Tach) (5 Of 5)

## CIRCUIT DIAGRAM - DASH LIGHTS BRIGHTNESS CONTROLLER

# 2008 Honda Civic EX

2006-08 ACCESSORIES & EQUIPMENT Gauges - Civic (All Except Hybrid)

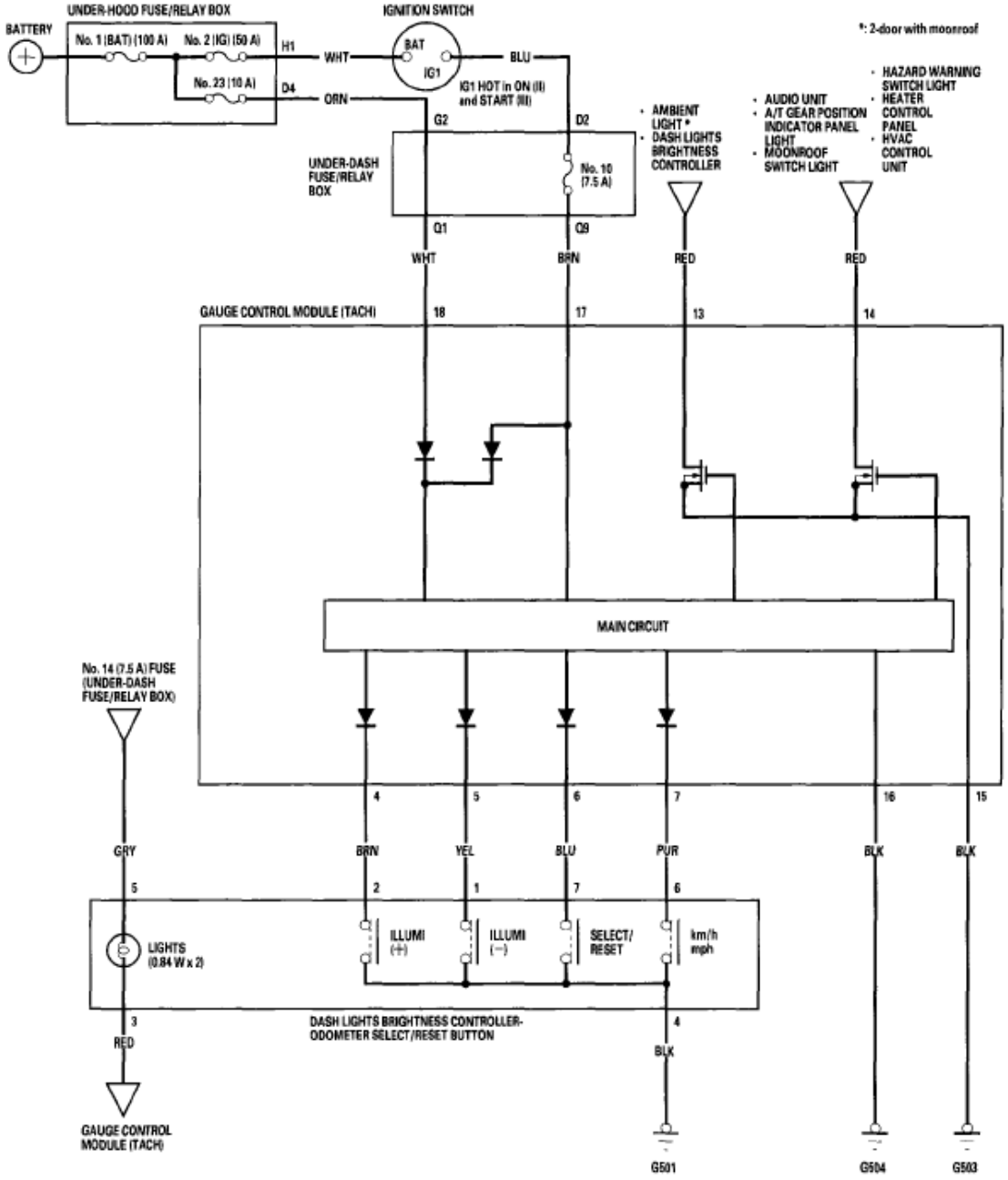



**Fig. 12: Circuit Diagram - Dash Lights Brightness Controller**

## CIRCUIT DIAGRAM - GAUGE CONTROL MODULE (SPEEDO)

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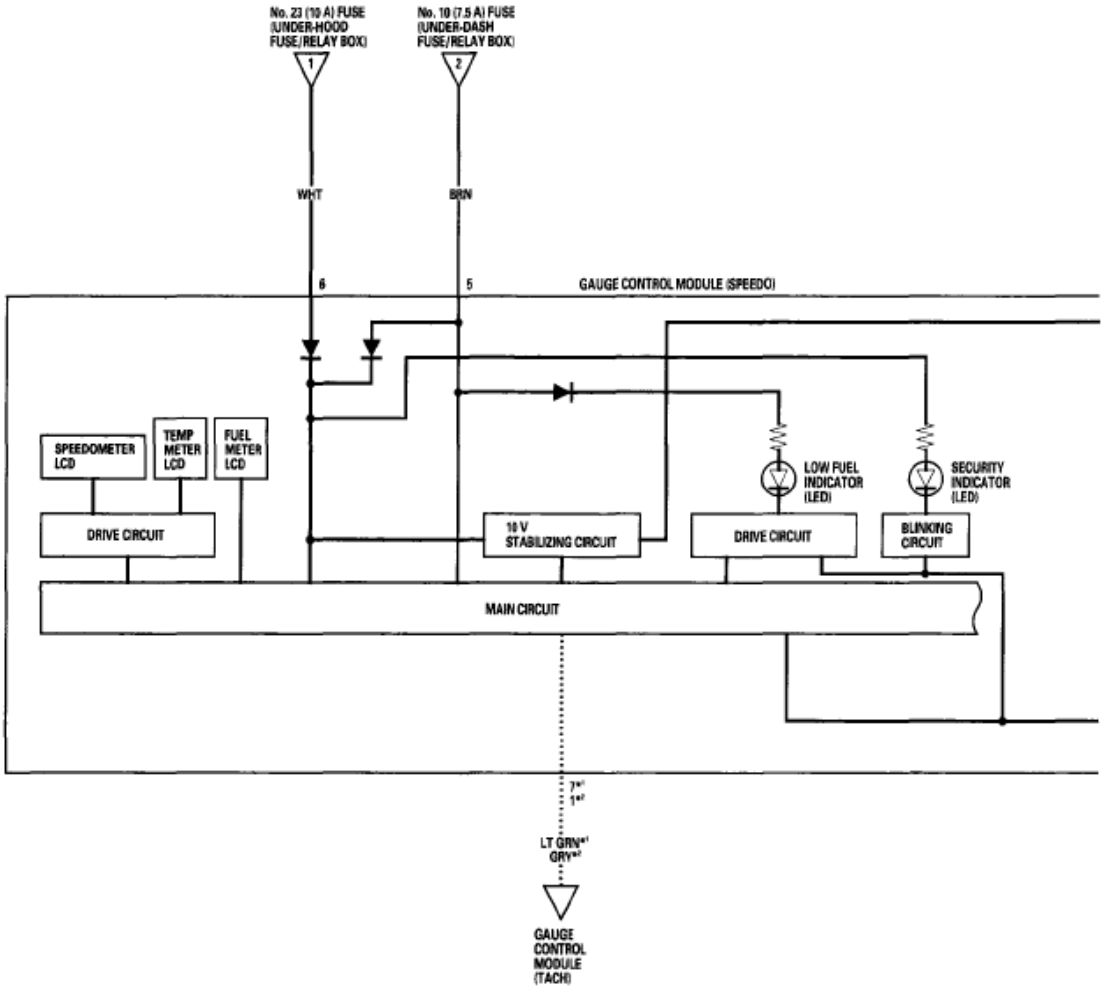



**Fig. 13: Circuit Diagram - Gauge Control Module (Speedo) (1 Of 2)**

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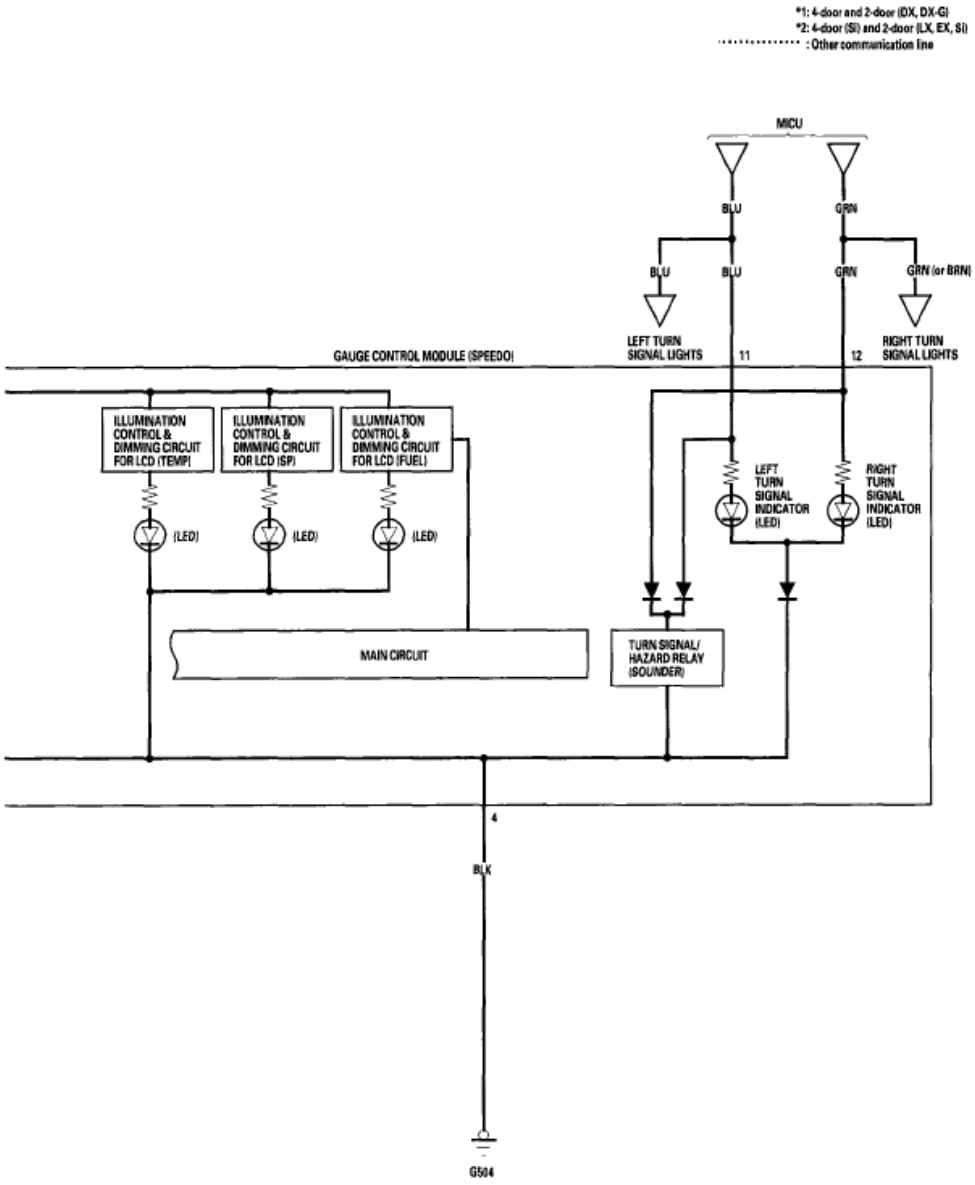



**Fig. 14: Circuit Diagram - Gauge Control Module (Speedo) (2 Of 2)**

## DTC TROUBLESHOOTING

### DTC B1152: GAUGE CONTROL MODULE (EEPROM) ERROR

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

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1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1152 indicated?*

   **YES** - Replace the gauge control module (tach).

   **NO** - Intermittent failure, the system is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see **BATTERY TEST** ), and the charging system.

**DTC B1155: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE MICU (HEADLIGHT SWITCH MESSAGE); DTC B1156: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE MICU (WIPER SWITCH MESSAGE); DTC B1159: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE MICU (DOOR SW MESSAGE); DTC B1188: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE MICU (RM MESSAGE)**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Are DTCs B1155, B1156, B1157, B1159, B1160, and/or B1188 indicated?*

   **YES** - Go to step 4.

   **NO** - Intermittent failure. The gauge control module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see **BATTERY TEST** ), and the charging system.

4. Check for DTCs with the HDS.

*Are DTCs B1155, B1156, B1157, B1159, B1160, and/or B1188 indicated?*

**YES** - Faulty MICU; replace the under-dash fuse/relay box (see **UNDER-DASH FUSE/RELAY BOX** ).

**NO** - Replace the gauge control module (tach) (see **REPLACEMENT**).

**DTC B1157: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE MICU (MICU MESSAGE)**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Is DTC B1157 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure. The gauge control module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see **BATTERY TEST** ), and the charging system.

4. Check for DTCs with the HDS.

   *Are DTCs B1905 or B1211 also indicated?*

   **YES** - Faulty MICU; replace the under-dash fuse/relay box.

   **NO** - Replace the gauge control module (tach).

**DTC B1160: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE MICU (DRLOCKSW MESSAGE)**

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**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Is DTC B1160 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure. The gauge control module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see **BATTERY TEST** ), and the charging system.

4. Check for DTCs with the HDS.

   *Are DTCs B1160 or B1905 also indicated?*

   **YES** - Faulty MICU; replace the under-dash fuse/relay box.

   **NO** - Replace the gauge control module (tach).

**DTC B1168: GAUGE CONTROL MODULE LOST COMMUNICATION WITH ECM/PCM (ENGINE MESSAGES); DTC B1169: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE PCM (A/T MESSAGES); DTC B1170: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE ABS/VSA MODULATOR-CONTROL UNIT (ABS/VSA MESSAGE); DTC B1178: F-CAN COMMUNICATION LINE ERROR; DTC B1187: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE SRS UNIT (SRS MESSAGE)**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs using the HDS.

2. Turn the ignition switch OFF, and then back ON (II).
3. Start and run the engine for at least 5 seconds then turn the engine off.
4. Check for DTCs with the HDS.

   *Is DTC B1168, B1169, B1170, B1178, and/or B1187 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the F-CAN communication line is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see **BATTERY TEST** ), and the charging system.

5. Check for DTCs in the ECM/PCM or ABS/VSA.

   *Are any DTCs indicated?*

   **YES** - Troubleshoot the ECM/PCM or ABS/VSA.

   **NO** - Go to step 6.

6. Do the Gauge Control Module Input Test (see **GAUGE CONTROL MODULE (TACH) INPUT TEST** ).

   *Are all inputs OK?*

   **YES** - Go to step 7.

   **NO** - Repair the faulty input then recheck for DTCs.

7. Substitute a known-good gauge control module (tach).
8. Clear the DTCs with the HDS.
9. Turn the ignition switch OFF, and then back ON (II).
10. Start and run the engine for at least 5 seconds then turn the engine off.
11. Check for DTCs with the HDS.

    *Is DTC B1168, B1169, B1170, B1178, and/or B1187 indicated?*

**YES** - Substitute a known-good ECM/PCM and retest. If the system/indication goes away, replace the original ECM/PCM.

**NO** - The original gauge control module (tach) is faulty; replace the gauge control module (tach) (see **TACHOMETER** ).

**DTC B1173: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE TPMS CONTROL UNIT (TPMS MESSAGE)**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs using the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

*Is DTC B1173 indicated?*

**YES** - Go to step 5.

**NO** - Intermittent failure, the system is OK at this time. Check for loose or poor connections.

5. Turn the ignition switch OFF.
6. Disconnect the gauge control module (tach) 36P connector.
7. Disconnect the TPMS control unit 20P connector.
8. Check for continuity between the gauge control module (tach) 36P connector No. 1 and No. 19 and TPMS control unit 20P connector No. 2 and No. 11 terminals individually.

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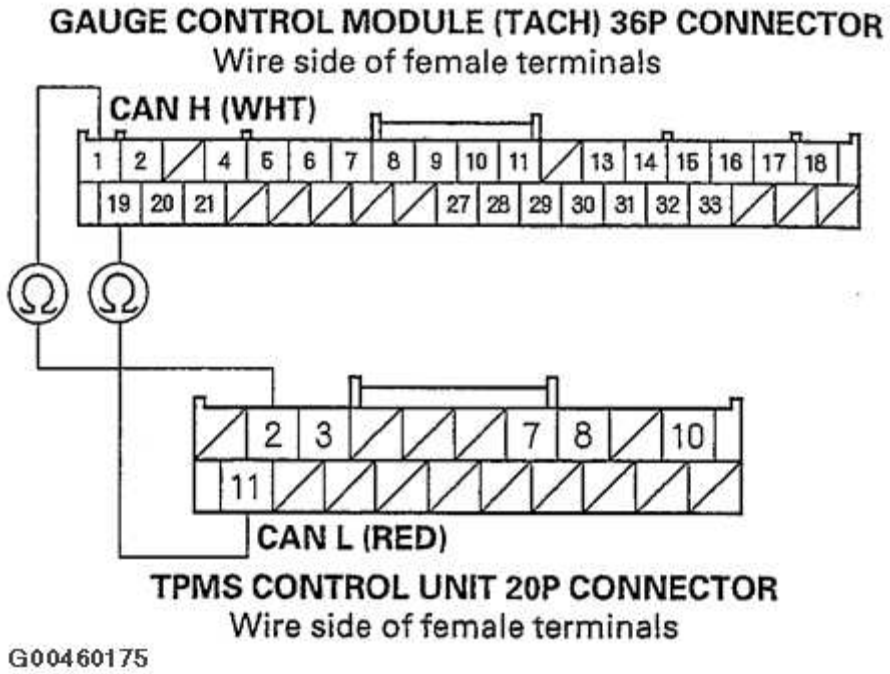



**Fig. 15: Checking Continuity Between Gauge Control Module & TPMS Control Module**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Substitute a known-good TPMS control unit and recheck. If DTC B1183 is still indicated, replace the gauge control module (tach).

**NO** - Repair an open in the wire.

**DTC B1175: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) CIRCUIT OPEN**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 30 seconds.

4. Check for DTCs with the HDS.

   *Is DTC B1175 indicated ?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the fuel level sensor circuit is OK at this time. Check for loose or poor connections.

5. Turn the ignition switch OFF.
6. Disconnect the fuel tank unit 5P connector and the gauge control module (tach) 36P connector.
7. Connect the fuel tank unit 4P connector No. 1 and No. 3 terminals and body ground with jumper wires.

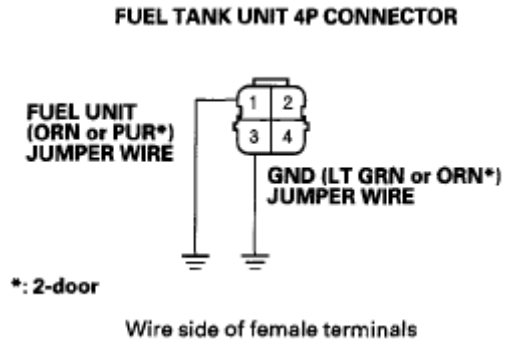



**Fig. 16: Connecting Fuel Tank Unit 4P Connector No. 1 And No. 3 Terminals And Body Ground With Jumper Wires**

8. Check for continuity between gauge control module (tach) 36P connector No. 32 and No. 33 terminals and body ground individually.

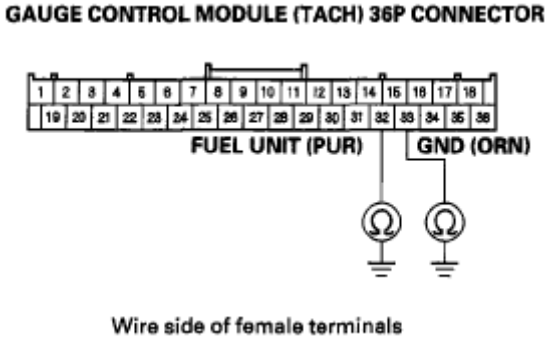


**Fig. 17: Checking Continuity Between Gauge Control Module (Tach) 36P Connector No. 32 And No. 33 Terminals And Body Ground**

*Is there continuity?*

**YES** - Go to step 9.

**NO** - Repair an open in the wire between the gauge control module (tach) and the fuel tank unit.

9. Do the fuel gauge sending unit test (see **FUEL GAUGE SENDING UNIT TEST** for R18A1 engine or **FUEL GAUGE SENDING UNIT TEST** for R20Z3 engine ) .

   *Is the fuel gauge sending unit OK?*

   **YES** - Replace the gauge control module (tach).

   **NO** - Replace the fuel tank unit.

**DTC B1176: FUEL LEVEL SENSOR (FUEL GAUGE SENDING UNIT) CIRCUIT SHORT**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 30 seconds.
4. Check for DTCs with the HDS.

   *Is DTC B1176 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, the fuel level sensor circuit is OK at this time. Check for loose or poor connections.

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5. Turn the ignition switch OFF.
6. Disconnect the fuel tank unit 4P connector.
7. Clear the DTCs with the HDS.
8. Turn the ignition switch OFF, and then back ON (II).
9. Wait for 30 seconds.
10. Check for DTCs with the HDS.

    *Is DTC B1176 indicated?*

    **YES** - Go to step 11.

    **NO** - Replace the fuel gauge sending unit (see **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** for R18A1 engine or **FUEL PUMP/FUEL GAUGE SENDING UNIT REPLACEMENT** for R20Z3 engine ).

11. Disconnect the gauge control module (tach) 36P connector.
12. Check for continuity between the gauge control module (tach) 36P connector No. 32 terminal and body ground.

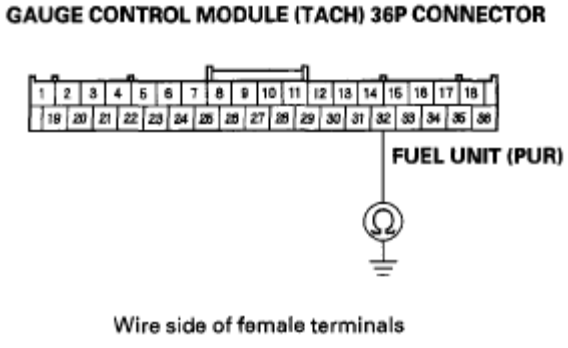



**Fig. 18: Checking Continuity Between Gauge Control Module (Tach) 36P Connector No. 32 Terminal And Body Ground**

*Are there continuity?*

**YES** - Repair a short in the wire between the gauge control module (tach) and the fuel tank unit.

**NO** - Replace the gauge control module (tach).

**DTC B1177: BATTERY VOLTAGE ABNORMAL**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Is DTC B1177 indicated?*

   **YES** - Go to step 8.

   **NO** - Go to step 4.

4. Clear the DTCs with the HDS.
5. Turn the ignition switch OFF, and then back ON (II).
6. Crank the engine.
7. Check for DTCs with the HDS.

   *Is DTC B1177 indicated?*

   **YES** - Go to step 8.

   **NO** - Intermittent failure. The gauge control module (tach) and power supply voltage (IG1) that is supplied to the gauge control module (tach) are OK at this time. The battery may have been discharged, and recovered.

8. Check the battery (see **BATTERY TEST** ) and the charging system.

   *Is the battery condition normal and the charging system OK?*

   **YES** - Go to step 9.

**NO** - The battery needs a recharge or replacement, or the charging system needs to repaired.

9. Turn the ignition switch ON (II).
10. With the gauge control module (tach) 36P connector still connected, check for voltage between the body ground and the gauge control module (tach) 36P connector No. 17 terminal.

    *Is the voltage above 7.5 V?*

    **YES** - Replace the gauge control module (tach).

    **NO** - Repair an open or high resistance in the BRN wire between the ignition switch and the gauge control module (tach).

**DTC B1183: GAUGE CONTROL MODULE LOST COMMUNICATION WITH THE EPS CONTROL UNIT (EPS MESSAGE)**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

    *Is DTC B1183 indicated?*

    **YES** - Go to step 5.

    **NO** - Intermittent failure. The gauge control module (tach) is OK at this time. Check for loose or poor connections.

5. Check for DTCs with the HDS.

    *Are DTCs B1168, B1169, B1178, and B1187 and indicated at the same time?*

    **YES** - Troubleshoot DTC B1178.

    **NO** - Go to step 6.

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6. Check for EPS DTCs with the HDS.

   *Are any DTCs indicated?*

   **YES** - Go to the indicated DTC troubleshooting , then recheck.

   **NO** - Go to step 7.

7. Turn the ignition switch OFF.
8. Disconnect the gauge control module (tach) 36P connector.
9. Disconnect the EPS control unit 20P connector.
10. Check for continuity between the gauge control module (tach) 36P connector No. 1 and No. 19 and EPS control unit 28P connector No. 1 and No. 15 terminals individually.

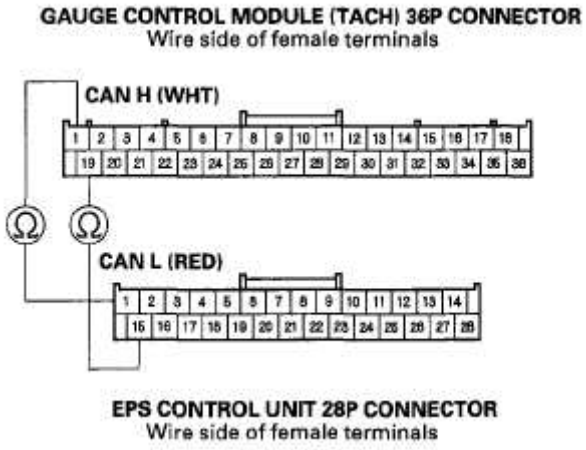



**Fig. 19: Checking Continuity Between Gauge Control Module (Tach) 36P Connector No. 1 And No. 19 And EPS Control Unit 28P Connector No. 1 And No. 15 Terminals**

*Are there continuity?*

**YES** - Substitute a known-good EPS control unit and recheck. If DTC B1183 is still indicated, replace the gauge control module (tach).

**NO** - Repair an open in the wire.

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## GAUGE CONTROL MODULE (TACH) INPUT TEST

**NOTE: Before testing, do the gauge control module self-diagnosis procedure, and make sure the B-CAN communication line is OK.**

1. Turn the ignition switch OFF.
2. Remove the gauge control module (tach) and disconnect the 36P connector from it (see **TACHOMETER** ).

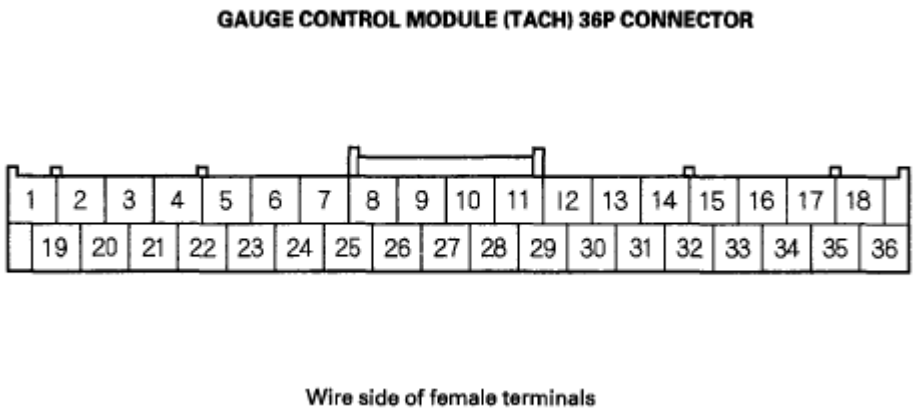



**Fig. 20: Identifying Gauge Control Module (Tach) 36P Connector**

3. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals are OK, go to step 4.
4. With the connector still disconnected, make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 5.

**GAUGE CONTROL MODULE (TACH) INPUT TEST (CONNECTOR DISCONNECTED)**

| | | | | Possible cause if |
|---|---|---|---|---|

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| Cavity | Wire | Test condition | Test: Desired result | result is not obtained |
|---|---|---|---|---|
| 20 [2] | LT GRN [GRY] | Under all conditions (disconnect the gauge control module (speedo) 12P connector) | Check for continuity between the No. 20 terminal and gauge control module (speedo) 12P connector No. 7 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity: There should be no continuity. | A short to ground in the wire |
| 13 | RED [BLU] | Combination light switch ON | Attach to ground: The illuminations of the steering wheel switches come on full bright. | • Faulty LEDs<br>• An open in the wire |
| 14 | RED | Combination light switch ON | Attach to ground: The illuminations of the dash lights, the audio unit, and the heater control panel/HVAC control unit lights come on full bright. | • Faulty LEDs<br>• An open in the wire |
| [ ] :2-door | | | | |

5. Reconnect the connector to the gauge control module (tach), and make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the gauge control module (tach) must be faulty; replace it.

**GAUGE CONTROL MODULE (TACH) INPUT TEST**

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## (CONNECTOR RECONNECTED)

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 15 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G503)<br>• An open in the wire |
| 16 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G504)<br>• An open in the wire |
| 17 | BRN | Ignition switch ON (ID | Check for voltage to ground: There should be battery voltage. | • Blown No. 10 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 18 | WHT | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 23 (10 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| | | Ignition switch ON (II), ILLUMI (+) switch pressed | Check for voltage to ground: There should be less than 1 | • Poor ground (G501)<br>• Faulty dash light brightness |

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| | | | | |
|---|---|---|---|---|
| | | | V. | controller<br>• An open in the wire |
| 4 | BRN | Ignition switch ON (II), ILLUMI (+) switch released | Check for voltage to ground: There should be 5 V or more. | • Faulty dash light brightness controller<br>• A short to ground in the wire |
| 5 | YEL | Ignition switch ON (II), ILLUMI (-) switch pressed | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty dash light brightness controller<br>• An open in the wire |
| | | Ignition switch ON (II), ILLUMI (-) switch released | Check for voltage to ground: There should be 5 V or more. | • Faulty dash light brightness controller<br>• A short to ground in the wire |
| 6 | BLU | Ignition switch ON (II), SELECT/RESET switch pressed | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty dash light brightness controller<br>• An open in the wire |

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| | | | | |
|---|---|---|---|---|
| | | Ignition switch ON (II), SELECT/RESET switch released | Check for voltage to ground: There should be 5 V or more. | • Faulty dash light brightness controller<br>• A short to ground in the wire |
| 7 | PUR | Ignition switch ON (II), mph, km/h switch pressed | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty dash light brightness controller<br>• An open in the wire |
| | | Ignition switch ON (II), mph, km/h switch released | Check for voltage to ground: There should be 5 V or more. | • Faulty dash light brightness controller<br>• A short to ground in the wire |
| 8 (Canada models) | BLU | Ignition switch ON (II), washer fluid is half or more in the washer reservoir | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G401)<br>• Faulty washer fluid level switch<br>• An open in the wire |
| | | Ignition switch ON (II), washer fluid is empty in the washer | Check for voltage to ground: There should | • Faulty washer fluid level switch |

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| | | | | |
|---|---|---|---|---|
| | | reservoir | be 5 V or more. | • A short to ground in the wire |
| 27 | GRN | Ignition switch ON (II), brake fluid is full level in the reservoir | Check for voltage to ground: There should be 5 V or more. | • Faulty brake fluid level switch<br>• A short to ground in the wire |
| | | Ignition switch ON (II), brake fluid is lower level in the reservoir | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G401)<br>• Faulty brake fluid level switch<br>• An open in the wire |
| 28 | LT GRN | Ignition switch ON (II), parking brake lever pulled | Check for voltage to ground: There should be less than 1 V. | • Faulty parking brake switch<br>• An open in the wire |
| | | Ignition switch ON (II), parking brake lever released | Check for voltage to ground: There should be 5 V or more. | • Faulty parking brake switch<br>• A short to ground in the wire |

## GAUGE CONTROL MODULE (SPEEDO) INPUT TEST

**NOTE: Before testing, do the gauge control module self-diagnosis procedure, and make sure the B-CAN communication line is OK.**

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1. Turn the ignition switch OFF.
2. Remove the gauge control module (SPEEDO) and disconnect the 12P connector from it (see **SPEEDOMETER** ).

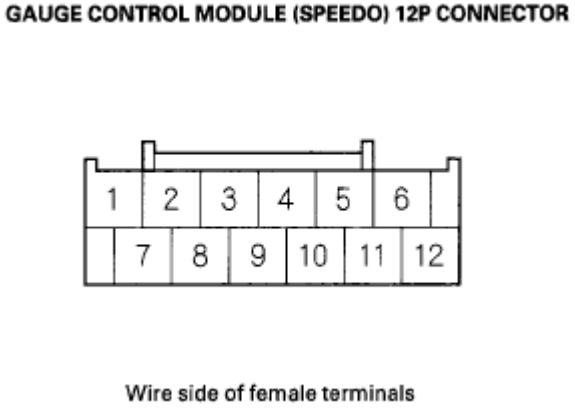



**Fig. 21: Identifying Gauge Control Module (Speedo) 12P Connector**

3. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals are OK, go to step 4.
4. With the connector still disconnected, make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 5.

**GAUGE CONTROL MODULE (SPEEDO) INPUT TEST (CONNECTOR DISCONNECTED)**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 11 | BLU | Ignition switch ON, turn signal | Check for voltage to ground: There should be battery voltage when the | • Faulty MICU<br>• Faulty combination light switch |

| | | | | |
|---|---|---|---|---|
| | | switch in LEFT | lights are flashing. | • An open in the wire |
| 12 | GRN | Ignition switch ON, turn signal switch in RIGHT | Check for voltage to ground: There should be battery voltage when the lights are flashing. | • Faulty MICU<br>• Faulty combination light switch<br>• An open in the wire |
| 7 | LT GRN | Under all conditions (disconnect the gauge control module (tach) 36P connector) | Check for continuity between the No. 7 terminal and gauge control module (tach) 36P connector No. 20 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the No. 7 terminal and body ground (gauge control module (tach) 36P connector disconnected): There should be no continuity. | A short ground in the wire |

5. Reconnect the connector to the gauge control module (speedo), and make the input test at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If the input test proves OK, the gauge control module (speedo) must be faulty; replace it.

**GAUGE CONTROL MODULE (SPEEDO) INPUT TEST (CONNECTOR RECONNECTED)**

| | | Test | Test: Desired | Possible cause if result |
|---|---|---|---|---|

| Cavity | Wire | condition | result | is not obtained |
|---|---|---|---|---|
| 6 | WHT | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 23 (10 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| 5 | BRN | Ignition switch ON (ID | Check for voltage to ground: There should be battery voltage. | • Blown No. 10 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 4 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground(G504)<br>• An open in the wire |

## REPLACEMENT

### TACHOMETER

1. Remove the subdisplay visor assembly (see **SUBDISPLAY VISOR REMOVAL/INSTALLATION** ).
2. Remove the three screws from the gauge control module (tach) (A).

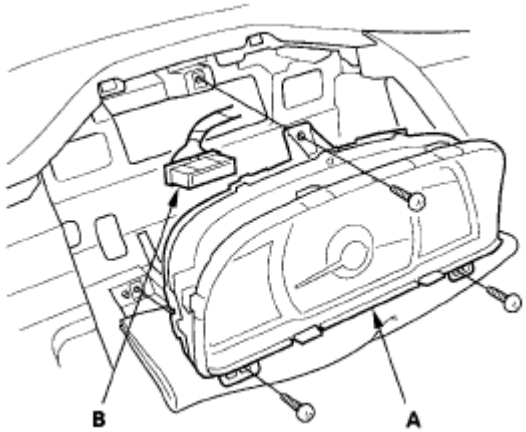



**Fig. 22: Removing Gauge Control Module Screws (Tach)**

3. Disconnect the 36P connector (B) from the gauge control module (tach).

4. Install the gauge in the reverse order of removal.

**SPEEDOMETER**

1. Remove the instrument panel (see **INSTRUMENT PANEL REMOVAL/INSTALLATION** .
2. Remove the three screws from the gauge control module (speedo) (A).

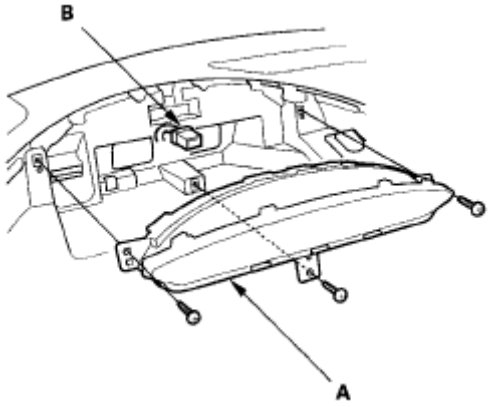



**Fig. 23: Removing Gauge Control Module Screws (Speedo)**

3. Disconnect the 12P connector (B) from the gauge control module (speedo).
4. Install the gauge in the reverse order of removal.

## REWRITING THE ODO DATA AND TRANSFERRING SMART MAINTENANCE ON A NEW GAUGE CONTROL MODULE

**NOTE:**

- **Obtain a new gauge control module before starting the rewriting process.**
- **Rewriting is not possible on a gauge control module that will not communicate with the HDS.**
- **Make sure that the HDS shows the correct VIN for the car you are working on.**
- **One you have started this procedure, you must complete it before removing the HDS from the DLC.**
- **Connect a battery jump box (not a Battery charger) to insure that correct battery voltage will be maintained.**

1. Before replacing the gauge control module, connect the HDS.
2. Select GAUGES from the BODY ELECTRICAL menu display.
3. Select "Gauge Control Module Replacement (ODO rewrite)" from the ADJUSTMENT menu, and follow the instructions on the display to retrieve the ODO value and the Smart Maintenance information.
4. Replace the gauge control module.
5. Follow the instructions on the display to write the new ODO value and Smart maintenance to the new gauge control module. If the data transfer fails, refer to the instructions to release the locked ODO value .

**RELEASE LOCKED ODOMETER MILEAGE TO THE ORIGINAL GAUGE CONTROL MODULE**

If after you attempt to transfer mileage the odometer has dashes (- - -), garbled, or incorrect value display, do the following Start over. The original gauge control module is going to be unlocked and restored to its original state.

1. Confirm that you have the latest HDS version of software.
2. Make sure that the HDS shows the correct VIN for the car you are working on.
3. With the ignition switch OFF, reconnect the original gauge assembly.
4. Completely re-boot the HDS.
5. Clear any stored DTCs.
6. Navigate to Body Electric/Gauges/Adjustment/Instrument Panel Replacement.
7. Select "3. Releasing Locked ODO Valve".
8. Follow the prompts and the Odometer mileage will be restored.
9. Start over and make sure the screen prompts are followed.

## DASH LIGHTS BRIGHTNESS CONTROLLER AND ODOMETER SELECT/RESET BUTTON TEST/REPLACEMENT

1. Remove the subdisplay visor (see **SUBDISPLAY VISOR REMOVAL/INSTALLATION** ) and disconnect the connectors.
2. Remove the two screws and the dash lights brightness controller-odometer select/reset button (A).

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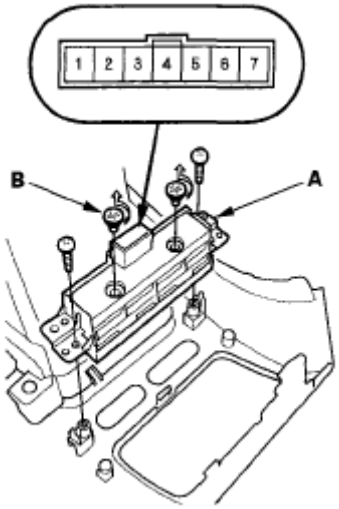



**Fig. 24: Removing Dash Lights Brightness Controller-Odometer Select/Reset Button**

3. Check for continuity between the terminals in each switch position according **Fig. 25** .

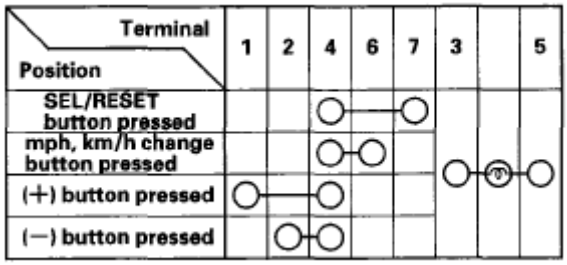



**Fig. 25: Checking Continuity Between Dash Light Brightness Controller And Odometer Select/Reset Button Terminals Chart**

4. If the continuity is not as specified, replace the bulbs (B) or the dash lights brightness controller-odometer select/reset button.

## OUTSIDE AIR TEMPERATURE INDICATOR CALIBRATION

### DESCRIPTION

The outside temperature sensor is located behind the center of the front bumper. The gauge control module (tach) uses measurements from this sensor to display the outside air temperature.

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Because of the location of the sensor, it may be affected by heat reflection from the road, engine and radiator heat or hot exhaust from surrounding traffic. These conditions can heat soak the outside air temperature sensor and cause inaccurate readings. Logic has been written into the gauge control module (tach) to help prevent abnormal or fluctuating outside air temperature indicator readings.

**OUTSIDE AIR TEMPERATURE INDICATOR LOGIC**

Initial outside air temperature indication after the ignition switch is turned ON (II).

- If the engine coolant temperature is 140°F (60°C) or higher when the ignition switch is turned ON (II), the outside air temperature indicated the last time the key was turned off will be displayed regardless of the current temperature measured by the outside air temperature sensor.
- If the engine coolant temperature is 139°F (59°C) or lower when the ignition switch is turned ON (II), the current temperature measured by the outside air temperature sensor will be indicated.

**UPDATE TO THE OUTSIDE AIR TEMPERATURE INDICATOR WHILE DRIVING**

If the temperature measured by the outside air temperature sensor is greater than the temperature on the outside air temperature indicator, the outside temperature indicator will increase by 1.8°F (1°C) per minute after the vehicle speed is greater than 19 mph (30 km/h) for more than 1 minute and 30 seconds. It will continue to increase until the current outside air temperature is indicated. So, the first change to the outside air temperature indicator is 1 minute and 30 seconds after the vehicle speed is greater than 19 mph (30 km/h). If the vehicle speed drops below 19 mph (30 km/h), the indicator will not update again until the vehicle speed is increased to 19 mph (30 km/h) or more for more than 1 minute and 30 seconds again. If the outside air temperature is less than the indicated temperature, the temperature will decrease 1°F every 1.1 seconds (1°C every 2 seconds) until the current outside air temperature is indicated regardless of vehicle speed.

**TROUBLESHOOTING**

If the indicator displays "- - -" for more than 2 seconds after selecting the outside air temperature display mode, check the outside air temperature sensor, or gauge control module self-diagnosis (see **SELF-DIAGNOSTIC FUNCTION** ).

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**CALIBRATION**

The outside air temperature indicator's displayed temperature can be recalibrated ±5°F (or ±3°C) to meet the customer's expectations.

1. Turn the ignition switch ON (II).
2. Select the outside air temperature display.
3. Press and hold the SEL/RESET switch until the trip meter resets, then release it. Press, and continue to hold, the switch again, and the display will scroll through temperature settings from +5°F to -5°F (or +3°C to -3°C) as shown.

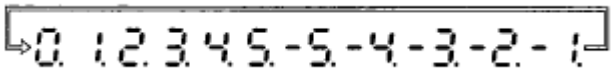



**Fig. 26: Resetting Trip Meter**

4. When the desired correction value appears on the display, release the button, and the recalibrated outside air temperature will be displayed.

   **Example:**

   **Incorrect value = 68°F (20 °C)**
   **Desired correction value = +2°F (+1°C)**
   **Correct valve = 70°F (21°C)**
   **Desired correction value = -2°F (-1°C)**
   **Correct valve = 66°F (19°C)**

**NOTE: The recalibration temperature is not the value the sensor sees. Therefore the temperature can only be adjusted ±5 degrees from the sensor.**

**NOTE: To recalibrate the display to the true temperature, remove the outside air temperature sensor (A), but leave it connected. Submerge the sensor and a thermometer (B) in a container of ice water (C). Select the calibration mode as described above, then**

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**recalibrate the display to the true temperature.**

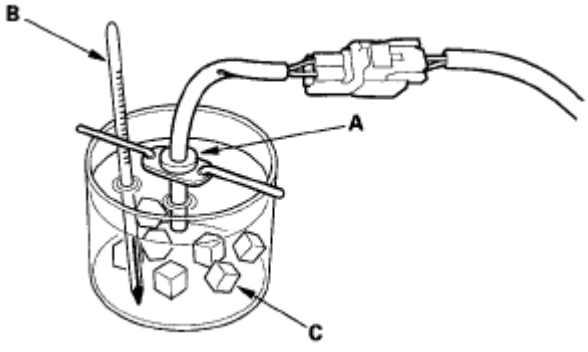



**Fig. 27: Submerging Sensor And Thermometer In Container Of Ice Water**

## OUTSIDE AIR TEMPERATURE SENSOR TEST

1. Remove the outside air temperature sensor (see **OUTSIDE AIR TEMPERATURE SENSOR REPLACEMENT** ).
2. Dip the sensor in ice water, and measure the resistance. Then pour warm water on the sensor, and check for a change in resistance.
3. Compare the resistance reading between the No. 1 and No. 2 terminals of the outside air temperature sensor with the specifications shown in **Fig. 28** ; the resistance should be within the specifications.

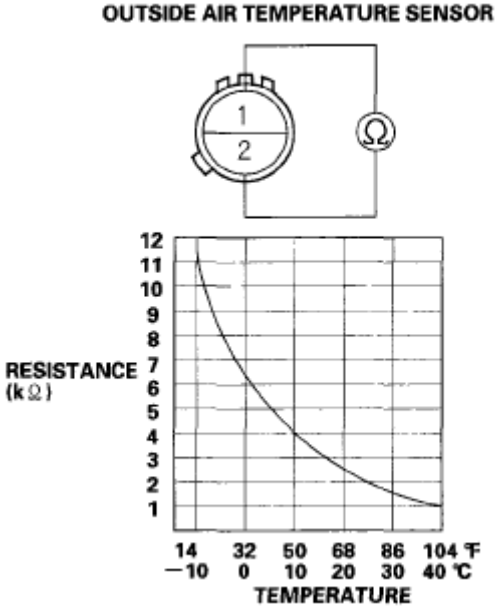


**Fig. 28: Outside Air Temperature Sensor Graph**

4. If the resistance is not as specified, replace the outside air temperature sensor (see **OUTSIDE AIR TEMPERATURE SENSOR REPLACEMENT** ).

## OUTSIDE AIR TEMPERATURE SENSOR REPLACEMENT

1. Remove the front bumper (see **FRONT BUMPER REMOVAL/INSTALLATION** ).
2. Lift the tab (A) to release the lock, then remove the outside air temperature sensor (B) from the receiver/dryer desiccant bracket [from the A/C condenser].

   [ ] :2-door

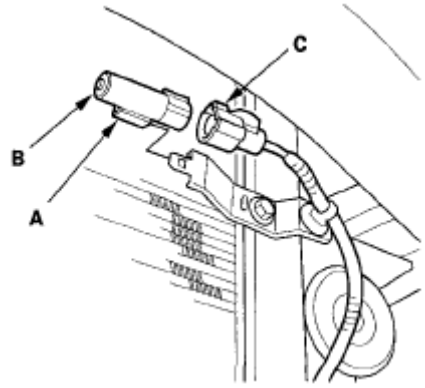



**Fig. 29: Removing Outside Air Temperature Sensor**

3. Install the sensor in the reverse order of removal.

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# GENERIC OBD-II TROUBLE CODES

**DTC CODES P0001 to P0099**

P0010....'A' Camshaft Position Actuator Circuit (Bank 1)

P0011....'A' Camshaft Position - Timing Over-Advanced or System Performance (Bank 1)

P0012....'A' Camshaft Position - Timing Over-Retarded (Bank 1)

P0013....'B' Camshaft Position - Actuator Circuit (Bank 1)

P0014....'B' Camshaft Position - Timing Over-Advanced or System Performance (Bank 1)

P0015....'B' Camshaft Position -Timing Over-Retarded (Bank 1)

P0020....'A' Camshaft Position Actuator Circuit (Bank 2)

P0021....'A' Camshaft Position - Timing Over-Advanced or System Performance (Bank 2)

P0022....'A' Camshaft Position - Timing Over-Retarded (Bank 2)

P0023....'B' Camshaft Position - Actuator Circuit (Bank 2)

P0024....'B' Camshaft Position - Timing Over-Advanced or System Performance (Bank 2)

P0025....'B' Camshaft Position - Timing Over-Retarded (Bank 2)

P0030....HO2S Heater Control Circuit (Bank 1 Sensor 1)

P0031....HO2S Heater Control Circuit Low (Bank 1 Sensor 1)

P0032....HO2S Heater Control Circuit High (Bank 1 Sensor 1)

P0033....Turbo Charger Bypass Valve Control Circuit

P0034....Turbo Charger Bypass Valve Control Circuit Low

P0035....Turbo Charger Bypass Valve Control Circuit High

P0036....HO2S Heater Control Circuit (Bank 1 Sensor 2)

P0037....HO2S Heater Control Circuit Low (Bank 1 Sensor 2)

P0038....HO2S Heater Control Circuit High (Bank 1 Sensor 2)

P0042....HO2S Heater Control Circuit (Bank 1 Sensor 3)

P0043....HO2S Heater Control Circuit Low (Bank 1 Sensor 3)

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P0044....HO2S Heater Control Circuit High (Bank 1 Sensor 3)

P0050....HO2S Heater Control Circuit (Bank 2....Sensor 1)

P0051....HO2S Heater Control Circuit Low (Bank 2 Sensor 1)

P0052....HO2S Heater Control Circuit High (Bank 2 Sensor 1)

P0056....HO2S Heater Control Circuit (Bank 2 Sensor 2)

P0057....HO2S Heater Control Circuit Low (Bank 2 Sensor 2)

P0058....HO2S Heater Control Circuit High (Bank 2 Sensor 2)

P0062....HO2S Heater Control Circuit (Bank 2 Sensor 3)

P0063....HO2S Heater Control Circuit Low (Bank 2 Sensor 3)

P0064....HO2S Heater Control Circuit High (Bank 2 Sensor 3)

P0065....Air Assisted Injector Control Range/Performance

P0066....Air Assisted Injector Control Circuit or Circuit Low

P0067....Air Assisted Injector Control Circuit High

P0070....Ambient Air Temperature Sensor Circuit

P0071....Ambient Air Temperature Sensor Range/Performance

P0072....Ambient Air Temperature Sensor Circuit Low Input

P0073....Ambient Air Temperature Sensor Circuit High Input

P0074....Ambient Air Temperature Sensor Circuit Intermittent

P0075....Intake Valve Control Solenoid Circuit (Bank 1)

P0076....Intake Valve Control Solenoid Circuit Low (Bank 1)

P0077....Intake Valve Control Solenoid Circuit High (Bank 1)

P0078....Exhaust Valve Control Solenoid Circuit (Bank 1)

P0079....Exhaust Valve Control Solenoid Circuit Low (Bank 1)

P0080....Exhaust Valve Control Solenoid Circuit High (Bank 1)

P0081....Intake valve Control Solenoid Circuit (Bank 2)

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P0082....Intake Valve Control Solenoid Circuit Low (Bank 2)

P0083....Intake Valve Control Solenoid Circuit High (Bank 2)

P0084....Exhaust Valve Control Solenoid Circuit (Bank 2)

P0085....Exhaust Valve Control Solenoid Circuit Low (Bank 2)

P0086....Exhaust Valve Control Solenoid Circuit High (Bank 2)

P0100....Mass or Volume Air Flow Circuit

P0101....Mass or Volume Air Flow Circuit Range/Performance Problem

P0102....Mass or Volume Air Flow Circuit Low Input

P0103....Mass or Volume Air Flow Circuit High Input

P0104....Mass or Volume Air Flow Circuit Intermittent

P0105....Manifold Absolute Pressure/Barometric Pressure Circuit

P0106....Manifold Absolute Pressure/Barometric Pressure Circuit Range/Performance Problem

P0107....Manifold Absolute Pressure/Barometric Pressure Circuit Low Input

P0108....Manifold Absolute Pressure/Barometric Pressure Circuit High Input

P0109....Manifold Absolute Pressure/Barometric Pressure Circuit Intermittent

P0110....Intake Air Temperature Circuit

P0111....Intake Air Temperature Circuit Range/Performance Problem

P0112....Intake Air Temperature Circuit Low Input

P0113....Intake Air Temperature Circuit High Input

P0114....Intake Air Temperature Circuit Intermittent

P0115....Engine Coolant Temperature Circuit

P0116....Engine Coolant Temperature Circuit Range/Performance Problem

P0117....Engine Coolant Temperature Circuit Low Input

P0118....Engine Coolant Temperature Circuit High Input

P0119....Engine Coolant Temperature Circuit Intermittent

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P0120....Throttle/Pedal Position Sensor/Switch A Circuit

P0121....Throttle/Pedal Position Sensor/Switch A Circuit Range/Performance Problem

P0122....Throttle/Pedal Position Sensor/Switch A Circuit Low Input

P0123....Throttle/Pedal Position Sensor/Switch A Circuit High Input

P0124....Throttle/Pedal Position Sensor/Switch A Circuit Intermittent

P0125....Insufficient Coolant Temperature for Closed Loop Fuel Control

P0126....Insufficient Coolant Temperature for Stable Operation

P0127....Intake Air Temperature Too High

P0128....Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)

P0130....O2 Sensor Circuit (Bank 1 Sensor 1)

P0131....O2 Sensor Circuit Low Voltage (Bank 1 Sensor 1)

P0132....O2 Sensor Circuit High Voltage (Bank 1 Sensor 1)

P0133....O2 Sensor Circuit Slow Response (Bank 1 Sensor 1)

P0134....O2 Sensor Circuit No Activity Detected (Bank 1 Sensor 1)

P0135....O2 Sensor Heater Circuit (Bank 1 Sensor 1)

P0136....O2 Sensor Circuit Malfunction (Bank 1 Sensor 2)

P0137....O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2)

P0138....O2 Sensor Circuit High Voltage (Bank 1 Sensor 2)

P0139....O2 Sensor Circuit Slow Response (Bank 1 Sensor 2)

P0140....O2 Sensor Circuit No Activity Detected (Bank 1 Sensor 2)

P0141....O2 Sensor Heater Circuit (Bank 1 Sensor 2)

P0142....O2 Sensor Circuit Malfunction (Bank 1 Sensor 3)

P0143....O2 Sensor Circuit Low Voltage (Bank 1 Sensor 3)

P0144....O2 Sensor Circuit High Voltage (Bank 1 Sensor 3)

P0145....O2 Sensor Circuit Slow Response (Bank 1 Sensor 3)

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P0146....O2 Sensor Circuit No Activity Detected (Bank 1 Sensor 3)

P0147....O2 Sensor Heater Circuit (Bank 1 Sensor 3)

P0148....Fuel Delivery Error

P0149....Fuel Timing Error

P0150....O2 Sensor Circuit (Bank 2 Sensor 1)

P0151....O2 Sensor Circuit Low Voltage (Bank 2 Sensor 1)

P0152....O2 Sensor Circuit High Voltage (Bank 2 Sensor 1)

P0153....O2 Sensor Circuit Slow Response (Bank 2 Sensor 1)

P0154....O2 Sensor Circuit No Activity Detected (Bank 2 Sensor 1)

P0155....O2 Sensor Heater Circuit (Bank 2 Sensor 1)

P0156....O2 Sensor Circuit Malfunction (Bank 2 Sensor 2)

P0157....O2 Sensor Circuit Low Voltage (Bank 2 Sensor 2)

P0158....O2 Sensor Circuit High Voltage (Bank 2 Sensor 2)

P0159....O2 Sensor Circuit Slow Response (Bank 2 Sensor 2)

P0160....O2 Sensor Circuit No Activity Detected (Bank 2 Sensor 2)

P0161....O2 Sensor Heater Circuit (Bank 2 Sensor 2)

P0162....O2 Sensor Circuit Malfunction (Bank 2 Sensor 3)

P0163....O2 Sensor Circuit Low Voltage (Bank 2 Sensor 3)

P0164....O2 Sensor Circuit High Voltage (Bank 2 Sensor 3)

P0165....O2 Sensor Circuit Slow Response (Bank 2 Sensor 3)

P0166....O2 Sensor Circuit No Activity Detected (Bank 2 Sensor 3)

P0167....O2 Sensor Heater Circuit (Bank 2 Sensor 3)

P0168....Fuel Temperature Too High

P0169....Incorrect Fuel Composition

P0170....Fuel Trim (Bank 1)

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P0171....System too Lean (Bank 1)

P0172....System too Rich (Bank 1)

P0173....Fuel Trim Malfunction (Bank 2)

P0174....System too Lean (Bank 2)

P0175....System too Rich (Bank 2)

P0176....Fuel Composition Sensor Circuit

P0177....Fuel Composition Sensor Circuit Range/Performance

P0178....Fuel Composition Sensor Circuit Low Input

P0179....Fuel Composition Sensor Circuit High Input

P0180....Fuel Temperature Sensor A Circuit

P0181....Fuel Temperature Sensor A Circuit Range/Performance

P0182....Fuel Temperature Sensor A Circuit Low Input

P0183....Fuel Temperature Sensor A Circuit High Input

P0184....Fuel Temperature Sensor A Circuit Intermittent

P0185....Fuel Temperature Sensor B Circuit

P0186....Fuel Temperature Sensor B Circuit Range/Performance

P0187....Fuel Temperature Sensor B Circuit Low Input

P0188....Fuel Temperature Sensor B Circuit High Input

P0189....Fuel Temperature Sensor B Circuit Intermittent

P0190....Fuel Rail Pressure Sensor Circuit

P0191....Fuel Rail Pressure Sensor Circuit Range/Performance

P0192....Fuel Rail Pressure Sensor Circuit Low In put

P0193....Fuel Rail Pressure Sensor Circuit High Input

P0194....Fuel Rail Pressure Sensor Circuit Intermittent

P0195....Engine Oil Temperature Sensor

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P0196....Engine Oil Temperature Sensor Range/Performance

P0197....Engine Oil Temperature Sensor Low

P0198....Engine Oil Temperature Sensor High

P0199....Engine Oil Temperature Sensor Intermittent

P0200....Injector Circuit

P0201....Injector Circuit - Cylinder 1

P0202....Injector Circuit - Cylinder 2

P0203....Injector Circuit - Cylinder 3

P0204....Injector Circuit - Cylinder 4

P0205....Injector Circuit - Cylinder 5

P0206....Injector Circuit - Cylinder 6

P0207....Injector Circuit - Cylinder 7

P0208....Injector Circuit - Cylinder 8

P0209....Injector Circuit - Cylinder 9

P0210....Injector Circuit - Cylinder 1

P0211....Injector Circuit - Cylinder 11

P0212....Injector Circuit - Cylinder 12

P0213....Cold Start Injector 1

P0214....Cold Start Injector 2

P0215....Engine Shutoff Solenoid

P0216....Injector/Injection Timing Control Circuit

P0217....Engine Coolant Over Temperature Condition

P0218....Transmission Fluid Over Temperature Condition

P0219....Engine Over Speed Condition

P0220....Throttle/Pedal Position Sensor/Switch 'B' Circuit

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P0221....Throttle/Pedal Position Sensor/Switch 'B' Circuit Range/Performance Problem

P0222....Throttle/Pedal Position Sensor/Switch 'B' Circuit Low Input

P0223....Throttle/Pedal Position Sensor/Switch 'B' Circuit High Input

P0224....Throttle/Pedal Position Sensor/Switch 'B' Circuit Intermittent

P0225....Throttle/Pedal Position Sensor/Switch 'C' Circuit

P0226....Throttle/Pedal Position Sensor/Switch 'C' Circuit Range/Performance Problem

P0227....Throttle/Pedal Position Sensor/Switch 'C' Circuit Low Input

P0228....Throttle/Pedal Position Sensor/Switch 'C' Circuit High Input

P0229....Throttle/Pedal Position Sensor/Switch 'C' Circuit Intermittent

P0230....Fuel Pump Primary Circuit

P0231....Fuel Pump Secondary Circuit Low

P0232....Fuel Pump Secondary Circuit High

P0233....Fuel Pump Secondary Circuit Intermittent

P0234....Turbo/Super Charger Overboost Condition

P0235....Turbo/Super Charger Boost Sensor 'A' Circuit

P0236....Turbo/Super Charger Boost Sensor 'A' Circuit Range/Performance

P0237....Turbo/Super Charger Boost Sensor 'A' Circuit Low

P0238....Turbo/Super Charger Boost Sensor 'A' Circuit High

P0239....Turbo/Super Charger Boost Sensor 'B' Circuit

P0240....Turbo/Super Charger Boost Sensor 'B' Circuit Range/Performance

P0241....Turbo/Super Charger Boost Sensor 'B' Circuit Low

P0242....Turbo/Super Charger Boost Sensor 'B' Circuit High

P0243....Turbo/Super Charger Wastegate Solenoid 'A'

P0244....Turbo/Super Charger Wastegate Solenoid 'A' Range/Performance

P0245....Turbo/Super Charger Wastegate Solenoid 'A' Low

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P0246....Turbo/Super Charger Wastegate Solenoid 'A' High

P0247....Turbo/Super Charger Wastegate Solenoid 'B'

P0248....Turbo/Super Charger Wastegate Solenoid 'B' Range/Performance

P0249....Turbo/Super Charger Wastegate Solenoid 'B' Low

P0250....Turbo/Super Charger Wastegate Solenoid 'B' High

P0251....Injection Pump Fuel Metering Control 'A' (Cam/rotor/Injector)

P0252....Injection Pump Fuel Metering Control 'A' Range/Performance (Cam/Rotor/Injector)

P0253....Injection Pump Fuel Metering Control 'A' Low (Cam/Rotor/Injector)

P0254....Injection Pump Fuel Metering Control 'A' High (Cam/Rotor/Injector)

P0255....Injection Pump Fuel Metering Control 'A' Intermittent (Cam/Rotor/Injector)

P0256....Injection Pump Fuel Metering Control 'B' (Cam/Rotor/Injector)

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P0259....Injection Pump Fuel Metering Control 'B' High (Cam/Rotor/Injector)

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P0262....Cylinder 1 Injector Circuit High

P0263....Cylinder 1 Contribution/Balance

P0264....Cylinder 2 Injector Circuit Low

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P0267....Cylinder 3 Injector Circuit Low

P0268....Cylinder 3 Injector Circuit High

P0269....Cylinder 4....Contribution/Balance

P0270....Cylinder 4 Injector Circuit Low

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P0271....Cylinder 4 Injector Circuit High

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P0273....Cylinder 5 Injector Circuit Low

P0274....Cylinder 5 Injector Circuit High

P0275....Cylinder 5 Contribution/Balance

P0276....Cylinder 6....Injector Circuit Low

P0277....Cylinder 6....Injector Circuit High

P0278....Cylinder 6 Contribution/Balance

P0279....Cylinder 7 Injector Circuit Low

P0280....Cylinder 7 Injector Circuit High

P0281....Cylinder 7 Contribution/Balance

P0282....Cylinder 8 Injector Circuit Low

P0283....Cylinder 8 Injector Circuit High

P0284....Cylinder 8 Contribution/Balance

P0285....Cylinder 9 Injector Circuit Low

P0286....Cylinder 9 Injector Circuit High

P0287....Cylinder 9 Contribution/Balance

P0288....Cylinder 10....Injector Circuit Low

P0289....Cylinder 10....Injector Circuit High

P0290....Cylinder 10....Contribution/Balance

P0291....Cylinder 11 Injector Circuit Low

P0292....Cylinder 11 Injector Circuit High

P0293....Cylinder 11 Contribution/Balance

P0294....Cylinder 12 Injector Circuit Low

P0295....Cylinder 12 Injector Circuit High

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P0296....Cylinder 12 Contribution/Balance

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P0300....Random/Multiple Cylinder Misfire Detected

P0301....Cylinder 1 Misfire Detected

P0302....Cylinder 2 Misfire Detected

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P0306....Cylinder 6 Misfire Detected

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P0308....Cylinder 8 Misfire Detected

P0309....Cylinder 9 Misfire Detected

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P0311....Cylinder 11 Misfire Detected

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P0313....Misfire Detected with Low Fuel

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P0321....Ignition/Distributor Engine Speed Input Circuit Range/Performance

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P0324....Knock Control System Error

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P0328....Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor)

P0329....Knock Sensor 1 Circuit Input Intermittent (Bank 1 or Single Sensor)

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P0340....Camshaft Position Sensor 'A' Circuit (Bank 1 or Single Sensor)

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P0343....Camshaft Position Sensor 'A' Circuit High Input (Bank 1 or Single Sensor)

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P0345....Camshaft Position Sensor 'A' Circuit (Bank 2)

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P0347....Camshaft Position Sensor 'A' Circuit Low Input (Bank 2)

P0348....Camshaft Position Sensor 'A' Circuit High Input (Bank 2)

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P0350....Ignition Coil Primary/Secondary Circuit

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P0353....Ignition Coil 'C' Primary/Secondary Circuit

P0354....Ignition Coil 'D' Primary/Secondary Circuit

P0355....Ignition Coil 'F' Primary/Secondary Circuit

P0356....Ignition Coil 'F' Primary/Secondary Circuit

P0357....Ignition Coil 'G' Primary/Secondary Circuit

P0358....Ignition Coil 'H' Primary/Secondary Circuit

P0359....Ignition Coil 'I' Primary/Secondary Circuit

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P0361....Ignition Coil 'K Primary/Secondary Circuit

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P0365....Camshaft Position Sensor 'B' Circuit (Bank 1)

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P0367....Camshaft Position Sensor 'B' Circuit Low Input (Bank 1)

P0368....Camshaft Position Sensor 'B' Circuit High Input (Bank 1)

P0369....Camshaft Position Sensor 'B' Circuit Intermittent (Bank 1)

P0370....Timing Reference High Resolution Signal 'A'

P0371....Timing Reference High Resolution Signal 'A' Too Many Pulses

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P0373....Timing Reference High Resolution Signal 'A' Intermittent/Erratic Pulses

P0374....Timing Reference High Resolution Signal 'A' No Pulse

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P0376....Timing Reference High Resolution Signal 'B' Too Many Pulses

P0377....Timing Reference High Resolution Signal 'B' Too Few Pulses

P0378....Timing Reference High Resolution Signal 'B' Intermittent/Erratic Pulses

P0379....Timing Reference High Resolution Signal 'B' No Pulses

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P0380....Glow Plug/Heater Circuit 'A'

P0381....Glow Plug/Heater Indicator Circuit

P0382....Glow Plug/Heater Circuit 'B'

P0385....Crankshaft Position Sensor 'B' Circuit

P0386....Crankshaft Position Sensor 'B' Circuit Range/Performance

P0387....Crankshaft Position Sensor 'B' Circuit Low Input

P0388....Crankshaft Position Sensor 'B' Circuit High Input

P0389....Crankshaft Position Sensor 'B' Circuit Intermittent

P0390....camshaft Position Sensor 'B' Circuit

P0391....Camshaft Position Sensor 'B' circuit Range/Performance (Bank 2)

P0392....Camshaft Position Sensor 'B' Circuit Low Input (Bank 2)

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P0403....Exhaust Gas Recirculation Control Circuit

P0404....Exhaust Gas Recirculation Control Circuit Range/Performance

P0405....Exhaust Gas Recirculation Sensor 'A' Circuit Low

P0406....Exhaust Gas Recirculation Sensor 'A' Circuit High

P0407....Exhaust Gas Recirculation Sensor 'B' Circuit Low

P0408....Exhaust Gas Recirculation Sensor 'B' Circuit High

P0409....Exhaust Gas Recirculation Sensor 'A' Circuit

P0410....Secondary Air Injection System

P0411....Secondary Air Injection System Incorrect Flow Detected

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P0412....Secondary Air Injection System Switching Valve 'A' Circuit

P0413....Secondary Air Injection System Switching Valve 'A' Circuit Open

P0414....Secondary Air Injection System Switching Valve 'A' Circuit Shorted

P0415....Secondary Air Injection System Switching Valve 'B' Circuit

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P0417....secondary Air Injection System Switching Valve 'B' Circuit Shorted

P0416....Secondary Air Injection System Relay 'A' Circuit

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P0420....Catalyst System Efficiency Below Threshold (Bank 1)

P0421....Warm Up Catalyst Efficiency Below Threshold (Bank 1)

P0422....Main Catalyst Efficiency Below Threshold (Bank 1)

P0423....Heated Catalyst Efficiency Below Threshold (Bank 1)

P0424....Heated Catalyst Temperature Below Threshold (Bank 1)

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P0426....Catalyst Temperature Sensor Range/Performance (Bank 1)

P0427....Catalyst Temperature Sensor Low Input (Bank 1)

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P0434....Heated Catalyst Temperature Below Threshold (Bank 2)

P0435....Catalyst Temperature Sensor (Bank 2)

P0436....Catalyst Temperature Sensor Range/Performance (Bank 2)

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P0437....Catalyst Temperature Sensor Low Input (Bank 2)

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P0439....Catalyst Heater Control Circuit (Bank 2)

P0440....Evaporative Emission Control System

P0441....Evaporative Emission Control System Incorrect Purge Flow

P0442....Evaporative Emission Control System Leak Detected (small leak)

P0443....Evaporative Emission Control System Purge Control Valve Circuit

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P0445....Evaporative Emission Control System Purge Control Valve Circuit Shorted

P0446....Evaporative Emission Control System Vent Control Circuit

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P0448....Evaporative Emission Control System Vent Control Circuit Shorted

P0449....Evaporative Emission Control System Vent Valve/Solenoid Circuit

P0450....Evaporative Emission Control System Pressure Sensor

P0451....Evaporative Emission Control System Pressure Sensor Range/Performance

P0452....Evaporative Emission Control System Pressure Sensor Low Input

P0453....Evaporative Emission Control System Pressure Sensor High input

P0454....Evaporative Emission Control System Pressure Sensor Intermittent

P0455....Evaporative Emission Control System Leak Detected (gross leak)

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P0457....Evaporative Emission Control System Leak Detected (fuel cap loose/off)

P0460....Fuel Level Sensor Circuit

P0461....Fuel Level Sensor Circuit Range/Performance

P0462....Fuel Level Sensor Circuit Low Input

P0463....Fuel Level Sensor Circuit High Input

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P0464....Fuel Level Sensor Circuit Intermittent

P0465....EVAP Purge Flow Sensor Circuit

P0466....EVAP Purge Flow Sensor Circuit Range/Performance

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P0469....EVAP Purge Flow Sensor Circuit Intermittent

P0470....Exhaust Pressure Sensor

P0471....Exhaust Pressure Sensor Range/Performance

P0472....Exhaust Pressure Sensor Low

P0473....Exhaust Pressure Sensor High

P0474....Exhaust Pressure Sensor Intermittent

P0475....Exhaust Pressure Control Valve

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P0477....Exhaust Pressure Control Valve Low

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P0484....Cooling Fan Circuit Over Current

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P0486....Exhaust Gas Recirculation Sensor 'B' Circuit

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P0491....Secondary Air Injection System (Bank 1)

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P0500....Vehicle Speed Sensor

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P0502....Vehicle Speed Sensor Circuit Low Input

P0503....Vehicle Speed Sensor Intermittent/Erratic/High

P0505....Idle Control System

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P0508....Idle Control System Circuit Low

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P0510....Closed Throttle Position Switch

P0512....Starter Request Circuit

P0513....Incorrect Immobilizer Key

P0515....Battery Temperature Sensor Circuit

P0516....Battery Temperature Sensor Circuit Low

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P0520....Engine Oil Pressure Sensor/Switch Circuit

P0521....Engine Oil Pressure Sensor/Switch Range/Performance

P0522....Engine Oil Pressure Sensor/Switch Low Voltage

P0523....Engine Oil Pressure Sensor/Switch High Voltage

P0524....Engine Oil Pressure Too Low

P0530....A/C Refrigerant Pressure Sensor Circuit

P0531....A/C Refrigerant Pressure Sensor Circuit Range/Performance

P0532....A/C Refrigerant Pressure Sensor Circuit Low Input

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P0533....A/C Refrigerant Pressure Sensor Circuit High Input

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P0540....Intake Air Heater Circuit

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P0544....Exhaust Gas Temperature Sensor Circuit (Bank 1)

P0545....Exhaust Gas Temperature Sensor Circuit Low (Bank 1)

P0546....Exhaust Gas Temperature Sensor Circuit High (Bank 1)

P0547....Exhaust Gas Temperature Sensor Circuit (Bank 2)

P0548....Exhaust Gas Temperature Sensor Circuit Low (Bank 2)

P0549....Exhaust Gas Temperature Sensor Circuit High (Bank 2)

P0550....Power Steering Pressure Sensor Circuit

P0551....Power Steering Pressure Sensor Circuit Range/Performance

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P0560....System Voltage

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P0562....System Voltage Low

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P0565....Cruise Control On Signal

P0566....Cruise Control Off Signal

P0567....Cruise Control Resume Signal

P0568....Cruise Control Set Signal

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P0569....Cruise Control Coast Signal

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P0571....Cruise Control/Brake Switch A Circuit

P0572....Cruise Control/Brake Switch A Circuit Low

P0573....Cruise Control/Brake Switch A Circuit High

P0574....Cruise Control System - Vehicle Speed Too High

P0575....Cruise Control Input Circuit

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P0600....Serial Communication Link

P0601....Internal Control Module Memory Check Sum Error

P0602....Control Module Programming Error

P0603....Internal Control Module Keep Alive Memory (KAM) Error

P0604....Internal Control Module Random Access Memory (RAM) Error

P0605....Internal Control Module Read Only Memory (ROM) Error

P0606....ECM/PCM Processor

P0607....Control Module Performance

P0608....Control Module VSS Output 'A'

P0609....Control Module VSS Output 'B'

P0610....Control Module Vehicle Options Error

P0615....Starter Relay Circuit

P0616....Starter Relay Circuit Low

P0617....Starter Relay Circuit High

P0618....Alternative Fuel Control Module KAM Error

P0619....Alternative Fuel Control Module RAM/ROM Error

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P0620....Generator Control Circuit

P0621....Generator Lamp 'L' Terminal Control Circuit

P0622....Generator Field 'F' Terminal Control Circuit

P0623....Generator Lamp Control Circuit

P0624....Fuel Cap Lamp Control Circuit

P0630....VIN Not Programmed or Mismatch - ECM/PCM

P0631....VIN Not Programmed or Mismatch - TCM

P0635....Power Steering Control Circuit

P0836....Power Steering Control Circuit Low

P0637....Power Steering Control Circuit High

P0638....Throttle Actuator Control Range/Performance (Bank 1)

P0639....Throttle Actuator Control Range/Performance (Bank 2)

P0640....Intake Air Heater Control Circuit

P0645....A/C Clutch Relay Control Circuit

P0646....A/C Clutch Relay Control Circuit Low

P0647....A/C Clutch Relay Control Circuit High

P0648....Immobilizer Lamp Control Circuit

P0649....Speed Control Lamp Control Circuit

P0650....Malfunction Indicator Lamp (ML) Control Circuit

P0654....Engine RPM Output Circuit

P0655....Engine Hot Lamp Output Control Circuit

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P0660....Intake Manifold Tuning Valve Control Circuit (Bank 1)

P0661....Intake Manifold Tuning Valve Control Circuit Low (Bank 1)

P0662....Intake Manifold Tuning Valve Control Circuit High (Bank 1)

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P0663....Intake Manifold Tuning Valve Control Circuit (Bank 2)

P0664....Intake Manifold Tuning Valve Control Circuit Low (Bank 2)

P0665....Intake Manifold Tuning Valve Control Circuit High (Bank 2)

P0700....Transmission Control System (MIL Request)

P0701....Transmission Control System Range/Performance

P0702....Transmission Control System Electrical

P0703....Torque Converter/Brake Switch B Circuit

P0704....Clutch Switch In put Circuit Malfunction

P0705....Transmission Range Sensor Circuit Malfunction (PRNDL Input)

P0706....Transmission Range Sensor Circuit Range/Performance

P0707....Transmission Range Sensor Circuit Low Input

P0708....Transmission Range Sensor Circuit High Input

P0709....Transmission Range Sensor Circuit intermittent

P0710....Transmission Fluid Temperature Sensor Circuit

P0711....Transmission Fluid Temperature Sensor Circuit Range/Performance

P0712....Transmission Fluid Temperature Sensor Circuit Low Input

P0713....Transmission Fluid Temperature Sensor Circuit High Input

P0714....Transmission Fluid Temperature Sensor Circuit Intermittent

P0715....Input/Turbine Speed Sensor Circuit

P0716....Input/Turbine Speed Sensor Circuit Range/Performance

P0717....Input/Turbine Speed Sensor Circuit No Signal

P0718....Input/Turbine Speed Sensor Circuit Intermittent

P0719....Torque Converter/Brake Switch B Circuit Low

P0720....Output Speed Sensor Circuit

P0721....Output Speed Sensor Circuit Range/Performance

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P0722....Output Speed Sensor Circuit No Signal

P0723....Output Speed Sensor Circuit Intermittent

P0724....Torque Converter/Brake Switch B Circuit High

P0725....Engine Speed Input Circuit

P0726....Engine Speed Input Circuit Range/Performance

P0727....Engine Speed Input Circuit No Signal

P0728....Engine Speed Input Circuit Intermittent

P0730....Incorrect Gear Ratio

P0731....Gear 1 Incorrect Ratio

P0732....Gear 2 Incorrect Ratio

P0733....Gear 3 Incorrect Ratio

P0734....Gear 4 Incorrect Ratio

P0735....Gear 5 Incorrect Ratio

P0736....Reverse Incorrect Ratio

P0737....TCM Engine Speed Output Circuit

P0739....TCM Engine Speed Output Circuit Low

P0739....TCM Engine Speed Output Circuit High

P0740....Torque Converter Clutch Circuit

P0741....Torque Converter Clutch Circuit Performance or Stuck Off

P0742....Torque Converter Clutch Circuit Stuck On

P0743....Torque Converter Clutch Circuit Electrical

P0744....Torque Converter Clutch Circuit Intermittent

P0745....Pressure Control Solenoid 'A'

P0746....Pressure Control Solenoid 'A' Performance or Stuck Off

P0747....Pressure Control Solenoid 'A' Stuck On

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P0748....Pressure Control Solenoid 'A' Electrical

P0749....Pressure Control Solenoid 'A' Intermittent

P0750....Shift Solenoid 'A'

P0751....Shift Solenoid 'A' Performance or Stuck Off

P0752....Shift Solenoid 'A' Stuck On

P0753....Shift Solenoid 'A' Electrical

P0754....Shift Solenoid 'A' Intermittent

P0765....Shift Solenoid 'B'

P0756....Shift Solenoid 'B' Performance or Stuck Off

P0757....Shift Solenoid 'B' Stuck On

P0758....Shift Solenoid 'B' Electrical

P0759....Shift Solenoid 'B' Intermittent

P0760....Shift Solenoid 'C'

P0761....Shift Solenoid 'C' Performance or Stuck Off

P0762....Shift Solenoid 'C' Stuck On

P0763....Shift Solenoid 'C' Electrical

P0764....Shift Solenoid 'C' Intermittent

P0765....Shift Solenoid 'C'

P0766....Shift Solenoid 'D' Performance or Stuck Off

P0767....Shift Solenoid 'D' Stuck On

P0768....Shift Solenoid 'D' Electrical

P0769....Shift Solenoid 'D' Intermittent

P0770....Shift Solenoid 'E'

P0771....Shift Solenoid 'E' Performance or Stuck Off

P0772....Shift Solenoid 'E' Stuck On

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P0773....Shift Solenoid 'E' Electrical

P0774....Shift Solenoid 'E' Intermittent

P0775....Pressure Control Solenoid 'B'

P0776....Pressure Control Solenoid 'B' Performance or Stuck Off

P0777....Pressure Control Solenoid 'B' Stuck On

P0778....Pressure Control Solenoid 'B' Electrical

P0779....Pressure Control Solenoid 'B' Intermittent

P0780....Shift

P0781....1-2 Shift

P0782....2-3 Shift

P0783....3-4 Shift

P0784....4-5 Shift

P0785....Shift/Timing Solenoid

P0786....Shift/Timing Solenoid Range/Performance

P0787....Shift/Timing Solenoid Low

P0788....Shift/Timing Solenoid High

P0789....Shift/Timing Solenoid Intermittent

P0790....Normal/Performance Switch Circuit

P0791....Intermediate Shaft Speed Sensor Circuit

P0792....Intermediate Shaft Speed Sensor Circuit Range/Performance

P0793....Intermediate Shaft Speed Sensor Circuit No Signal

P0794....Intermediate Shaft Speed Sensor Circuit Intermittent

P0795....Pressure Control Solenoid 'C'

P0796....Pressure Control Solenoid 'C' Performance or Stuck off

P0797....Pressure Control Solenoid 'C' Stuck On

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P0798....Pressure Control Solenoid 'C' Electrical

P0799....Pressure Control Solenoid 'C' Intermittent

P0801....Reverse Inhibit Control Circuit

P0803....1-4 Upshift (Skip Shift) Solenoid Control Circuit

P0804....1-4 Upshift (Skip Shift) Lamp Control Circuit

P0805....Clutch Position Sensor Circuit

P0806....Clutch Position Sensor Circuit Range/Performance

P0807....Clutch Position Sensor Circuit Low

P0808....Clutch Position Sensor Circuit High

P0809....Clutch Position Sensor Circuit Intermittent

P0810....Clutch Position Control Error

P0811....Excessive Clutch Slippage

P0812....Reverse Input Circuit

P0813....Reverse Output Circuit

P0814....Transmission Range Display Circuit

P0815....Upshift Switch Circuit

P0816....Downshift Switch Circuit

P0817....Starter Disable Circuit

P0818....Driveline Disconnect Switch Input Circuit

P0820....Gear Lever X-Y Position Sensor Circuit

P0821....Gear Lever X Position Circuit

P0822....Gear Lever Y Position Circuit

P0823....Gear Lever X Position Circuit Intermittent

P0824....Gear Lever Y Position Circuit Intermittent

P0825....Gear Lever Push-Pull Switch (Shift Anticipate)

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P0830....Clutch Pedal Switch 'A' Circuit

P0831....Clutch Pedal Switch 'A' Circuit Low

P0832....Clutch Pedal Switch 'A' Circuit High

P0833....Clutch Pedal Switch 'B' Circuit

P0834....Clutch Pedal Switch 'B' Circuit Low

P0835....Clutch Pedal Switch 'B' Circuit High

P0836....Four Wheel Drive (4WD) Switch Circuit

P0837....Four Wheel Drive (4WD) Switch Circuit Range/Performance

P0838....Four Wheel Drive (4WD) Switch Circuit Low

P0839....Four Wheel Drive (4WD) Switch Circuit High

P0840....Transmission Fluid Pressure Sensor/Switch 'A' Circuit

P0841....Transmission Fluid Pressure Sensor/Switch 'A' Circuit Range/Performance

P0842....Transmission Fluid Pressure Sensor/Switch 'A' Circuit Low

P0843....Transmission Fluid Pressure Sensor/Switch 'A' Circuit High

P0844....Transmission Fluid Pressure Sensor/Switch 'A' Circuit Intermittent

P0845....Transmission Fluid Pressure Sensor/Switch 'B' Circuit

P0846....Transmission Fluid Pressure Sensor/Switch 'B' Circuit Range/Performance

P0847....Transmission Fluid Pressure Sensor/Switch 'B' Circuit Low

P0848....Transmission Fluid Pressure Sensor/Switch 'B' Circuit High

P0849....Transmission Fluid Pressure Sensor/Switch 'B' Circuit Intermittent

P0850....Park/Neutral Switch Input Circuit

P0851....Park/Neutral Switch Input Circuit Low

P0852....Park/Neutral Switch Input Circuit High

P0853....Drive Switch Input Circuit

P0854....Drive Switch Input C ircuit Low

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P0855....Drive Switch Input Circuit High

P0856....Traction Control Input Signal

P0857....Traction Control Input Signal Range/Performance

P0858....Traction Control Input Signal Low

P0859....Traction Control Input Signal High

P0860....Gear Shift Module Communication Circuit

P0861....Gear Shift Module Communication Circuit Low

P0862....Gear Shift Module Communication Circuit High

P0863....TCM Communication Circuit

P0864....TCM Communication Circuit Range/Performance

P0865....TCM Communication Circuit Low

P0866....TCM Communication Circuit High

P0867....Transmission Fluid Pressure

P0868....Transmission Fluid Pressure Low

P0869....Transmission Fluid Pressure High

P0870....Transmission Fluid Pressure Sensor/Switch "C" circuit

P0871....Transmission Fluid Pressure Sensor/Switch "C" Circuit Range/Performance

P0872....Transmission Fluid Pressure Sensor/Switch "C" circuit Low

P0873....Transmission Fluid Pressure Sensor/Switch "C" circuit High

P0874....Transmission Fluid Pressure Sensor/Switch "C" circuit Intermittent

P0875....Transmission Fluid Pressure Sensor/Switch "D" circuit

P0876....Transmission Fluid Pressure Sensor/Switch "D" Circuit Range/Performance

P0877....Transmission Fluid Pressure Sensor/Switch "D" circuit Low

P0878....Transmission Fluid Pressure Sensor/Switch "D" circuit High

P0879....Transmission Fluid Pressure Sensor/Switch "D" circuit Intermittent

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P0880....TCM Power Input Signal

P0881....TCM Power Input Signal Range/Performance

P0882....TCM Power Input Signal Low

P0883....TCM Power Input Signal High

P0884....TCM Power Input Signal Intermittent

P0885....TCM Power Relay Control Circuit/Open

P0886....TCM Power Relay Control Circuit Low

P0887....TCM Power Relay Control Circuit High

P0888....TCM Power Relay Sense Circuit

P0889....TCM Power Relay Sense Circuit Range/Performance

P0890....TCM Power Relay Sense Circuit Low

P0891....TCM Power Relay Sense Circuit High

P0892....TCM Power Relay Sense C ircuit Intermittent

P0893....Multiple Gears Engaged

P0894....Transmission Component Slipping

P0895....Shift Time Too Short

P0896....Shift Time Too Long

P0897....Transmission Fluid Deteriorated

P0898....Transmission Control System MIL Request Circuit Low

P0899....Transmission Control System MIL Request Circuit High

P0900....Clutch Actuator Circuit/Open

P0901....Clutch Actuator Circuit Range/Performance

P0902....Clutch Actuator Circuit Low

P0903....Clutch Actuator Circuit High

P0904....Gate Select Position Circuit

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P0905....Gate Select Position Circuit Range/Performance

P0906....Gate Select Position Circuit Low

P0907....Gate Select Position Circuit High

P0908....Gate Select Position Circuit Intermittent

P0909....Gate Select Control Error

P0910....Gate Select Actuator Circuit/Open

P0911....Gate Select Actuator Circuit Range/Performance

P0912....Gate Select Actuator Circuit Low

P0913....Gate Select Actuator Circuit High

P0914....Gear Shift Position Circuit

P0915....Gear Shift Position Circuit Range/Performance

P0916....Gear Shift Position Circuit Low

P0917....Gear Shift Position Circuit High

P0918....Gear Shift Position Circuit Intermittent

P0919....Gear Shift Position Control Error

P0920....Gear Shift Forward Actuator Circuit/Open

P0921....Gear Shift Forward Actuator Circuit Range/Performance

P0922....Gear Shift Forward Actuator Circuit Low

P0923....Gear Shift Forward Actuator Circuit High

P0924....Gear Shift Reverse Actuator Circuit/Open

P0925....Gear Shift Reverse Actuator Circuit Range/Performance

P0926....Gear Shift Reverse Actuator Circuit Low

P0927....Gear Shift Reverse Actuator Circuit High

P0928....Gear Shift Lock Solenoid Control Circuit/Open

P0929....Gear Shift Lock Solenoid Control Circuit Range/Performance

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P0930....Gear Shift Lock Solenoid Control Circuit Low

P0931....Gear Shift Lock Solenoid Control Circuit High

P0932....Hydraulic Pressure Sensor Circuit

P0933....Hydraulic Pressure Sensor Range/Performance

P0934....Hydraulic Pressure Sensor Circuit Low

P0935....Hydraulic Pressure Sensor Circuit High

P0936....Hydraulic Pressure Sensor Circuit Intermittent

P0937....Hydraulic Oil Temperature Sensor Circuit

P0938....Hydraulic Oil Temperature Sensor Range/Performance

P0939....Hydraulic Oil Temperature Sensor Circuit Low

P0940....Hydraulic Oil Temperature Sensor Circuit High

P0941....Hydraulic Oil Temperature Sensor Circuit Intermittent

P0942....Hydraulic Pressure Unit

P0943....Hydraulic Pressure Unit Cycling Period Too Short

P0944....Hydraulic Pressure Unit Loss of Pressure

P0945....Hydraulic Pump Relay C ircuit/Open

P0946....Hydraulic Pump Relay C ircuit Range/Performance

P0947....Hydraulic Pump Relay C ircuit Low

P0948....Hydraulic Pump Relay C ircuit High

P0949....Auto Shift Manual Adaptive Learning Not Complete

P0950....Auto Shift Manual Control Circuit

P0951....Auto Shift Manual Control Circuit Range/Performance

P0952....Auto Shift Manual Control Circuit Low

P0953....Auto Shift Manual Control Circuit High

P0954....Auto Shift Manual Control Circuit Intermittent

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P0955....Auto Shift Manual Mode Circuit

P0956....Auto Shift Manual Mode Circuit Range/Performance

P0957....Auto Shift Manual Mode Circuit Low

P0958....Auto Shift Manual Mode Circuit High

P0959....Auto Shift Manual Mode Circuit Intermittent

P0960....Pressure Control Solenoid "A" Control Circuit/Open

P0961....Pressure Control Solenoid "A" Control Circuit Range/Performance

P0962....Pressure Control Solenoid "A" Control Circuit Low

P0963....Pressure Control Solenoid "A" Control Circuit High

P0964....Pressure Control Solenoid "B" Control Circuit/Open

P0965....Pressure Control Solenoid "B" Control Circuit Range/Performance

P0966....Pressure Control Solenoid "B" Control Circuit Low

P0967....Pressure Control Solenoid "B" Control Circuit High

P0968....Pressure Control Solenoid "C" Control Circuit/Open

P0969....Pressure Control Solenoid "C" Control Circuit Range/Performance

P0970....Pressure Control Solenoid "C" Control Circuit Low

P0971....Pressure Control Solenoid "C" Control Circuit High

P0972....Shift Solenoid "A" Control Circuit Range/Performance

P0973....Shift Solenoid "A" Control Circuit Low

P0974....Shift Solenoid "A" Control Circuit High

P0975....Shift Solenoid "B" Control Circuit Range/Performance

P0976....Shift Solenoid "B" Control Circuit Low

P0977....Shift Solenoid "B" Control Circuit High

P0978....Shift Solenoid "C" Control Circuit Range/Performance

P0979....Shift Solenoid "C" Control Circuit Low

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P0980....Shift Solenoid "C" Control Circuit High

P0981....Shift Solenoid "D" Control Circuit Range/Performance

P0982....Shift Solenoid "D" Control Circuit Low

P0983....Shift Solenoid "D" Control Circuit High

P0984....Shift Solenoid "E" Control Circuit Range/Performance

P0985....Shift Solenoid "E" Control Circuit Low

P0986....Shift Solenoid "E" Control Circuit High

P0987....Transmission Fluid Pressure Sensor/Switch "E" Circuit

P0988....Transmission Fluid Pressure Sensor/Switch "E" Circuit Range/Performance

P0989....Transmission Fluid Pressure Sensor/Switch "E" Circuit Low

P0990....Transmission Fluid Pressure Sensor/Switch "E" Circuit High

P0991....Transmission Fluid Pressure Sensor/Switch "E" Circuit Intermittent

P0992....Transmission Fluid Pressure Sensor/Switch "F" Circuit

P0993....Transmission Fluid Pressure Sensor/Switch "F" Circuit Range/Performance

P0994....Transmission Fluid Pressure Sensor/Switch "F" Circuit Low

P0995....Transmission Fluid Pressure Sensor/Switch "F" Circuit High

P0996....Transmission Fluid Pressure Sensor/Switch "F" Circuit Intermittent

P0997....Shift Solenoid "F" Control Circuit Range/Performance

P0998....Shift Solenoid "F" Control Circuit Low

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**2006-08 ACCESSORIES & EQUIPMENT**

**Glass - Civic (All Except Hybrid)**

## COMPONENT LOCATION INDEX

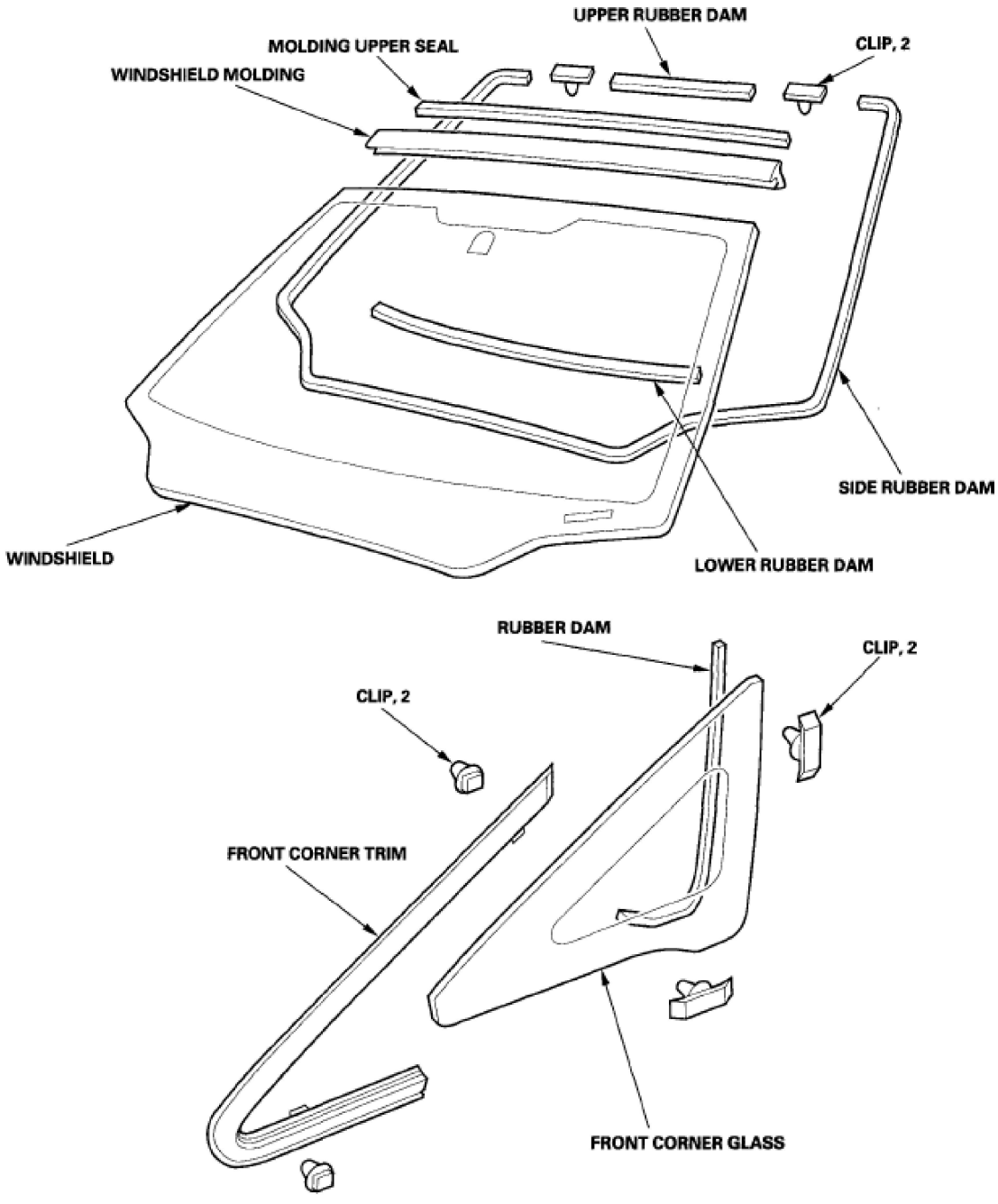



**Fig. 1: Exploded View Of Glass**

## 2-door

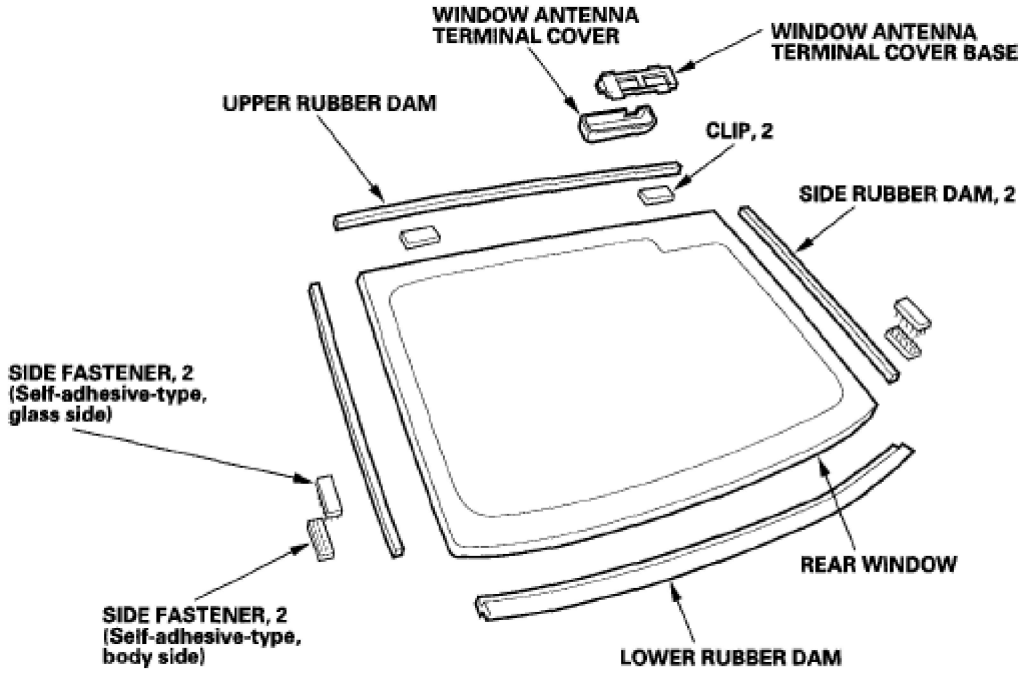



**Fig. 2: Exploded View Of Glass (2-Door)**

## 4-door

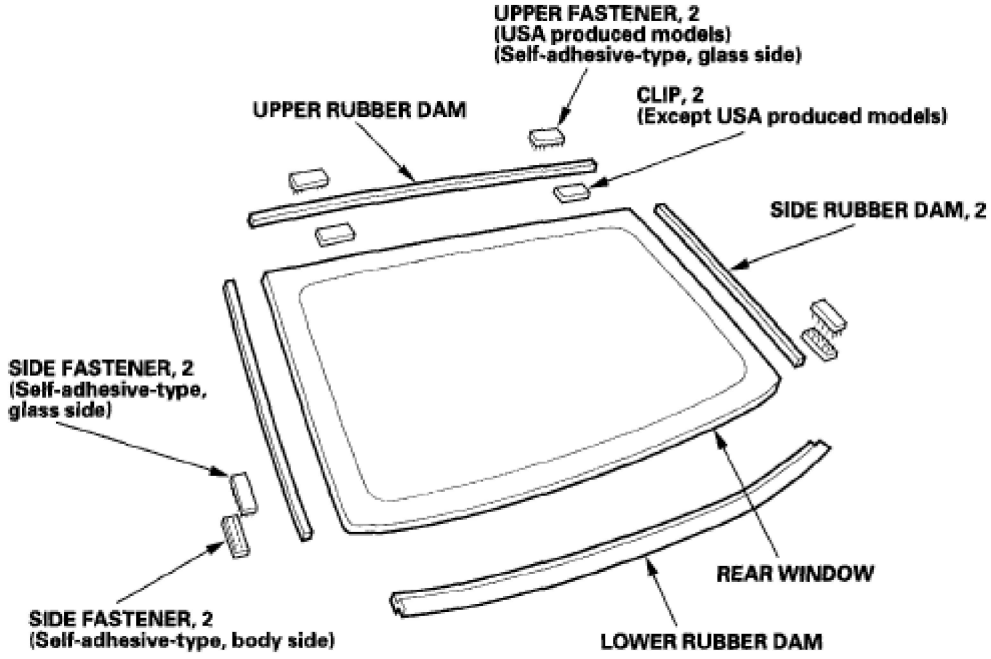



**Fig. 3: Exploded View Of Glass (4-Door)**

## 2-door

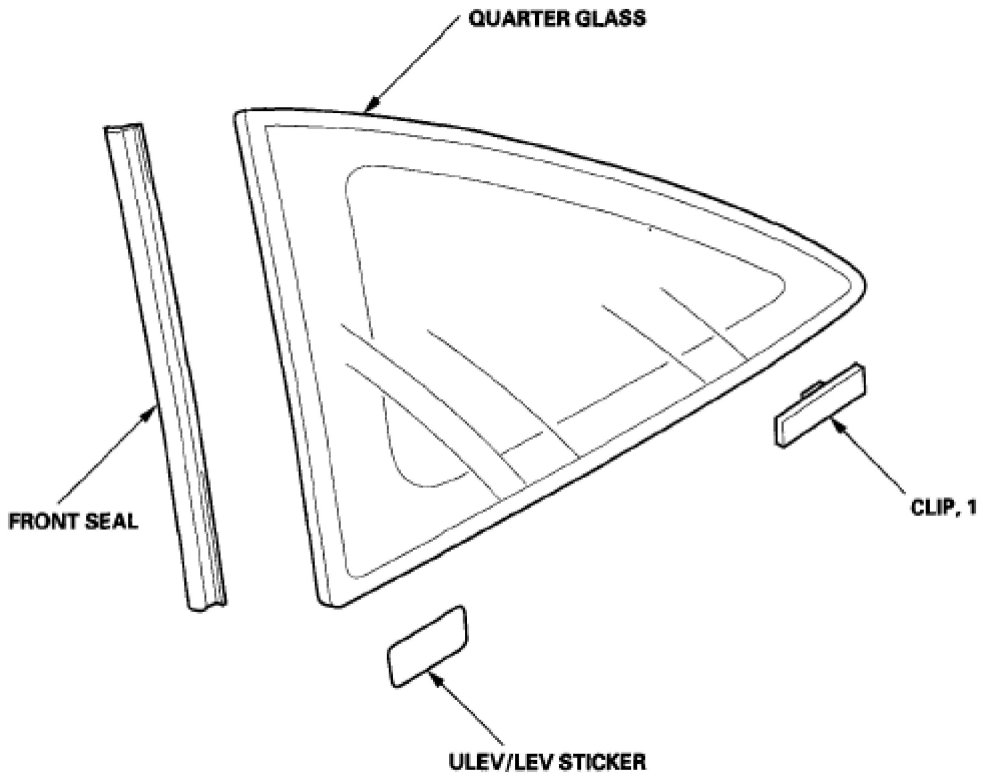



**Fig. 4: Exploded View Of Quarter Glass (2-Door)**

## WINDSHIELD REPLACEMENT

**NOTE:**

- **Put on gloves to protect your hands.**
- **Wear eye protection while cutting the glass adhesive with a piano wire.**
- **Use seat covers to avoid damaging the seat.**
- **When replacing a broken windshield a commercially available windshield cutter can be efficiently used for cutting the adhesive. For details, follow the instructions of the tool manufacturer.**

1. Remove these items:
   - Windshield wiper arms:

- 2-door (see **2-DOOR** )
- 4-door (see **4-DOOR** )

- Cowl covers (see **COWL COVER REPLACEMENT** )
- Rearview mirror (see **REARVIEW MIRROR REPLACEMENT** )
- A-pillar trim, both sides (see **TRIM REMOVAL/INSTALLATION - PILLAR AREAS** )
- Roof moldings (see **ROOF MOLDING REPLACEMENT** )

2. Remove the molding (A) from the upper edge of the windshield (B). If necessary, cut the molding with a utility knife.

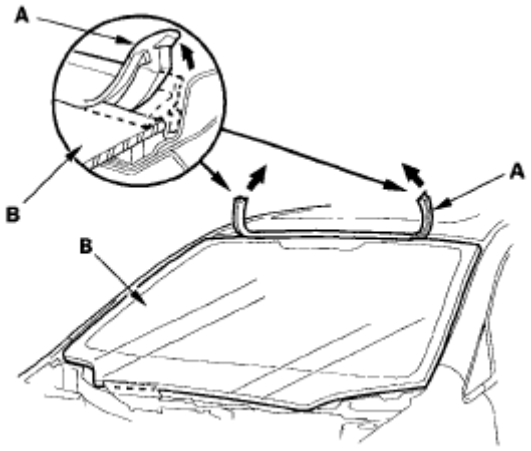



**Fig. 5: Removing Molding From Upper Edge Of Windshield**

3. If the old windshield will be reinstalled, make alignment marks across the glass and body with a grease pencil.
4. Pull down the front portion of the headliner (see **HEADLINER REMOVAL/INSTALLATION** ). Take care not to bend the headliner excessively, or you may crease or break it.
5. Apply protective tape along the edge of the dashboard and body. Using an awl, make a hole through the rubber dam and adhesive from inside the vehicle at the corner portion of the windshield. Push a piece of piano wire through the hole, and wrap each end around a piece of wood.
6. With a helper on the outside, pull the piano wire (A) back and forth in a sawing motion. Hold the piano wire as close to the windshield (B) as possible to prevent damage to the body and dashboard. Carefully cut through the rubber

dam and adhesive (C) around the entire windshield.

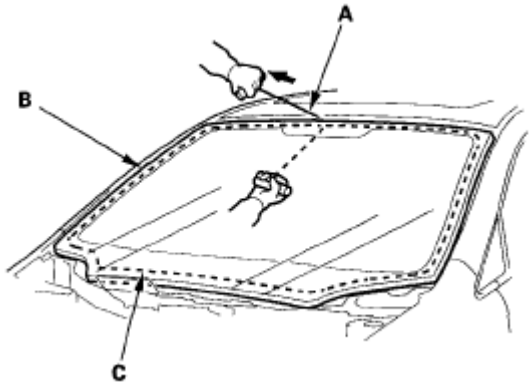



**Fig. 6: Cutting Through Rubber Dam And Adhesive Around Windshield**

**Cutting positions**

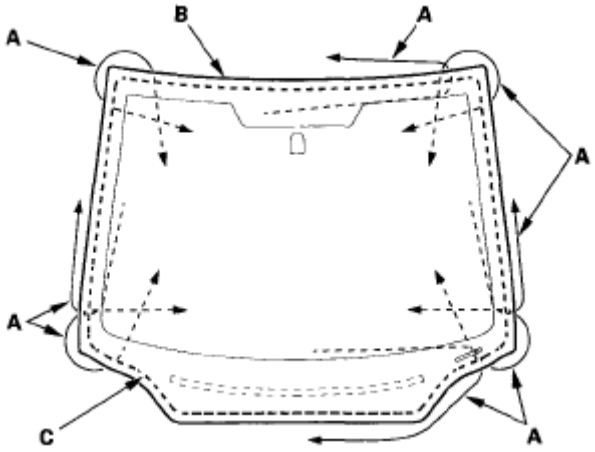



**Fig. 7: Identifying Cutting Positions**

7. Carefully remove the windshield.
8. With a knife, scrape the old adhesive smooth to a thickness of about 2 mm (0.08 in.) on the bonding surface around the entire windshield opening flange:
   - Do not scrape down to the painted surface of the body; damaged paint will interfere with proper bonding.
   - Remove the rubber dam and fasteners from the body.
   - Replace the dashboard seal with a new one.
9. Clean the body bonding surface with a sponge dampened in alcohol. After

cleaning, keep oil, grease and water from getting on the clean surface.

10. If the old windshield will be reinstalled, use a putty knife to scrape off the old adhesive, the fasteners and the rubber dam from the windshield. Clean the inside face and the edge of the windshield with alcohol where new adhesive will be applied. Make sure the bonding surface is kept free of water, oil, and grease.
11. Attach the upper rubber dam (A), side rubber dam (B), and clips (C) with adhesive tape to the inside face of the windshield (D) as shown in **Fig. 8**:
    - Be sure the rubber dam and clips line up with the alignment marks (E).
    - Be sure the convex portion (F) of the left and right clips toward left.
    - Be careful not to touch the windshield where adhesive will be applied.

**Rubber dams adhesive tape:**

**Thickness 0.16 mm (0.006 in.)**
**Width 3.5 mm (0.14 in.)**

**Clips adhesive tape:**

**Thickness 0.4 mm (0.016 in.)**
**Width 10 mm (0.39 in.)**

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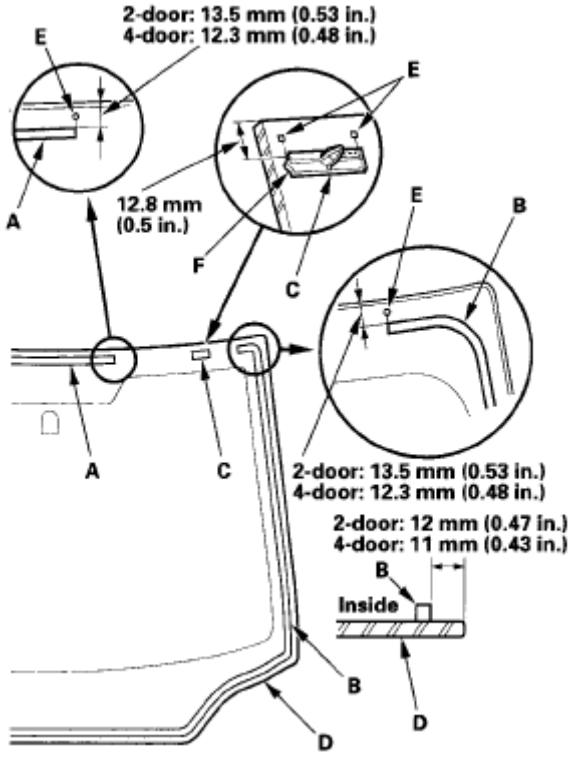



**Fig. 8: Attaching Upper Rubber Dam, Side Rubber Dam And Clips With Adhesive Tape To Inside Face Of Windshield (With Specifications)**

12. Attach the molding (A) with adhesive tape (B) to the upper edge of the windshield (C). Be careful not to touch the windshield where adhesive will be applied.

    **Molding adhesive tape: Thickness 0.8 mm (0.03 in.) Width 4 mm (0.16 in.)**

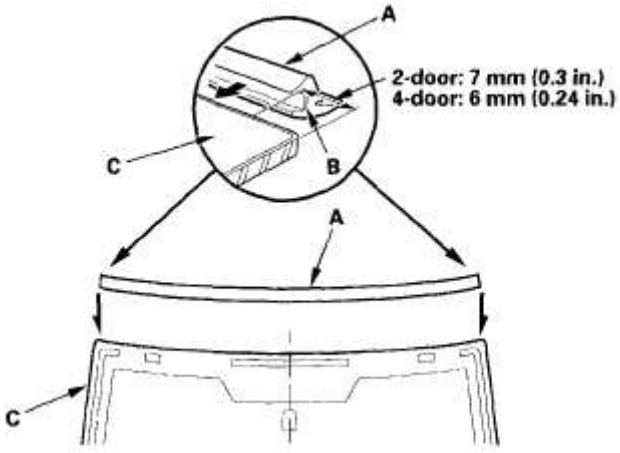


**Fig. 9: Attaching Molding With Adhesive Tape To Upper Edge Of Windshield (With Specifications)**

13. Apply primer to the molding (A), then attach the molding upper seal (B) with adhesive tape to the inside surface of the molding as shown.

    **Seals adhesive tape: Thickness 0.16 mm (0.006 in.) Width 7 mm (0.28 in.)**

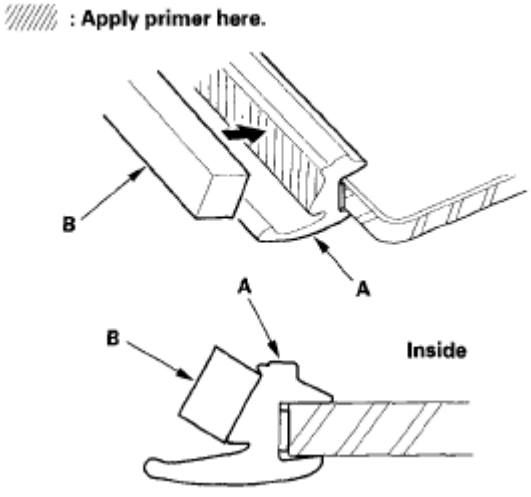



**Fig. 10: Applying Primer To Molding**

14. Attach the lower rubber dam (A) with body side adhesive tape to the body as shown. Do not peel the glass side adhesive backing.

    **Rubber dam adhesive tape:**

    **Thickness 0.16 mm (0.006 in.)**
    **Width 5 mm (0.2 in.)**

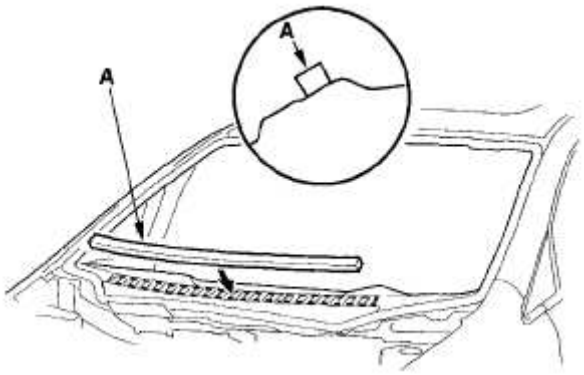



**Fig. 11: Attaching Lower Rubber Dam With Body Side Adhesive Tape To Body**

15. Set the windshield in the opening, and center it. Make alignment marks (A) across the windshield and body with a grease pencil at the four points shown. Make sure both clips (B) contact with the edge of the body holes. Be careful not to touch the windshield where adhesive will be applied.

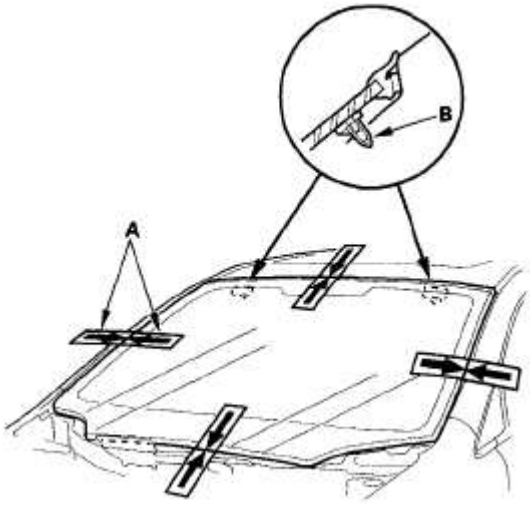



**Fig. 12: Making Alignment Marks Across Windshield And Body With Grease Pencil**

16. Remove the windshield.
17. With a sponge, apply a light coat of glass primer around the edge of the windshield (A) between the dams (B) and molding (C) as shown, then lightly wipe it off with gauze or cheesecloth:
    - Apply glass primer to the molding.

- Do not apply body primer to the windshield, and do not get body and glass primer sponges mixed up.
- Never touch the primed surfaces with your hands. If you do, the adhesive may not bond to the windshield properly, causing a leak after the windshield is installed.
- Keep water, dust, and abrasive materials away from primed surfaces.

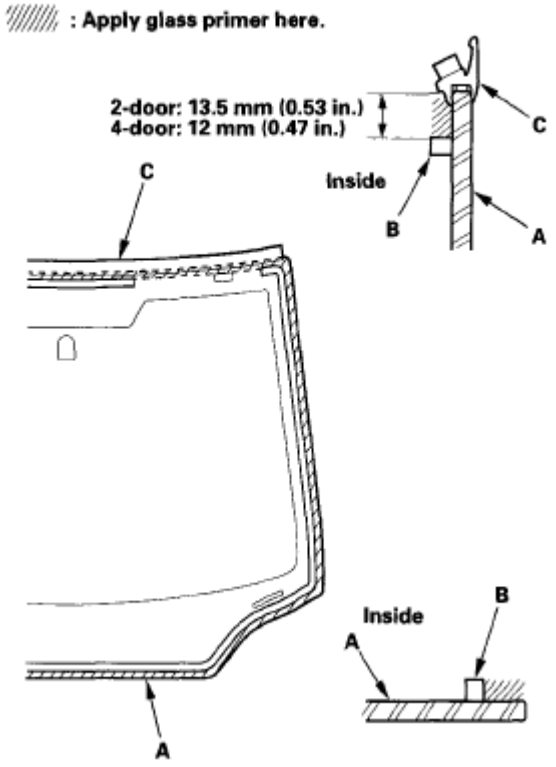



**Fig. 13: Applying Glass Primer Around Edge Of Windshield Between Dams And Molding (With Specifications)**

18. With a sponge, carefully apply a light coat of body primer to any exposed paint or metal around the flange where new adhesive will be applied. Let the primer dry for at least 10 minutes:
    - Do not apply body primer to any remaining original adhesive on the flange.
    - Be careful not to mix up the body and glass primer sponges.
    - Never touch the primed surfaces with your hands.

**Apply body primer to shaded area shown in illustrations.**

**2-door**

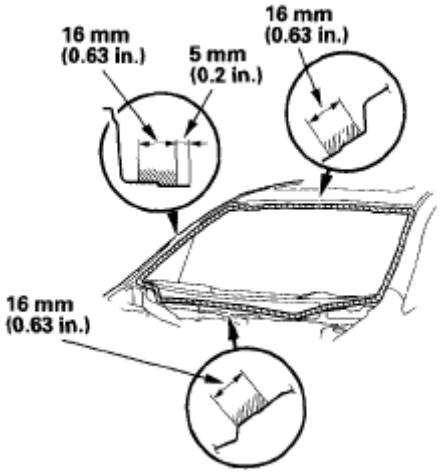



**Fig. 14: Applying Body Primer To Exposed Paint (2-Door) (With Specifications)**

**4-door**

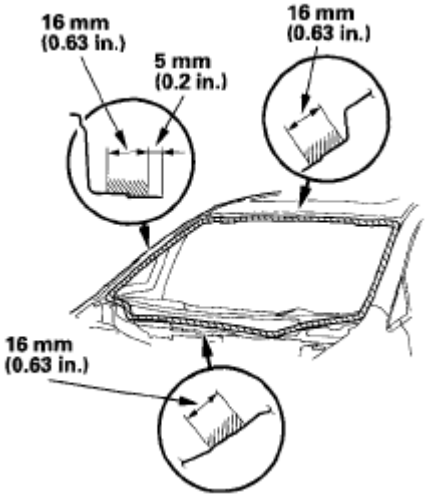



**Fig. 15: Applying Body Primer To Exposed Paint (4-Door) (With Specifications)**

19. Cut a "V" in the end of the nozzle (A) on the adhesive cartridge as shown.

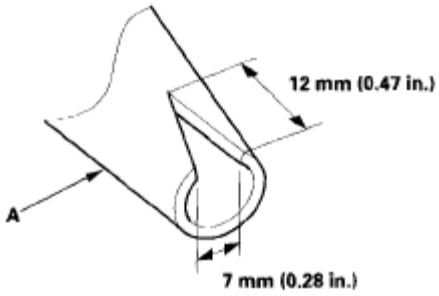



**Fig. 16: Cutting "V" In End Of Nozzle (With Specifications)**

20. Pack adhesive into the cartridge without air pockets to ensure continuous delivery. Put the cartridge in a caulking gun, and run a bead of adhesive (A) around the edge of the windshield (B) between the dams (C) and molding (D) as shown. Apply the adhesive within 30 minutes after applying the glass primer. Make a slightly thicker bead at each corner.

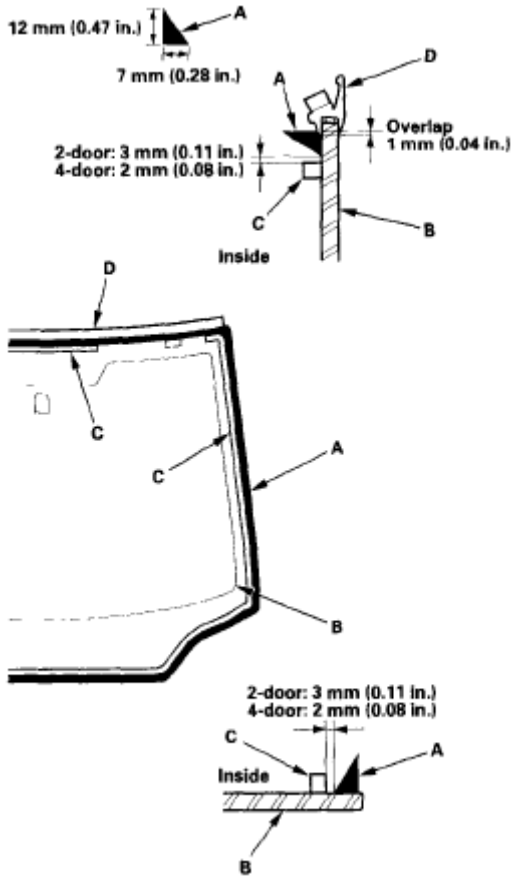



**Fig. 17: Running Bead Of Adhesive Around Edge Of Windshield Between Dams And Molding (With Specifications)**

21. Pull out the glass side adhesive backing away from the lower rubber dam.
22. Use suction cups to hold the windshield over the opening, align it with the alignment marks made in step 15, and set it down on the adhesive. Lightly push on the windshield until its edges are fully seated on the adhesive all the way around.

**NOTE: Do not open or close any of the doors for about an hour until the adhesive is dry.**

23. Scrape or wipe the excess adhesive off with a putty knife or towel. To remove adhesive from a painted surface or the windshield, wipe with a soft shop towel dampened with alcohol.
24. After the adhesive has dried, spray water over the windshield and check for leaks. Mark the leaking areas, let the windshield dry, then seal with sealant:
    - Let the vehicle stand for at least 4 hours after windshield installation. If the vehicle has to be used within the first 4 hours, it must be driven slowly.
    - Keep the windshield dry for the first hour after installation.
25. Reinstall all remaining removed parts.

**NOTE: Advise the customer not to do the following things for 2 to 3 days:**

- **Slam the doors with all the windows rolled up.**
- **Twist the body excessively (such as when going in and out of driveways at an angle or driving over rough, uneven roads).**

## FRONT CORNER GLASS REPLACEMENT

### 4-DOOR

**NOTE:**

- **Put on gloves to protect your hands.**
- **Wear eye protection while cutting the glass adhesive.**

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- **Use seat covers to avoid damaging any surface.**

1. Remove the A-pillar trim (see **TRIM REMOVAL/INSTALLATION - PILLAR AREAS** ).
2. From inside the vehicle, use a knife (A) to cut through the front corner glass adhesive (B) all the way around. Apply protective tape along the edge of the entire front corner glass opening flange.

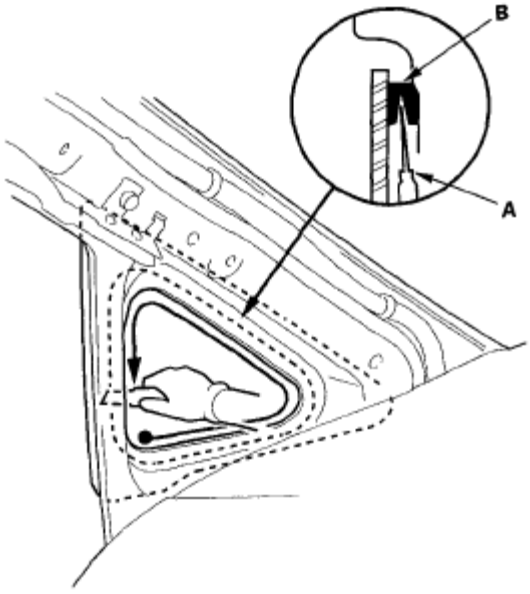



**Fig. 18: Cutting Through Front Corner Glass Adhesive Using Knife**

3. From outside the vehicle, pry the front corner glass clips (A) and the front corner trim clips (B), then carefully remove the glass (C) and trim (D) together. The trim has not be attached to the glass.

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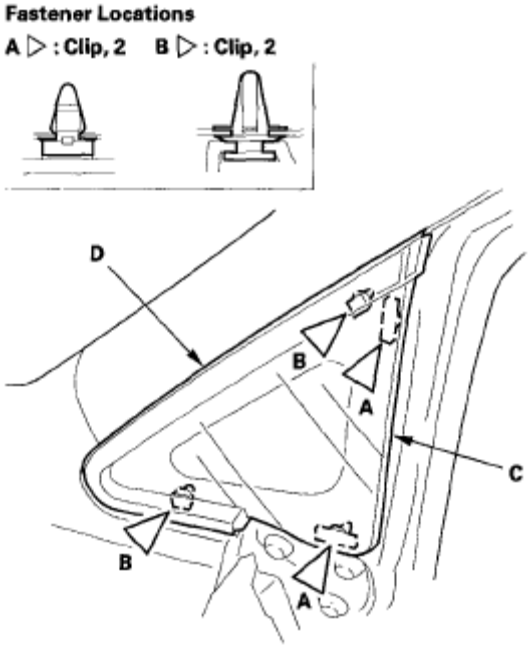



**Fig. 19: Prying Front Corner Glass Clips And Trim Clips**

4. With a putty knife, scrape the old adhesive smooth to a thickness of about 2 mm (0.08 in.) on the bonding surface around the entire front corner glass opening flange:
   - Do not scrape down to the painted surface of the body; damaged paint will interfere with proper bonding.
   - If any of the clips are broken, remove them from the body.
5. Clean the body bonding surface with a sponge dampened in alcohol. After cleaning, keep oil, grease, and water from getting on the surface.
6. If the old front corner glass will be reinstalled, use a putty knife to scrape off the old adhesive from the front corner glass. Clean the inside face of the front corner glass and the edge of the glass with alcohol where new adhesive will be applied. Make sure the bonding surface is kept free of water, oil, and grease.
7. Attach the rubber dam (A) and clips (B) with adhesive tape to the inside face of the front corner glass (C) as shown in **Fig. 20**.

   Be careful not to touch the front corner glass where adhesive will be applied.

   **Rubber dam adhesive tape:**

**Thickness 0.16 mm (0.006 in.)**
**Width 3 mm (0.12 in.)**

**Clip adhesive tape:**

**Thickness 1.2 mm (0.047 in.)**
**Width 9 mm (0.35 in.)**

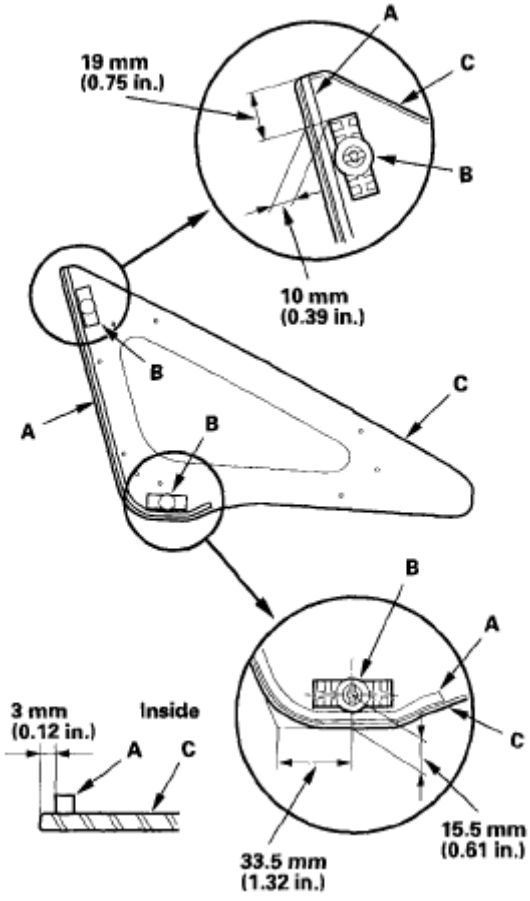



**Fig. 20: Attaching Rubber Dam And Clips With Adhesive Tape To Inside Face Of Front Corner Glass (With Specifications)**

8. With a sponge, apply a light coat of glass primer to the inside face of the front corner glass (A) as shown in **Fig. 21**, then lightly wipe it off with gauze or cheesecloth:
   - With the printed dots (B) on the front corner glass as a guide, apply the glass primer to both lower corner portions of the front corner glass.

- Do not apply body primer to the front corner glass, and do not get body and glass primer sponges mixed up.
- Never touch the primed surfaces with your hands. If you do the adhesive may not bond to the front corner glass properly, causing a leak after the front corner glass is installed.
- Keep water, dust, and abrasive materials away from primed surface.

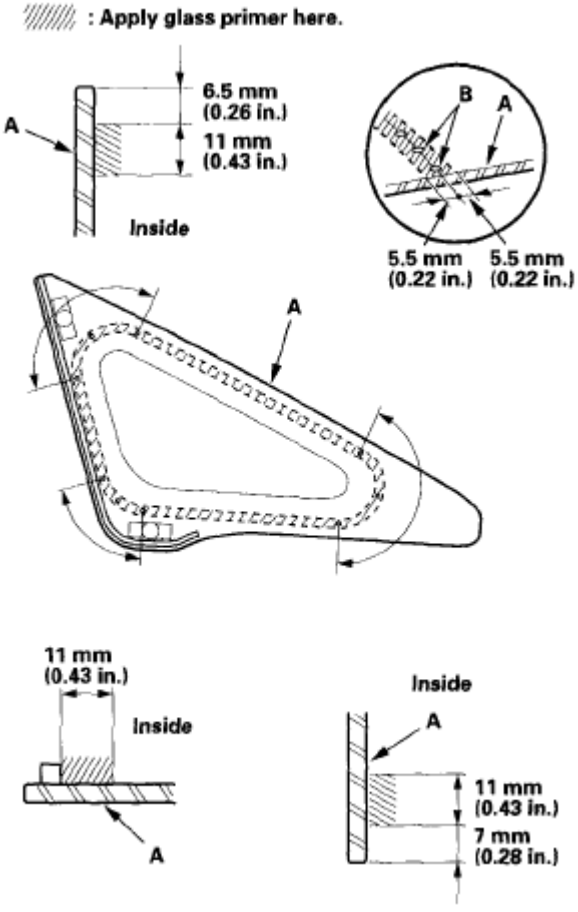



**Fig. 21: Applying Glass Primer To Inside Face Of Front Corner Glass (With Specifications)**

9. With a sponge, apply a light coat of body primer to the original adhesive remaining around the front corner glass opening flange. Let the body primer dry for at least 10 minutes:
    - Do not apply glass primer to the body, and be careful not to mix up glass and body primer sponges.

- Never touch the primed surfaces with your hands.
- Mask off the dashboard before painting the flange.

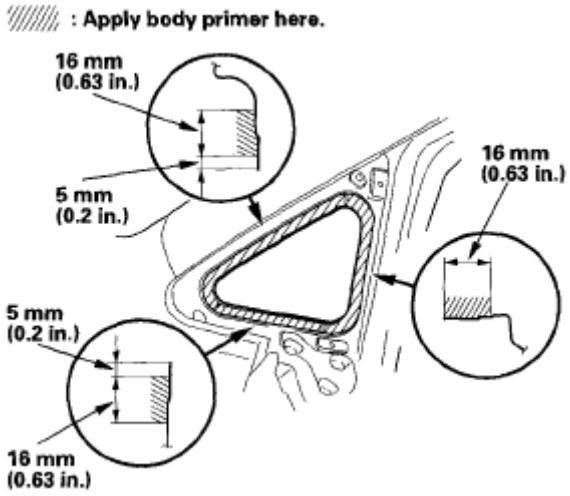



**Fig. 22: Applying Body Primer To Original Adhesive Around Front Corner Glass Opening Flange (With Specifications)**

10. Before filling a cartridge, cut a "V" in the end of the nozzle (A) as shown.

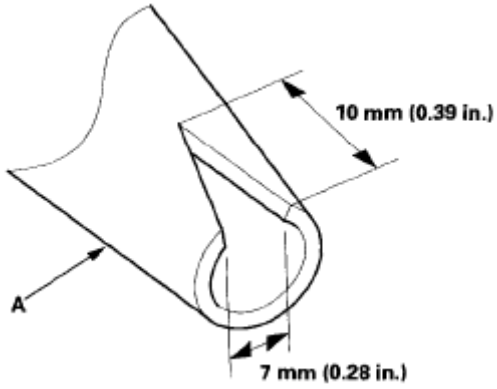



**Fig. 23: Cutting "V" In End Of Nozzle (With Specifications)**

11. Pack adhesive into the cartridge without air pockets to ensure continuous delivery. Put the cartridge in a caulking gun, and run a bead of adhesive (A) around the front corner glass (B) as shown:
    - With the printed dots (C) on the front corner glass as a guide, apply the adhesive to both side portions of the front corner glass.

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- Apply the adhesive within 30 minutes after applying the glass primer. Make a slightly thicker bead at each corner.

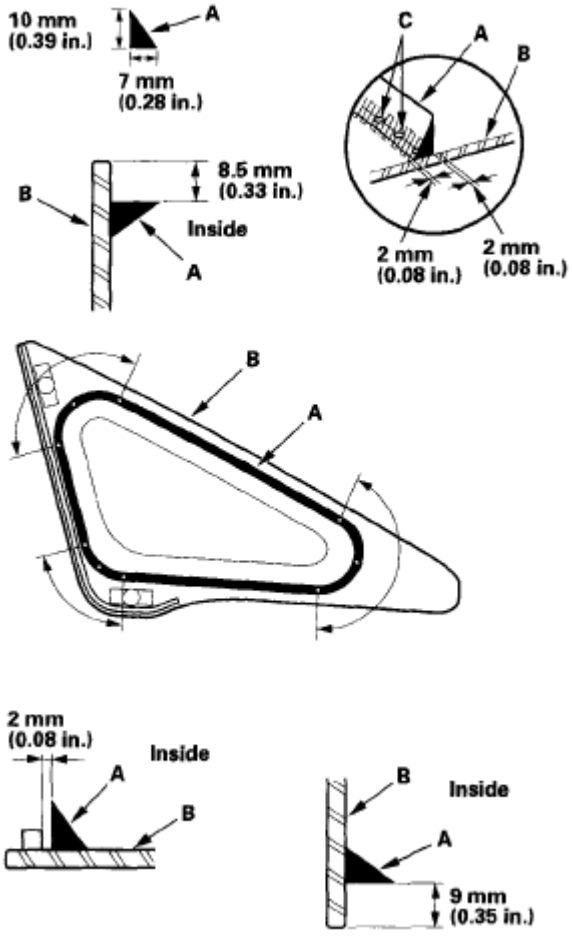



**Fig. 24: Running Bead Of Adhesive Around Front Corner Glass (With Specifications)**

12. Set the front corner glass (A) to the front corner trim (B) quickly. Be careful not to touch the front corner glass where adhesive will be spread.

**NOTE: Make sure that there is no clearance between the sash and front lower sash.**

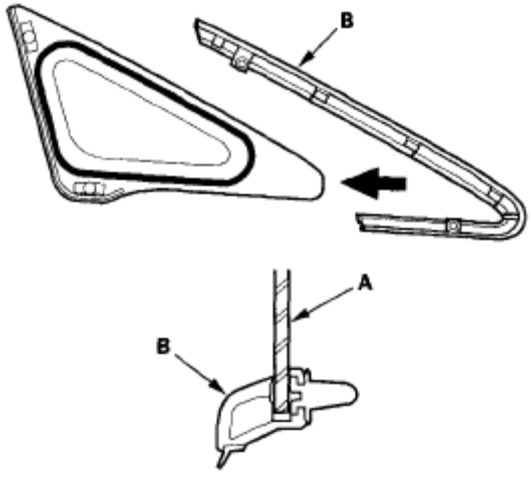



**Fig. 25: Setting Front Corner Glass To Front Corner Trim**

13. Use a suction cup to hold the front corner glass (A) over the opening while holding the front corner trim (B) by the other hand, align the clips, and set it down on the adhesive. Lightly push on the front corner glass until its edges are fully seated on the adhesive all the way around.

**NOTE: Do not open or close any of the doors for about an hour until the adhesive is dry.**

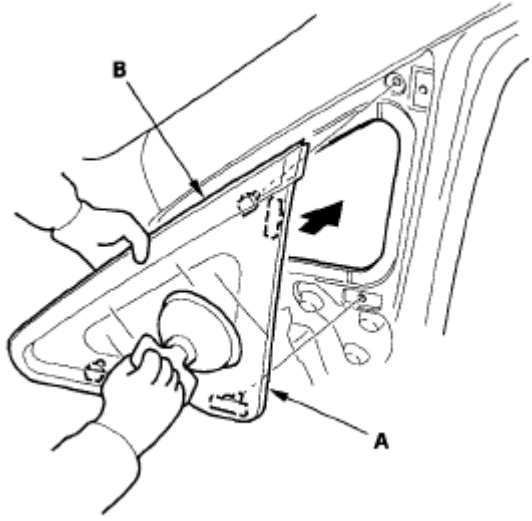



**Fig. 26: Using Suction Cup To Hold Front Corner Glass Over Opening**

14. Scrape or wipe the excess adhesive off with a putty knife or towel. To remove adhesive from a painted surface or the front corner glass, wipe with a soft shop

towel dampened with alcohol.

15. After the adhesive has dried, spray water over the front corner glass and check for leaks. Mark the leaking areas, let the front corner glass dry, then seal with sealant. Let the vehicle stand for at least 4 hours after front corner glass installation. If the vehicle has to be used within the first 4 hours, it must be driven slowly.
16. Reinstall all remaining removed parts.

**NOTE: Advise the customer not to do the following things for 2 to 3 days:**

- **Slam the doors with all the windows rolled up.**
- **Twist the body excessively (such as when going in and out of driveways at an angle or driving over rough, uneven roads).**

## REAR WINDOW REPLACEMENT

### 2-DOOR

**NOTE:**

- **Put on gloves to protect your hands.**
- **Wear eye protection while cutting the glass adhesive with a piano wire.**
- **Use seat covers to avoid damaging any surfaces.**
- **Do not damage the rear window defogger grid lines, window antenna grid lines, and terminals.**

1. Remove these items:
   - Trunk lid
   - Rear shelf (see **TRIM REMOVAL/INSTALLATION - REAR SHELF AREA** )
   - Rear shelf extension (see **REAR SHELF EXTENSION - 2-DOOR** )
   - Quarter pillar trim (see **QUARTER PILLAR TRIM - 2-DOOR** )
2. Remove the window antenna terminal cover (A) from the window antenna

terminal cover base (B), and disconnect the window antenna connector (C).

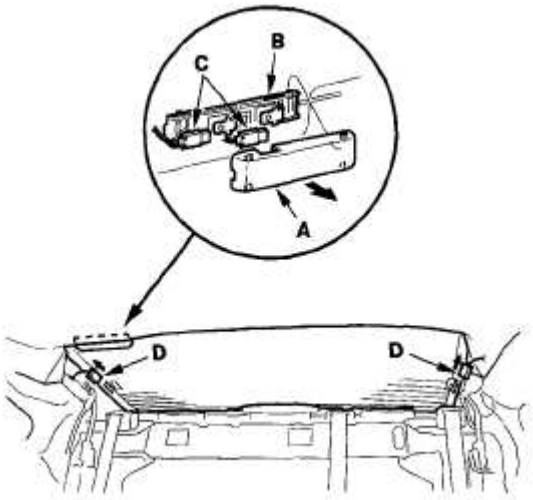



**Fig. 27: Removing Terminal Cover From Window Antenna Terminal Cover Base**

3. Disconnect the rear window defogger connectors (D).
4. If the old rear window will be reinstalled, make alignment marks across the glass and body with a grease pencil.
5. Pull down the rear portion of the headliner (A) by detaching the clips (B). Take care not to bend the headliner excessively, or you may crease or break it.

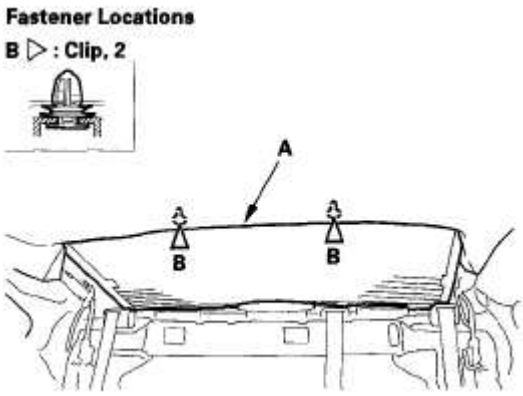



**Fig. 28: Detaching Clips To Remove Rear Portion Of Headliner**

6. Apply protective tape along the inside and outside edges of the body. Using an awl, make a hole through the adhesive from inside the vehicle at the corner portion of the rear window. Push a piece of piano wire through the hole, and

wrap each end around a piece of wood.

7. Remove the lower rubber dam (A) from the lower edge of the rear window (B). If necessary, cut the molding with a utility knife.

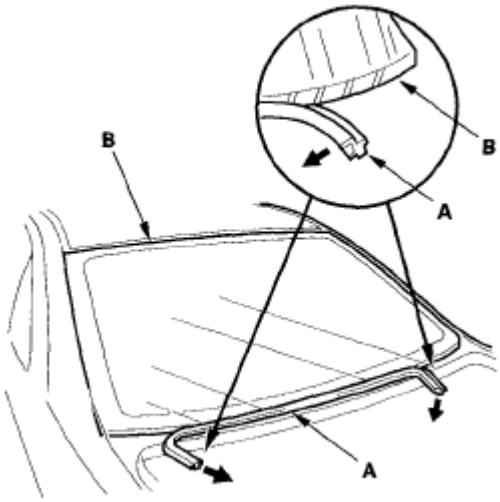



**Fig. 29: Removing Lower Rubber Dam From Lower Edge Of Rear Window**

8. With a helper on the outside, pull the piano wire (A) back and forth in a sawing motion. Hold the piano wire as close to the rear window (B) as possible to prevent damage to the body, and carefully cut through the adhesive (C) around the entire rear window.

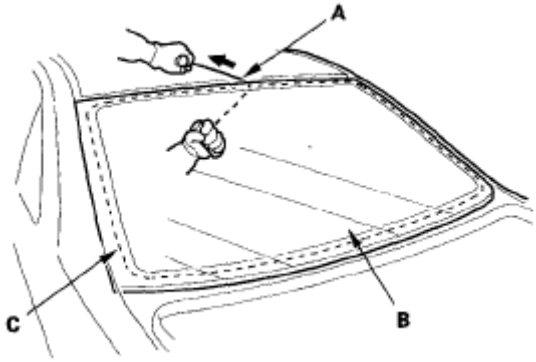



**Fig. 30: Pulling Piano Wire Back And Forth In Sawing Motion**

**Cutting positions**

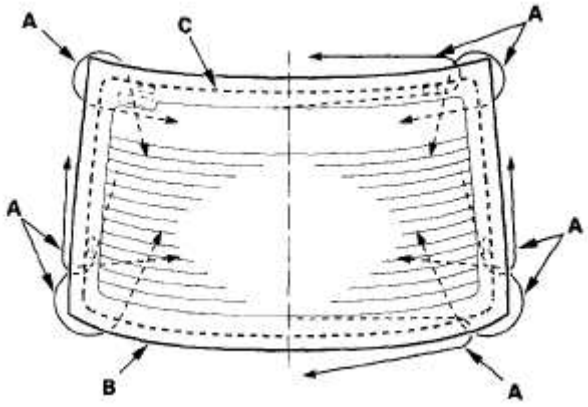



**Fig. 31: Identifying Cutting Positions**

9. Carefully remove the rear window.
10. With a putty knife, scrape the old adhesive smooth to a thickness of about 2 mm (0.08 in.) on the bonding surface around the entire rear window opening flange:
    - Do not scrape down to the painted surface of the body; damaged paint will interfere with proper bonding.
    - Remove the fasteners from the body.
11. Clean the body bonding surface with a sponge dampened in alcohol. After cleaning, keep oil, grease, and water from getting on the surface.
12. If the old rear window will be reinstalled, use a putty knife to scrape off the old adhesive, the moldings and the fasteners from the rear window. Clean the inside face and the edge of the rear window with alcohol where new adhesive will be applied. Make sure the bonding surface is kept free of water, oil, and grease.
13. Attach the window antenna terminal cover base (A) with adhesive tape to the inside face of the rear window (B) as shown. Apply primer to the inside face of the rear window as shown. Be careful not to touch the rear window where adhesive will be applied.

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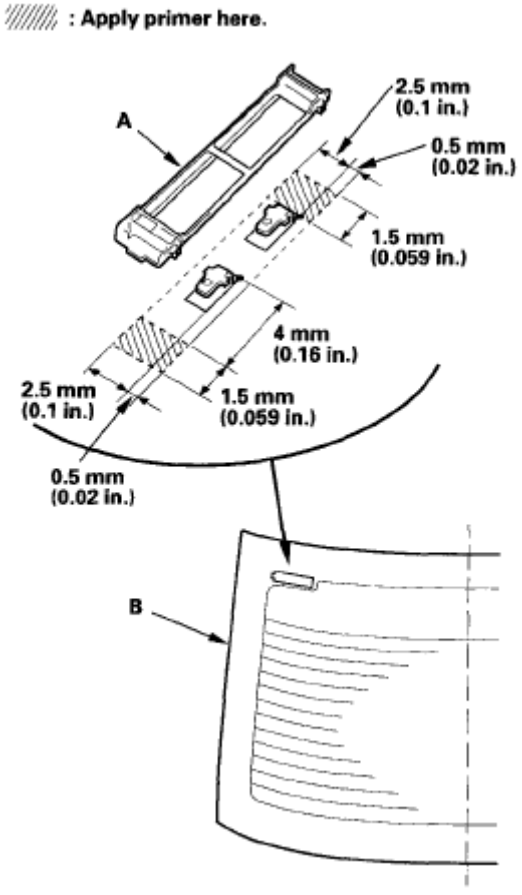



**Fig. 32: Identifying Antenna Terminal Cover Base With Adhesive Tape To Inside Face Of Rear Window (With Specifications)**

14. Apply primer to the edge of the rear window (A) where the lower rubber dam adhesive tape will be attached as shown. Attach the lower rubber dam (B) with adhesive tape (C) to the lower edge of the rear window:
    - After installing the rubber dam, cut the ends (D) of the rubber dam as shown.
    - Be careful not to touch the windshield where adhesive will be applied.

    **Rubber dams adhesive tape:**

    **Thickness 0.2 mm (0.008 in.)**
    **Width 4 mm (0.16 in.)**

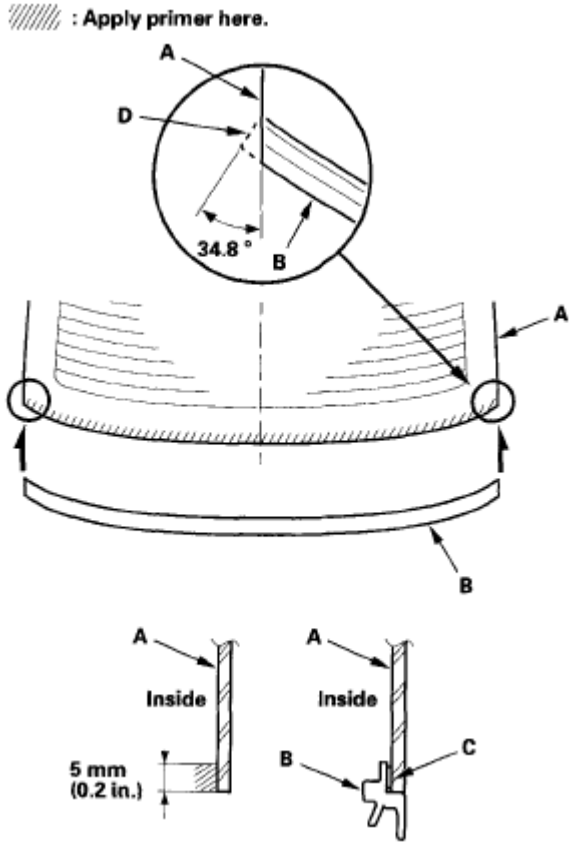



**Fig. 33: Applying Primer To Edge Of Rear Window (With Specifications)**

15. Attach the upper rubber dams (A), side rubber dam (B), clips (C), and fasteners (D) with adhesive tape to the inside face of the rear window (E) as shown in **Fig. 34**:
    - First attach the upper rubber dam, then attach the side rubber dams around the edge of the rear window. Be sure the top of the side rubber dam contacts with the bottom of the upper rubber dam. If necessary, cut the rubber dam.
    - Be sure the clips, and fasteners line up with the alignment marks (F).
    - Be careful not to touch the rear window where adhesive will be applied.

**Rubber dams adhesive tape:**

**Thickness 0.16 mm (0.006 in.)**
**Width 4 mm (0.16 in.)**

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**Clips adhesive tape:**

**Thickness 0.4 mm (0.016 in.)**
**Width 10 mm (0.39 in.)**

**Fasteners adhesive tape:**

**Thickness 0.8 mm (0.03 in.)**
**Width 7 mm (0.28 in.)**

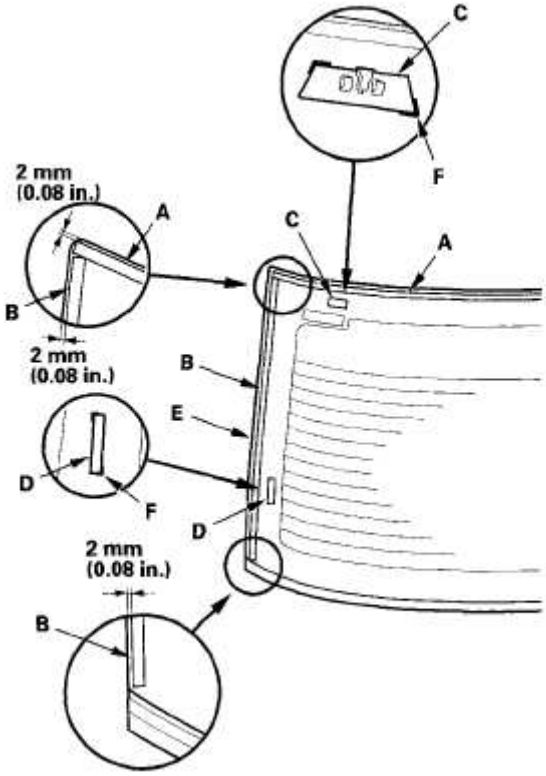



**Fig. 34: Attaching Upper Rubber Dams, Side Rubber Dam, Clips And Fasteners With Adhesive Tape To Inside Face Of Rear Window (With Specifications)**

16. Attach the fasteners (A) with adhesive tape to the rear window opening flange of the body on both sides.

**Fasteners adhesive tape:**

**Thickness 0.8 mm (0.031 in.)**
**Width 9 mm (0.35 in.)**

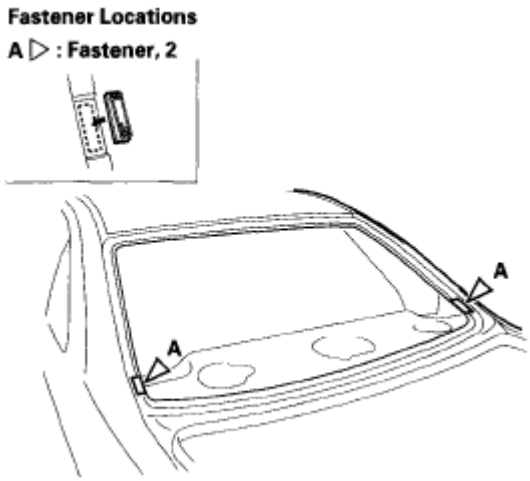



**Fig. 35: Attaching Fasteners With Adhesive Tape To Rear Window Opening Flange**

17. Set the rear window in the opening, and center it. Make alignment marks (A) across the rear window and body with a grease pencil at the four points shown. Make sure both upper clips (B) are in the body holes. Be careful not to touch the rear window where adhesive will be applied.

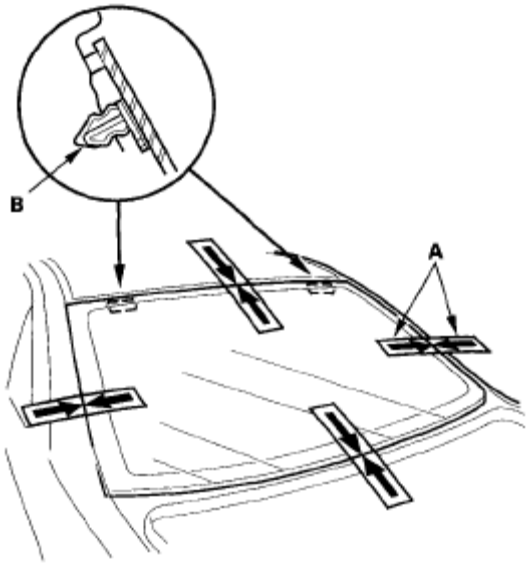



**Fig. 36: Making Alignment Marks Across Rear Window And Body**

18. Remove the rear window.
19. With a sponge, apply a light coat of glass primer along the edge of the rear window (A) between the dams (B) as shown, then lightly wipe it off with gauze or cheesecloth:
    - Do not apply body primer to the rear window, and do not get body and glass primer sponges mixed up.
    - Never touch the primed surfaces with your hands. If you do, the adhesive may not bond to the rear window properly, causing a leak after the rear window is installed.
    - Keep water, dust, and abrasive materials away from primed surfaces.

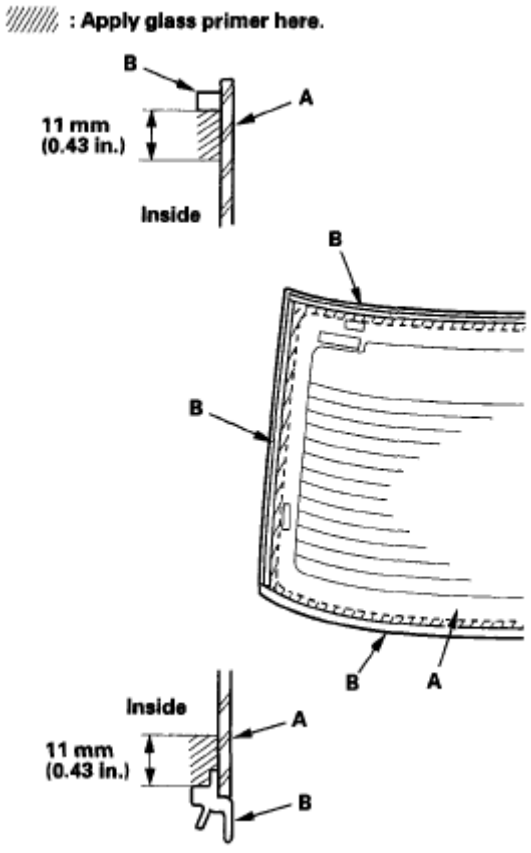



**Fig. 37: Applying Glass Primer Along Edge Of Rear Window Between Dams (With Specifications)**

20. With a sponge, carefully apply a light coat of body primer to any exposed paint or metal around the flange where new adhesive will be applied. Let the primer

dry for at least 10 minutes:

- Do not apply body primer to any remaining original adhesive on the flange.
- Be careful not to mix up the body and glass primer sponges.
- Never touch the primed surfaces with your hands.

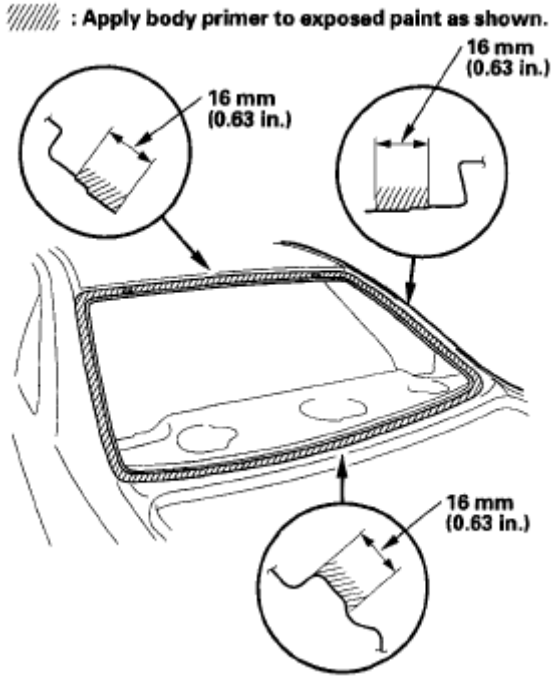



**Fig. 38: Applying Body Primer To Any Exposed Paint (With Specifications)**

21. Cut a "V" in the end of the nozzle (A) on the adhesive cartridge as shown.

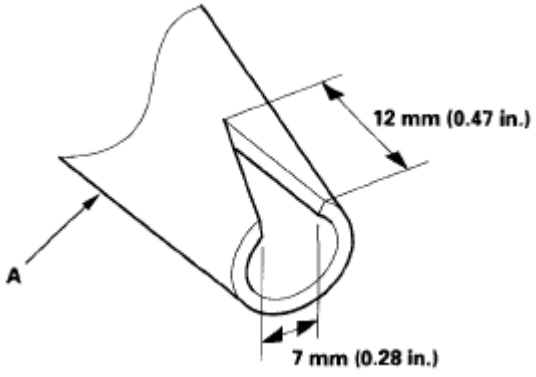



**Fig. 39: Cutting "V" In End Of Nozzle (With Specifications)**

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22. Pack adhesive into the cartridge without air pockets to ensure continuous delivery. Put the cartridge in a caulking gun, and run a bead of adhesive (A) around the edge of the rear window (B) between the dams (C) as shown.

    Apply the adhesive within 30 minutes after applying the glass primer. Make a slightly thicker bead at each corner.

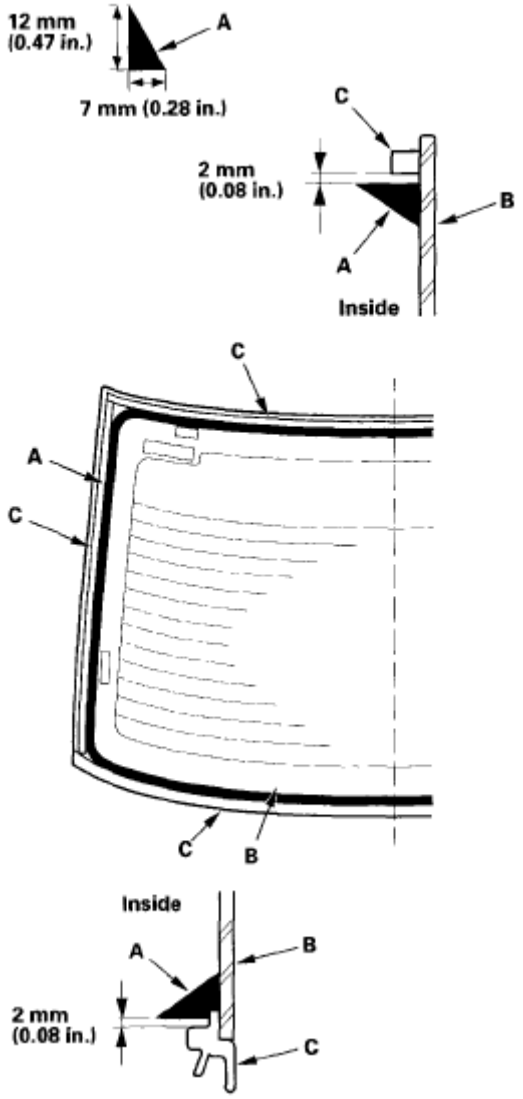



**Fig. 40: Running Bead Of Adhesive Around Edge Of Rear Window Between Dams (With Specifications)**

23. Use suction cups to hold the rear window over the opening, align it with the alignment marks you made in step 17, and set it down on the adhesive. Lightly

push on the rear window until its edges are fully seated on the adhesive all the way around.

**NOTE: Do not open or close any of the doors for about an hour until the adhesive is dry.**

24. Scrape or wipe the excess adhesive off with a putty knife or towel. To remove adhesive from a painted surface or the rear window, use a soft shop towel dampened with alcohol.
25. After the adhesive has dried, spray water over the rear window and check for leaks. Mark the leaking areas, let the rear window dry, then seal with sealant. Let the vehicle stand for at least 4 hours after rear window installation. If the vehicle has to be used within the first 4 hours, it must be driven slowly.
26. Reinstall all remaining removed parts.

**NOTE: Advise the customer not to do the following things for 2 to 3 days:**

- **Slam the doors with all the windows rolled up.**
- **Twist the body excessively (such as when going in and out of driveways at an angle or driving over rough, uneven roads).**

**4-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Wear eye protection while cutting the glass adhesive with a piano wire.**
- **Use seat covers to avoid damaging any surfaces.**
- **Do not damage the rear window defogger grid lines, window antenna grid lines, and terminals.**

1. Remove these items:
   - Trunk lid

- C-pillar trim (see **C-PILLAR TRIM - 4-DOOR** )
- Rear shelf (see **REAR SHELF EXTENSION - 2-DOOR** )

2. Disconnect the window antenna connectors (A) and rear window defogger connectors (B).

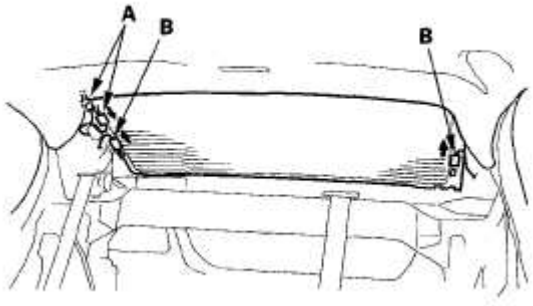



**Fig. 41: Disconnecting Window Antenna Connectors And Rear Window Defogger Connectors**

3. If the old rear window will be reinstalled, make alignment marks across the glass and body with a grease pencil.
4. Pull down the rear portion of the headliner (A) by detaching the clips (B). Take care not to bend the headliner excessively, or you may crease or break it.

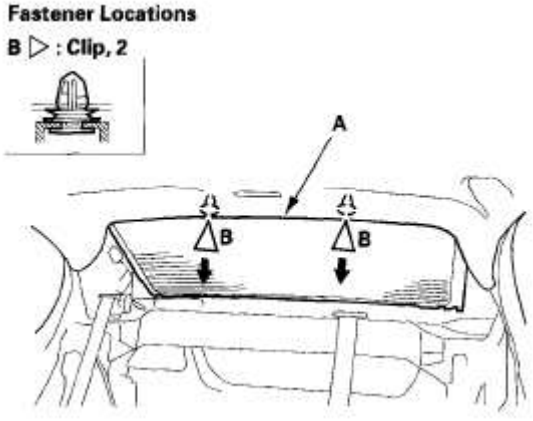



**Fig. 42: Detaching Clips To Remove Rear Portion Of Headliner**

5. Apply protective tape along the inside and outside edges of the body. Using an awl, make a hole through the adhesive from inside the vehicle at the corner portion of the rear window. Push a piece of piano wire through the hole, and wrap each end around a piece of wood.

6. Remove the lower rubber dam (A) from the lower edge of the rear window (B). If necessary, cut the molding with a utility knife.

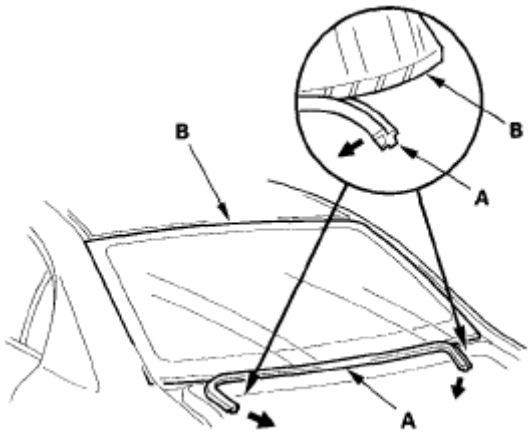



**Fig. 43: Removing Lower Rubber Dam From Lower Edge Of Rear Window**

7. With a helper on the outside, pull the piano wire (A) back and forth in a sawing motion. Hold the piano wire as close to the rear window (B) as possible to prevent damage to the body, and carefully cut through the adhesive (C) around the entire rear window.

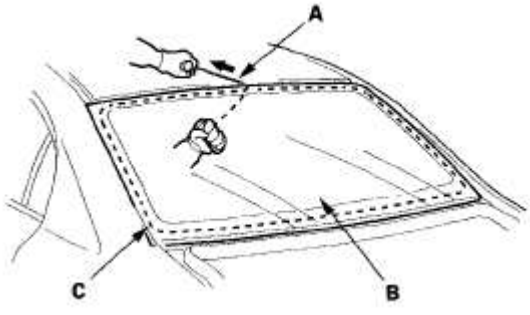



**Fig. 44: Pulling Piano Wire Back And Forth In Sawing Motion**

**Cutting positions**

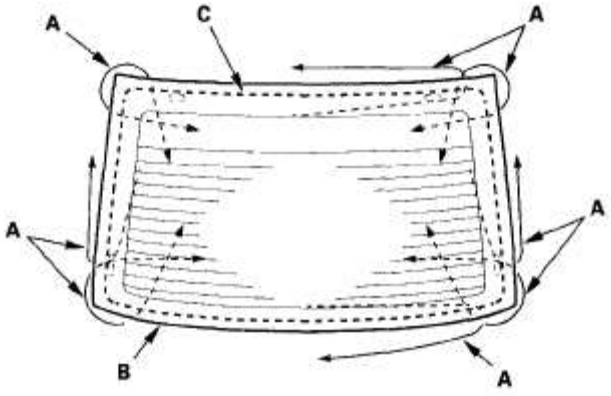



**Fig. 45: Identifying Cutting Positions**

8. Carefully remove the rear window.
9. With a putty knife, scrape the old adhesive smooth to a thickness of about 2 mm (0.08 in.) on the bonding surface around the entire rear window opening flange:
    - Do not scrape down to the painted surface of the body; damaged paint will interfere with proper bonding.
    - Remove the fasteners from the body.
10. Clean the body bonding surface with a sponge dampened in alcohol. After cleaning, keep oil, grease, and water from getting on the surface.
11. If the old rear window will be reinstalled, use a putty knife to scrape off the old adhesive, the moldings and the fasteners from the rear window. Clean the inside face and the edge of the rear window with alcohol where new adhesive will be applied. Make sure the bonding surface is kept free of water, oil, and grease.
12. Apply primer to the edge of the rear window (A) where the lower rubber dam adhesive tape will be attached as shown. Attach the lower rubber dam (B) with adhesive tape (C) to the lower edge of the rear window:
    - After installing the rubber dam, cut the ends (D) of the rubber dam as shown.
    - Be careful not to touch the windshield where adhesive will be applied.

**Molding adhesive tape:**

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**Thickness 0.2 mm (0.008 in.)**
**Width 4 mm (0.16 in.)**

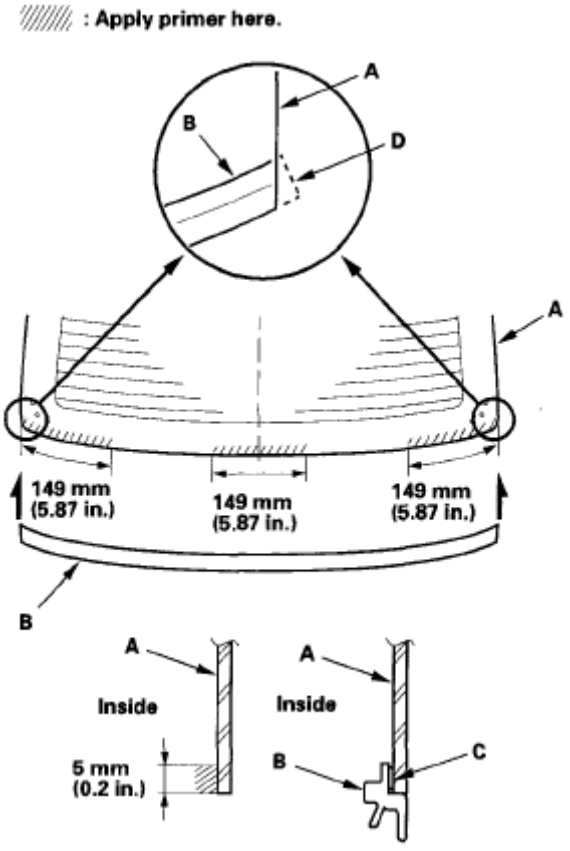



**Fig. 46: Applying Primer To Edge Of Rear Window (With Specifications)**

13. Attach the upper rubber dams (A), side rubber dams (B), clips (C) (except USA produced models), upper fasteners (D) (USA produced models), and side fasteners (E) with adhesive tape to the inside face of the rear window (F) as shown in **Fig. 47**:
    - First attach the upper rubber dam, then attach the side rubber dams around the edge of the rear window. Be sure the top of the side rubber dam contacts with the bottom of the upper rubber dam. If necessary, cut the rubber dam.
    - Be sure the clips, and fasteners line up with the alignment marks (G).
    - Be careful not to touch the rear window where adhesive will be applied.

**Rubber dams adhesive tape:**

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**Thickness 0.16 mm (0.006 in.)**
**Width 5 mm (0.2 in.)**

**Clips adhesive tape:**

**Thickness 0.4 mm (0.016 in.)**
**Width 13 mm (0.51 in.)**

**Upper fasteners adhesive tape:**

**Thickness 0.4 mm (0.016 in.)**
**Width 11.4 mm (0.45 in.)**

**Side fasteners adhesive tape:**

**Thickness 0.8 mm (0.03 in.)**
**Width 7 mm (0.28 in.)**

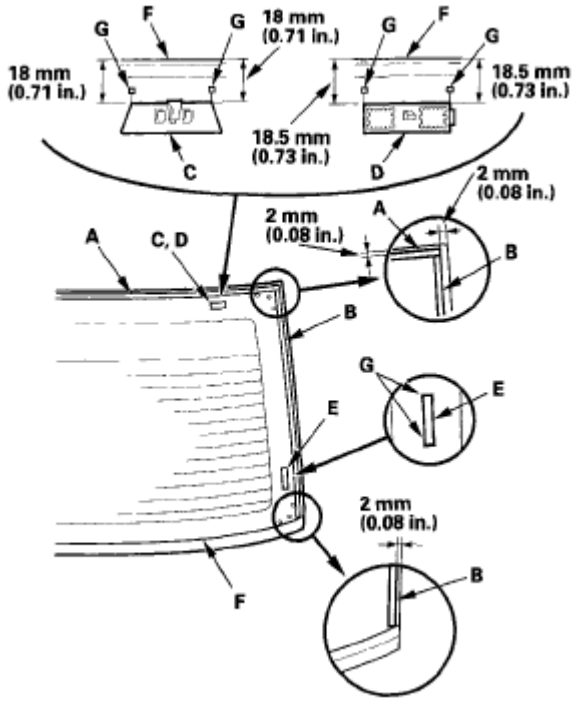



**Fig. 47: Attaching Upper Rubber Dams, Side Rubber Dams And Clips (With Specifications)**

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14. Attach the fasteners (A) with adhesive tape to the rear window opening flange of the body on both sides.

    **Fasteners adhesive tape:**

    **Thickness 0.8 mm (0.031 in.)**
    **Width 9 mm (0.35 in.)**

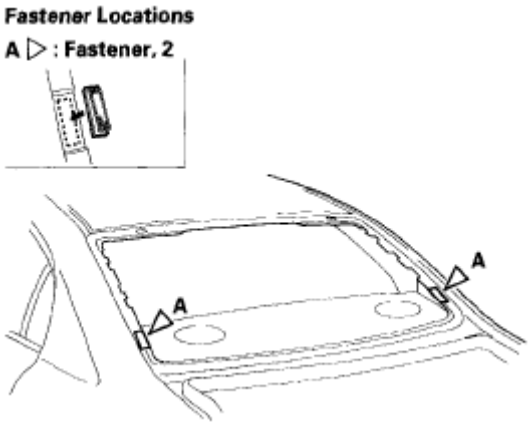



**Fig. 48: Attaching Fasteners With Adhesive Tape To Rear Window Opening Flange**

15. Set the rear window in the opening, and center it. Make alignment marks (A) across the rear window and body with a grease pencil at the four points shown. Make sure both clips (B) are in the body holes (except USA produced models).

    Make sure both pins (C) from the upper fasteners (D) contact with the edge of the body holes (USA produced models). Be careful not to touch the rear window where adhesive will be applied.

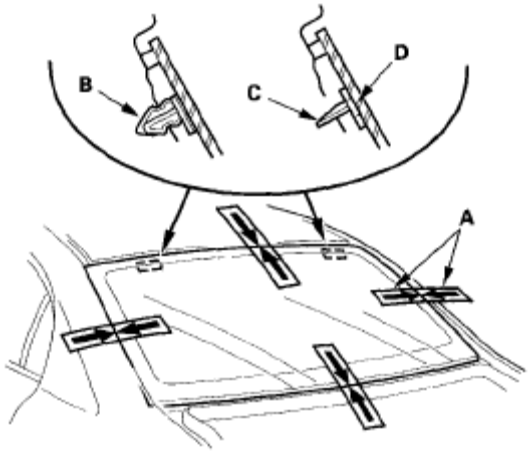



**Fig. 49: Making Alignment Marks Across Rear Window And Body**

16. Remove the rear window.
17. With a sponge, apply a light coat of glass primer along the edge of the rear window (A) between the dams (B) as shown, then lightly wipe it off with gauze or cheesecloth:
    - With the printed dots (D) on the rear window as a guide, apply the glass primer to both lower corner portions of the rear window.
    - Do not apply body primer to the rear window, and do not get body and glass primer sponges mixed up.
    - Never touch the primed surfaces with your hands. If you do, the adhesive may not bond to the rear window properly, causing a leak after the rear window is installed.
    - Keep water, dust, and abrasive materials away from primed surfaces.

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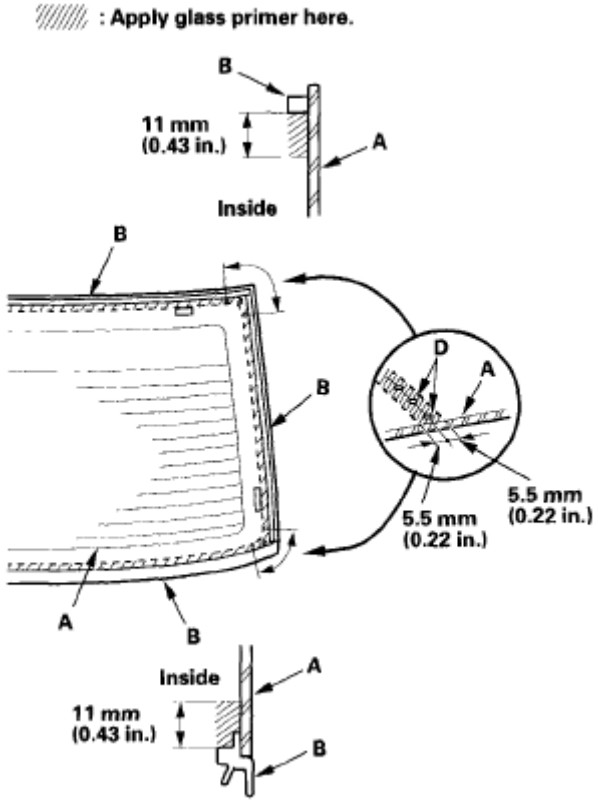



**Fig. 50: Applying Glass Primer Along Edge Of Rear Window Between Dams (With Specifications)**

18. With a sponge, carefully apply a light coat of body primer to any exposed paint or metal around the flange where new adhesive will be applied. Let the primer dry for at least 10 minutes:
    - Do not apply body primer to any remaining original adhesive on the flange.
    - Be careful not to mix up the body and glass primer sponges.
    - Never touch the primed surfaces with your hands.

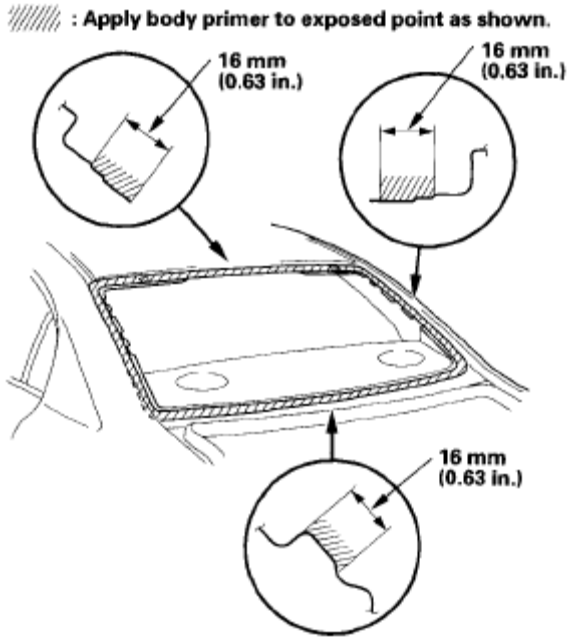



**Fig. 51: Applying Body Primer To Any Exposed Paint (With Specifications)**

19. Cut a "V" in the end of the nozzle (A) on the adhesive cartridge as shown.

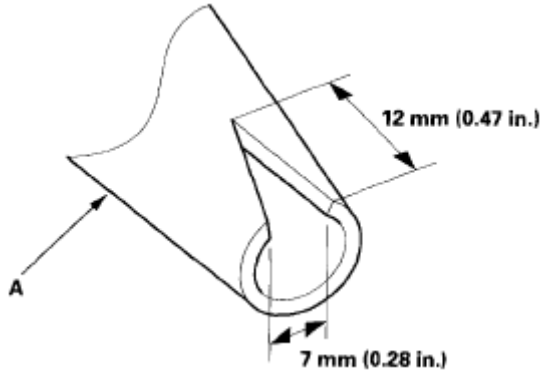



**Fig. 52: Cutting "V" In End Of Nozzle (With Specifications)**

20. Pack adhesive into the cartridge without air pockets to ensure continuous delivery. Put the cartridge in a caulking gun, and run a bead of adhesive (A) around the edge of the rear window (B) between the dams (C) as shown:
    - With the printed dots (D) on the rear window as a guide, apply the adhesive to both side portions of the rear window.
    - Apply the adhesive within 30 minutes after applying the glass primer.

Make a slightly thicker bead at each corner.

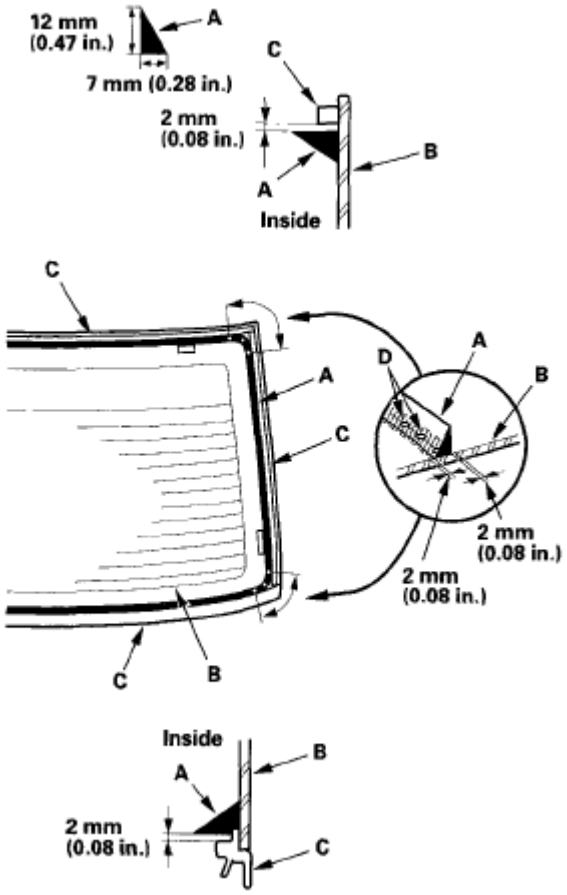



**Fig. 53: Running Bead Of Adhesive Around Edge Of Rear Window Between Dams (With Specifications)**

21. Use suction cups to hold the rear window over the opening, align it with the alignment marks you made in step 15, and set it down on the adhesive. Lightly push on the rear window until its edges are fully seated on the adhesive all the way around.

**NOTE: Do not open or close any of the doors for about an hour until the adhesive is dry.**

22. Scrape or wipe the excess adhesive off with a putty knife or towel. To remove adhesive from a painted surface or the rear window, use a soft shop towel dampened with alcohol.

23. After the adhesive has dried, spray water over the rear window and check for leaks. Mark the leaking areas, let the rear window dry, then seal with sealant. Let the vehicle stand for at least 4 hours after rear window installation. If the vehicle has to be used within the first 4 hours, it must be driven slowly.
24. Reinstall all remaining removed parts.

**NOTE: Advise the customer not to do the following things for 2 to 3 days:**

- **Slam the doors with all the windows rolled up.**
- **Twist the body excessively (such as when going in and out of driveways at an angle or driving over rough, uneven roads).**

## QUARTER GLASS REPLACEMENT

### 2-DOOR

**NOTE:**

- **Put on gloves to protect your hands.**
- **Use seat covers to avoid damaging any surface.**

1. Remove these items:
   - Rear seat cushion (see **SEAT CUSHION** )
   - Rear shelf (see **TRIM REMOVAL/INSTALLATION - REAR SHELF AREA** )
   - Rear shelf extension (see **REAR SHELF EXTENSION - 2-DOOR** )
   - Rear side trim panel, as needed (see **2-DOOR** )
   - Front seat belt upper anchor (see step 7 in **FRONT SEAT BELT - 2-DOOR** )
   - Quarter pillar trim (see **QUARTER PILLAR TRIM - 2-DOOR** )
2. Apply protective tape along the inside and outside edges of the body, and along the edge of the headliner. Using an awl, make a hole through the adhesive from inside the vehicle. Push a piece of piano wire through the hole, and wrap each end around a piece of wood.

3. Remove the front seal (A) from the front edge of the quarter glass (B). If necessary, cut the front seal with a utility knife.

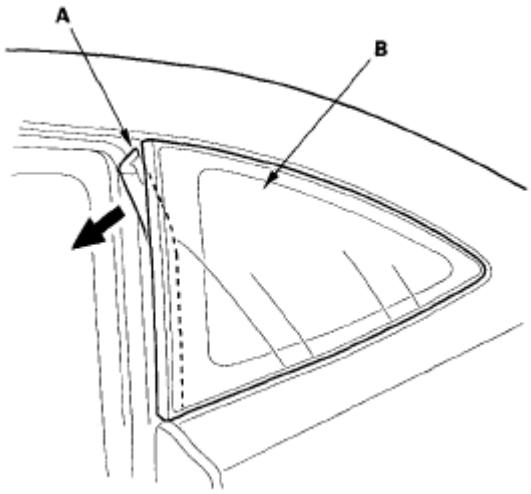



**Fig. 54: Removing Front Seal From Front Edge Of Quarter Glass**

4. Carefully cut through the adhesive (A) at the rear corner portion of the quarter glass (B) with a utility knife. With a helper on the outside, pull the piano wire (C) back and forth in a sawing motion. Hold the piano wire as close to the quarter glass as possible to prevent damage to the body, and carefully cut through the adhesive around the entire quarter glass:
    - If the quarter glass is to be reinstalled, take care not to damage the molding (D).
    - If the molding is damaged, replace the quarter glass, molding, and clips (E) as an assembly.
    - If any of the clips are broken, the quarter glass can be reinstalled using butyl tape (refer to step 11).

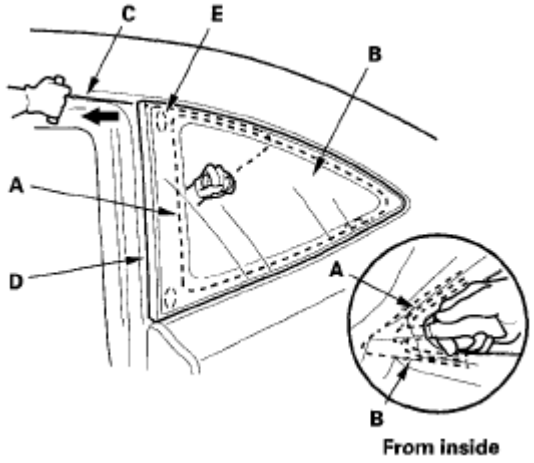



**Fig. 55: Pulling Piano Wire Back And Forth In Sawing Motion**

**Cutting positions**

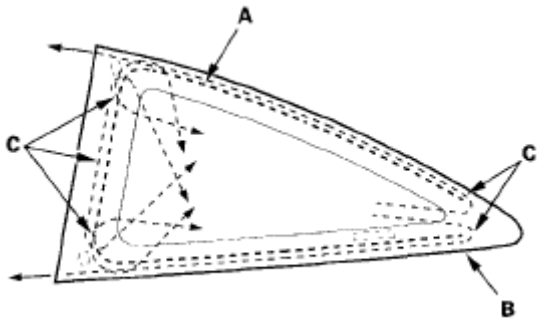



**Fig. 56: Identifying Cutting Positions**

5. Carefully remove the quarter glass.
6. With a putty knife, scrape the old adhesive smooth to a thickness of about 2 mm (0.08 in.) on the bonding surface around the entire quarter glass opening flange:
   - Do not scrape down to the painted surface of the body; damaged paint will interfere with proper bonding.
   - Remove the clips and fastener from the body.
7. Clean the body bonding surface with a sponge dampened in alcohol. After cleaning, keep oil, grease, and water from getting on the surface.
8. If the old quarter glass will be reinstalled, use a putty knife to scrape off the old adhesive, any broken clips, and the fastener from the glass. Clean the inside

face and the edge of the glass with alcohol where new adhesive will be applied. Make sure the bonding surface is kept free of water, oil, and grease.

9. Set the quarter glass in the opening. Make an alignment mark (A) to the quarter glass with a grease pencil as shown where the clip will be installed.

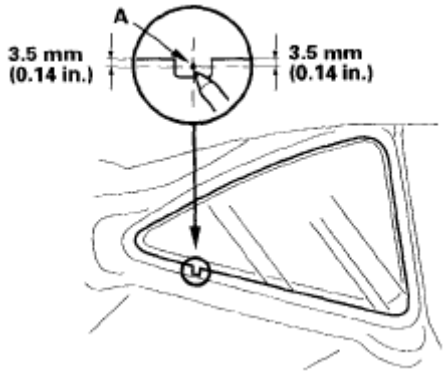



**Fig. 57: Making Alignment Mark To Quarter Glass (With Specifications)**

10. Remove the quarter glass.
11. If the old quarter glass will be reinstalled (and either clip is broken off the molding), apply a light coat of primer, then apply butyl tape (A) to the molding (B) as shown. Attach the clip (C) with adhesive tape to the inside face of the quarter glass (D):
    - Be sure the clip line up with alignment mark (E) you made in step 9.
    - Be careful not to touch the quarter glass where adhesive will be applied.
    - Do not peel the separator off the butyl tape.

**Clip adhesive tape:**

**Thickness 0.4 mm (0.016 in.)**
**Width 7.5 mm (0.3 in.)**

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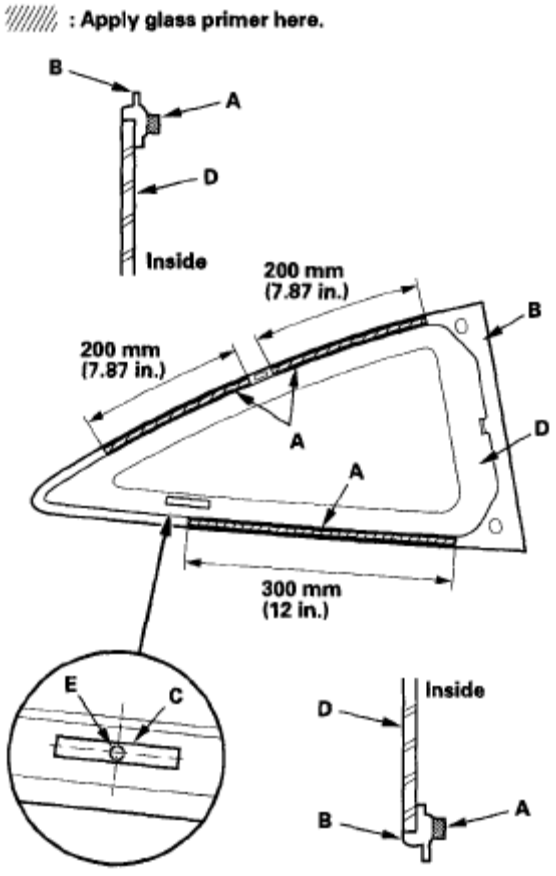



**Fig. 58: Applying Butyl Tape To Molding (With Specifications)**

12. Attach the front seal (A) with adhesive tape (B) onto the molding (C).

**Seal adhesive tape:**

**Thickness 0.8 mm (0.031 in.)**
**Width 7 mm (0.28 in.)**

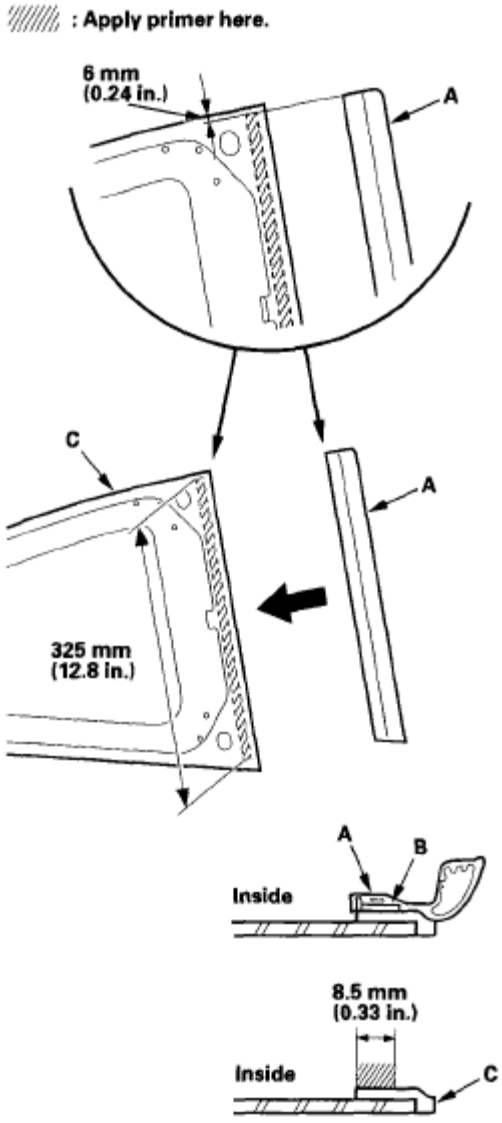



**Fig. 59: Attaching Front Seal With Adhesive Tape Onto Molding (With Specifications)**

13. If the old quarter glass will be reinstalled (and either clip is broken off the molding), seal the body holes with pieces of urethane tape (A). Then set the quarter glass upright in the opening, and make alignment marks (B) across the quarter glass and body with a grease pencil at the three points shown. Be careful not to touch the quarter glass where adhesive will be applied.

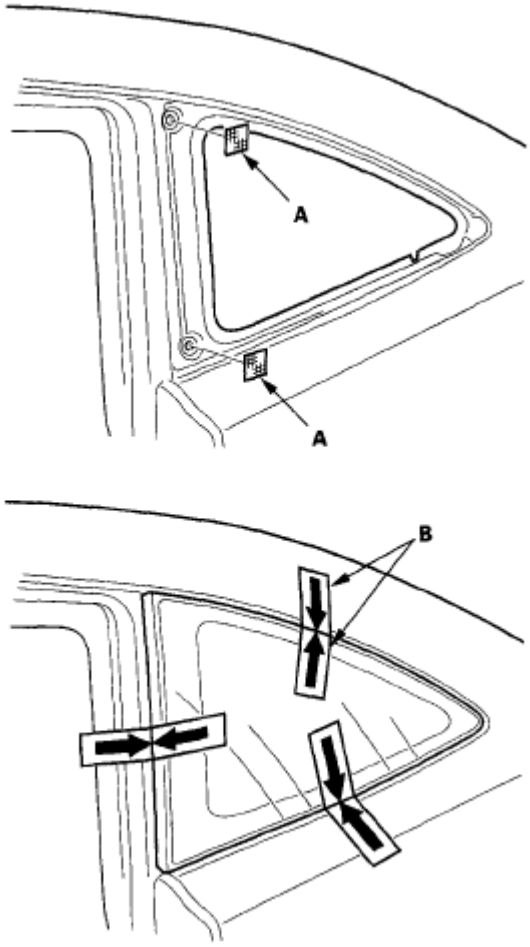



**Fig. 60: Sealing Body Holes With Pieces Of Urethane Tape**

14. Remove the quarter glass.
15. With a sponge, apply a light coat of glass primer along the edge of the front seal (A) and molding (B) as shown, then lightly wipe it off with gauze or cheesecloth:
    - With the printed dots (C) on the quarter glass (D) as a guide, apply the glass primer to the front portion of the quarter glass.
    - Do not apply body primer to the quarter glass, and do not get body and glass primer sponges mixed up.
    - Never touch the primed surfaces with your hands. If you do, the adhesive may not bond to the quarter glass properly, causing a leak after the quarter glass is installed.
    - Keep water, dust, and abrasive materials away from primed surfaces.

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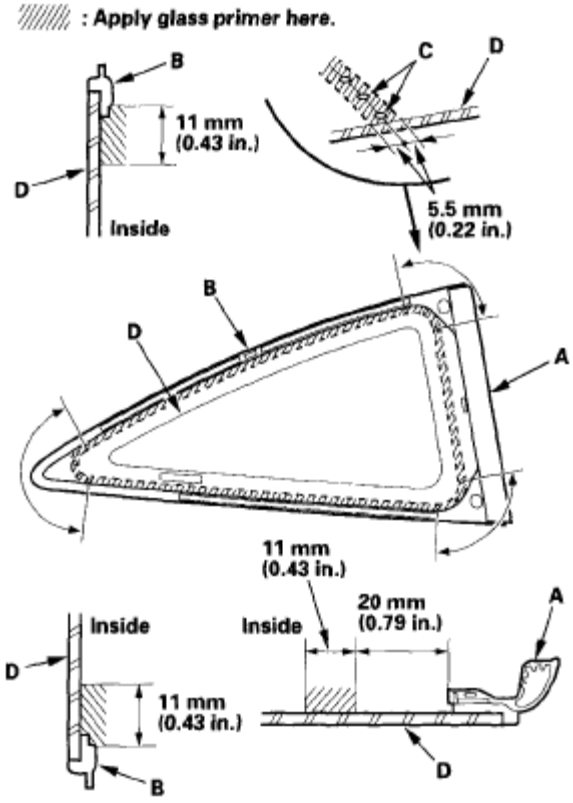



**Fig. 61: Applying Glass Primer Along Edge Of Front Seal And Molding (With Specifications)**

16. With a sponge, carefully apply a light coat of body primer to any exposed paint or metal around the flange where new adhesive will be applied. Let the primer dry for at least 10 minutes:
    - Do not apply body primer to any remaining original adhesive on the flange.
    - Be careful not to mix up the body and glass primer sponges.
    - Never touch the primed surfaces with your hands.

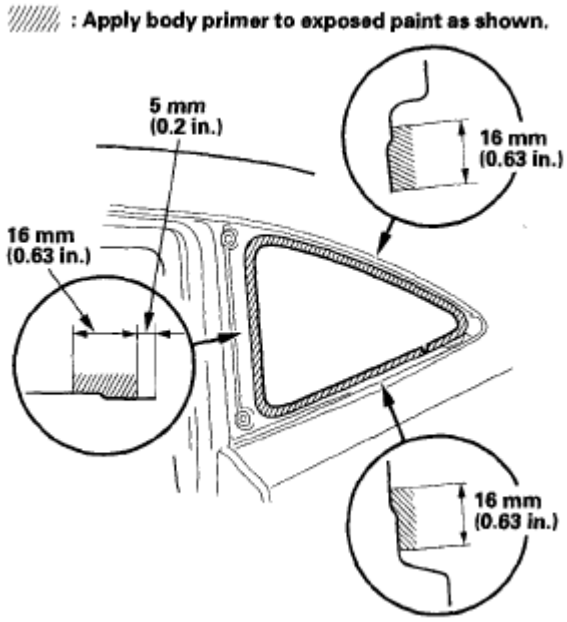



**Fig. 62: Applying Body Primer To Any Exposed Paint (With Specifications)**

17. Cut a "V" in the end of the nozzle (A) on the adhesive cartridge as shown.

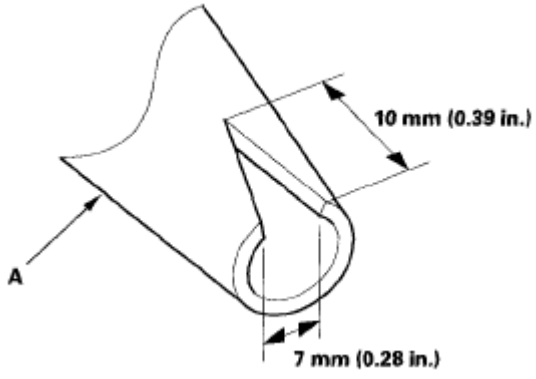



**Fig. 63: Cutting "V" In End Of Nozzle (With Specifications)**

18. Pack adhesive into the cartridge without air pockets to ensure continuous delivery. Put the cartridge in a caulking gun, and run a bead of adhesive (A) around the edge of the front seal (B) and molding (C) as shown. With the glass primer (D) you applied in step 15 on the quarter glass (E) as a guide, apply the adhesive to the upper and lower corner portions of the quarter glass. Apply the adhesive within 30 minutes after applying the glass primer. Make a slightly thicker bead at each corner.

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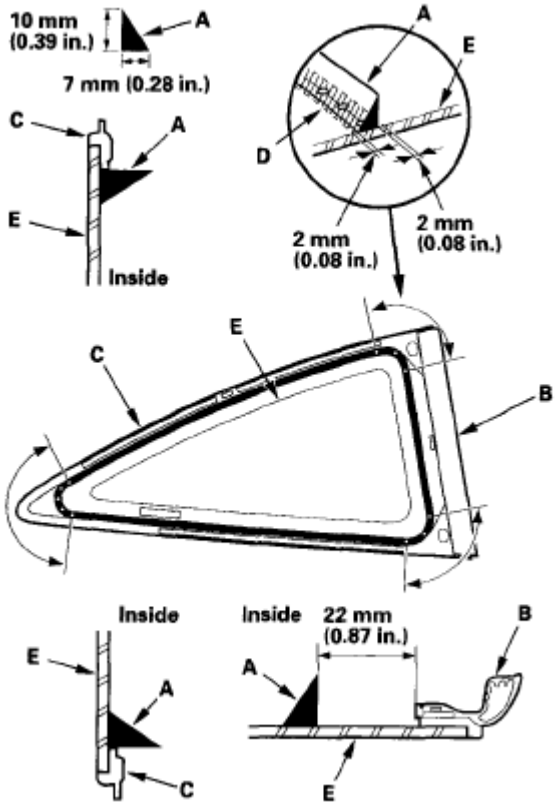



**Fig. 64: Running Bead Of Adhesive Around Edge Of Front Seal And Molding (With Specifications)**

19. Using suction cups (A) to hold the quarter glass (B) over the opening, align the clips or the alignment marks (C) made in step 13, and set it down on the adhesive. Lightly push on the quarter glass until its edges are fully seated on the adhesive all the way around.

**NOTE: Do not open or close any of the doors for about an hour until the adhesive is dry.**

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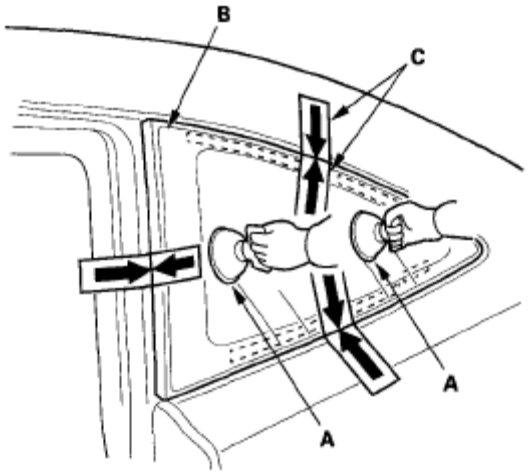



**Fig. 65: Holding Quarter Glass Using Suction Cups**

20. Scrape or wipe the excess adhesive off with a putty knife or towel. To remove adhesive from a painted surface or the quarter glass, wipe with a soft shop towel dampened with alcohol.
21. After the adhesive has dried, spray water over the quarter glass window and check for leaks. Mark the leaking areas, let the quarter glass window dry, then seal with sealant. Let the vehicle stand for at least 4 hours after quarter glass window installation. If the vehicle has to be used within the first 4 hours, it must be driven slowly.
22. Reinstall all remaining removed parts.

**NOTE: Advise the customer not to do the following things for 2 to 3 days:**

- **Slam the doors with all the windows rolled up.**
- **Twist the body excessively (such as when going in and out of driveways at an angle or driving over rough, uneven roads).**

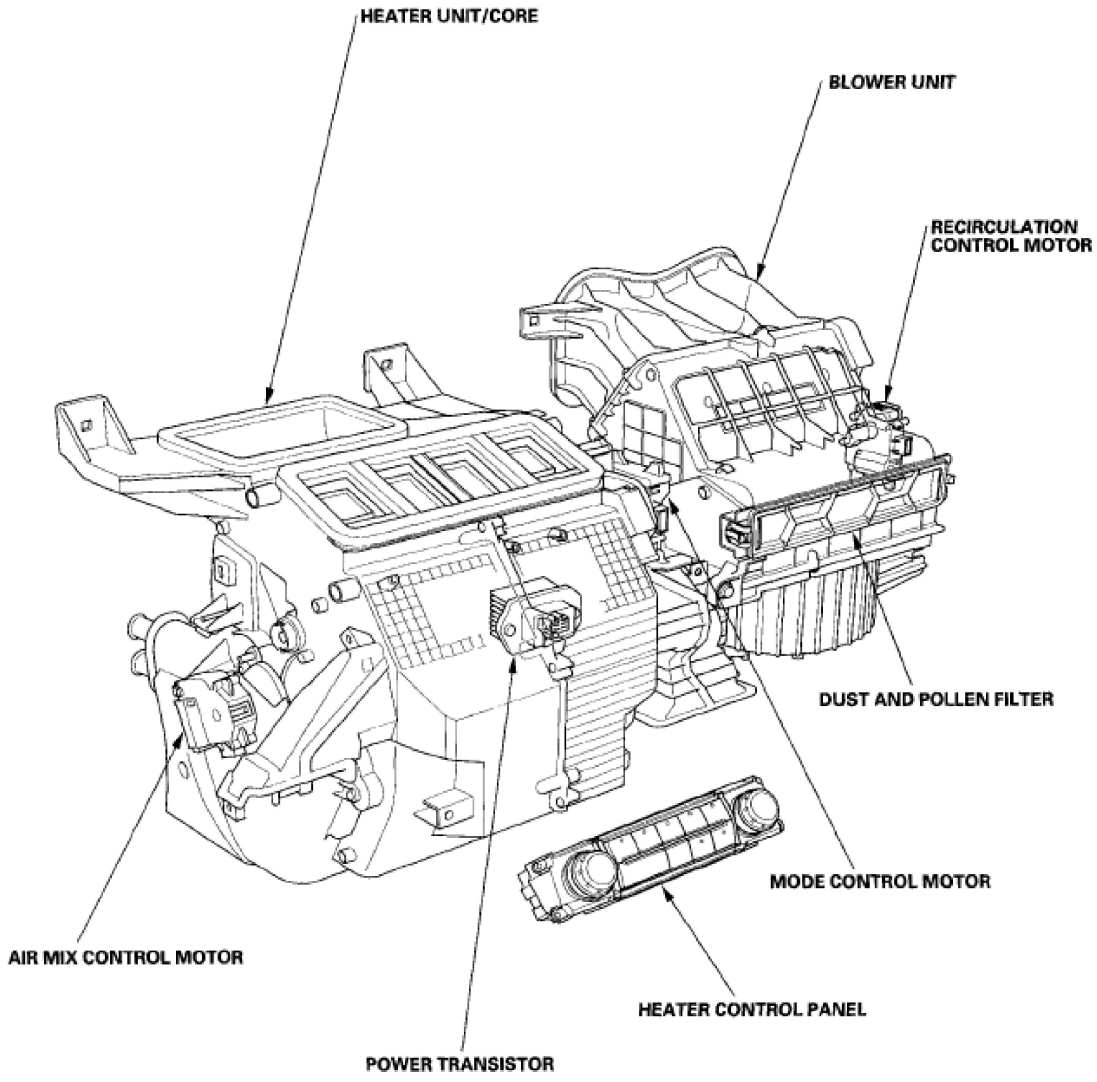
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# 2006-08 HVAC

# Heating - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX




4-door is shown, 2-door is similar.

**Fig. 1: Identifying Heating Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## GENERAL TROUBLESHOOTING INFORMATION

### HOW TO USE THE SELF-DIAGNOSTIC FUNCTION

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The heater control panel has a self-diagnostic function for heating and ventilation system. To run the self-diagnostic function, do the following:

1. Turn the ignition switch to LOCK (0).
2. Press and hold the recirculation control and rear window defogger buttons, and turn the ignition switch ON (II).
3. Recirculation indicator turns on for 2 seconds, then self-diagnostic function begins.

**NOTE:**

- **The blower motor will run at any speed regardless of the dial positioning.**
- **In the case of multiple problems, the recirculation indicator will blink the lowest number DTC only.**
- **If no DTCs are found, the indicator will not blink.**

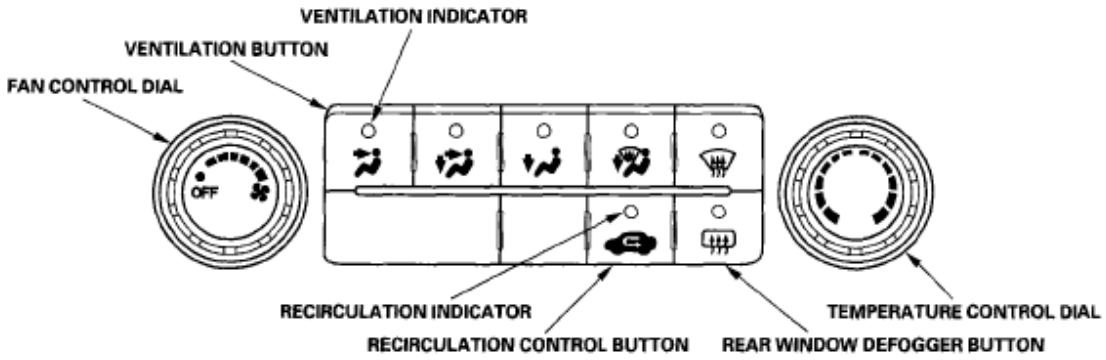



**Fig. 2: Identifying Recirculation Control Button, Recirculation/Ventilation Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Example of DTC Indication Pattern (DTC 3)**

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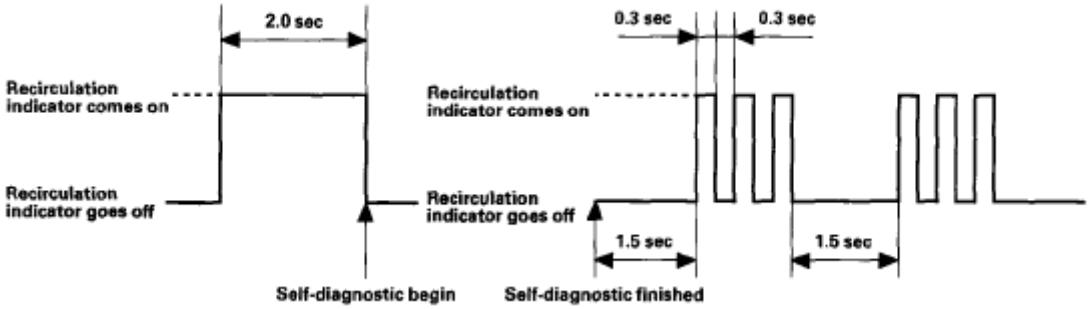



**Fig. 3: Identifying DTC Indication Pattern (DTC 3)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DETECTION ITEM REFERENCE

| DTC (Recirculation Indicator Blinks) | Detection Item |
|---|---|
| 1 | An open in the air mix control motor circuit (see **DTC INDICATOR 1: AN OPEN IN THE AIR MIX CONTROL MOTOR CIRCUIT** ) |
| 2 | A short in the air mix control motor circuit (see **DTC INDICATOR 2: A SHORT IN THE AIR MIX CONTROL MOTOR CIRCUIT** ) |
| 3 | A problem in the air mix control linkage, door, or motor (see **DTC INDICATOR 3: A PROBLEM IN THE AIR MIX CONTROL LINKAGE, DOOR, OR MOTOR** ) |
| 4 | An open or short in the mode control motor circuit (see **DTC INDICATOR 4: AN OPEN OR SHORT IN THE MODE CONTROL MOTOR CIRCUIT** ) |
| 5 | A problem in the mode control linkage, doors, or motor (see **DTC INDICATOR 5: A PROBLEM IN THE MODE CONTROL LINKAGE, DOORS, OR MOTOR** ) |
| 6 | A problem in the blower motor circuit (see **DTC INDICATOR 6: A PROBLEM IN THE BLOWER MOTOR CIRCUIT** ) |
| | Heater control panel internal error (see **DTC** |

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| | |
|---|---|
| 7 | **INDICATOR 7: HEATER CONTROL PANEL INTERNAL ERROR** ) |

**Clear the DTCs**

When the problem is repaired, DTCs will automatically clear.

## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Recirculation control doors do not change between Fresh and Recirculate | **RECIRCULATION CONTROL MOTOR CIRCUIT TROUBLESHOOTING** | • HVAC DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** )<br>• Blown fuse No. 36 (10 A) in the under-dash fuse/relay box<br>• Cleanliness and tightness of all terminals |
| Blower and heater controls do not work | **HEATER CONTROL POWER AND GROUND CIRCUIT TROUBLESHOOTING** | • HVAC DTCs (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** )<br>• Blown fuse No. 36 (10 A) in the under-dash fuse/relay box<br>• Poor ground at G504 (see **CONNECTOR TO HARNESS INDEX** )<br>• Cleanliness and tightness of all terminals |
| Infufficient heating | 1. Check the coolant level (see **COOLANT** | Damaged cylinder head gasket |

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| | | |
|---|---|---|
| | **CHECK** )<br>2. Check the radiator cap (see **RADIATOR CAP TEST** )<br>3. Check the coolant temperature<br>4. Check the operation of the air mix control motor and door (see **Air Mix Control Motor Test**)<br>5. Check the blower motor for obstructions<br>6. Check for air leaks around the ducts and vents<br>7. Check the inlet heater hose temperature<br>• If it is COLD, check for restrictions in the hose, a damaged or leaking thermostat, and a damaged or leaking water pump.<br>• If it is HOT, check for restrictions in the heater core. Back flush the heater core or replace heater core. | |

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# SYSTEM DESCRIPTION

## HEATING DOOR POSITIONS

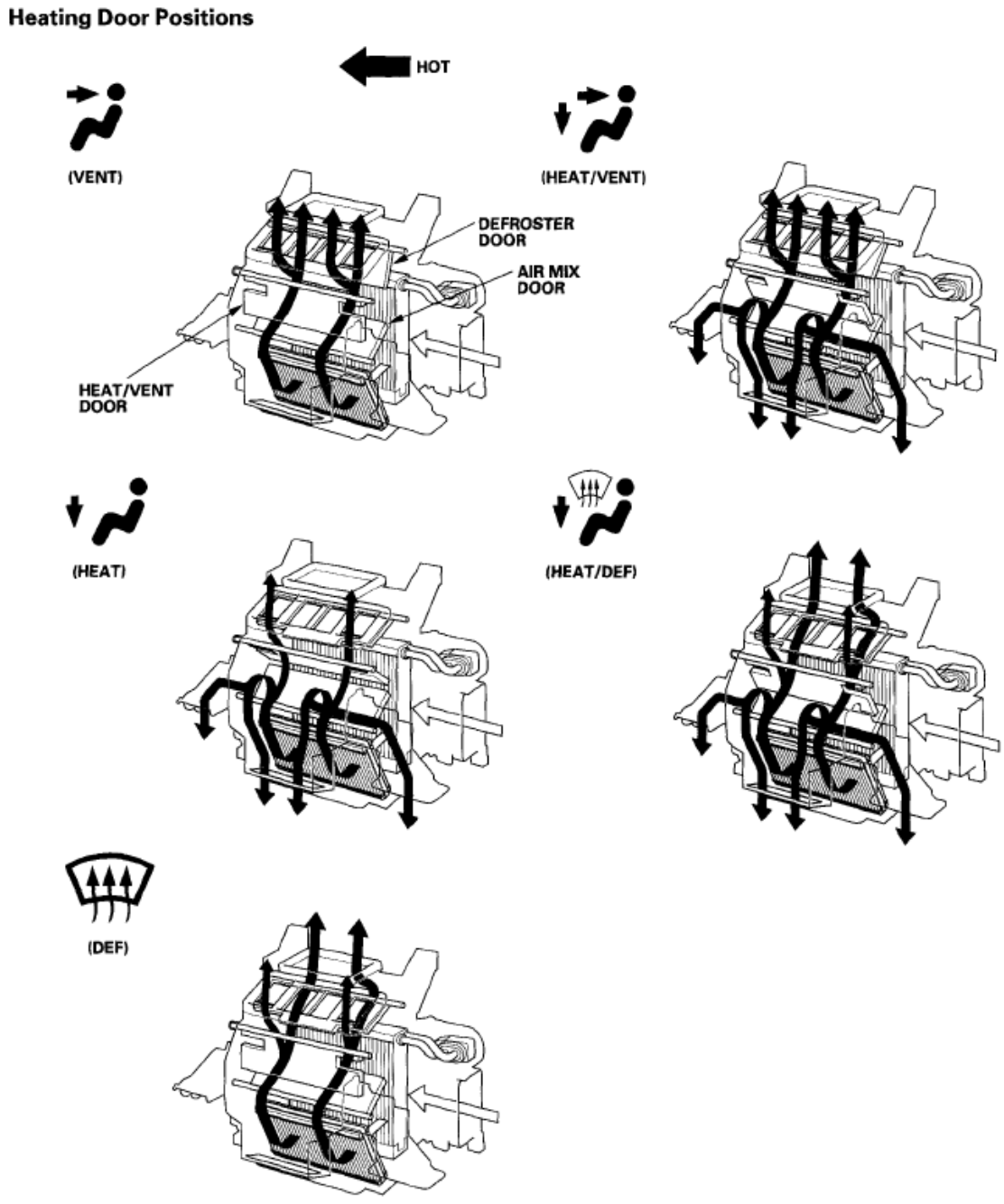



**Fig. 4: Identifying Heating Door Positions**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## HEATER CONTROL PANEL INPUTS AND OUTPUTS

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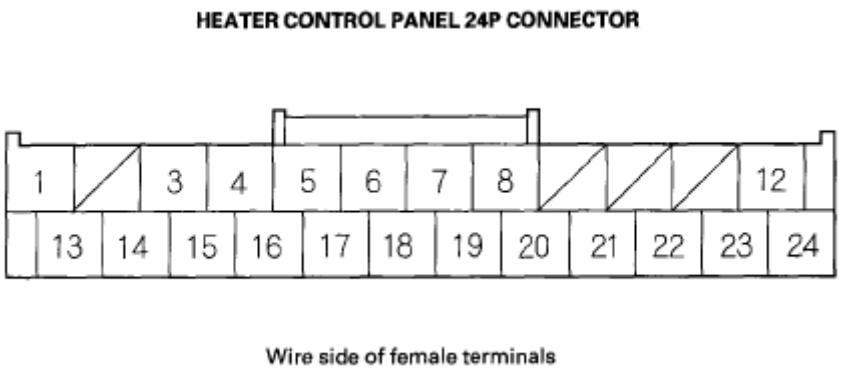



**Fig. 5: Identifying Heater Control Panel 24P Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## WIRE COLOR AND SIGNALS REFERENCE

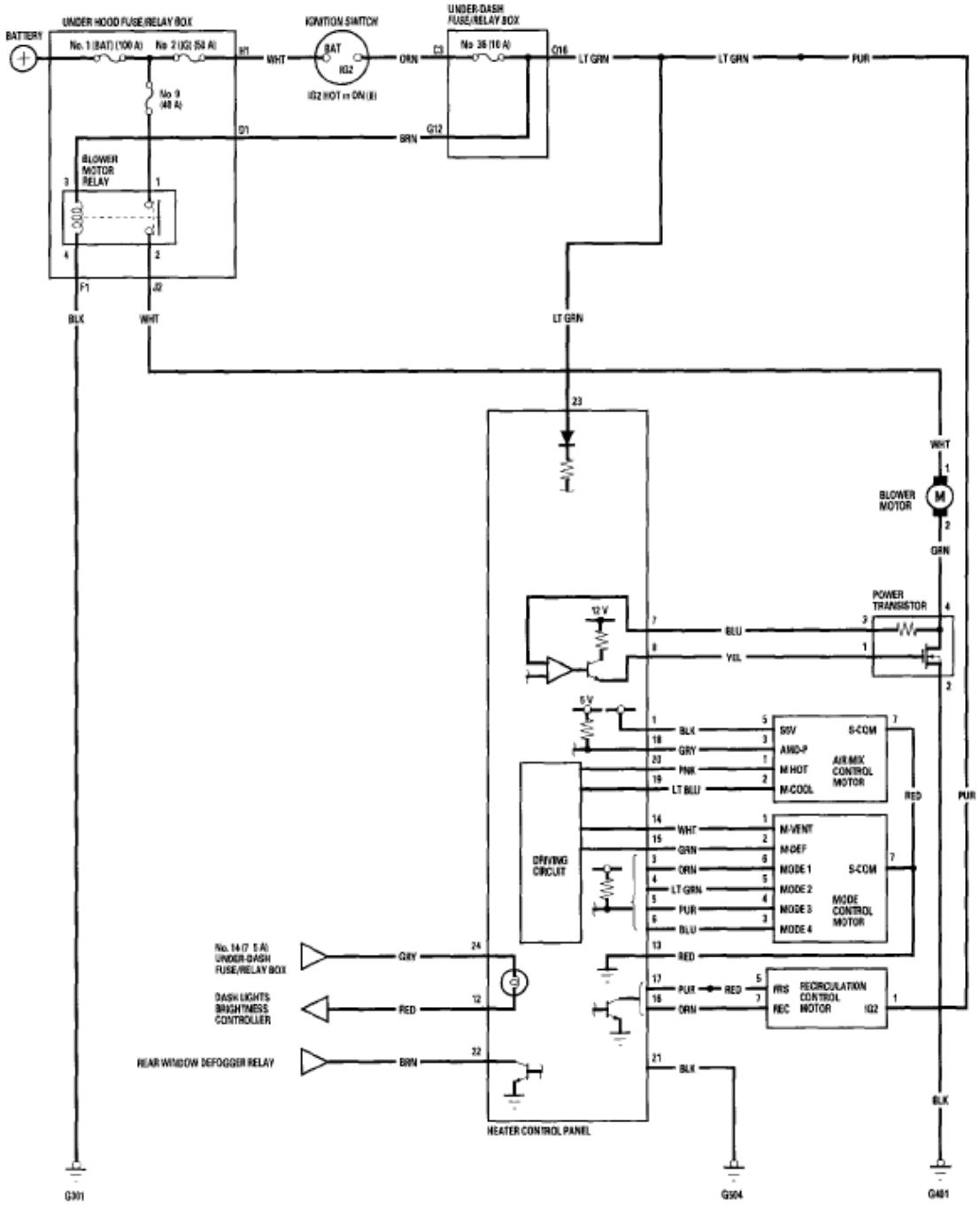
| Cavity | Wire color | Signal | |
|---|---|---|---|
| 1 | BLK | AIR MIX POTENTIAL +5V | OUTPUT |
| 2 | - | - | - |
| 3 | ORN | MODE 1 | OUTPUT |
| 4 | LT GRN | MODE 2 | OUTPUT |
| 5 | PUR | MODE 3 | OUTPUT |
| 6 | BLU | MODE 4 | OUTPUT |
| 7 | BLU | BLOWER FEEDBACK | INPUT |
| 8 | YEL | POWER TRANSISTOR CONTROL | OUTPUT |
| 9 | - | - | - |
| 10 | - | - | - |
| 11 | - | - | - |
| 12 | RED | ILLUMI (-) | OUTPUT |
| 13 | RED | SENSOR COMMON GROUND | INPUT |
| 14 | WHT | MODE VENT | OUTPUT |
| 15 | GRN | MODE DEF | OUTPUT |
| 16 | ORN | RECIRCULATE | INPUT |
| 17 | PUR | FRESH | INPUT |
| 18 | GRY | AIR MIX POTENTIAL | OUTPUT |
| 19 | LT BLU | AIR MIX COOL | OUTPUT |
| 20 | PNK | AIR MIX HOT | OUTPUT |

| | | | |
|---|---|---|---|
| 21 | BLK | GROUND (G504) | OUTPUT |
| 22 | BRN | REAR WINDOW DEFOGGER RELAY | INPUT |
| 23 | LTGRN | IG2 (Power) | INPUT |
| 24 | GRY | ILLUMI (+) | INPUT |

## CIRCUIT DIAGRAM

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## Fig. 6: Heater Control Panel - Circuit Diagram
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

## DTC TROUBLESHOOTING

### DTC INDICATOR 1: AN OPEN IN THE AIR MIX CONTROL MOTOR CIRCUIT

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the heater control panel (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 1 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, check for loose wires or poor connections on the air mix control motor circuit.

5. Turn the ignition switch to LOCK (0).
6. Test the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

   *Is the air mix control motor OK?*

   **YES** -Go to step 7.

   **NO** -Replace the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

7. Disconnect the air mix control motor 7P connector.
8. Disconnect the heater control panel 24P connector.
9. Check for continuity between the following terminals of the heater control panel 24P connector and the air mix control motor 7P connector.

**CONTINUITY CHECK INDEX**

| 24P | 7P |
|---|---|
| 1 | 5 |
| 13 | 7 |
| 18 | 3 |

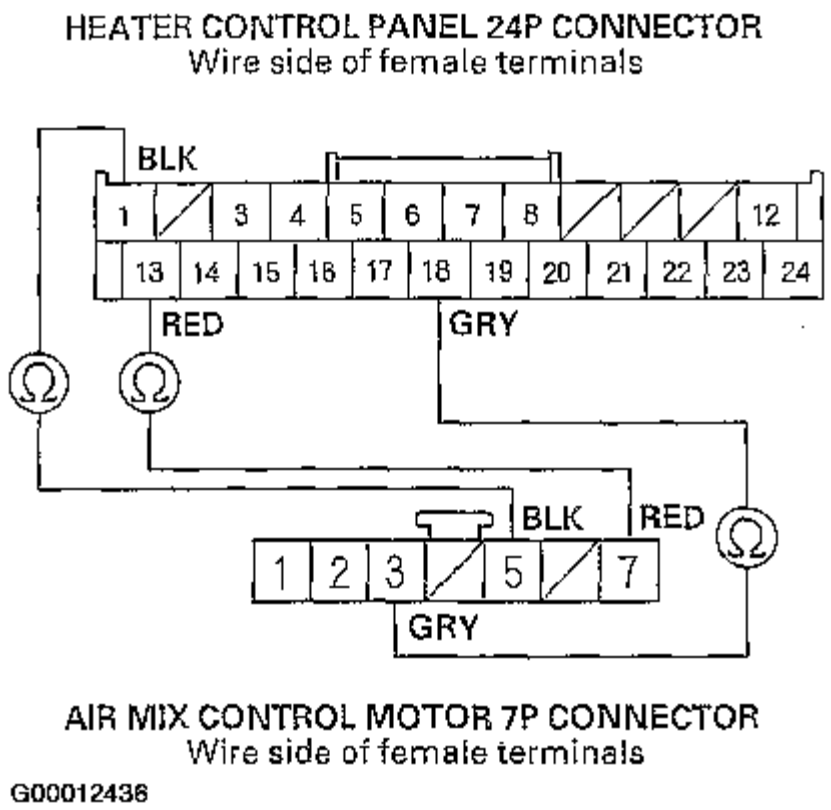



**Fig. 7: Check Continuity Between Heater Control Panel Connector & Air Mix Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Check for loose wires or poor connections at the heater control panel 24P connector and at the air mix control motor 7P connector. If the connections are good, substitute a known-good heater control panel and recheck. If the symptom/indication goes away, replace the original heater control panel.

**NO** -Repair any open in the wires between the heater control panel and the air mix control motor.

**DTC INDICATOR 2: A SHORT IN THE AIR MIX CONTROL MOTOR CIRCUIT**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).

3. Do the self-diagnostic with the heater control panel (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 2 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure.

5. Turn the ignition switch to LOCK (0).
6. Test the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

   *Is the air mix control motor OK?*

   **YES** -Go to step 7.

   **NO** -Replace the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

7. Disconnect the air mix control motor 7P connector.
8. Disconnect the heater control panel 24P connector.
9. Check for continuity between body ground and the heater control panel 24P connector terminals No. 1, 13 and 18 individually.

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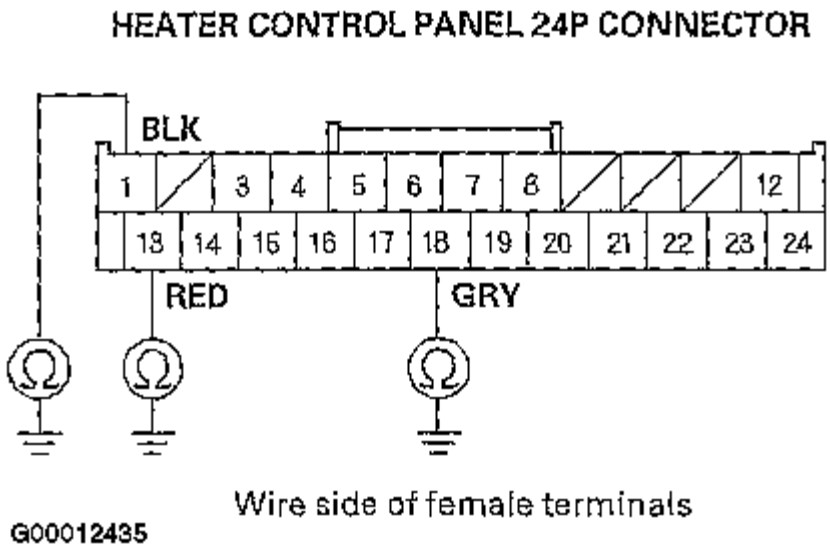



**Fig. 8: Checking Continuity Between Ground & Heater Control Panel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair any short to body ground in the wires between the heater control panel and the air mix control motor.

**NO** -Go to step 10.

10. Check for continuity between the heater control panel 24P connector terminals as follows.

**TERMINALS REFERENCE**

| From terminal | To terminals |
|---|---|
| 1 | 13,18 |
| 13 | 18 |

*Is there continuity between any of the terminals?*

**YES** -Repair the short in the wires.

**NO** -Go to step 11.

11. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground. See **Fig. 8**.

    *Is there battery voltage?*

    **YES** -Repair any short to power in the wires between the heater control panel and the air mix control motor. This short may also damage the heater control panel. Repair the short to power before replacing the heater control panel.

    **NO** -Substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

**DTC INDICATOR 3: A PROBLEM IN THE AIR MIX CONTROL LINKAGE, DOOR, OR MOTOR**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the heater control panel (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

    *Is DTC 3 indicated?*

    **YES** -Go to step 5.

    **NO** -Intermittent failure.

5. Turn the ignition switch to LOCK (0).
6. Test the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

    *Is the air mix control motor OK?*

    **YES** -Substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

    **NO** -Replace the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ), or repair the air mix control linkage or door.

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7. Disconnect the air mix control motor 7P connector.
8. Disconnect the heater control motor 24P connector.
9. Check for continuity between the following terminals of the heater control panel 24P connector and the air mix control motor 7P connector.

**CONTINUITY CHECK INDEX**

| 24P | 7P |
|---|---|
| 19 | 2 |
| 20 | 1 |

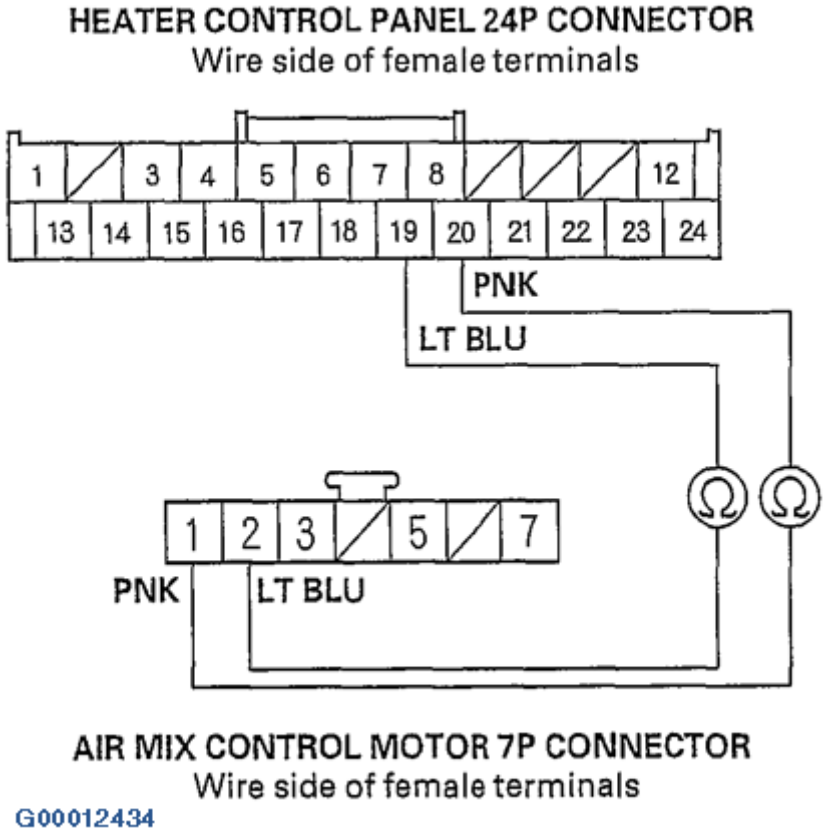



**Fig. 9: Checking Continuity Between Heater Control Panel Connector & Air Mix Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 10.

**NO** -Repair any open in the wires between the heater control panel and the air mix control motor.

10. Check for continuity between body ground and the heater control panel 24P connector terminals No. 19 and 20 individually.

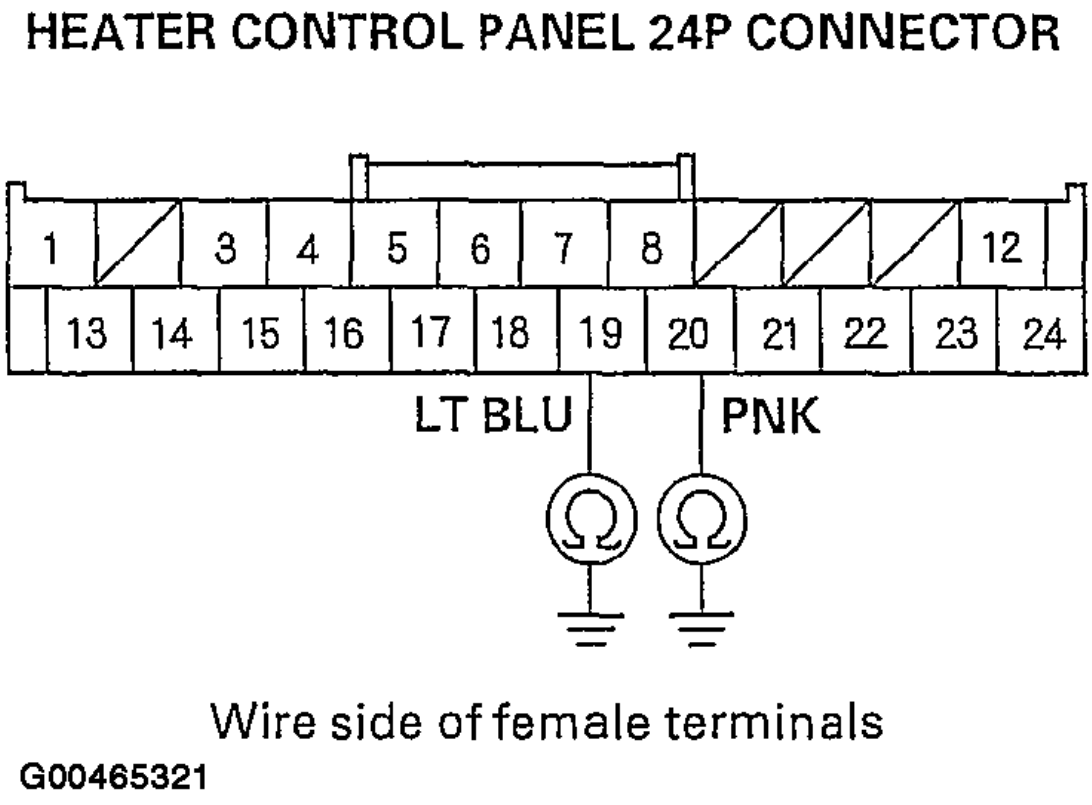



**Fig. 10: Checking Continuity Between Ground & Heater Control Panel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wires between the heater control panel and the air mix control motor.

**NO** -Substitute a known-good heater control panel, and recheck. If the

symptom/indication goes away, replace the original heater control panel.

**DTC INDICATOR 4: AN OPEN OR SHORT IN THE MODE CONTROL MOTOR CIRCUIT**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the heater control panel (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 4 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, check for loose wires or poor connections on the mode control motor circuit.

5. Turn the ignition switch to LOCK (0).
6. Test the mode control motor (see **MODE CONTROL MOTOR TEST** ).

   *Is the mode control motor OK?*

   **YES** -Go to step 7.

   **NO** -Replace the mode control motor (see **MODE CONTROL MOTOR TEST** ).

7. Disconnect the mode control motor 7P connector.
8. Disconnect the heater control panel 24P connector.
9. Check for continuity between the following terminals of the heater control panel 24P connector and the mode control motor 7P connector.

**CONTINUITY CHECK INDEX**

| 24P | 7P |
|---|---|
| 3 | 6 |
| 4 | 5 |
| | |

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| | |
|---|---|
| 5 | 4 |
| 6 | 3 |
| 13 | 7 |

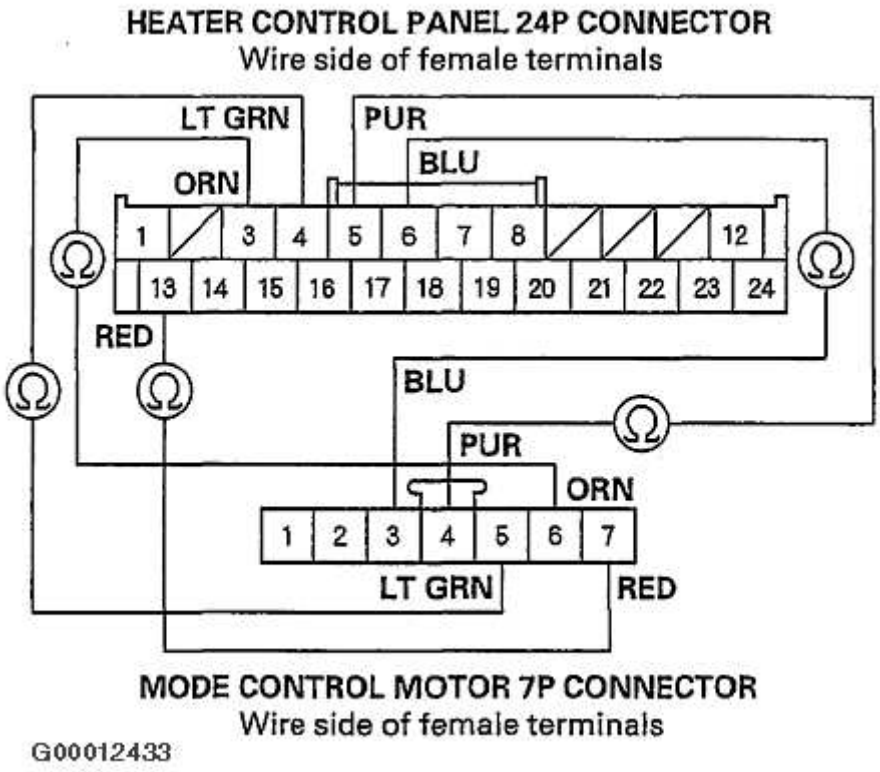



**Fig. 11: Checking Continuity Between Heater Control Panel Connector & Mode Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 10.

**NO** -Repair any open in the wires between the heater control panel and the mode control motor.

10. Check for continuity between body ground and the heater control panel 24P connector terminals No. 3, 4, 5, 6, and 13 individually.

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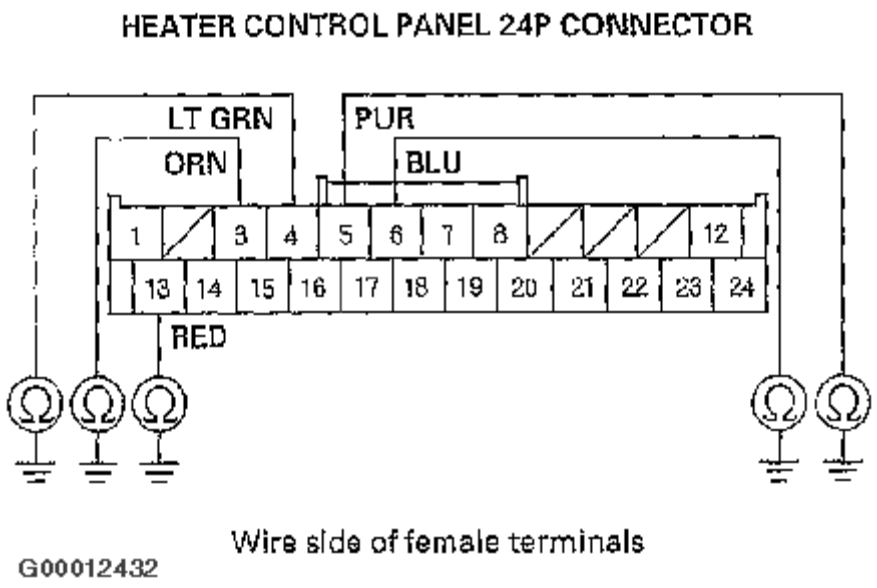



**Fig. 12: Checking Continuity Between Ground & Heater Control Panel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair any short to body ground in the wires between the heater control panel and the mode control motor.

**NO** -Go to step 11.

11. Check for continuity between the heater control panel 24P connector terminals as follows.

**TERMINALS REFERENCE**

| From terminal | To terminals |
|---|---|
| 3 | 4, 5, 6, 13 |
| 4 | 5, 6, 13 |
| 5 | 6, 13 |
| 6 | 13 |

*Is there continuity between any of the terminals?*

**YES** -Repair the short in the wires.

**NO** -Go to step 12.

12. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground. See **Fig. 12**.

    *Is there any voltage?*

    **YES** -Repair any short to power in the wires between the heater control panel and the mode control motor. This short may also damage the heater control panel. Repair the short to power before replacing the heater control panel.

    **NO** -Check for loose wires or poor connections at the heater control panel 24P connector and at the mode control motor 7P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

**DTC INDICATOR 5: A PROBLEM IN THE MODE CONTROL LINKAGE, DOORS, OR MOTOR**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the heater control panel (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 5 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure.

5. Turn the ignition switch to LOCK (0).
6. Test the mode control motor (see **MODE CONTROL MOTOR TEST** ).

   *Is the mode control motor OK?*

   **YES** -

**NO** -Replace the mode control motor (see **MODE CONTROL MOTOR TEST** ), or repair the mode control linkage or doors.

7. Check for continuity between the following terminals of the heater control panel 24P connector and the mode control motor 7P connector.

**CONTINUITY CHECK INDEX**

| 24P | 7P |
|---|---|
| 14 | 1 |
| 15 | 2 |

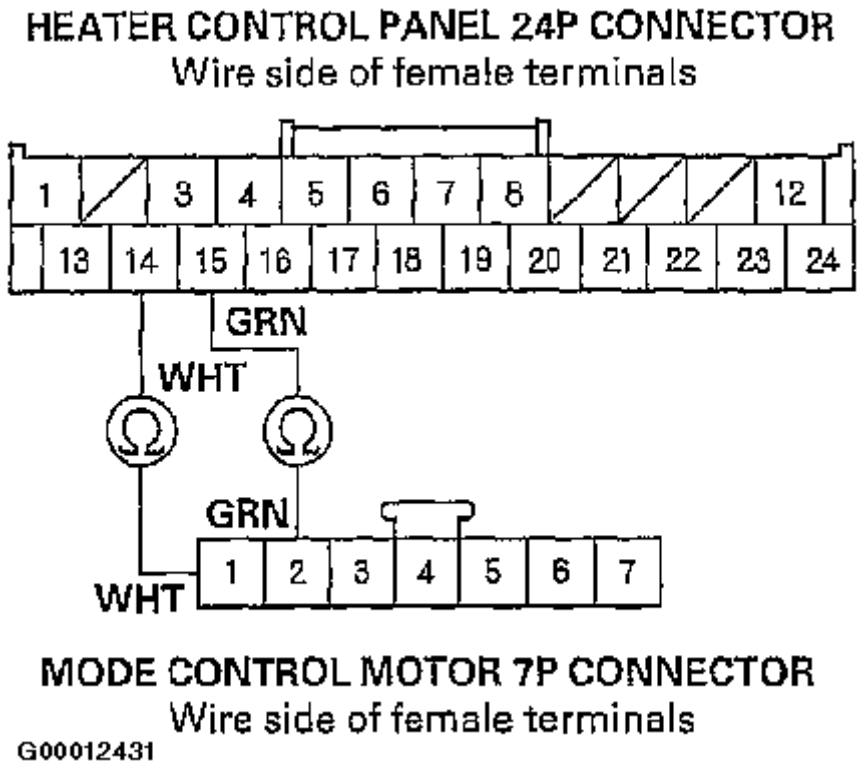



**Fig. 13: Checing Continuity Between Heater Control Connector & Mode Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 8.

**NO** -Repair any open in the wires between the heater control panel and the mode control motor.

8. Check for continuity between body ground and the heater control panel 24P connector terminals No. 14 and 15 individually.

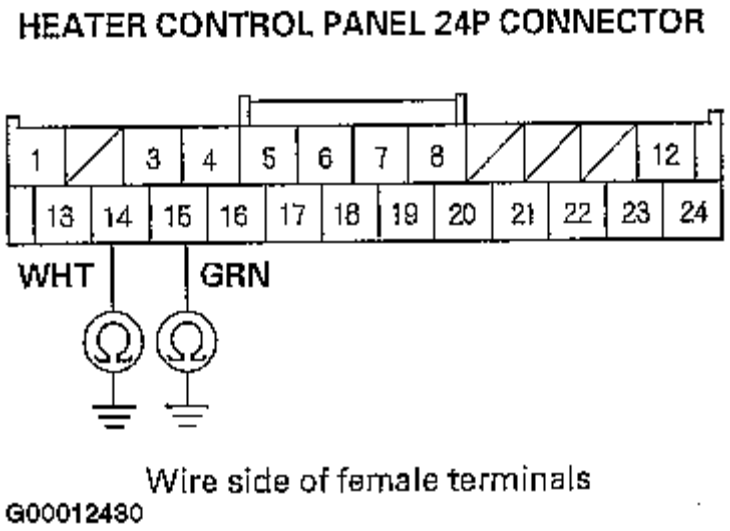



**Fig. 14: Checking Continuity Between Ground & Heater Control Panel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wires between the heater control panel and the mode control motor.

**NO** -Substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

**DTC INDICATOR 6: A PROBLEM IN THE BLOWER MOTOR CIRCUIT**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the heater control panel (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).

4. Check for DTCs.

   *Is DTC 6 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, check for loose wires or poor connections on the blower motor circuit.

5. Turn the ignition switch to LOCK (0).
6. Check the No. 9 (40 A) fuse in the under-hood fuse/relay box, and the No. 36 (10 A) fuse in the under-dash fuse/relay box.

   *Are the fuses OK?*

   **YES** -Go to step 7.

   **NO** -Replace the fuses, and recheck.

7. Connect the blower motor 2P connector terminal No. 2 to body ground with a jumper wire.

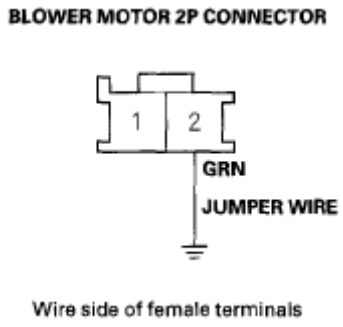



**Fig. 15: Connecting Blower Motor 2P Connector Terminal No 2 To Body Ground With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Turn the ignition switch ON (II).

   *Does the blower motor run?*

**YES** -Go to step 9.

**NO** -Go to step 25.

9. Turn the ignition switch to LOCK (0).
10. Disconnect the jumper wire.
11. Disconnect the power transistor 4P connector.
12. Check for continuity between the power transistor 4P connector terminal No. 2 and body ground.

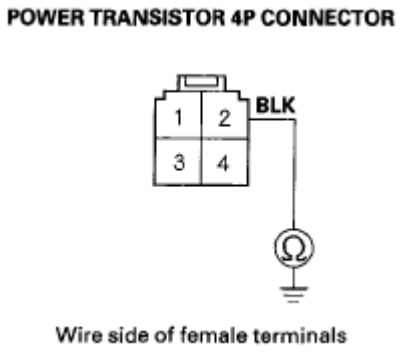



**Fig. 16: Checking Continuity Between Power Transistor 4P Connector Terminal No 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 13.

**NO** -Check for an open in the wire between the power transistor and body ground. If the wire is OK, check for poor ground at G401 (see **CONNECTOR TO HARNESS INDEX** ).

13. Connect the power transistor 4P connector terminals No. 2 and No. 4 with a jumper wire.

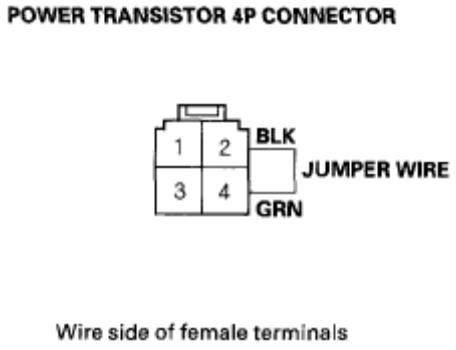



**Fig. 17: Connecting Power Transistor 4P Connector Terminals No 2 And 4 With Jumper Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Turn the ignition switch ON (II).

    *Does the blower motor run at high speed?*

    **YES** -Go to step 15.

    **NO** -Repair open in the GRN wire between the power transistor and the blower motor.

15. Turn the ignition switch to LOCK (0).
16. Disconnect the jumper wire.
17. Disconnect the heater control panel 24P connector.
18. Check for continuity between body ground and the heater control panel 24P connector terminals No. 7 and No. 8 individually.

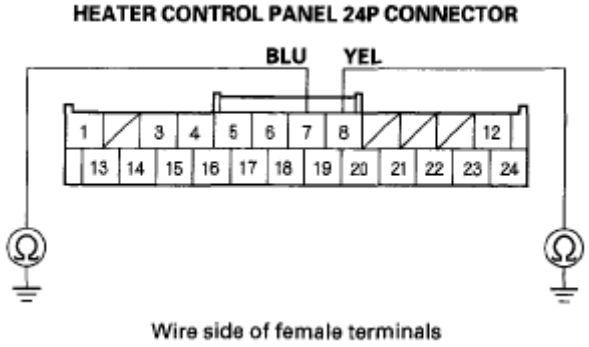



**Fig. 18: Checking Continuity Between Body Ground And Heater Control**

**Panel 24P Terminals No 7 And 8**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair any short to body ground in the wires between the heater control panel and the power transistor.

**NO** -Go to step 19.

19. Check for continuity between the following terminals of the heater control panel 24P connector and the power transistor 4P connector.

**CONTINUITY CHECK INDEX**

| 24P | 4P |
|---|---|
| 7 | 3 |
| 8 | 1 |

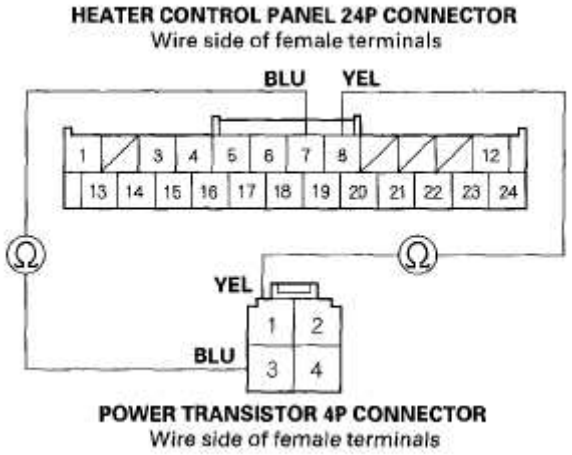



**Fig. 19: Checking Continuity Between Heater Control Panel 24P And Power Transistor 4P Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 20.

**NO** -Repair any open in the wires between the heater control panel and the

power transistor.

20. Turn the ignition switch ON (II).
21. Measure the voltage between body ground and the heater control panel 24P connector terminals No. 7 and No. 8 individually.

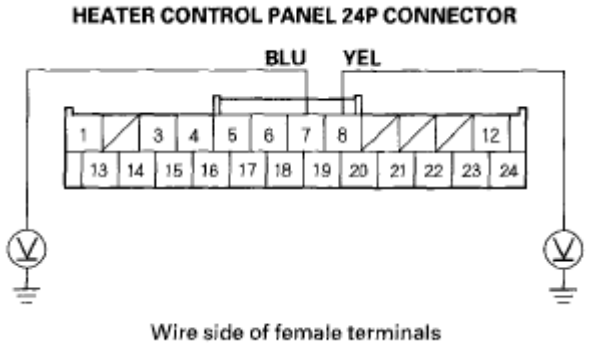



**Fig. 20: Measuring Voltage Between Body Ground And Heater Control Panel 24P Connector Terminals No 7 And 8**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there voltage?*

**YES** -Repair short to power in the wires.

**NO** -Go to step 22.

22. Turn the ignition switch to LOCK (0).
23. Reconnect the heater control panel 24P connector.
24. Test the power transistor (see **POWER TRANSISTOR TEST** ).

*Is the power transistor OK?*

**YES** -Check for loose wires or poor connections at the heater control panel 24P connector and at the power transistor 4P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

**NO** -Replace the power transistor.

25. Turn the ignition switch to LOCK (0).
26. Disconnect the jumper wire.
27. Disconnect the blower motor 2P connector.
28. Turn the ignition switch ON (II).
29. Measure the voltage between the blower motor 2P connector terminal No. 1 and body ground.

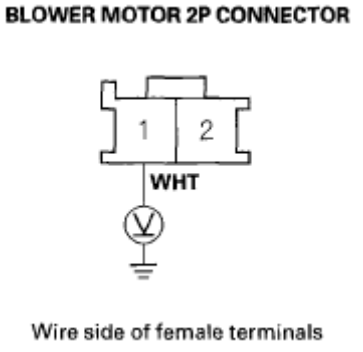



**Fig. 21: Measuring Voltage Between Blower Motor 2P Connector Terminal No 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Replace the blower motor.

**NO** -Go to step 30.

30. Turn the ignition switch to LOCK (0).
31. Remove the blower motor relay from the under-hood fuse/relay box, and test it (see **POWER RELAY TEST** ).

*Is the relay OK?*

**YES** -Go to step 32.

**NO** -Replace the blower motor relay.

32. Measure the voltage between the blower motor relay 4P socket terminal No. 1

and body ground.

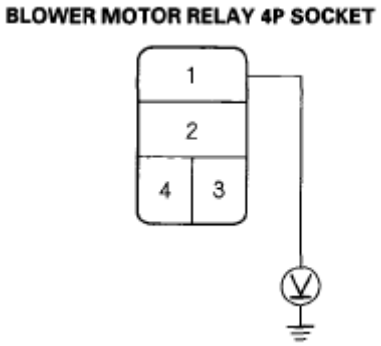



**Fig. 22: Measuring Voltage Between Blower Motor Relay 4P Socket Terminal No 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 33.

**NO** -Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

33. Turn the ignition switch ON (II).
34. Measure the voltage between the blower motor relay 4P socket terminal No. 3 and body ground.

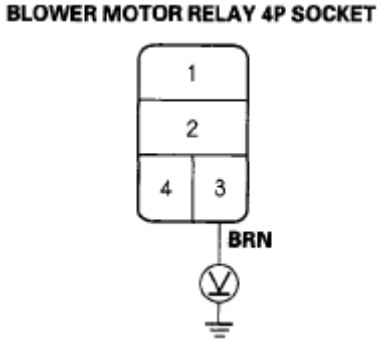



**Fig. 23: Measuring Voltage Between Blower Motor Relay 4P Socket Terminal No 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 35.

**NO** -Repair open in the wire between the No. 36 (10 A) fuse in the under-dash fuse/relay box and the blower motor relay.

35. Turn the ignition switch to LOCK (0).
36. Check for continuity between the blower motor relay 4P socket terminal No. 4 and body ground.

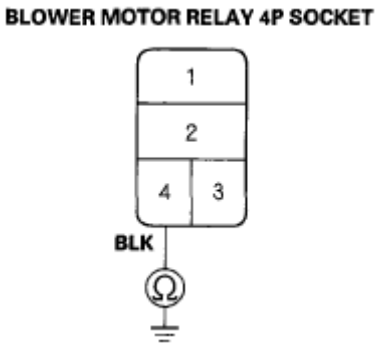



**Fig. 24: Checking Continuity Between Blower Motor Relay 4P Socket Terminal No 4 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair open in the WHT wire between the blower motor relay and the blower motor.

**NO** -Check for an open in the wire between the blower motor relay and body ground. If the wire is OK, check for poor ground at G301 (see **CONNECTOR TO HARNESS INDEX** ).

**DTC INDICATOR 7: HEATER CONTROL PANEL INTERNAL ERROR**

**NOTE: Check the battery condition (see BATTERY TEST ) and the charging system (see CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING ).**

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1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the heater control panel (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 7 indicated?*

   **YES** -The heater control panel is faulty, replace the heater control panel (see **HEATER CONTROL PANEL REMOVAL AND INSTALLATION** ).

   **NO** -Intermittent failure, the heater control panel is OK at this time.

## RECIRCULATION CONTROL MOTOR CIRCUIT TROUBLESHOOTING

1. Check the No. 36 (10 A) fuse in the under-dash fuse/relay box.

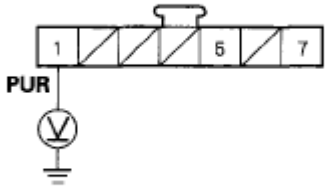
   *Is the fuse OK?*

   **YES** -Go to step 2.

   **NO** -Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 36 (10 A) fuse circuit.

2. Disconnect the recirculation control motor 7P connector.
3. Turn the ignition switch ON (II).
4. Measure the voltage between the recirculation control motor 7P connector terminal No. 1 and body ground.

**RECIRCULATION CONTROL MOTOR 7P CONNECTOR**




Wire side of female terminals

**Fig. 25: Measuring Voltage Between Recirculation Control Motor 7P Connector Terminal No 1 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 5.

**NO** -Repair open in the wire between the No. 36 (10 A) fuse in the under-dash fuse/relay box and the recirculation control motor.

5. Turn the ignition switch to LOCK (0).
6. Test the recirculation control motor (see **RECIRCULATION CONTROL MOTOR TEST** ).

*Is the recirculation control motor OK?*

**YES** -Go to step 7.

**NO** -Replace the recirculation control motor (see **RECIRCULATION CONTROL MOTOR TEST** ), or repair the recirculation control linkage or door.

7. Disconnect the heater control panel 24P connector.
8. Check for continuity between body ground and the heater control panel 24P connector terminals No. 16 and No. 17 individually.

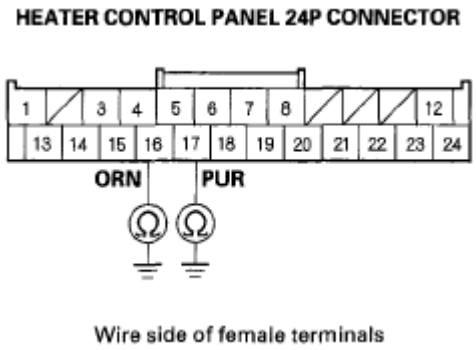



**Fig. 26: Checking Continuity Between Body Ground And Heater Control Panel 24P Connector Terminals No 16 And 17**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair any short to body ground in the wires between the heater control panel and the recirculation control motor.

**NO** -Go to step 9.

9. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

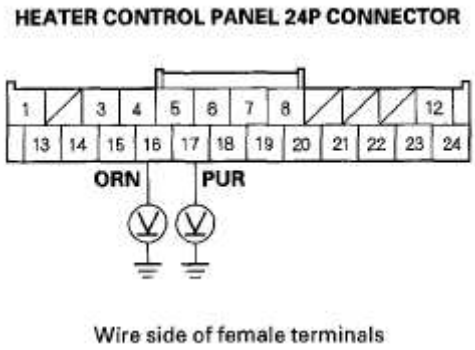



**Fig. 27: Checking Voltage Between Body Ground And Heater Control Panel 24P Connector Terminals No 16 And 17**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there any voltage?*

**YES** -Repair any short to power in the wires between the heater control panel and the recirculation control motor. This short may also damage the heater control panel. Repair the short to power before replacing the heater control panel.

**NO** -Go to step 10.

10. Turn the ignition switch to LOCK (0).
11. Check for continuity between the following terminals of the heater control panel 24P connector and the recirculation control motor IP connector.

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## CONTINUITY CHECK INDEX

| 24P | 7P |
|---|---|
| 16 | 7 |
| 17 | 5 |

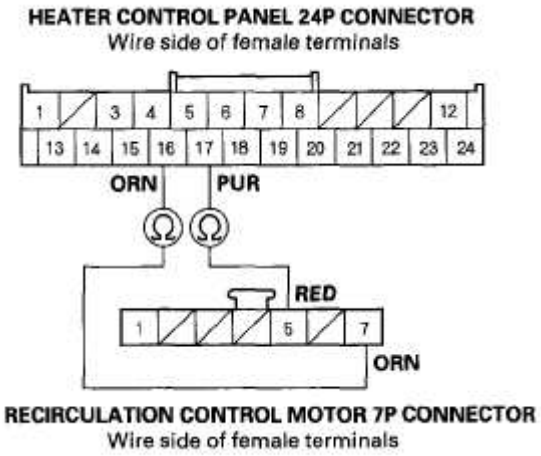



**Fig. 28: Checking Continuity Between Heater Control Panel 24P And Recirculation Control Motor IP Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Check for loose wires or poor connections at the heater control panel 24P connector and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good heater control panel, and recheck. If the symptom/indication goes away, replace the original heater control panel.

**NO** -Repair any open in the wires between the heater control panel and the recirculation control motor.

## HEATER CONTROL POWER AND GROUND CIRCUIT TROUBLESHOOTING

1. Check the No. 36 (10 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

   **YES** -Go to step 2.

**NO** -Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 36 (10 A) fuse circuit.

2. Disconnect the heater control panel 24P connector.
3. Turn the ignition switch ON (II).
4. Measure the voltage between the heater control panel 24P connector terminal No. 23 and body ground.

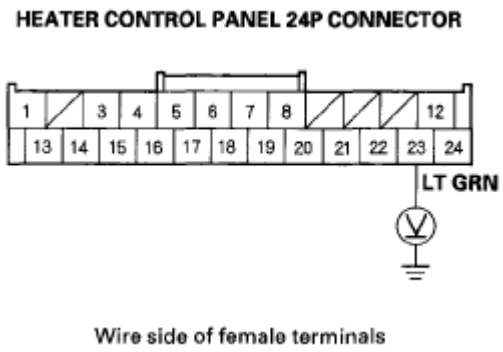



**Fig. 29: Measuring Voltage Between Heater Control Panel 24P Connector Terminal No 23 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 5.

**NO** -Repair open in the wire between the No. 36 (10 A) fuse in the under-dash fuse/relay box and the heater control panel.

5. Turn the ignition switch to LOCK (0).
6. Check for continuity between the heater control panel 24P connector terminal No. 21 and body ground.

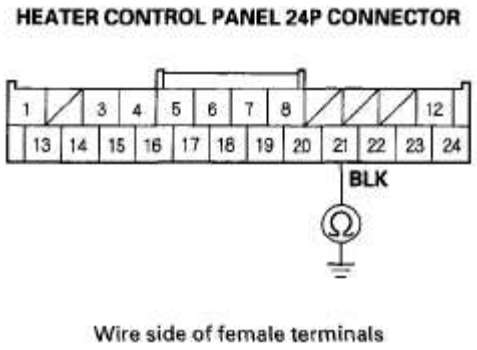



**Fig. 30: Checking Continuity Between Heater Control Panel 24P Connector Terminal No 21 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Check for loose wires or poor connections at the heater control panel 24P connector. If the connections are good, substitute a known-good heater control panel, and recheck.

**NO** -Check for an open in the wire between the heater control panel and body ground. If the wire is OK, check for poor ground at G504 (see **CONNECTOR TO HARNESS INDEX** ).

## POWER TRANSISTOR TEST

1. Remove the passenger's dashboard undercover (see **PASSENGER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
2. Disconnect the 4P connector from the power transistor.
3. Measure the resistance between the No. 3 and No. 4 terminals of the power transistor. It should be about 1.5 kohms.
   - If the resistance is within the specifications, go to step 4.
   - If the resistance is not within the specifications, replace the power transistor.

**NOTE: Also check the blower motor. Power transistor failure can be caused by a defective blower motor.**

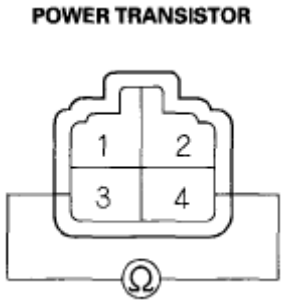



**Fig. 31: Measuring Resistance Between No 3 And No 4 Terminals Of Power Transistor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Carefully release the lock tab on the No. 1 terminal (YEL) (A) in the 4P connector, then remove the terminal and insulate it from body ground.

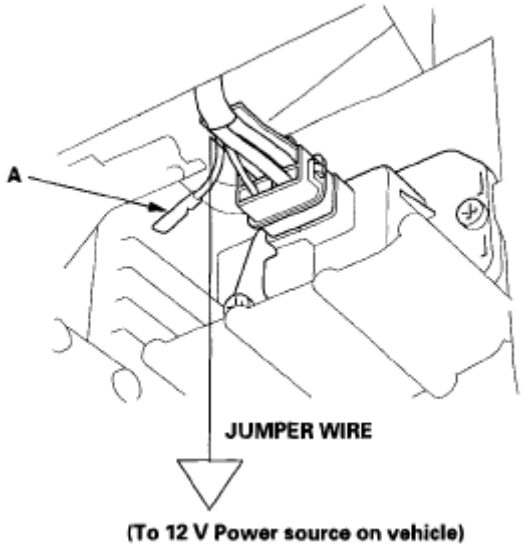



**Fig. 32: Identifying 4P Connector Terminal No. 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Reconnect the 4P connector to the power transistor.
6. Make sure the YEL wire is completely isolated, then supply 12 V to the No. 1 cavity with a jumper wire.
7. Turn the ignition switch ON (II), and check that the blower motor runs.
   - If the blower motor does not run, replace the power transistor.
   - If the blower motor runs, the power transistor is OK.

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## AIR MIX CONTROL MOTOR TEST

**NOTE: Before testing, check for HVAC DTCs (see HOW TO USE THE SELF-DIAGNOSTIC FUNCTION ).**

1. Disconnect the 7P connector from the air mix control motor.

   **NOTE: Incorrectly applying power and ground to the air mix control motor will damage it. Follow the instructions carefully.**

2. Connect battery power to the No. 1 terminal of the air mix control motor, and ground the No. 2 terminal; the air mix control motor should run, and stop at Max Hot. If it doesn't, reverse the connections; the air mix control motor should run, and stop at Max Cool. When the air mix control motor stops running, disconnect battery power immediately.

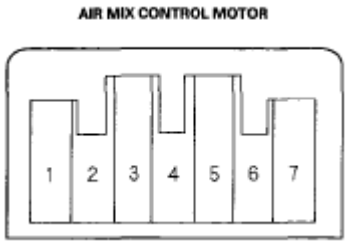



**Fig. 33: Identifying Air Mix Control Motor Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the air mix control motor did not run in step 2, remove it, then check the air mix control linkage and door for smooth movement.
   - If the linkage and door move smoothly, replace the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).
   - If the linkage or door sticks or binds, repair them as needed.
   - If the air mix control motor runs smoothly, go to step 4.
4. Measure the resistance between the No. 5 and No. 7 terminals. It should be between 4.2 to 7.8 kohms.
5. Reconnect the air mix control motor 7P connector, then turn the ignition switch

ON (II).

6. Using the backprobe set. Measure the voltage between the No. 3 and No. 7 terminals.

   **Max Cool: about 0.5 V**

   **Max Hot: about 4.5 V**

7. If either the resistance or voltage readings are not as specified, replace the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

## AIR MIX CONTROL MOTOR REPLACEMENT

1. Remove the driver's dashboard undercover (see **DRIVER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
2. Disconnect the 7P connector (A) from the air mix control motor (B). Remove the self-tapping screws and the air mix control motor from the heater unit.

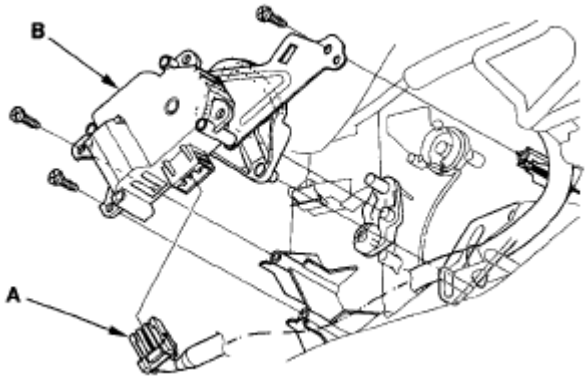



**Fig. 34: Identifying 7P Connector And Air Mix Control Motor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

## MODE CONTROL MOTOR TEST

**NOTE: Before testing, check for HVAC DTCs (see HOW TO USE**

**THE SELF-DIAGNOSTIC FUNCTION ).**

1. Disconnect the 7P connector from the mode control motor.

**NOTE: Incorrectly applying power and ground to the mode control motor will damage it. Follow the instructions carefully.**

2. Connect battery power to the No. 1 terminal of the mode control motor, and ground the No. 2 terminal; the mode control motor should run smoothly, and stop at Vent. If it doesn't, reverse the connections; the mode control motor should run smoothly, and stop at Defrost. When the mode control motor stops running, disconnect battery power immediately.

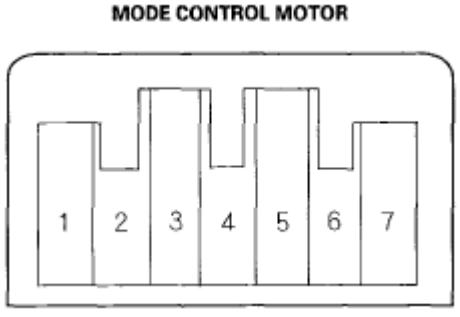



**Fig. 35: Identifying Mode Control Motor Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the mode control motor did not run in step 2, remove it, then check the mode control linkage and doors for smooth movement.
   - If the linkage and doors move smoothly, replace the mode control motor (see **MODE CONTROL MOTOR TEST** ).
   - If the linkage or doors stick or bind, repair them as needed.
   - If the mode control motor runs smoothly, go to step 4.
4. Use a digital multimeter with an output of 1 mA or less at the 20 k ohms range. With the mode control motor running as in step 2, check for continuity between the No. 3, 4, 5, and 6 terminals and the No. 7 terminal individually. There should be continuity for a moment at each terminal as the motor moves past the switch's terminal.

5. If there is no continuity for a moment at each terminal, replace the mode control motor (see **MODE CONTROL MOTOR TEST** ).

## MODE CONTROL MOTOR REPLACEMENT

1. Remove the glove box (see **PASSENGER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
2. Remove the wire harness clip (A), the self-tapping screws, and the passenger's heater duct (B).

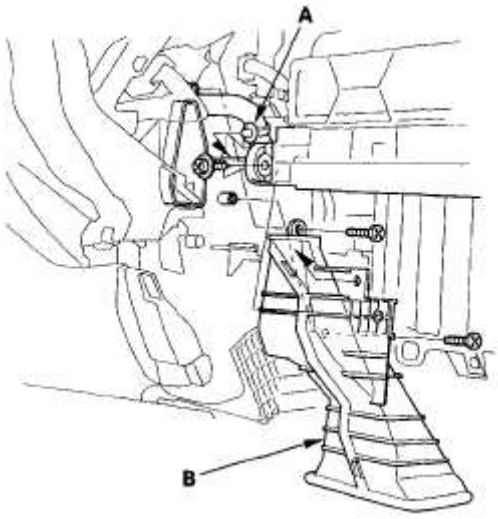



**Fig. 36: Identifying Wire Harness Clip And Passenger's Heater Duct**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the 7P connector (A) from the mode control motor (B). Remove the self-tapping screws and the mode control motor from the heater unit.

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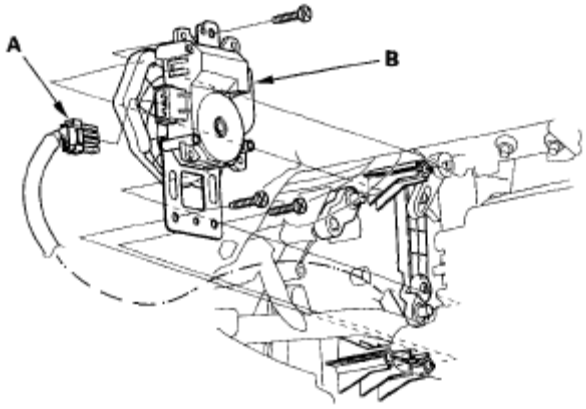



**Fig. 37: Identifying 7P Connector And Mode Control Motor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

## RECIRCULATION CONTROL MOTOR TEST

**NOTE: Before testing, check for HVAC DTCs (see HOW TO USE THE SELF-DIAGNOSTIC FUNCTION ).**

1. Disconnect the 7P connector from the recirculation control motor.

**NOTE: Incorrectly applying power and ground to the recirculation control motor will damage it. Follow the instructions carefully.**

2. Connect battery power to the No. 1 terminal of the recirculation control motor, and ground the No. 5 and No. 7 terminals; the recirculation control motor should run smoothly. To avoid damaging the recirculation control motor, do not reverse power and ground. Disconnect the No. 5 or No. 7 terminals from ground; the recirculation control motor should stop at Fresh (when the No. 5 terminal is disconnected) or Recirculate (when the No. 7 terminal is disconnected). Don't cycle the recirculation control motor for a long time.

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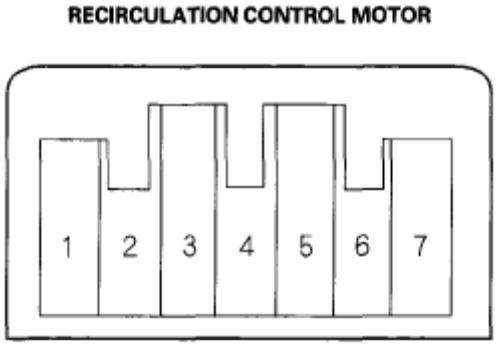



**Fig. 38: Identifying Recirculation Control Motor Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the recirculation control motor did not run in step 2, remove it, then check the recirculation control linkage and door for smooth movement.
   - If the linkage and door move smoothly, replace the recirculation control motor (see **RECIRCULATION CONTROL MOTOR TEST** ).
   - If the linkage or door stick or bind, repair them as needed.

## RECIRCULATION CONTROL MOTOR REPLACEMENT

1. Remove the glove box (see **PASSENGER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ) and the passenger's kick panel, 2-door (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS** ), 4-door (see **FRONT DOOR SILL AREA - 4-DOOR** ).
2. Disconnect the 7P connector (A) from the recirculation control motor (B). Remove the self-tapping screws and the recirculation control motor from the blower unit.

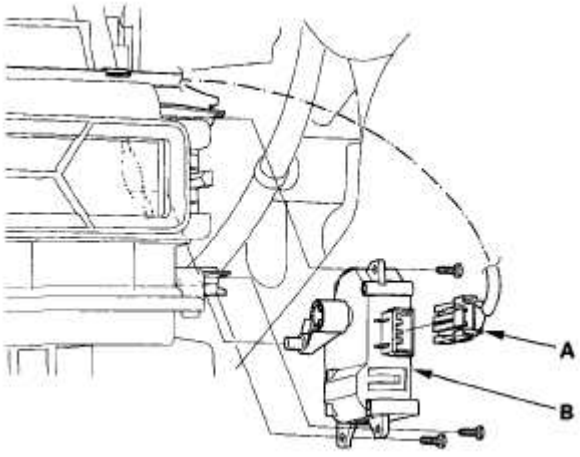



**Fig. 39: Identifying 7P Connector And Recirculation Control Motor**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the motor in the reverse order of removal. Make sure the pin on the motor is properly engaged with the linkage. After installation, make sure the motor runs smoothly.

## HEATER CONTROL PANEL REMOVAL AND INSTALLATION

1. Remove the center panel (see **AUDIO UNIT REMOVAL/INSTALLATION** ).
2. Remove the dials (A), the self-tapping screws, and the heater control panel (B).

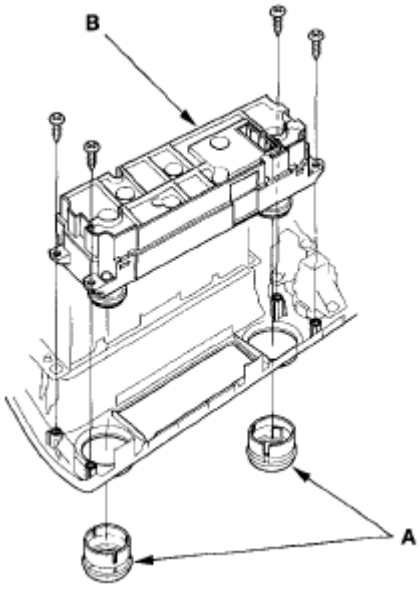


**Fig. 40: Identifying Dials And Heater Control Panel**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the control panel in the reverse order of removal. After installation, operate the various functions to make sure they work properly.
4. Run the self-diagnosis function to confirm that there are no problems in the system (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).

## DUST AND POLLEN FILTER REPLACEMENT

1. Open the glove box. Remove the glove box stop on each side, then let the glove box hang down (see **PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
2. Remove the dust and pollen filter assembly (A) from the evaporator.

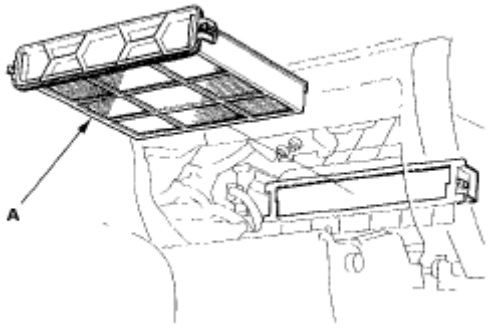



**Fig. 41: Identifying Dust And Pollen Filter Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the filter (A) from the housing (B), and replace the filter.

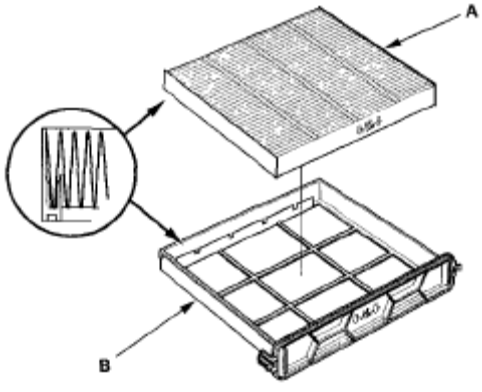


**Fig. 42: Identifying Filter And Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the filter in the reverse order of removal. Make sure that there is no air leaking out of the evaporator.

## BLOWER UNIT REMOVAL AND INSTALLATION

1. Remove the glove box (see **PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
2. Cut the plastic cross brace (A) in the glove box opening with diagonal cutters in the area shown, and discard it.

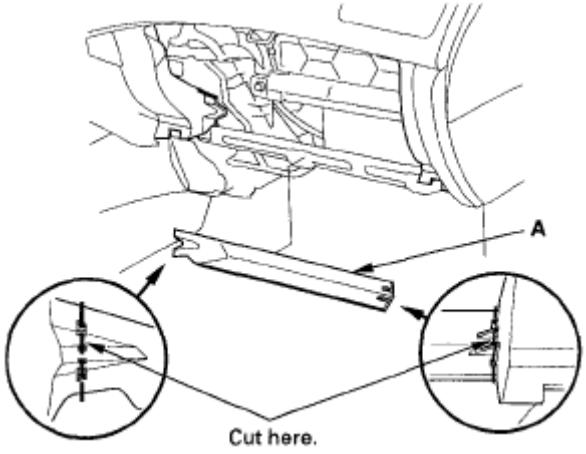



**Fig. 43: Identifying Plastic Cross Brace**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the bolts and the glove box frame (A).

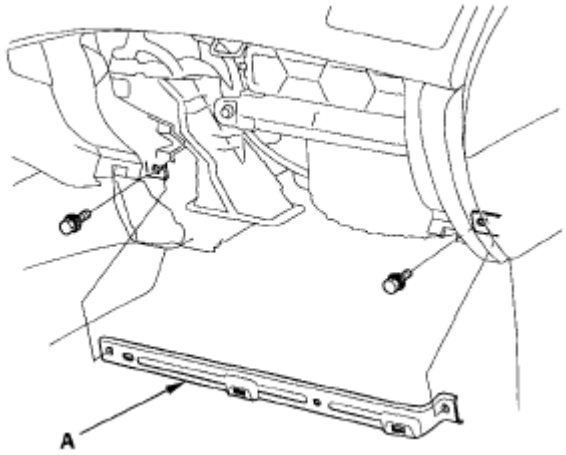



**Fig. 44: Identifying Glove Box Frame**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the wire harness clip (A), the self-tapping screws, and the passenger's heater duct (B).

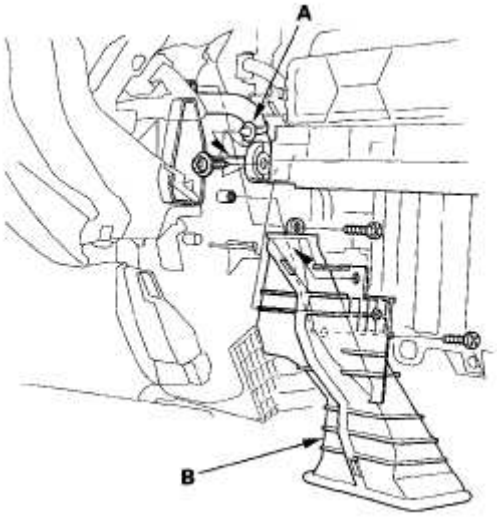



**Fig. 45: Identifying Wire Harness Clip And Passenger's Heater Duct**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Disconnect the connector (A) from the blower motor. Remove the wire harness clip (B).

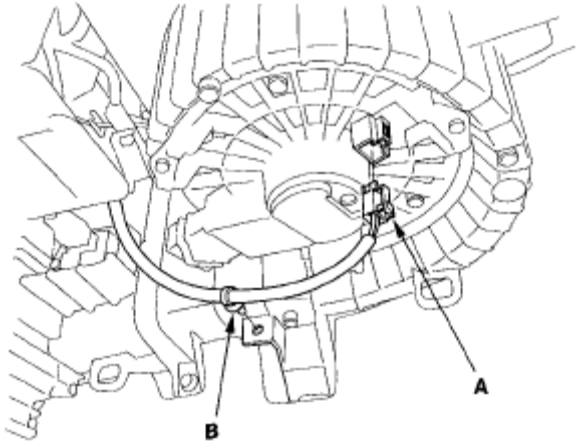



**Fig. 46: Identifying Connector And Wire Harness Clip**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Disconnect the connector (A) from the recirculation control motor. Remove the self-tapping screws, the bolt, the mounting nuts, and the blower unit (B).

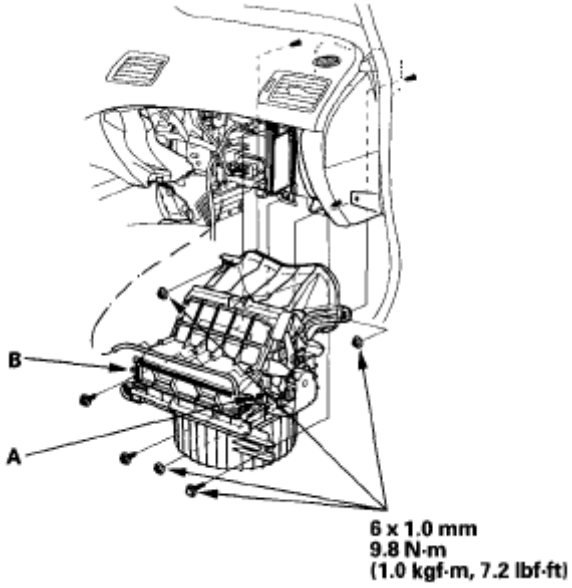



**Fig. 47: Identifying Connector And Blower Unit (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the unit in the reverse order of removal. Make sure that there is no air leakage.

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## BLOWER UNIT COMPONENT REPLACEMENT

Note these items when overhauling the blower unit:

- The recirculation control motor (A), blower motor (B) and the dust and pollen filter (C) can be replaced without removing the blower unit.
- Before reassembly, make sure that the recirculation control linkage and door move smoothly without binding.
- After reassembly, make sure the recirculation control motor runs smoothly (see **RECIRCULATION CONTROL MOTOR TEST** ).

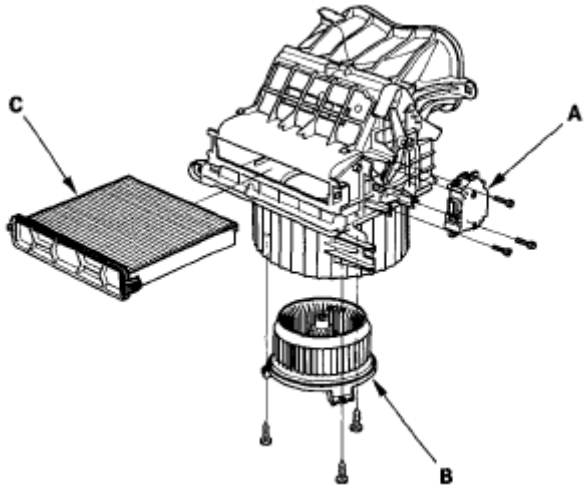



**Fig. 48: Identifying Recirculation Control Motor, Blower Motor And Dust And Pollen Filter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## HEATER UNIT/CORE REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

1. Make sure you have the anti-theft code for the audio or navigation system, then write down the audio presets.
2. Make sure the ignition is OFF, then disconnect the negative cable from the

battery.

3. Remove the air cleaner housing assembly (see **THROTTLE BODY CLEANING** ).
4. When the engine is cool, drain the engine coolant from the radiator (see **COOLANT REPLACEMENT** ).
5. From under the hood, slide the hose clamps (A) back. Disconnect the inlet heater hose (B) and the outlet heater hose (C) from the heater unit. Note the orientation of the hoses.

   Engine coolant will run out when the hoses are disconnected; drain it into a clean drip pan. Be sure not to let coolant spill on the electrical parts or the painted surfaces. If any coolant spills, rinse it off immediately.

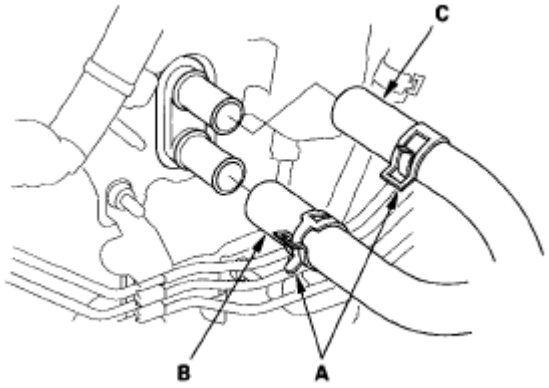



**Fig. 49: Identifying Hose Clamps, Inlet Heater Hose And Outlet Heater Hose**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the mounting nut from the heater unit. Take care not to damage or bend the fuel lines or brake lines, etc.

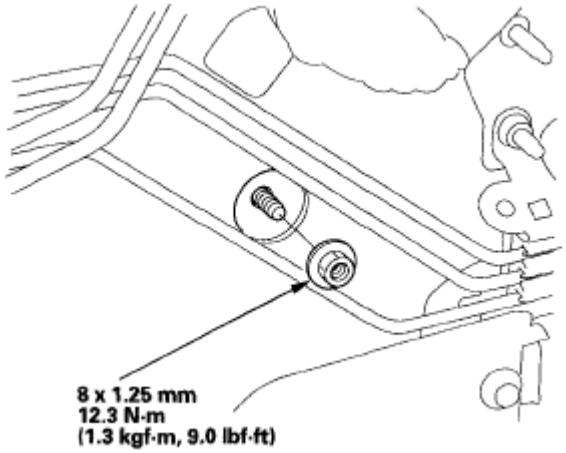



**Fig. 50: Identifying Heater Unit Mounting Nut (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the dashboard (see **SIDE DEFOGGER VENT TRIM REMOVAL/INSTALLATION** ).
8. Disconnect the connector (A) from the blower motor. Remove the wire harness clip (B).

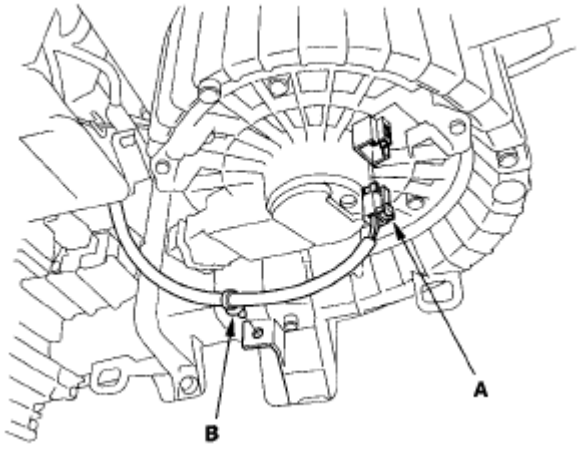



**Fig. 51: Identifying Blower Motor Connector And Wire Harness Clip**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Disconnect the connector (A) from the recirculation control motor.

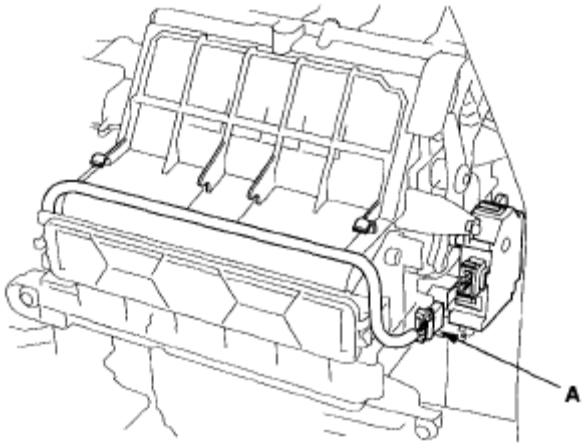



**Fig. 52: Identifying Recirculation Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Disconnect the connectors (A) from the mode control motor, the evaporator temperature sensor, and the power transistor. Remove the wire harness clip(B).

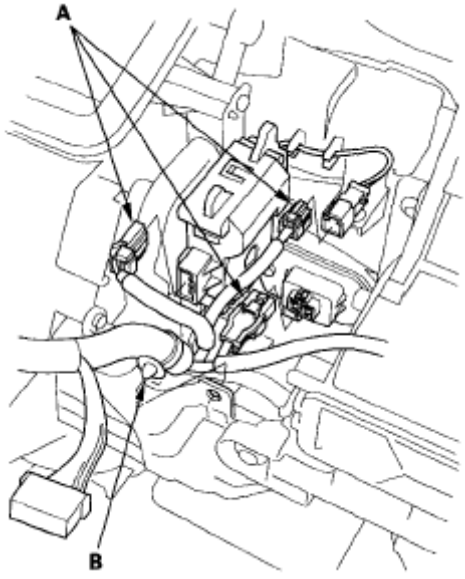



**Fig. 53: Identifying Connectors And Wire Harness Clip**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Disconnect the connectors (A) from the air mix control motor and A/C wire harness. Remove the connector clip (B), the wire harness clips (C), and the wire harness (D).

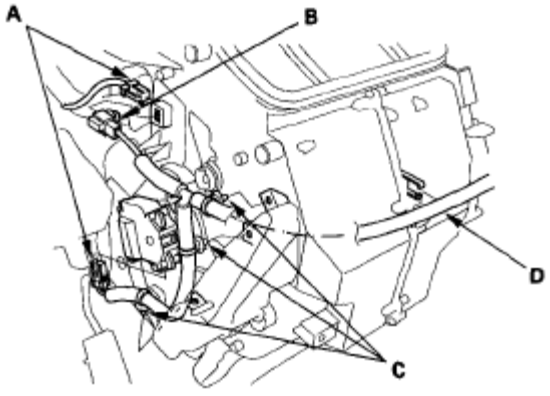



**Fig. 54: Identifying Air Mix Control Motor Connector, Connector Clip And Wire Harness**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Remove the mounting bolt, mounting nuts, and blower-heater unit (A).

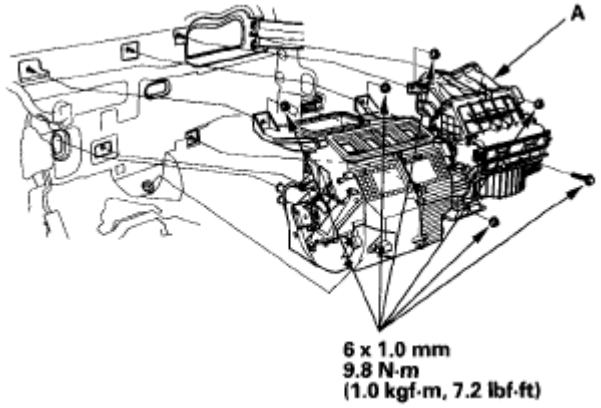



**Fig. 55: Identifying Blower-Heater Unit Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Remove the self-tapping screws, the heater core cover (A), the grommet (B), and carefully pull out the heater core (C).

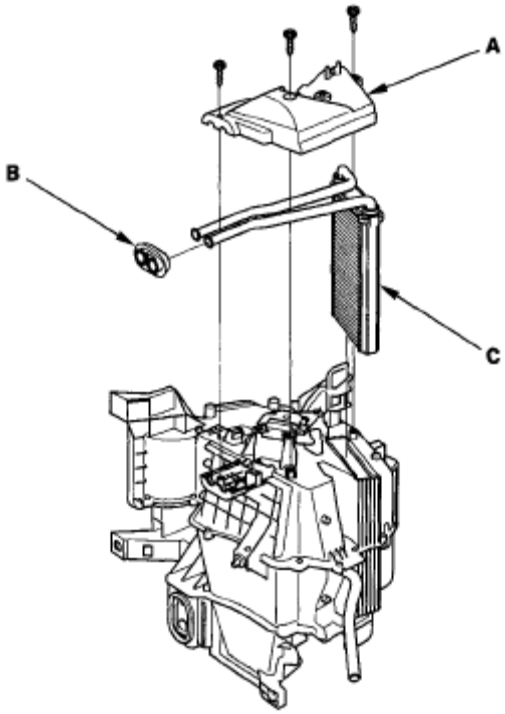



**Fig. 56: Identifying Heater Core Cover, Grommet And Heater Core**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the heater core in the reverse order of removal.
15. Install the heater unit in the reverse order of removal, and note these items:
    - Do not interchange the inlet and outlet heater hoses, and install the hose clamps securely.
    - Refill the cooling system with engine coolant (see **COOLANT REPLACEMENT** ).
    - Make sure that there is no coolant leakage.
    - Make sure that there is no air leakage.
    - Enter the anti-theft code for the audio or navigation system, then enter the audio presets.
    - Set the clock.

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**OBDII**

**MIL**

**P0106**

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MAP Circuit Range Or Performance

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**3**

MAP Circuit Low Input

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ECT Circuit Low Input

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ECT Circuit High Input

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**1**

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Primary HO2S Circuit High Voltage (Sensor 1)

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Misfire Cyl. 3 Or Random Misfire

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Misfire Cyl. 5 Or Random Misfire

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**70**

A/T Concerns

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**2006-08 ACCESSORIES AND EQUIPMENT**

**Hood - Civic (Except Hybrid)**

## ADJUSTMENT

1. Remove these items:
   - Front fender trim (see **FRONT FENDER TRIM REPLACEMENT** )
   - Front grille cover (see **FRONT GRILLE COVER REPLACEMENT** )
   - Cowl cover (see **FRONT GRILLE COVER REPLACEMENT** )
2. Slightly loosen each bolts (A).

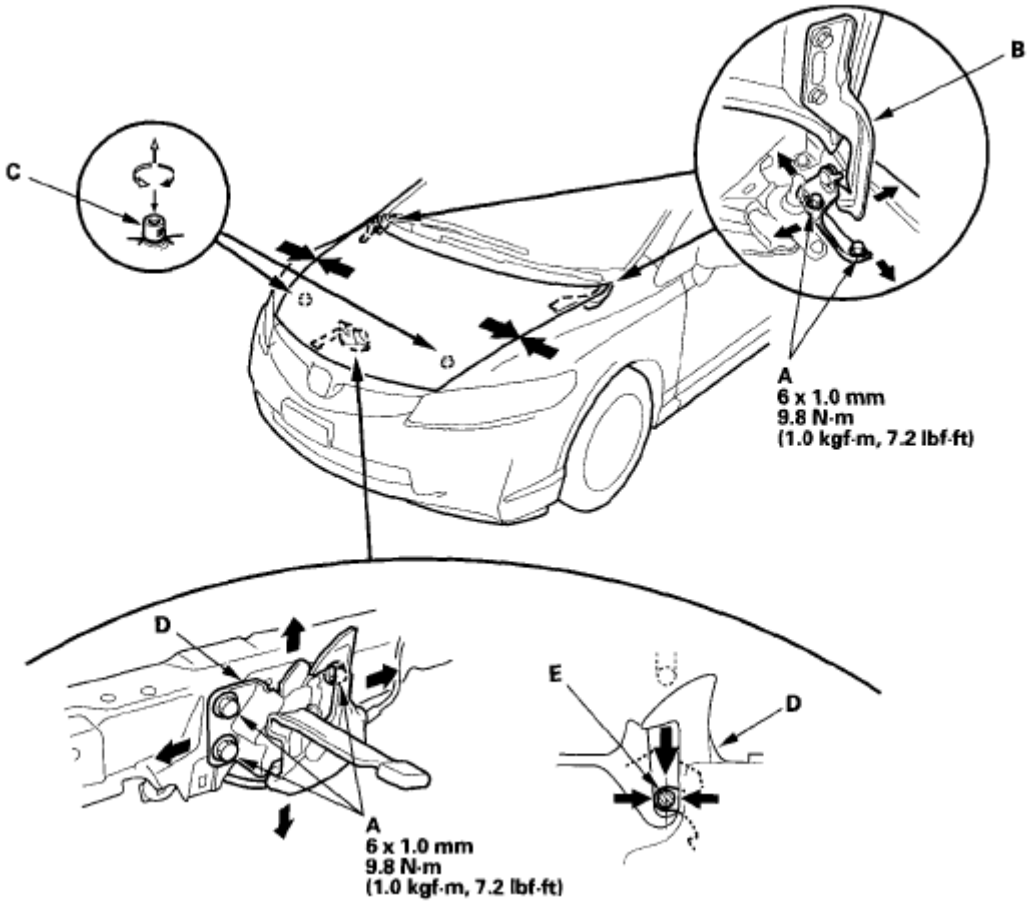



**Fig. 1: Identifying Hood Edge Cushions, Hood Latch And Bolts (With Torque Specifications)**

3. Adjust the hood alignment in this sequence:

- Adjust the hood right and left, as well as forward and rearward, by using the elongated holes in the hood hinges (B).
- Turn the hood edge cushions (C), as necessary, to make the hood fit flush with the body at the front and side edges.

4. Adjust the hood latch (D) to obtain the proper height at the forward edge, and move the hood latch right or left until the striker (E) is centered in the hood latch.
5. Tighten the bolts to the specified torque.
6. Check that the hood opens properly and closes securely.
7. Apply touch-up paint to the hinge mounting bolts and around the hinges, and let the paint dry.
8. Apply multipurpose grease to the hood latch and hood hinges as indicated by the arrows.

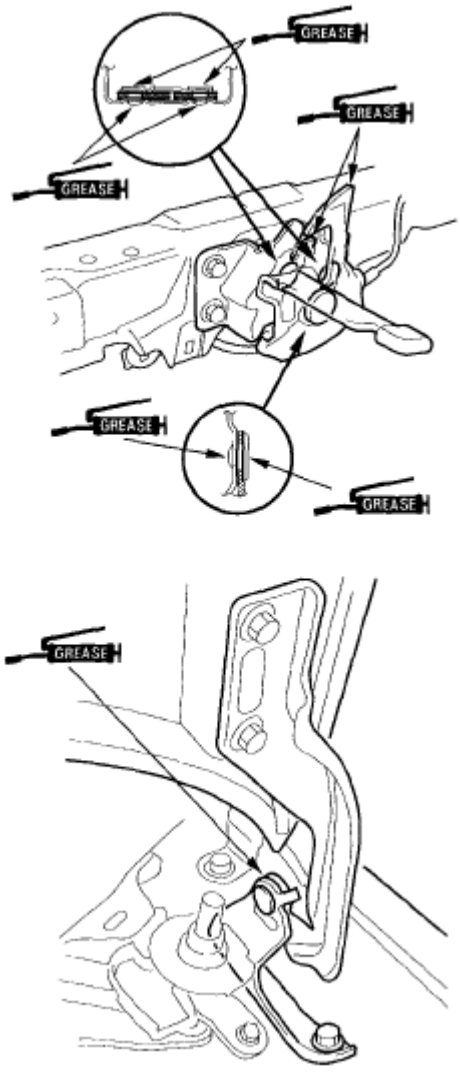



**Fig. 2: Identifying Grease Apply Area To Hood Latch And Hood Hinges**

9. Reinstall all of the removed parts.

## HOOD SEAL REPLACEMENT

1. Using a clip remover, detach the clips, then remove the hood seals (A) and hood corner seals (B). Take care not to scratch the hood.

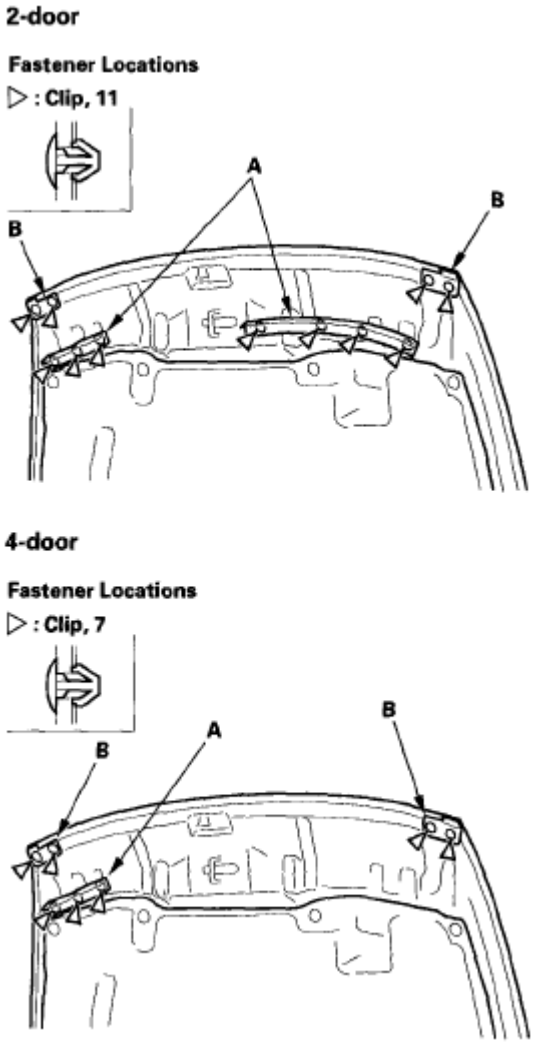



**Fig. 3: Identifying Hood Seals And Hood Corner Seals**

2. Install the seals in the reverse order of removal, and check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

## HOOD INSULATOR REPLACEMENT

**FOR SOME MODELS**

1. Using a clip remover, detach the clips. Release the hooks (A), then remove the hood insulator (B). Take care not to scratch the hood.

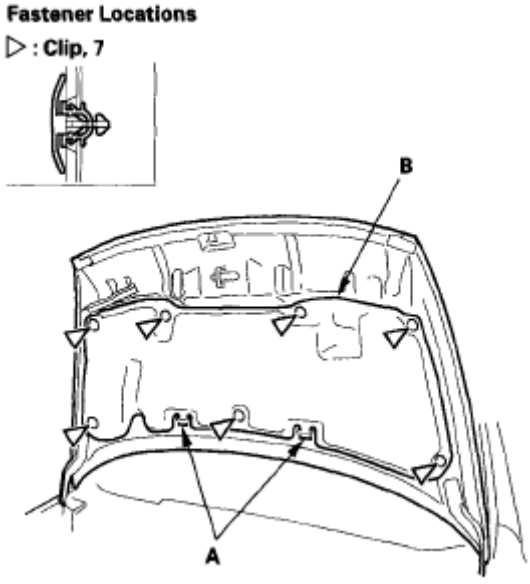



**Fig. 4: Identifying Hooks And Hood Insulator**

2. Install the insulator in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

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**2006-08 ACCESSORIES AND EQUIPMENT**

**Horn - Civic (Except Hybrid)**

## COMPONENT LOCATION INDEX

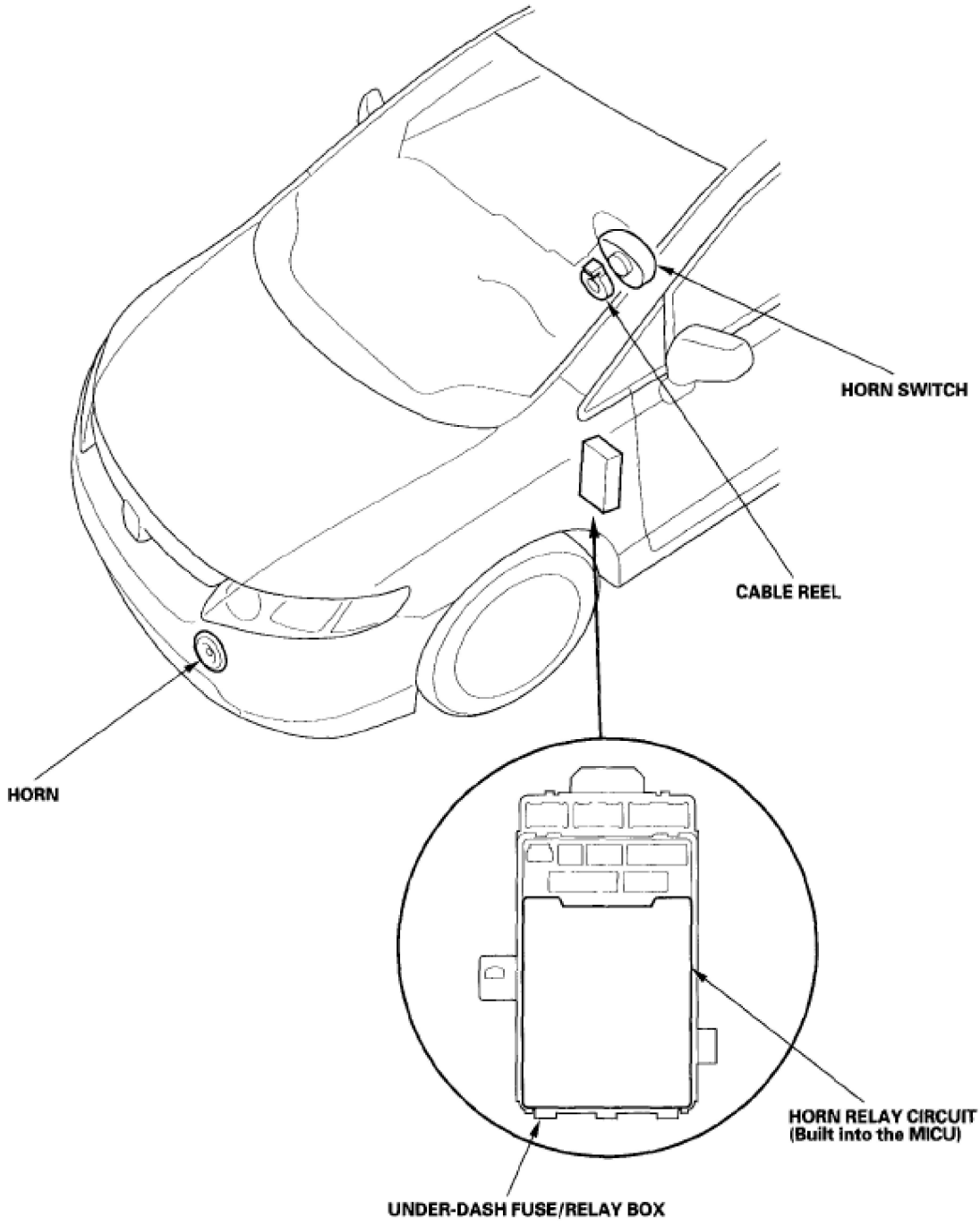
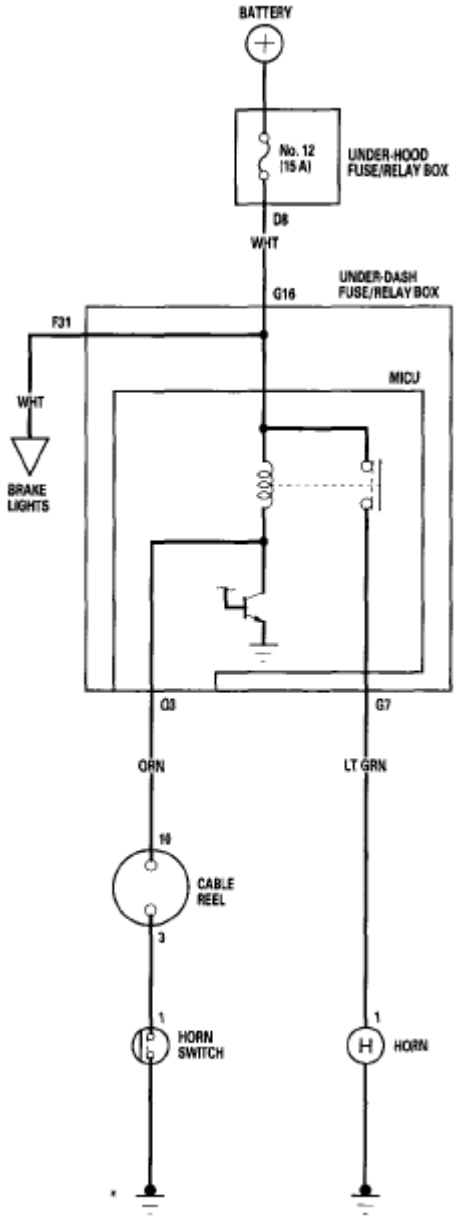



**Fig. 1: Identifying Horns Component Location**

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## CIRCUIT DIAGRAM




*. Ground through steering column.

**Fig. 2: Horns - Circuit Diagram**

## HORN TEST/REPLACEMENT

1. Remove the front bumper (see **FRONT BUMPER REMOVAL/INSTALLATION** ).

2. Disconnect the 1P connector (A) from the horn (B).

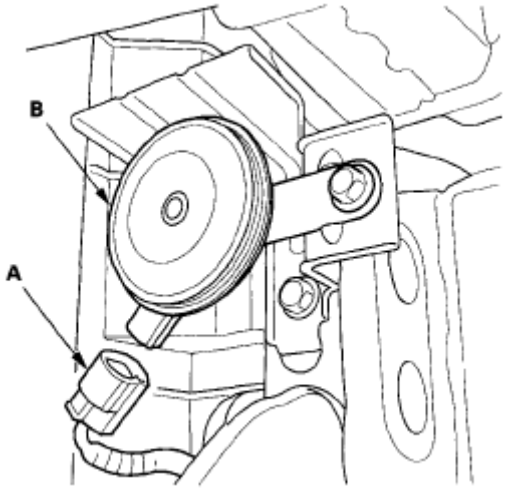



**Fig. 3: Identifying 1P Connector And Horn**

3. Test the horn by connecting battery power to the terminal (A) and grounding the bracket (B). The horn should sound.

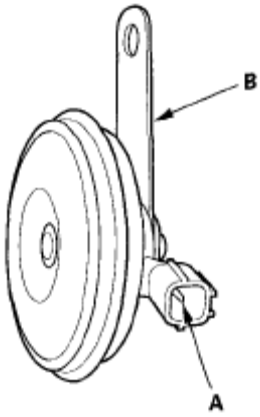



**Fig. 4: Identifying Terminal And Bracket**

4. If it fails to sound, replace it.

## HORN SWITCH TEST

1. Remove the steering column covers (see **STEERING COLUMN REMOVAL AND INSTALLATION** ).
2. Disconnect the cable reel 20P connector (A) from the dashboard wire harness.

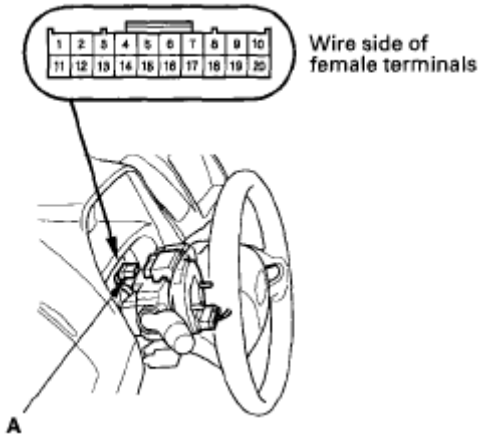



**Fig. 5: Identifying Cable Reel 20P Connector**

3. Using a jumper wire, connect the No. 10 terminal of the dashboard wire harness 20P connector to body ground. The horn should sound.
   - If the horn sounds, go to step 4.
   - If the horn does not sound, check these items:
     - No. 12 (15 A) fuse in the under-hood fuse/relay box.
     - MICU.
     - Horn.
     - An open in the wire.
4. Reconnect the cable reel 20P connector (A) to the dashboard wire harness.

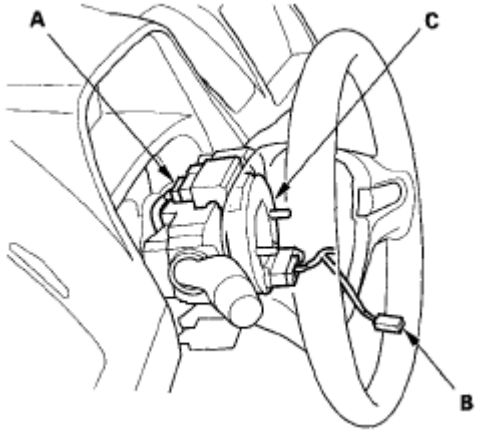



**Fig. 6: Identifying Cable Reel 20P Connector, Horn Switch 1P Positive Terminal And Cable Reel**

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5. Remove the driver's airbag assembly (see **DRIVER'S AIRBAG REPLACEMENT** ), and disconnect the horn switch 1P positive terminal (B) from the cable reel (C).
6. Using a jumper wire, connect the 1P connector to body ground.
   - If the horn sounds, replace the driver's airbag assembly.
   - If the horn does not sound, check these items:
     - Cable reel.
     - An open in the wire.

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**2006-08 HVAC**

**Heating/Air Conditioning - Civic (All Except Hybrid)**

## COMPONENT LOCATION INDEX

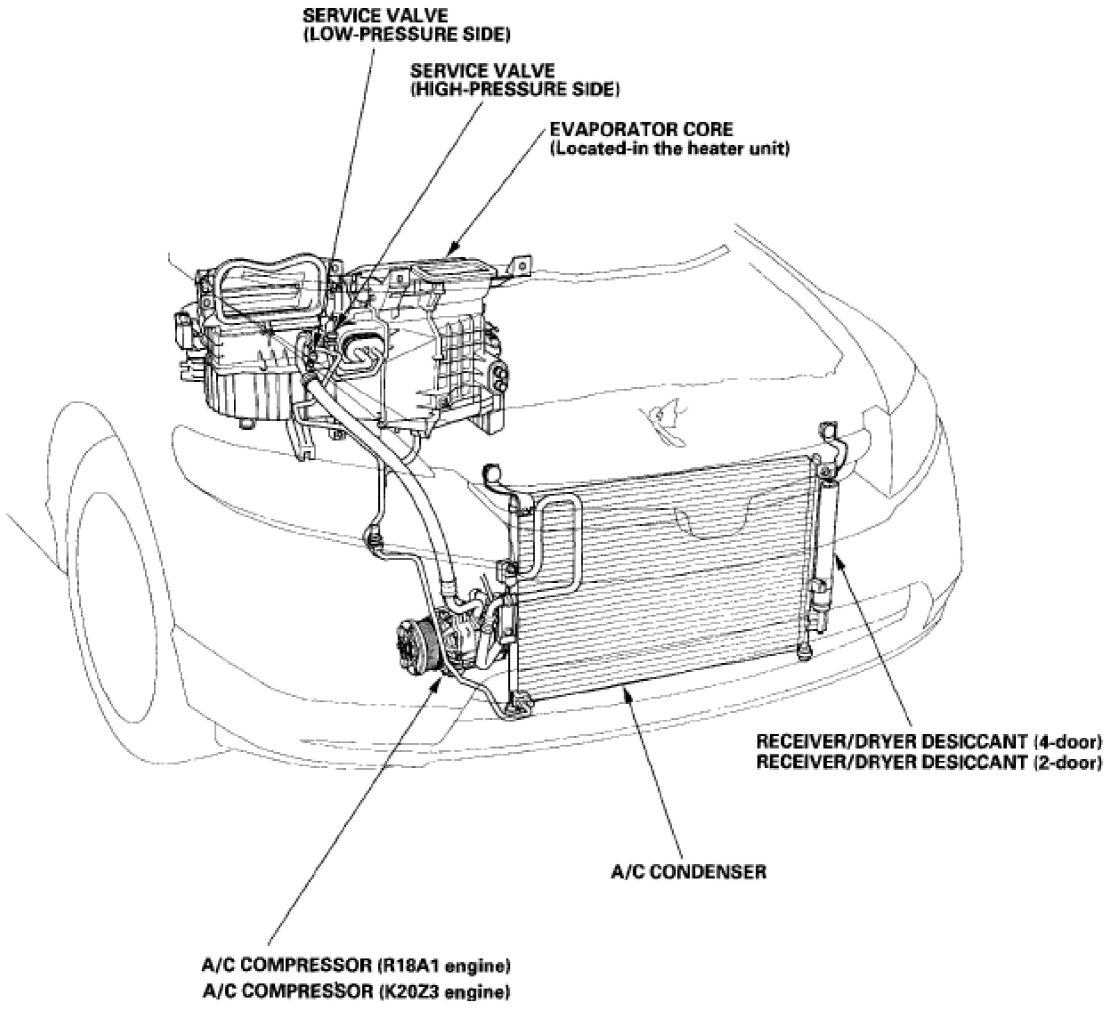



**Fig. 1: Identifying Heating/Air Conditioning System Component Location (1 Of 3)**

**2008 Honda Civic EX**

2006-08 HVAC Heating/Air Conditioning - Civic (All Except Hybrid)

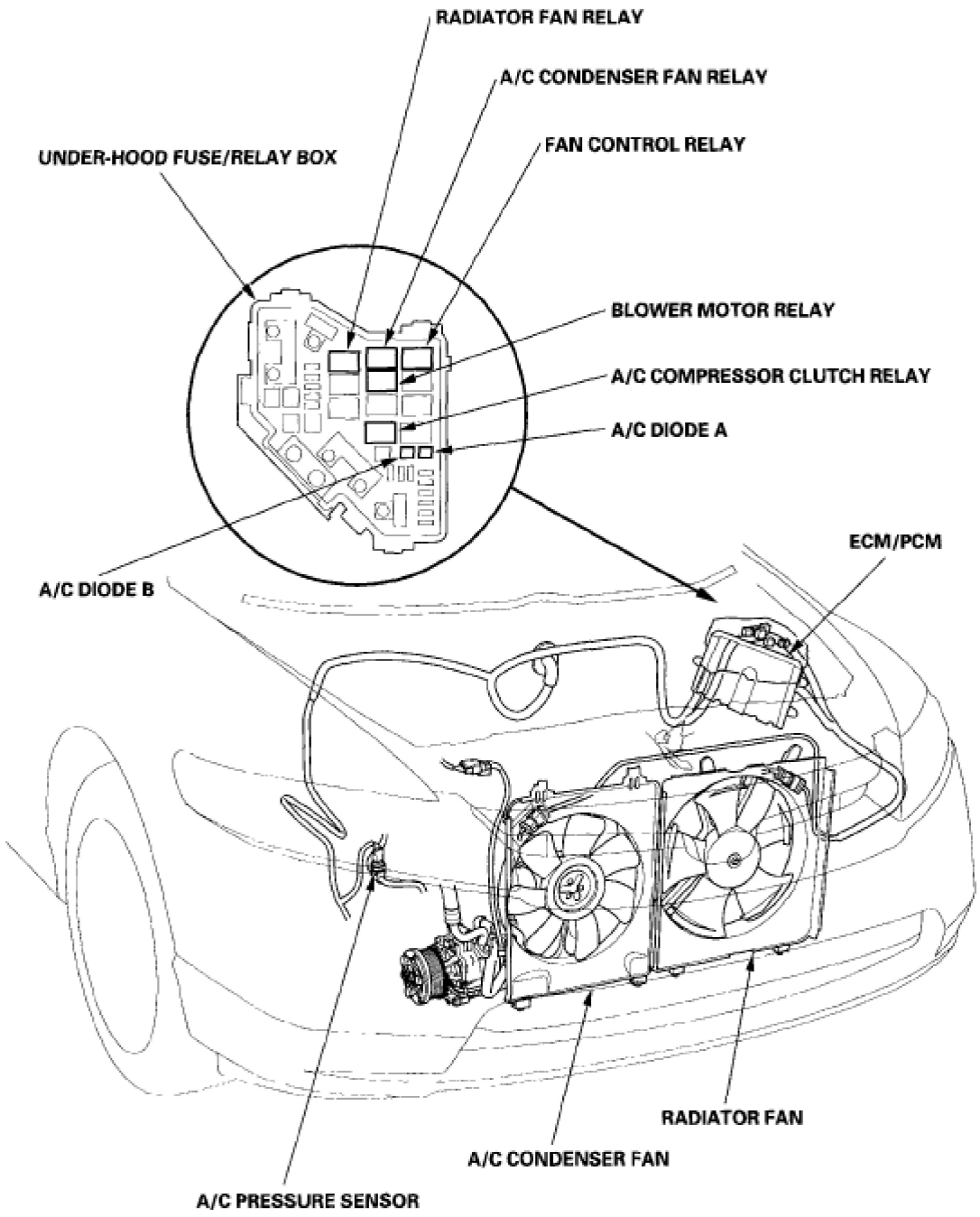
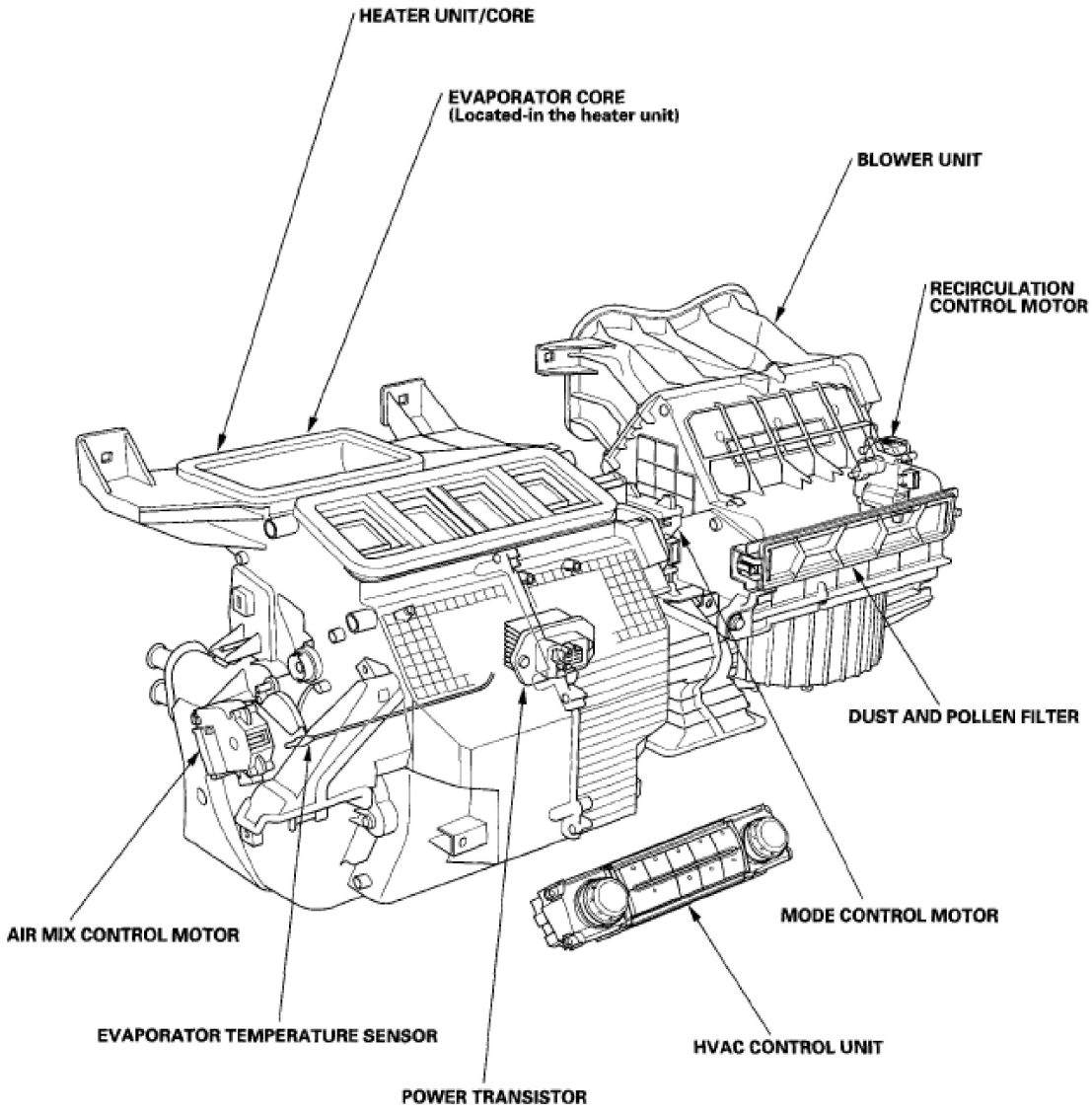



**Fig. 2: Identifying Heating/Air Conditioning System Component Location (2 Of 3)**




## Fig. 3: Identifying Heating/Air Conditioning System Component Location (3 Of 3)

### A/C SERVICE TIPS AND PRECAUTIONS

**WARNING:**

- **Compressed air mixed with the R-134a forms a combustible vapor.**
- **The vapor can burn or explode causing serious injury.**
- **Never use compressed air to pressure test R-134a service equipment or vehicle air**

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**conditioning systems.**

**CAUTION:**

- **Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.**
- **Be careful when connecting service equipment.**
- **Do not breathe refrigerant or vapor.**

The air conditioning system uses HFC-134a (R-134a) refrigerant and polyalkyleneglycol (PAG) refrigerant oil, which are not compatible with CFC-12 (R-12) refrigerant and mineral oil. Do not use R-12 refrigerant or mineral oil in this system, and do not attempt to use R-12 servicing equipment; damage to the air conditioning system or your servicing equipment will result. Use only service equipment that is U.L.-listed and is certified to meet the requirements of SAE J2210 to remove R-134a from the air conditioning system.

If accidental system discharge occurs, ventilate work area before resuming service.

R-134a service equipment or vehicle air conditioning systems should not be pressure tested or leak tested with compressed air.

Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

- Always disconnect the negative cable from the battery whenever replacing air conditioning parts.
- Keep moisture and dirt out of the system. When disconnecting any lines, plug or cap the fittings immediately; don't remove the caps or plugs until just before you reconnect each line.
- Before connecting any hose or line, apply a few drops of refrigerant oil to the O-ring.
- When tightening or loosening a fitting, use a second wrench to support the matching fitting.
- When discharging the system, use an R-134a refrigerant recovery/recycling/charging station; don't release refrigerant into the atmosphere.

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**A/C REFRIGERANT OIL REPLACEMENT**

Recommended PAG oil: SP-10

- P/N 38897-P13-A01AH: 120 mL (4 fl-oz)
- P/N 38899-P13-A01: 40 mL (1 1/3 fl-oz)

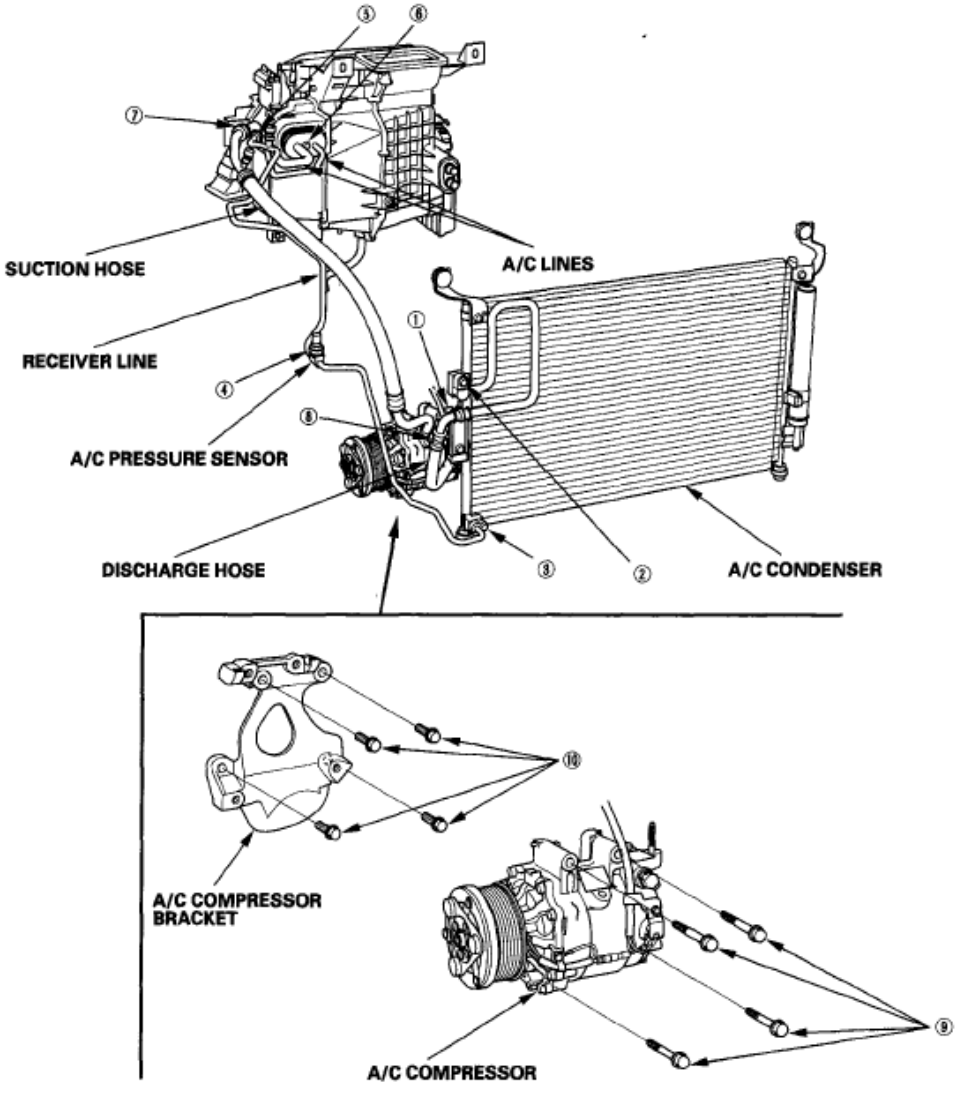
Add the recommended refrigerant oil in the amount listed if you replace any of the following parts.

- To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
- Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
- Do not spill the refrigerant oil on the vehicle; it may damage the paint; if it gets on the paint, wash it off immediately.

| | |
|---|---|
| A/C condenser | 50 mL (1 2/3 fl-oz) |
| Evaporator | 40 mL (1 1/3 fl-oz) |
| Line or hose | 10 mL (1/3 fl-oz) |
| Receiver/Dryer | 10 mL (1/3 fl-oz) |
| Leakage repair | 25 mL (5/6 fl-oz) |
| A/C compressor | Since the oil separator is equipped inside the compressor for this vehicle, oil drainage is unnecessary at the time of compressor replacement. |

A/C compressor.....Since the oil separator is equipped inside the compressor for this vehicle, oil drainage is unnecessary at the time of compressor replacement.

**A/C LINE REPLACEMENT**




① Discharge hose to the A/C compressor (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
② Discharge hose to the A/C condenser (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
③ Receiver line to the A/C condenser (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
④ A/C pressure sensor to receiver line (11 x 1.0 mm): 11.3 N·m (1.2 kgf·m, 8.3 lbf·ft)
⑤ Receiver line to the A/C line (16 x 1.5 mm): 13.3 N·m (1.4 kgf·m, 9.8 lbf·ft)
⑥ A/C lines to the evaporator (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑦ A/C line to the suction hose (24 x 1.5 mm): 31.9 N·m (3.2 kgf·m, 23.5 lbf·ft)
⑧ Suction hose to the A/C compressor (6 x 1.0 mm): 9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
⑨ A/C compressor to the A/C compressor bracket (8 x 1.25 mm): 22 N·m (2.2 kgf·m, 16 lbf·ft)
⑩ A/C compressor bracket to the engine block (8 x 1.25 mm): 24 N·m (2.4 kgf·m, 17.7 lbf·ft)

## Fig. 4: Replacing A/C Line (With Specifications)

### GENERAL TROUBLESHOOTING INFORMATION

#### How to Use the Self-diagnostic Function

The HVAC control unit has a self-diagnostic function for heating, ventilation, and air conditioning system. To run the self-diagnostic function, do the following:

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1. Turn the ignition switch to LOCK (0).
2. Press and hold the recirculation control and rear window defogger buttons, turn the ignition switch ON (II).
3. Recirculation indicator turns on for 2 seconds, then self-diagnostic function begins.

**NOTE:**

- **The blower motor will run at any speed regardless of the dial positioning.**
- **In the case of multiple problems, the recirculation indicator will blink the lowest number DTC only.**
- **If no DTCs are found, the indicator will not blink.**

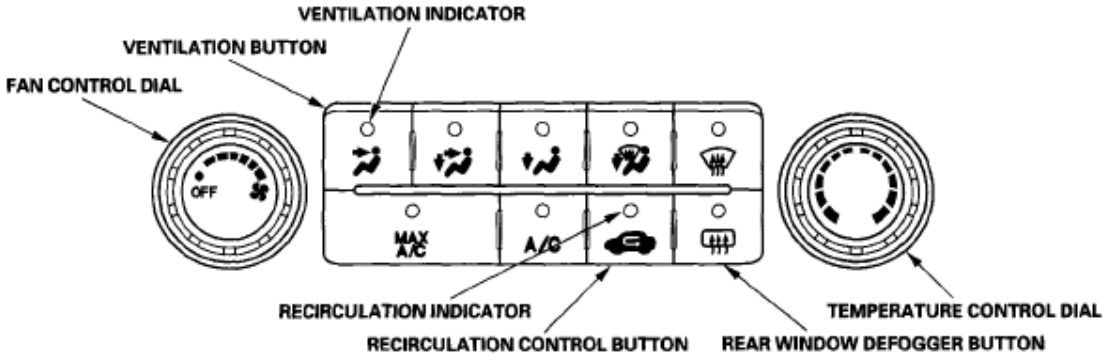



**Fig. 5: Using Self-Diagnostic Function**

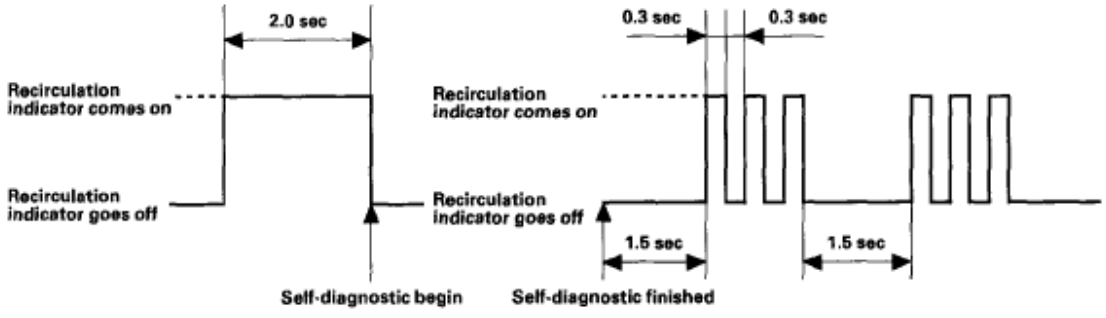



**Fig. 6: Example Of DTC Indication Pattern (DTC3)**

## DETECTION ITEM REFERENCE

| DTC (Recirculation Indicator Blinks) | Detection Item |
|---|---|

| | |
|---|---|
| 1 | An open in the air mix control motor circuit (see **DTC INDICATOR 1: AN OPEN IN THE AIR MIX CONTROL MOTOR CIRCUIT** ) |
| 2 | A short in the air mix control motor circuit (see **DTC INDICATOR 2: A SHORT IN THE AIR MIX CONTROL MOTOR CIRCUIT** ) |
| 3 | A problem in the air mix control linkage, door, or motor (see **DTC INDICATOR 3: A PROBLEM IN THE AIR MIX CONTROL LINKAGE, DOOR, OR MOTOR** ) |
| 4 | An open or short in the mode control motor circuit (see **DTC INDICATOR 4: AN OPEN OR SHORT IN THE MODE CONTROL MOTOR CIRCUIT** ) |
| 5 | A problem in the mode control linkage, doors, or motor (see **DTC INDICATOR 5: A PROBLEM IN THE MODE CONTROL LINKAGE, DOORS, OR MOTOR** ) |
| 6 | A problem in the blower motor circuit (see **DTC INDICATOR 6: A PROBLEM IN THE BLOWER MOTOR CIRCUIT** ) |
| 7 | HVAC control unit internal error (see **DTC INDICATOR 7: HVAC CONTROL UNIT INTERNAL ERROR** ) |
| 8 | An open in the evaporator temperature sensor circuit (see **DTC INDICATOR 8: AN OPEN IN THE EVAPORATOR TEMPERATURE SENSOR CIRCUIT** ) |
| 9 | A short in the evaporator temperature sensor circuit (see **DTC INDICATOR 9: A SHORT IN THE EVAPORATOR TEMPERATURE SENSOR CIRCUIT** ) |

**CLEAR THE DTCS**

When the problem is repaired, DTCs will automatically clear.

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**MAX COOL POSITION FUNCTION**

When the mode control button is in the MAX A/C position, the HVAC control unit will automatically select the recirculation mode and turn the A/C on. If the recirculation switch is pressed when in MAX A/C, MAX A/C turns off. If A/C is pressed when in MAX A/C, the A/C turns off.

## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Recirculation control doors do not change between Fresh and Recirculate | Recirculation control motor circuit troubleshooting (see **RECIRCULATION CONTROL MOTOR CIRCUIT TROUBLESHOOTING** ) | • HVAC DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** )<br>• Blown fuse No. 36 (10 A) in the under-dash fuse/relay box<br>• Cleanliness and tightness of all terminals |
| Blower, heater controls, and A/C do not work | HVAC control power and ground circuit troubleshooting (see **HVAC CONTROL POWER AND GROUND CIRCUIT TROUBLESHOOTING** ) | • HVAC DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** )<br>• Blown fuse No. 36 (10 A) in the under-dash fuse/relay box<br>• Poor ground at G504 (see **CONNECTOR TO HARNESS INDEX** )<br>• Cleanliness and tightness of all terminals |
| | | • HVAC DTCs (see **GENERAL** |

| | | |
|---|---|---|
| Both fans do not run at low speed with the A/C on (but the A/C compressor runs with the A/C on) | Radiator and A/C condenser fan low speed circuit troubleshooting (see **RADIATOR AND A/C CONDENSER FAN LOW SPEED CIRCUIT TROUBLESHOOTING** ) | **TROUBLESHOOTING INFORMATION** )<br>• Blown fuse No. 7 (20 A: M/T) or (30 A: A/T) in the under-hood fuse/relay box, and No. 36 (10 A) in the under-dash fuse/relay box<br>• Poor ground at G301 (see **CONNECTOR TO HARNESS INDEX** )<br>• Cleanliness and tightness of all terminals |
| The A/C condenser fan does not run at high speed (but both fans run at low speed and the A/C compressor operates with the A/C on) | A/C condenser fan high speed circuit troubleshooting (see **A/C CONDENSER FAN HIGH SPEED CIRCUIT TROUBLESHOOTING** ) | • HVAC DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** )<br>• Blown fuse No. 6 (20 A) and No. 15 (7.5 A) in the under-hood fuse/relay box<br>• Poor ground at G301 (see **CONNECTOR TO HARNESS INDEX** )<br>• Cleanliness and tightness of all terminals |
| | A/C pressure sensor troubleshooting (R18A1 engine): A/C pressure sensor circuit low voltage (see **DTC P0532: A/C PRESSURE SENSOR CIRCUIT LOW VOLTAGE** ), A/C pressure sensor circuit high voltage (see **DTC P0533: A/C PRESSURE SENSOR** | |

| | | |
|---|---|---|
| Both fans do not run at high speed with the A/C on (but both fans run at low speed and the A/C compressor operates with the A/C on) | **CIRCUIT HIGH VOLTAGE** )<br>A/C pressure sensor troubleshooting (K20Z3 engine): A/C pressure sensor circuit low voltage (see **DTC P0532: A/C PRESSURE SENSOR CIRCUIT LOW VOLTAGE** ), A/C pressure sensor circuit high voltage (see **DTC P0533: A/C PRESSURE SENSOR CIRCUIT HIGH VOLTAGE** )<br>ECT troubleshooting (R18A1 engine): ECT sensor 2 circuit low voltage (see **DTC P2184: ECT SENSOR 2 CIRCUIT LOW VOLTAGE** ), ECT sensor 2 circuit high voltage (see **DTC P2185: ECT SENSOR 2 CIRCUIT HIGH VOLTAGE** )<br>ECT troubleshooting (K20Z3 engine): ECT sensor circuit low voltage (see **DTC P2184: ECT SENSOR 2 CIRCUIT LOW VOLTAGE** ), ECT sensor circuit high voltage (see **DTC P2185: ECT SENSOR 2 CIRCUIT HIGH VOLTAGE** ) | • Powertrain DTCs, R18A1 engine (see **GENERAL TROUBLESHOOTING INFORMATION** ), K20Z3 engine (see **GENERAL TROUBLESHOOTING INFORMATION** )<br>• Cleanliness and tightness of all terminals |
| The A/C | | • HVAC DTCs (see **GENERAL TROUBLESHOOTING** |

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| | | |
|---|---|---|
| compressor clutch does not engage (but both fans run with the A/C on) | A/C compressor clutch circuit troubleshooting (see **A/C COMPRESSOR CLUTCH CIRCUIT TROUBLESHOOTING** ) | **INFORMATION** )<br>• Blown fuse No. 12 (7.5 A) in the under-hood fuse/relay box, and No. 36 (10 A) in the under-dash fuse/relay box<br>• Cleanliness and tightness of all terminals |
| A/C system does not come on (both fans and the A/C compressor do not work); heater is OK | A/C signal circuit troubleshooting (see **A/C SIGNAL CIRCUIT TROUBLESHOOTING** )<br>A/C pressure sensor troubleshooting (R18A1 engine): A/C pressure sensor circuit low voltage (see **DTC P0532: A/C PRESSURE SENSOR CIRCUIT LOW VOLTAGE** ), A/C pressure sensor circuit high voltage (see **DTC P0533: A/C PRESSURE SENSOR CIRCUIT HIGH VOLTAGE** )<br>A/C pressure sensor troubleshooting (K20Z3 engine): A/C pressure sensor circuit low voltage (see **DTC P0532: A/C PRESSURE SENSOR CIRCUIT LOW VOLTAGE** ), A/C pressure sensor circuit high voltage (see **DTC P0533: A/C PRESSURE SENSOR CIRCUIT HIGH** | • HVAC DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** )<br>• Powertrain DTCs, R18A1 engine (see **GENERAL TROUBLESHOOTING INFORMATION** ), K20Z3 engine (see **GENERAL TROUBLESHOOTING INFORMATION** )<br>• Cleanliness and tightness of all terminals |

| | | |
|---|---|---|
| | VOLTAGE ) | |

## SYSTEM DESCRIPTION

The air conditioning system removes heat from the passenger compartment by circulating refrigerant through the system.

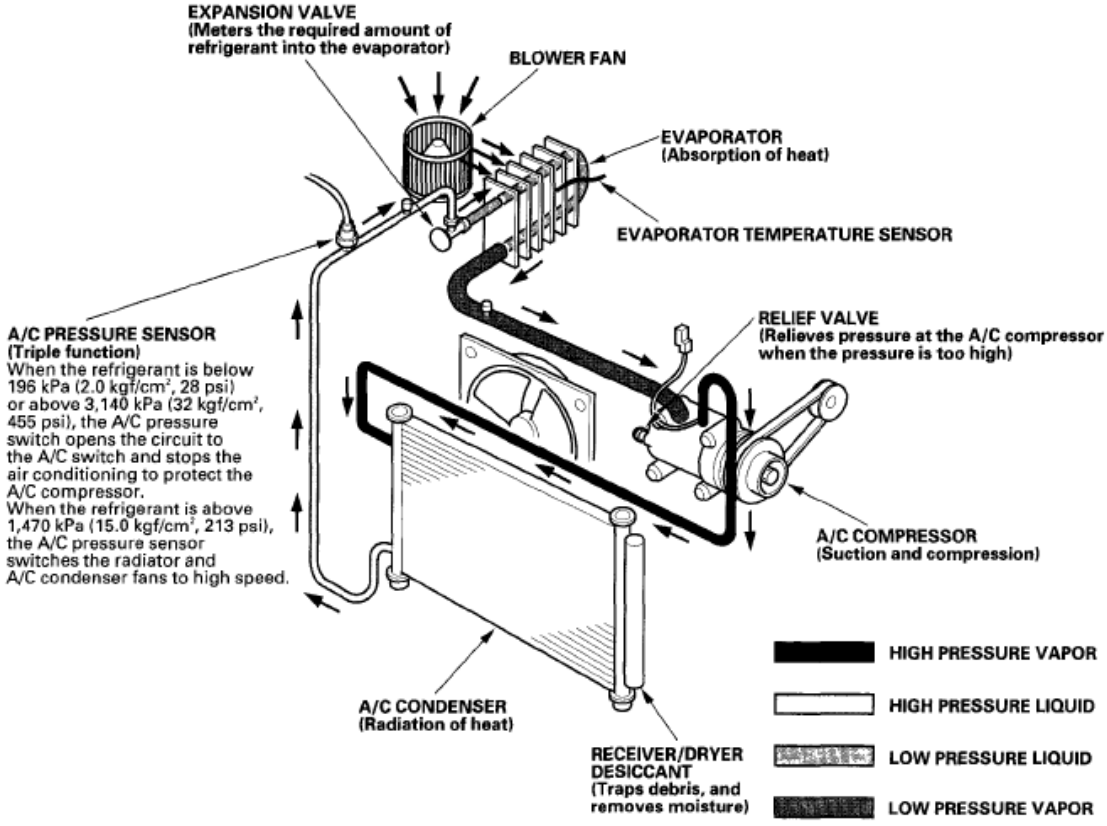



**Fig. 7: Heating/Air Conditioning System Description**

This vehicle uses HFC-134a (R-134a) refrigerant, which does not contain chlorofluorocarbons. Pay attention to the following service items:

- Do not mix refrigerants CFC-12 (R-12) and HFC-134a (R-134a). They are not compatible.
- Use only the recommended polyalkyleneglycol (PAG) refrigerant oil (SP-10) designed for the R-134a A/C compressor. Intermixing the recommended (PAG) refrigerant oil with any other refrigerant oil will result in A/C compressor failure.

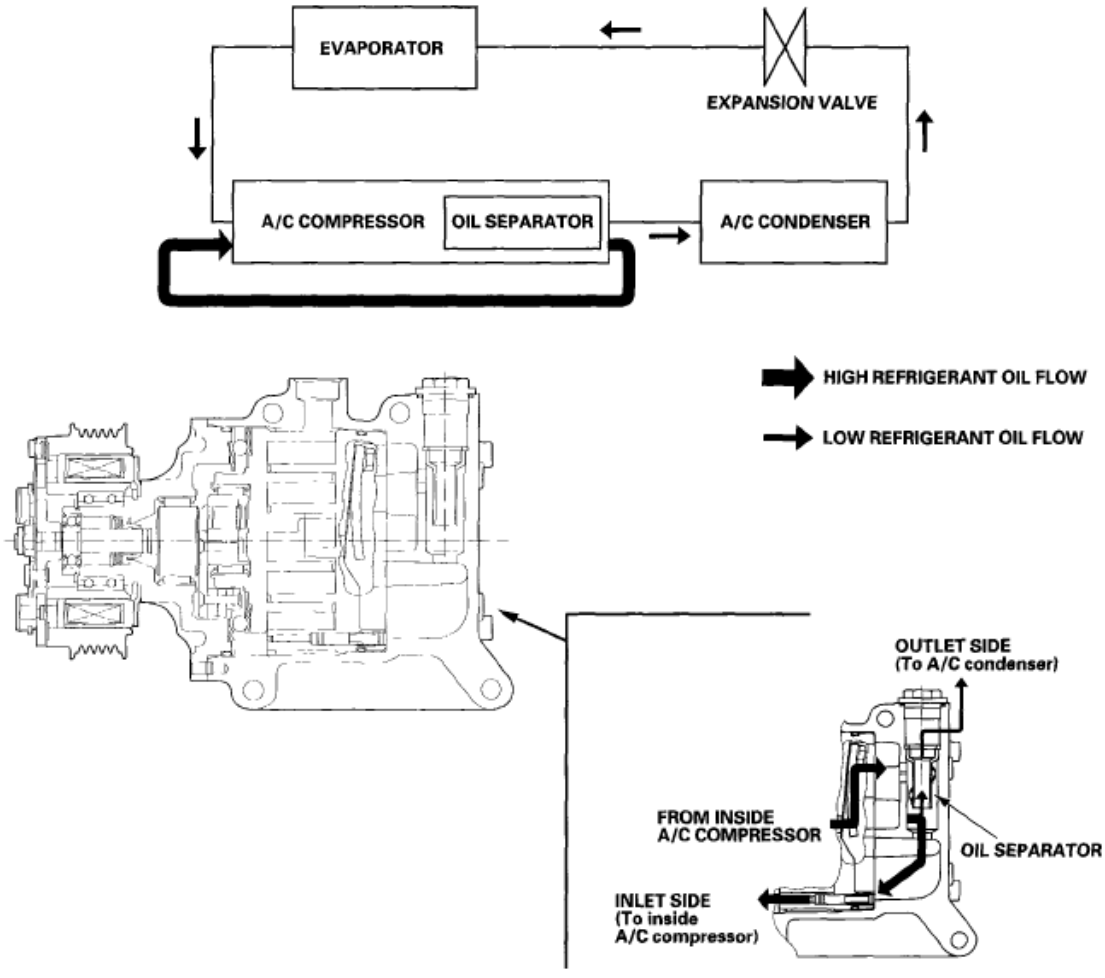
- All A/C system parts (A/C compressor, discharge line, suction line, evaporator, A/C condenser, receiver/dryer, expansion valve, O-rings for joints) are designed for refrigerant R-134a. Do not exchange with R-12 parts.
- Use a halogen gas leak detector designed for refrigerant R-134a.
- R-12 and R-134a refrigerant servicing equipment are not interchangeable. Use only a recovery/recycling/charging station that is U.L.-listed and is certified to meet the requirements of SAE J2210 to service the R-134a air conditioning systems.
- Always recover refrigerant R-134a with an approved recovery/recycling/charging station before disconnecting any A/C fitting.

**OIL SEPARATOR**

Oil emission from the A/C compressor to the A/C line is reduced by placing the oil separator in the A/C compressor. This results in a thinner oil film inside of the heat exchanger (A/C condenser and evaporator). Air conditioning efficiency is increased without sacrificing engine performance.

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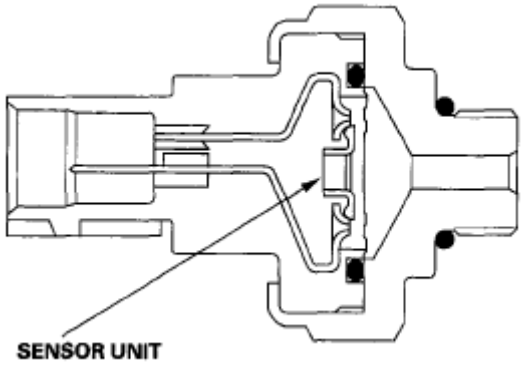





## Fig. 8: Oil Separator System Description

**A/C PRESSURE SENSOR**

The A/C pressure sensor converts A/C pressure into electrical signals to the ECM/PCM.

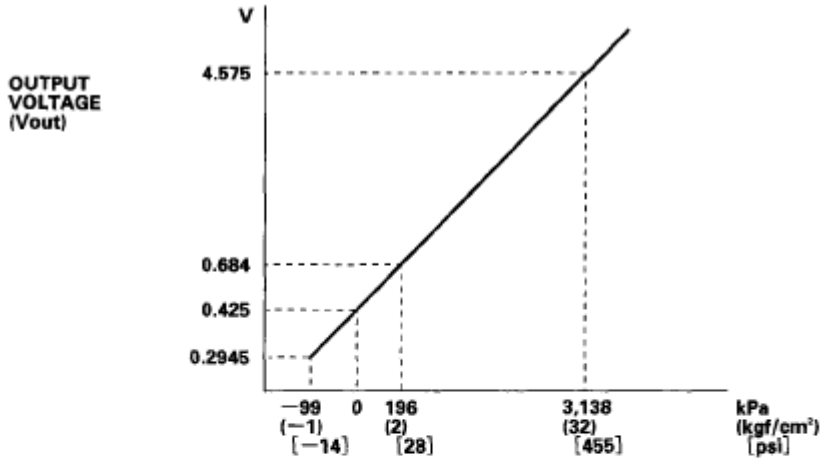


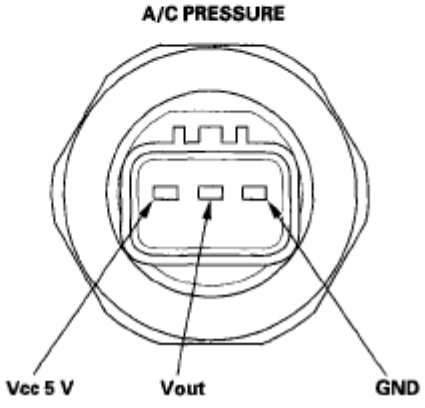
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## Fig. 9: A/C Pressure Sensor System Description (1 Of 2)

The response of the A/C pressure sensor is shown in **Fig. 10** .




## Fig. 10: A/C Pressure Sensor System Description (2 Of 2)

## Heating/Air Conditioning Door Positions

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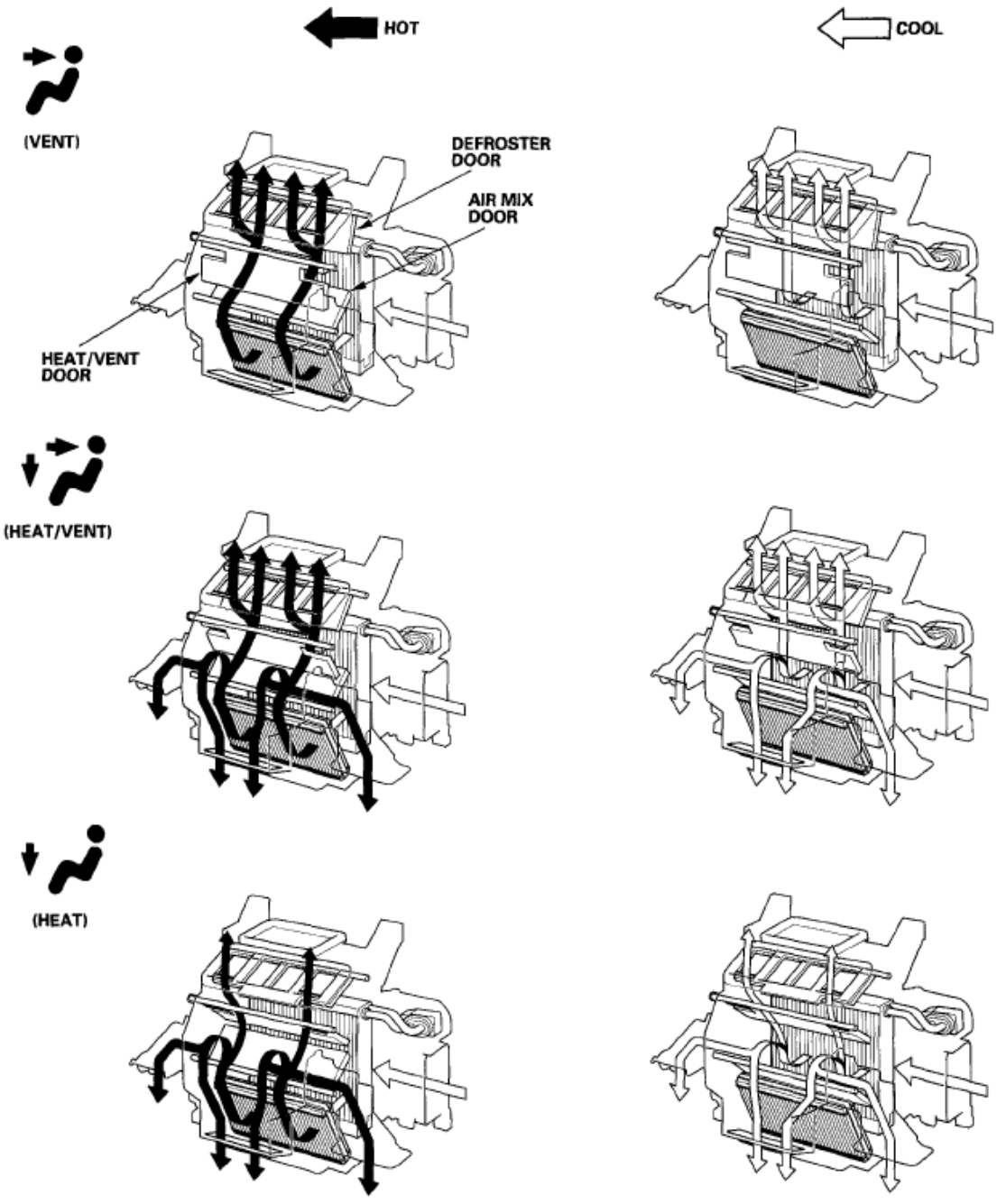
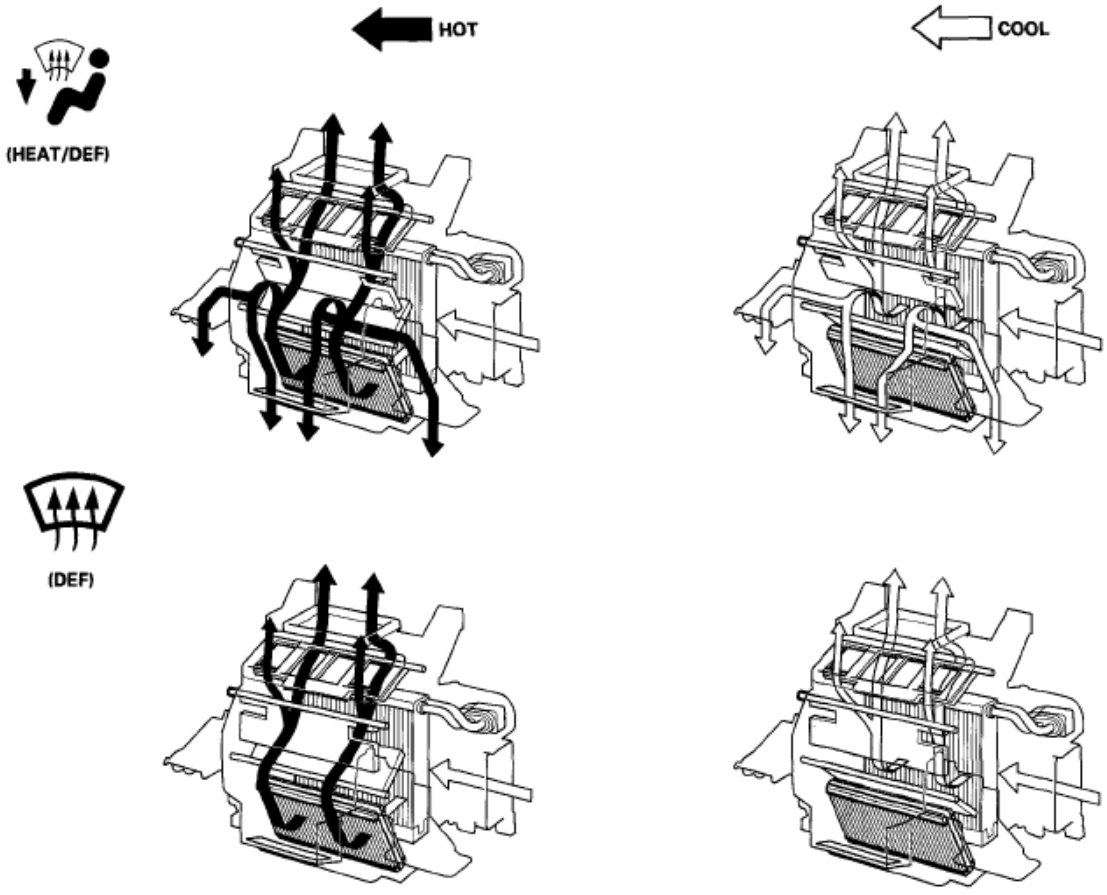



**Fig. 11: Identifying Heating/Air Conditioning Door Positions (1 Of 2)**

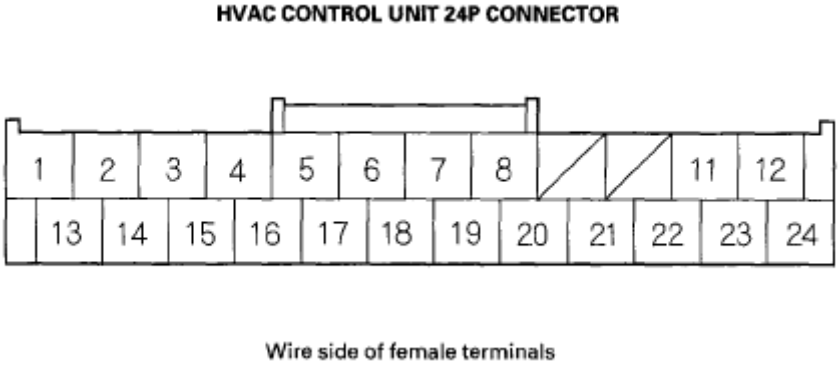
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## Fig. 12: Identifying Heating/Air Conditioning Door Positions (2 Of 2)

### HVAC CONTROL UNIT INPUTS AND OUTPUTS




## Fig. 13: Identifying HVAC Control Unit 24P Inputs And Outputs

## HVAC CONTROL UNIT INPUTS AND OUTPUTS

| Cavity | Wire color | Signal | |
|---|---|---|---|
| | | | |

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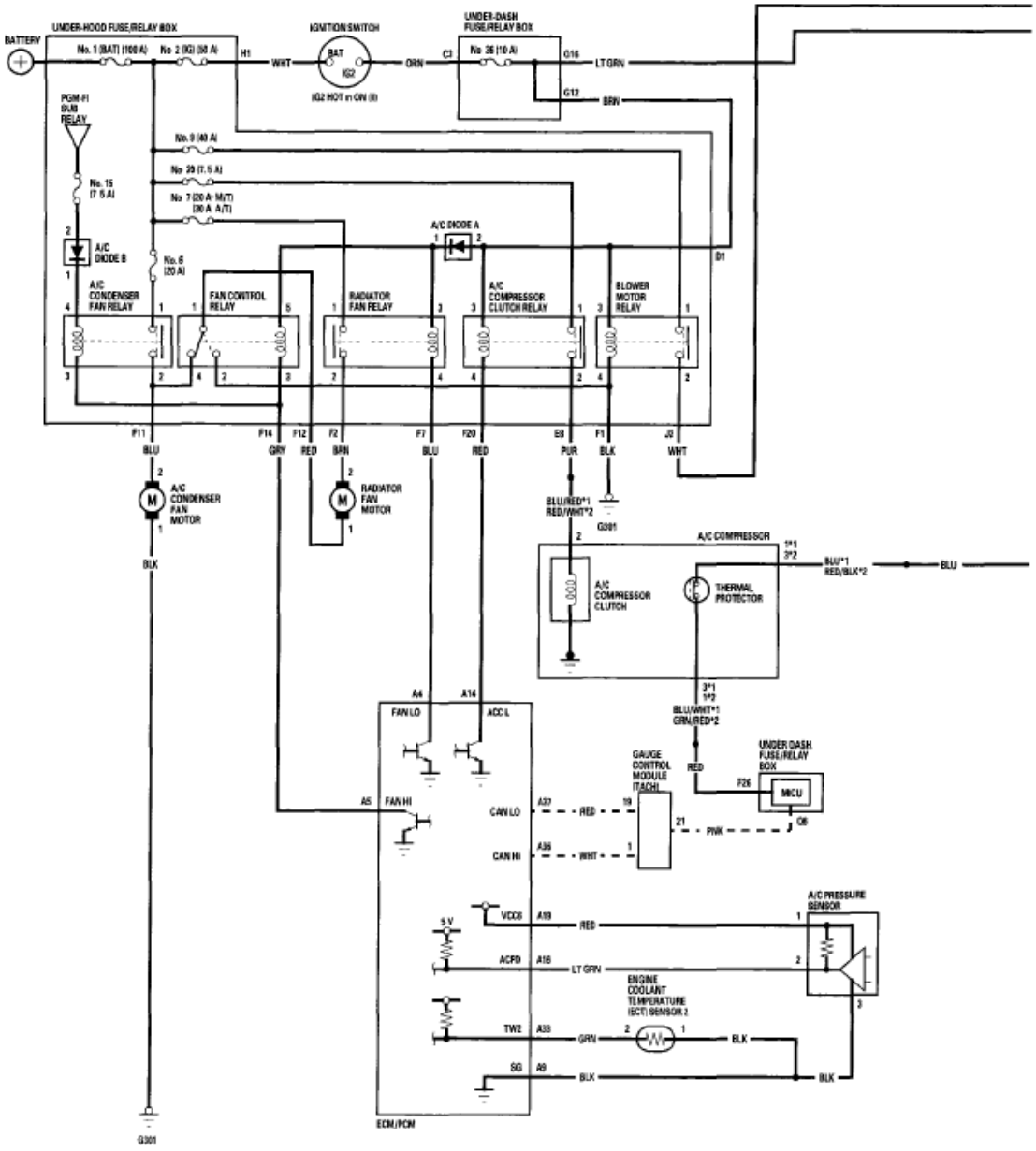


| | | | |
|---|---|---|---|
| 1 | BLK | AIR MIX POTENTIAL +5V | OUTPUT |
| 2 | BRN | EVAPORATOR TEMPERATURE SENOR | OUTPUT |
| 3 | ORN | MODE 1 | OUTPUT |
| 4 | LT GRN | MODE 2 | OUTPUT |
| 5 | PUR | MODE 3 | OUTPUT |
| 6 | BLU | MODE 4 | OUTPUT |
| 7 | BLU | BLOWER FEEDBACK | INPUT |
| 8 | YEL | POWER TRANSISTOR CONTROL | OUTPUT |
| 9 | - | - | - |
| 10 | - | - | - |
| 11 | BRN | A/C SIGNAL | OUTPUT |
| 12 | RED | ILLUMI (-) | OUTPUT |
| 13 | RED | SENSOR COMMON GROUND | INPUT |
| 14 | WHT | MODE VENT | OUTPUT |
| 15 | GRN | MODE DEF | OUTPUT |
| 16 | ORN | RECIRCULATE | INPUT |
| 17 | PUR | FRESH | INPUT |
| 18 | GRY | AIR MIX POTENTIAL | OUTPUT |
| 19 | LT BLU | AIR MIX COOL | OUTPUT |
| 20 | PNK | AIR MIX HOT | OUTPUT |
| 21 | BLK | GROUND (G504) | OUTPUT |
| 22 | BRN | REAR WINDOW DEFOGGER RELAY | INPUT |
| 23 | LT GRN | IG2 (Power) | INPUT |
| 24 | GRY | ILLUMI (+) | INPUT |

## CIRCUIT DIAGRAM

# 2008 Honda Civic EX

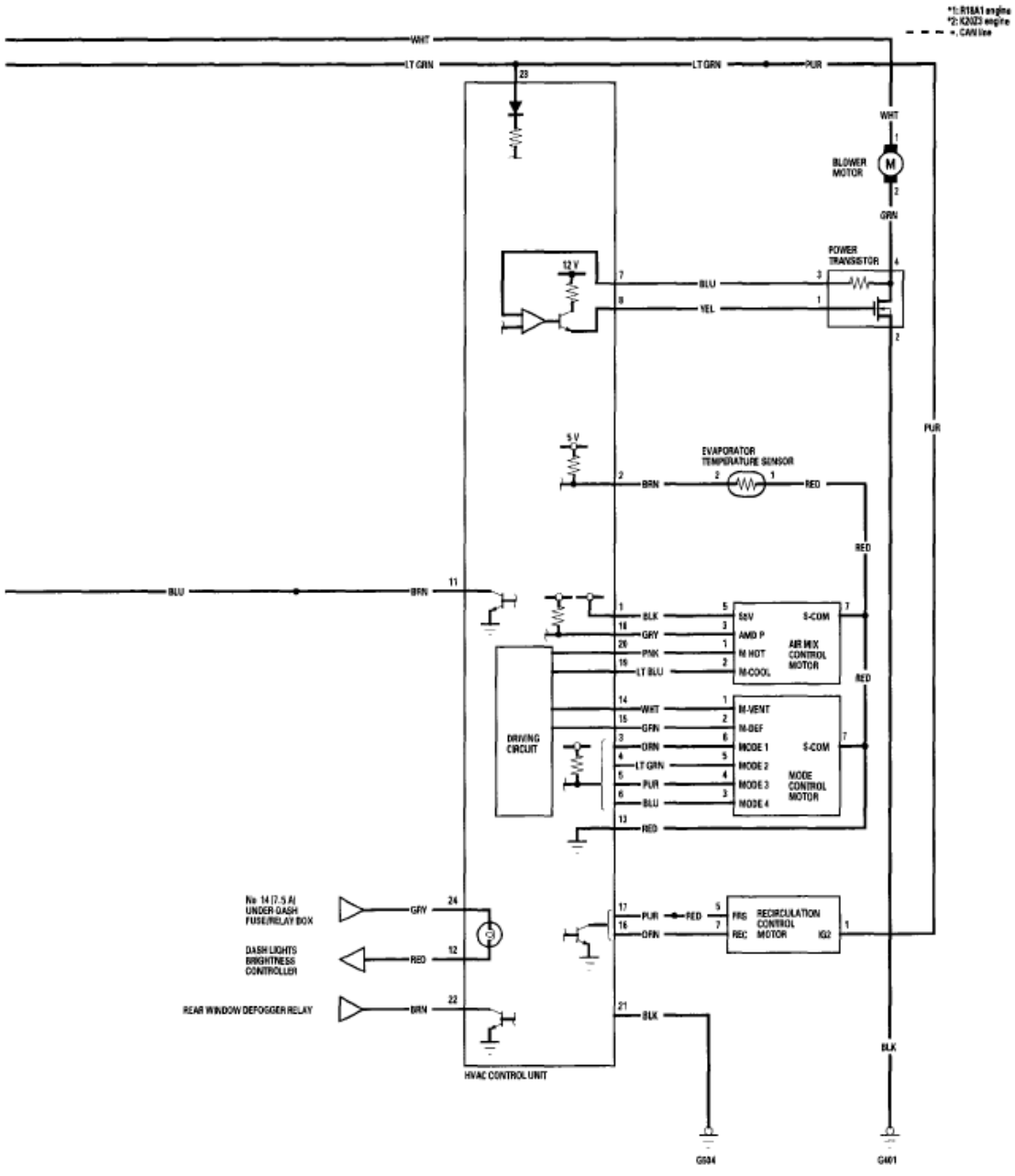
2006-08 HVAC Heating/Air Conditioning - Civic (All Except Hybrid)




## Fig. 14: Heating/Air Conditioning - Circuit Diagram (1 Of 2)

# 2008 Honda Civic EX

2006-08 HVAC Heating/Air Conditioning - Civic (All Except Hybrid)




## Fig. 15: Heating/Air Conditioning - Circuit Diagram (2 Of 2)

## DTC TROUBLESHOOTING

### DTC INDICATOR 1: AN OPEN IN THE AIR MIX CONTROL MOTOR CIRCUIT

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the HVAC control unit (see **HOW TO USE THE**

**SELF-DIAGNOSTIC FUNCTION** ).

4. Check for DTCs.

   *Is DTC 1 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, check for loose wires or poor connections on the air mix control motor circuit.

5. Turn the ignition switch to LOCK (0).
6. Test the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

   *Is the air mix control motor OK?*

   **YES** - Go to step 7.

   **NO** - Replace the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

7. Disconnect the air mix control motor 7P connector.
8. Disconnect the HVAC control unit 24P connector.
9. Check for continuity between the following terminals of the HVAC controlpanel 24P connector and the air mix control motor 7P connector.

**CONTINUITY CHECK INDEX**

| 24P | 7P |
|---|---|
| 1 | 5 |
| 13 | 7 |
| 18 | 3 |

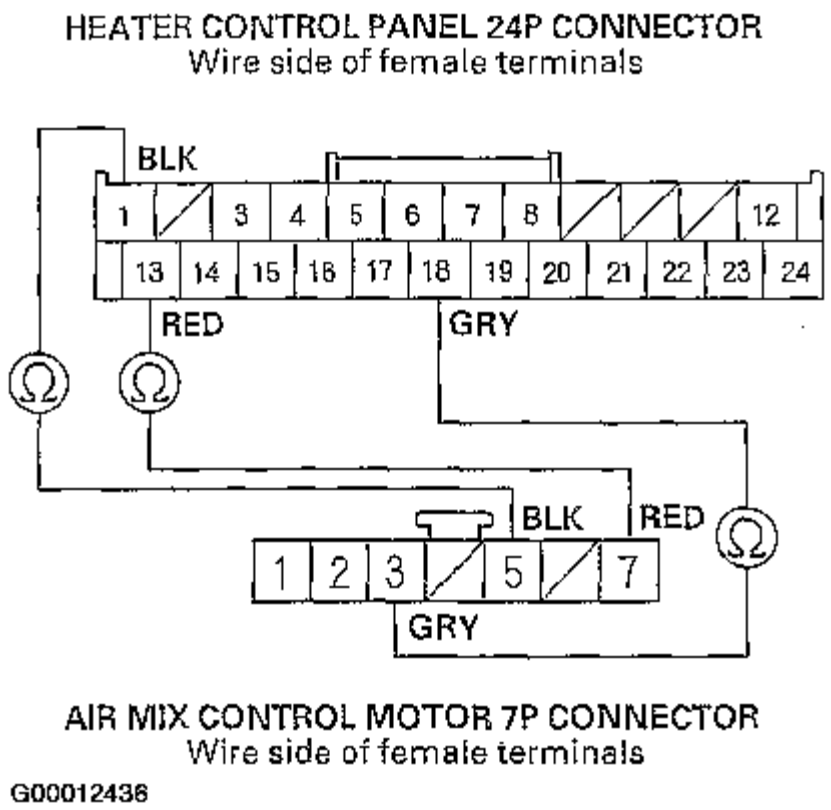



**Fig. 16: Check Continuity Between HVAC Control Panel Connector & Air Mix Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Check for loose wires or poor connections at the HVAC control panel 24P connector and at the air mix control motor 7P connector. If the connections are good, substitute a known-good HVAC control panel and recheck. If the symptom/indication goes away, replace the original HVAC control panel.

**NO** -Repair any open in the wires between the HVAC control panel and the air mix control motor.

**DTC INDICATOR 2: A SHORT IN THE AIR MIX CONTROL MOTOR CIRCUIT**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).

3. Do the self-diagnostic with the HVAC control unit (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 2 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure.

5. Turn the ignition switch to LOCK (0).
6. Test the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

   *Is the air mix control motor OK?*

   **YES** - Go to step 7.

   **NO** - Replace the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

7. Disconnect the air mix control motor 7P connector.
8. Disconnect the HVAC control unit 24P connector.
9. Check for continuity between body ground and the HVAC control panel 24P connector terminals No. 1, 13 and 18 individually.

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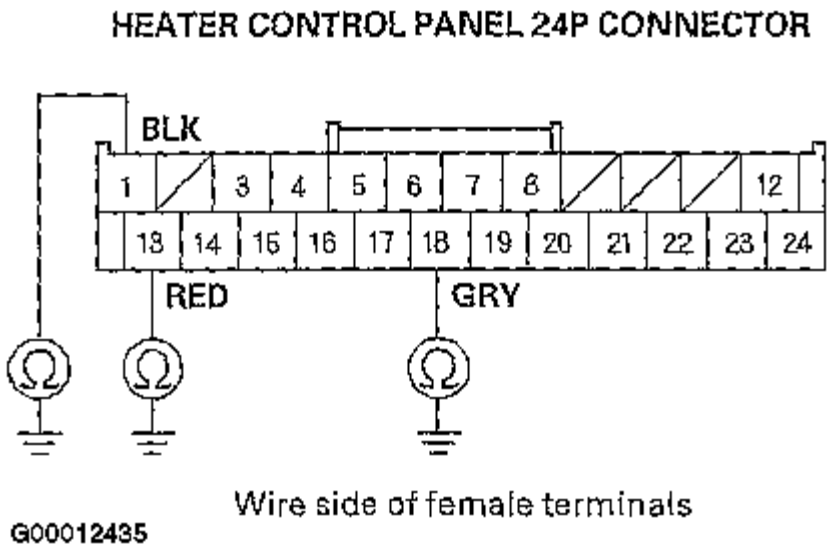



**Fig. 17: Checking Continuity Between Ground & HVAC Control Panel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair any short to body ground in the wires between the HVAC control panel and the air mix control motor.

**NO** -Go to step 10.

10. Check for continuity between the HVAC control panel 24P connector terminals as follows.

**TERMINALS REFERENCE**

| From terminal | To terminals |
|---|---|
| 1 | 13,18 |
| 13 | 18 |

*Is there continuity between any of the terminals?*

**YES** -Repair the short in the wires.

**NO** -Go to step 11.

11. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground. See **Fig. 17**.

    *Is there battery voltage?*

    **YES** - Repair any short to power in the wires between the HVAC control unit and the air mix control motor. This short may also damage the HVAC control unit. Repair the short to power before replacing the HVAC control unit.

    **NO** - Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit.

**DTC INDICATOR 3: A PROBLEM IN THE AIR MIX CONTROL LINKAGE, DOOR, OR MOTOR**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the HVAC control unit (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

    *Is DTC 3 indicated?*

    **YES** - Go to step 5.

    **NO** - Intermittent failure.

5. Turn the ignition switch to LOCK (0).
6. Test the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ).

    *Is the air mix control motor OK?*

    **YES** - Go to step 7.

    **NO** - Replace the air mix control motor (see **AIR MIX CONTROL MOTOR TEST** ), or repair the air mix control linkage or door.

7. Check for continuity between the following terminals of the HVAC control

panel 24P connector and the air mix control motor 7P connector.

## CONTINUITY CHECK INDEX

| 24P | 7P |
|---|---|
| 19 | 2 |
| 20 | 1 |

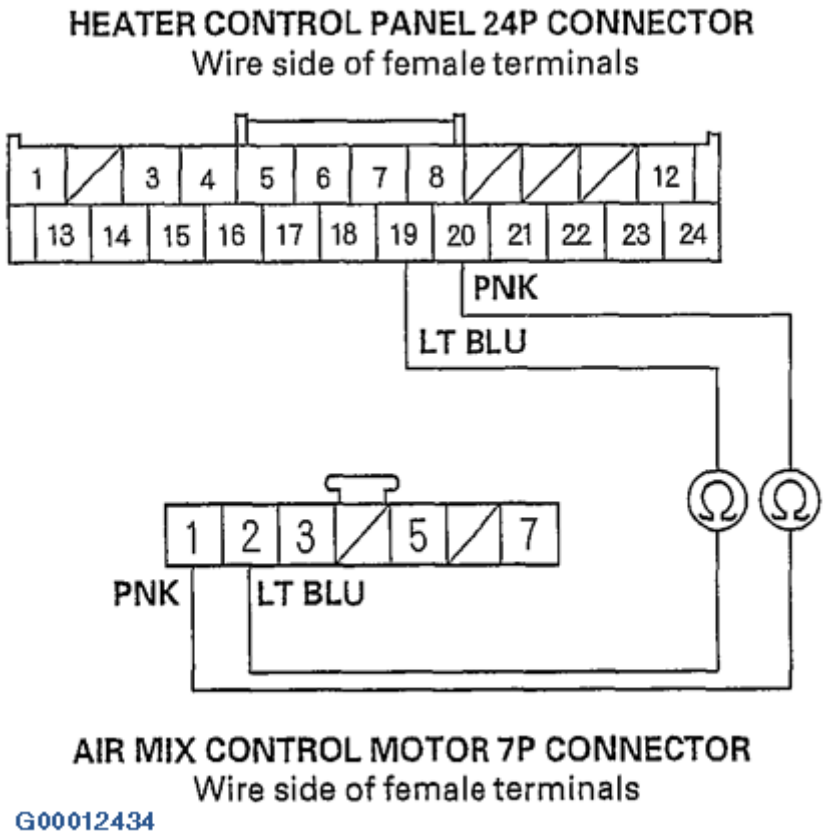



**Fig. 18: Checking Continuity Between HVAC Control Panel Connector & Air Mix Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 8.

**NO** -Repair any open in the wires between the HVAC control panel and the air mix control motor.

8. Check for continuity between body ground and the HVAC control panel 24P connector terminals No. 19 and 20 individually.

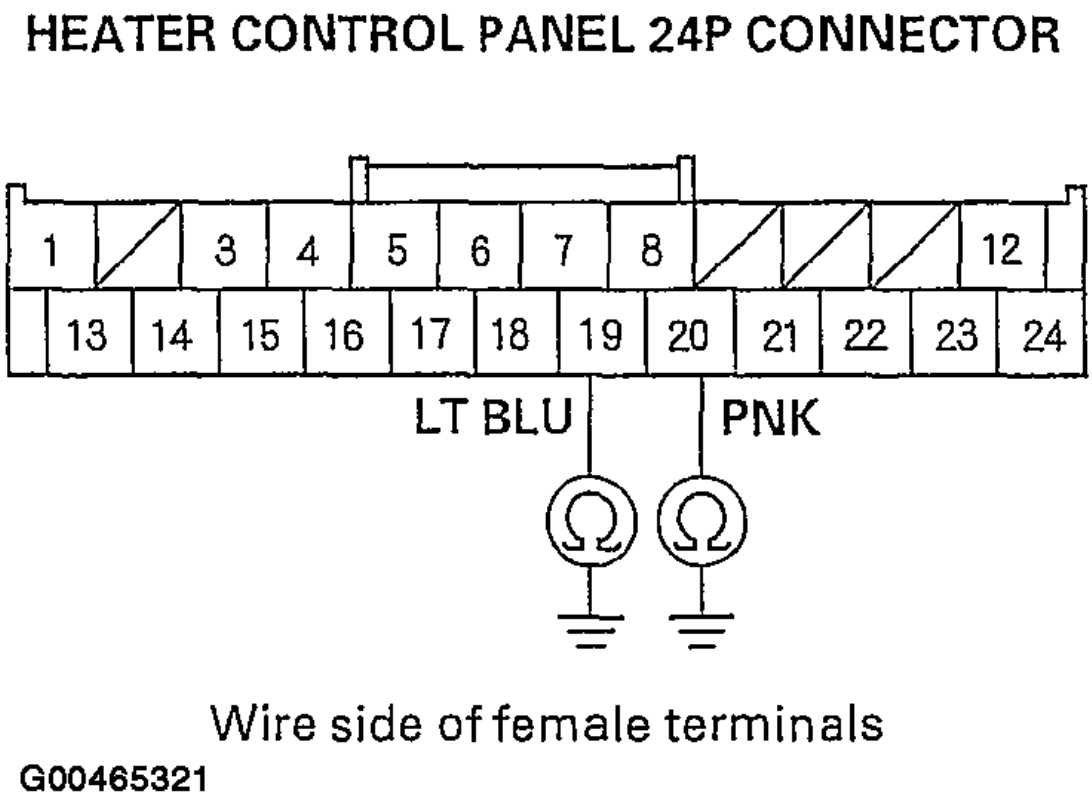



**Fig. 19: Checking Continuity Between Ground & HVAC Control Panel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wires between the HVAC control panel and the air mix control motor.

**NO** -Substitute a known-good HVAC control panel, and recheck. If the symptom/indication goes away, replace the original HVAC control panel.

**DTC INDICATOR 4: AN OPEN OR SHORT IN THE MODE CONTROL MOTOR CIRCUIT**

1. Clear the DTC (see **CLEAR THE DTCS** ).

2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the HVAC control unit (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 4 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, check for loose wires or poor connections on the mode control motor circuit.

5. Turn the ignition switch to LOCK (0).
6. Test the mode control motor (see **MODE CONTROL MOTOR TEST** ).

   *Is the mode control motor OK?*

   **YES** - Go to step 7.

   **NO** - Replace the mode control motor (see **AIR MIX CONTROL MOTOR REPLACEMENT** ).

7. Disconnect the mode control motor 7P connector.
8. Disconnect the HVAC control unit 24P connector.
9. Check for continuity between the following terminals of the heater control panel 24P connector and the mode control motor 7P connector.

**CONTINUITY CHECK INDEX**

| 24P | 7P |
|---|---|
| 3 | 6 |
| 4 | 5 |
| 5 | 4 |
| 6 | 3 |
| 13 | 7 |

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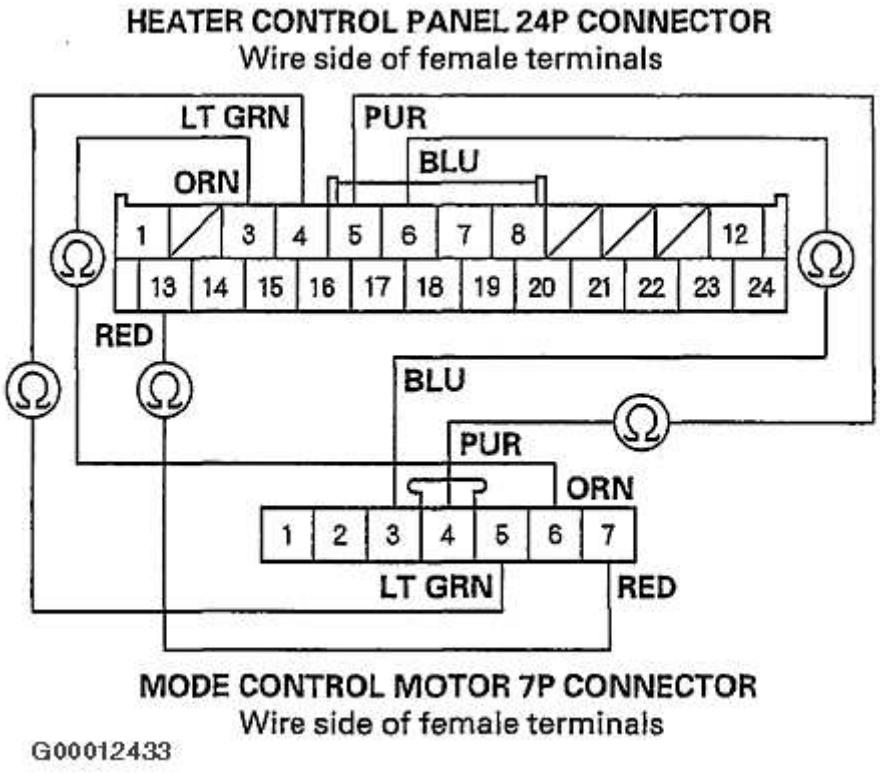



**Fig. 20: Checking Continuity Between HVAC Control Panel Connector & Mode Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 10.

**NO** -Repair any open in the wires between the HVAC control panel and the mode control motor.

10. Check for continuity between body ground and the heater control panel 24P connector terminals No. 3, 4, 5, 6, and 13 individually.

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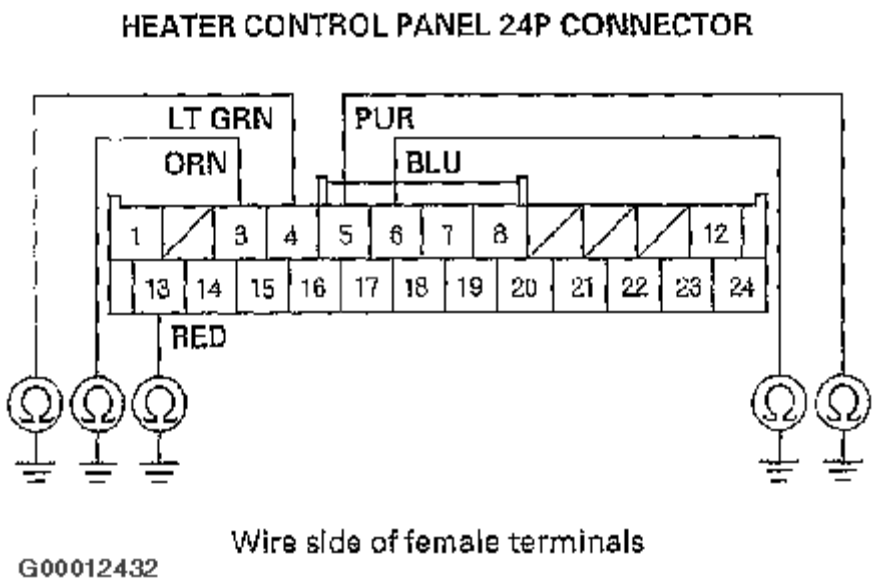



**Fig. 21: Checking Continuity Between Ground & HVAC Control Panel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair any short to body ground in the wires between the HVAC control panel and the mode control motor.

**NO** -Go to step 11.

11. Check for continuity between the HVAC control unit 24P connector terminals as follows.

**HVAC CONTROL UNIT 24P CONNECTOR TERMINALS**

| From terminal | To terminals |
|---|---|
| 3 | 4, 5, 6, 13, 14 |
| 4 | 5, 6, 13, 14 |
| 5 | 6, 13, 14 |
| 6 | 13, 14 |

*Is there continuity between any of the terminals?*

**YES** - Repair the short in the wires.

**NO** - Go to step 12.

12. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground. See **Fig. 21**.

    *Is there any voltage?*

    **YES** -Repair any short to power in the wires between the HVAC control panel and the mode control motor. This short may also damage the HVAC control panel. Repair the short to power before replacing the HVAC control panel.

    **NO** -Check for loose wires or poor connections at the HVAC control panel 24P connector and at the mode control motor 7P connector. If the connections are good, substitute a known-good HVAC control panel, and recheck. If the symptom/indication goes away, replace the original HVAC control panel.

**DTC INDICATOR 5: A PROBLEM IN THE MODE CONTROL LINKAGE, DOORS, OR MOTOR**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the HVAC control unit (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 5 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure.

5. Turn the ignition switch to LOCK (0).
6. Test the mode control motor (see **MODE CONTROL MOTOR TEST** ).

   *Is the mode control motor OK?*

   **YES** - Go to step 7.

**NO** - Replace the mode control motor (see **AIR MIX CONTROL MOTOR REPLACEMENT** ), or repair the mode control linkage or doors.

7. Check for continuity between the following terminals of the HVAC control panel 24P connector and the mode control motor 7P connector.

**CONTINUITY CHECK INDEX**

| 24P | 7P |
|---|---|
| 14 | 1 |
| 15 | 2 |

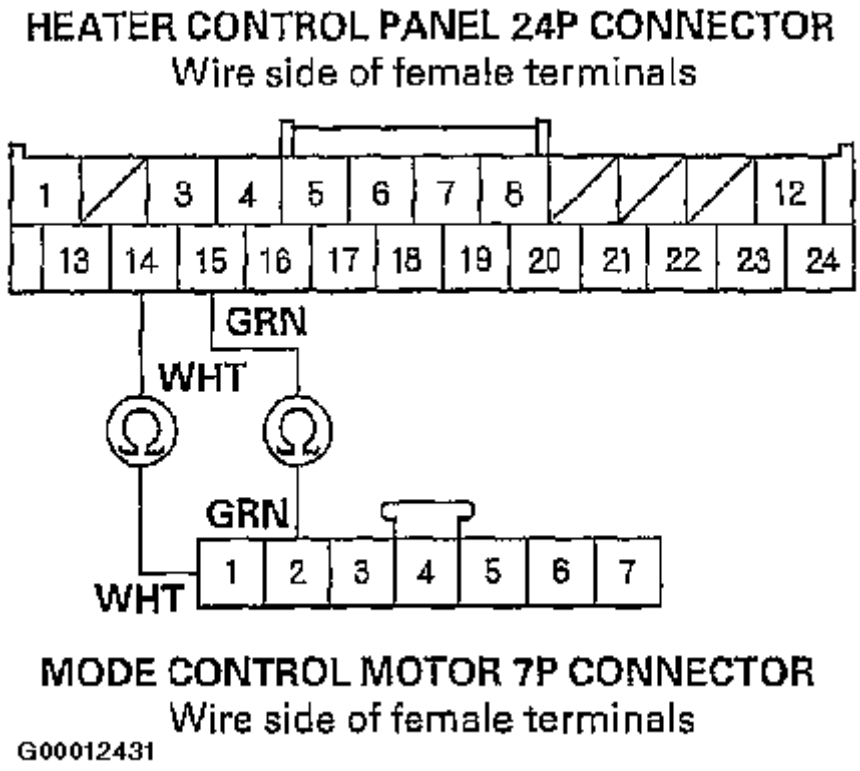



**Fig. 22: Checing Continuity Between HVAC Control Connector & Mode Control Motor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 8.

**NO** -Repair any open in the wires between the HVAC control panel and the mode control motor.

8. Check for continuity between body ground and the HVAC control panel 24P connector terminals No. 14 and 15 individually.

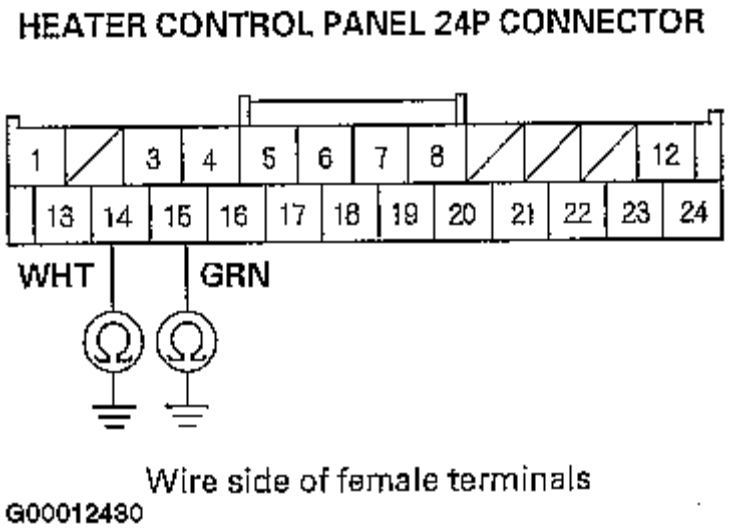



**Fig. 23: Checking Continuity Between Ground & HVAC Control Panel Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wires between the HVAC control panel and the mode control motor.

**NO** -Substitute a known-good HVAC control panel, and recheck. If the symptom/indication goes away, replace the original HVAC control panel.

**DTC INDICATOR 6: A PROBLEM IN THE BLOWER MOTOR CIRCUIT**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the HVAC control unit (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).

4. Check for DTCs.

   *Is DTC 6 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, check for loose wires or poor connections on the blower motor circuit.

5. Turn the ignition switch to LOCK (0).
6. Check the No. 9 (40 A) fuse in the under-hood fuse/relay box, and the No. 36 (10 A) fuse in the under-dash fuse/relay box.

   *Are the fuses OK?*

   **YES** - Go to step 7.

   **NO** - Replace the fuses, and recheck. If the fuses blow again, check for a short in the No. 9 (40 A) and No. 36 (10 A) fuses circuit.

7. Connect the blower motor 2P connector terminal No. 2 to body ground with a jumper wire.

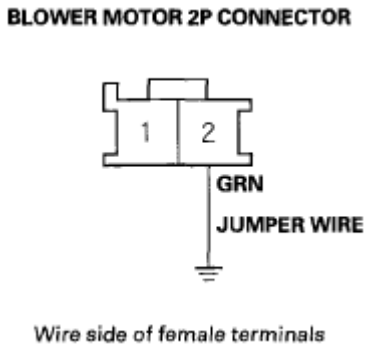



**Fig. 24: Connecting Blower Motor 2P Connector Terminal No. 2 To Body Ground With Jumper Wire**

8. Turn the ignition switch ON (II).

   *Does the blower motor run?*

**YES** - Go to step 9.

**NO** - Go to step 25.

9. Turn the ignition switch to LOCK (0).
10. Disconnect the jumper wire.
11. Disconnect the power transistor 4P connector.
12. Check for continuity between the power transistor 4P connector terminal No. 2 and body ground.

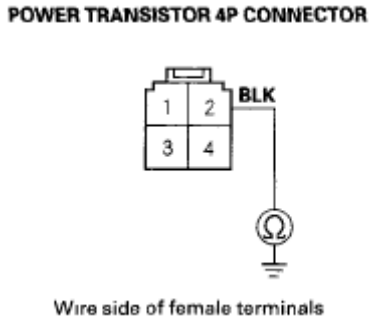



**Fig. 25: Checking Continuity Between Power Transistor 4P Connector Terminal No. 2 And Body Ground**

*Is there continuity?*

**YES** - Go to step 13.

**NO** - Check for an open in the wire between the power transistor and body ground. If the wire is OK, check for poor ground at G401 (see **CONNECTOR TO HARNESS INDEX** ).

13. Connect the power transistor 4P connector terminals No. 2 and No. 4 with a jumper wire.

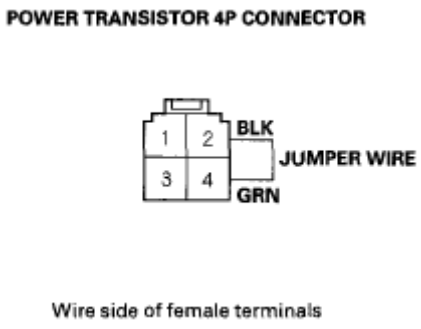



**Fig. 26: Connecting Power Transistor 4P Connector Terminals No. 2 And No. 4 With Jumper Wire**

14. Turn the ignition switch ON (II).

    *Does the blower motor run at high speed?*

    **YES** - Go to step 15.

    **NO** - Repair open in the GRN wire between the power transistor and the blower motor.

15. Turn the ignition switch to LOCK (0).
16. Disconnect the jumper wire.
17. Disconnect the HVAC control unit 24P connector.
18. Check for continuity between body ground and the HVAC control unit 24P connector terminals No. 7 and No. 8 individually.

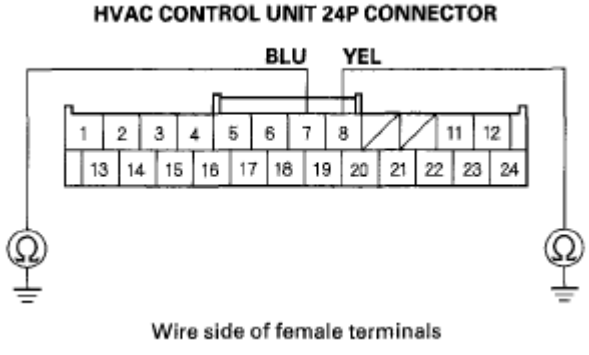



**Fig. 27: Checking Continuity Between Body Ground And HVAC Control Unit 24P Connector Terminals No. 7 And No. 8**

*Is there continuity?*

**YES** - Repair any short to body ground in the wires between the HVAC control unit and the power transistor.

**NO** - Go to step 19.

19. Check for continuity between the following terminals of the HVAC control unit 24P connector and the power transistor 4P connector.

**HVAC CONTROL UNIT 24P CONNECTOR AND POWER TRANSISTOR 4P CONNECTOR**

| 24P | 4P |
|---|---|
| No. 7 | No. 3 |
| No. 8 | No. 1 |

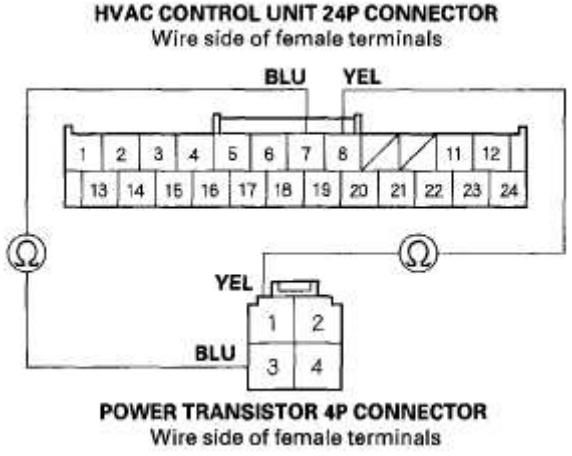



**Fig. 28: Checking Continuity Between HVAC Control Unit 24P And Power Transistor 4P Connector Terminals**

*Is there continuity?*

**YES** - Go to step 20.

**NO** - Repair any open in the wires between the HVAC control unit and the power transistor.

20. Turn the ignition switch ON (II).

21. Measure the voltage between body ground and the HVAC control unit 24P connector terminals No. 7 and No. 8 individually.

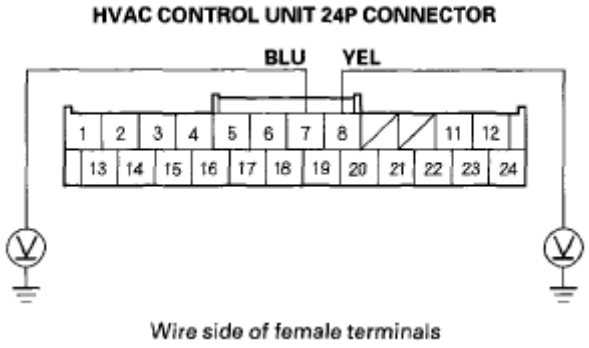



**Fig. 29: Measuring Voltage Between Body Ground And HVAC Control Unit 24P Terminals No. 7 And No. 8**

*Is there voltage?*

**YES** - Repair short to power in the wires.

**NO** - Go to step 22.

22. Turn the ignition switch to LOCK (0).
23. Reconnect the HVAC control unit 24P connector.
24. Test the power transistor (see **POWER TRANSISTOR TEST** ).

*Is the power transistor OK?*

**YES** - Check for loose wires or poor connections at the HVAC control unit 24P connector and at the power transistor 4P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit.

**NO** - Replace the power transistor (see **POWER TRANSISTOR TEST** ).

25. Turn the ignition switch to LOCK (0).
26. Disconnect the jumper wire.
27. Disconnect the blower motor 2P connector.

28. Turn ignition ON (II).
29. Measure the voltage between the blower motor 2P connector terminal No. 1 and body ground.

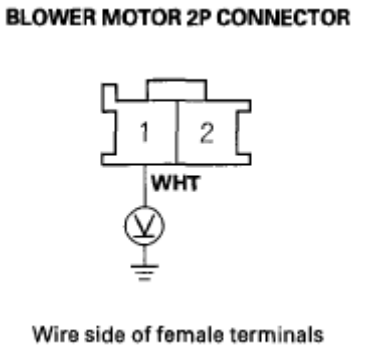



**Fig. 30: Measuring Voltage Between Blower Motor 2P Connector Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** - Replace the blower motor (see **BLOWER UNIT COMPONENT REPLACEMENT** ).

**NO** - Go to step 27.

30. Turn the ignition switch to LOCK (0).
31. Remove the blower motor relay from the under-hood fuse/relay box, and test it (see **POWER RELAY TEST** ).

*Is the relay OK?*

**YES** - Go to step 29.

**NO** - Replace the blower motor relay.

32. Measure the voltage between the blower motor relay 4P socket terminal No. 1 and body ground.

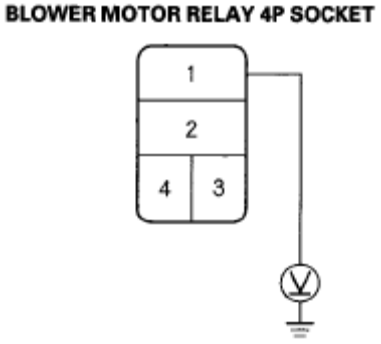



**Fig. 31: Measuring Voltage Between Blower Motor Relay 4P Socket Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 30.

**NO** - Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

33. Turn the ignition switch ON (II).
34. Measure the voltage between the blower motor relay 4P socket terminal No. 3 and body ground.

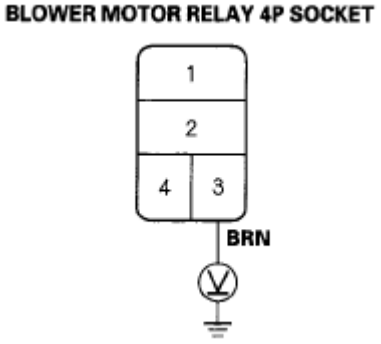



**Fig. 32: Measuring Voltage Between Blower Motor Relay 4P Socket Terminal No. 3 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 32.

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**NO** - Repair open in the wire between the No. 36 (10 A) fuse in the under-dash fuse/relay box and the blower motor relay.

35. Turn the ignition switch to LOCK (0).
36. Check for continuity between the blower motor relay 4P socket terminal No. 4 and body ground.

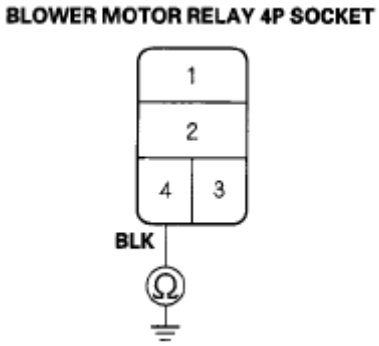



**Fig. 33: Checking Continuity Between Blower Motor Relay 4P Socket Terminal No. 4 And Body Ground**

*Is there continuity?*

**YES** - Repair open in the WHT wire between the blower motor relay and the blower motor.

**NO** - Check for an open in the wire between the blower motor relay and body ground. If the wire is OK, check for poor ground at G301 (see **CONNECTOR TO HARNESS INDEX** ).

**DTC INDICATOR 7: HVAC CONTROL UNIT INTERNAL ERROR**

**NOTE: Check the battery condition (see BATTERY TEST ) and the charging system (see CHARGING SYSTEM INDICATOR CIRCUIT TROUBLESHOOTING ).**

1. Clear the DTC. (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the HVAC control unit. (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).

4. Check for DTCs.

   *Is DTC 7 indicated?*

   **YES** - The HVAC control unit is faulty, replace the HVAC control unit (see **HVAC CONTROL UNIT REMOVAL AND INSTALLATION** ).

   **NO** - Intermittent failure, the HVAC control unit is OK at this time.

**DTC INDICATOR 8: AN OPEN IN THE EVAPORATOR TEMPERATURE SENSOR CIRCUIT**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the HVAC control unit. (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 8 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure, check for loose wires or poor connections on the evaporator temperature sensor circuit.

5. Turn the ignition switch to LOCK (0).
6. Remove the evaporator temperature sensor (see **EVAPORATOR CORE REPLACEMENT** ) and test it (see **EVAPORATOR TEMPERATURE SENSOR TEST** ).

   *Is the evaporator temperature sensor OK?*

   **YES** - Go to step 7.

   **NO** - Replace the evaporator temperature sensor (see **EVAPORATOR CORE REPLACEMENT** ).

7. Disconnect the HVAC control unit 24P connector.

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8. Check for continuity between the HVAC control unit 24P connector terminal No. 2 and the evaporator temperature sensor 2P connector terminal No. 2.

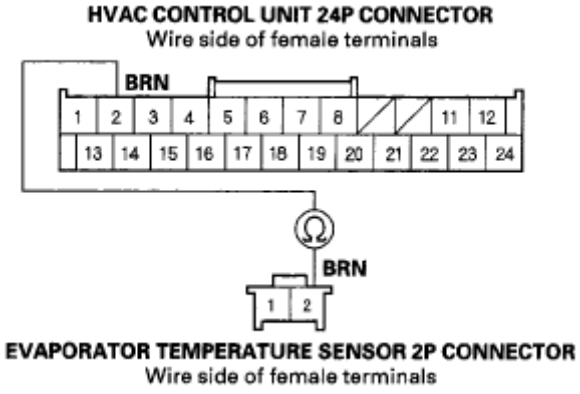



**Fig. 34: Checking Continuity Between HVAC Control Unit 24P Terminal No. 2 And Evaporator Temperature Sensor 2P Terminal No. 2**

*Is there continuity?*

**YES** - Go to step 9.

**NO** - Repair open in the wire between the HVAC control unit and the evaporator temperature sensor.

9. Check for continuity between the HVAC control unit 24P connector terminal No. 13 and the evaporator temperature sensor 2P connector terminal No. 1.

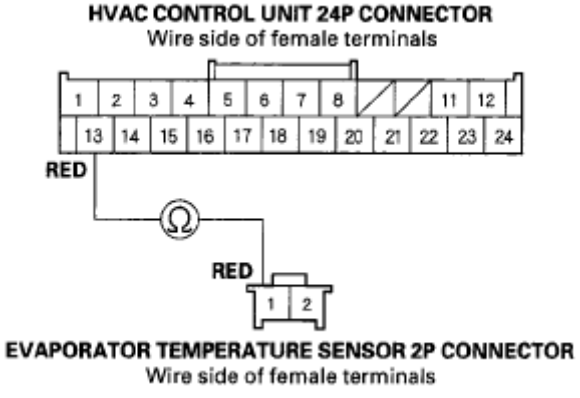



**Fig. 35: Checking Continuity Between HVAC Control Unit 24P Terminal No. 13 And Evaporator Temperature Sensor 2P Terminal No. 1**

*Is there continuity?*

**YES** - Check for loose wires or poor connections at the HVAC control unit 24P connector and at the evaporator temperature sensor 2P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit.

**NO** - Repair open in the wire between the HVAC control unit and the evaporator temperature sensor.

**DTC INDICATOR 9: A SHORT IN THE EVAPORATOR TEMPERATURE SENSOR CIRCUIT**

1. Clear the DTC (see **CLEAR THE DTCS** ).
2. Turn the ignition switch to LOCK (0), and then ON (II).
3. Do the self-diagnostic with the HVAC control unit (see **HOW TO USE THE SELF-DIAGNOSTIC FUNCTION** ).
4. Check for DTCs.

   *Is DTC 9 indicated?*

   **YES** - Go to step 4.

   **NO** - Intermittent failure.

5. Turn the ignition switch to LOCK (0).
6. Remove the evaporator temperature sensor (see **EVAPORATOR CORE REPLACEMENT** ) and test it (see **EVAPORATOR TEMPERATURE SENSOR TEST** ).

   *Is the evaporator temperature sensor OK?*

   **YES** - Go to step 7.

   **NO** - Replace the evaporator temperature sensor (see **EVAPORATOR CORE REPLACEMENT** ).

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7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between body ground and the HVAC control unit 24P connector terminals No. 2 and No. 13 individually.

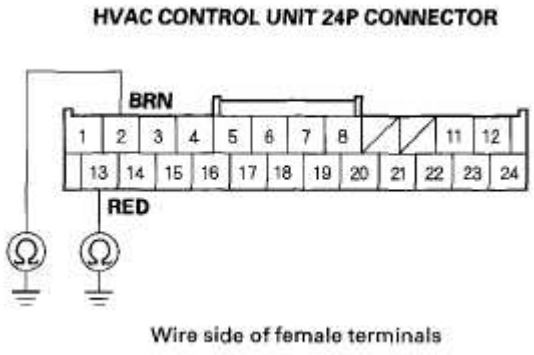



**Fig. 36: Checking Continuity Between Body Ground And HVAC Control Unit 24P Connector Terminals No. 2 And No. 13**

*Is there continuity?*

**YES** - Repair short to body ground in the wires between the HVAC control unit and the evaporator temperature sensor.

**NO** - Go to step 9.

9. Check for continuity between the HVAC control unit 24P connector terminals No. 2 and No. 13.

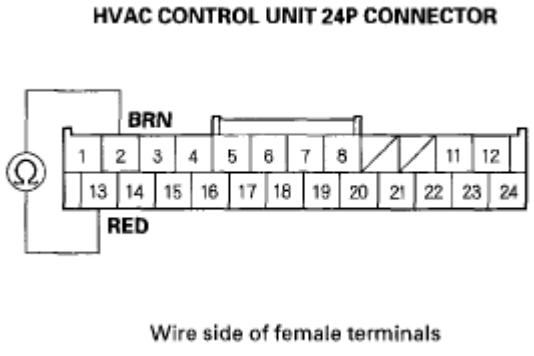



**Fig. 37: Checking Continuity Between HVAC Control Unit 24P Connector Terminals No. 2 And No. 13**

*Is there continuity?*

**YES** - Repair short in the wires between the HVAC control unit and the evaporator temperature sensor.

**NO** - Substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit.

## RECIRCULATION CONTROL MOTOR CIRCUIT TROUBLESHOOTING

1. Check the No. 36 (10 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

   **YES** - Go to step 2.

   **NO** - Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 36 (10 A) fuse circuit.

2. Disconnect the recirculation control motor 7P connector.
3. Turn the ignition switch ON (II).
4. Measure the voltage between the recirculation control motor 7P connector terminal No. 1 and body ground.

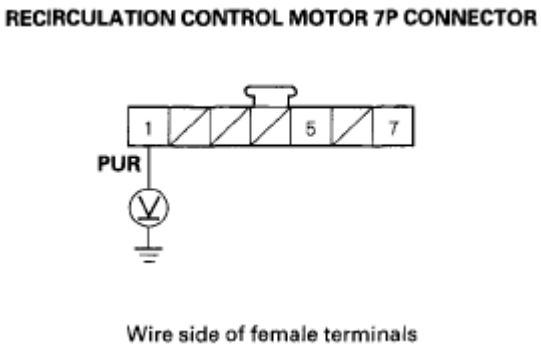



**Fig. 38: Measuring Voltage Between Recirculation Control Motor 7P Connector Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 5.

**NO** - Repair open in the wire between the No. 36 (10 A) fuse in the under-dash fuse/relay box and the recirculation control motor.

5. Turn the ignition switch to LOCK (0).
6. Test the recirculation control motor (see **RECIRCULATION CONTROL MOTOR TEST** ).

   *Is the recirculation control motor OK?*

   **YES** - Go to step 7.

   **NO** - Replace the recirculation control motor (see **RECIRCULATION CONTROL MOTOR REPLACEMENT** ), or repair the recirculation control linkage or door.

7. Disconnect the HVAC control unit 24P connector.
8. Check for continuity between body ground and the HVAC control unit 24P connector terminals No. 16 and No. 17 individually.

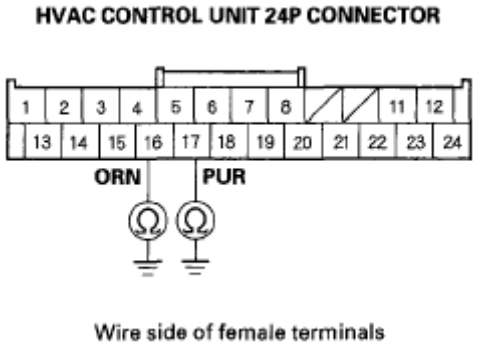



**Fig. 39: Checking Continuity Between Body Ground And HVAC Control Unit 24P Connector Terminals No. 16 And No. 17**

*Is there continuity?*

**YES** - Repair any short to body ground in the wires between the HVAC control unit and the recirculation control motor.

**NO** - Go to step 9.

9. Turn the ignition switch ON (II), and check the same terminals for voltage to body ground.

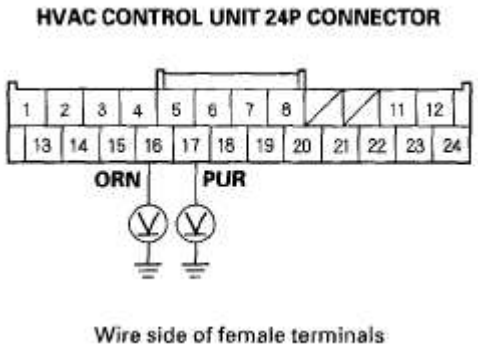



**Fig. 40: Checking Voltage Between Body Ground And HVAC Control Unit 24P Connector Terminals No. 16 And No. 17**

*Is there any voltage?*

**YES** - Repair any short to power in the wires between the HVAC control unit and the recirculation control motor. This short may also damage the HVAC control unit. Repair the short to power before replacing the HVAC control unit.

**NO** - Go to step 10.

10. Turn the ignition switch to LOCK (0).
11. Check for continuity between the following terminals of the HVAC control unit 24P connector and the recirculation control motor 7P connector.

**HVAC CONTROL UNIT 24P CONNECTOR AND RECIRCULATION CONTROL MOTOR 7P CONNECTOR**

| 24P | 7P |
|---|---|
| No. 16 | No. 7 |
| No. 17 | No. 5 |

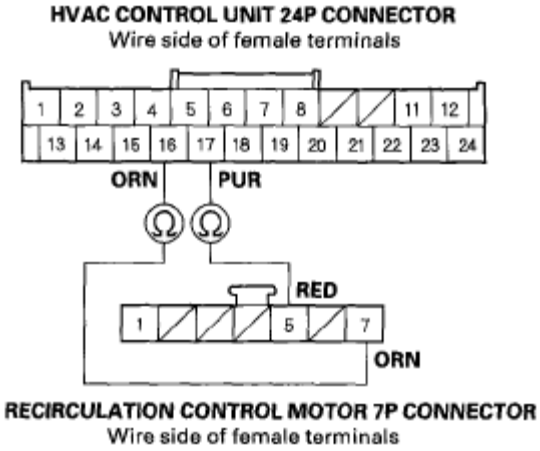



**Fig. 41: Checking Continuity Between HVAC Control Unit 24P And Recirculation Control Motor 7P Connector**

*Is there continuity?*

**YES** - Check for loose wires or poor connections at the HVAC control unit 24P connector and at the recirculation control motor 7P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck. If the symptom/indication goes away, replace the original HVAC control unit.

**NO** - Repair any open in the wires between the HVAC control unit and the recirculation control motor.

## HVAC CONTROL POWER AND GROUND CIRCUIT TROUBLESHOOTING

1. Check the No. 36 (10 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

   **YES** - Go to step 2.

   **NO** - Replace the fuse, and recheck. If the fuse blows again, check for a short in the No. 36 (10 A) fuse circuit.

2. Disconnect the HVAC control unit 24P connector.
3. Turn the ignition switch ON (II).

4. Measure the voltage between the HVAC control unit 24P connector terminal No. 23 and body ground.

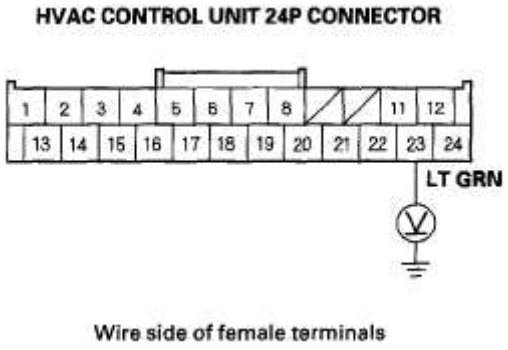



**Fig. 42: Measuring Voltage Between HVAC Control Unit 24P Connector Terminal No. 23 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 5.

**NO** - Repair open in the wire between the No. 36 (10 A) fuse in the under-dash fuse/relay box and the HVAC control unit.

5. Turn the ignition switch to LOCK (0).
6. Check for continuity between the HVAC control unit 24P connector terminal No. 21 and body ground.

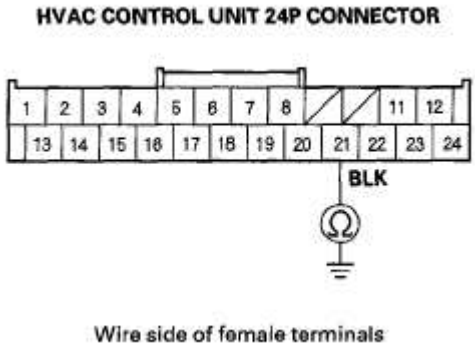



**Fig. 43: Checking Continuity Between HVAC Control Unit 24P Connector Terminal No. 21 And Body Ground**

*Is there continuity?*

**YES** - Check for loose wires or poor connections at the HVAC control unit 24P connector. If the connections are good, substitute a known-good HVAC control unit, and recheck.

**NO** - Check for an open in the wire between the HVAC control unit and body ground. If the wire is OK, check for poor ground at G504 (see **CONNECTOR TO HARNESS INDEX** ).

## RADIATOR AND A/C CONDENSER FAN LOW SPEED CIRCUIT TROUBLESHOOTING

**NOTE:**

- **Do not use this troubleshooting procedure if the A/C compressor is inoperative. Refer to the SYMPTOM TROUBLESHOOTING INDEX.**
- **Before performing symptom troubleshooting, check for powertrain DTCs, R18A1 engine (see GENERAL TROUBLESHOOTING INFORMATION ), K20Z3 engine (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Check the No. 7 (20 A: M/T) or (30 A: A/T) fuse in the under-hood fuse/relay box, and the No. 36 (10 A) fuse in the under-dash fuse/relay box.

   *Are the fuses OK?*

   **YES** - Go to step 2.

   **NO** - Replace the fuses, and recheck. If the fuses blow again, check for a short in the No. 7 (20 A: M/T) or (30 A: A/T) and No. 36 (10 A) fuses circuit.

2. Remove the radiator fan relay from the under-hood fuse/relay box, and test it (see **REMOVAL AND INSTALLATION** ).

   *Is the relay OK?*

   **YES** - Go to step 3.

   **NO** - Replace the radiator fan relay.

3. Connect the HDS to the DLC.
4. Turn the ignition switch ON (II).
5. Turn on the A/C on the HVAC control unit.
6. Check the FAN LOW CTRL in the PGM-FI Data List with the HDS.

   *Is the FAN LOW CTRL on?*

   **YES** - Go to step 7.

   **NO** - Substitute a known-good ECM/PCM, R18A1 engine (see **SUBSTITUTING THE ECM/PCM** ), K20Z3 engine (see **SUBSTITUTING THE ECM** ), and retest. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM, R18A1 engine (see **ECM/PCM REPLACEMENT** ), K20Z3 engine (see **ECM REPLACEMENT** ).

7. Measure the voltage between the radiator fan relay 4P socket terminal No. 1 and body ground.

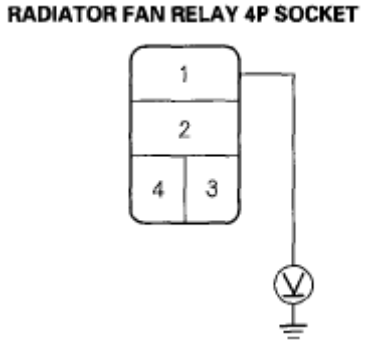



**Fig. 44: Measuring Voltage Between Radiator Fan Relay 4P Socket Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 8.

**NO** - Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

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8. Connect the radiator fan relay 4P socket terminals No. 1 and No. 2 with a jumper wire.

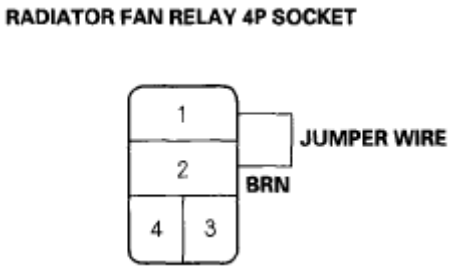



**Fig. 45: Connecting Radiator Fan Relay 4P Socket Terminals No. 1 And No. 2 With Jumper Wire**

*Do the A/C condenser and radiator fans run on low?*

**YES** - Go to step 9.

**NO** - Go to step 20.

9. Turn the ignition switch to LOCK (0).
10. Disconnect the jumper wire.
11. Turn the ignition switch ON (II).
12. Measure the voltage between the radiator fan relay 4P socket terminal No. 3 and body ground.

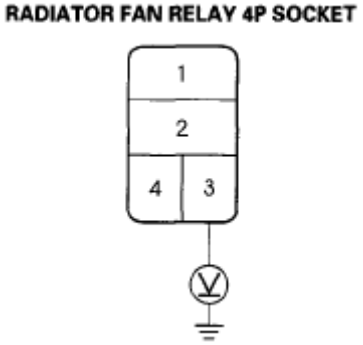



**Fig. 46: Measuring Voltage Between Radiator Fan Relay 4P Socket Terminal No. 3 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 12.

**NO** - Go to step 38.

13. Turn the ignition switch to LOCK (0).
14. Reinstall the radiator fan relay.
15. Jump the SCS line with the HDS.

**NOTE: This step must be done to protect the engine control module (ECM)/powertrain control module (PCM) from damage.**

16. Disconnect ECM/PCM connector A (44P).
17. Connect the ECM/PCM connector A (44P) terminal No. 4 to body ground with a jumper wire.

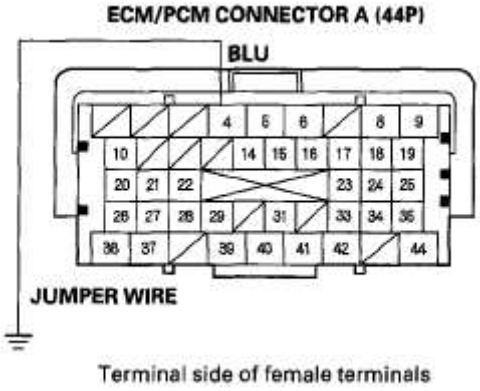



**Fig. 47: Connecting ECM/PCM Connector A (44P) Terminal No. 4 To Body Ground With Jumper Wire**

18. Turn the ignition switch ON (II).

*Do the A/C condenser and radiator fans run on low?*

**YES** - Check for loose wires or poor connections at ECM/PCM connector A (44P) terminal No. 4. If the connections are good, substitute a known-good ECM/PCM, and recheck. If the symptom/indication goes away, replace the original ECM/PCM, R18A1 engine (see **ECM/PCM REPLACEMENT** ),

K20Z3 engine (see **ECM REPLACEMENT** ).

**NO** - Repair open in the wire between the radiator fan relay and the ECM/PCM.

19. Turn the ignition switch to LOCK (0).
20. Disconnect the jumper wire.
21. Reinstall the radiator fan relay.
22. Disconnect the radiator fan 2P connector.
23. Turn the ignition switch ON (II), then set the A/C button and fan control dial ON.
24. Measure the voltage between the radiator fan 2P connector terminal No. 2 and body ground.

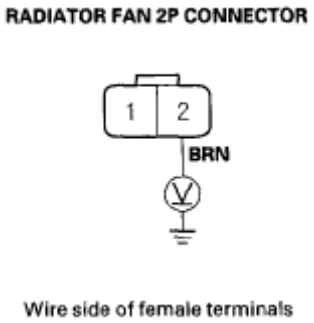



**Fig. 48: Measuring Voltage Between Radiator Fan 2P Connector Terminal No. 2 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 23.

**NO** - Repair open in the wire between the radiator fan relay and the radiator fan.

25. Set the A/C button and fan control dial OFF, then turn the ignition switch to LOCK (0).
26. Reconnect the radiator fan 2P connector.
27. Connect the radiator fan 2P connector terminal No. 1 to body ground with a

jumper wire.

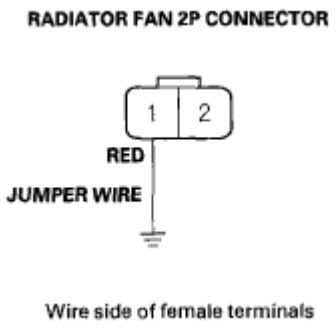



**Fig. 49: Connecting Radiator Fan 2P Connector Terminal No. 1 To Body Ground With Jumper Wire**

28. Turn the ignition switch ON (II), then set the A/C button and fan control dial ON.

    *Does the radiator fan run?*

    **YES** - Go to step 27.

    **NO** - Replace the radiator fan motor, R18A1 engine (see **RADIATOR AND FAN REPLACEMENT** ), K20Z3 engine (see **RADIATOR AND FAN REPLACEMENT** ).

29. Set the A/C button and fan control dial OFF, then turn the ignition switch to LOCK (0).
30. Disconnect the jumper wire.
31. Remove the fan control relay from the under-hood relay box, and test it (see **REMOVAL AND INSTALLATION** ).

    *Is the relay OK?*

    **YES** - Go to step 30.

    **NO** - Replace the fan control relay.

32. Turn the ignition switch ON (II), then set the A/C button and fan control dial ON.

33. Measure the voltage between the fan control relay 5P socket terminal No. 1 and body ground.

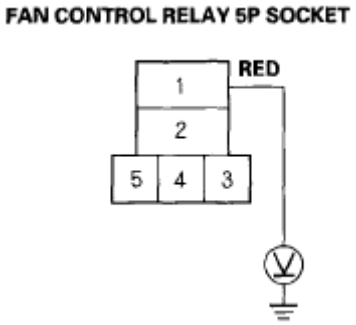


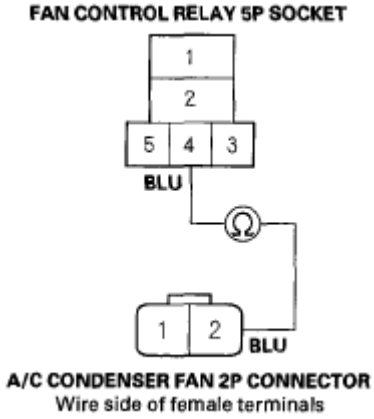

**Fig. 50: Measuring Voltage Between Fan Control Relay 5P Socket Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 32.

**NO** - Repair open in the wire between the radiator fan and the fan control relay.

34. Set the A/C button and fan control dial OFF, then turn the ignition switch to LOCK (0).
35. Disconnect the A/C condenser fan 2P connector.
36. Check for continuity between the fan control relay 5P socket terminal No. 4 and the A/C condenser fan 2P connector terminal No. 2.



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**Fig. 51: Checking Continuity Between Fan Control Relay 5P Socket Terminal No. 4 And A/C Condenser Fan 2P Terminal No. 2**

*Is there continuity?*

**YES** - Go to step 35.

**NO** - Repair open in the wire between the fan control relay and the A/C condenser fan.

37. Check for continuity between the A/C condenser fan 2P connector terminal No. 1 and body ground.

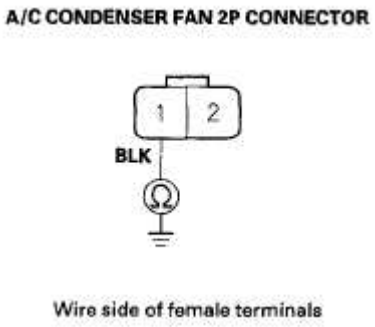



**Fig. 52: Checking Continuity Between A/C Condenser Fan 2P Connector Terminal No. 1 And Body Ground**

*Is there continuity?*

**YES** - Replace the A/C condenser fan motor, R18A1 engine (see **RADIATOR AND FAN REPLACEMENT** ), K20Z3 engine (see **RADIATOR AND FAN REPLACEMENT** ).

**NO** - Check for an open in the wire between the A/C condenser fan and body ground. If the wire is OK, check for poor ground at G301 (see **CONNECTOR TO HARNESS INDEX** ).

38. Turn the ignition switch to LOCK (0).
39. Remove A/C diode A from the under-hood fuse/relay box.
40. Using the diode setting on a DVOM, check for current flow in both directions between the A/C diode A terminals No. 1 and No. 2.

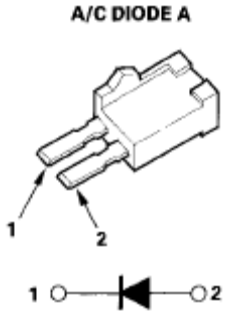



**Fig. 53: Checking Current Flow In Both Directions Between A/C Diode A Terminals No. 1 And No. 2**

*Is there current flow in only one direction?*

**YES** - Go to step 39.

**NO** - Replace A/C diode A.

41. Turn the ignition switch ON (II).
42. Measure the voltage between the A/C diode A 2P socket terminal No. 2 and body ground.

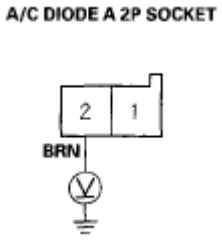



**Fig. 54: Measuring Voltage Between A/C Diode A 2P Socket Terminal No. 2 And Body Ground**

*Is there battery voltage?*

**YES** - Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

**NO** - Repair open in the wire between the No. 36 (10 A) fuse in the under-dash fuse/relay box and A/C diode A.

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## A/C CONDENSER FAN HIGH SPEED CIRCUIT TROUBLESHOOTING

**NOTE:**

- **Do not use this troubleshooting procedure if the A/C compressor is inoperative. Refer to the SYMPTOM TROUBLESHOOTING INDEX.**
- **Before performing symptom troubleshooting, check for powertrain DTCs, R18A1 engine (see GENERAL TROUBLESHOOTING INFORMATION ), K20Z3 engine (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Check the No. 6 (20 A) and No. 15 (7.5 A) fuses in the under-hood fuse/relay box.

   *Are the fuses OK?*

   **YES** - Go to step 2.

   **NO** - Replace the fuses, and recheck. If the fuses blow again, check for a short in the No. 6 (20 A) and No. 15 (7.5 A) fuses circuit.

2. Remove the A/C condenser fan relay from the under-hood fuse/relay box, and test it (see **POWER RELAY TEST** ).

   *Is the relay OK?*

   **YES** - Go to step 3.

   **NO** - Replace the A/C condenser fan relay.

3. Measure the voltage between the A/C condenser fan relay 4P socket terminal No. 1 and body ground.

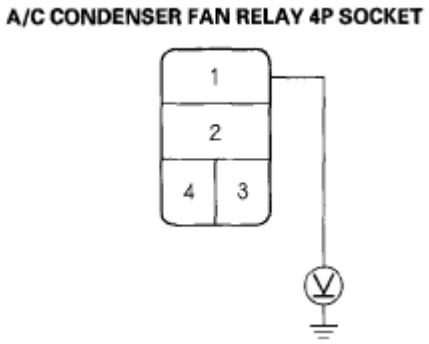



**Fig. 55: Measuring Voltage Between A/C Condenser Fan Relay 4P Socket Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 4.

**NO** - Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

4. Connect the A/C condenser fan relay 4P socket terminals No. 1 and No. 2 with a jumper wire.

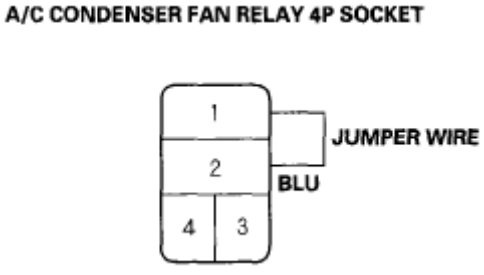



**Fig. 56: Connecting A/C Condenser Fan Relay 4P Socket Terminals No. 1 And No. 2 With Jumper Wire**

*Does the A/C condenser fan run on high?*

**YES** - Go to step 5.

**NO** - Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

5. Disconnect the jumper wire.
6. Turn the ignition switch ON (II).
7. Measure the voltage between the A/C condenser fan relay 4P socket terminal No. 4 and body ground.

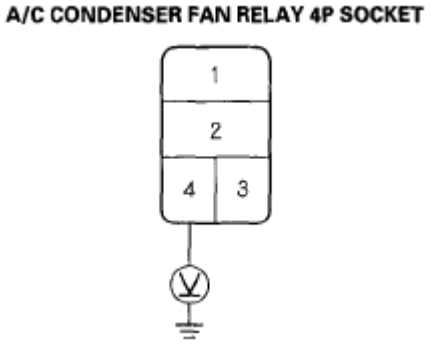



**Fig. 57: Measuring Voltage Between A/C Condenser Fan Relay 4P Socket Terminal No. 4 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 8.

**NO** - Go to step 16.

8. Turn the ignition switch to LOCK (0).
9. Check for continuity between the fan control relay 5P socket No. 2 terminal and body ground.

   *Is there continuity?*

   **YES** - Go to step 10.

   **NO** - Check for an open in the wire between the fan control relay and body ground. If the wire is OK, check for poor ground at G301.

10. Reinstall the A/C condenser fan relay.
11. Jump the SCS line with the HDS.

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**NOTE: This step must be done to protect the engine control module (ECM)/powertrain control module (PCM) from damage.**

12. Disconnect ECM/PCM connector A (44P).
13. Connect the ECM/PCM connector A (44P) terminal No. 5 to body ground with a jumper wire.

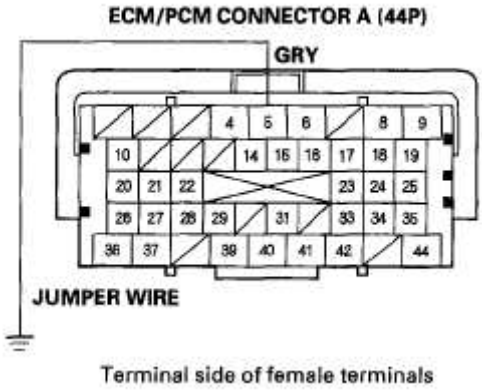



**Fig. 58: Connecting ECM/PCM Connector A (44P) Terminal No. 5 To Body Ground With Jumper Wire**

14. Turn the ignition switch ON (II).

    *Does the A/C condenser fan run on high?*

    **YES** - Check for loose wires or poor connections at ECM/PCM connector A (44P) terminal No. 5. If the connections are good, substitute a known-good ECM/PCM, and recheck. If the symptom/indication goes away, replace the original ECM/PCM, R18A1 engine (see **ECM/PCM REPLACEMENT** ), K20Z3 engine (see **ECM REPLACEMENT** ).

    **NO** - Repair open in the wire between the A/C condenser fan relay and the ECM/PCM.

15. Turn the ignition switch to LOCK (0).
16. Remove A/C diode B from the under-hood fuse/relay box.
17. Turn the ignition switch ON (II).

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18. Measure the voltage between the A/C diode B 2P socket terminal No. 2 and body ground.

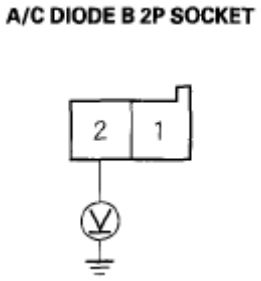



**Fig. 59: Measuring Voltage Between A/C Diode B 2P Socket Terminal No. 2 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 19.

**NO** - Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

19. Using the diode setting on a DVOM, check for current flow in both directions between the A/C diode B terminals No. 1 and No. 2.

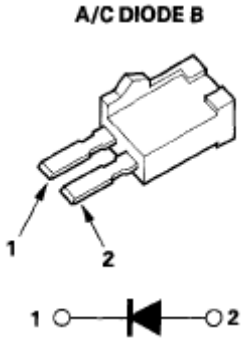



**Fig. 60: Checking Current Flow In Both Directions Between A/C Diode B Terminals No. 1 And No. 2**

*Is there current flow in only one direction?*

**YES** - Replace the under-hood fuse/relay box (see **REMOVAL AND**

**INSTALLATION** ).

**NO** - Replace A/C diode B.

## A/C COMPRESSOR CLUTCH CIRCUIT TROUBLESHOOTING

**NOTE:**

- **It is normal for the A/C compressor to turn off under certain conditions, such as low idle, high engine coolant temperature, or hard acceleration.**
- **Do not use this troubleshooting procedure if the fans are also inoperative with the A/C on. Refer to the SYMPTOM TROUBLESHOOTING INDEX.**
- **Before doing any symptom troubleshooting, check for powertrain DTCs, R18A1 engine (see GENERAL TROUBLESHOOTING INFORMATION ), K20Z3 engine (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Check the No. 20 (7.5 A) fuse in the under-hood fuse/relay box, and the No. 36 (10 A) fuse in the under-dash fuse/relay box.

   *Are the fuses OK?*

   **YES** - Go to step 2.

   **NO** - Replace the fuses and recheck. If the fuses blow again, check for a short in the No. 20 (7.5 A) and No. 36 (10 A) fuses circuit.

2. Connect the HDS to the DLC.
3. Start the engine.
4. Turn on the A/C on the HVAC control unit.
5. Check the A/C CLUTCH in the PGM-FI Data List with the HDS at idle.

**HDS A/C VALUES**

| | |
|---|---|
| ECT sensor 2 | 176-212 °F (80-100 °C) |
| TP sensor | About 0.5 V at idle |
| | |

| | |
|---|---|
| RPM | More than 670 |
| A/C Switch | ON |
| A/C Clutch | ON |

*Are all the values within specifications?*

**YES** - Go to step 6.

**NO** - Troubleshoot the value that is not within the specfications.

6. Turn the ignition switch to LOCK (0).
7. Remove the A/C compressor clutch relay from the under-hood fuse/relay box, and test it (see **POWER RELAY TEST** ).

*Is the relay OK?*

**YES** - Go to step 8.

**NO** - Replace the A/C compressor clutch relay.

8. Measure the voltage between the A/C compressor clutch relay 4P socket terminal No. 1 and body ground.

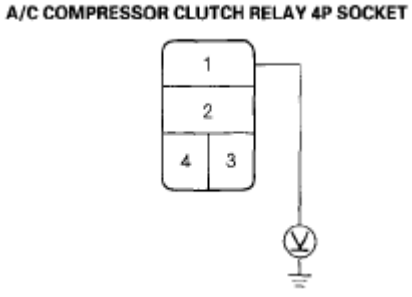



**Fig. 61: Measuring Voltage Between A/C Compressor Clutch Relay 4P Socket Terminal No. 1 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 9.

**NO** - Replace the under-hood fuse/relay box (see **REMOVAL AND INSTALLATION** ).

9. Connect the A/C compressor clutch relay 4P socket terminals No. 1 and No. 2 with a jumper wire.

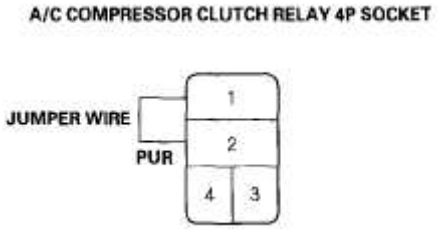



**Fig. 62: Connecting A/C Compressor Clutch Relay 4P Socket Terminals No. 1 And No. 2 With Jumper Wire**

*Does the A/C compressor clutch click?*

**YES** - Go to step 10.

**NO** - Go to step 19.

10. Disconnect the jumper wire.
11. Turn the ignition switch ON (II).
12. Measure the voltage between the A/C compressor clutch relay 4P socket terminal No. 3 and body ground.

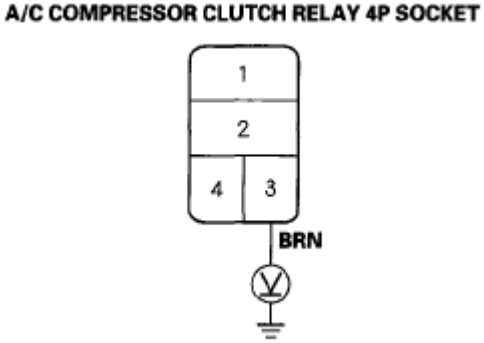



**Fig. 63: Measuring Voltage Between A/C Compressor Clutch Relay 4P Socket Terminal No. 3 And Body Ground**

*Is there battery voltage?*

**YES** - Go to step 13.

**NO** - Repair open in the wire between the No. 36 (10 A) fuse in the under-dash fuse/relay box and the A/C compressor clutch relay.

13. Turn the ignition switch to LOCK (0).
14. Reinstall the A/C compressor clutch relay.
15. Jump the SCS line with the HDS.

**NOTE: This step must be done to protect the engine control module (ECM)/powertrain control module (PCM) from damage.**

16. Disconnect ECM/PCM connector A (44P).
17. Connect the ECM/PCM connector A (44P) terminal No. 14 to body ground with a jumper wire.

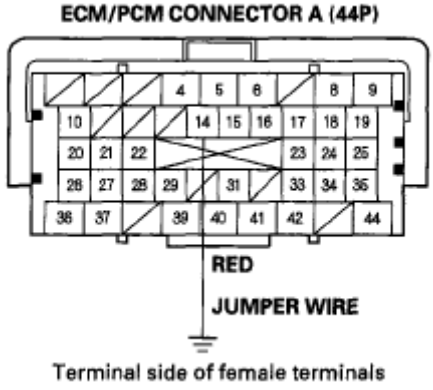



**Fig. 64: Connecting ECM/PCM Connector A (44P) Terminal No. 14 To Body Ground With Jumper Wire**

18. Turn the ignition switch ON (II).

*Does the A/C compressor click?*

**YES** - Check for loose wires or poor connections at ECM/PCM connector A (44P). If the connections are good, check the ECM/PCM grounds. If the

grounds are good, substitute a known-good ECM/PCM, and recheck. If the symptom/indication goes away, replace the original ECM/PCM, R18A1 engine (see **ECM/PCM REPLACEMENT** ), K20Z3 engine (see **ECM REPLACEMENT** ).

**NO** - Repair open in the wire between the A/C compressor clutch relay and the ECM/PCM.

19. Disconnect the jumper wire.
20. Disconnect the A/C compressor clutch 3P connector.
21. Check for continuity between the A/C compressor clutch relay 4P socket terminal No. 2 and the A/C compressor clutch 3P connector terminal No. 2.

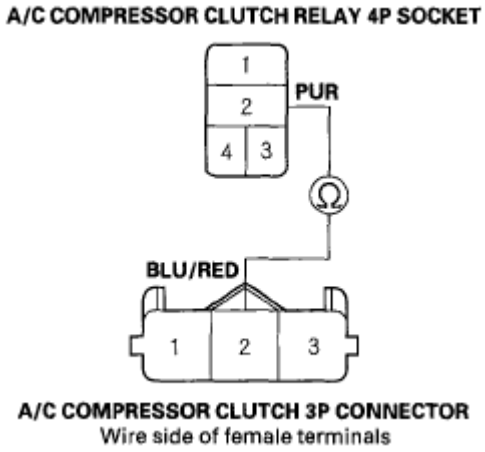



**Fig. 65: Checking Continuity Between A/C Compressor Clutch Relay 4P Socket Terminal No. 2 And A/C Compressor Clutch 3P Terminal**

*Is there continuity?*

**YES** - Check the A/C compressor clutch clearance, and the compressor clutch field coil (see **A/C COMPRESSOR CLUTCH CHECK** ). Repair as needed.

**NO** - Repair open in the wire between the A/C compressor clutch relay and the A/C compressor clutch.

## A/C SIGNAL CIRCUIT TROUBLESHOOTING

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**NOTE:**

- **Do not use this troubleshooting procedure if any of the following items are operative; A/C condenser fan, radiator fan, A/C compressor. Refer to the SYMPTOM TROUBLESHOOTING INDEX.**
- **Before performing symptom troubleshooting, check for powertrain DTCs, R18A1 engine (see GENERAL TROUBLESHOOTING INFORMATION ), K20Z3 engine (see GENERAL TROUBLESHOOTING INFORMATION ).**

1. Turn the ignition switch to LOCK (0).
2. Disconnect the HVAC control unit 24P connector.
3. Turn the ignition switch ON (II).
4. Measure the voltage between the HVAC control unit 24P connector terminal No. 11 and body ground.

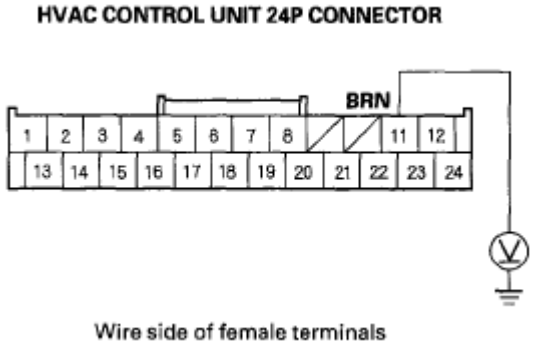



**Fig. 66: Measuring Voltage Between HVAC Control Unit 24P Terminal No. 11 And Body Ground**

*Is there voltage?*

**YES** - Go to step 11.

**NO** - Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Disconnect the A/C compressor clutch 3P connector.
7. Turn the ignition switch ON (II).

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8. R18A1 engine: Measure the voltage between the A/C compressor clutch 3P connector terminal No. 3 and body ground.

   K20Z3 engine: Measure the voltage between the A/C compressor clutch 3P connector terminal No. 1 and body ground.

**R18A1 engine**

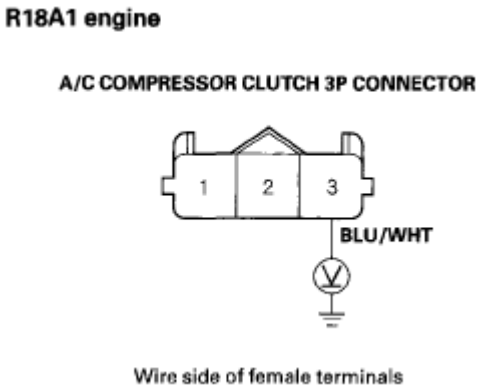



**Fig. 67: Measuring Voltage Between A/C Compressor Clutch 3P Terminal No. 3 And Body Ground (R18A1 Engine)**

**K20Z3 engine**

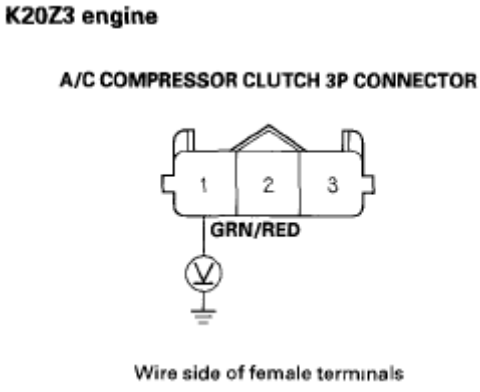



**Fig. 68: Measuring Voltage Between A/C Compressor Clutch 3P Terminal No. 1 And Body Ground (K20Z3 Engine)**

*Is there battery voltage?*

**YES** - Go to step 9.

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**NO** - Repair open in the wire between the A/C compressor and the MICU. If the wire is OK, substitute a known-good MICU and recheck. If the symptom goes away, replace the original MICU.

9. Test the A/C compressor thermal protector (see **A/C COMPRESSOR CLUTCH CHECK** ).

   *Is the A/C compressor thermal protector OK?*

   **YES** - Go to step 10.

   **NO** - Replace the A/C compressor thermal protector (see **A/C COMPRESSOR THERMAL PROTECTOR REPLACEMENT** ).

10. R18A1 engine: Check for continuity between the HVAC control unit 24P connector terminal No. 11 and the A/C compressor clutch 3P connector terminal No. 1.

    K20Z3 engine: Check for continuity between the HVAC control unit 24P connector terminal No. 11 and the A/C compressor clutch 3P connector terminal No. 3.

    **R18A1 engine**

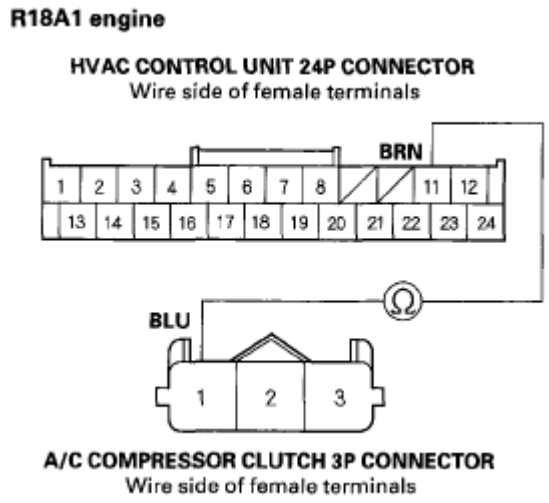



**Fig. 69: Checking Continuity Between HVAC Control Unit 24P Terminal No. 11 And A/C Compressor Clutch 3P Terminal No. 1 (R18A1 Engine)**

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## K20Z3 engine

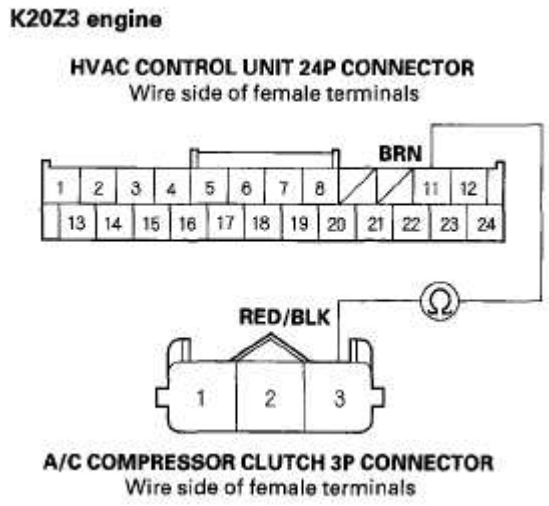


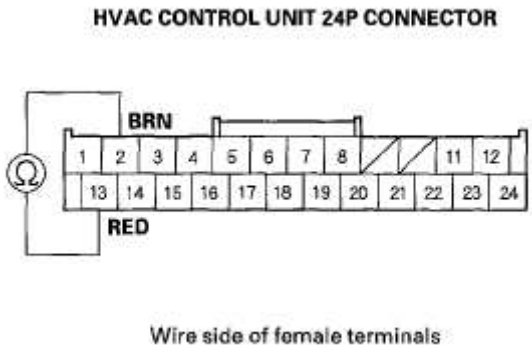

**Fig. 70: Checking Continuity Between HVAC Control Unit 24P Terminal No. 11 And A/C Compressor Clutch 3P Terminal No. 3 (K20Z3 Engine)**

*Is there continuity?*

**YES** - Check for loose wires or poor connections at the HVAC control unit 24P connector and at the A/C compressor clutch 3P connector.

**NO** - Repair open in the wire between the HVAC control unit and A/C compressor.

11. Turn the ignition switch to LOCK (0).
12. Measure the evaporator temperature sensor resistance between the HVAC control unit 24P connector terminals No. 2 and No. 13.



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**Fig. 71: Measuring Evaporator Temperature Sensor Resistance Between HVAC Control Unit 24P Connector Terminals No. 2 And No. 13**

*Is resistance less than 24 kohms ?*

**YES** - Go to step 13.

**NO** - Test the evaporator temperature sensor (see **EVAPORATOR TEMPERATURE SENSOR TEST** ).

13. Reconnect the HVAC control unit 24P connector.
14. Turn the ignition switch ON (II).
15. Check if the blower motor operates at all speeds.

*Does the blower motor operates at all speeds?*

**YES** - Check for loose wires or poor connections at the HVAC control unit 24P connector. If the connections are good, substitute a known-good HVAC control unit and recheck. If the symptom goes away, replace the original HVAC control unit.

**NO** - Repair the problem in the blower motor circuit.

## EVAPORATOR TEMPERATURE SENSOR TEST

1. Remove the evaporator core and the evaporator temperature sensor (see **EVAPORATOR CORE REPLACEMENT** ).
2. Dip the sensor in ice water, and measure the resistance between its terminals.

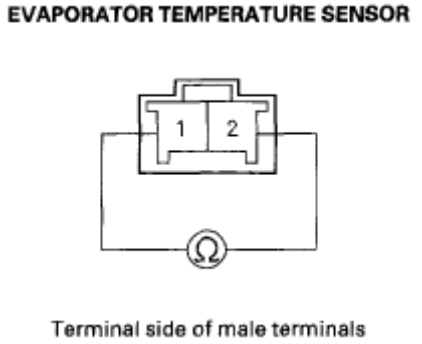


**Fig. 72: Measuring Resistance Between Evaporator Temperature Sensor Terminals**

3. Then pour warm water on the sensor, and check for a change in resistance.
4. Compare the resistance readings with the specifications shown in **Fig. 73** ; the resistance should be within the specifications.

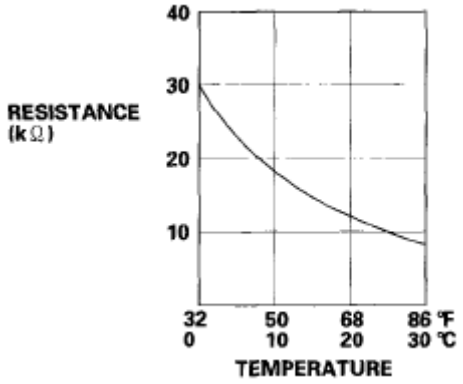



**Fig. 73: Resistance To Temperature Graph**

5. If the resistance is not as specified, replace the evaporator temperature sensor (see **EVAPORATOR CORE REPLACEMENT** ).

## HVAC CONTROL UNIT REMOVAL AND INSTALLATION

1. Remove the center panel (see **AUDIO UNIT REMOVAL/INSTALLATION** ).
2. Remove the dials (A), the self-tapping screws, and the HVAC control unit (B).

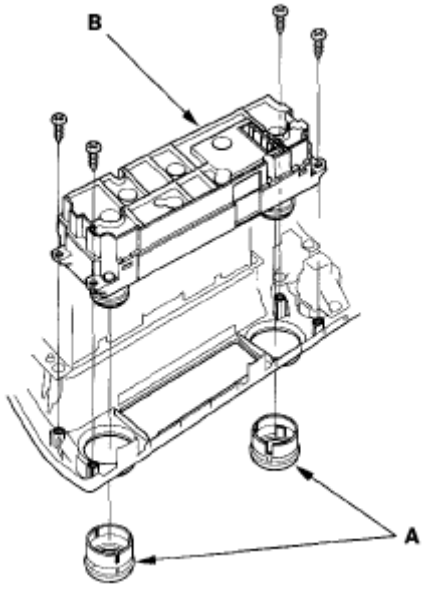



**Fig. 74: Removing Dials, Self-Tapping Screws And HVAC Control Unit**

3. Install the control unit in the reverse order of removal. After installation, operate the various functions to make sure they work properly.
4. Run the self-diagnostic function to confirm that there are no problems in the system (see **GENERAL TROUBLESHOOTING INFORMATION** ).

## EVAPORATOR CORE REPLACEMENT

1. Recover the refrigerant with a recovery/recycling/charging station (see **REFRIGERANT RECOVERY** ).
2. Remove the bolt.

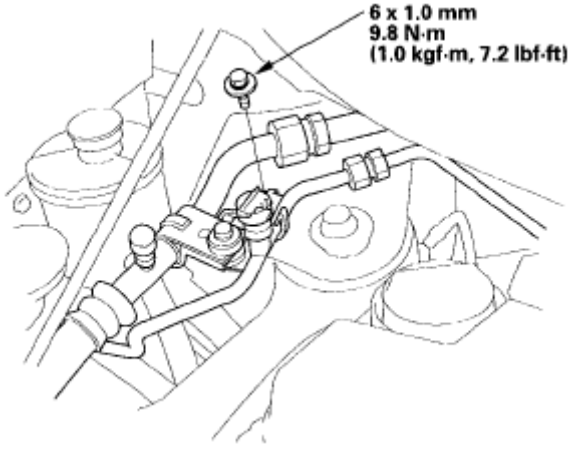


**Fig. 75: Removing Evaporator Core Bolt (With Specifications)**

3. Remove the nut, then disconnect the A/C lines (A) from the evaporator core.

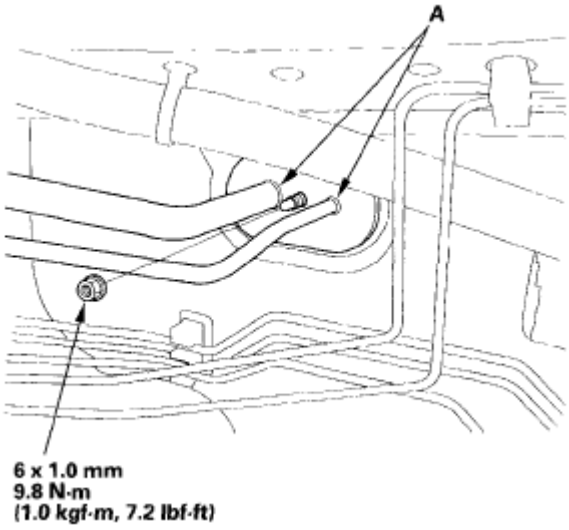



**Fig. 76: Disconnecting A/C Lines From Evaporator Core (With Specifications)**

4. Remove the stud bolt.

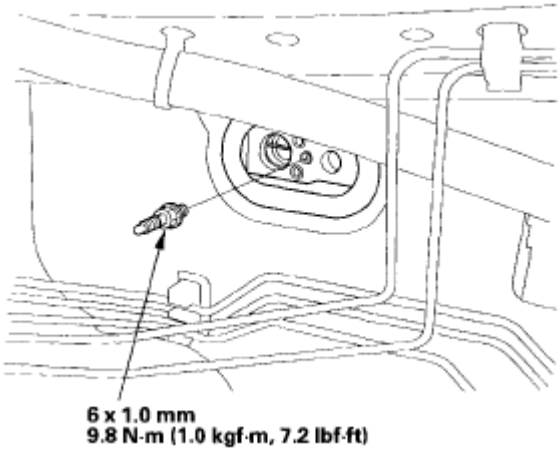



**Fig. 77: Removing Stud Bolt (With Specifications)**

5. Remove the blower unit (see **BLOWER UNIT REMOVAL AND INSTALLATION** ).
6. Disconnect the connectors (A) from the evaporator temperature sensor and the

power transistor, then remove the connector clip (B). Remove the self-tapping screws, the expansion valve cover (C), and the seal (D).

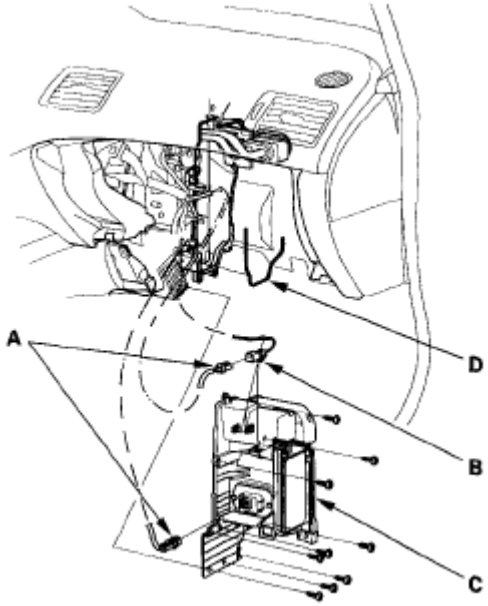



**Fig. 78: Disconnecting Connectors From Evaporator Temperature Sensor And Power Transistor**

7. Carefully pull out the evaporator core (A) without bending the lines, then remove the plate (B).

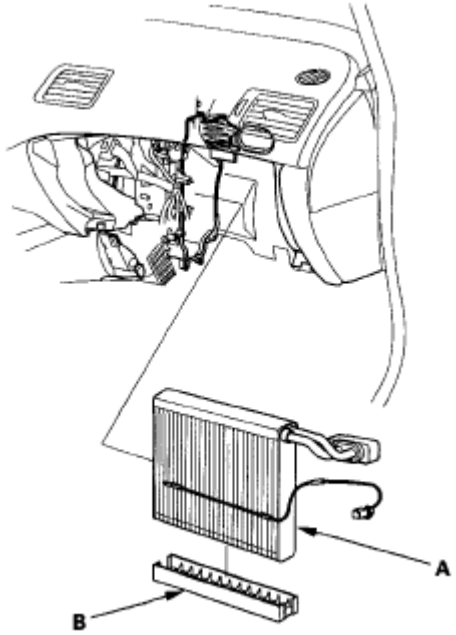


**Fig. 79: Removing Evaporator Core Without Bending Lines**

8. Remove the clips (A) and the evaporator temperature sensor (B).

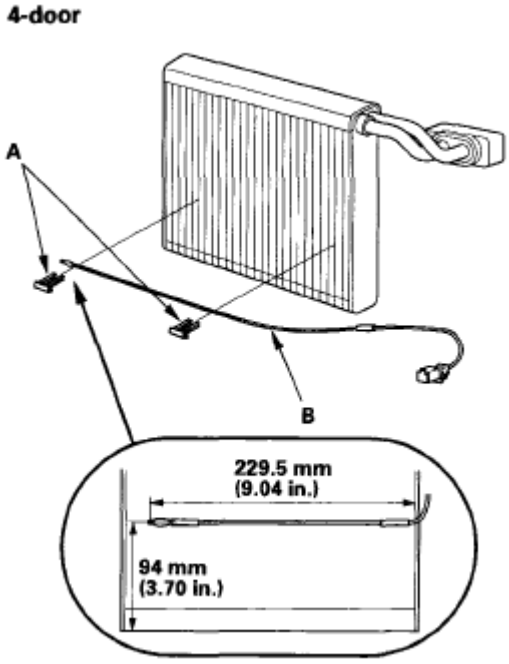



**Fig. 80: Removing Clips And Evaporator Temperature Sensor (4-Door)**

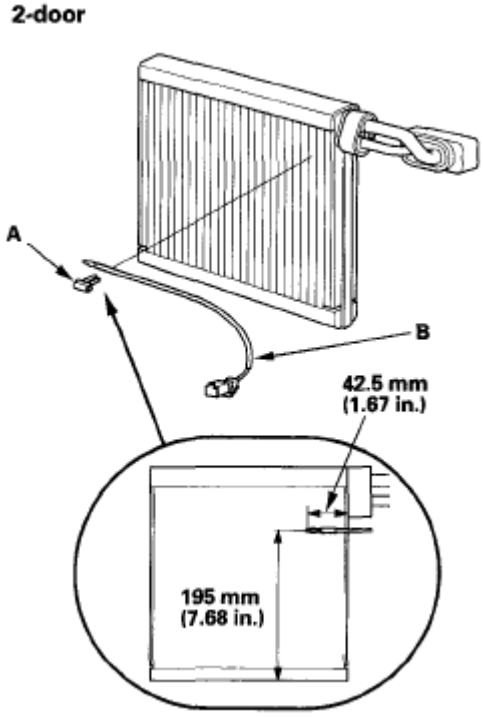


**Fig. 81: Removing Clips And Evaporator Temperature Sensor (2-Door)**

9. Install the core in the reverse order of removal and note these items:
   - If you're installing a new evaporator core, add refrigerant oil (SP-10) (see **A/C REFRIGERANT OIL REPLACEMENT** ).
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
   - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
   - Make sure that there is no air leakage.
   - Charge the system (see **SYSTEM CHARGING** ).

## HEATER UNIT/CORE REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

1. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets.
2. Make sure the ignition is OFF, then disconnect the negative cable from the battery.
3. Disconnect the A/C line from the evaporator core (see **EVAPORATOR CORE REPLACEMENT** ).
4. Remove the air cleaner housing assembly, R18A1 engine (see **THROTTLE BODY CLEANING** ), K20Z3 engine (see **AIR CLEANER REMOVAL/INSTALLATION** ).
5. When the engine is cool, drain the engine coolant from the radiator, R18A1 engine (see **COOLANT REPLACEMENT** ), K20Z3 engine (see **COOLANT CHECK** ).

6. From under the hood, slide the hose clamps (A) back. Disconnect the inlet heater hose (B) and the outlet heater hose (C) from the heater unit. Note the orientation of the hose.

   Engine coolant will run out when the hoses are disconnected; drain it into a clean drip pan. Be sure not to let coolant spill on the electrical parts or the painted surfaces. If any coolant spills, rinse it off immediately.

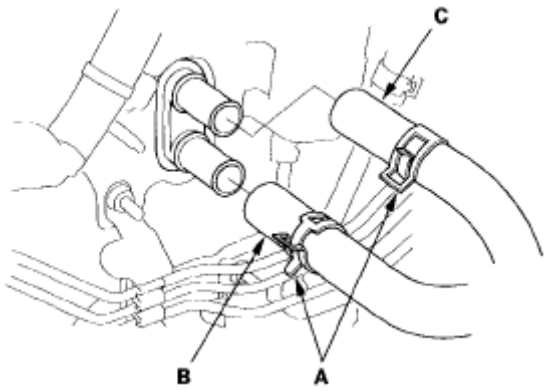



**Fig. 82: Disconnecting Inlet And Outlet Heater Hose**

7. Remove the mounting nut from the heater unit. Take care not to damage or bend the fuel lines or brake lines, etc.

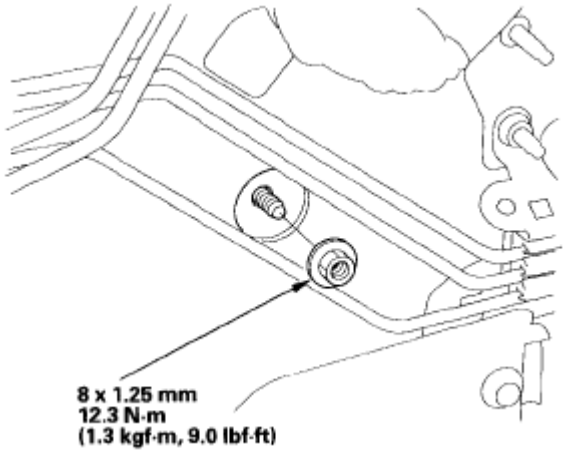



**Fig. 83: Removing Heater Unit Nut (With Specifications)**

8. Remove the dashboard (see **DASHBOARD/STEERING HANGER BEAM REMOVAL/INSTALLATION** ).

9. Disconnect the connector (A) from the blower motor. Remove the wire harness clip (B).

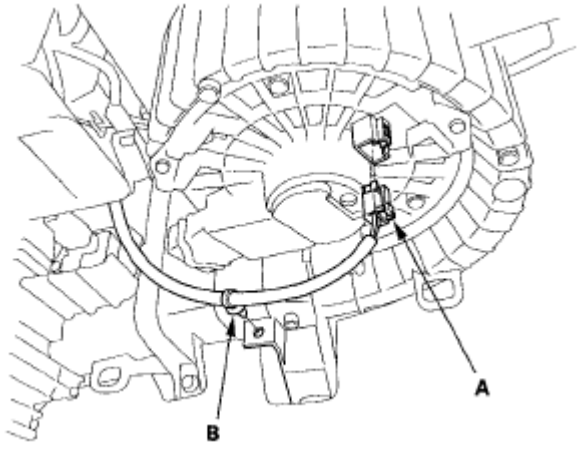



**Fig. 84: Disconnecting Connector From Blower Motor**

10. Disconnect the connector (A) from the recirculation control motor.

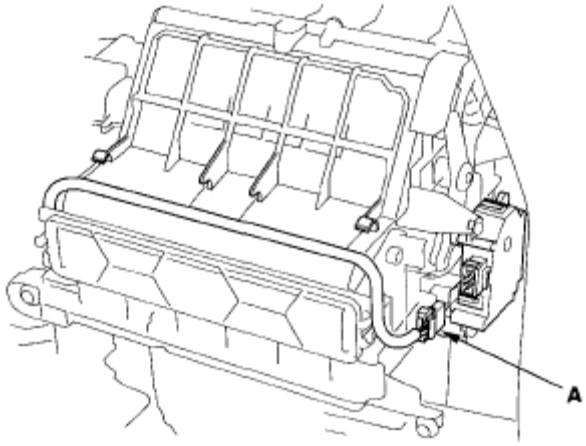



**Fig. 85: Disconnecting Connector From Recirculation Control Motor**

11. Disconnect the connectors (A) from the mode control motor, the evaporator temperature sensor, and the power transistor. Remove the wire harness clips (B).

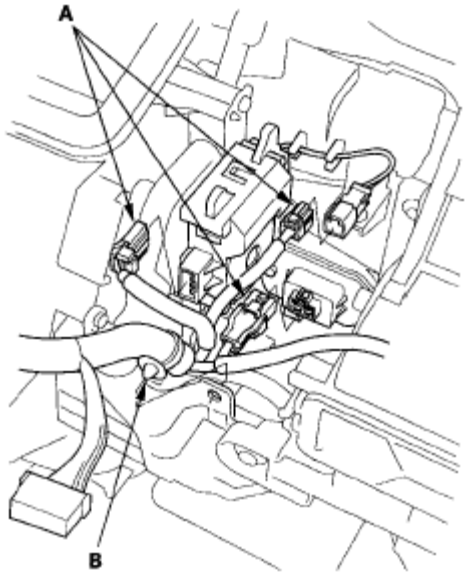



**Fig. 86: Disconnecting Connector From Mode Control Motor**

12. Disconnect the connectors (A) from the air mix control motor and A/C wire harness. Remove the connector clip (B), the wire harness clips (C), and the wire harness (D).

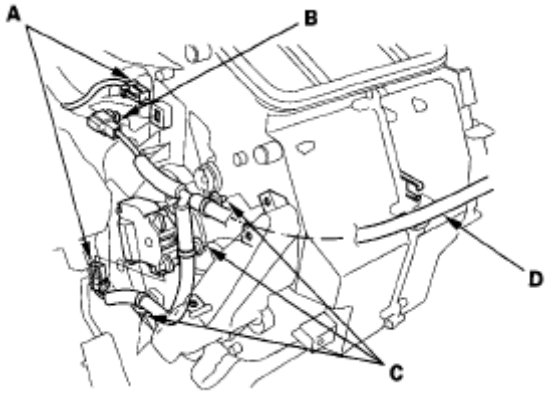



**Fig. 87: Disconnecting Connectors From Air Mix Control Motor And A/C Wire Harness**

13. Remove the mounting bolt, mounting nuts, and blower-heater unit (A).

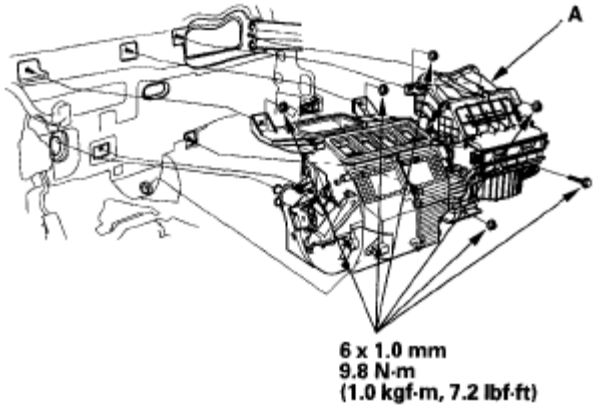



**Fig. 88: Removing Blower-Heater Unit (With Specifications)**

14. Remove the self-tapping screws, the heater core cover (A), the grommet (B), and carefully pull out the heater core (C).

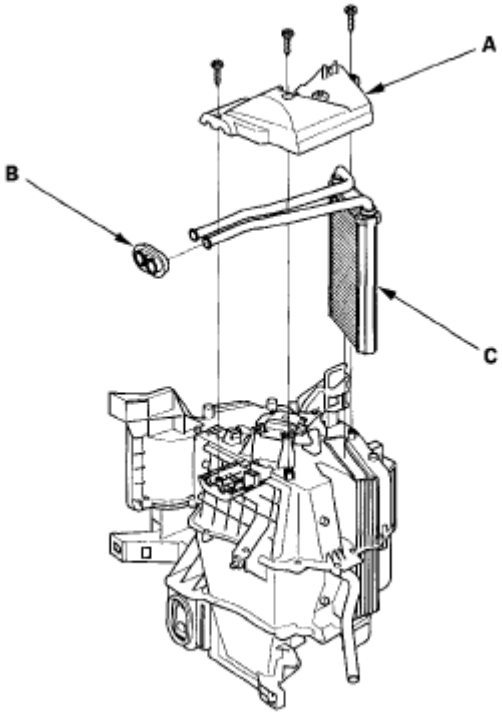



**Fig. 89: Removing Heater Core Cover**

15. Install the heater core and the evaporator core in the reverse order of removal.
16. Install the heater unit in the reverse order of removal, and note these items:
    - Do not interchange the inlet and outlet heater hoses, and install the hose clamps securely.

- Refill the cooling system with engine coolant, R18A1 engine (see **COOLANT REPLACEMENT** ), K20Z3 engine (see **COOLANT REPLACEMENT** ).
- Make sure that there is no coolant leakage.
- Make sure that there is no air leakage.
- Refer to **EVAPORATOR CORE REPLACEMENT** .
- Enter the anti-theft code for the audio or navigation system, then enter the audio presets.
- Set the clock.

## A/C COMPRESSOR REPLACEMENT

**R18A1 ENGINE**

**NOTE: Do not install an A/C compressor into a system unless you are completely sure that the system is free of contamination. Installing the A/C compressor into a contaminated system can result in premature A/C compressor failure.**

1. If the A/C compressor is marginally operable, run the engine at idle speed, and let the air conditioning work for a few minutes, then shut the engine off.
2. Recover the refrigerant with a recovery/recycling/charging station (see **REFRIGERANT RECOVERY** ).
3. Make sure you have the anti-theft code for the audio or navigation system, then write down the audio presets.
4. Remove the front grille cover (see **FRONT GRILLE COVER REPLACEMENT** ) and the alternator (see **ALTERNATOR REMOVAL AND INSTALLATION** ).
5. Disconnect the connector (A) from the A/C condenser fan motor. Remove the wire harness clip (B) and the connector clip (C). Remove the upper mounting bolts, and the A/C condenser fan shroud (D). Be careful not to damage the radiator fins when removing the A/C condenser fan shroud.

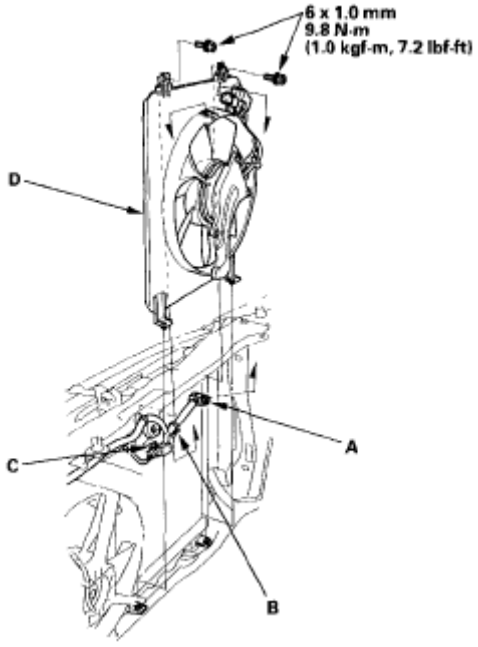



**Fig. 90: Removing A/C Condenser Fan Shroud (With Specifications)**

6. Remove the bolt and the nut, then disconnect the suction hose (A) and discharge hose (B) from the A/C compressor. Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.

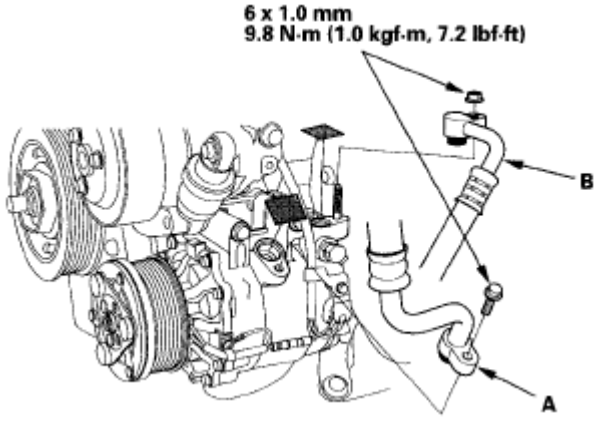



**Fig. 91: Disconnecting Suction Hose And Discharge Hose (With Specifications)**

7. Remove the mounting bolts and the A/C compressor (A). Be careful not to damage the radiator fins when removing the A/C compressor.

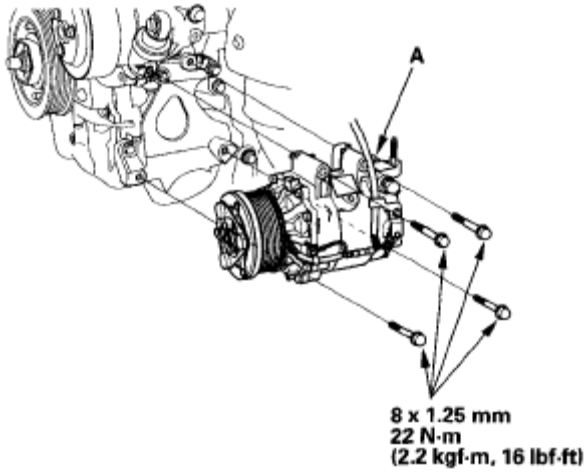



**Fig. 92: Removing A/C Compressor (With Specifications)**

8. Install the compressor in the reverse order of removal, and note these items:
   - Inspect the A/C lines for any signs of contamination.
   - If you're installing a new A/C compressor, you must calculate the amount of refrigerant oil to be removed from it (see **A/C REFRIGERANT OIL REPLACEMENT** ). A new A/C compressor comes with a full charge of oil.
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Use refrigerant oil (SP-10) for HFC-134a spiral type A/C compressor only.
   - To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
   - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
   - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
   - Charge the system (see **SYSTEM CHARGING** ).
   - Enter the anti-theft code for the audio or navigation system, then enter the audio presets.
   - Set the clock.

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**K20Z3 ENGINE**

**NOTE: Do not install an A/C compressor into a system unless you are completely sure that the system is free of contamination. Installing the A/C compressor into a contaminated system can result in premature A/C compressor failure.**

1. If the A/C compressor is marginally operable, run the engine at idle speed, and let the air conditioning work for a few minutes, then shut the engine off.
2. Recover the refrigerant with a recovery/recycling/charging station (see **REFRIGERANT RECOVERY** ).
3. Remove the front grille cover (see **FRONT GRILLE COVER REPLACEMENT** ) and the drive belt (see **DRIVE BELT INSPECTION** ).
4. Remove the clips (A) and the bolts.

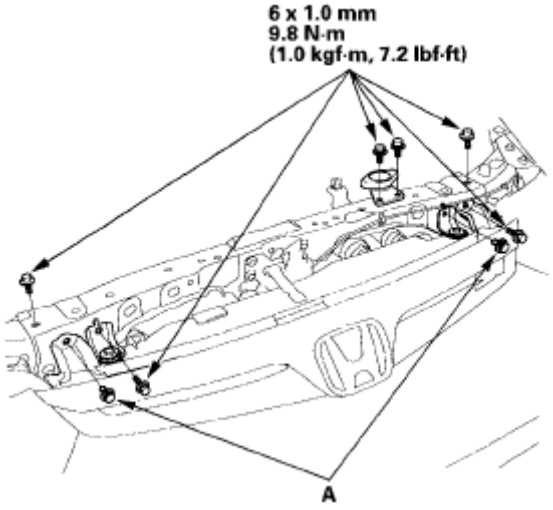



**Fig. 93: Removing Clips And Bolts (With Specifications)**

5. Remove the bolts, the connector (A), wire harness clips (B), and the bulkhead (C).

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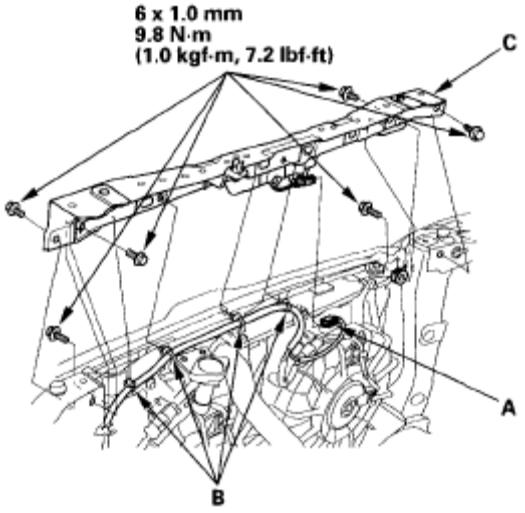



**Fig. 94: Removing Bulkhead (With Specifications)**

6. Disconnect the connector (A) from the A/C condenser fan motor. Remove the wire harness clip (B), the upper mounting bolts, and the A/C condenser fan shroud (C). Be careful not to damage the radiator fins when removing the A/C condenser fan shroud.

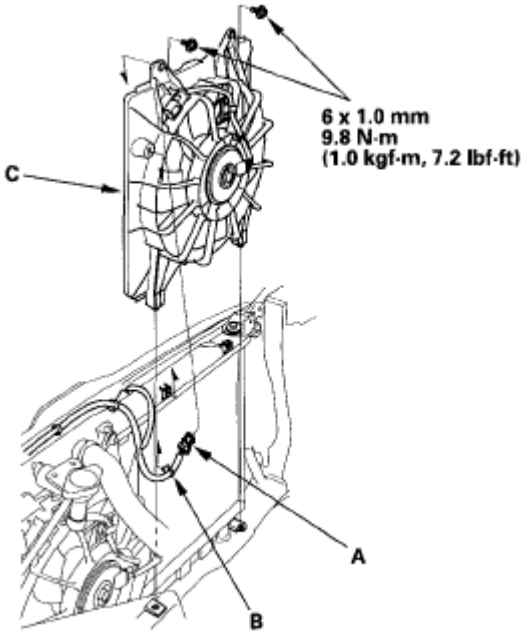



**Fig. 95: Removing A/C Condenser Fan Shroud (With Specifications)**

7. Remove the bolt.

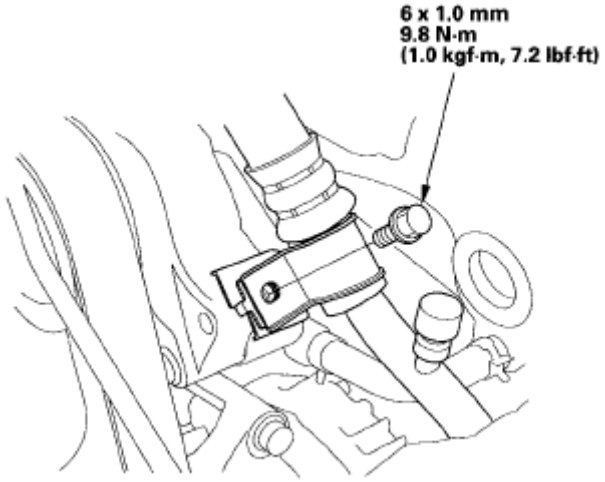



**Fig. 96: Removing Bolt (With Specifications)**

8. Remove the splash shield (see **FRONT SPLASH SHIELD REPLACEMENT** ).
9. Disconnect the connector (A). Remove the bolt and the nut, then disconnect the suction hose (B) and discharge hose (C) from the A/C compressor. Plug or cap the lines immediately after disconnecting them to avoid moisture and dust contamination.

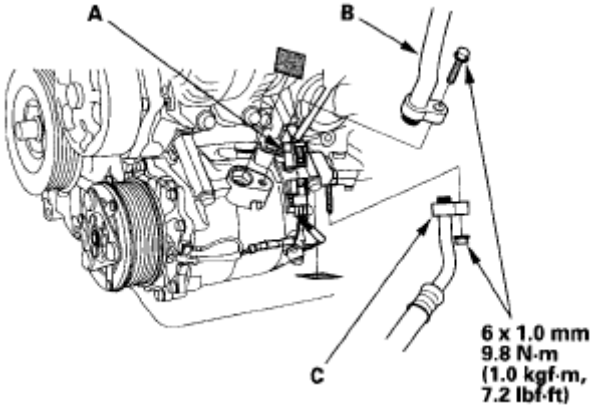



**Fig. 97: Disconnecting Suction Hose And Discharge Hose From A/C Compressor (With Specifications)**

10. Remove the mounting bolts and the A/C compressor (A). Be careful not to damage the radiator fins when removing the A/C compressor.

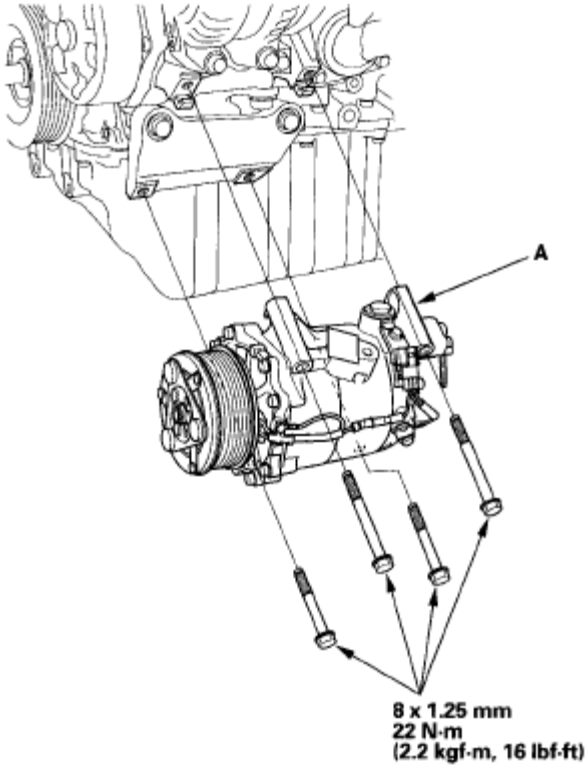



**Fig. 98: Removing A/C Compressor (With Specifications)**

11. Install the compressor in the reverse order of removal, and note these items:
    - Inspect the A/C lines for any signs of contamination.
    - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
    - Use refrigerant oil (SP-10) for HFC-134a SANDEN spiral type A/C compressor only.
    - To avoid contamination, do not return the oil to the container once dispensed, and never mix it with other refrigerant oils.
    - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
    - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
    - Charge the system (see **SYSTEM CHARGING** ).

## A/C COMPRESSOR CLUTCH CHECK

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1. Check the armature plate for discoloration, peeling, or other damage. If there is damage, replace the clutch set (see **A/C COMPRESSOR CLUTCH OVERHAUL** ).
2. Check the rotor pulley bearing play and drag by rotating the rotor pulley by hand. Replace the clutch set with a new one if it is noisy or has excessive play/drag (see **A/C COMPRESSOR CLUTCH OVERHAUL** ).

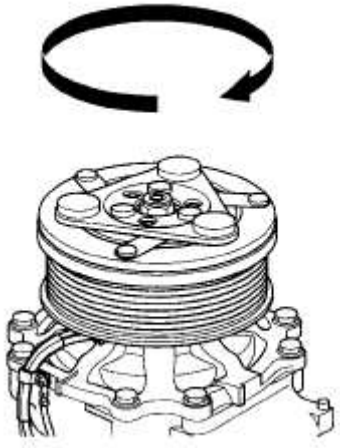


**Fig. 99: Checking Rotor Pulley Bearing Play And Drag Rotating Rotor Pulley**

3. Measure the clearance between the rotor pulley (A) and the armature plate (B) all the way around. If the clearance is not within specified limits, remove the armature plate (see **A/C COMPRESSOR CLUTCH OVERHAUL** ) and add or remove shims as needed to increase or decrease clearance.

   **Clearance: 0.35-0.65 mm (0.014-0.026 in.)**

   **NOTE: The shims are available in four thicknesses: 0.1 mm, 0.2 mm, 0.4 mm, and 0.5 mm.**

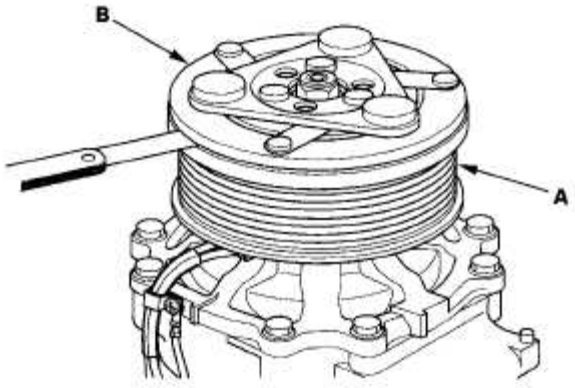



**Fig. 100: Measuring Clearance Between Rotor Pulley And Armature Plate**

4. Check for continuity between the A/C compressor clutch connector No. 1 and No. 3. If there is no continuity, replace the thermal protector (see **A/C COMPRESSOR THERMAL PROTECTOR REPLACEMENT** ).

**NOTE: The thermal protector will have no continuity above about 252 to 262°F (122 to 128°C). When the temperature drops below about 241 to 219°F (116 to 104°C), the thermal protector will have continuity.**

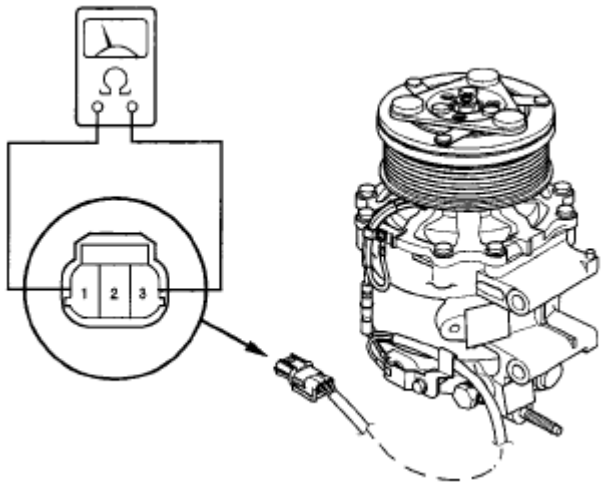



**Fig. 101: Checking Continuity Between A/C Compressor Clutch Connector No. 1 And No. 3**

5. Disconnect the field coil connector (A). Check resistance of the field coil. If resistance is not within specifications, replace the field coil (see **A/C**

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**COMPRESSOR CLUTCH OVERHAUL** ).

**Field Coil Resistance: 3.15-3.45 ohms 68°F (20°C)**

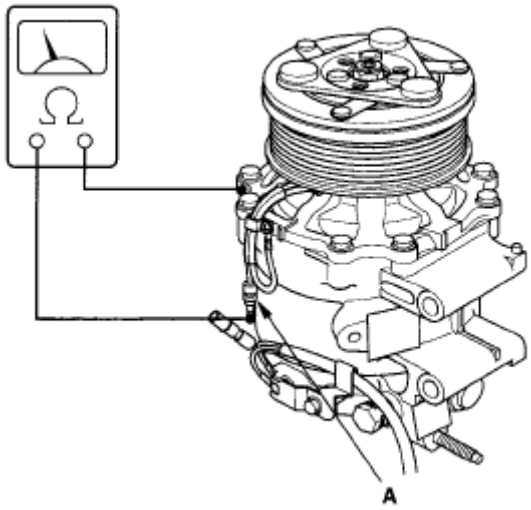



**Fig. 102: Checking Resistance Of Field Coil**

## A/C COMPRESSOR CLUTCH OVERHAUL

### Special Tools Required

A/C clutch holder, Robinair 10204 or Kent-Moore J37872, or Honda Tool and Equipment KMT-J33939, commercially available

1. Remove the center nut while holding the armature plate (A) with a commercially available A/C clutch holder (B).

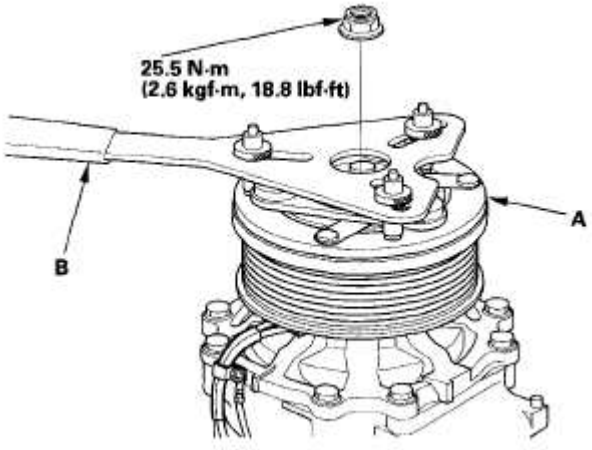


**Fig. 103: Removing Center Nut Holding Armature Plate (With Specifications)**

2. Remove the armature plate (A) and shim(s) (B), taking care not to lose the shim(s). If the clutch needs adjustment, increase or decrease the number and thickness of shims as necessary, then reinstall the armature plate, and recheck its clearance (see **A/C COMPRESSOR CLUTCH OVERHAUL** ).

**NOTE: The shims are available in four thicknesses: 0.1 mm, 0.2 mm, 0.4 mm, and 0.5 mm.**

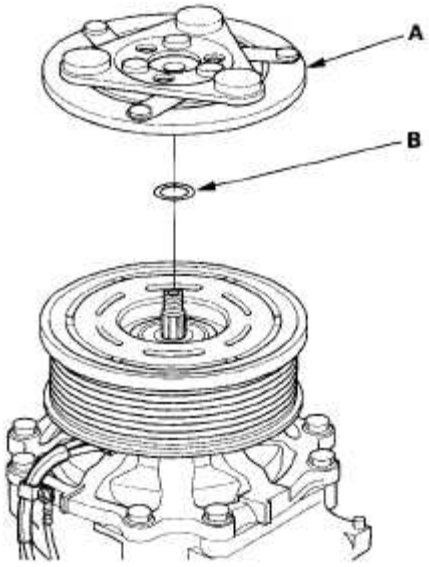



**Fig. 104: Removing Armature Plate and Shim(s)**

3. If you are replacing the field coil, remove the snap ring (A) with snap ring pliers, then remove the rotor pulley (B). Be careful not to damage the rotor pulley and A/C compressor.

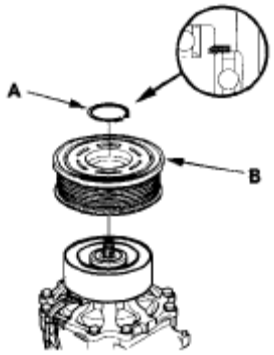



**Fig. 105: Removing Snap Ring And Rotor Pulley**

4. Remove the bolt and holder (A), then disconnect the field coil connector (B). Remove the snap ring (C) with snap ring pliers, then remove the field coil (D). Be careful not to damage the field coil and A/C compressor.

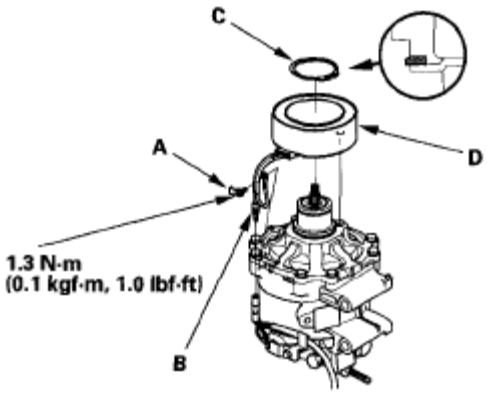



**Fig. 106: Removing Field Coil (With Specifications)**

5. Reassemble the clutch in the reverse order of disassembly, and note these items:
   - Install the field coil with the wire side facing down, and align the boss on the field coil with the hole in the A/C compressor.
   - Clean the rotor pulley and A/C compressor sliding surfaces with contact cleaner or other non-petroleum solvent.
   - Install new snap rings, note the installation direction, and make sure they are fully seated in the groove.
   - Make sure that the rotor pulley turns smoothly after it's reassembled.
   - Route and clamp the wires properly or they can be damaged by the rotor

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pulley.

## A/C COMPRESSOR THERMAL PROTECTOR REPLACEMENT

1. Remove the bolt and the holder (A). Disconnect the field coil connector (B), then remove the thermal protector (C).

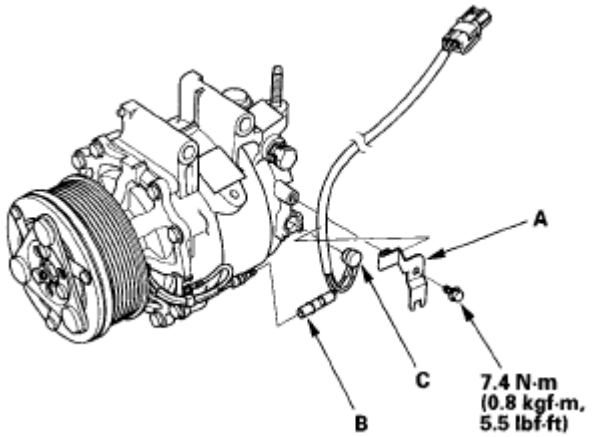



**Fig. 107: Removing Thermal Protector (With Specifications)**

2. Replace the thermal protector (A) with a new one, and apply silicone sealant (B) to the bottom of the thermal protector.

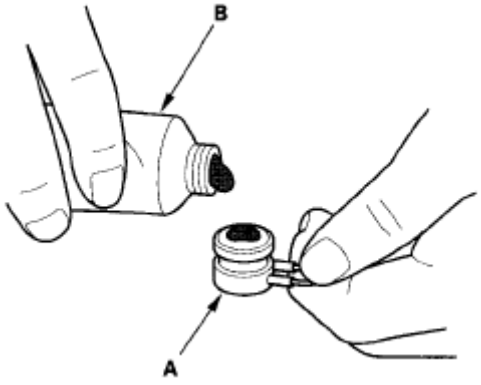



**Fig. 108: Applying Silicone Sealant To Bottom Of Thermal Protector**

3. Install the thermal protector in the reverse order of removal.

## A/C COMPRESSOR RELIEF VALVE REPLACEMENT

1. Recover the refrigerant with a recovery/recycling/charging station (see

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**REFRIGERANT RECOVERY** ).

2. Remove the relief valve cover (A), the relief valve (B), and the O-ring (C). Plug the opening to keep foreign matter from entering the system and the A/C compressor oil from running out.

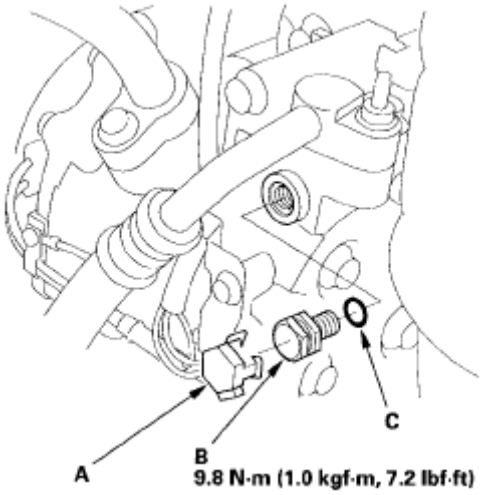



**Fig. 109: Removing Relief Valve Cover, Relief Valve And O-Ring (With Specifications)**

3. Clean the mating surfaces.
4. Replace the O-ring with a new one at the relief valve, and apply a thin coat of refrigerant oil before installing it.
5. Remove the plug, and install and tighten the relief valve.
6. Charge the system (see **SYSTEM CHARGING** ).

## A/C CONDENSER REPLACEMENT

1. Recover the refrigerant with a recovery/recycling/charging station (see **REFRIGERANT RECOVERY** ).
2. Remove the front bumper (see **FRONT BUMPER REMOVAL/INSTALLATION** ).
3. Remove the bolts, then disconnect the discharge hose (A) from the A/C condenser.

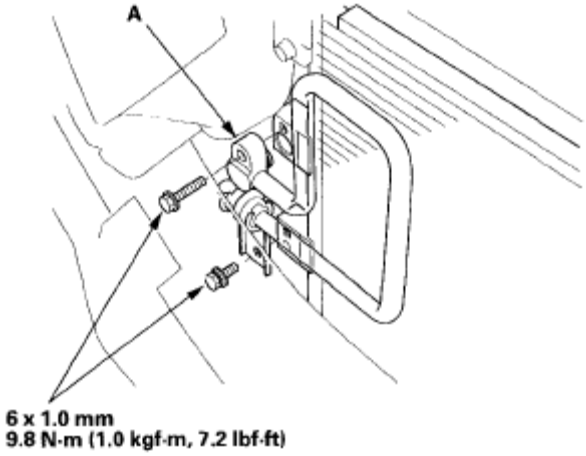



**Fig. 110: Disconnecting Discharge Hose (With Specifications)**

4. Remove the bolt, then disconnect the receiver line (A) from the A/C condenser.

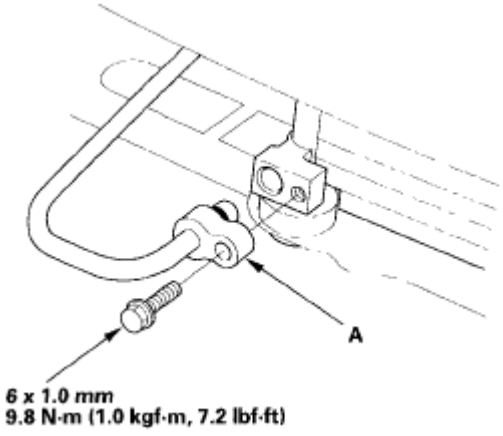



**Fig. 111: Disconnecting Receiver Line (With Specifications)**

5. Remove the bolts and the A/C condenser upper mount brackets (A).

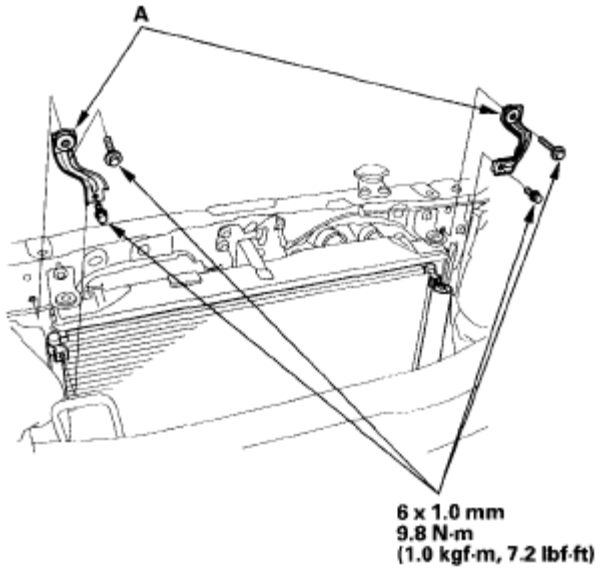



**Fig. 112: Removing A/C Condenser Upper Mount Brackets (With Specifications)**

6. Lift the tab (A) to release the lock, then remove the outside air temperature sensor (B) from the receiver/dryer desiccant bracket. Disconnect the 2P connector (C) then remove the clip (D).

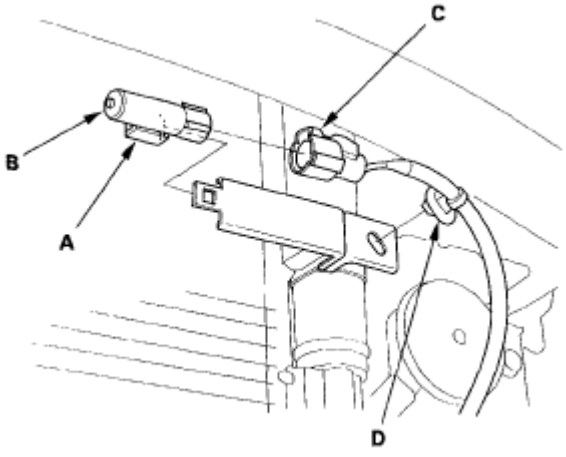



**Fig. 113: Disconnecting 2P Connector And Removing Clip**

7. Remove the A/C condenser (A). Be careful not to damage the radiator and A/C condenser fins when removing the A/C condenser.

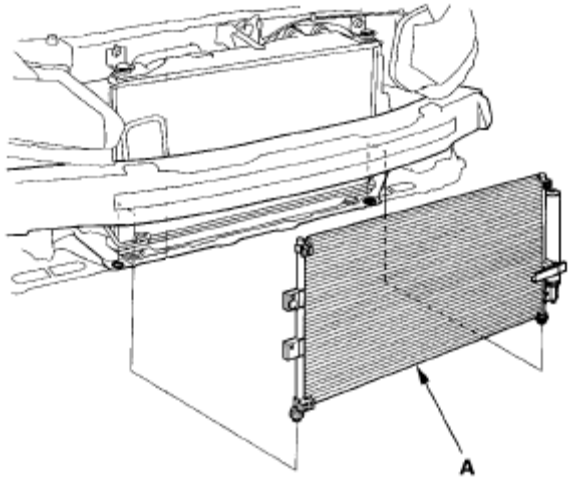



**Fig. 114: Removing A/C Condenser**

8. Install the A/C condenser in the reverse order of removal, and note these items:
   - If you're installing a new A/C condenser, add refrigerant oil (SP-10) (see **A/C REFRIGERANT OIL REPLACEMENT** ).
   - Replace the O-rings with new ones at each fitting, and apply a thin coat of refrigerant oil before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Immediately after using the oil, reinstall the cap on the container, and seal it to avoid moisture absorption.
   - Do not spill the refrigerant oil on the vehicle; it may damage the paint; if the refrigerant oil contacts the paint, wash it off immediately.
   - Charge the system (see **SYSTEM CHARGING** ).

## RECEIVER/DRYER DESICCANT REPLACEMENT

**4-DOOR**

**NOTE: Install the receiver/dryer as quickly as possible to prevent the system from absorbing moisture from the air.**

1. Remove the A/C condenser (see **A/C CONDENSER REPLACEMENT** ).
2. Remove the bolts from the A/C condenser, then remove the receiver/dryer (A), the bracket (B), and the O-rings (C).

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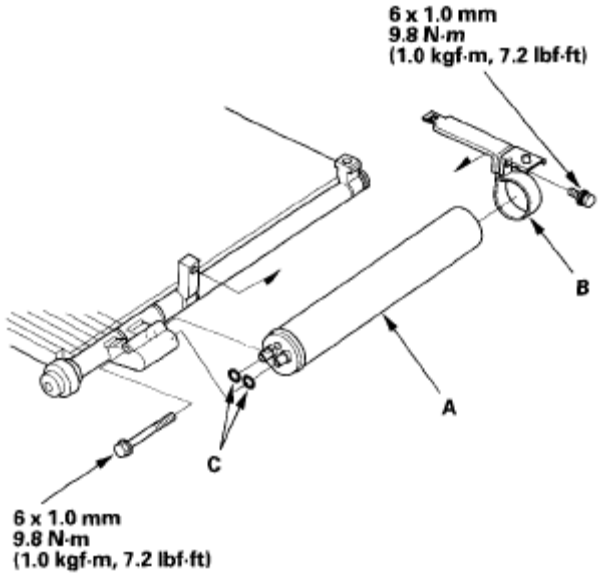



**Fig. 115: Removing Receiver/Dryer, Bracket And O-Rings (With Specifications)**

3. Install the receiver/dryer in the reverse order of removal. Replace the O-rings with new ones, and apply a thin coat of refrigerant oil (SP-10) before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.

**2-DOOR**

**NOTE: Install the receiver/dryer as quickly as possible to prevent the system from absorbing moisture from the air.**

1. Remove the A/C condenser (see **A/C CONDENSER REPLACEMENT** ).
2. Remove the cap (A) from the bottom of the A/C condenser. Remove the O-rings (B) and the desiccant (C).

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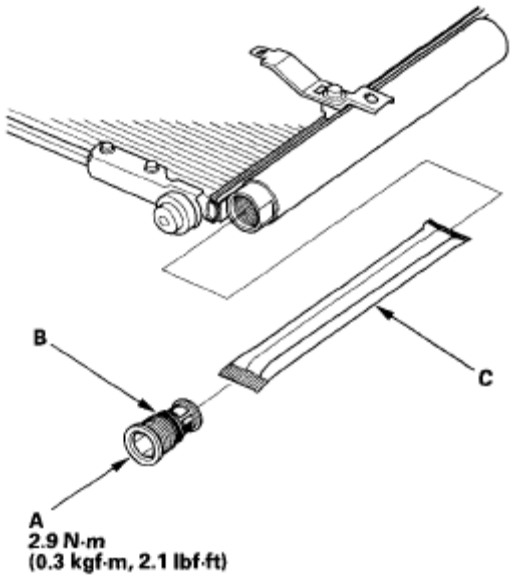



**Fig. 116: Removing O-Rings And Desiccant (With Specifications)**

3. Install the receiver/dryer in the reverse order of removal, and note these items:
   - Replace the O-rings with new ones, and apply a thin coat of refrigerant oil (SP-10) before installing them. Be sure to use the correct O-rings for HFC-134a (R-134a) to avoid leakage.
   - Install the cap to the specified torque. It is made of resin a can be easily stripped.

## REFRIGERANT RECOVERY

**CAUTION:**
- **Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.**
- **Be careful when connecting service equipment.**
- **Do not breathe refrigerant or vapor.**

**NOTE:**
- **If accidental system discharge occurs, ventilate work area before resuming service.**
- **Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.**

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.

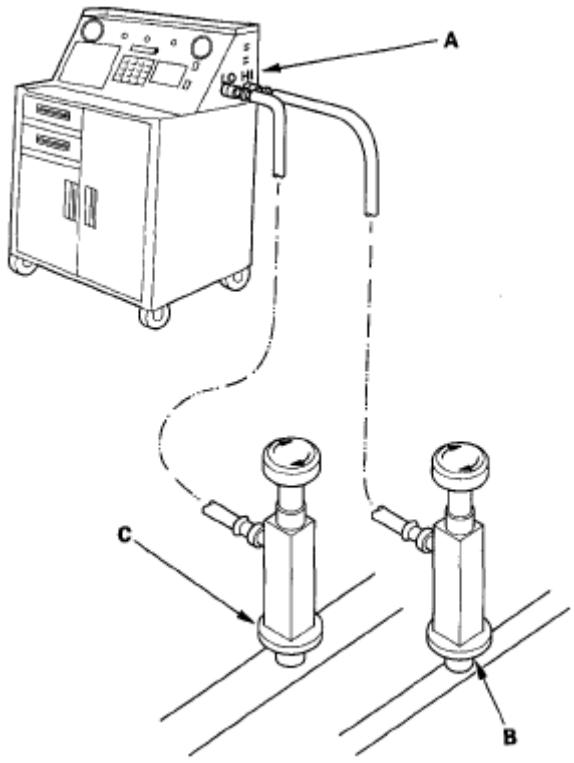



**Fig. 117: Connecting Refrigerant Recovery/Recycling/Charging Station To High-Pressure And Low-Pressure Service Port**

2. Measure the amount of refrigerant oil removed from the A/C system after the recovery process is completed. Be sure to put the same amount of new refrigerant oil back into the A/C system before charging.

## SYSTEM EVACUATION

**CAUTION:**

- **Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.**
- **Be careful when connecting service equipment.**
- **Do not breathe refrigerant or vapor.**

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**NOTE:**

- **If accidental system discharge occurs, ventilate work area before resuming service.**
- **Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.**

1. When an A/C System has been opened to the atmosphere, such as during installation or repair, it must be evacuated using an R-134a refrigerant recovery/recycling/charging station. If the system has been open for several days, the receiver/dryer should be replaced, and the system should be evacuated for several hours.
2. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions. Evacuate the system.

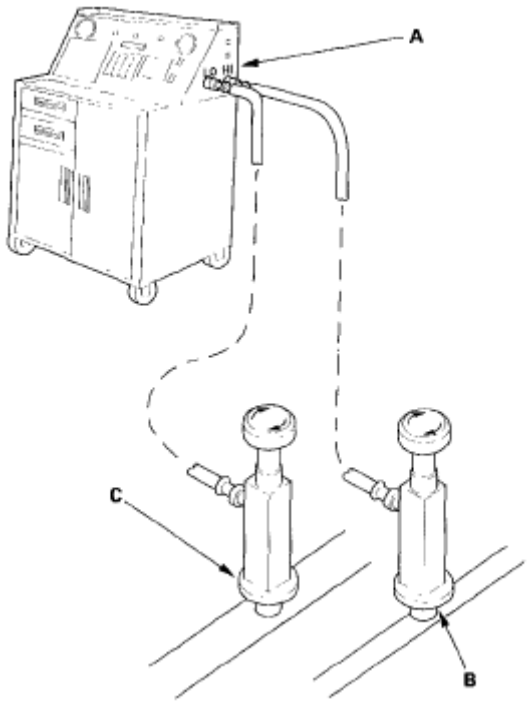



**Fig. 118: Connecting Refrigerant Recovery/Recycling/Charging Station To High-Pressure And Low-Pressure Service Port**

3. If the low-pressure does not reach more than 93.3 kPa (700 mmHg, 27.6 in.Hg) in 15 minutes, there is probably a leak in the system. Partially charge the

system, and check for leaks (see step 3 in **REFRIGERANT LEAK TEST** ).

## SYSTEM CHARGING

**CAUTION:**

- **Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.**
- **Be careful when connecting service equipment.**
- **Do not breathe refrigerant or vapor.**

**NOTE:**

- **If accidental system discharge occurs, ventilate work area before resuming service.**
- **Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.**

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.

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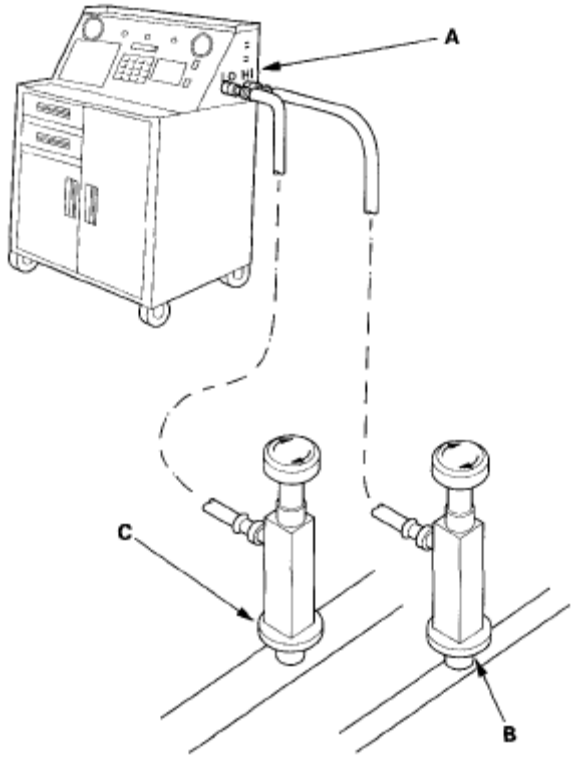



**Fig. 119: Connecting Refrigerant Recovery/Recycling/Charging Station To High-Pressure And Low-Pressure Service Port**

2. Evacuate the system (see **SYSTEM EVACUATION** ).
3. Add the same amount of new refrigerant oil to the system that was removed during recovery. Use only SP-10 refrigerant oil.
4. Charge the system with the specified amount of R-134a refrigerant. Do not overcharge the system; the A/C compressor will be damaged.

   Select the appropriate units of measure for your refrigerant charging station.

   **Refrigerant Capacity:**

   **400 to 450 g**
   **0.40 to 0.45 kg**
   **0.9 to 1.0 lbs**
   **14.1 to 15.9 oz**
5. Check for refrigerant leaks (see **REFRIGERANT LEAK TEST** ).

6. Check the system performance (see **A/C SYSTEM TEST** ).

## REFRIGERANT LEAK TEST

### Special Tools Required

Leak detector, Honda Tool and Equipment YGK-H-10PM or commercially available

**CAUTION:**
- **Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.**
- **Be careful when connecting service equipment.**
- **Do not breathe refrigerant or vapor.**

**NOTE:**
- **If accidental system discharge occurs, ventilate work area before resuming service.**
- **Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.**

1. Connect an R-134a refrigerant recovery/recycling/charging station (A) to the high-pressure service port (B) and the low-pressure service port (C), as shown, following the equipment manufacturer's instructions.

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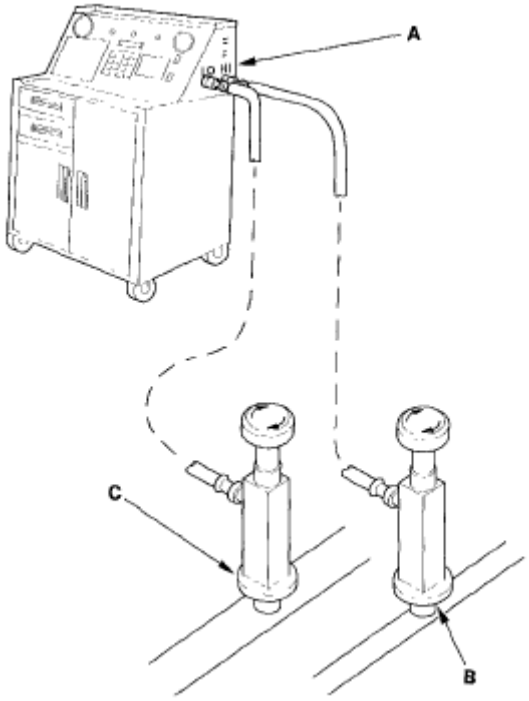



**Fig. 120: Connecting Refrigerant Recovery/Recycling/Charging Station To High-Pressure And Low-Pressure Service Port**

2. Open high pressure valve to charge the system to the specified capacity, then close the supply valve, and disconnect the charging station fittings.

   Select the appropriate units of measure for your refrigerant charging station.

   **Refrigerant Capacity:**

   **400 to 450 g**
   **0.40 to 0.45 kg**
   **0.9 to 1.0 lbs**
   **14.1 to 15.9 oz**
3. Check the system for leaks using an R-134a refrigerant leak detector with an accuracy of 14 g (0.5 oz) per year or better.
4. If you find leaks that require the system to be opened (to repair or replace hoses, fittings, etc.), recover the system.
5. After checking and repairing leaks, the system must be evacuated.

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## A/C SYSTEM TEST

**PERFORMANCE TEST**

**CAUTION:**

- **Air conditioning refrigerant or lubricant vapor can irritate your eyes, nose, or throat.**
- **Be careful when connecting service equipment.**
- **Do not breathe refrigerant or vapor.**

The performance test will help determine if the A/C system is operating within specifications.

**NOTE:**

- **If accidental system discharge occurs, ventilate work area before resuming service.**
- **Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.**

1. Connect an R-134a refrigerant recovery/recycling/charging station to the high-pressure service port and the low-pressure service port, following the equipment manufacturer's instructions.
2. Determine the relative humidity and air temperature.
3. Open the glove box. Remove the glove box stop on each side, then let the glove box hang down (see **GLOVE BOX REMOVAL/INSTALLATION** ).
4. Insert a thermometer (A) in the center vent.

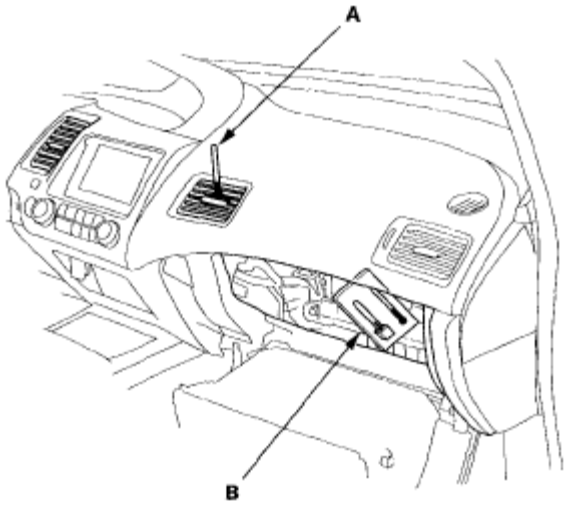



**Fig. 121: Inserting Thermometer In Center Vent**

5. Place a thermometer (B) near the blower unit's recirculation inlet duct.
6. Test conditions:
   - Avoid direct sunlight.
   - Open hood.
   - Open front doors.
   - Set the temperature control dial to Max Cool, the mode control switch to Vent, and the recirculation control switch to Recirculate.
   - Turn the A/C switch ON and the fan switch to Max.
   - Hold the engine speed at 1,500 rpm.
   - No driver or passengers in vehicle.
7. After running the air conditioning for 10 minutes under the above test conditions, read the delivery temperature from the thermometer in the center vent, the intake temperature near the blower unit, and the discharge (high) and suction (low) pressures on the A/C gauges.
8. To complete the charts:
   - Mark the delivery temperature along the vertical line.
   - Mark the intake temperature (ambient air temperature) along the bottom line.
   - Draw a line straight up from the air temperature to the humidity.

- From each point, draw a horizontal line across the delivery temperature.
- The delivery temperature should fall between the two lines.
- Complete the low-side pressure test and high-side pressure test in the same way.
- Any measurements outside the line may indicate the need for further inspection.

Example

Intake temperature (dry): 86°F (30°C) Humidity level 70%
Intake temperature (wet): 77.9°F (25.5°C)
Delivery temperature: 61°F (15.9°C)

Intake pressure: 261 kPa (2.7 kgf/$cm^2$ (38psi)

Delivery pressure: 1,780 kPa (18.2 kgf/$cm^2$ (258 psi)

Results: Within normal range

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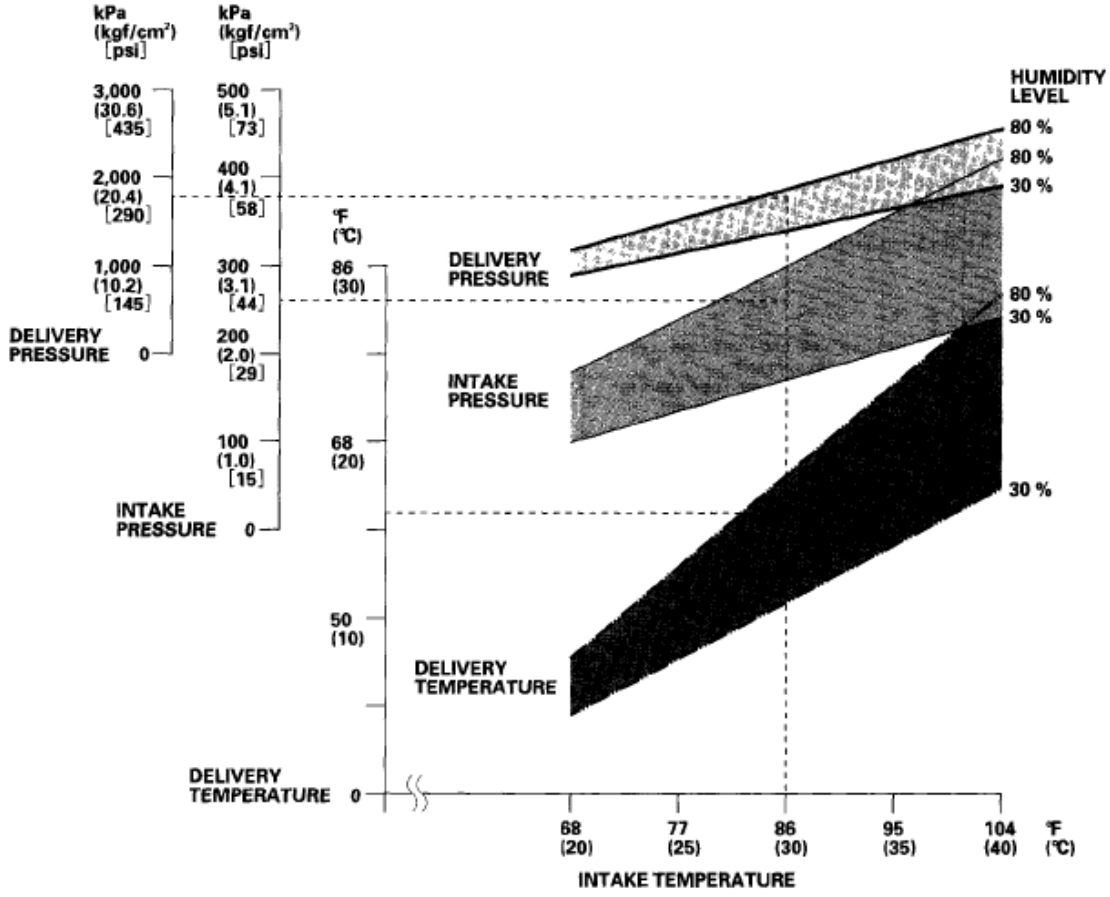



**Fig. 122: A/C System Test Graph**

**PRESSURE TEST**

## PRESSURE TEST DESCRIPTION

| Test results | Related symptoms | Probable cause | Remedy |
|---|---|---|---|
| | After stopping A/C compressor, pressure drops about 196 kPa (2.0 $kgf/cm^2$ ,28 psi) quickly, and then falls gradually. | Air in system | Recover, evacuate (see **REFRIGERANT RECOVERY** ), and recharge with specified amount (see **SYSTEM CHARGING** ). |
| Discharge (high) pressure | | • Clogged condenser or radiator fins | • Clean |

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| | | | |
|---|---|---|---|
| abnormally high | Reduced or no airflow through A/C condenser. | • A/C condenser or radiator fan not working properly | • Check voltage and fan rpm.<br>• Check fan direction. |
| | Line to A/C condenser is excessively hot. | Restricted flow of refrigerant in system | Restricted lines. |
| Discharge pressure abnormally low | High and low-pressures are balanced soon after stopping A/C compressor. Low side is higher than normal. | • Faulty A/C compressor discharge valve<br>• Faulty A/C compressor seal | Replace the A/C compressor. |
| | Outlet of expansion valve is not frosted, low-pressure gauge indicates vacuum. | • Faulty expansion valve<br>• Moisture in system | • Replace.<br>• Recover, evacuate, and recharge with specified amount. |
| Suction (low) pressure abnormally low | Expansion valve is not frosted, and low-pressure line is not cold. Low-pressure gauge indicates vacuum. | • Frozen expansion valve (Moisture in system)<br>• Faulty expansion valve | • Recover, evacuate, and recharge with specified amount.<br>• Replace the expansion valve. |
| | Discharge temperature is low, and the airflow from vents is restricted. | Frozen evaporator | Run the fan with A/C compressor off, then check evaporator temperature sensor. |
| | Expansion valve is | Clogged | Clean or replace. |

| | | | |
|---|---|---|---|
| | frosted. | expansion valve | |
| Suction pressure abnormally high | Low-pressure hose and check joint are cooler than the temperature around evaporator. | Expansion valve open too long | Repair or replace. |
| | Suction pressure is lowered when A/C condenser is cooled by water. | Excessive refrigerant in system | Recover, evacuate, and recharge with specified amount. |
| | High and low-pressures are equalized as soon as the A/C compressor is stopped, and both gauges fluctuate while running. | • Faulty gasket<br>• Faulty high-pressure valve<br>• Foreign particle stuck in high-pressure valve | Replace the A/C compressor. |
| Suction and discharge pressures abnormally high | Reduced airflow through A/C condenser. | • Clogged A/C condenser or radiator fins<br>• A/C condenser or radiator fan not working properly | • Clean<br>• Check voltage and fan rpm.<br>• Check fan direction. |
| Suction and discharge pressures abnormally low | Low-pressure hose and metal end areas are cooler than evaporator. | Clogged or kinked low-pressure hose parts | Repair or replace. |
| | Temperature around expansion valve is too low compared | Clogged high- | Repair or replace. |

| | | | |
|---|---|---|---|
| | with that around receiver/dryer. | pressure line | |
| Refrigerant leaks | A/C compressor clutch is dirty. | A/C compressor shaft seal leaking | Replace the A/C compressor. |
| | A/C compressor bolt (s) are dirty. | Leaking around bolt(s) | Tighten bolt(s) or replace A/C compressor. |
| | A/C compressor gasket is wet with oil. | Gasket leaking | Replace the A/C compressor. |
| | A/C fitting is dirty. | Leaking O-ring | Clean the A/C fitting and replace the O-ring. |

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**2006-08 ACCESSORIES AND EQUIPMENT**

**Ignition Switch - Civic**

## TEST

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

1. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets. Make sure the ignition switch is OFF.
2. Disconnect the negative battery cable.
3. Remove the driver's dashboard lower cover (see **DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ), and the steering column covers (see **COLUMN COVER REMOVAL AND INSTALLATION** ).
4. Disconnect the 7P connector (A) from the ignition switch (B).

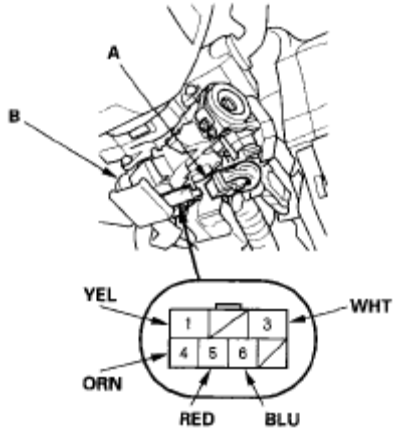



**Fig. 1: Identifying Ignition Switch And 7P Connector**

5. Check for continuity between the terminals in each switch position according to the table.

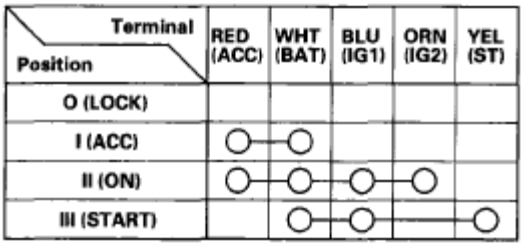



**Fig. 2: Continuity Reference Chart**

6. If the continuity checks do not agree with the table, replace the ignition switch (see **REPLACEMENT** ).
7. After reconnecting the battery, enter the anti-theft code for the audio or the navigation system, then enter the customer's audio presets, and set the clock.

## REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

1. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets. Make sure the ignition switch is OFF.
2. Disconnect the negative battery cable.
3. Remove the driver's dashboard lower cover (see **DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ), and the steering column covers (see **COLUMN COVER REMOVAL AND INSTALLATION** ).
4. Disconnect the 7P connector (A) from the ignition switch (B).

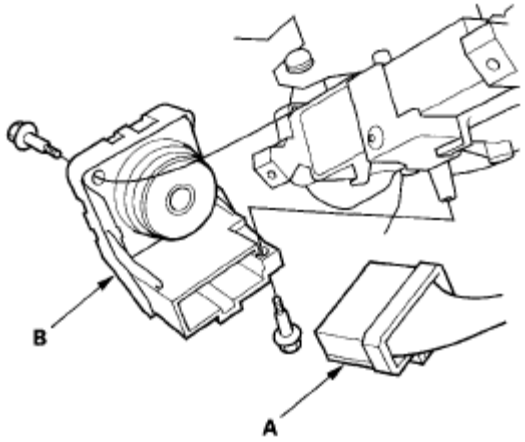



**Fig. 3: Identifying 7P Connector And Ignition Switch**

5. Remove the two screws and the ignition switch.
6. Install in the reverse order of removal.
7. After reconnecting the battery, enter the anti-theft code for the audio or the navigation system, then enter the customer's audio presets, and set the clock.

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## 2006-08 ENGINE

## Ignition System (K20Z3) - Civic (Except Si)

# COMPONENT LOCATION INDEX

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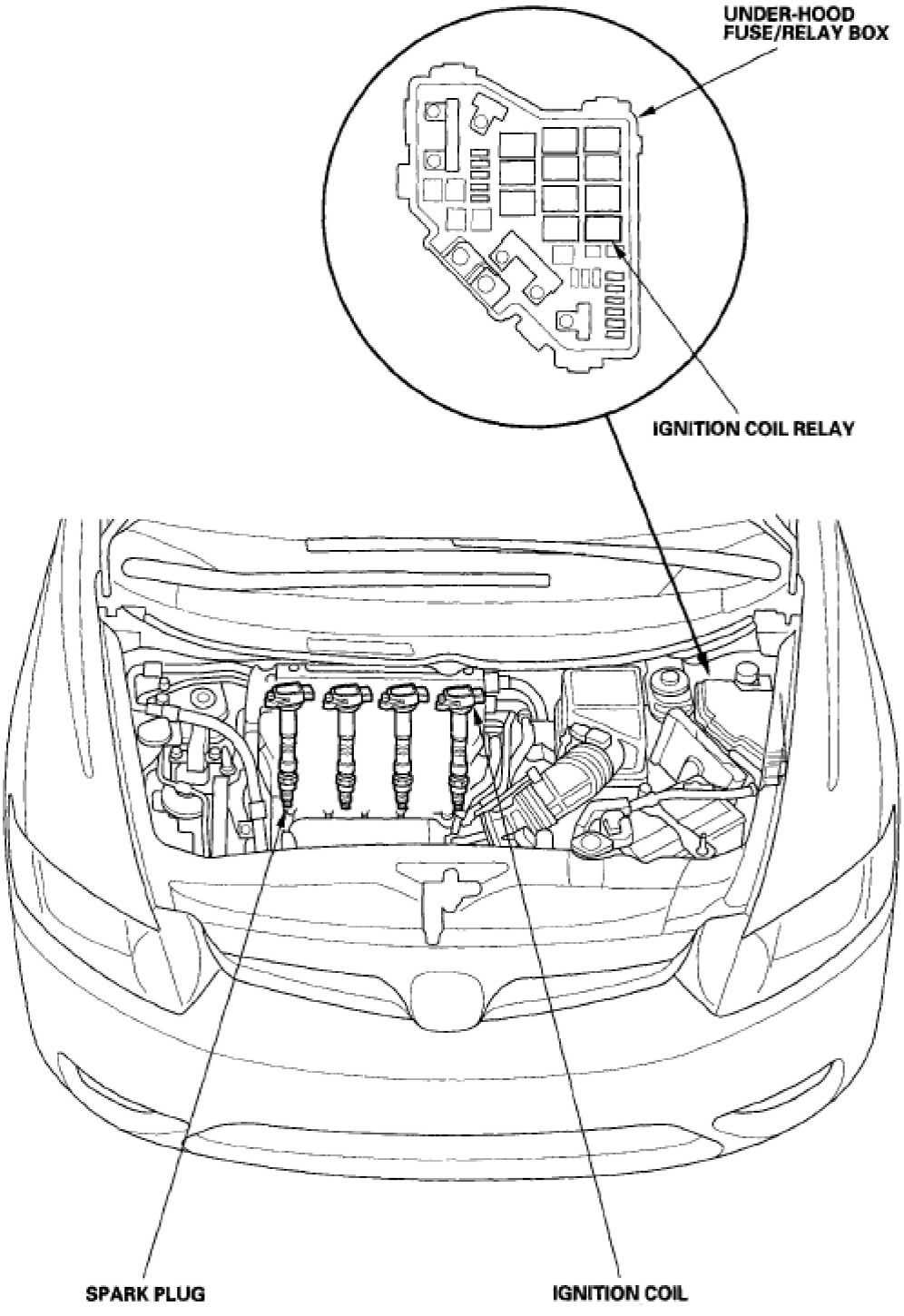
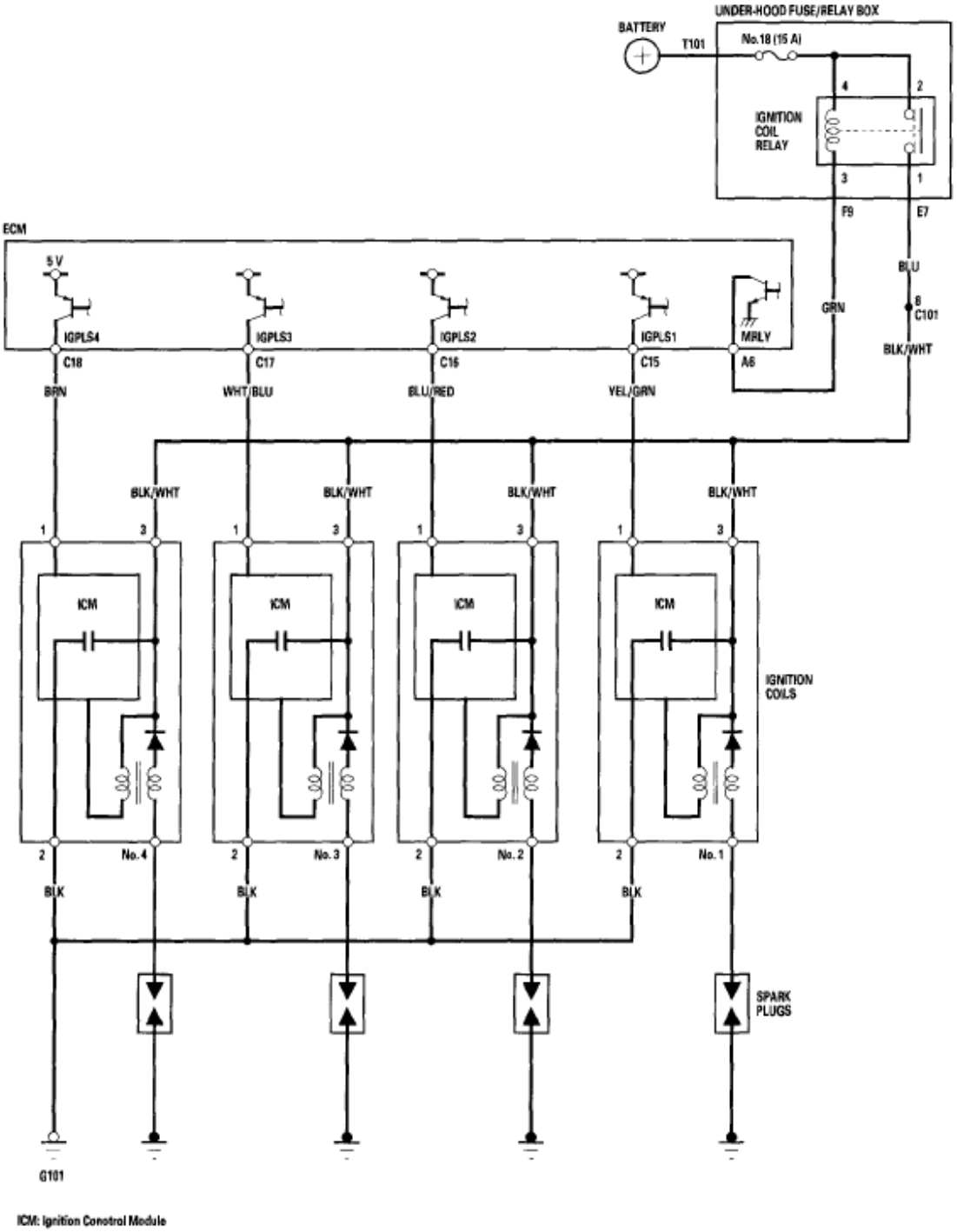



**Fig. 1: Identifying Ignition System (K20Z3) Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CIRCUIT DIAGRAM

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ICM: Ignition Control Module

## Fig. 2: Ignition System - Circuit Diagram
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## IGNITION TIMING INSPECTION

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1. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the ECM. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Check for DTCs. If a DTC is present, diagnose and repair the cause before continuing with this test.
5. Start the engine. Hold the engine speed at 3,000 rpm without load (in neutral) until the radiator fan comes on, then let it idle.
6. Check the idle speed (see **IDLE SPEED INSPECTION** ).
7. Jump the SCS line with the HDS.
8. Connect the timing light to the service loop (white tape).

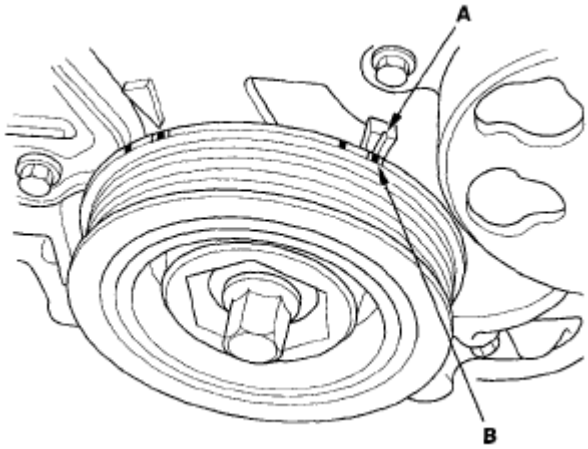



**Fig. 3: Identifying Ignition Timing Mark**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Aim the light toward the pointer (A) on the cam chain case. Check the ignition timing under a no load condition (headlights, blower fan, rear window defogger, and air conditioner are turned off).

**Ignition Timing:**

**8 ° ±2 ° BTDC (RED mark (B)) at idle in Neutral**

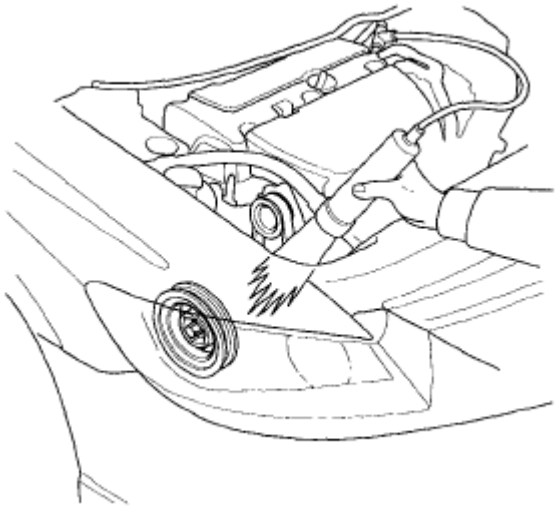


**Fig. 4: Checking Ignition Timing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. If the ignition timing differs from the specification, check the cam timing. If the cam timing is OK, update the engine control module (ECM) if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then recheck. If the system work properly, and the ECM was substituted, replace the original ECM (see **ECM REPLACEMENT** ).
11. Disconnect the HDS and the timing light.

## IGNITION COIL REMOVAL/INSTALLATION

1. Remove the under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
2. Remove the ignition coil cover (A), disconnect the ignition coil connectors (B), then remove the ignition coils (C).

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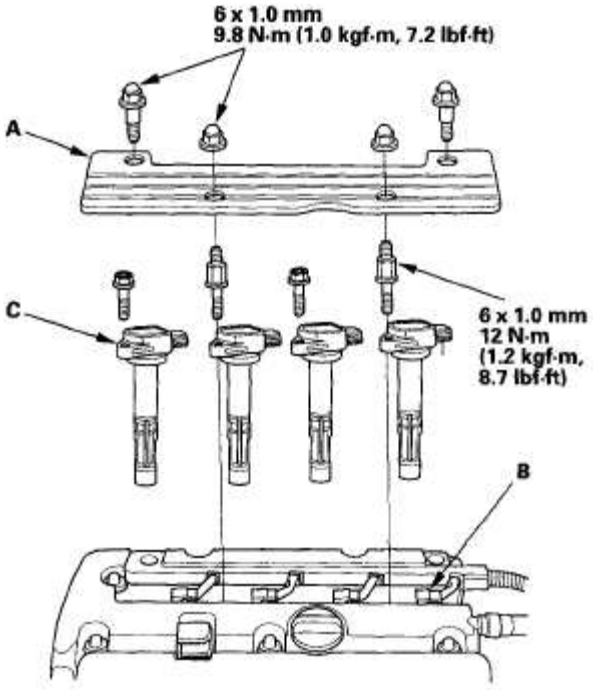



**Fig. 5: Identifying Ignition Coil (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the ignition coils in the reverse order of removal.

## IGNITION COIL RELAY CIRCUIT TROUBLESHOOTING

1. Check the No. 18 (15 A) fuse in the under-hood fuse/relay box.

   *Is the fuse OK?*

   **YES** -Go to step 2.

   **NO** -Replace the fuse.

2. Remove the ignition coil relay from the under-hood fuse/relay box, and test it (see **POWER RELAY TEST** ).

   *Is the relay OK?*

   **YES** -Go to step 3.

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**NO** -Replace the ignition coil relay.

3. Measure the voltage between ignition coil relay 4P socket terminal No. 2 and body ground, then terminal No. 4 and body ground.

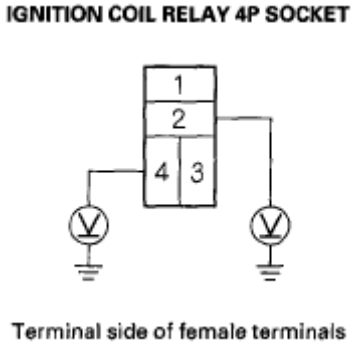



**Fig. 6: Checking Voltage Between Ignition Coil Relay 4P Socket Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 4.

**NO** -Replace the under-hood fuse/relay box.

4. Check for continuity between ignition coil relay 4P socket terminal No. 2 and the No. 1 ignition coil 3P connector terminal No. 3.

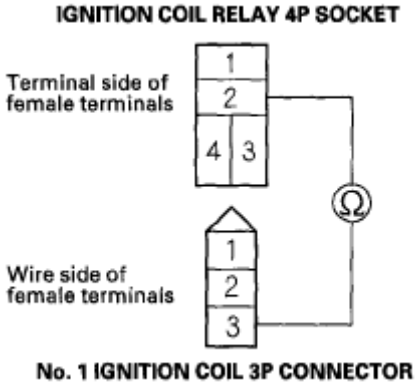



**Fig. 7: Checking Continuity Between Ignition Coil Relay 4P Socket Terminal No. 2 And No. 1 Ignition Coil 3P Connector Terminal No. 3**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 5.

**NO** -Repair open in the wire between ignition coil relay 4P socket terminal No. 2 and ignition coil 3P connector terminal No. 3.

5. Check for continuity between each ignition coil 3P connector terminal No. 2 and the body ground.

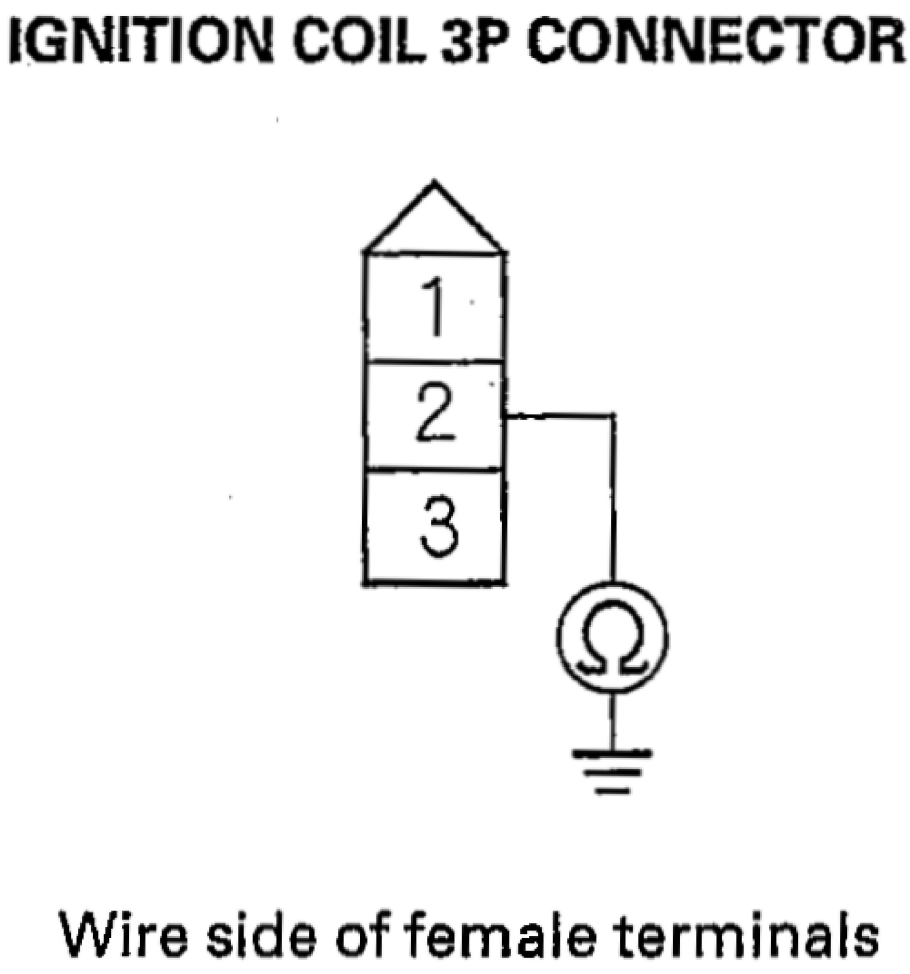



**Fig. 8: Checking For Continuity Between Ignition Coil 3P Connector Terminal No. 2 And The Body Ground**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 6.

**NO** -Repair open in the wire between ignition coil relay 3P socket terminal No. 2 and body ground.

6. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
7. Turn the ignition switch ON (II).
8. Make sure the HDS communicates with the vehicle and the engine control module (ECM). If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
9. Jump the SCS line with the HDS, then turn the ignition switch OFF.

**NOTE: This step must be done to protect the ECM from damage.**

10. Disconnect ECM connector A (44P).
11. Check for continuity between ignition coil relay 4P socket terminal No. 3 and body ground.

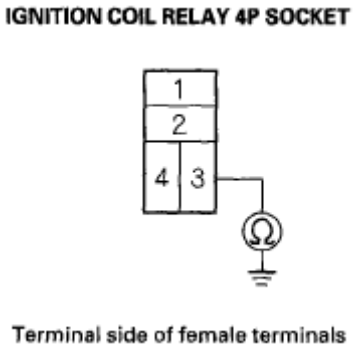



**Fig. 9: Checking Continuity Between Ignition Coil Relay 4P Socket Terminal No. 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between ignition coil relay 4P socket terminal No. 3 and ECM (A6).

**NO** -Go to step 11.

12. Check for continuity between ignition coil relay 4P socket terminal No. 3 and ECM connector terminal A6.

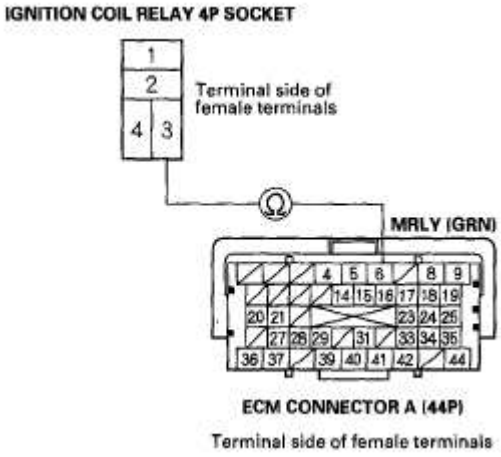



**Fig. 10: Checking Continuity Between Ignition Coil Relay 4P Socket Terminal No. 3 And ECM Connector Terminal A6**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -The system is OK at this time. Check for loose or poor connections at the ignition coil relay and the ECM (A6).

**NO** -Repair open in the wire between ignition coil relay 4P socket terminal No. 3 and the ECM (A6).

## SPARK PLUG INSPECTION

1. Remove the spark plugs and inspect the electrodes and ceramic insulator.
   - Burned or worn electrodes may be caused by:
     - Advanced ignition timing

- Loose spark plug
- Plug heat range too hot
- Insufficient cooling

- Fouled plugs may be caused by:
  - Retarded ignition timing
  - Oil in combustion chamber
  - Incorrect spark plug gap
  - Plug heat range too cold
  - Excessive idling/low speed running
  - Clogged air cleaner element
  - Deteriorated ignition coils

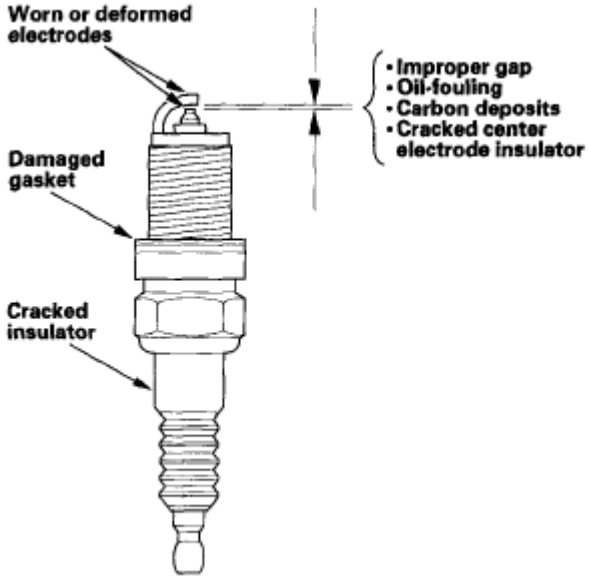



**Fig. 11: Identifying Spark Plug Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. If the spark plug electrode is dirty or contaminated, clean the electrode with a plug cleaner.

**NOTE:**

- **Do not use a wire brush or scrape the iridium electrode since this will damage the electrode.**

- **When using a sand blaster spark plug cleaner, do not clean for more than 20 seconds to avoid damaging the electrode.**

3. Replace the plug at the specified interval, or if the center electrode is rounded (A), or if the spark plug gap (B) is out of specification. Use only the listed spark plugs.

   **NOTE: Do not adjust the gap of iridium tip plugs.**

   **Spark Plugs**

   **NGK: IFR7G11KS**

   **DENSO: SK22PR-M11S**

   **Electrode Gap**

   **Standard (New): 1.0-1.1 mm (0.039-0.043 in.)**

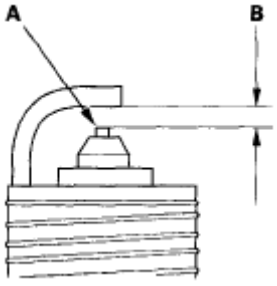



**Fig. 12: Identifying Spark Plug Gap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Apply small amount of anti-seize compound to the plug threads, and screw the plugs into the cylinder head, finger-tight. Then torque them to 18 N.m (1.8 kgf.m, 13 lbf.ft).

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# 2006-08 ENGINE

## Ignition System (R18A1) - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX

**NOTE: Go to IGNITION SYSTEM (GX) (SUPPLEMENT) article for additional information for the GX model.**

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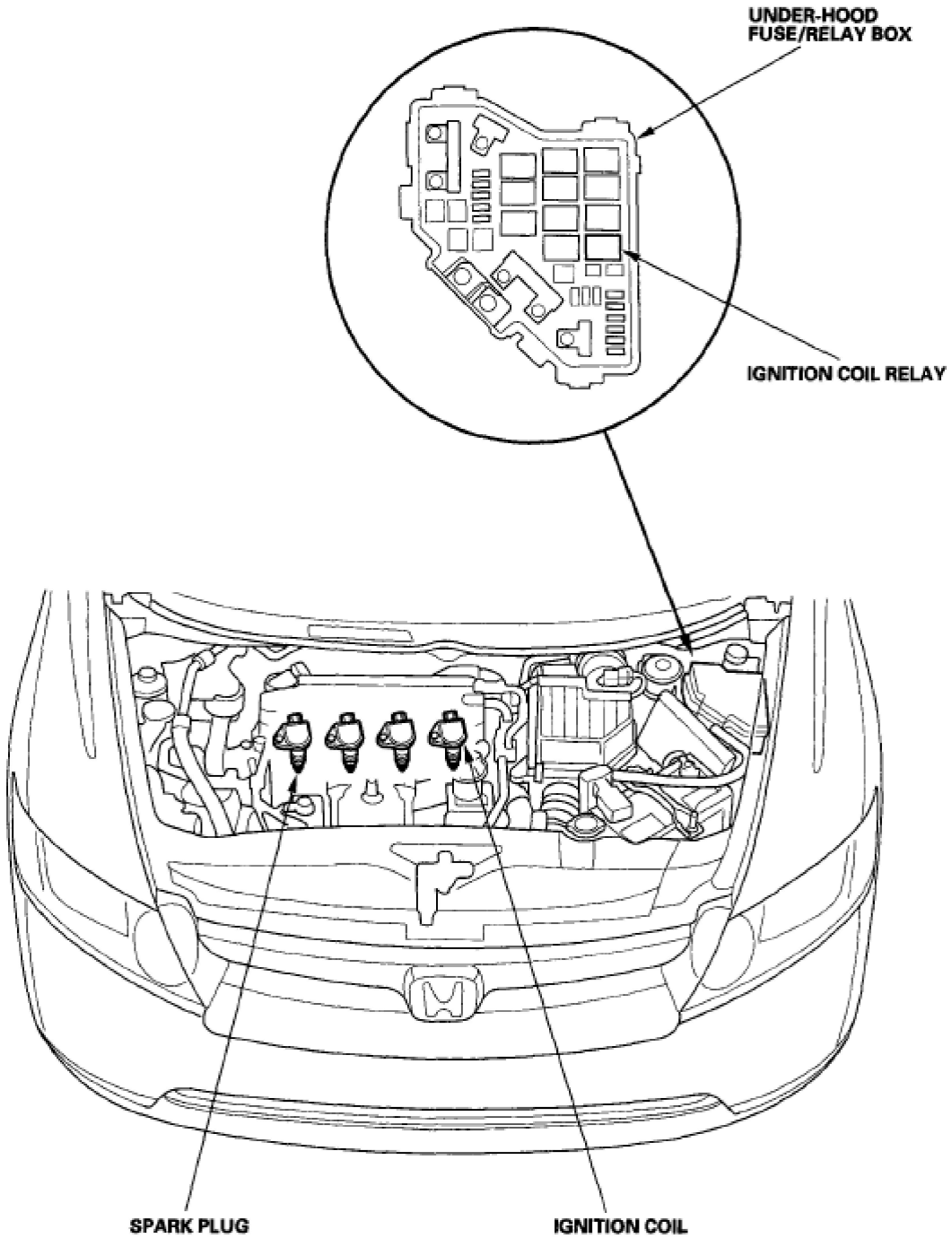



**Fig. 1: Identifying Ignition System Component**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CIRCUIT DIAGRAM

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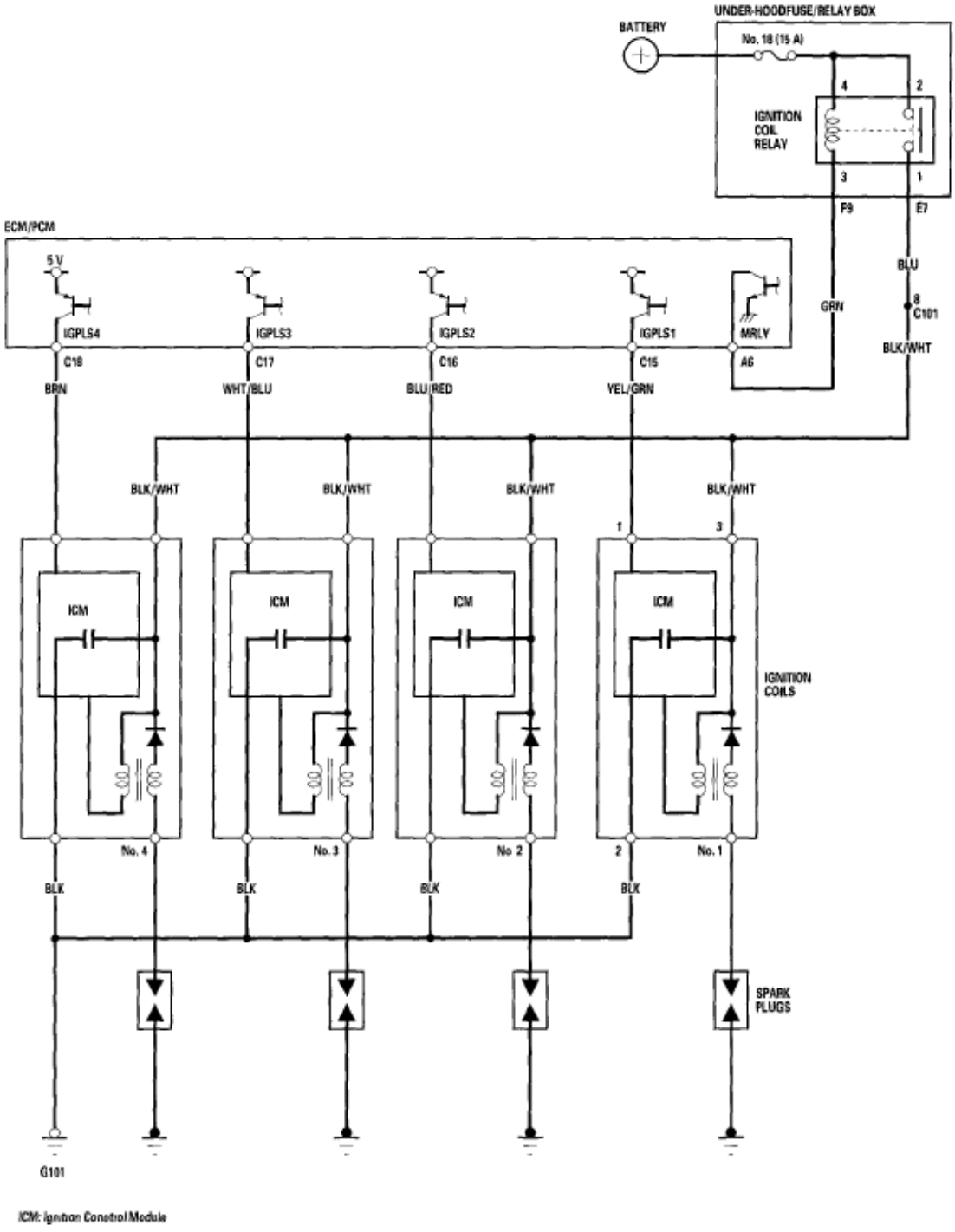



**Fig. 2: Ignition System - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## IGNITION TIMING INSPECTION

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1. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the ECM/PCM. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Check for DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ). If a DTC is present, diagnose and repair the cause before continuing with this test.
5. Start the engine. Hold the engine speed at 3,000 rpm without load (in the P or N position (A/T) or neutral (M/T)) until the radiator fan comes on, then let it idle.
6. Check the idle speed (see **IDLE SPEED INSPECTION** ).
7. Jump the SCS line with the HDS.
8. Connect the timing light to the No. 1 ignition coil harness.
9. Aim the light toward the pointer (A) on the cam chain case. Check the ignition timing under a no load condition (headlights, blower fan, rear window defogger, and air conditioner are turned off).

   **Ignition Timing**

   **M/T: 8 °±2 ° BTDC (RED mark (B) at idle in Neutral**

   **A/T: 8 °±2 ° BTDC (RED mark (B) at idle in Park or Neutral**

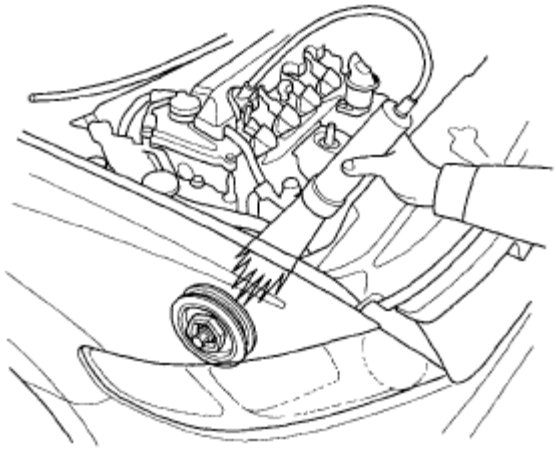


**Fig. 3: Aiming Timing Light Toward Pointer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

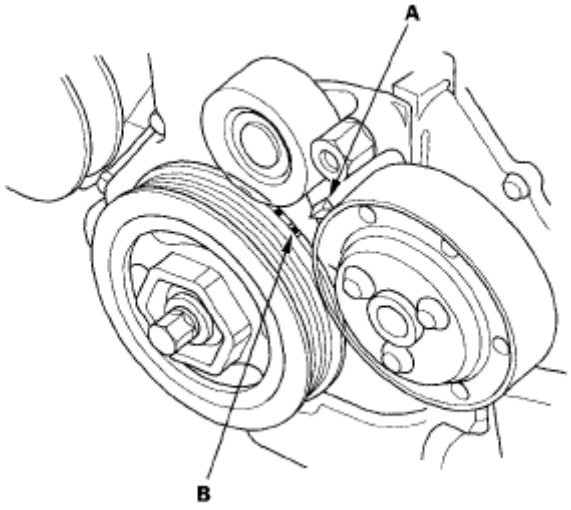



**Fig. 4: Identifying Timing Marks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. If the ignition timing differs from the specification, check the cam timing. If the cam timing is OK, update the engine control module (ECM)/powertrain control module (PCM) if it does not have the latest software (see **UPDATING ECM/PCM** ), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM** ), then recheck. If the system works properly, and the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT** ).
11. Disconnect the HDS and the timing light.

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## IGNITION COIL REMOVAL/INSTALLATION

1. Disconnect the ignition coil connectors (A), then remove the ignition coils (B).

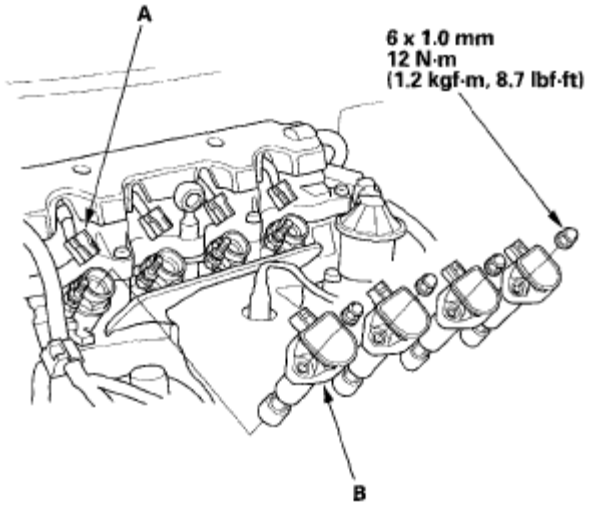



**Fig. 5: Disconnecting Ignition Coil Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the ignition coils in the reverse order of removal.

## IGNITION COIL RELAY CIRCUIT TROUBLESHOOTING

1. Check the No. 18(15 A) fuse in the under-hood fuse/relay box.

   *Is the fuse OK?*

   **YES** -Go to step 2.

   **NO** -Replace the fuse.

2. Remove the ignition coil relay from the under-hood fuse/relay box, and test it (see **POWER RELAY TEST** ).

   *Is the relay OK?*

   **YES** -Go to step 3.

   **NO** -Replace the ignition coil relay.

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3. Measure the voltage between ignition coil relay 4P socket terminal No. 2 and body ground, then terminal No. 4 and body ground.

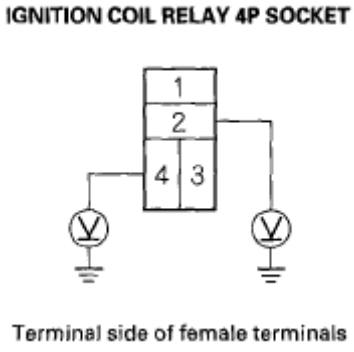



**Fig. 6: Measuring Voltage Between Ignition Coil Relay 4P Socket Terminal No. 2 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 4.

**NO** -Replace the under-hood fuse/relay box.

4. Check for continuity between ignition coil relay 4P socket terminal No. 1 and the No. 1 ignition coil 3P connector terminal No. 3.

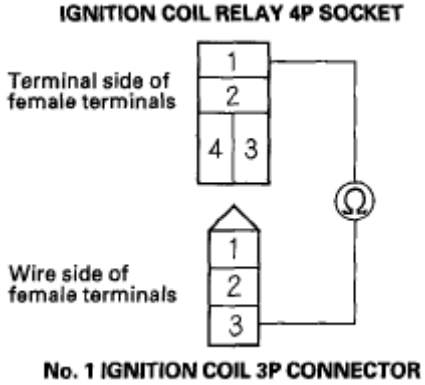



**Fig. 7: Checking For Continuity Between Ignition Coil Relay 4P Socket Terminal No. 1**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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*Is there continuity?*

**YES** -Go to step 5.

**NO** -Repair open in the wire between ignition coil relay 4P socket terminal No. 1 and ignition coil 3P connector terminal No. 3.

5. Check for continuity between each ignition coil 3P connector terminal NO. 2 and the body ground.

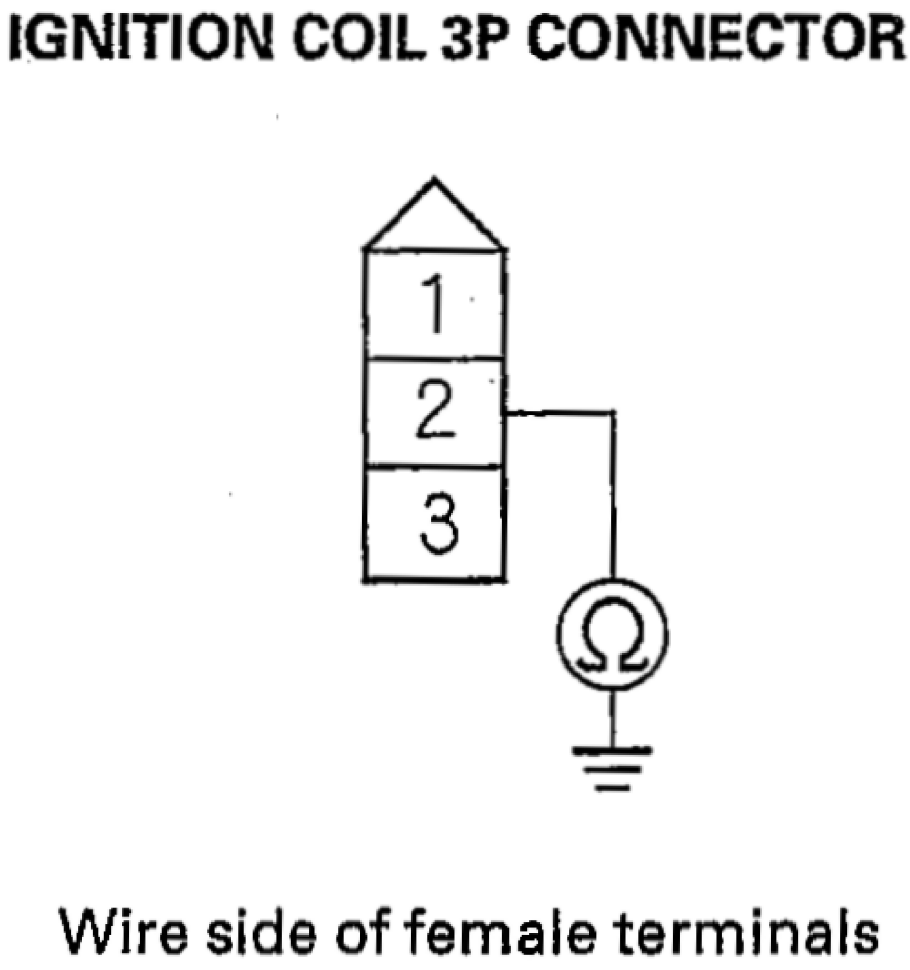



**Fig. 8: Checking For Continuity Between Each Ignition Coil 3P Connector Terminal No. 2 And The Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 6.

**NO** -Repair open in the wire between ignition coil relay 3P socket terminal No. 2 and body ground.

6. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
7. Turn the ignition switch ON (II).
8. Make sure the HDS communicates with the vehicle and the engine control module (ECM)/powertrain control module (PCM). If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
9. Jump the SCS line with the HDS, then turn the ignition switch OFF.

**NOTE: This step must be done to protect the ECM/PCM from damage.**

10. Disconnect ECM/PCM connector A (44P).
11. Check for continuity between ignition coil relay 4P socket terminal No. 3 and body ground.

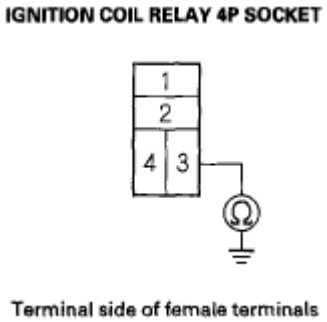



**Fig. 9: Checking For Continuity Between Ignition Coil Relay 4P Socket Terminal No. 3 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short in the wire between ignition coil relay 4P socket terminal No. 3 and the ECM/PCM (A20).

**NO** -Go to step 11.

12. Check for continuity between ignition coil relay 4P socket terminal No. 3 and ECM/PCM connector terminal A20.

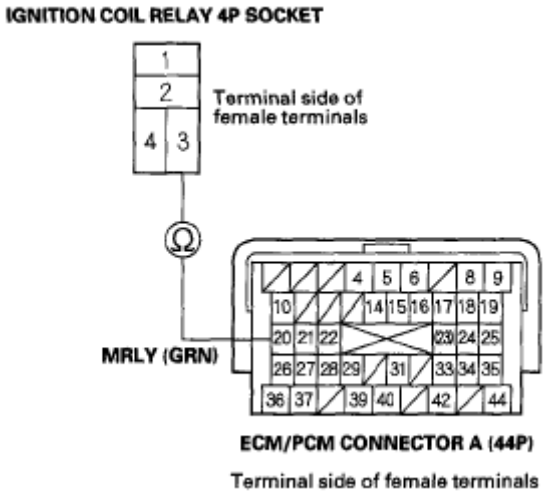



**Fig. 10: Checking For Continuity Between Ignition Coil Relay 4P Socket Terminal No. 3**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -The system is OK at this time. Check for loose or poor connections at the ignition coil relay and the ECM/PCM (A20).

**NO** -Repair open in the wire between ignition coil relay 4P socket terminal No. 3 and the ECM/PCM (A20).

## SPARK PLUG INSPECTION

1. Remove the spark plugs and inspect the electrodes and the ceramic insulator.
   - Burned or worn electrodes may be caused by:
     - Advanced ignition timing

- Loose spark plug
- Plug heat range too hot
- Insufficient cooling

- Fouled plugs may be caused by:
  - Retarded ignition timing
  - Oil in combustion chamber
  - Incorrect spark plug gap
  - Plug heat range too cold
  - Excessive idling/low speed running
  - Clogged air cleaner element
  - Deteriorated ignition coils

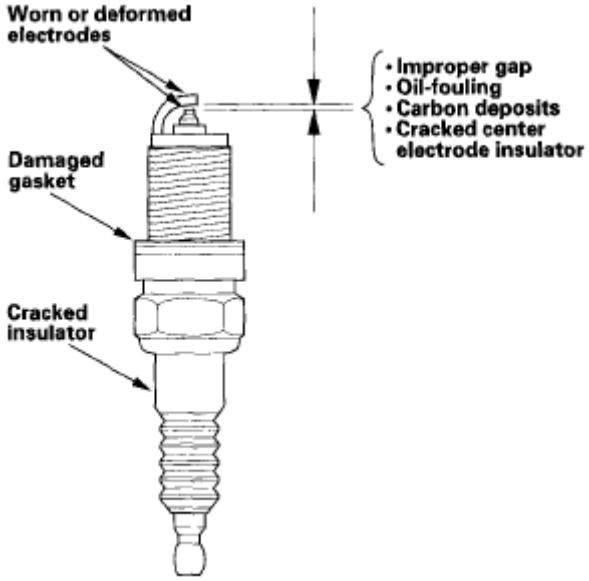



**Fig. 11: Identifying Worn Or Deformed Electrodes, Damaged Gasket, Cracked Insulator And Improper Gap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. If the spark plug electrode is dirty or contaminated, clean the electrode with a plug cleaner.

**NOTE:**

- **Do not use a wire brush or scrape the iridium**

**electrode since this will damage the electrode.**

- **When using a sand blaster spark plug cleaner, do not clean for more than 20 seconds to avoid damaging the electrode.**

3. Replace the plug at the specified interval, or if the center electrode is rounded (A), or if the spark plug gap is out of specification. Use only the listed spark plugs.

   **NOTE: Do not adjust the gap (B) of iridium tip plugs.**

   **Spark Plugs**

   **NGK: IZFR6K11S**

   **DENSO: SKJ20DR-M11S**

   **Electrode Gap**

   **Standard (New): 1.0-1.1 mm (0.039-0.043 in.)**

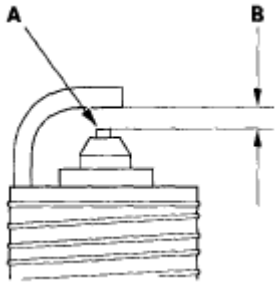



**Fig. 12: Identifying Spark Plugs And Electrode Gap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Apply small amount of anti-seize compound to the plug threads, and screw the plugs into the cylinder head, finger-tight. Then torque them to 25 N.m (2.5 kgf.m, 18 lbf.ft).

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# 2006-08 ENGINE

## Ignition System - Civic GX

## COMPONENT LOCATION INDEX

**NOTE: Refer to the IGNITION SYSTEM (R18A1) article for additional information that is not shown in this article.**

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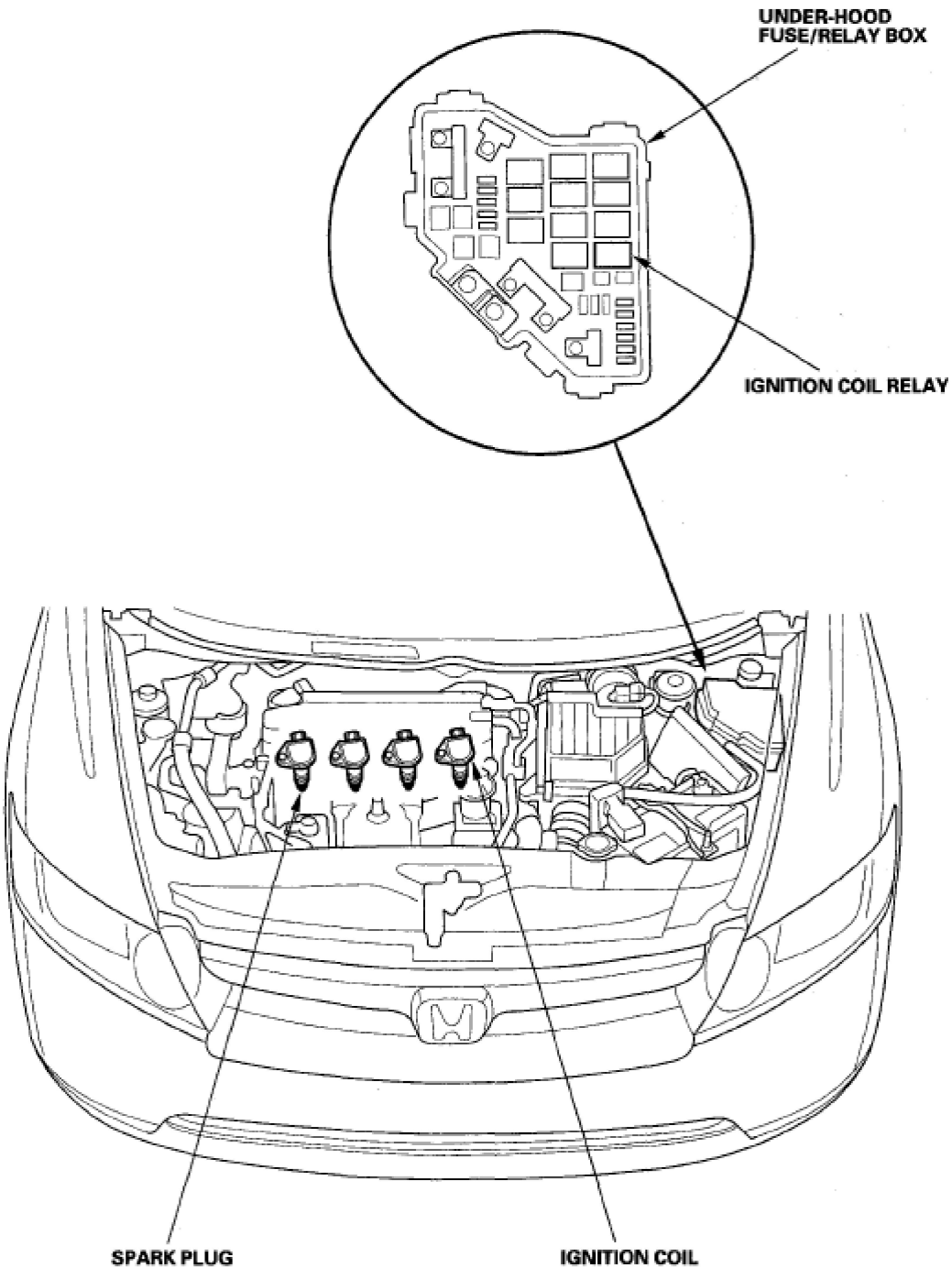



**Fig. 1: Identifying Ignition System Component Location**

## SPARK PLUG INSPECTION

1. Remove the spark plugs and inspect the electrodes and ceramic insulator.
    - Burned or worn electrodes may be caused by:
        - Advanced ignition timing
        - Loose spark plug
        - Plug heat range too hot
        - Insufficient cooling
    - Fouled plugs may be caused by:
        - Retarded ignition timing
        - Oil in combustion chamber
        - Incorrect spark plug gap
        - Plug heat range too cold
        - Excessive idling/low speed running
        - Clogged air cleaner element
        - Deteriorated ignition coils

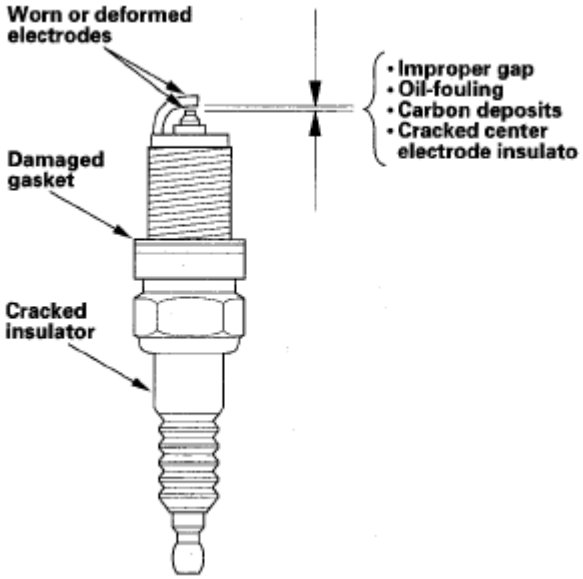



**Fig. 2: Identifying Spark Plug Gap**

2. If the spark plug electrode is dirty or contaminated, clean the electrode with a plug cleaner.

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**NOTE:**

- **Do not use a wire brush or scrape the iridium electrode since this will damage the electrode.**
- **When using a sand blaster spark plug cleaner, do not clean for more than 20 seconds to avoid damaging the electrode.**

3. Replace the spark plug if the gap is out of specification.

**NOTE: Do not adjust the gap of iridium tip plugs.**

**Electrode Gap**

**Standard (New): 0.7-0.8 mm (0.028-0.031 in.)**

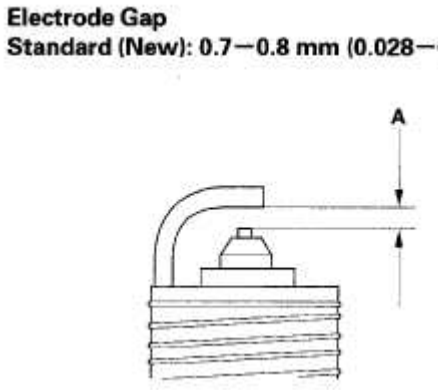



**Fig. 3: Identifying Electrode Gap**

4. Replace the plug at the specified interval, or if the center electrode is rounded (A). Use only the spark plugs as listed.

**Spark Plugs IFR7F8DS**

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**Spark Plugs**
**IFR7F8DS**

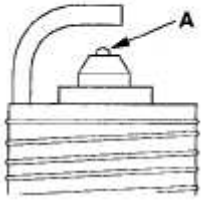



**Fig. 4: Identifying Spark Plugs Gap**

5. Apply a small amount of anti-seize compound to the plug threads, and screw the plugs into the cylinder head, finger-tight. Torque them to 25 N.m (2.5 kgf.m, 18 Ibf.ft).

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# 2006-08 ENGINE

## Intake Manifold and Exhaust System - Civic (Except Hybrid)

# INTAKE MANIFOLD AND EXHAUST SYSTEM (R18A1)

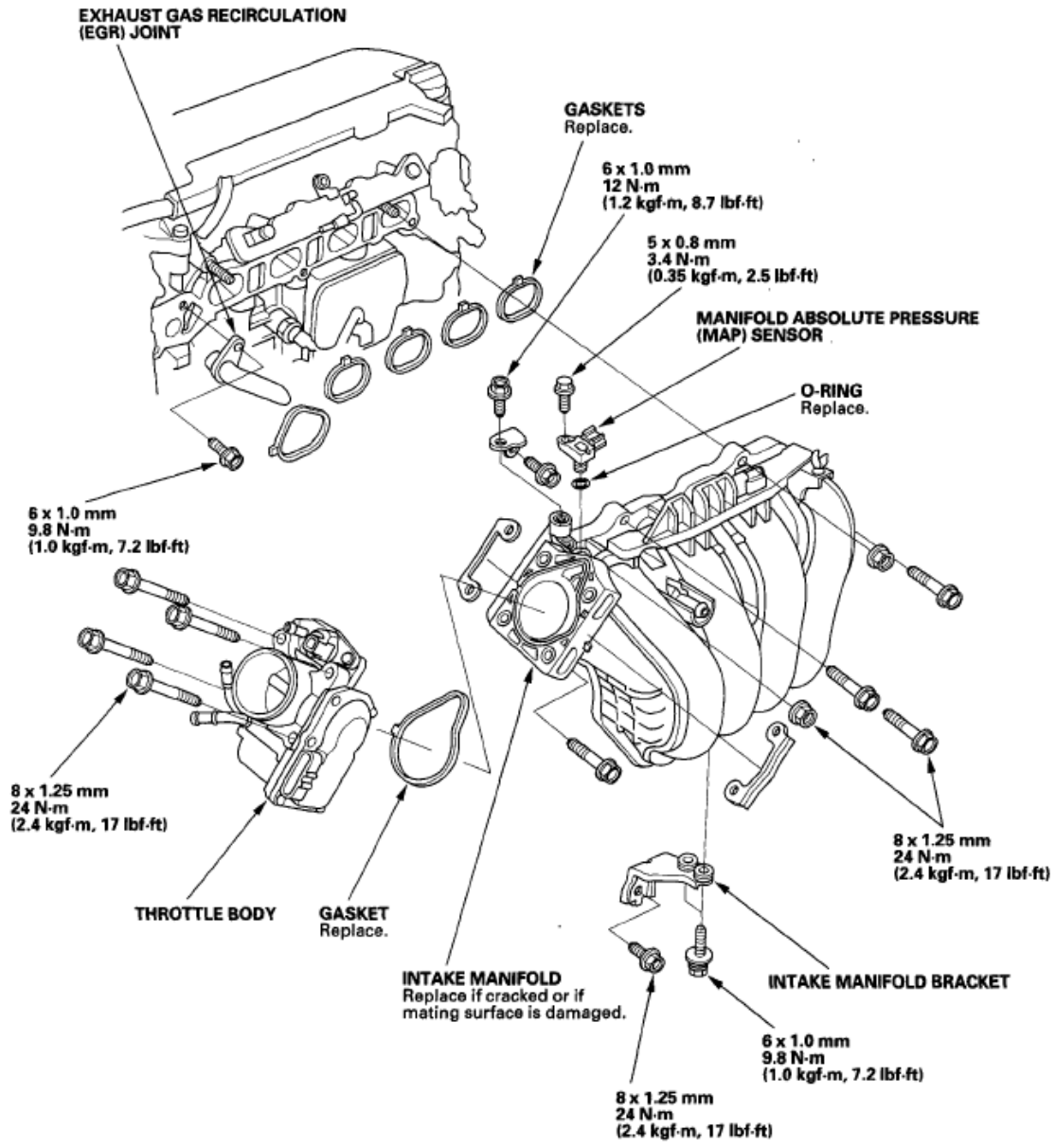
**NOTE: Refer to the INTAKE MANIFOLD AND EXHAUST SYSTEM (GX) (SUPPLEMENT) article for additional information for the GX model.**

### INTAKE MANIFOLD REMOVAL AND INSTALLATION

**Exploded View**

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## Fig. 1: Exploded View Of Intake Manifold (With Torque Specifications)

**Removal**

1. Remove the cowl cover and under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
2. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
3. Remove the air intake duct.

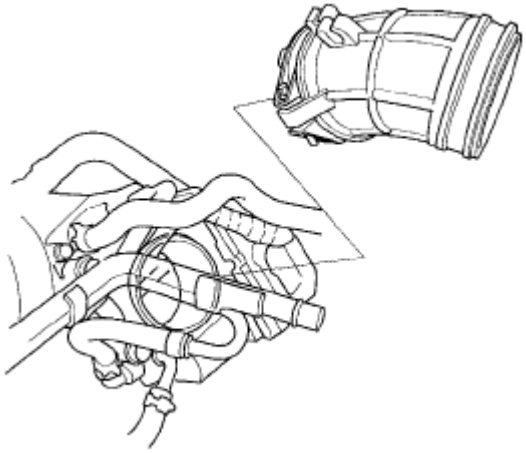


**Fig. 2: Identifying Air Intake Duct**

4. Remove the injector cover.

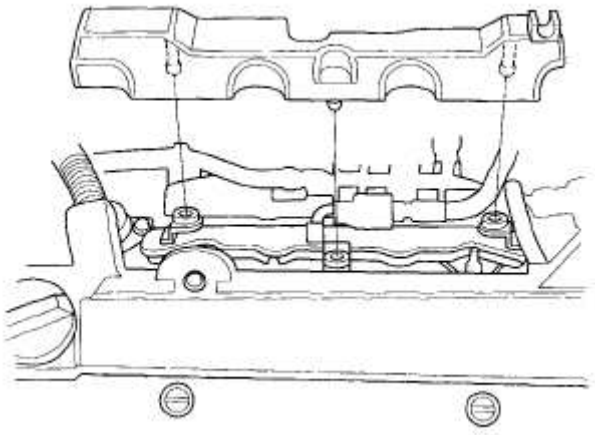


**Fig. 3: Identifying Injector Cover**

5. Remove the evaporative emission (EVAP) canister hose (A), brake booster vacuum hose (B), positive crankcase ventilation (PCV) hose (C), and power steering (P/S) hose clamp (D).

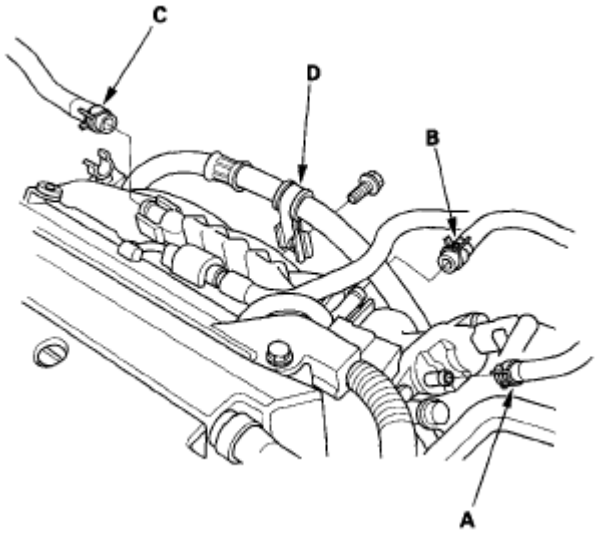



**Fig. 4: Identifying Evaporative Emission Canister Hose And Brake Booster Vacuum Hose**

6. Remove the quick-connect fitting cover (A), then disconnect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING REMOVAL** ).

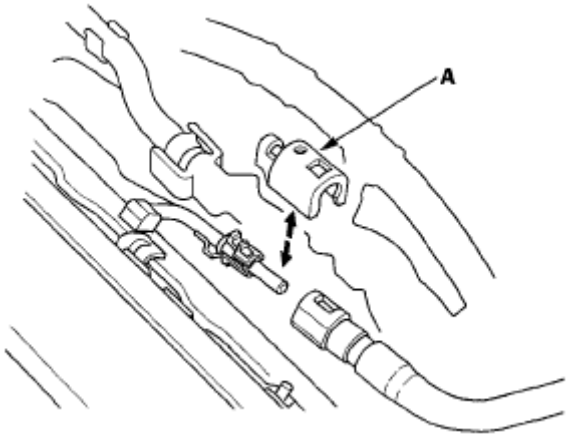



**Fig. 5: Identifying Quick-Connect Fitting Cover**

7. Remove the engine wire harness connectors and wire harness clamps from the intake manifold.
   - Throttle actuator connector
   - Manifold absolute pressure (MAP) sensor connector
   - Evaporative emission (EVAP) canister purge valve connector

- Intake manifold tuning (IMT) valve actuator connector

8. Remove the water bypass hoses, then plug the water bypass hoses.

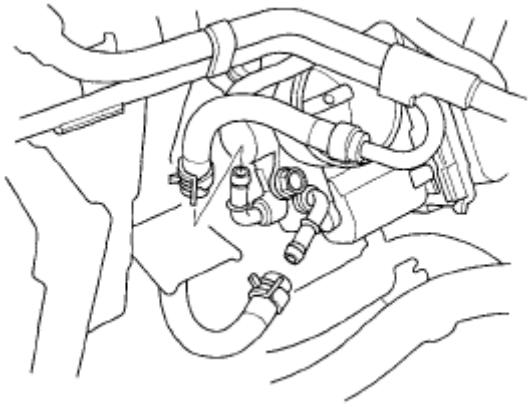


**Fig. 6: Identifying Water Bypass Hoses**

9. Remove the throttle body.

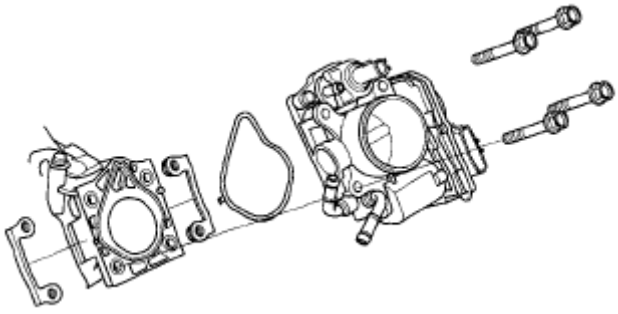


**Fig. 7: Identifying Throttle Body**

10. Remove the heater hose clamp bracket.

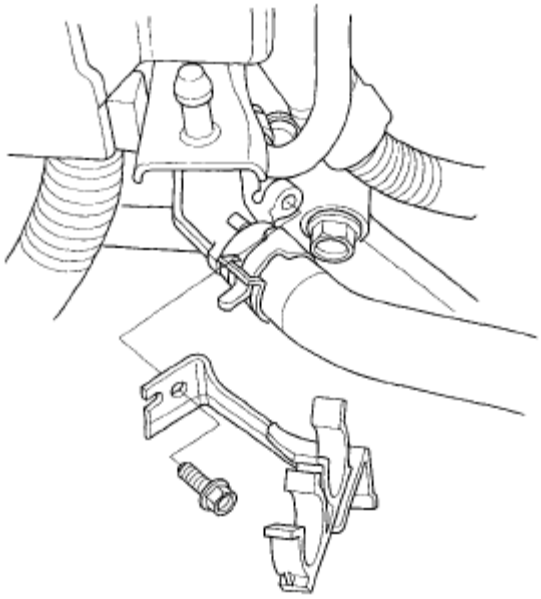


**Fig. 8: Identifying Heater Hose Clamp Bracket**

11. Raise the vehicle on the lift to full height.
12. Remove the intake manifold bracket.

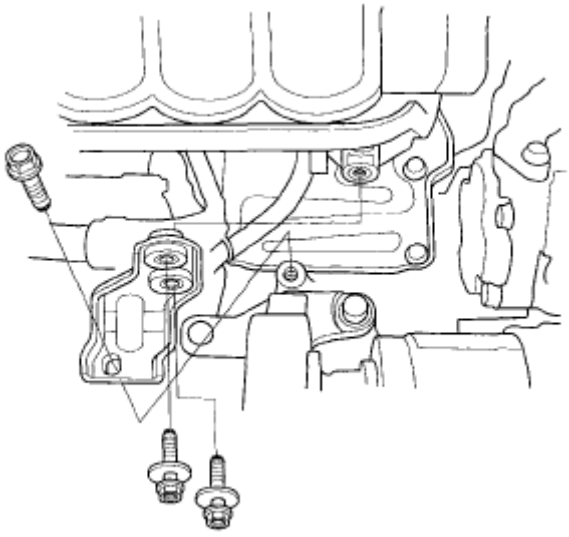


**Fig. 9: Identifying Intake Manifold Bracket**

13. Lower the vehicle on the lift.
14. Remove the all intake manifold mounting bolts and nuts, then remove the intake manifold from the cylinder head.

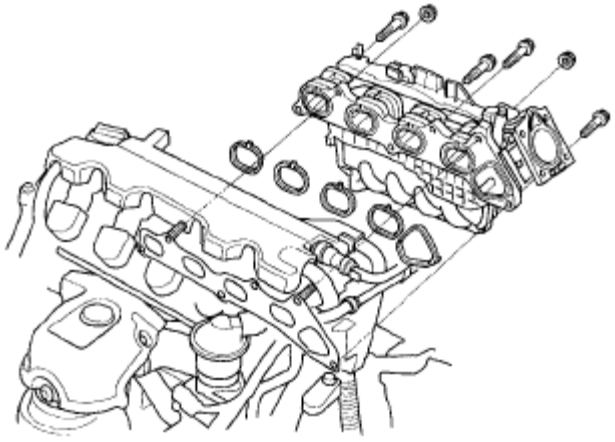


**Fig. 10: Identifying Intake Manifold Mounting Bolts And Nuts**

15. Remove the harness clamps, then remove the intake manifold from the vehicle.

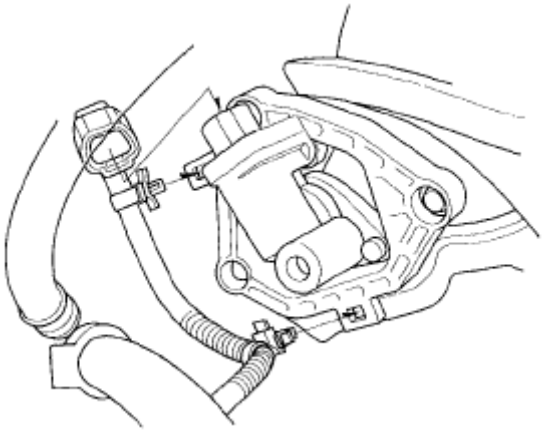


**Fig. 11: Identifying Harness Clamps**

**Installation**

1. Install the harness clamps to the intake manifold.

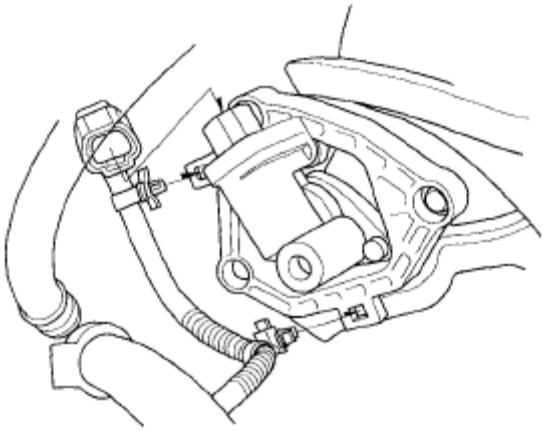


**Fig. 12: Identifying Harness Clamps**

2. Install the intake manifold (A) with new gaskets (B), and tighten the bolts and nuts in a crisscross pattern in two or three steps, beginning with the inner bolt.

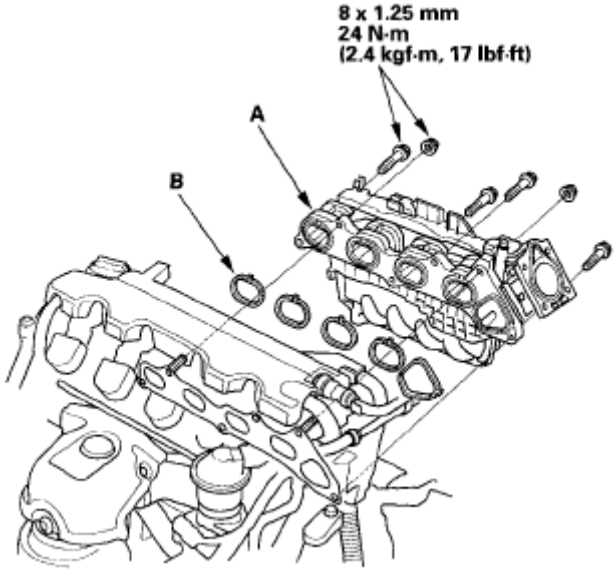



**Fig. 13: Identifying Intake Manifold And Gaskets (With Torque Specifications)**

3. Raise the vehicle on the lift to full height.
4. Install the intake manifold bracket (A).

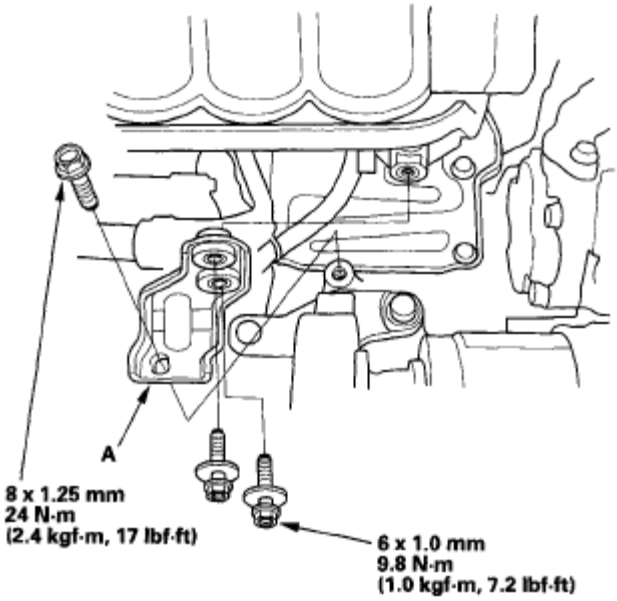



**Fig. 14: Identifying Intake Manifold Bracket (With Torque Specifications)**

5. Lower the vehicle on the lift.
6. Install the heater hose clamp bracket.

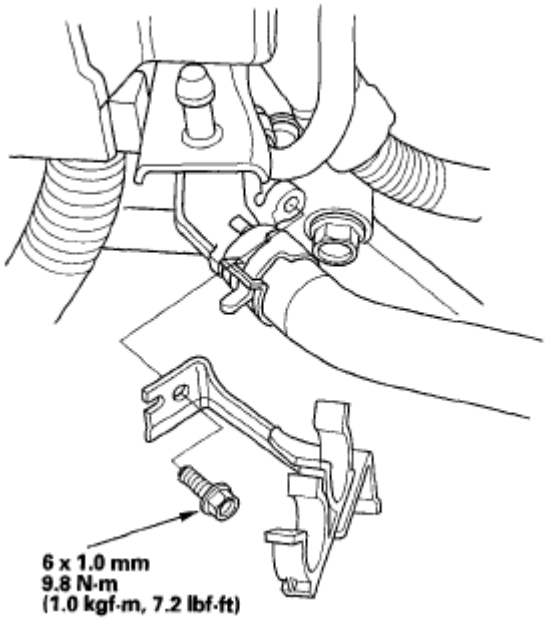



**Fig. 15: Identifying Heater Hose Clamp Bracket (With Torque Specifications)**

7. Install the throttle body (A) with a new gasket (B).

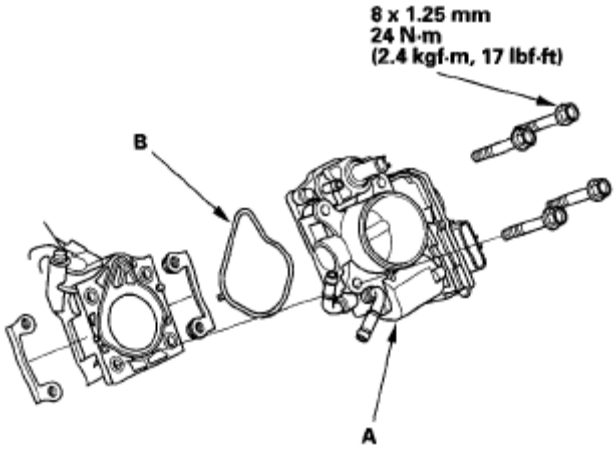



**Fig. 16: Identifying Throttle Body And Gasket (With Torque Specifications)**

8. Install the water bypass hoses.

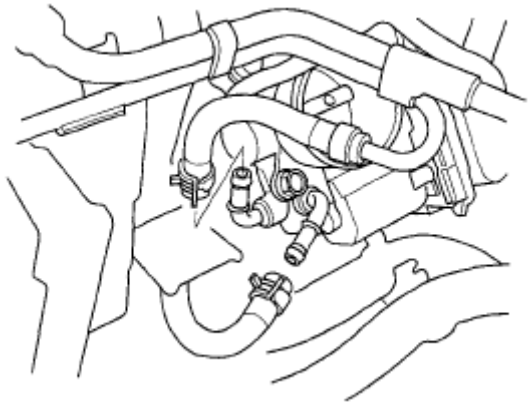


**Fig. 17: Identifying Water Bypass Hoses**

9. Connect the engine wire harness connectors, and install the wire harness clamps to the intake manifold.
   - Throttle actuator connector
   - Manifold absolute pressure (MAP) sensor connector
   - Evaporative emission (EVAP) canister purge valve connector
   - Intake manifold tuning (IMT) valve actuator connector
10. Connect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING REMOVAL** ), then install the quick-connect fitting cover (A).

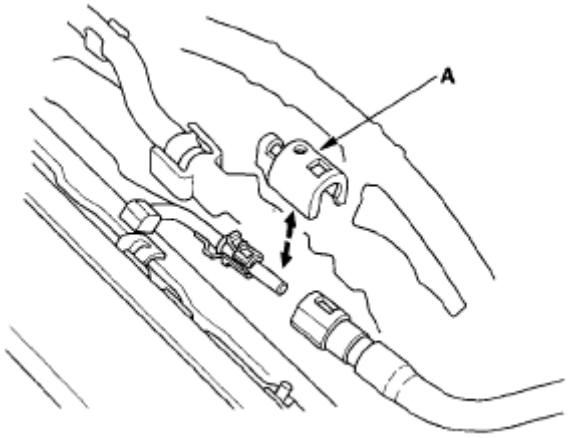



**Fig. 18: Identifying Quick-Connect Fitting Cover**

11. Install the evaporative emission (EVAP) canister hose (A), brake booster vacuum hose (B), positive crankcase ventilation (PCV) hose (C), and power steering (P/S) hose clamp (D).

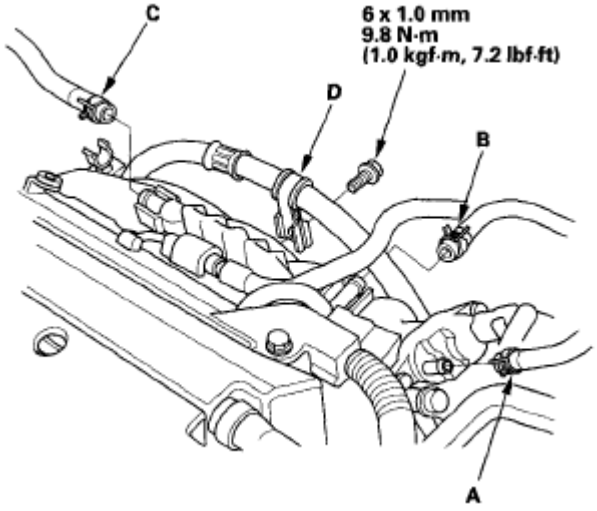



**Fig. 19: Identifying Evaporative Emission Canister Hose And Brake Booster Vacuum Hose (With Torque Specifications)**

12. Install the injector cover.

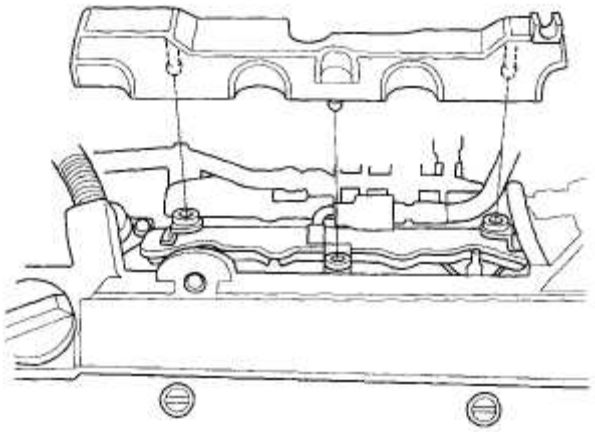


**Fig. 20: Identifying Injector Cover**

13. Install the air intake duct.

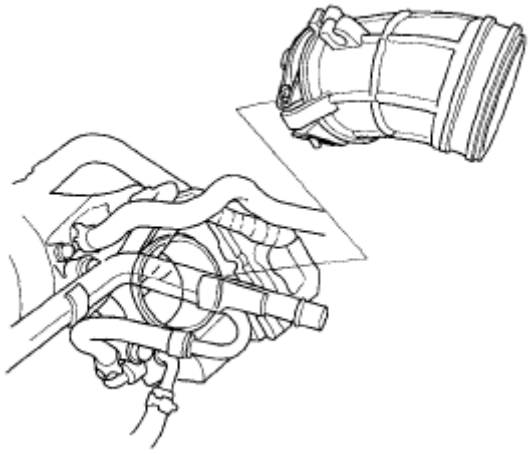


**Fig. 21: Identifying Air Intake Duct**

14. Install the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
15. Install the cowl cover and under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
16. Clean up any spilled engine coolant.
17. After installation, check that all tubes, hoses, and connectors are installed correctly.
18. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 8 on **COOLANT**

**REPLACEMENT** ).

**EXHAUST PIPE AND MUFFLER REPLACEMENT**

**NOTE: Use new gaskets and self-locking nuts when reassembling.**

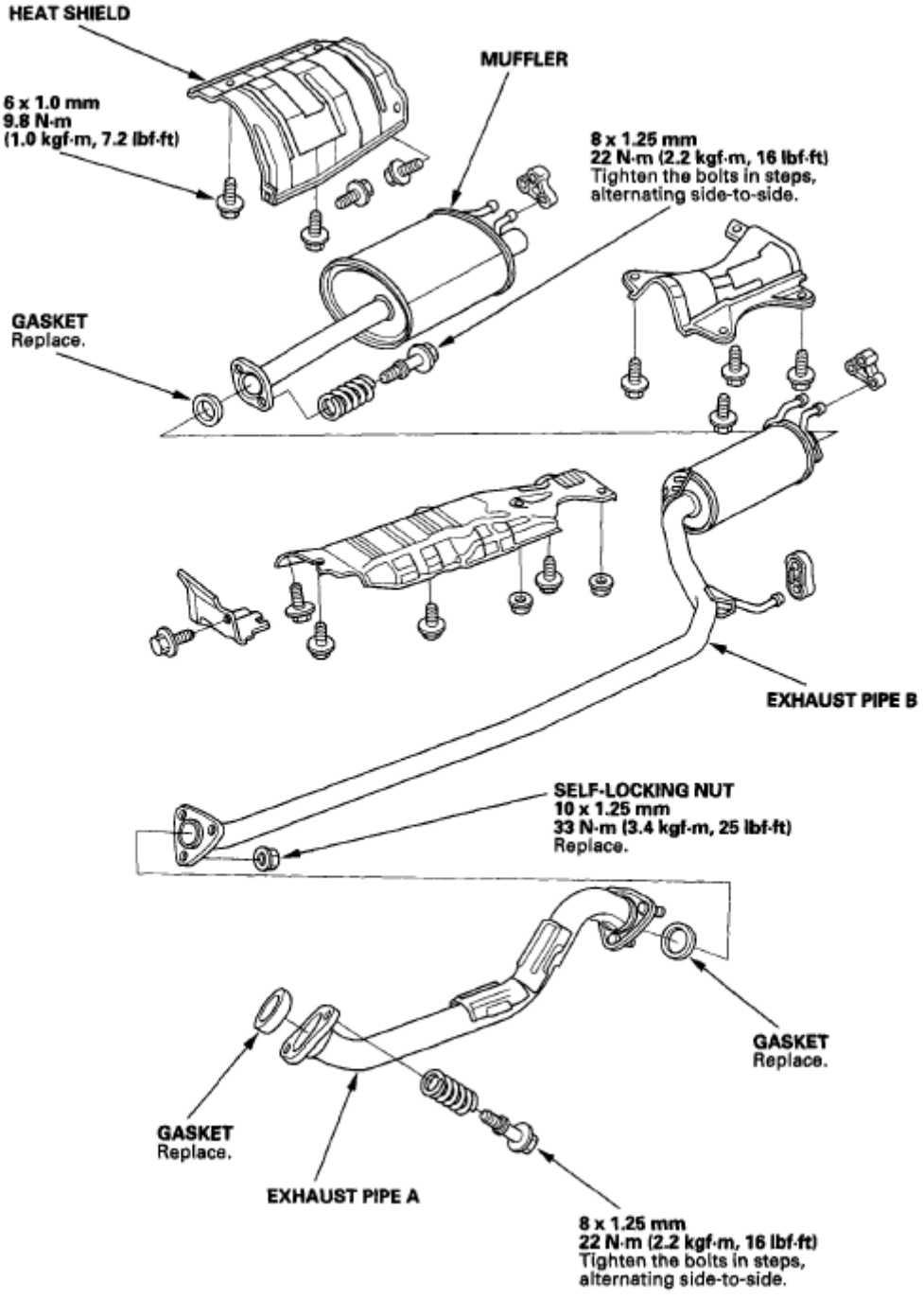



**Fig. 22: Identifying Exhaust Pipe And Muffler Components (With Torque**

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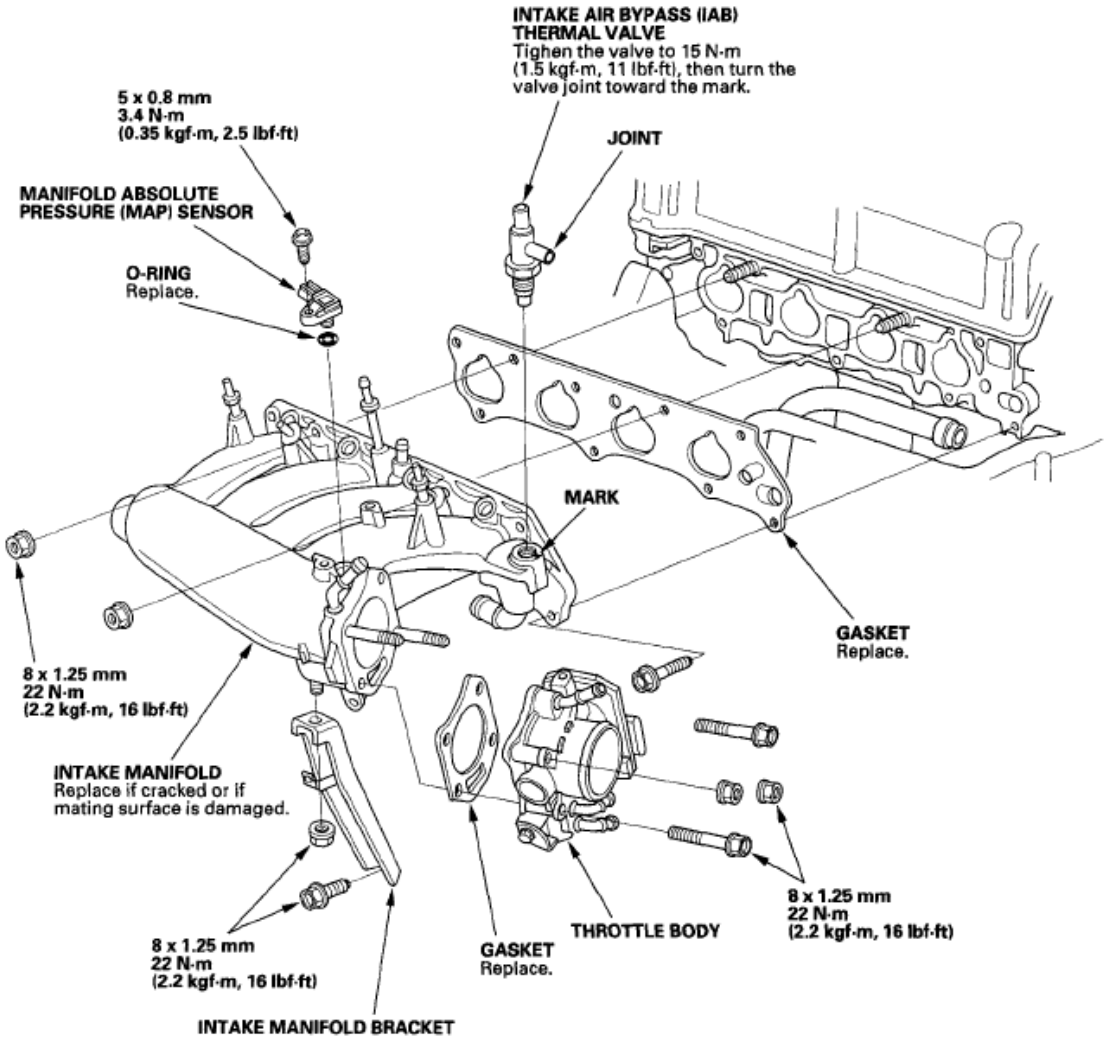


# Specifications)

## INTAKE MANIFOLD AND EXHAUST SYSTEM (K20Z3)

### INTAKE MANIFOLD REMOVAL AND INSTALLATION

**Exploded View**




## Fig. 23: Exploded View Of Intake Manifold (With Torque Specifications)

**Removal**

1. Drain the engine coolant (see **COOLANT CHECK** ).
2. Remove the engine cover.

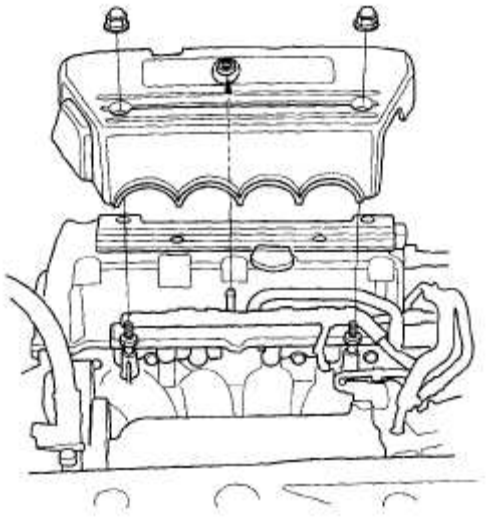


**Fig. 24: Identifying Engine Cover**

3. Remove the vacuum hose (A) and breather pipe (B), then remove the air intake duct (C).

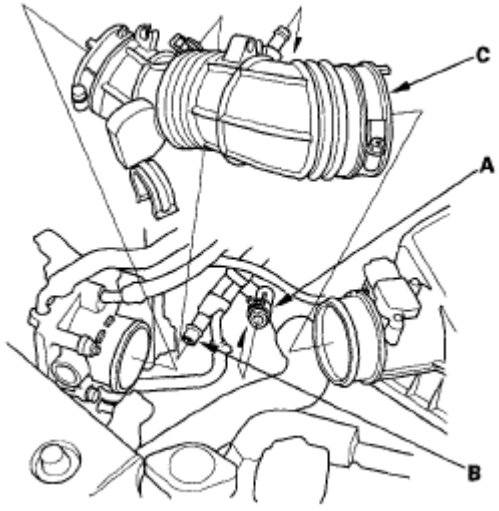



**Fig. 25: Identifying Air Intake Duct**

4. Remove the engine wire harness connectors and wire harness clamps from the intake manifold.
   - Four fuel injector connectors
   - Manifold absolute pressure (MAP) sensor connector
   - Throttle actuator connector

5. Remove the ground cable (A) and harness clamp bracket (B), then remove the harness holder (C) from the stay.

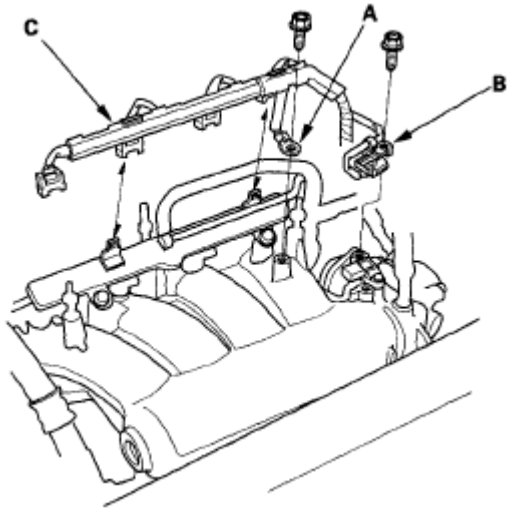



**Fig. 26: Identifying Ground Cable, Harness Clamp Bracket And Harness Holder**

6. Remove the positive crankcase ventilation (PCV) hose (A), evaporative emission (EVAP) canister hose (B) and brake booster vacuum hose (C).

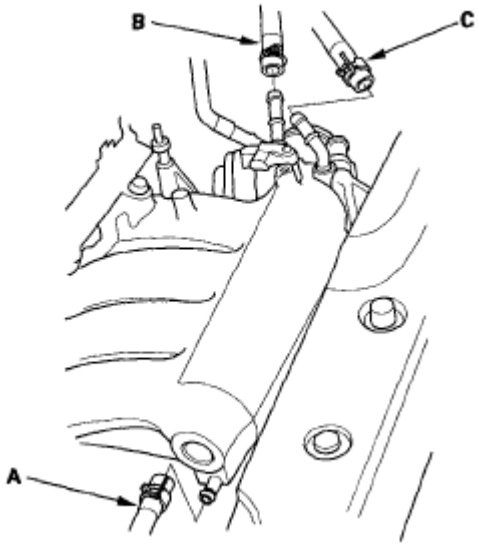



**Fig. 27: Identifying Positive Crankcase Ventilation Hose**

7. Remove the water bypass hoses, then plug the water bypass hoses.

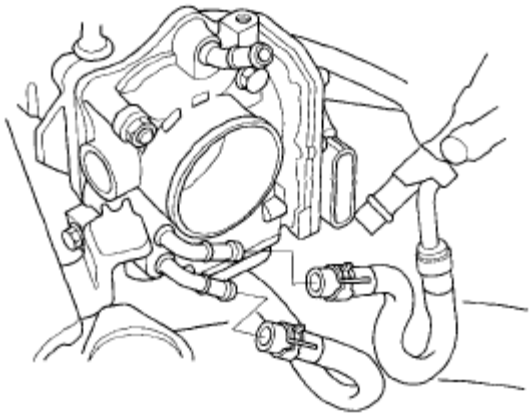


**Fig. 28: Identifying Water Bypass Hoses**

8. Remove the quick-connect fitting cover (A), then disconnect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING REMOVAL** ).

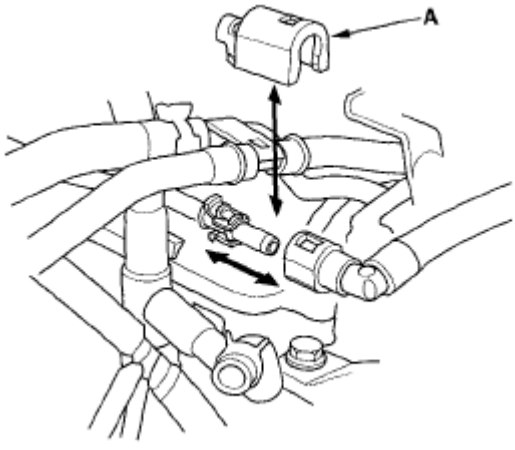



**Fig. 29: Identifying Quick-Connect Fitting Cover**

9. Raise the vehicle on the lift to full height.
10. Remove the connector (A), then remove the intake manifold bracket (B).

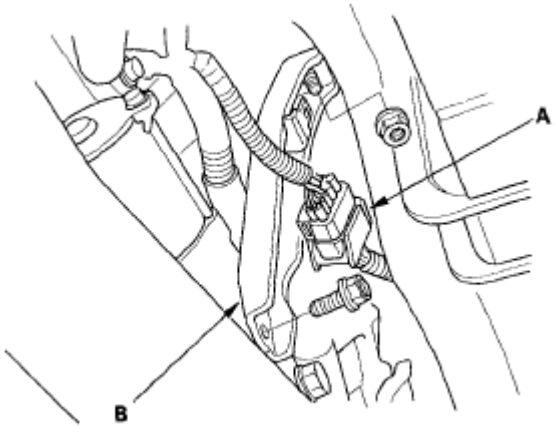



**Fig. 30: Identifying Intake Manifold Bracket**

11. Lower the vehicle on the lift.
12. Remove the intake manifold (A) from the cylinder head, then remove the water bypass hose (B).

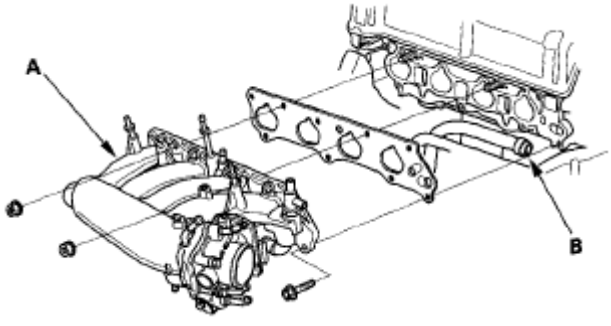



**Fig. 31: Identifying Intake Manifold**

**Installation**

1. Install the water bypass hose (A) to the intake manifold (B), then install the intake manifold with a new gasket (C), and tighten the bolts and nuts in a crisscross pattern in two or three steps, beginning with the inner bolt.

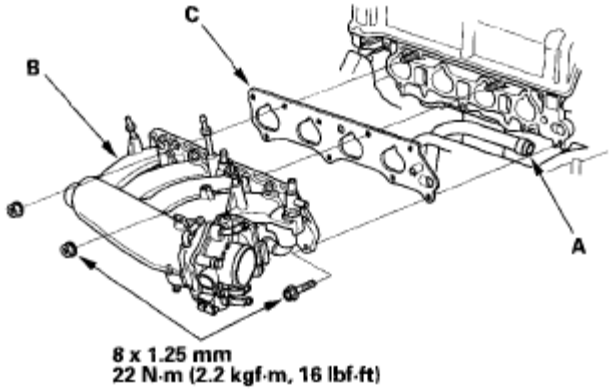



**Fig. 32: Identifying Intake Manifold (With Torque Specifications)**

2. Raise the vehicle on the lift to full height.
3. Install the intake manifold bracket (A), then install the connector (B).

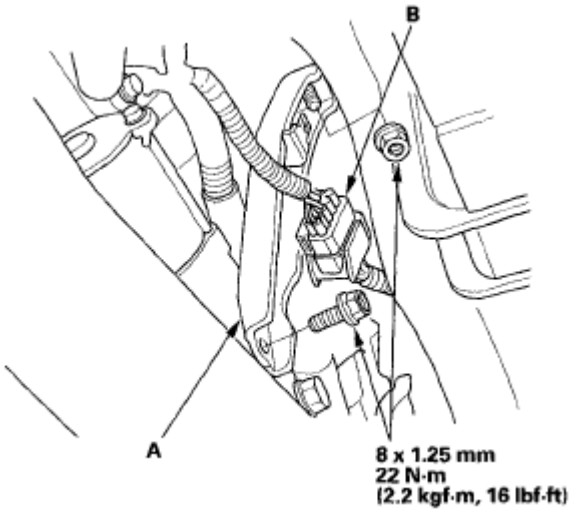



**Fig. 33: Identifying Intake Manifold Bracket (With Torque Specifications)**

4. Lower the vehicle on the lift.
5. Connect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING INSTALLATION** ), then install the quick-connect fitting cover (A).

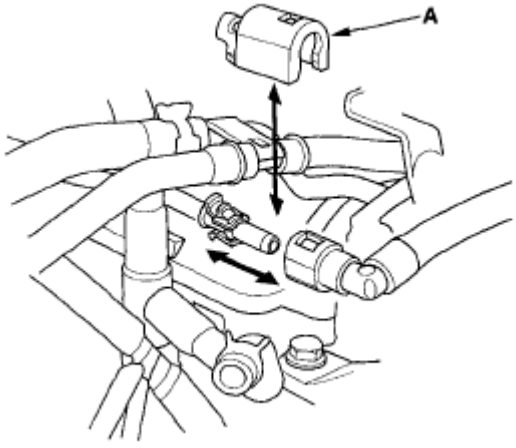



**Fig. 34: Identifying Quick-Connect Fitting Cover**

6. Install the water bypass hoses.

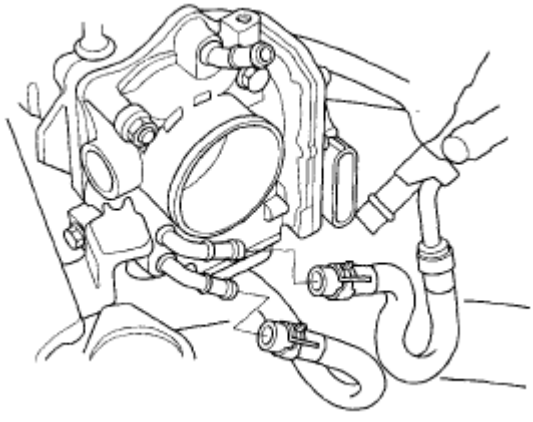


**Fig. 35: Identifying Water Bypass Hoses**

7. Install the positive crankcase ventilation (PCV) hose (A), evaporative emission (EVAP) canister hose (B) and brake booster vacuum hose (C).

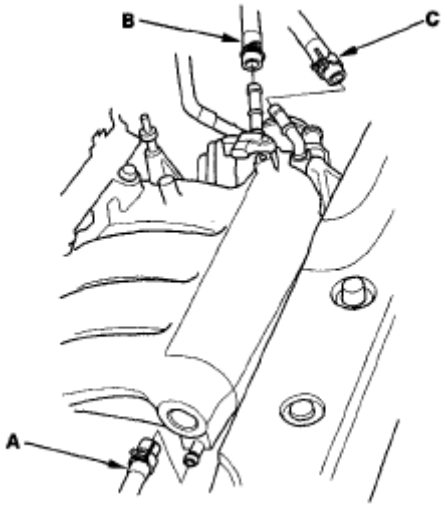



**Fig. 36: Identifying Positive Crankcase Ventilation Hose**

8. Install the harness holder (A) to the stay, then install the ground cable (B) and harness clamp bracket (C).

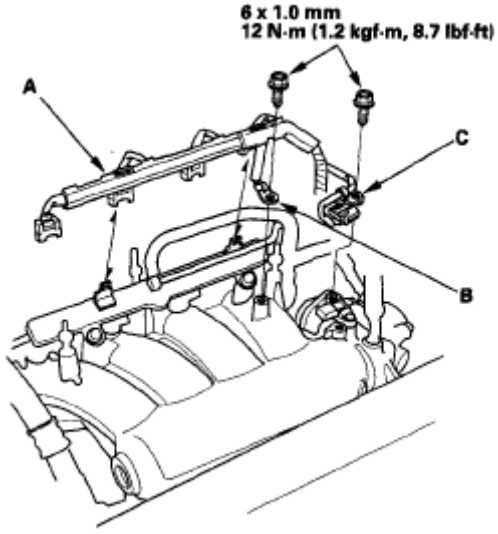



**Fig. 37: Identifying Harness Holder (With Torque Specifications)**

9. Connect the engine wire harness connectors, and install the wire harness clamps to the intake manifold.
   - Four fuel injector connectors
   - Manifold absolute pressure (MAP) sensor connector
   - Throttle actuator connector

10. Install the air intake duct (A), then install the vacuum hose (B) and breather pipe (C).

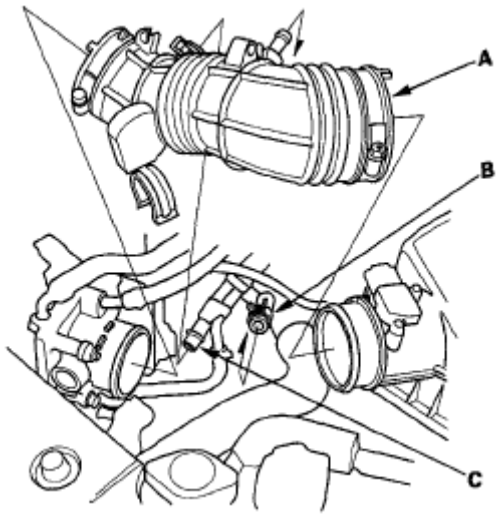



**Fig. 38: Identifying Air Intake Duct**

11. Install the engine cover.

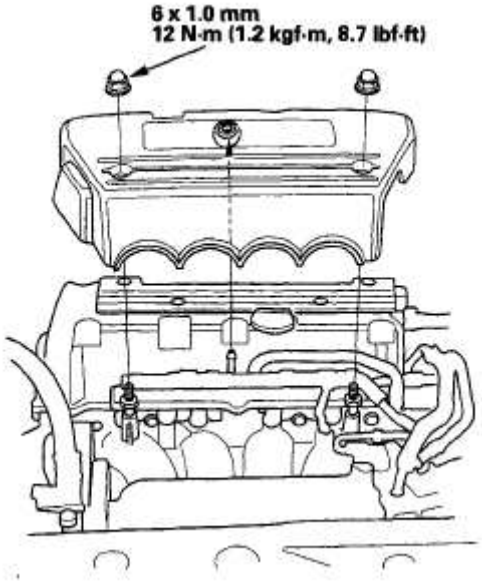



**Fig. 39: Identifying Engine Cover (With Torque Specifications)**

12. Clean up any spilled engine coolant.
13. After installation, check that all tubes, hoses and connectors are installed

correctly.

14. Refill the radiator with engine coolant, and bleed the air from the cooling system with the heater valve open (see step 6 on **COOLANT REPLACEMENT** ).

**EXHAUST MANIFOLD REMOVAL AND INSTALLATION**

1. Relieve the fuel pressure (see **FUEL PRESSURE RELIEVING** ).
2. Loosen the drain plug in the radiator, and drain the engine coolant (see **COOLANT CHECK** ).
3. Remove the under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
4. Remove the evaporative emission (EVAP) canister hose (A) and brake booster vacuum hose (B).

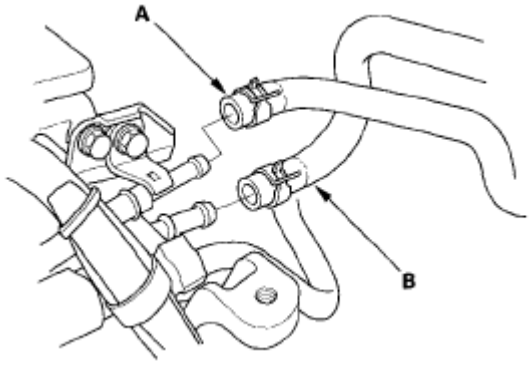



**Fig. 40: Identifying Evaporative Emission Canister Hose And Brake Booster Vacuum Hose**

5. Remove the quick-connect fitting cover (A), then disconnect the fuel feed hose (see **FUEL LINE/QUICK-CONNECT FITTING REMOVAL** ).

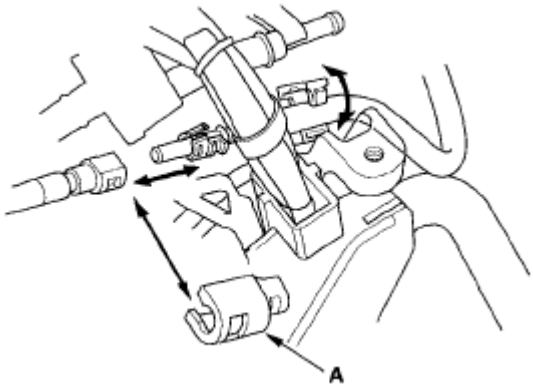



**Fig. 41: Identifying Quick-Connect Fitting Cover**

6. Remove the heater hoses.

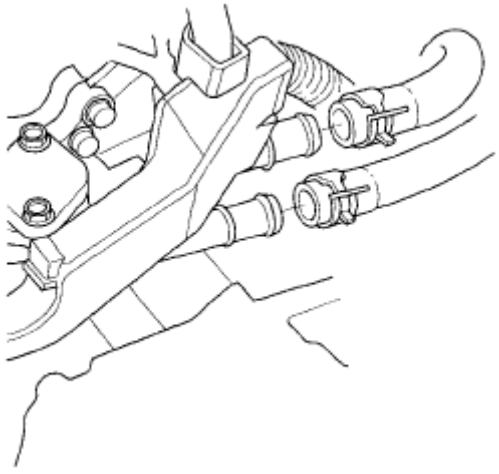


**Fig. 42: Identifying Heater Hoses**

7. Remove the rocker arm oil control solenoid (see **ROCKER ARM OIL CONTROL VALVE REMOVAL/INSTALLATION** ).
8. Remove the intermediate shaft heat shield .
9. Remove the cover and exhaust manifold bracket, then remove the exhaust manifold.

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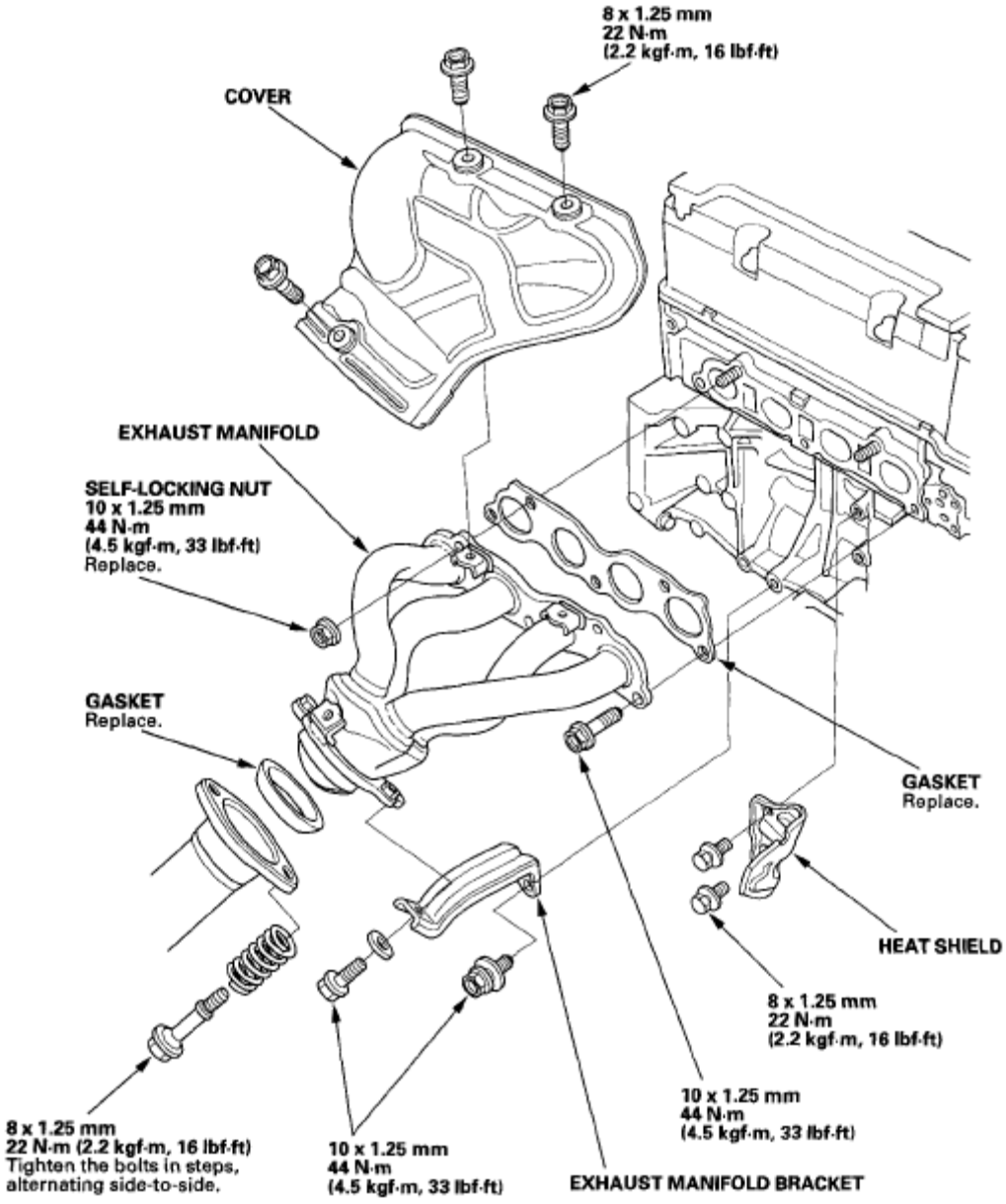



**Fig. 43: Exploded View Of Exhaust Manifold (With Torque Specifications)**

10. Install the exhaust manifold and tighten the bolts and nuts in a crisscross pattern in two or three steps, beginning with the inner bolt.
11. Install the other parts in the reverse order of removal.
12. Inspect for leaks: Turn the ignition switch ON (II) (do not operate the starter) so the fuel pump runs for about 2 seconds and pressurizes the fuel line. Repeat this operation two or three times, then check for fuel leakage at any point in the

fuel line.

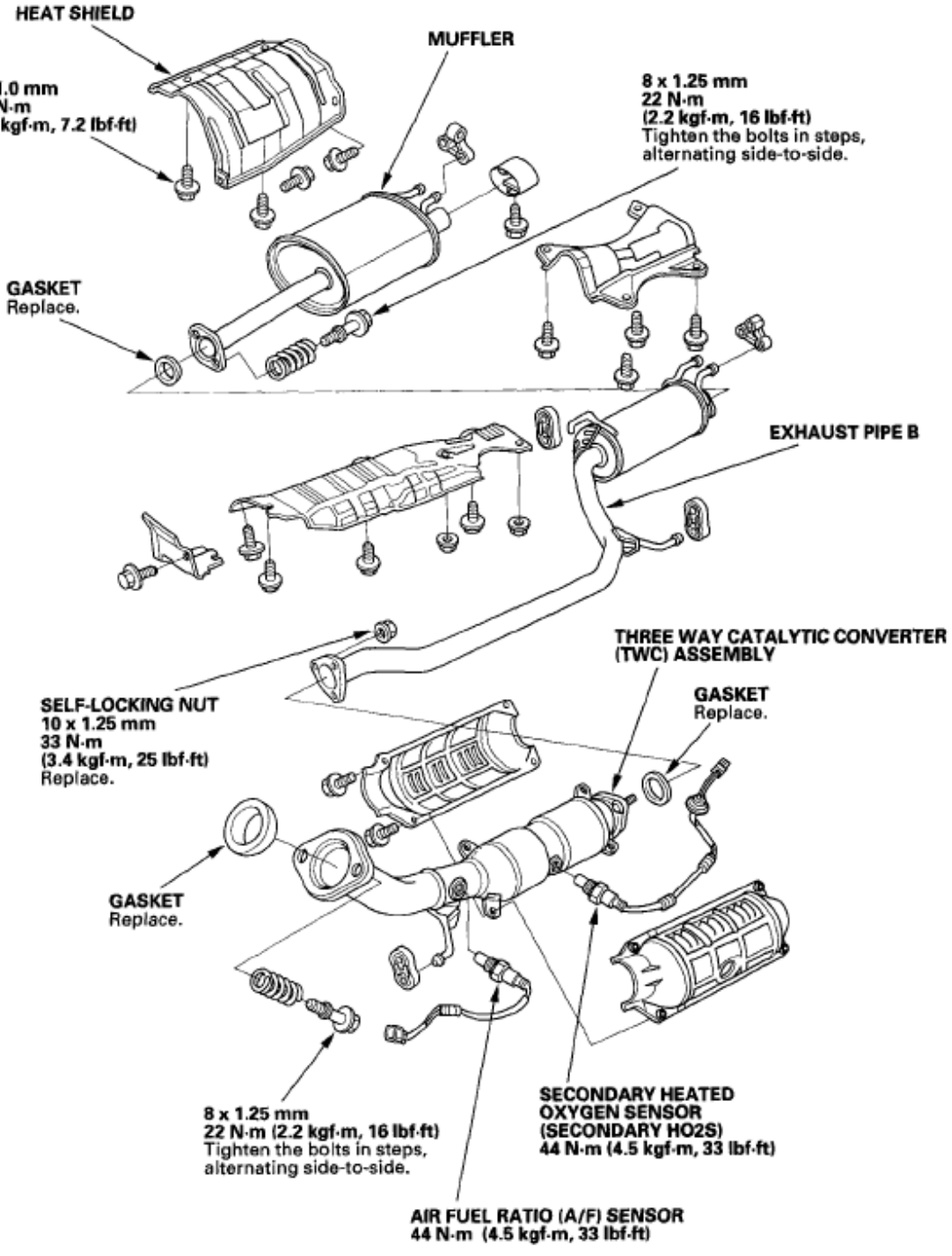
13. Refill the radiator with engine coolant, and bleed air from the cooling system with the heater valve open (see step 6 on **COOLANT REPLACEMENT** ).

**EXHAUST PIPE AND MUFFLER REPLACEMENT**

**NOTE: Use new gaskets and self-locking nuts when reassembling.**

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## Fig. 44: Exploded View Of Exhaust Pipe And Muffler (With Torque Specifications)

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## 2006-08 ACCESSORIES AND EQUIPMENT

## Interior Lights - Civic

# COMPONENT LOCATION INDEX

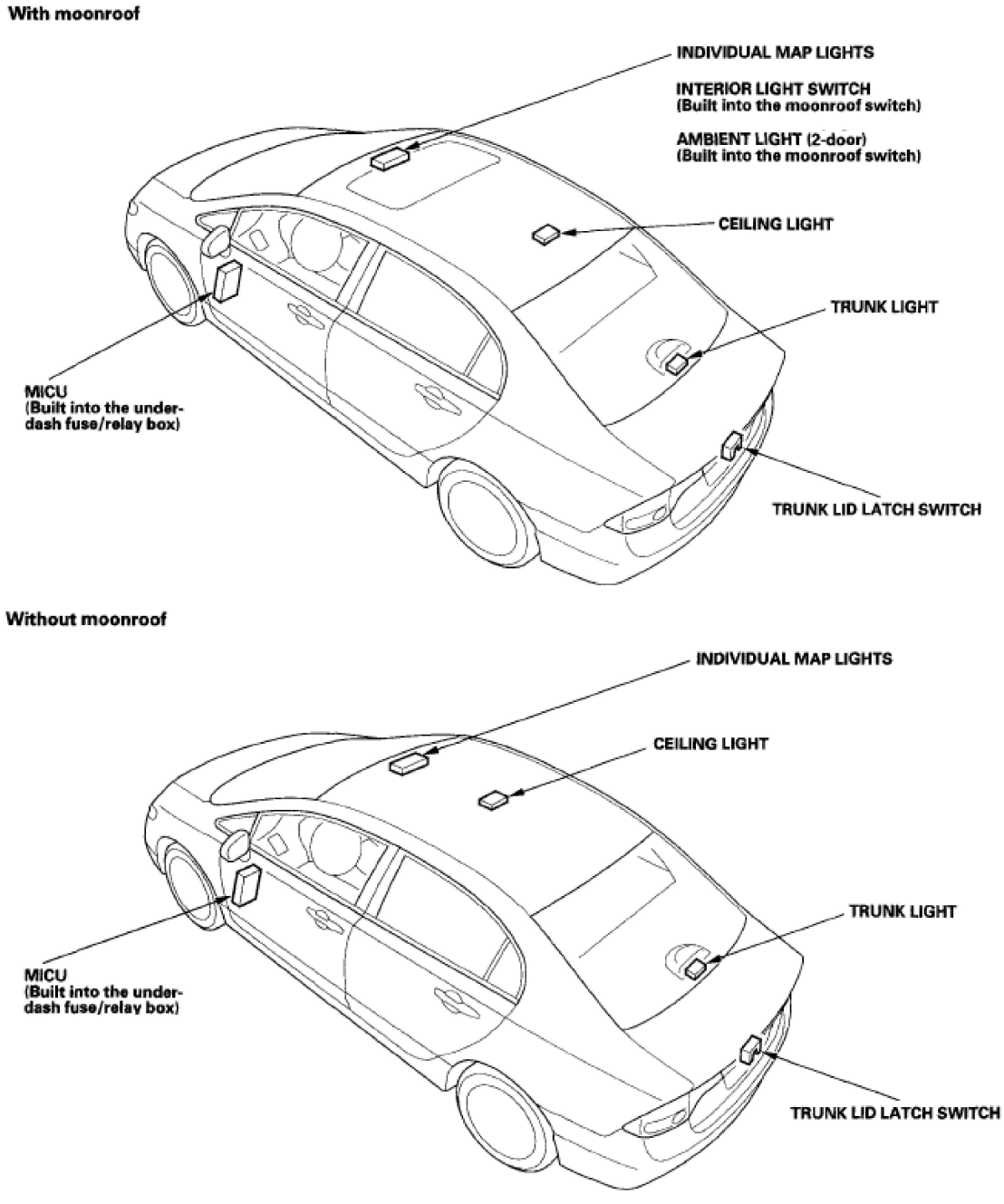



**Fig. 1: Identifying Interior Lights Component Locations**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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# CIRCUIT DIAGRAM

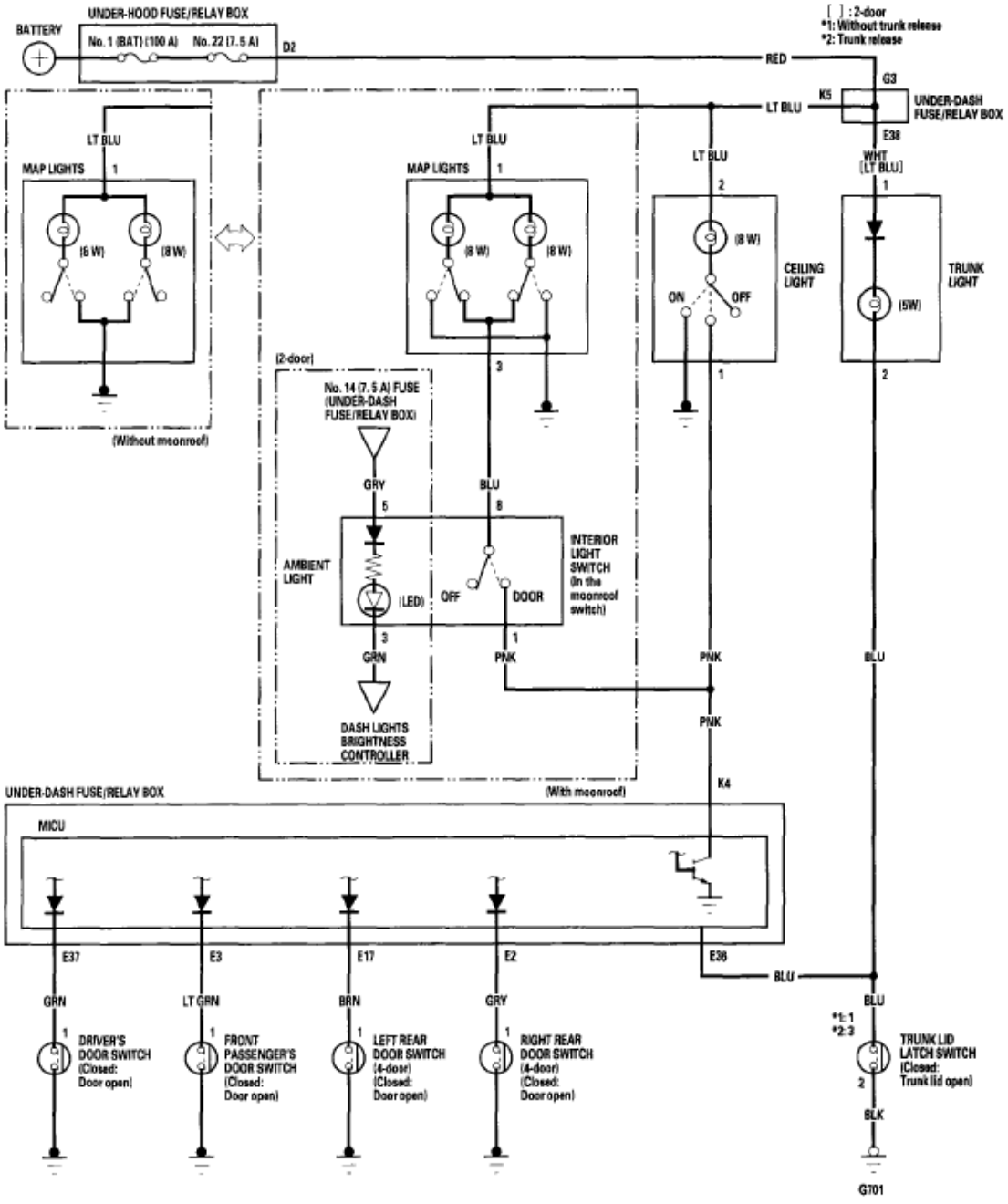



**Fig. 2: Interior Lights - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## FRONT INDIVIDUAL MAP LIGHT TEST/REPLACEMENT

### WITH MOONROOF

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1. Turn the map light switch OFF.
2. Carefully pry the lens (A) off with a small screwdriver.

**Front Map Light: 8 W x 2**

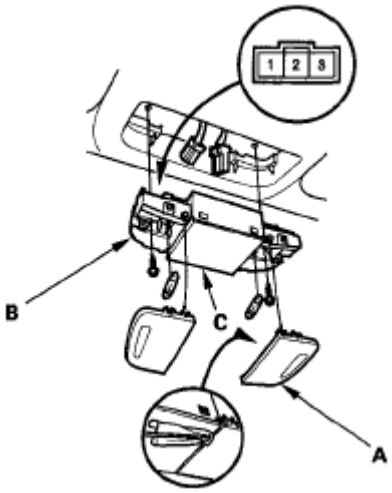



**Fig. 3: Identifying Front Map Light Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the screws, then remove the map lights (B) and moonroof switch or navigation microphone (C).
4. Disconnect the 3P connector from the map lights and the 10P connector from the moonroof switch or navigation microphone.
5. Check for continuity between the terminals in each switch position according to the table.

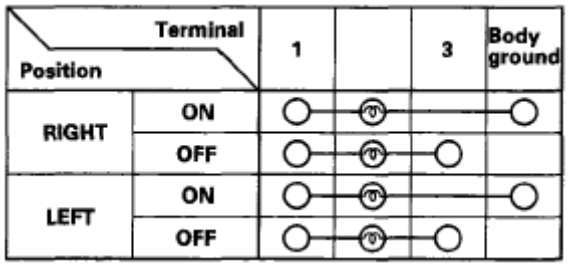



**Fig. 4: Terminals Continuity Table**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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6. If the continuity is not as specified, check the bulb(s). If the bulb(s) are OK, replace the light assembly.
7. Install in the reverse order of removal.

**WITHOUT MOONROOF**

1. Turn the map light switch OFF.
2. Carefully pry the lens (A) off with a small screwdriver.

**Front Map Light: 8 W x 2**

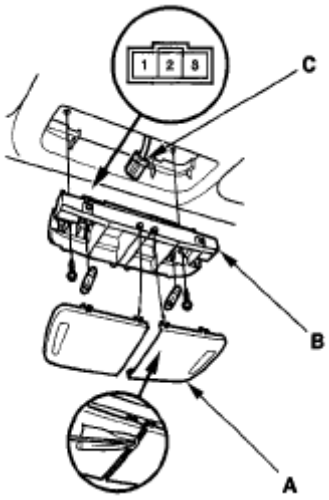



**Fig. 5: Identifying Front Map Light Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the screws, then remove the map lights (B).
4. Disconnect the 3P connector (C) from the map lights.
5. Check for continuity between the terminals in each switch position according to the table.

| Position \ Terminal | | 1 | | Body ground |
|---|---|---|---|---|
| RIGHT | ON | ○ | ⏚ | ○ |
| | OFF | | | |
| LEFT | ON | ○ | ⏚ | ○ |
| | OFF | | | |

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**Fig. 6: Terminals Continuity Table**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the continuity is not as specified, check the bulb(s). If the bulb(s) are OK, replace the light assembly.
7. Install in the reverse order of removal.

## CEILING LIGHT TEST/REPLACEMENT

1. Turn the ceiling light switch OFF.
2. Carefully pry the lens (A) off with a small screwdriver.

**Ceiling Light: 5W**

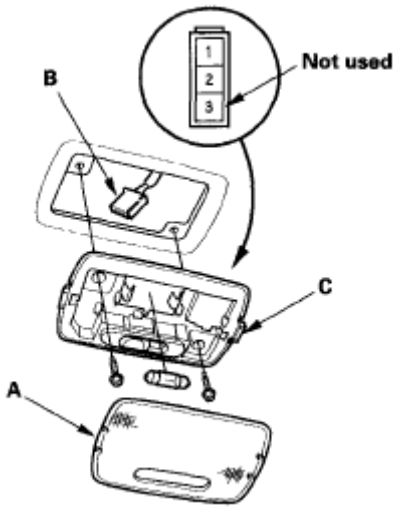



**Fig. 7: Identifying Ceiling Light Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the screws, then remove the ceiling light (B).
4. Disconnect the 3P connector (C) from the ceiling light.
5. Check for continuity between the terminals.
   - There should be continuity between the No. 1 and No. 2 terminals with the switch in the MIDDLE position.
   - There should be continuity between the No. 2 and No. 3 (Body ground) terminals with the switch in the ON position.

- There should be no continuity between the No. 1 and No. 2 terminals, and between the No. 2 and body ground with the switch in the OFF position.

6. If the continuity is not as specified, check the bulb. If the bulb is OK, replace the light.
7. Install in the reverse order of removal.

## TRUNK LIGHT TEST/REPLACEMENT

1. Open the trunk lid.
2. Carefully pry out the trunk light (A).

**Trunk Light: 5 W**

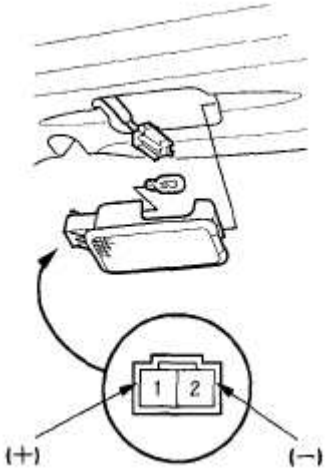



**Fig. 8: Identifying Trunk Light Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the 2P connector (B) from the light.
4. Check for continuity between the No. 1 (+) and No. 2 (-) terminals. There should be continuity. If there is no continuity, check the bulb. If the bulb is OK, replace the trunk light assembly.
5. Install in the reverse order of removal.

## TRUNK LID LATCH SWITCH TEST

1. Open the trunk lid.

2. Disconnect the connector (A) from the trunk lid latch assembly (B).

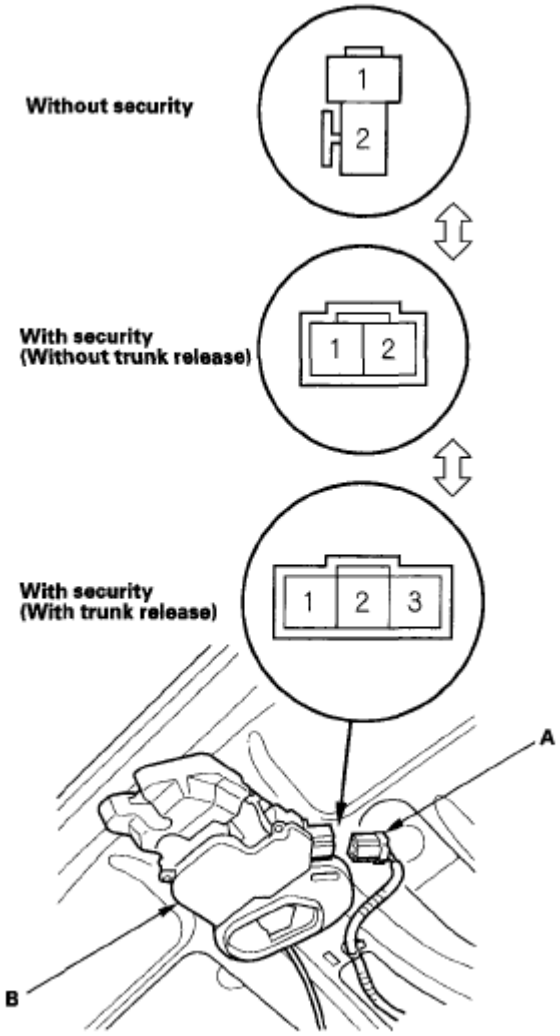



**Fig. 9: Identifying Trunk Lid Latch Assembly Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between the No. 1 [No. 3] and No. 2 terminals.

   [ ] : With trunk release

   - There should be continuity with the trunk lid open.
   - There should be no continuity with the trunk lid closed.

4. If the continuity is not as specified, replace the trunk lid latch assembly.

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## INTERIOR LIGHT SWITCH TEST/REPLACEMENT

**WITH MOONROOF**

**NOTE: The interior light switch is built into the moonroof switch, and it switches the front individual map lights between the OFF and DOOR positions.**

1. Remove the front individual map lights (see **FRONT INDIVIDUAL MAP LIGHT TEST/REPLACEMENT** ).
2. Disconnect the moonroof switch 10P connector (A) and map light 3P connector (B).

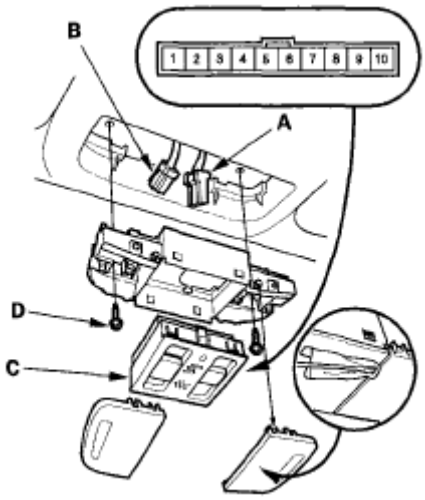



**Fig. 10: Identifying Moonroof Switch 10P Connector And Map Light 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the moonroof switch (C).
4. At the moonroof switch 10P connector, check for continuity between the No. 1 and No. 8 terminals.
   - There should be continuity when the interior light switch is in the DOOR position.
   - There should be no continuity when the interior light switch is in the OFF position.

5. If the continuity check is not as specified, replace the illumination bulb (D) or the switch.
6. Install the switch and light in the reverse order of removal.

## AMBIENT LIGHT REPLACEMENT

**NOTE: The ambient light is built into the moonroof switch.**

**2-DOOR WITH MOONROOF**

1. Remove the front individual map lights (see **FRONT INDIVIDUAL MAP LIGHT TEST/REPLACEMENT** ).
2. Disconnect the moonroof switch 10P connector (A) and map light 3P connector (B).

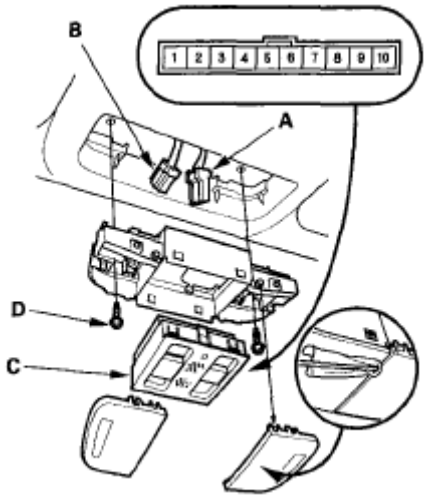



**Fig. 11: Identifying Moonroof Switch 10P Connector And Map Light 3P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the moonroof switch (C).
4. Install the switch and light in the reverse order of removal.

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# 2006-08 ACCESSORIES AND EQUIPMENT

## Interior Trim - Civic GX

## COMPONENT LOCATION INDEX

**NOTE: Refer to the INTERIOR TRIM (EXCEPT HYBRID) article for additional information that is not shown in this article.**

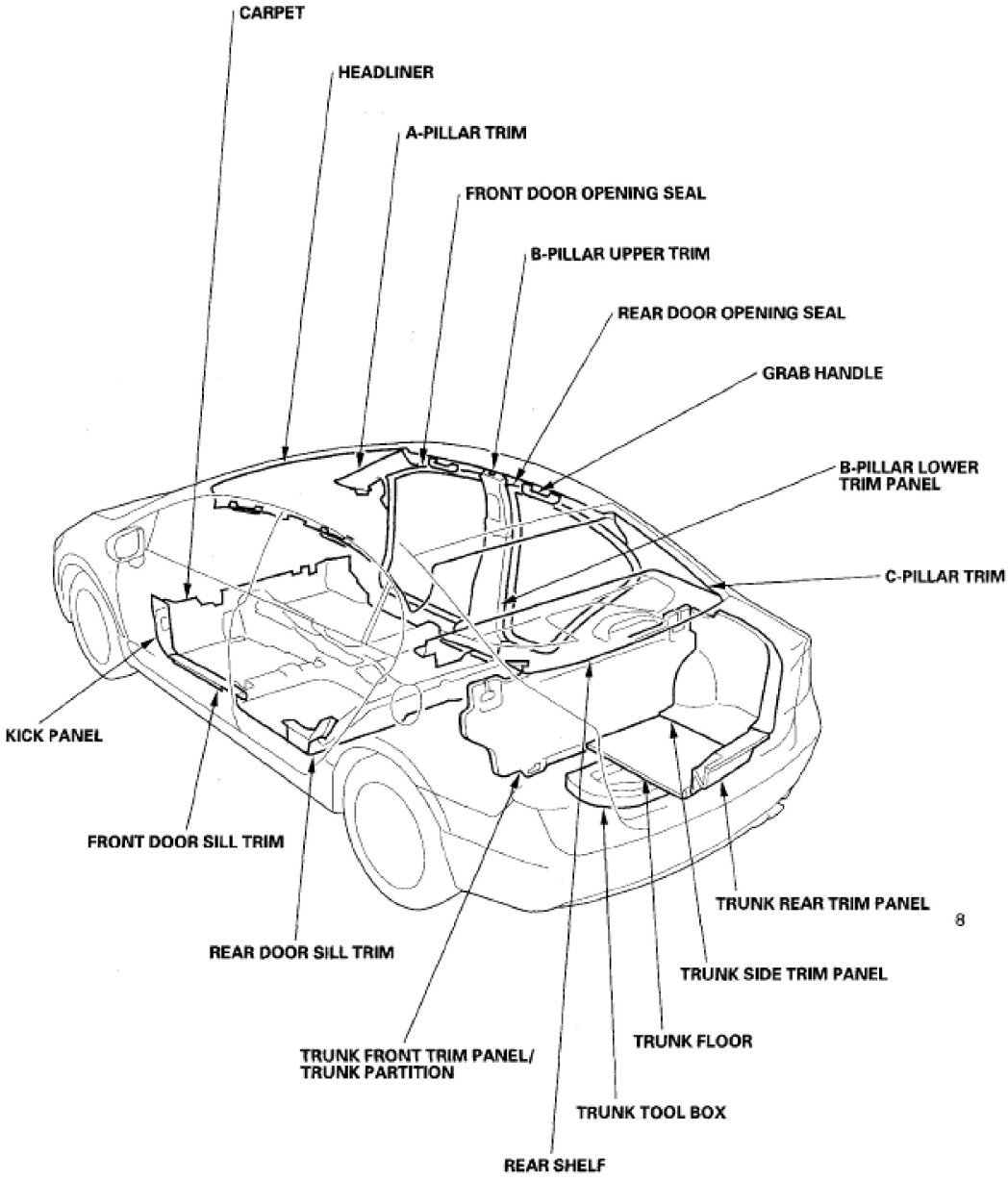



**Fig. 1: Identifying Interior Trim Component Location**

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# TRIM REMOVAL/INSTALLATION - REAR SHELF AREA

## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

SRS components are located in this area. Review the SRS component locations and the precautions and procedures, refer to the **SRS (SUPPLEMENTAL RESTRAINT SYSTEM) (EXCEPT HYBRID)** article before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the rear shelf and trim.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Remove these items:
   - Rear seat cushion (see **REAR SEAT REMOVAL/INSTALLATION** )
   - Rear seat-back (see **REAR SEAT REMOVAL/INSTALLATION** )
   - Rear door opening seal, as needed, refer to the **REAR DOOR SILL AREA - 4-DOOR**
   - C-pillar trim, both sides, refer to the **C-PILLAR TRIM - 4-DOOR**
   - Trunk front trim panel and trunk partition (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA** )
2. From the trunk compartment, disconnect the high mount brake light connector (A).

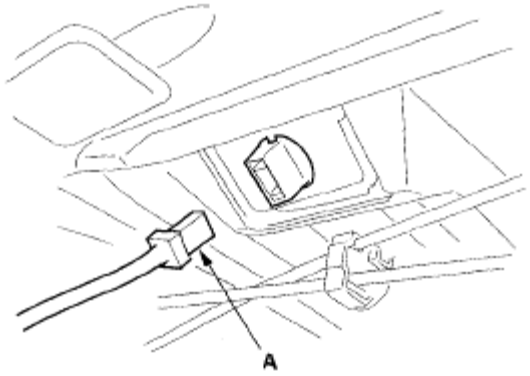



**Fig. 2: Identifying High Mount Brake Light Connector**

3. From the trunk compartment, release the four white clips (A) by tapping on them.

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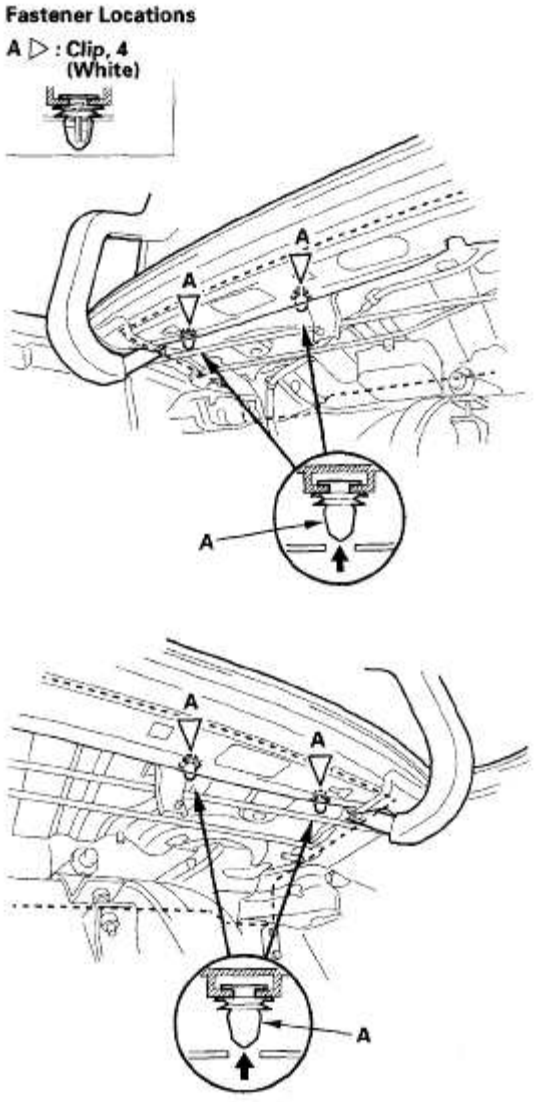



**Fig. 3: Identifying Trunk Compartment Clips**

4. Lift the rear shelf (A) upward to detach the remaining seven clips, and release the hook (B) and pin (C) from the holes on the body.

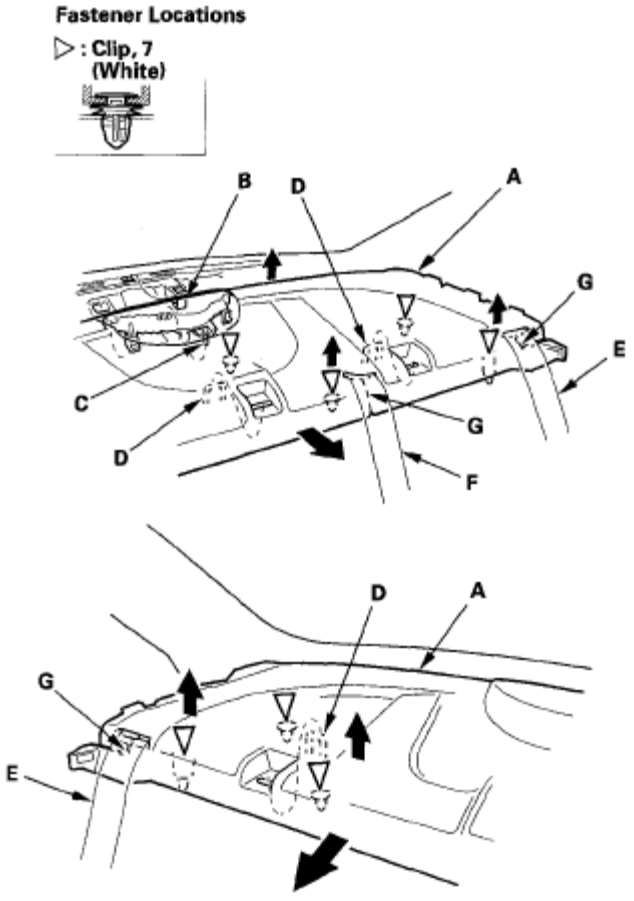



**Fig. 4: Identifying Interior Trim Hook And Pin From Holes On Body**

5. Release each anchor rod (D) out through the hole in the rear shelf, and pull both rear seat belts (E) and rear center seat belt (F) out through the slits (G) in the rear shelf.
6. Install the shelf in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - When installing the rear shelf, slip the rear seat belt through the slit and the rear center seat belt into the lid opening in the rear shelf.
   - Push the clips into place securely.
   - Make sure the high mount brake light connector is plugged in properly.

## TRIM REMOVAL/INSTALLATION - TRUNK AREA

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when removing components.**

1. Pull the trunk floor (A) up, then remove the trunk tool box (B).

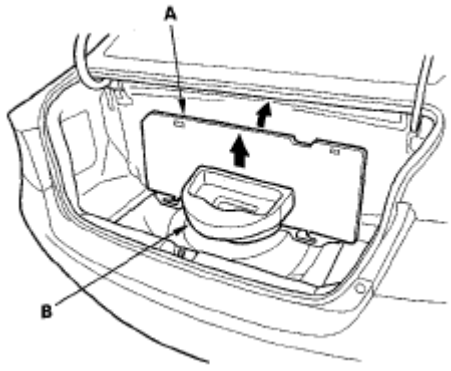



**Fig. 5: Pulling Trunk Floor**

2. While pushing both hooks (A) down with your hands, pull the trunk floor (B) back to release these hooks from the holes (C) in the trunk front trim panel (D), then remove the trunk floor.

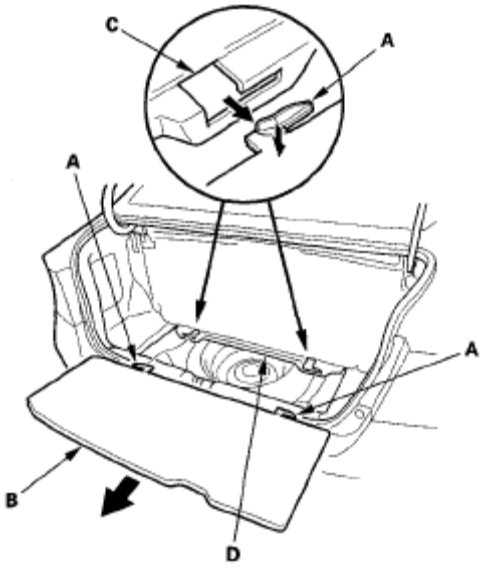



**Fig. 6: Removing Trunk Floor**

3. Remove the trunk lid weatherstrip near the trunk rear trim panel.
4. Detach the clips, and release the hooks (A) by pulling the trunk rear trim panel (B) up, then remove it.

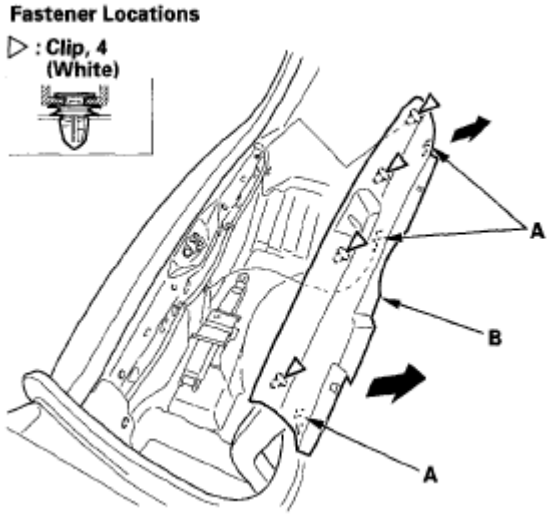



**Fig. 7: Pulling Trunk Rear Trim Panel**

5. Remove the clips (A) securing the trunk front trim panel (B), and using a trim tool, remove the caps (C), and remove the nuts (D) securing the trunk partition (E).

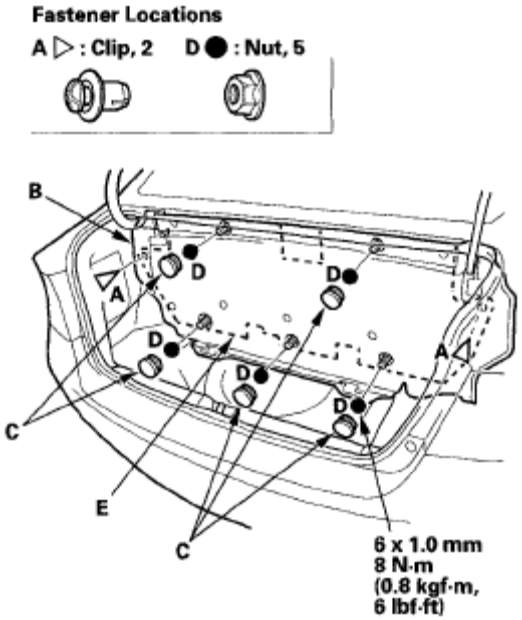



**Fig. 8: Identifying Trunk Front Trim Panel And Clips**

6. Fold both side edges of the trunk front trim panel (A), then remove the trunk front trim panel and trunk partition (B) as an assembly.

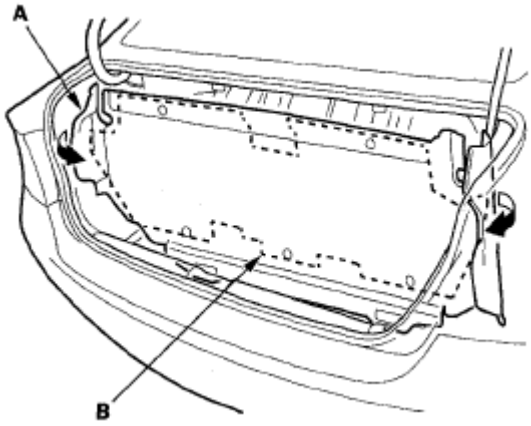



**Fig. 9: Identifying Trunk Front Trim Panel And Trunk Partition Assembly**

7. If necessary, remove the clips, then separate the trunk front trim panel (A) and trunk partition (B).

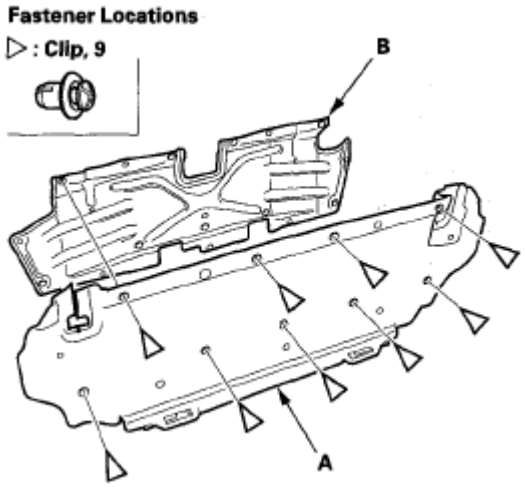



**Fig. 10: Removing Clips, Trunk Front Trim Panel And Trunk Partition**

8. Remove the clips, then remove the trunk side trim panel (A).

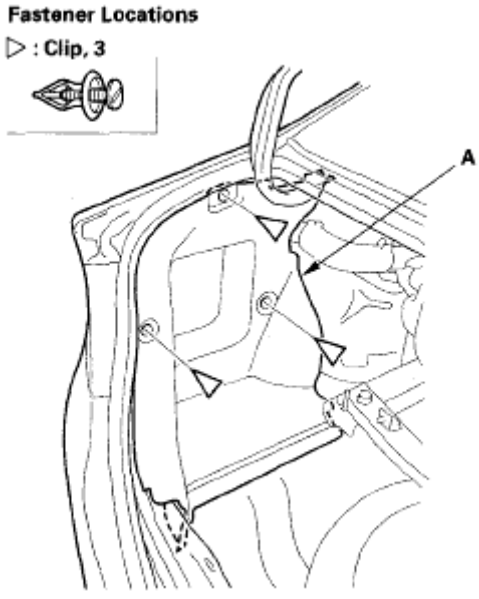



**Fig. 11: Removing Trunk Side Trim Panel**

9. Install the trim in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

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# 2006-08 ACCESSORIES & EQUIPMENT

## Interior Trim - Civic (All Except Hybrid)

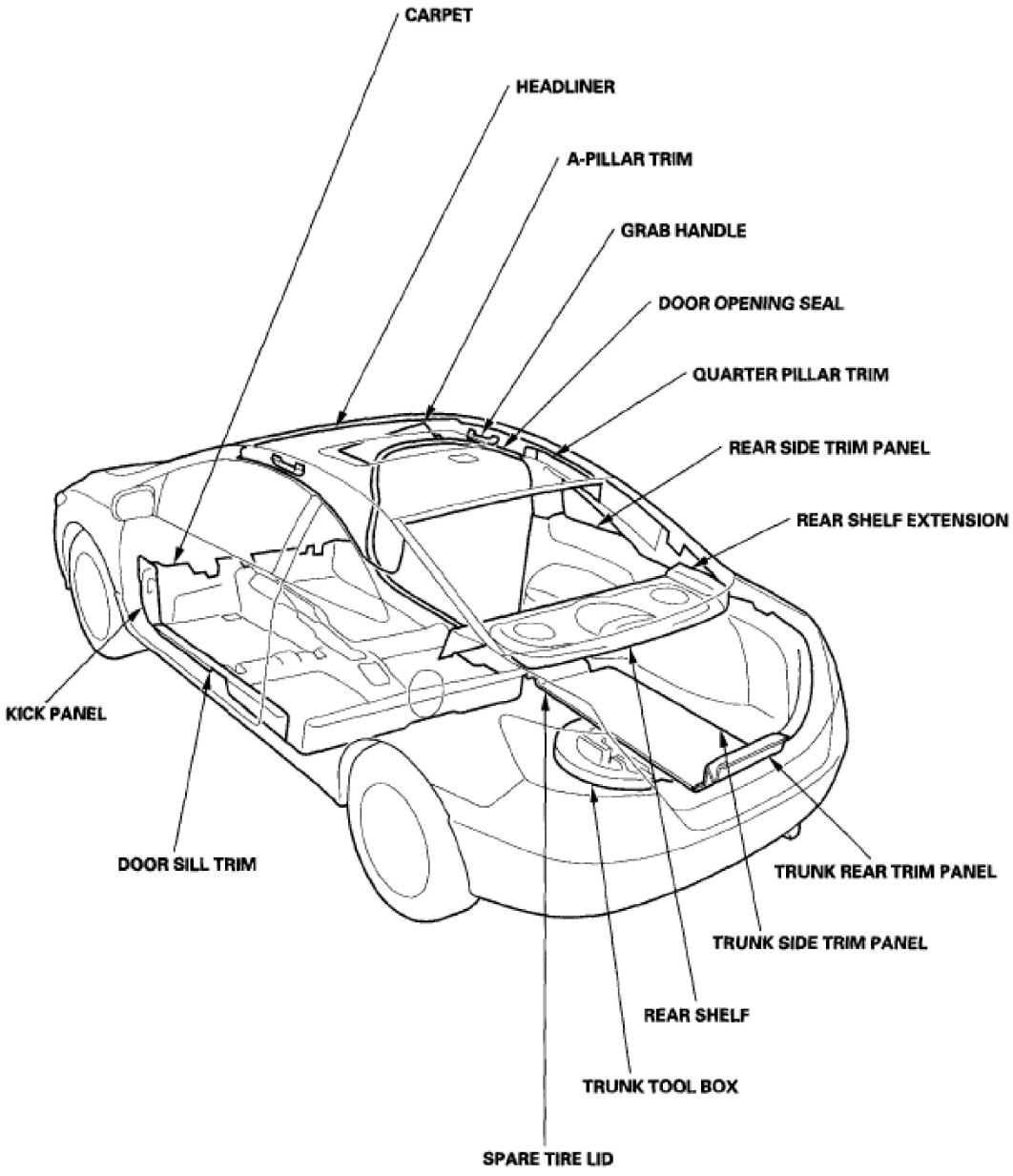
## COMPONENT LOCATION INDEX

**NOTE: Refer to the INTERIOR TRIM (GX) (SUPPLEMENT) article for additional information for the GX model.**

### 2-door

# 2008 Honda Civic EX

2006-08 ACCESSORIES & EQUIPMENT Interior Trim - Civic (All Except Hybrid)




## Fig. 1: Locating Interior Trim (2-Door)

## 4-door

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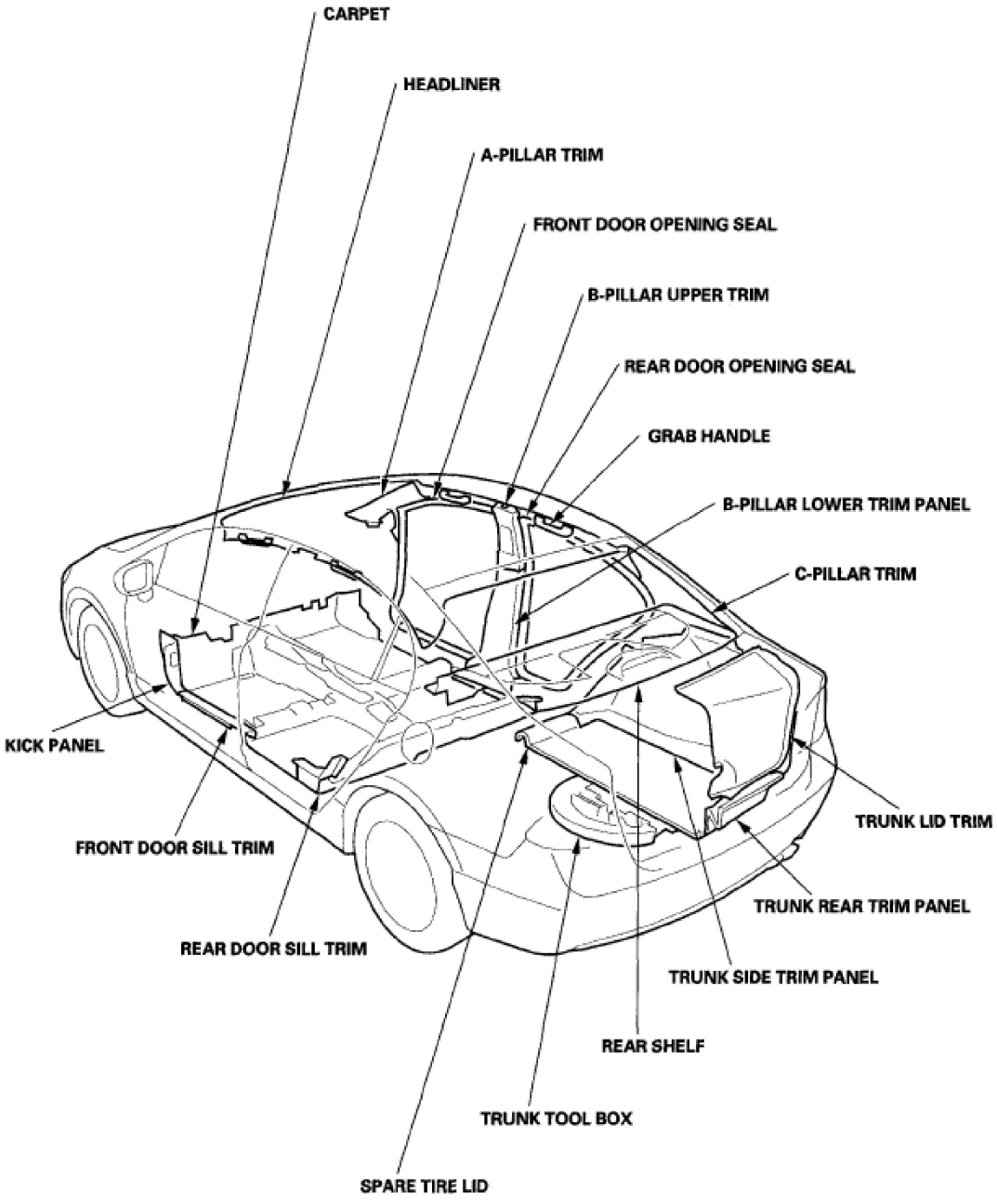



**Fig. 2: Locating Interior Trim (4-Door)**

## TRIM REMOVAL/INSTALLATION - DOOR AREAS

### Special Tools Required

KTC trim tool set SOJATP2014 *

http://ReadManuals.com



* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**DOOR SILL AREA - 2-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Driver's side: Remove the front seat belt lower anchor (see step 4 in **FRONT SEAT BELT REPLACEMENT** ).
2. Driver's side: Remove the footrest (see step 3 in **CARPET REPLACEMENT** ).
3. Driver's side: Remove the front side cap from the door sill trim, and remove the opener lock cylinder and screw (see **TRUNK LID OPENER/FUEL FILL DOOR OPENER REPLACEMENT** ).
4. Detach the hooks (A) and tabs (B) from the kick panel (C) and rear side trim panel (D), and pull the door sill trim (E) up by hand to detach the clips, then remove it.

**Driver's side**

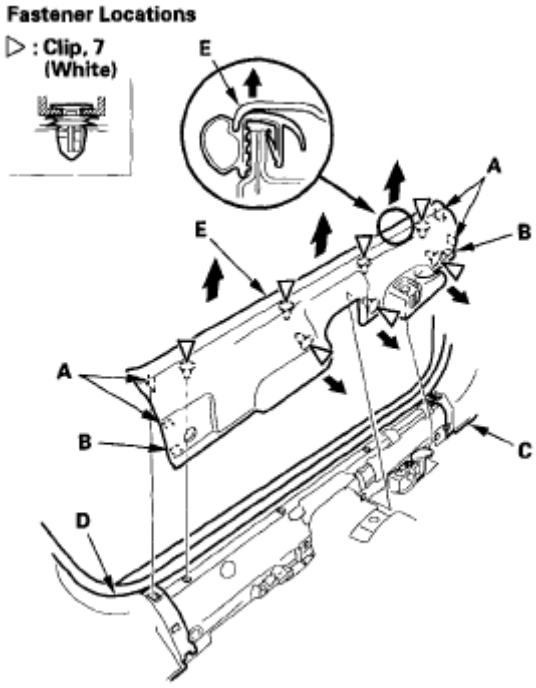



**Fig. 3: Detaching Hooks And Tabs From Kick Panel And Rear Side Trim Panel (Driver'S Side)**

**Passenger's side**

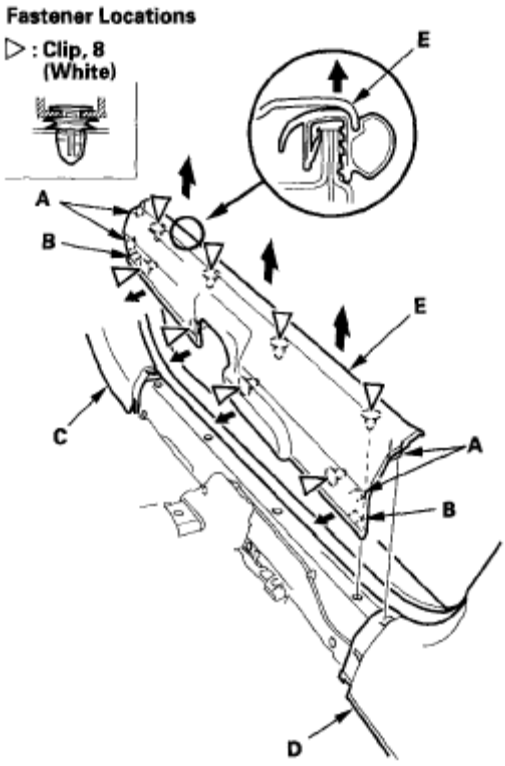



**Fig. 4: Detaching Hooks And Tabs From Kick Panel And Rear Side Trim Panel (Passenger'S Side)**

5. Pull out the door opening seal (A) from the trim hooks (B) and around the door opening flange, then remove the seal.

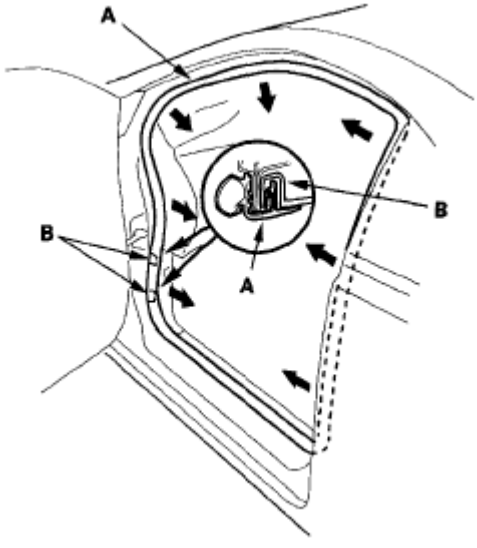



**Fig. 5: Identifying Door Opening Seal From Trim Hooks**

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6. Pull the left kick panel (A) or the right kick panel (B) back by hand to detach the clips (C, D, E, F), then remove it.

**Driver's side**

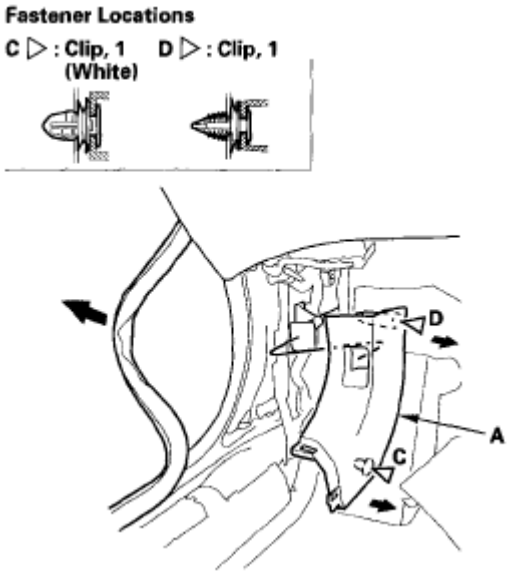



**Fig. 6: Detaching Clips To Remove Kick Panel (Driver's Side)**

**Passenger's side**

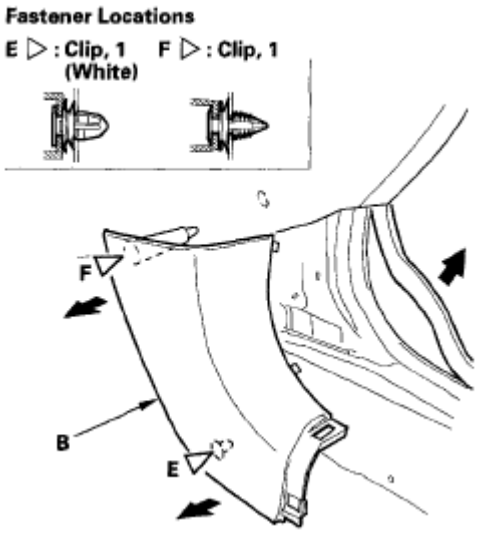



**Fig. 7: Detaching Clips To Remove Kick Panel (Passenger's Side)**

7. Install the trim in the reverse order of removal, and note these items:

- Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
- Push the clips and hooks into place securely.

## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**FRONT DOOR SILL AREA - 4-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Driver's side: Remove the footrest (see **CARPET REPLACEMENT** ).
2. Driver's side: Remove the front side cap from the front door sill trim, and remove the opener lock cylinder and screw (see **TRUNK LID OPENER/FUEL FILL DOOR OPENER REPLACEMENT** ).
3. Detach the hooks (A) and tabs (B) from the kick panel (C) and B-pillar lower trim (D), and pull the front door sill trim (E) up by hand to detach the clips (F, G), then remove it.

**Driver's side**

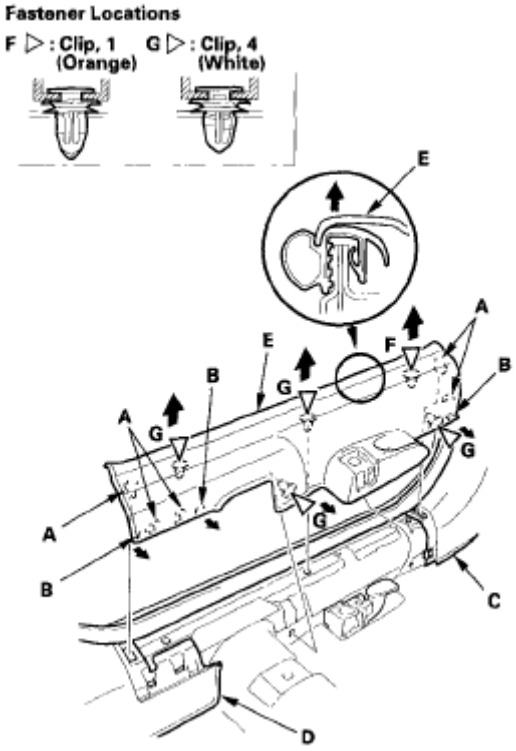



**Fig. 8: Detaching Hooks And Tabs From Kick Panel & B-Pillar Lower Trim (Driver's Side)**

## Passenger's side

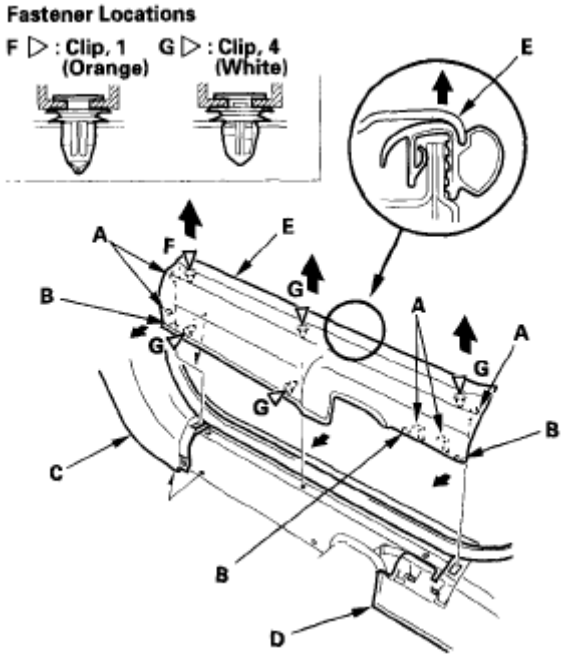


**Fig. 9: Detaching Hooks And Tabs From Kick Panel & B-Pillar Lower Trim (Passenger's Side)**

4. Pull out the front door opening seal (A) from the trim hooks (B) and around the front door opening flange, then remove the seal.

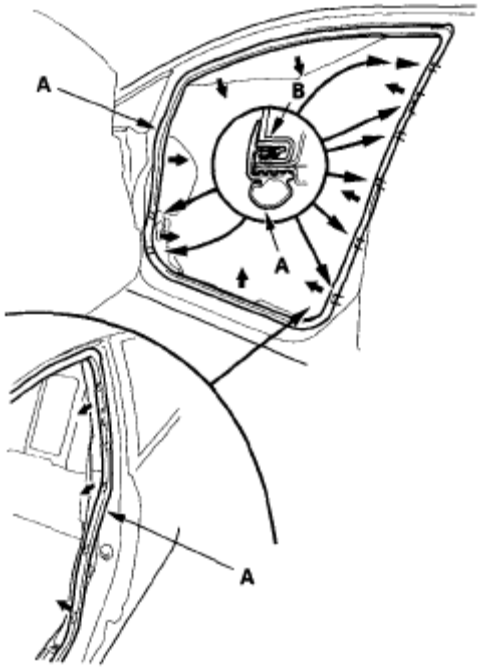



**Fig. 10: Identifying Front Door Opening Seal From Trim Hooks**

5. Pull the left kick panel (A) or the right kick panel (B) back by hand to detach the clips (C, D, E, F), then remove it.

**Driver's side**

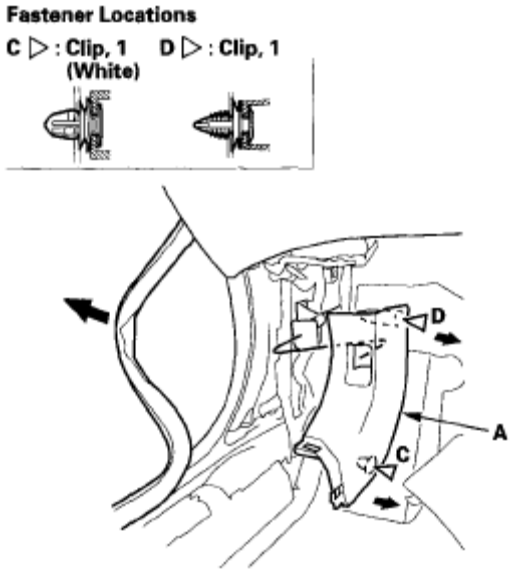



**Fig. 11: Detaching Clips Pulling Left And Right Kick Panel (Driver's Side)**

**Passenger's side**

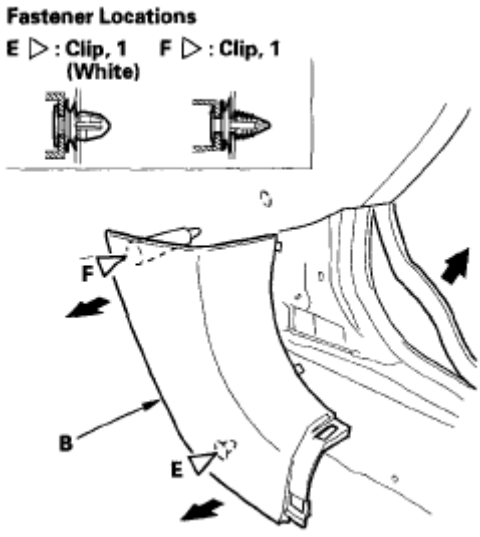



**Fig. 12: Detaching Clips Pulling Left And Right Kick Panel (Passenger's Side)**

6. Install the trim in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips and hooks into place securely.

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## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**REAR DOOR SILL AREA - 4-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Detach the hook (A) and tab (B) from the B-pillar lower trim (C), and pull the rear door sill trim (D) up by hand to detach the clips, then remove it.

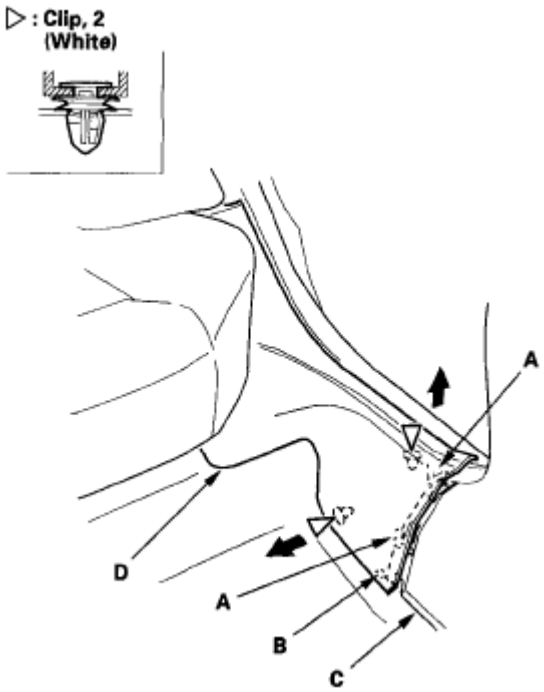



**Fig. 13: Detaching Hook And Tab From B-Pillar Lower Trim**

2. Pull the rear seat cushion (A) up to release the hook (B). While pulling the cushion up, detach the clips and remove the rear door sill trim (C) from the rear

door opening seal (D).

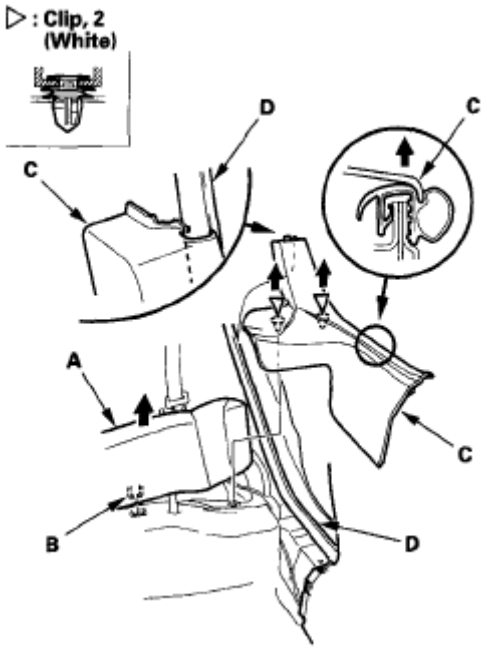



**Fig. 14: Pulling Rear Seat Cushion Up To Release Hook**

3. Pull out the rear door opening seal (A) from the trim hooks (B) and around the rear door opening flange, then remove the seal.

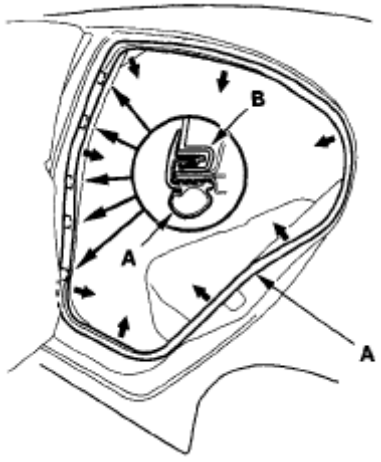



**Fig. 15: Pulling Out Rear Door Opening Seal From Trim Hook**

4. Install the trim in the reverse order of removal, and note these items:
    - Check if the clips are damaged or stress-whitened, and if necessary,

replace them with new ones.

- Push the clips and hooks into place securely.

## TRIM REMOVAL/INSTALLATION - PILLAR AREAS

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

#### A-PILLAR TRIM

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Follow the A-pillar trim installation procedure carefully; improper installation could cause the side curtain airbag to deploy improperly and possibly cause injury.**
- **Put on gloves to protect your hands.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to scratch the trim and panels.**
- **The upper clip in the A-pillar trim (A) consists of a grommet (B) and a pin (C). The grommet expanded with the pin secures it to the body panel (D). The projections (E) on the pin is broken during removal, so the clip must be replaced with a new one when the trim is reinstalled.**

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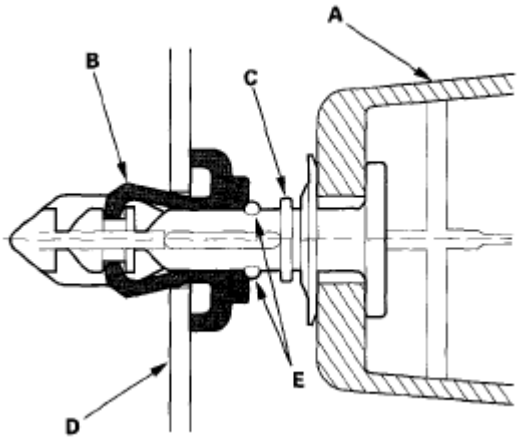



**Fig. 16: Identifying A-Pillar Trim**

1. Pull the door opening seal away from the A-pillar as needed:
   - 2-door (see step 5 in **TRIM REMOVAL/INSTALLATION - DOOR AREAS** )
   - 4-door (see step 4 in **TRIM REMOVAL/INSTALLATION - DOOR AREAS** )
2. Hit the upper clip in the A-pillar trim (A) with a rubber mallet. The clip is under the "SIDE CURTAIN AIRBAG" mark (B). Hitting the clip breaks the projections (C) on the pin (D) and pushes it into the grommet (E) and against the body (F). The grommet becomes narrow.

**NOTE: The clip must be replaced with a new one when the A-pillar trim is reinstalled.**

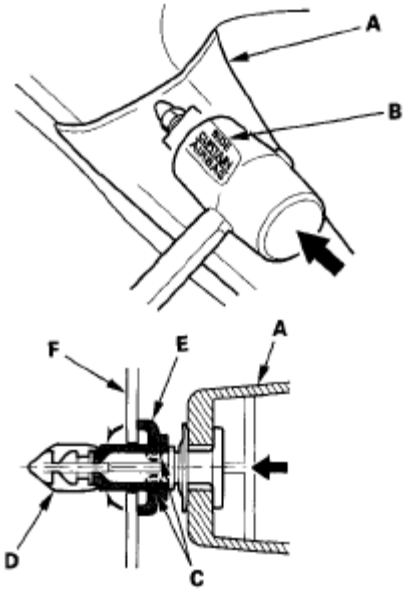



**Fig. 17: Using Rubber Mallet To Hit Upper Clip In A-Pillar Trim**

3. Pull the front of the A-pillar trim (A) back by hand to remove the upper clip (B) from the body (C).

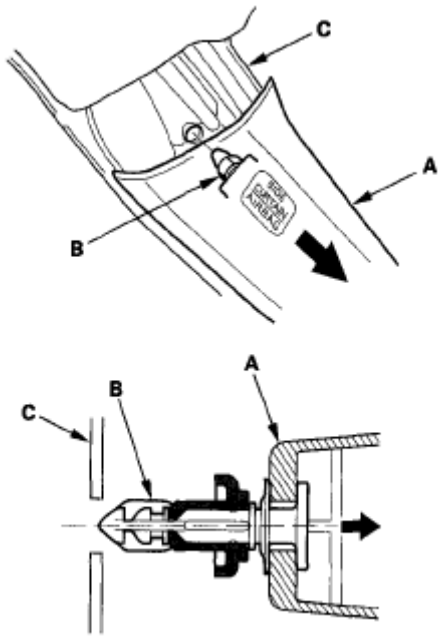



**Fig. 18: Removing Front Of A-Pillar Trim And Upper Clip**

4. Pull the A-pillar trim (A) by hand to detach the clips. Pull the trim up from the dashboard (B), then remove it.

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## 2-door

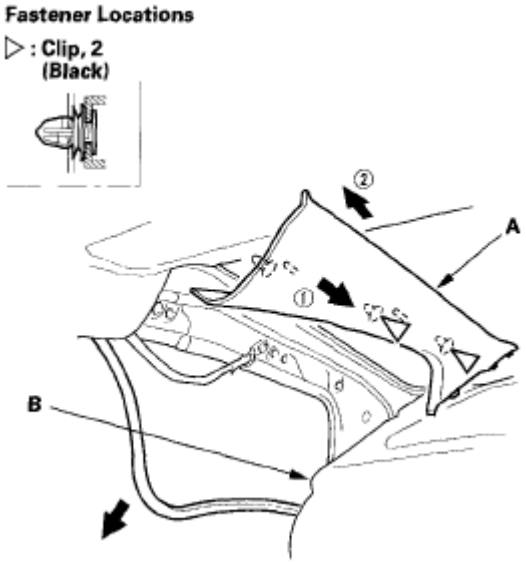



**Fig. 19: Detaching Clips By Pulling A-Pillar Trim (2-Door)**

## 4-door

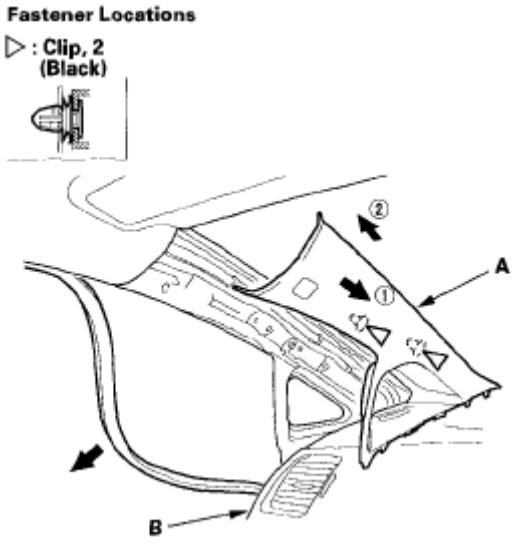



**Fig. 20: Detaching Clips By Pulling A-Pillar Trim (4-Door)**

5. If the side curtain airbag has deployed, replace the A-pillar trim and all clips on the trim with new ones (see **COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT** ).

6. If the side curtain airbag has not deployed, remove the upper clip (A) from the removed A-pillar trim (B) and discard it. Then check the trim:
   - To prevent the side curtain airbags from deploying improperly and possibly causing injury, inspect the A-pillar trim and replace it if it has any of these types of damage:
     -Any cracks, deformations, or stress-whitening in the A-pillar trim
     -Any cracks or stress-whitening in the clip seating surfaces (C, D)
   - Replace the lower clips (E) if it is damaged.
   - Replace the upper clip with a new one.
   - 4-door A-pillar trim is shown; 2-door A-pillar trim is similar.

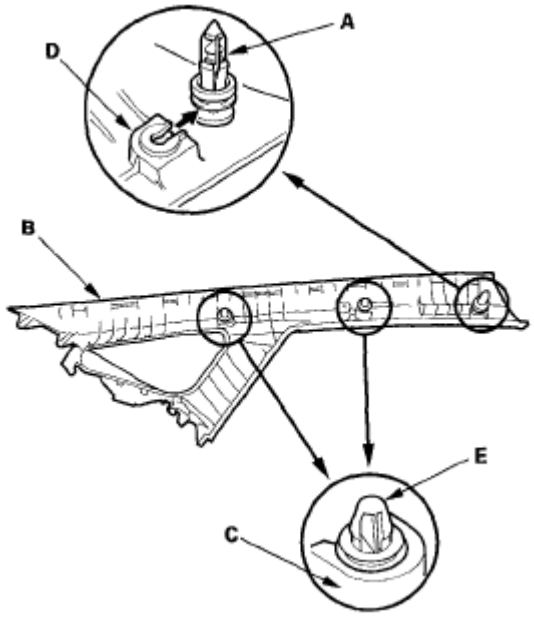



**Fig. 21: Removing Upper Clip From A-Pillar Trim**

7. Before installing the A-pillar trim (A), whether replaced or reinstalled, temporarily remove a new upper clip (B).

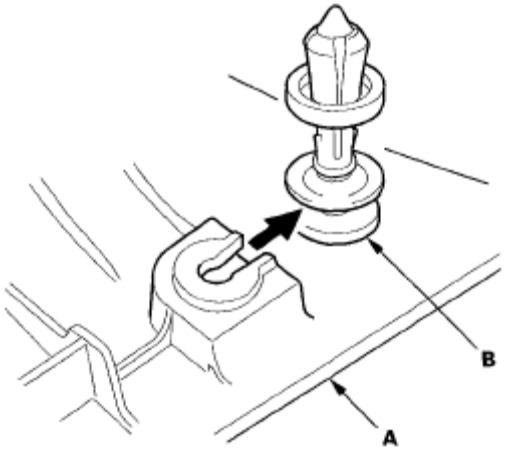



**Fig. 22: Installing A-Pillar Trim**

8. Check the overlap between the headliner and A-pillar trim, and if necessary, adjust it (see **CHECKING AND ADJUSTING THE HEADLINER/PILLAR TRIM OVERLAP** ).
9. Carefully install a new upper clip (A) to the A-pillar trim (B). Be sure that the grommet (C) is nearest to the top of the pin (D) as shown.

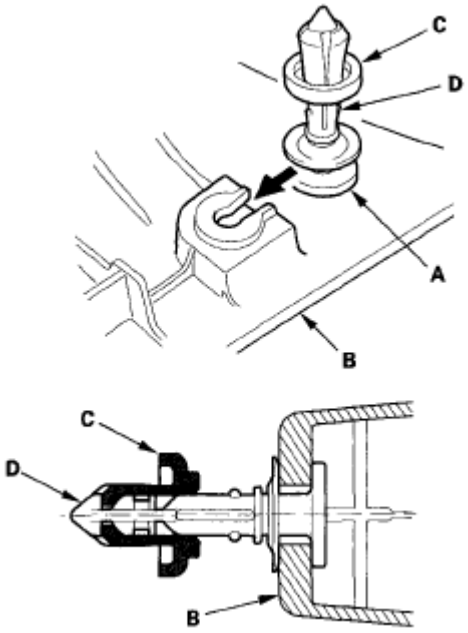



**Fig. 23: Installing Upper Clip To A-Pillar Trim**

10. Reinstall the A-pillar trim (A).

-1 Insert the bottom of the trim into the dashboard (B).

-2 Place the trim over the A-pillar (C), and fit its upper clip (D), and lower clips (E), and pins (F) into the holes (G) in the A-pillar, then lightly push the trim into place.

**NOTE:**

- **Make sure the side curtain airbag isn't tucked down under the clips and ribs.**
- **Push lightly on the upper clip. If you push too hard, the clip will be damaged, and it will not hold the trim properly.**

**2-door**

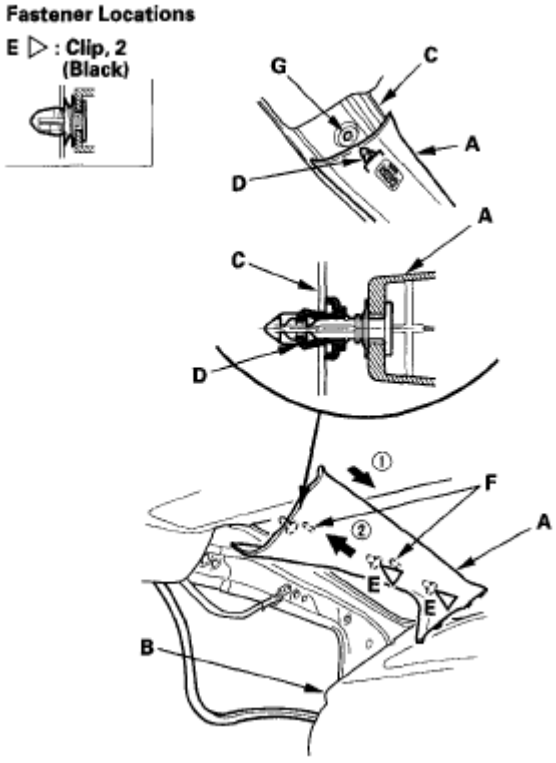



**Fig. 24: Installing A-Pillar Trim (2-Door)**

**4-door**

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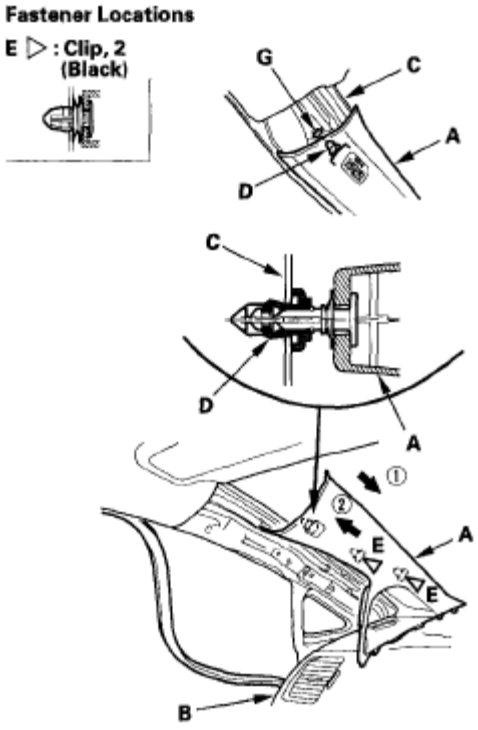



**Fig. 25: Installing A-Pillar Trim (4-Door)**

11. Reinstall the front door opening seal.

## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

### B-PILLAR UPPER/LOWER TRIM - 4-DOOR

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**

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- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Remove these items:
   - Front door sill trim (see **FRONT DOOR SILL AREA - 4-DOOR** )
   - Rear door sill trim (see **REAR DOOR SILL AREA - 4-DOOR** )
   - Front door opening seal, as needed (see step 4 in **FRONT DOOR SILL AREA - 4-DOOR** )
   - Rear door opening seal, as needed (see step 3 in **REAR DOOR SILL AREA - 4-DOOR** )
2. Slide the front seat forward fully.
3. Remove the B-pillar lower trim (A).
   -1 Pull the upper portion of the trim back to release the upper hooks (B).
   -2 Detach the lower clips by pulling the bottom of the trim back by hand.

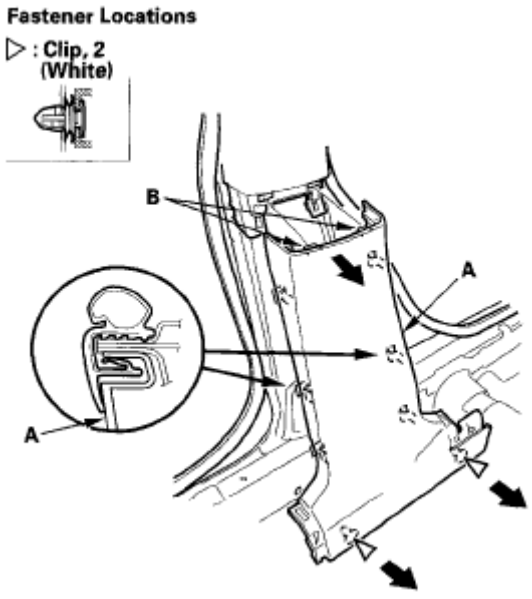



**Fig. 26: Removing B-Pillar Lower Trim**

4. Remove the front seat belt lower anchor (see **FRONT SEAT BELT REPLACEMENT** ).
5. Pull the bottom of the B-pillar upper trim (A) back by hand to detach the lower hooks (B).

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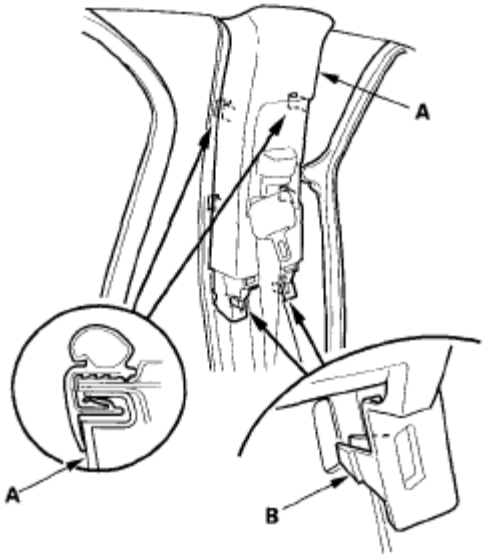



**Fig. 27: Detaching Lower Hooks Pulling Bottom Of B-Pillar Upper Trim**

6. Detach the upper clip by pulling the top of the B-pillar upper trim (A). Pull the trim down to release the upper hooks (B) from the side curtain airbag B-pillar bracket (C).

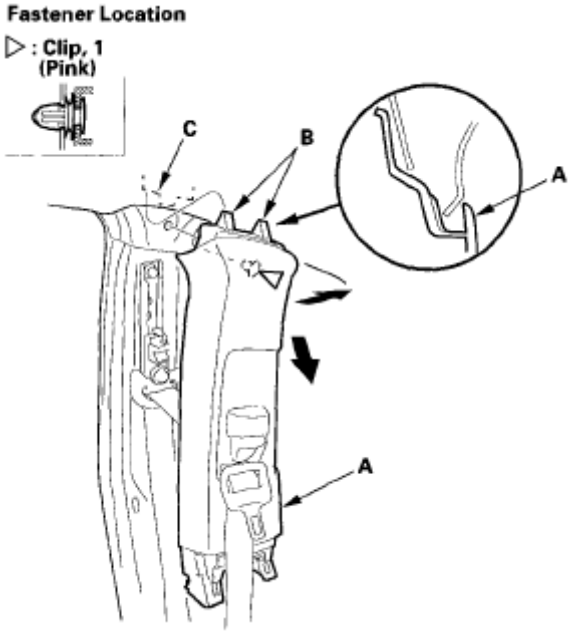



**Fig. 28: Pulling Top Of B-Pillar Upper Trim To Detach Upper Clip**

7. Pass the front seat belt (A) lower anchor out through a hole in the slider (B), then remove the B-pillar upper trim (C).

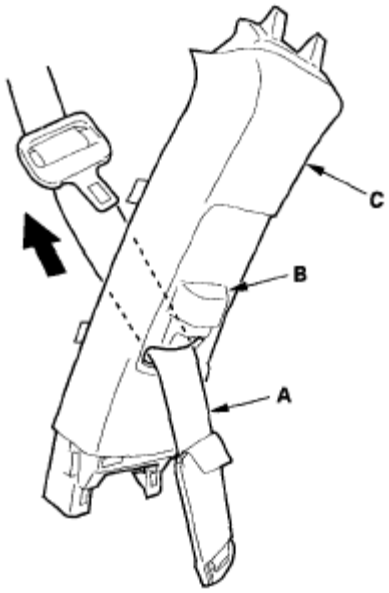



**Fig. 29: Removing B-Pillar Upper Trim**

8. Remove the slider (A) from the B-pillar upper trim (B).

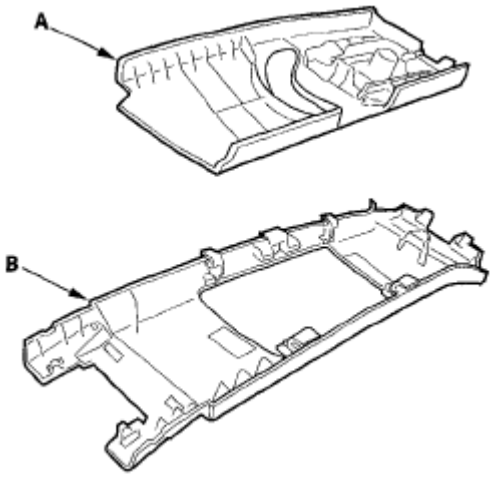



**Fig. 30: Removing Slider From B-Pillar Upper Trim**

9. Install the trim in the reverse order of removal, and note these items:
   - Check if the clips (A) are damaged or stress-whitened, and if necessary, replace them with new ones.
   - If the side curtain airbag has deployed, replace the B-pillar upper and lower trim and all clips on the trim with new ones (see **COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT** ).

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- To prevent the side curtain airbags from deploying improperly and possibly causing injury, inspect the trim and replace it if it has any of these types of damage:

  -Any cracks or deformations in the B-pillar upper trim (B) and the upper hooks (C), and any stress-whitening in the upper part of the trim

  -Any cracks or deformations in the B-pillar lower trim (D), and any breakages in the part (E) fitted with the B-pillar upper trim

  -Any cracks or stress-whitening in the clips seating surface (F)
- Replace any damaged parts with new ones.
- Make sure the top of the trim overlaps with the headliner correctly (see **CHECKING AND ADJUSTING THE HEADLINER/PILLAR TRIM OVERLAP** ).
- Make sure the pin (G) on the front seat belt shoulder anchor adjuster (H) and the hole (I) on the back of the slider are engaged when installing the B-pillar upper trim.
- Make sure the trim hook is installed into the side curtain airbag B-pillar bracket securely.
- Push the clip and hooks into place securely.
- Before installing the anchor bolt, make sure there are no twists or kinks in the seat belt.

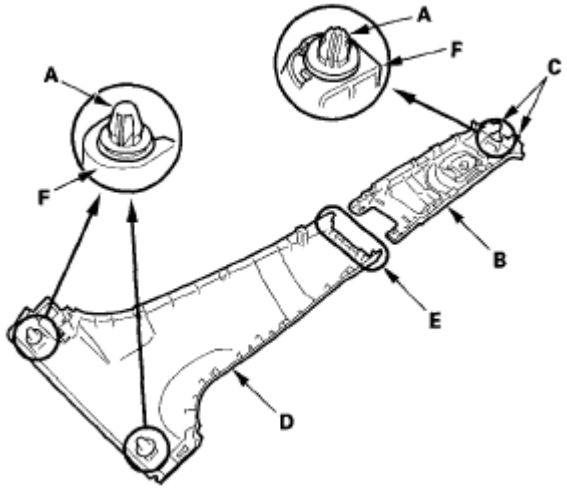



**Fig. 31: Installing Trim**

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## Slider engagement with shoulder anchor adjuster

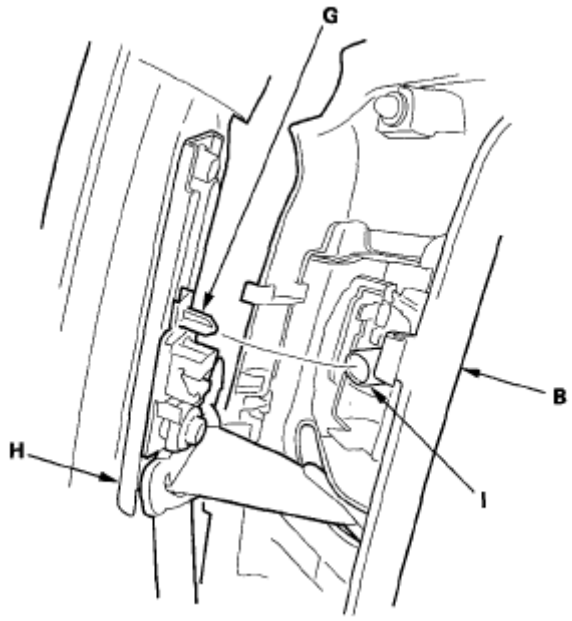



**Fig. 32: Identifying Slider Engagement With Shoulder Anchor Adjuster**

## Special Tools Required

KTC trim tool set SOJATP20U *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**QUARTER PILLAR TRIM - 2-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Follow the quarter pillar trim installation procedure carefully; improper installation could cause the side curtain airbag to deploy improperly and possibly cause injury.**
- **Put on gloves to protect your hands.**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to scratch the trim and panels.**
- **The B-pillar upper clip (A) in the quarter pillar trim (B) consists of a grommet (C) and a pin (D). The grommet expanded with the pin secures it to the body panel (E). The projections (F) on the pin is broken during removal, so the clip must be replaced with a new one when the trim is reinstalled.**
- **The C-pillar upper clip (G) under the airbag lid (H) consists of a resin grommet (I) and a metal pin (J). The groove (K) in the grommet secures it to the body panel. The shoulder (L) on the grommet is broken during removal, so the grommet must be replaced with a new one when the trim is reinstalled.**

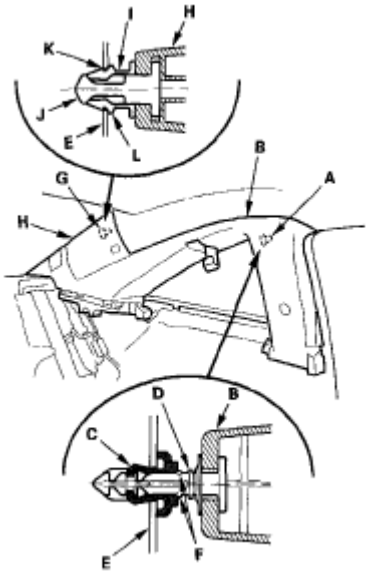



**Fig. 33: Identifying Quarter Pillar Trim (2-Door)**

1. Remove these items:
   - Rear side trim panel (see **TRIM REMOVAL/INSTALLATION - REAR SIDE AREA** )
   - Rear shelf extension (see **REAR SHELF EXTENSION - 2-DOOR** )

2. Remove the front seat belt upper anchor (see **FRONT SEAT BELT REPLACEMENT** ).
3. Lower the coat hanger (A), pry off the lid (B) with a trim tool, then remove the screw.

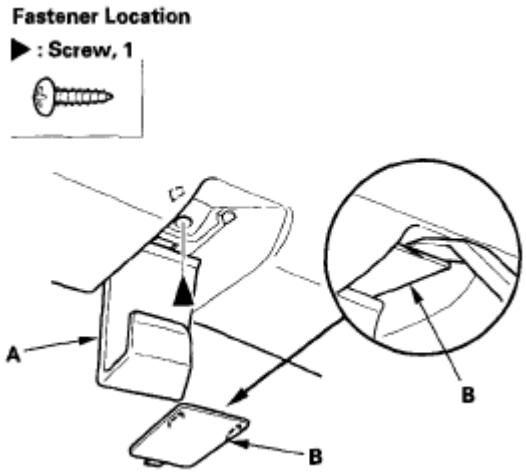



**Fig. 34: Removing Screw**

4. Release the hooks (A), then remove the rear window harness cap (B) from the quarter pillar trim (C).

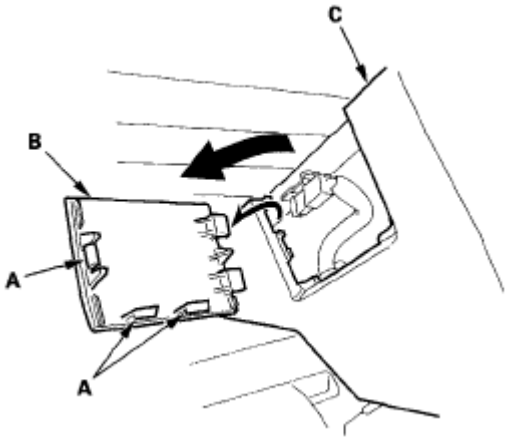



**Fig. 35: Removing Rear Window Harness Cap**

5. Pull the door opening seal away from the B-pillar as needed (see step 5 in **TRIM REMOVAL/INSTALLATION - DOOR AREAS** ).
6. Hit the surface of the quarter pillar trim (A) just upon the upper clip with a

rubber mallet. Hitting the trim surface breaks the projections (B) on the pin (C) and pushes it into the grommet (D) and against the body (E). The grommet becomes narrow.

**NOTE: The clip must be replaced with a new one when the quarter pillar trim is reinstalled.**

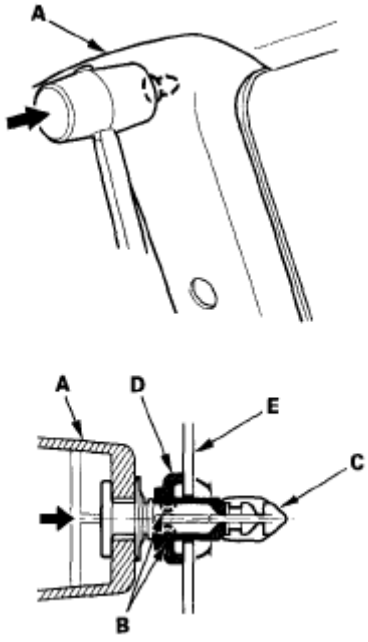



**Fig. 36: Using Rubber Mallet To Hit Surface Of Quarter Pillar Trim**

7. Hit the surface of the airbag lid (A) just upon the upper clip with a rubber mallet. The clip is halfway between the "SIDE CURTAIN AIRBAG" mark (B) and the rear window. Hitting the lid surface breaks the shoulder (C) on the grommet (D) and pushes the pin (E) and grommet against the body (F).

**NOTE:**

- **The clip must be replaced with a new one when the quarter pillar trim is reinstalled.**
- **Do not hit the lower side of the airbag lid, or it will be folded and stress-whitened at the middle of its own. It is very delicate part.**

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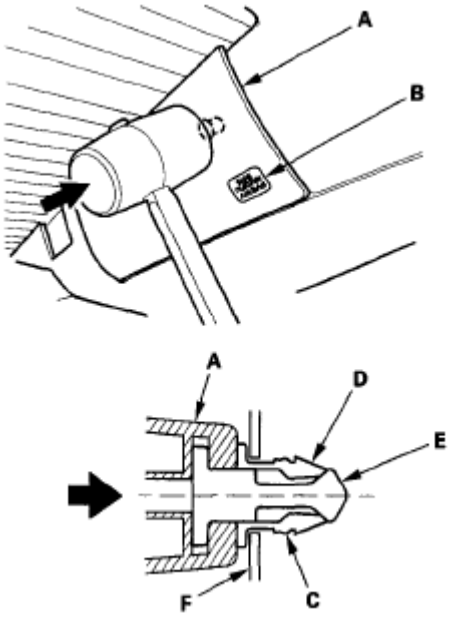



**Fig. 37: Using Mallet To Hit Surface Of Airbag Lid**

8. Remove the quarter pillar trim (A).

   -1 Detach and release the clips (B, C, D) from the body (E) and remove the pin (F) from the grommet (G) remaining in the body by pulling the trim back.

   -2 Lower the trim to release the upper edge of it from the headliner (H).

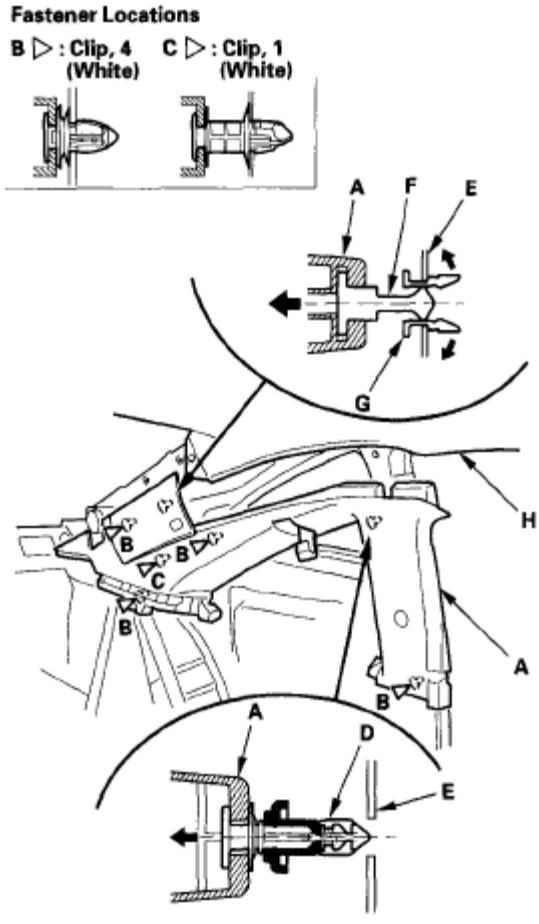



**Fig. 38: Removing Quarter Pillar Trim**

9. Remove the grommet from the body.

**NOTE: The grommet must be replaced with a new one because the it is damaged during removal.**

10. If the side curtain airbag has deployed, replace the quarter pillar trim and all clips on the trim with new ones (see **COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT** ).
11. If the side curtain airbag has not deployed, remove the clip (A) from the removed quarter pillar trim (B) and discard it. Then check the trim:
    - To prevent the side curtain airbags from deploying improperly and possibly causing injury, inspect the quarter pillar trim and replace it if it has any of these types of damage:

-Any cracks, deformations, or stress-whitening in the quarter pillar trim

-Any cracks or stress-whitening in the clip seating surfaces (C, D, E)

-Damaged top of the C-pillar upper clip pin (F)

- If any of the lower clips (G, H) are damaged or stress-whitened, replace them.
- Replace the clip (A) with a new one.

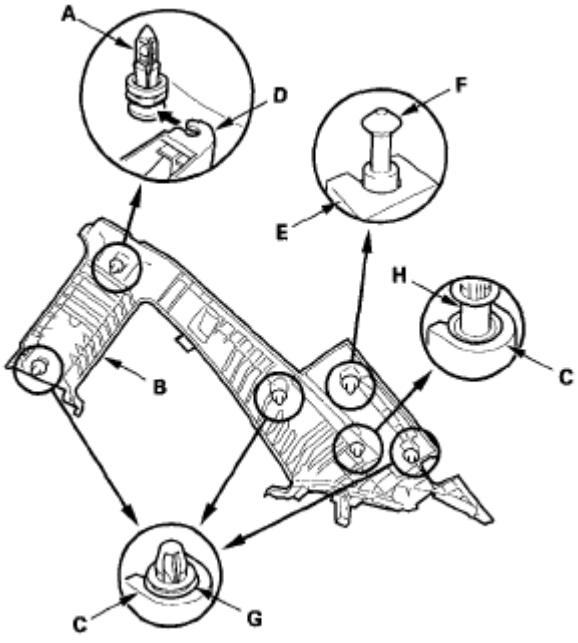



**Fig. 39: Removing Clip From Removed Quarter Pillar Trim**

12. Before installing the quarter pillar trim (A), whether replaced or reinstalled, temporarily remove a new clip (B), and the grommet (C) from the pin (D).

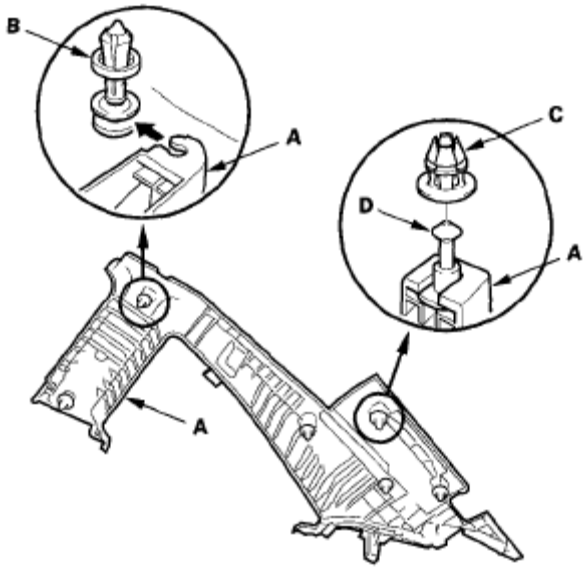



**Fig. 40: Removing Clip And Grommet Temporarily**

13. Check the overlap between the headliner and quarter pillar trim, and if necessary, adjust it (see **CHECKING AND ADJUSTING THE HEADLINER/PILLAR TRIM OVERLAP** ).
14. Carefully reinstall the clip (A) to the quarter pillar trim (B), and the grommet (C) on the pin (D):
    - Be sure that the grommet (E) is nearest to the top of the pin (F) as shown.
    - Seat the pin with the grommet on the quarter pillar trim as shown.

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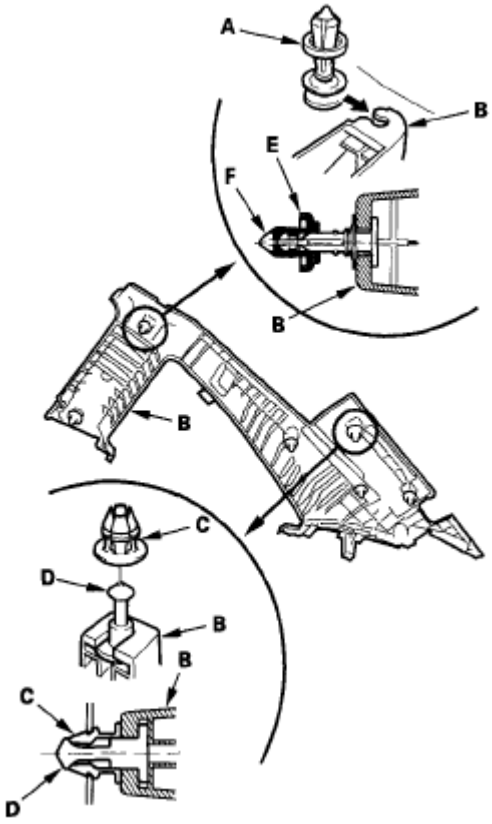



**Fig. 41: Installing Clip To Quarter Pillar Trim**

15. Reinstall the quarter pillar trim (A).

    -1 Fit the upper edge of the trim to the headliner (B).

    -2 Place the trim over the center/C-pillar (C), and fit its B-pillar upper clip (D), C-pillar upper clip (E), and all of the other clips (F, G) into holes (H) in the body, then lightly push the trim into place.

**NOTE:**

- **Make sure the side curtain airbag isn't tucked down under the clips and ribs.**
- **Apply pressure to the areas of the trim just upon the quarter/C-pillar upper clips until these clip fittings are felt. If you push too hard, the clip will be damaged, and it will not hold the trim properly.**
- **Make sure the upper clip portions of the trim don't come off the body by tugging on the trim**

**back.**

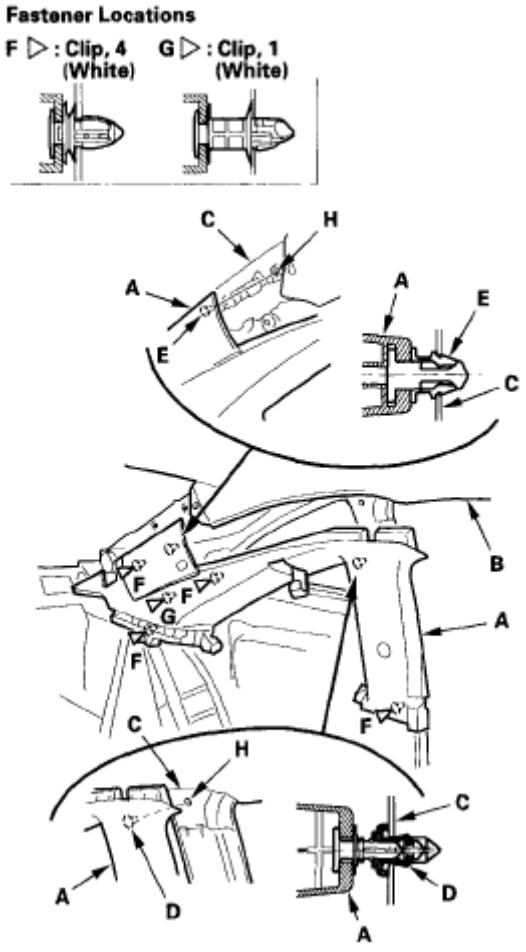



**Fig. 42: Installing Quarter Pillar Trim**

16. Reinstall the rear window harness cap (A) to the quarter pillar trim (B) until its hooks (C) snap into place securely.

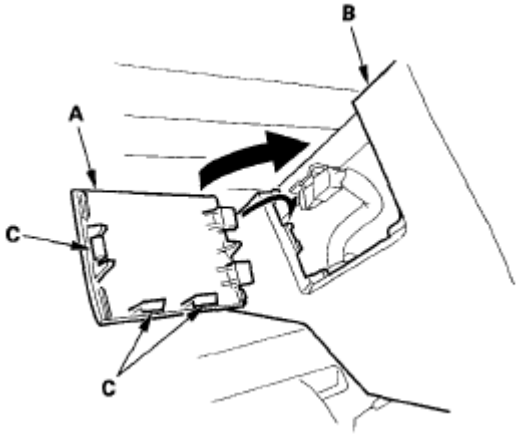



**Fig. 43: Installing Rear Window Harness Cap To Quarter Pillar Trim**

17. Reinstall the screw and the lid (A).

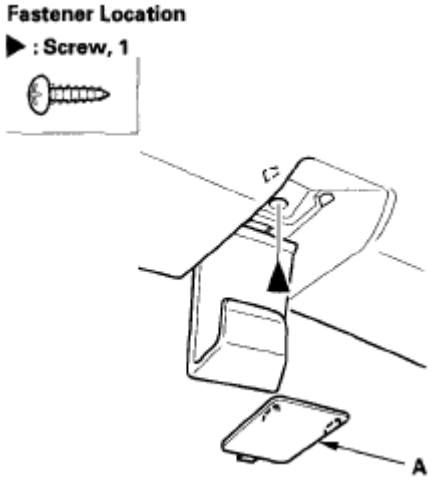



**Fig. 44: Installing Screw And Lid**

18. Reinstall the door opening seal.

## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**C-PILLAR TRIM - 4-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Follow the C-pillar trim installation procedure carefully; improper installation could cause the side curtain airbag to deploy improperly and possibly cause injury.**
- **Put on gloves to protect your hands.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to scratch the trim and panels.**
- **The front clip in the C-pillar trim (A) consists of a grommet (B) and a pin (C). The grommet expanded with the pin secures it to the body panel (D). The projections (E) on the pin is broken during removal, so the clip must be replaced with a new one when the trim is reinstalled.**

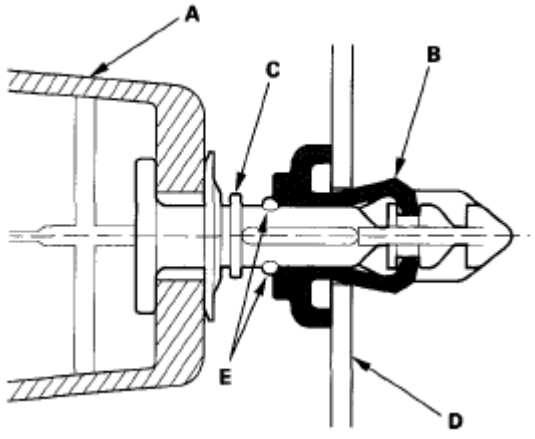



**Fig. 45: Identifying C-Pillar Trim (4-Door)**

1. Remove these items:
   - Rear seat cushion (see **REAR SEAT CUSHION COVER REPLACEMENT** )

- Rear seat side bolster (see **SEAT SIDE BOLSTER - 4-DOOR** )
- Rear door opening seal, as needed (see step 3 in **REAR DOOR SILL AREA - 4-DOOR** )

2. Fold the seat-back forward.
3. Hit the front clip in the C-pillar trim (A) a rubber mallet. The clip is near the triangle mark (B). Hitting the clip breaks the projections (C) on the pin (D) and pushes it into the grommet (E) and against the body (F). The grommet becomes narrow.

**NOTE: The clip must be replaced with a new when the C-pillar trim is reinstalled.**

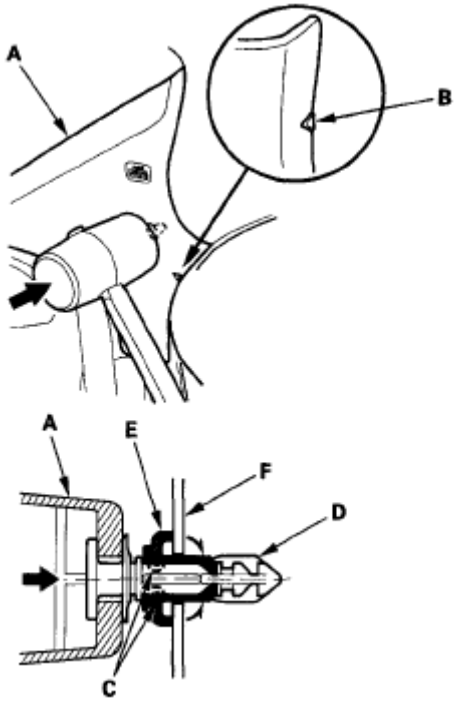



**Fig. 46: Using Rubber Mallet To Hit Front Clip In C-Pillar Trim**

4. Pull the front of the C-pillar trim (A) back by hand to remove the front clip (B) from the body (C).

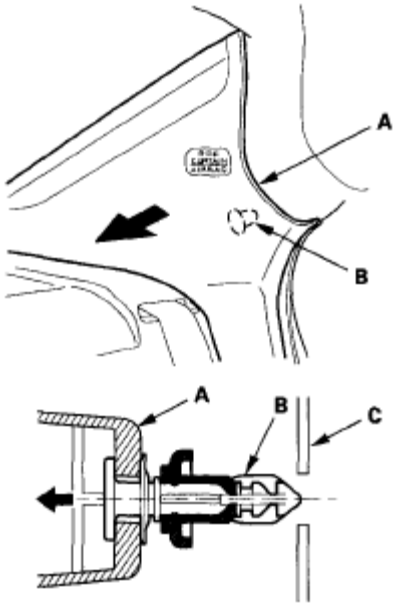



**Fig. 47: Pulling Front Of C-Pillar Trim To Remove Front Clip**

5. Pull the C-pillar trim (A) by hand to detach the clips, then pull the trim up from the rear shelf (B).

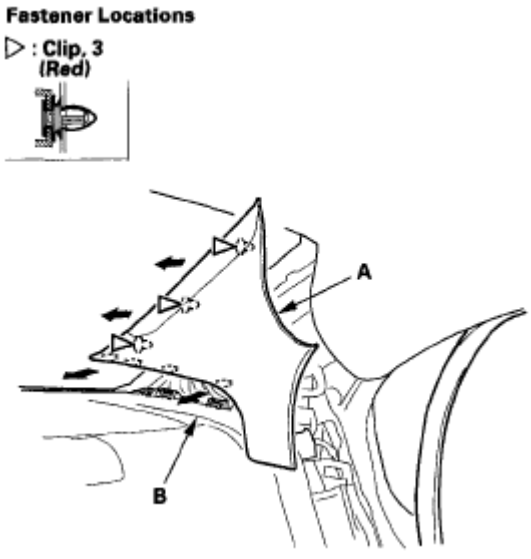



**Fig. 48: Pulling C-Pillar Trim To Detach Clips**

6. If the side curtain airbag has deployed, replace the C-pillar trim and all clips on the trim with new ones (see **COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT** ).

7. If the side curtain airbag has not deployed, remove the front clip (A) from the removed C-pillar trim (B) and discard it. Then check the trim:
   - To prevent the side curtain airbags from deploying improperly and possibly causing injury, inspect the C-pillar trim and replace it if it has any of these types of damage:
     -Any cracks, deformations, or stress-whitening in the C-pillar trim
     -Any cracks or stress-whitened in the clip seating surfaces (C, D)
   - Replace the rear clips (E) if it is damaged.
   - Replace the front clip with a new one.

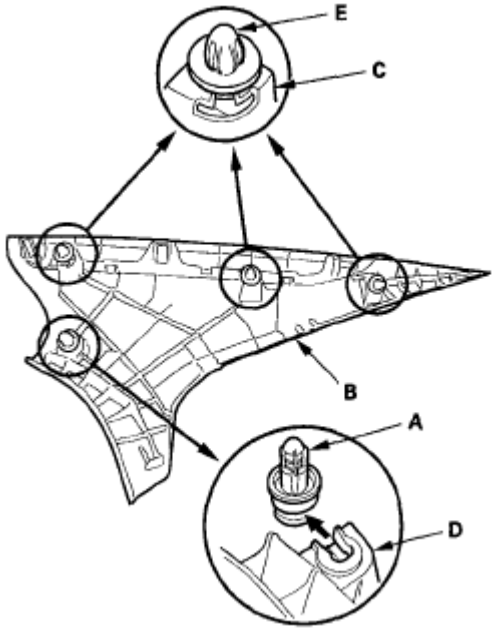



**Fig. 49: Removing Front Clip From Removed C-Pillar Trim**

8. Before installing the C-pillar trim (A), whether replaced or reinstalled, temporarily remove new front clip (B).

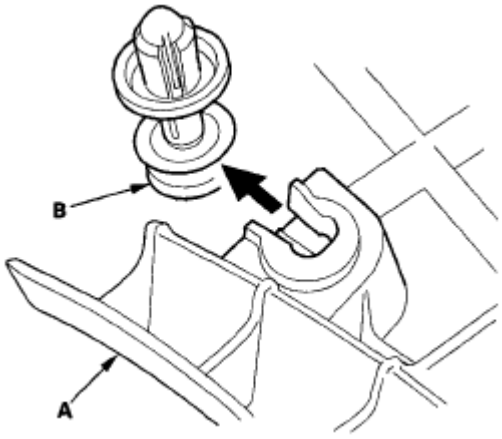



**Fig. 50: Removing Front Clip**

9. Check the overlap between the headliner and C-pillar trim, and if necessary, adjust it (see **CHECKING AND ADJUSTING THE HEADLINER/PILLAR TRIM OVERLAP** ).
10. Carefully reinstall a new front clip (A) to the C-pillar trim (B). Be sure that the grommet (C) is nearest to the top of the pin (D) as shown.

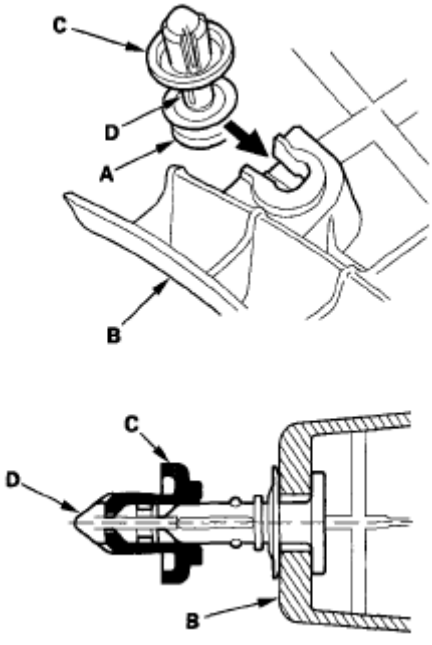



**Fig. 51: Installing Front Clip To C-Pillar Trim**

11. Reinstall the C-pillar trim (A).
    -1 Insert the bottom of the trim into the rear shelf (B).

-2 Place the trim over the C-pillar (C), and fit its front clip (D) and rear clips (E) into holes (F) in the C-pillar, then lightly push the trim into place.

**NOTE:**

- **Make sure the side curtain airbag isn't tucked down under the clips and ribs.**
- **Push lightly on the front clip. If you push too hard, the clip will be damaged, and it will not hold the trim properly.**

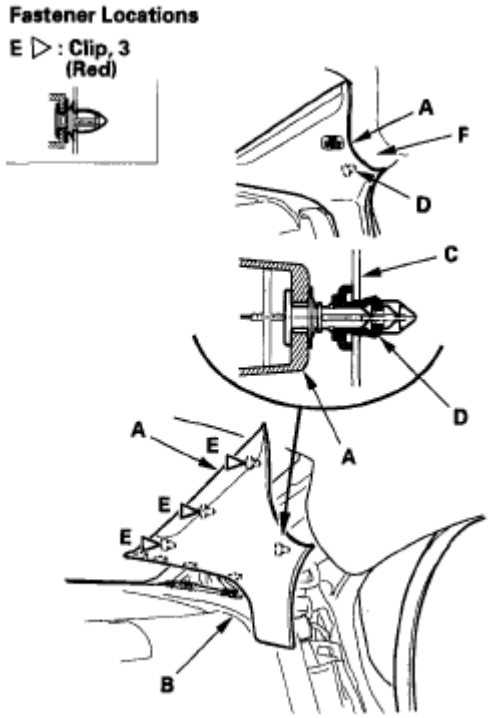



**Fig. 52: Installing C-Pillar Trim**

12. Reinstall the rear door opening seal.

**Special Tools Required**

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

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## TRIM REMOVAL/INSTALLATION - REAR SIDE AREA

**2-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Remove these items:
   - Door sill trim (see **DOOR SILL AREA - 2-DOOR** )
   - Rear seat-back:

     -Fold down (see **REAR SEAT-BACK COVER REPLACEMENT** )

     -Split fold down (see **SEAT-BACK - SPLIT FOLD DOWN - 2-DOOR** )
   - Rear seat cushion (see **REAR SEAT CUSHION COVER REPLACEMENT** )
2. Lower the rear seat pivot bracket (A).

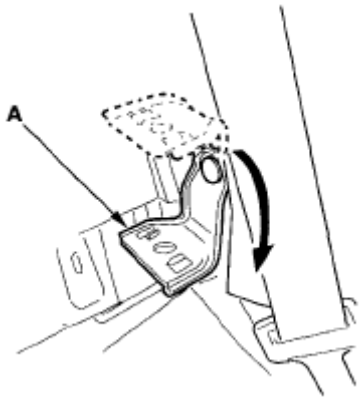



**Fig. 53: Lowering Rear Seat Pivot Bracket**

3. Release the clip (A). Detach the clips (B) by pulling the rear side trim panel (C) back, release the upper hooks (D) and tabs (E) from the quarter pillar trim (F) and the rear shelf extension (G), then remove the trim panel.

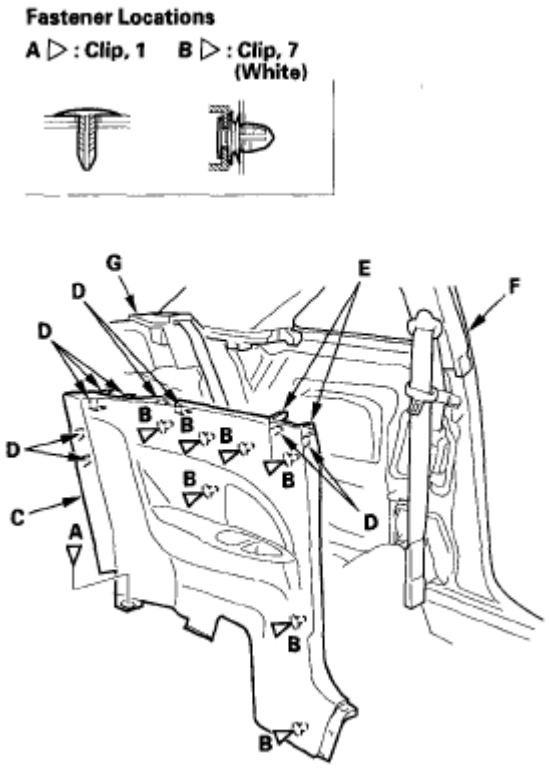



**Fig. 54: Detaching Clips By Pulling Rear Side Trim Panel Back**

4. Install the panel in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## TRIM REMOVAL/INSTALLATION - REAR SHELF AREA

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

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**REAR SHELF - 2-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the rear shelf and trim.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Fold both seat-backs forward.
2. From the trunk compartment, disconnect and detach the high mount brake light connector (A).

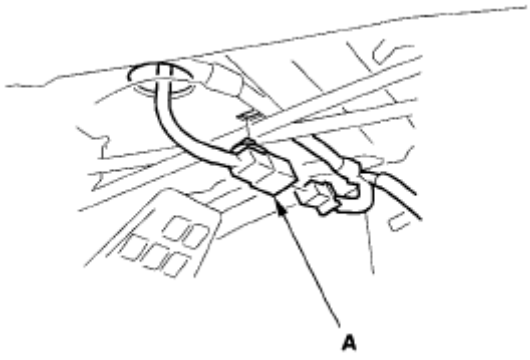



**Fig. 55: Disconnecting And Detaching High Mount Brake Light Connector**

3. Carefully lift up on the front edge of the rear shelf (A) by hand to release the front hooks (B) from the body, to detach the clips, and to disengage the side hooks (C) from the rear shelf extension (D).

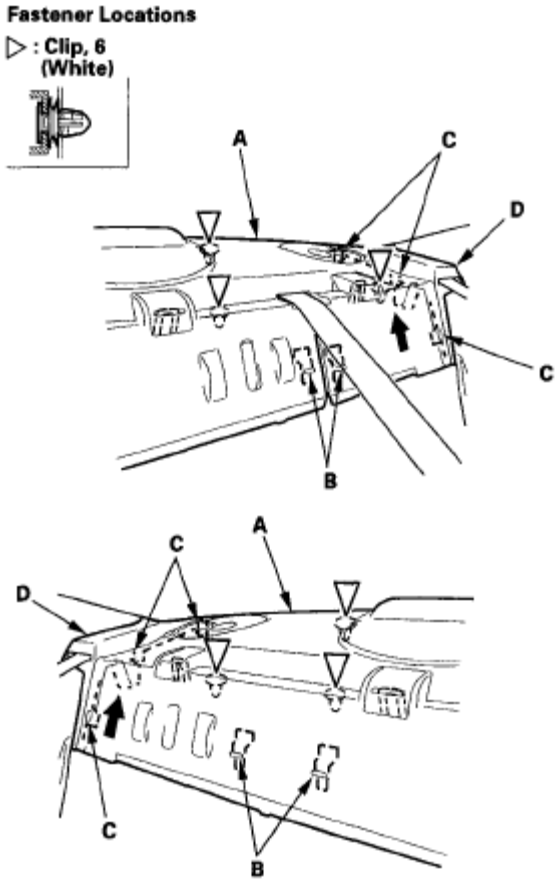



**Fig. 56: Lifting Front Edge Of Rear Shelf To Release Front Hook From Body**

4. While lifting the front of the rear shelf (A) up to release each portion away from three child seat tether anchor strikers (B), pull the shelf back to release it from the clips remain on the rear parcel shelf, and to release the hooks (C) near the high mount brake light.

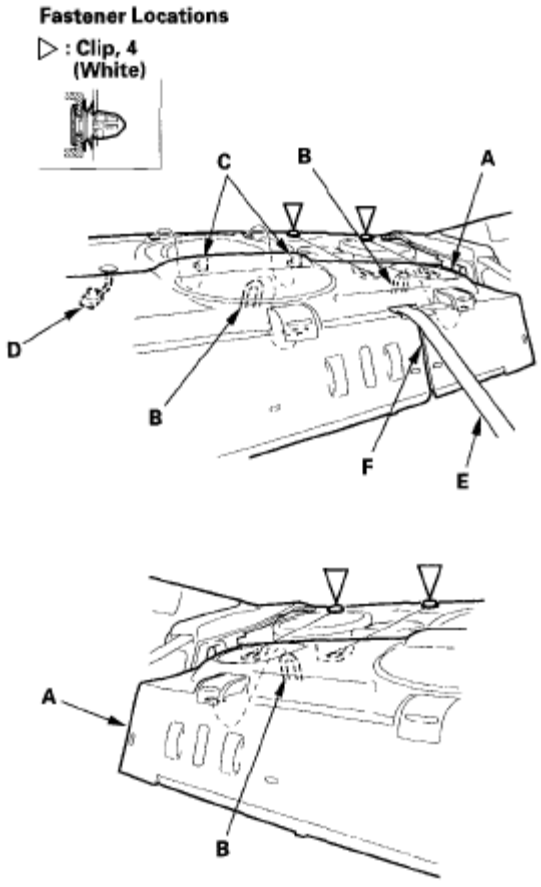



**Fig. 57: Lifting Front Of Rear Shelf Up To Release Each Portion Away From Child Seat Tether Anchor Strikers**

5. Pull the high mount brake light connector (D) in from the trunk compartment.
6. Pull the rear center seat belt (E) out through the slit (F) in the rear shelf, then remove the rear shelf.
7. Install the rear shelf in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - When installing the rear shelf, slip the rear center seat belt through the slit in the rear shelf.
   - With the rear clips (A) installed in the rear parcel shelf (body), set the rear shelf (B) on the parcel shelf. Push down on the rear edge of the shelf, then slide it back to set the rear clips and hooks (C) into place. Center the rear shelf using the center tether anchor (D) for reference. Push down on the

rear shelf to set the remaining clips.

- Make sure the high mount brake light connector is plugged in properly.

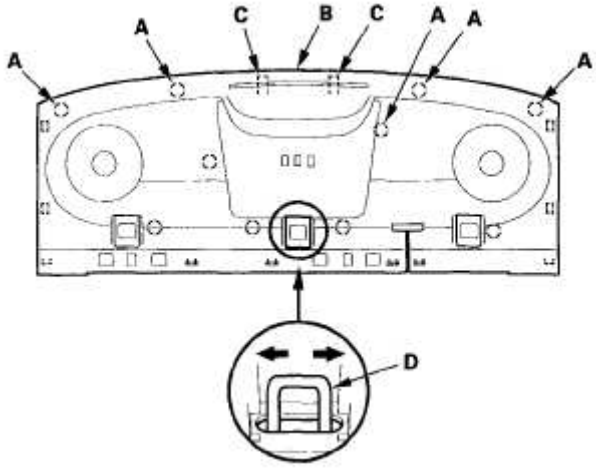



**Fig. 58: Installing Rear Shelf**

## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**REAR SHELF EXTENSION - 2-DOOR**

**NOTE:**

- **Take care not to bend or scratch the extension and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Remove these items:
   - Rear shelf
   - Rear side trim panel (see **2-door** )
2. Detach the clips, and release the hooks (A) from the C-pillar trim (B).

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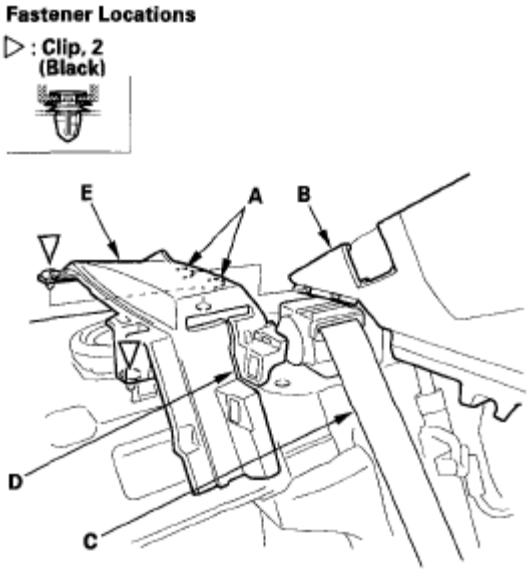



**Fig. 59: Releasing Hooks From C-Pillar Trim**

3. Pull the rear seat belt (C) out through the slit (D) in the rear shelf extension (E), then remove it.
4. Install the extension in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - When installing the rear shelf extension, slip the rear seat belt through the slit in the extension.

## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**REAR SHELF - 4-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

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**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the rear shelf and trim.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Remove these items:
   - Rear seat cushion (see **REAR SEAT CUSHION COVER REPLACEMENT** )
   - Rear seat-back:
     - Fold down (see **SEAT-BACK - FOLD DOWN - 4-DOOR** )
     - Split fold down (see **SEAT-BACK - SPLIT FOLD DOWN - 4-DOOR** )
   - Rear seat side bolster, both sides (see **SEAT SIDE BOLSTER - 4-DOOR** )
   - Rear door opening seal, as needed (see **REAR DOOR SILL AREA - 4-DOOR** )
   - C-pillar trim, both sides (see **C-PILLAR TRIM - 4-DOOR** )
2. From the trunk compartment, disconnect the high mount brake light connector (A).

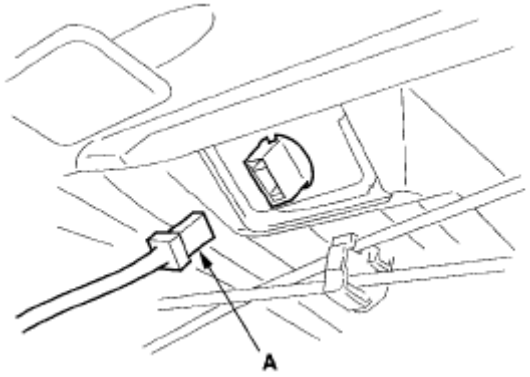



**Fig. 60: Disconnecting Mount Brake Light Connector**

3. Except Si model: From the trunk compartment, release the white clips (A) by tapping on them.

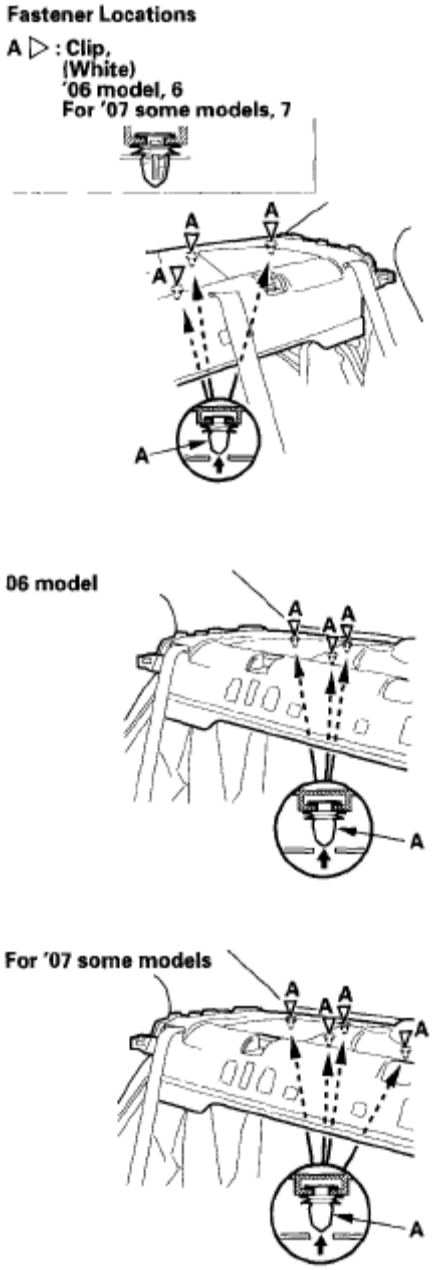



**Fig. 61: Releasing White Clips (Except Si Model)**

4. Si model: From the trunk compartment, release the white clips (A) by tapping on them.

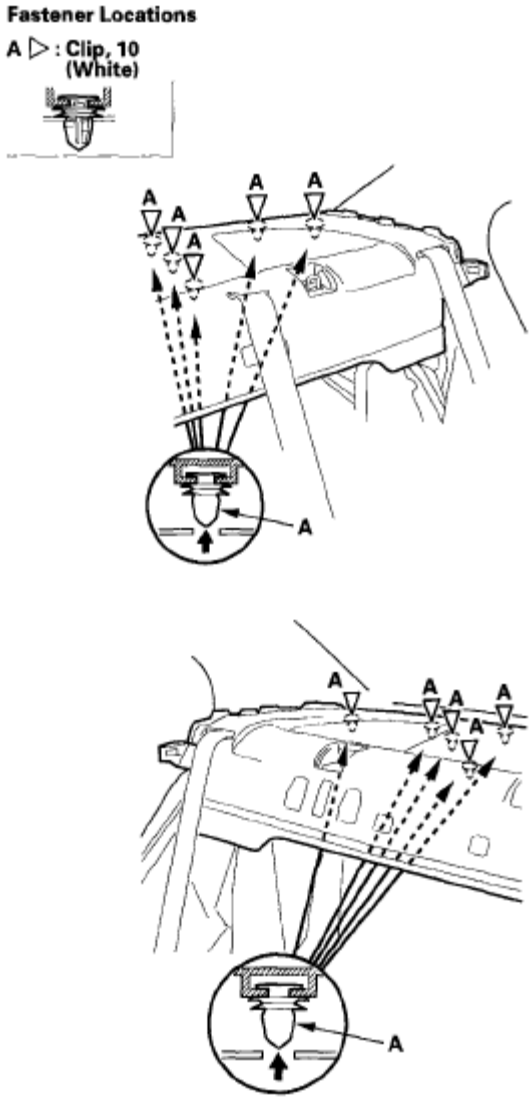



**Fig. 62: Releasing White Clips (Si Model)**

5. Release the hooks (A) by pushing in on the detents (B) on the rear shelf (C), then lift up on the front edge of the shelf at each detent.

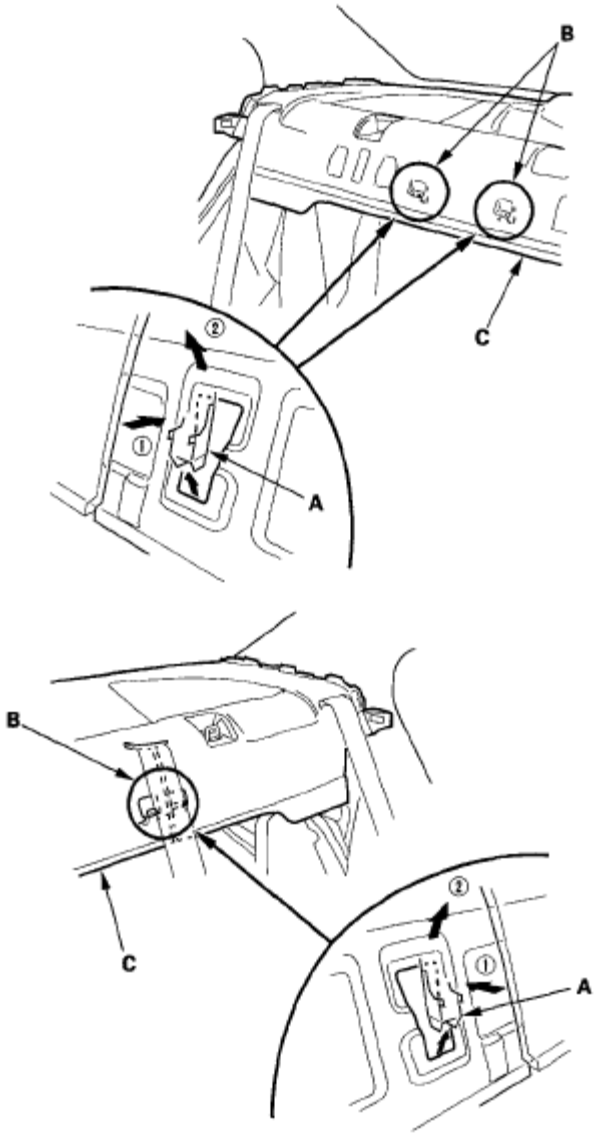



**Fig. 63: Releasing Hooks Pushing In On Detents On Rear Shelf**

6. Lift the rear shelf (A) upward to detach the remaining four clips. Except Si model: Release the hooks (B) of the high mount brake light from the rear shelf. Release the pin (C) from the holes on the body.

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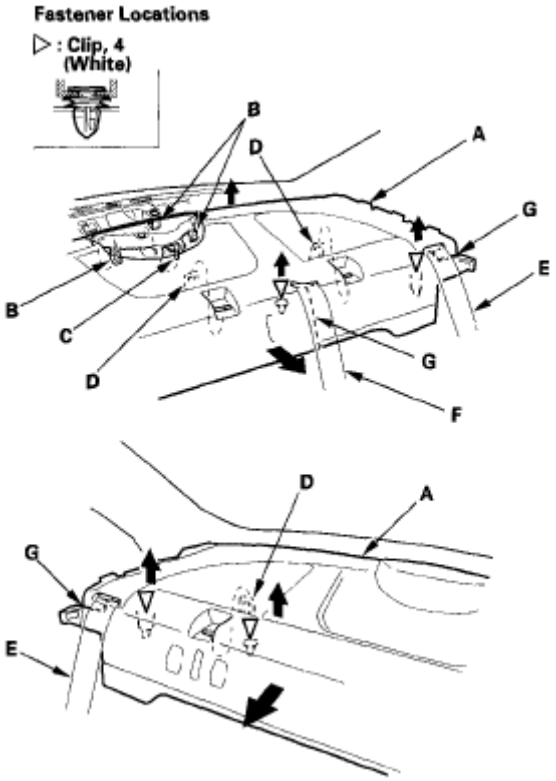



**Fig. 64: Detaching Clips By Lifting Rear Shelf Upward**

7. Release each anchor rod (D) out through the hole in the rear shelf, and pull both rear seat belts (E) and rear center seat belt (F) out through the slits (G) in the rear shelf.
8. Install the shelf in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - When installing the rear shelf, slip the rear seat belt through the slit and the rear center seat belt into the lid opening in the rear shelf.
   - Push the clips and hooks into place securely.
   - Make sure the high mount brake light connector is connected securely.

## TRIM REMOVAL/INSTALLATION - TRUNK AREA

### Special Tools Required

KTC trim tool set SOJATP2014 *

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* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**2-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Fold both rear seat-backs forward.
2. Pull back the front portion of the spare tire lid (A), and detach the clips.

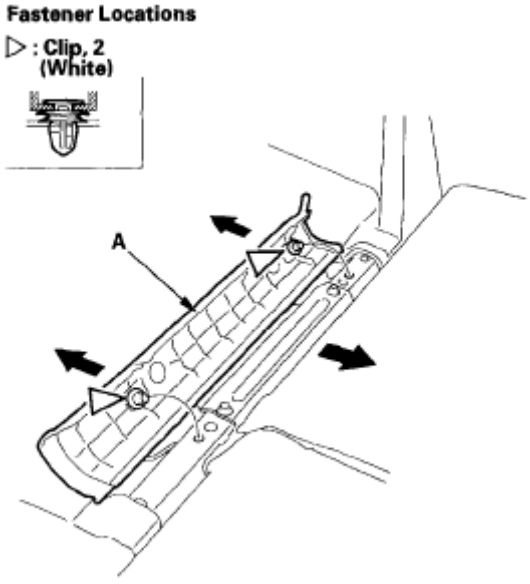



**Fig. 65: Pulling Back Front Portion Of Spare Tire Lid To Detach Clips**

3. Remove the spare tire lid (A).

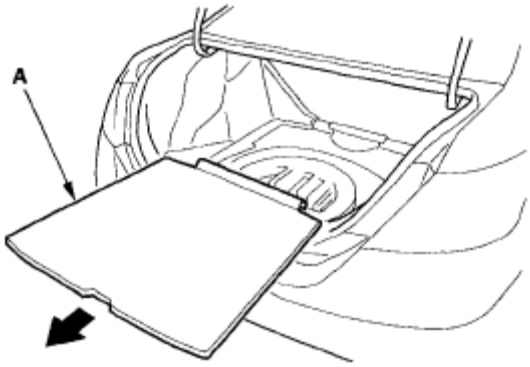



**Fig. 66: Removing Spare Tire Lid**

4. Remove the trunk lip weatherstrip near the trunk rear trim panel.
5. Detach the clips, and release the hooks (A) by pulling the trunk rear trim panel (B) up, then remove it.

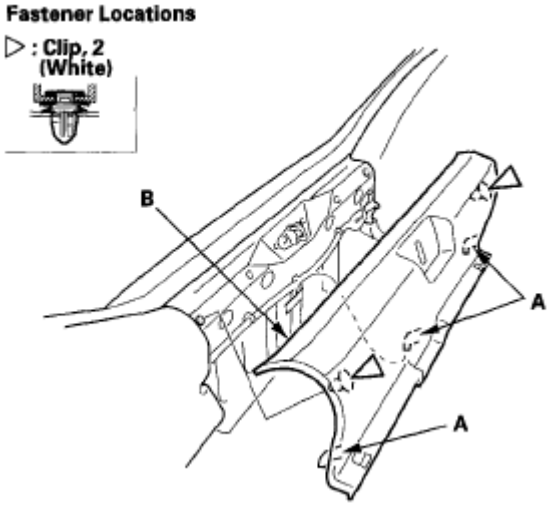



**Fig. 67: Removing Trunk Rear Trim Panel, Hooks And Clips**

6. Remove the clips (A, B), then remove the trunk side trim panel (C) from the trunk. Release the rear seat-back release cable (D) out through the slit (E) in the trim panel.

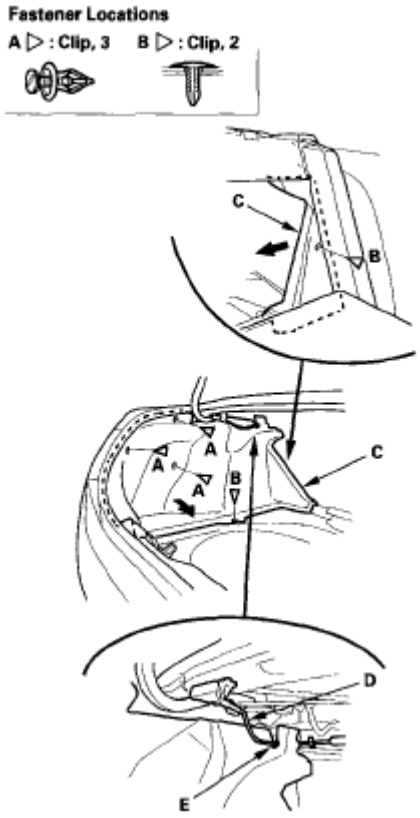



**Fig. 68: Removing Trunk Side Trim Panel And Clip**

7. If necessary, remove the trunk tool box (A).

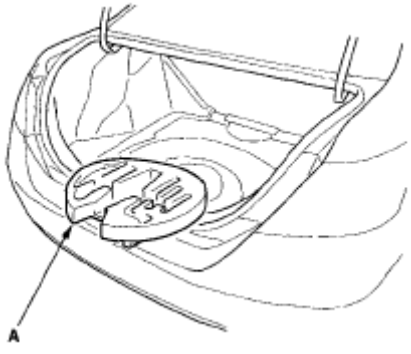



**Fig. 69: Removing Trunk Tool Box**

8. Install the trim in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

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## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**4-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Fold the rear seat-back forward.
2. Pull back the front portion of the spare tire lid (A), and detach the clips.

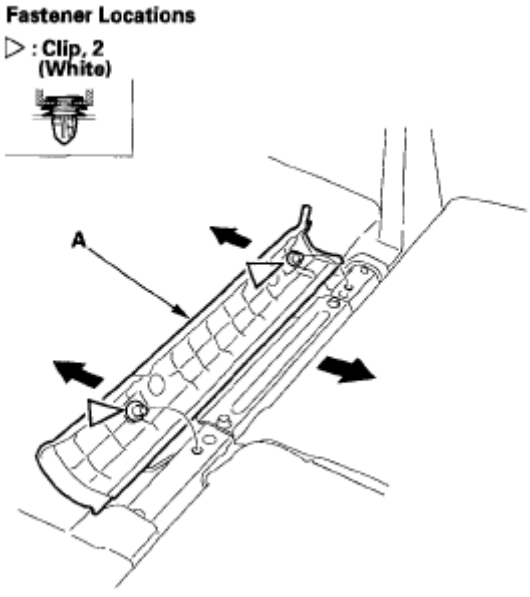



**Fig. 70: Detaching Clips By Pulling Back Front Portion Of Spare Tire**

3. Remove the spare tire lid (A).

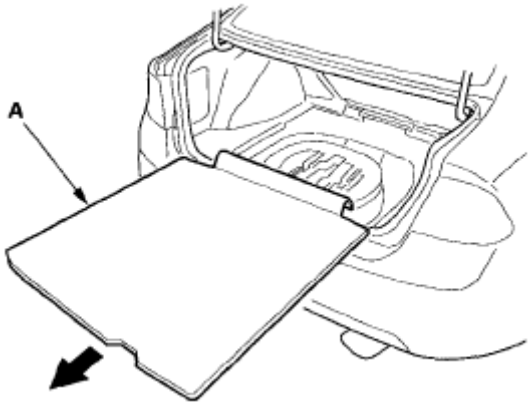



**Fig. 71: Removing Spare Tire Lid**

4. Remove the trunk lid weatherstrip near the trunk rear trim panel.
5. Detach the clips, and release the hooks (A) by pulling the trunk rear trim panel (B) up, then remove it.

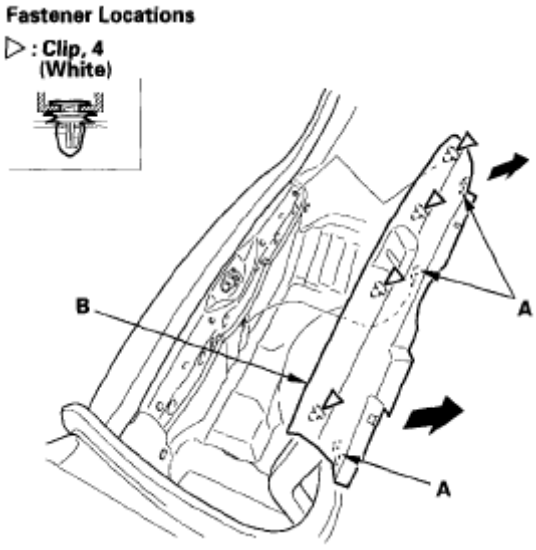



**Fig. 72: Removing Trunk Rear Trim Panel, Hooks And Clips**

6. Remove the clips (A, B), then remove the trunk side trim panel (C). Release the wire harness (D) from the slit (E) in the trim panel.

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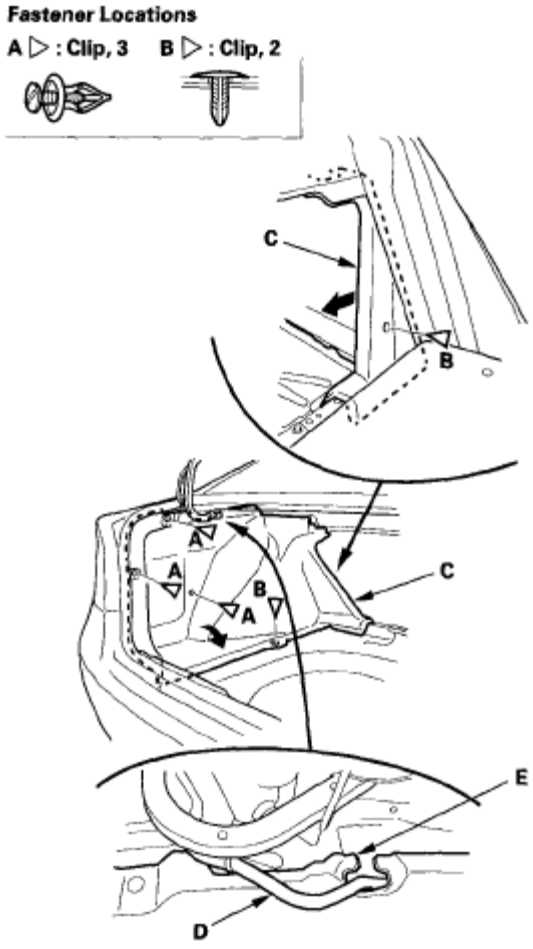



**Fig. 73: Removing Trunk Side Trim Panel And Clip**

7. If necessary, remove the trunk tool box (A).

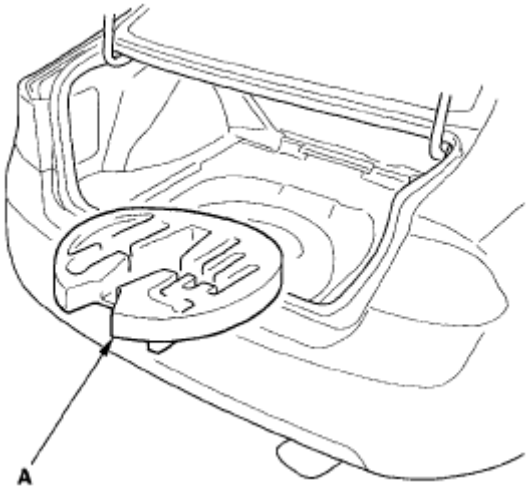


**Fig. 74: Removing Trunk Tool Box**

8. Install the trim in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## TRIM REMOVAL/INSTALLATION - TRUNK LID

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**4-DOOR**

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Remove the clips from both trunk lid hinge covers (A), then remove the covers.

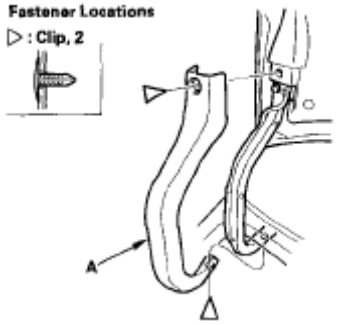



**Fig. 75: Removing Covers**

2. Remove the clips (A, B), then remove the trunk lid trim (C).

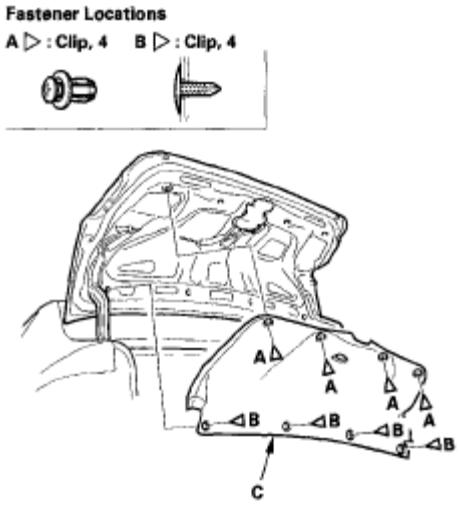



**Fig. 76: Removing Trunk Lid Trim**

3. Install the trim in the reverse order of removal, and check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

## GRAB HANDLE REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE: Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Lower the grab handle (A), then pull out the stoppers (B).

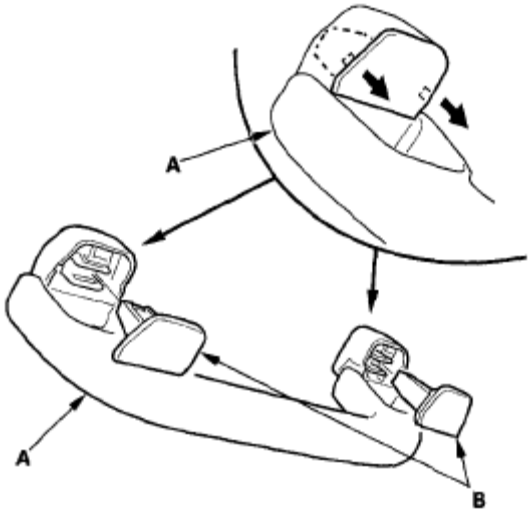



**Fig. 77: Removing Stoppers**

2. While pinching the clips (A), release the hooks (B), then remove the grab handle (C).

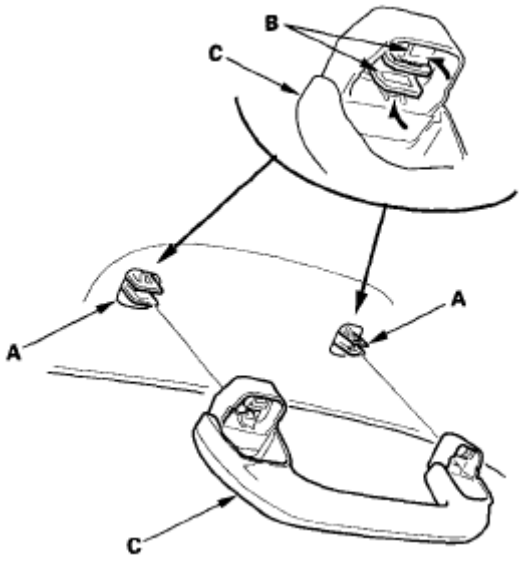



**Fig. 78: Removing Grab Handle**

3. Using a pair of pliers, remove all of the clips (A) by pinching its hooks.

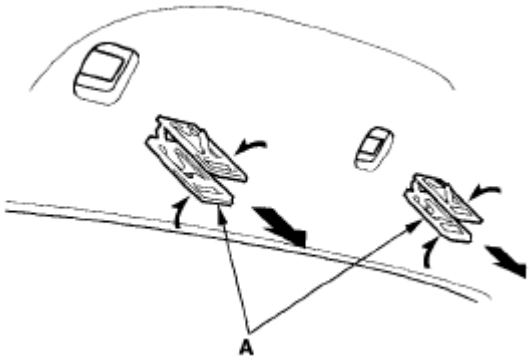



**Fig. 79: Identifying Clips By Pinching Hooks**

4. If the side curtain airbag has deployed, replace the grab handle with a new one (see **COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT** ).
5. If the side curtain airbag has not deployed, to prevent the side curtain airbags from deploying improperly and possibly causing injury, inspect removed pieces and replace them if they have any of these types of damage:
   - Any cracks or breakages in the grab handle (A).
   - Any cracks or stress-whitened in the stoppers (B).

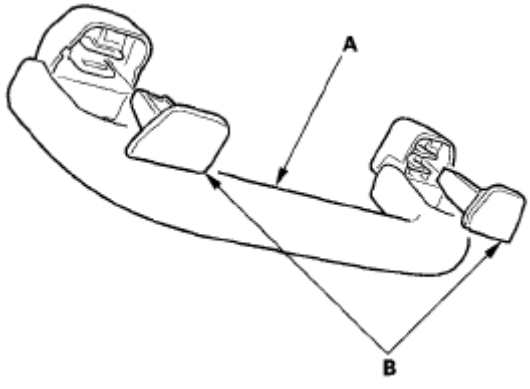



**Fig. 80: Inspecting Grab Handle And Stoppers**

6. Install the clips (A) to the grab handle (B), then install the stoppers (C) fully into the clips.

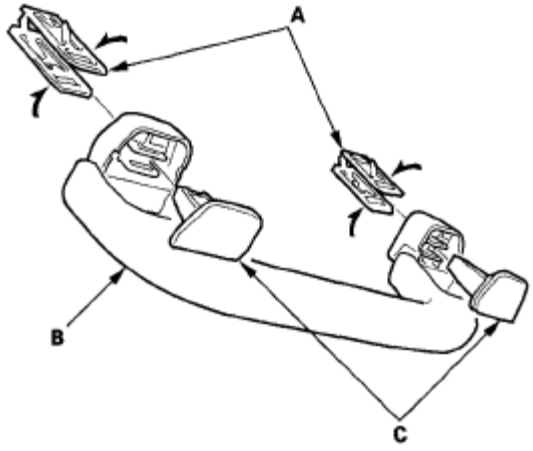



**Fig. 81: Installing Clips To Grab Handle And Stoppers**

7. Position the grab handle (A) on the bracket (B), and push on the grab handle until the clips (C) snap into place securely.

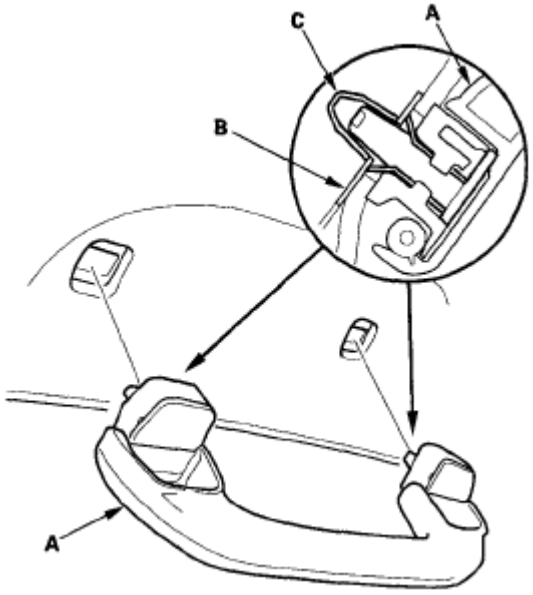



**Fig. 82: Snapping Grab Handle Into Place**

## HEADLINER REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to bend or scratch the trim and panels.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Make sure you have the anti-theft codes for the audio or the navigation system, then write down the audio presets.
2. Disconnect the negative cable from the battery, and wait at least 3 minutes before beginning work.
3. Remove these items:
   - 2-door:

     -A-pillar trim, both sides (see **A-PILLAR TRIM** )

     -Ceiling light (see **CEILING LIGHT TEST/REPLACEMENT** )

     -Front seat belt upper anchor, both sides (see **FRONT SEAT BELT REPLACEMENT** )

     -Rear side trim panel (see **2-DOOR** )

     -Quarter pillar trim (see **QUARTER PILLAR TRIM - 2-DOOR** )

     -Grab handles, two places (see **GRAB HANDLE REMOVAL/INSTALLATION** )
   - 4-door:

     -A-pillar trim, both sides (see **A-PILLAR TRIM** )

     -Ceiling light (see **CEILING LIGHT TEST/REPLACEMENT** )

     -Front seat belt upper anchor, both sides (see **FRONT SEAT BELT REPLACEMENT** )

-B-pillar lower trim (see **B-PILLAR UPPER/LOWER TRIM - 4-DOOR** )

-B-pillar upper trim, both sides (see **B-PILLAR UPPER/LOWER TRIM - 4-DOOR** )

-C-pillar upper trim, both sides (see **C-PILLAR TRIM - 4-DOOR** )

-Grab handles, four places (see **GRAB HANDLE REMOVAL/INSTALLATION** )

4. From both sides, using a trim tool, release the tabs (A) from the bracket (B).




**Fig. 83: Releasing Tabs From Bracket**

5. Remove the sunvisor cap (A) from the bracket (B). Turn the cap, and remove it.

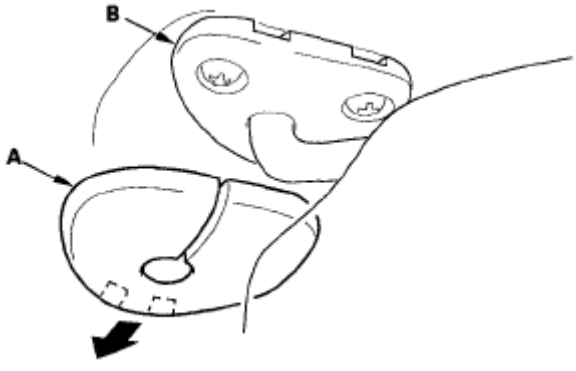



**Fig. 84: Removing Sunvisor Cap From Bracket**

6. From both sides, remove the sunvisor (A).

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-1 Remove the sunvisor from the body and holder (B).

-2 Using a T25 TORX bit, remove the screws.

-3 Remove the sunvisor from the body.

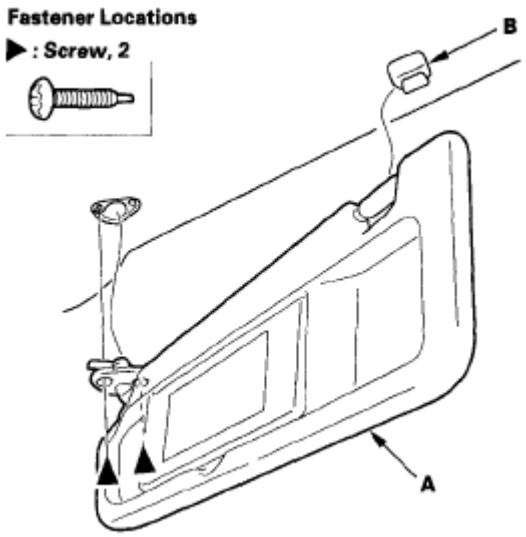



**Fig. 85: Removing Sunvisor**

7. Using a flat-tip screwdriver, push the hook (A), and turn the holder (B) 90°, then pull it out.

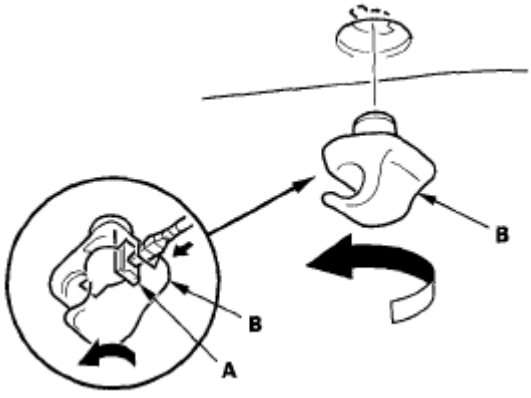



**Fig. 86: Removing Hook**

8. Remove the map light assembly (A).

-1 Remove the lenses (B).

-2 Remove the bolts.

-3 If equipped, release the four tabs (C), then pull out the moonroof switch (D) or the navigation microphone.

-4 Disconnect the front individual map light connector (E). If equipped, disconnect the moonroof switch connector (F) and the navigation microphone connector (G).

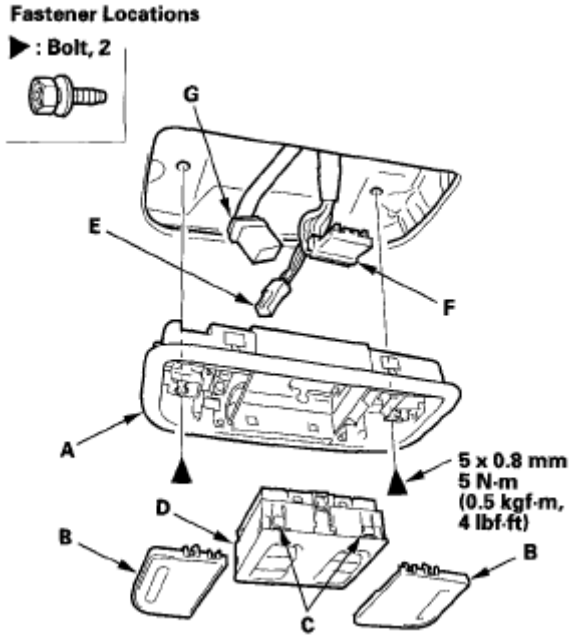



**Fig. 87: Removing Map Light Assembly (With Specifications)**

9. Without moonroof: Detach the harness clips (A) from the A-pillar (B).

**2-door**

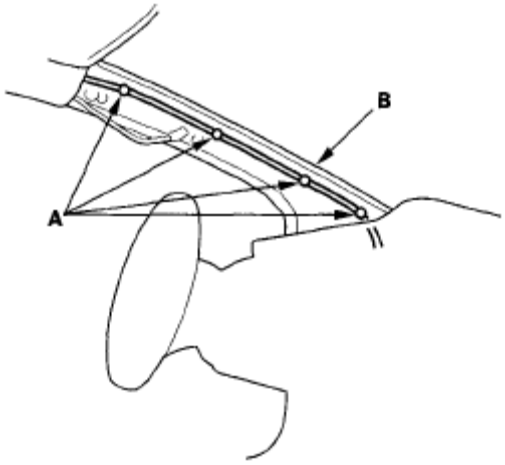



**Fig. 88: Detaching Harness Clips From A-Pillar (2-Door)**

**4-door**

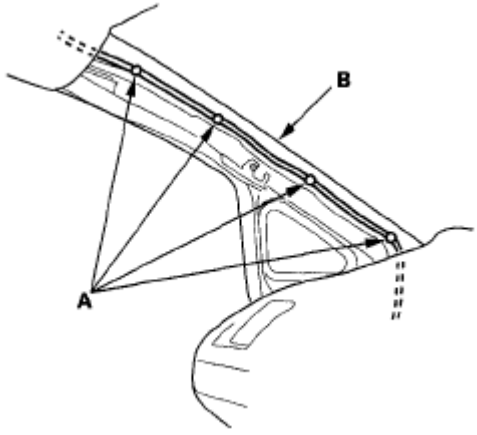



**Fig. 89: Detaching Harness Clips From A-Pillar (4-Door)**

10. Without moonroof: Remove the driver's dashboard undercover (see **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
11. Without moonroof: From under the dash, disconnect the roof wire harness connector (A), and detach the harness clip (B).

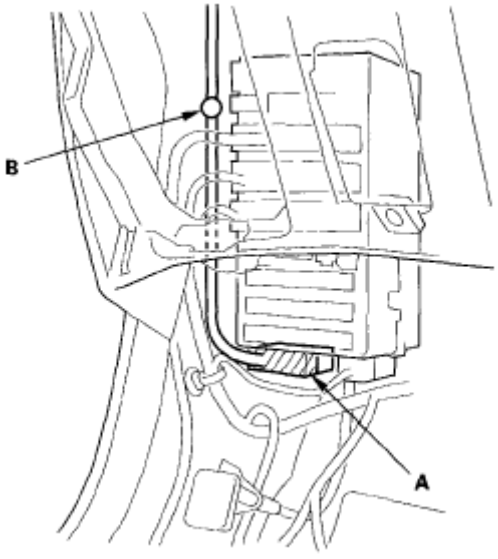



**Fig. 90: Disconnecting Roof Wire Harness Connector And Clip**

12. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
13. Slide the front seat all the way back, and recline the seat-back fully.
14. 4-door: Remove the bolts securing the parking brake base frame (A) and lay it down as needed.

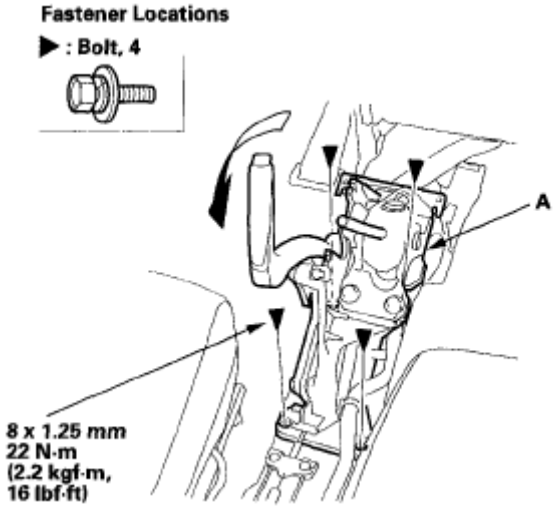



**Fig. 91: Removing Parking Base Frame (4-Door) (With Specifications)**

15. Lower the headliner (A).

    -1 Remove the front door opening seals (B), and rear door opening seals

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(C) from each roof portion.

-2 2-door: Release the clips (D).

-3 With the help of an assistant, detach the rear clips (E) by pulling the rear portion of the headliner down.

-4 With moonroof: Release the velcro fasteners (F) by lowering the headliner.

-5 With moonroof: Release the hooks (G) of the moonroof by moving the headliner rearward.

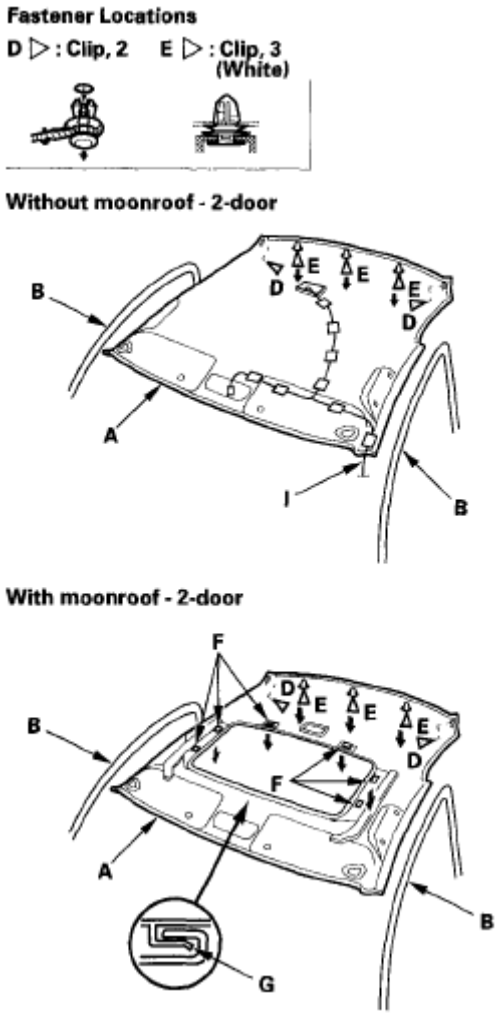



**Fig. 92: Removing Lower Headliner (2-Door)**

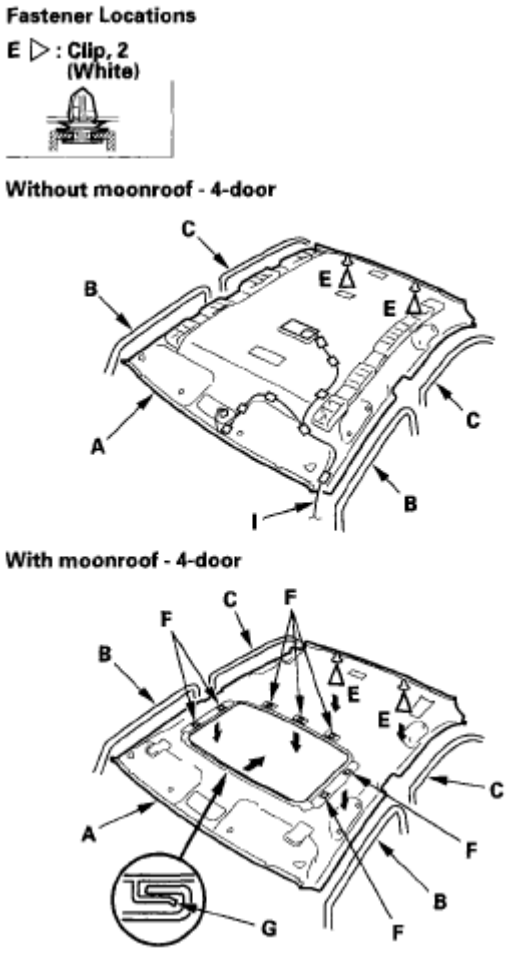



**Fig. 93: Removing Lower Headliner (4-Door)**

16. Lower the front of the headliner below the steering wheel. Rotate the liner, and pull it along with the roof wire harness (I) out through the passenger's front door. Do not bend the liner. Bending the liner will crease and damage it.
17. If necessary, remove the cushion tape (A, B) fastening the roof wire harness (C) to the headliner (D), then remove them from the headliner.

**Cushion tape A: P/N 91903-SNA-003**

**100 x 50 mm (3.94 x 1.97 in.)**

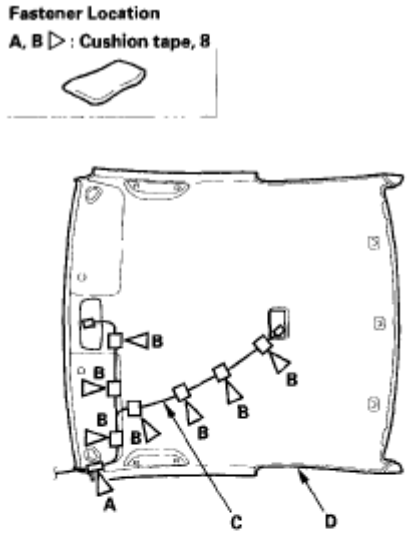
**Cushion tape B: P/N91902-SNA-003**

**50 x 50 mm (1.97 x 1.97 in.)**

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**2-door**




**4-door**

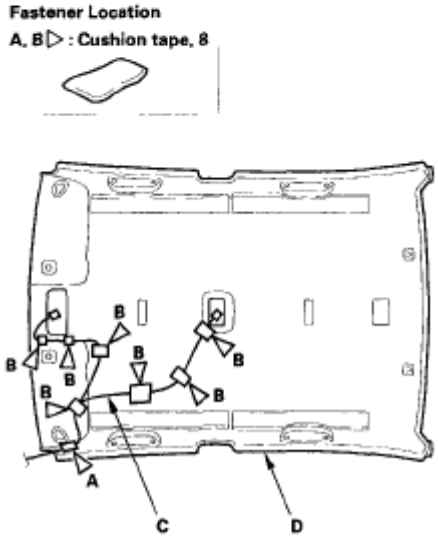



**Fig. 94: Removing Cushion Tape From Headliner**

18. If necessary, remove the side curtain airbag mounting bolt (A) and grab handle bracket mounting bolts (B), then remove the grab handle bracket (C) from each side by releasing the hooks (D).

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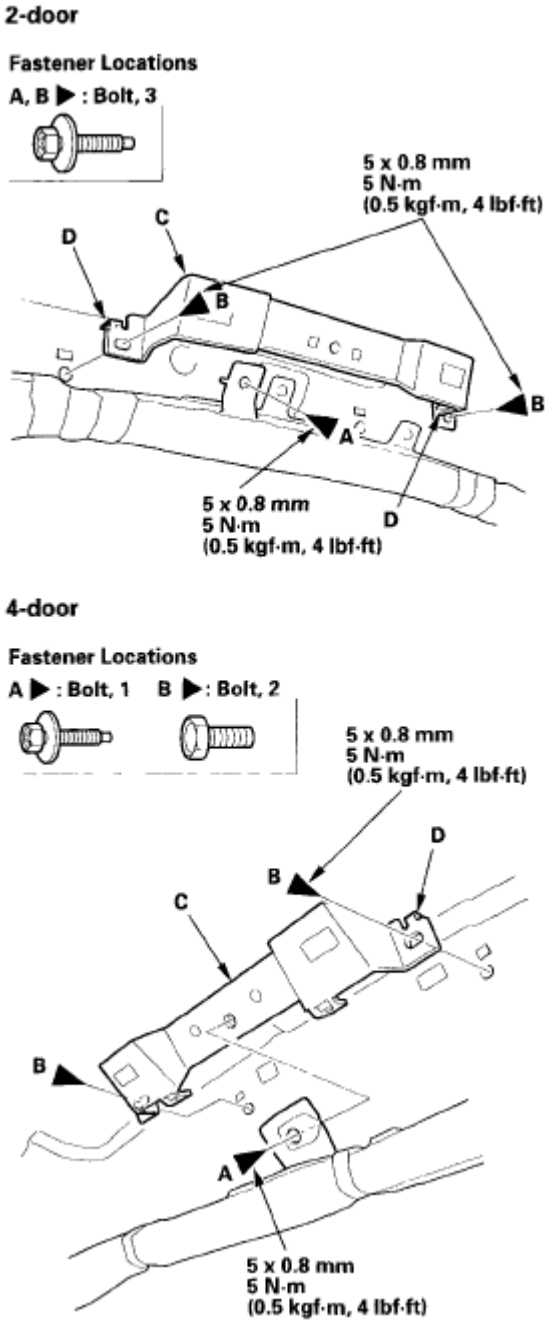



**Fig. 95: Removing Side Curtain Airbag Mounting Bolt And Grab Handle Bracket Mounting Bolts (With Specifications)**

19. Install the headliner in the reverse order of removal, and note these items:
    - If the side curtain airbag has deployed, replace the headliner and removed trim pieces with new ones (see **COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT** ).

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- To prevent the side curtain airbags from deploying improperly and possibly causing injury, inspect removed pieces and replace them if they have any of these types of damage:

  -Any crease or tears in the headliner (A)

  -Any cracks or breakages in the grab handle (B)

  -Any damages around the grab handle holes (C) or sunvisor holes in the headliner

  -Any cracks in the sunvisor stay base (D)

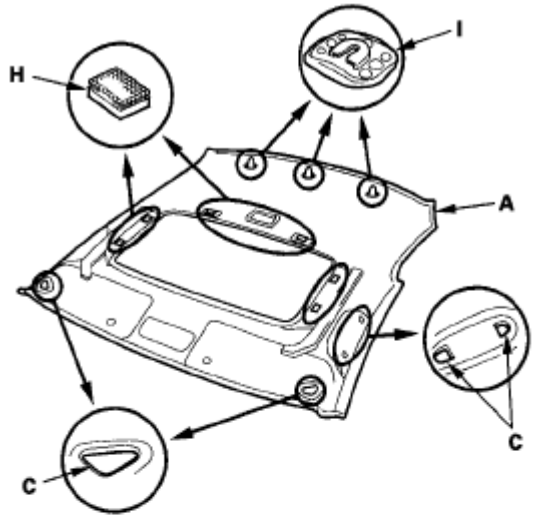
  -Any bends or cracks in the sunvisor stay shaft (E)

  -Any cracks in the sunvisor base (F)

  -Any cracks or breakages in the vanity mirror base (G)

  -Any velcro fasteners (H) and clip bases (I) which have come off the headliner
- When installing the grab handle, push on the handle against the bracket (J) until the clips (K) snap into place securely.
- Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
- Replace the removed cushion tape with new ones.
- Check that both sides of the headliner are securely attached to the trim.
- Make sure the headliner overlaps the trim pieces correctly (see **CHECKING AND ADJUSTING THE HEADLINER/PILLAR TRIM OVERLAP** ).
- When reinstalling the headliner through the front passenger's door opening, be careful not to fold or bend it. Also, be careful not to scratch the body.
- Reconnect the negative cable to the battery.
- Set the clock.
- Enter the anti-theft code for the audio or the navigation system, then enter the audio presets.
- Check for any DTCs that may have been set during repairs, and clear them.

Headliner - 2-door




Headliner - 4-door

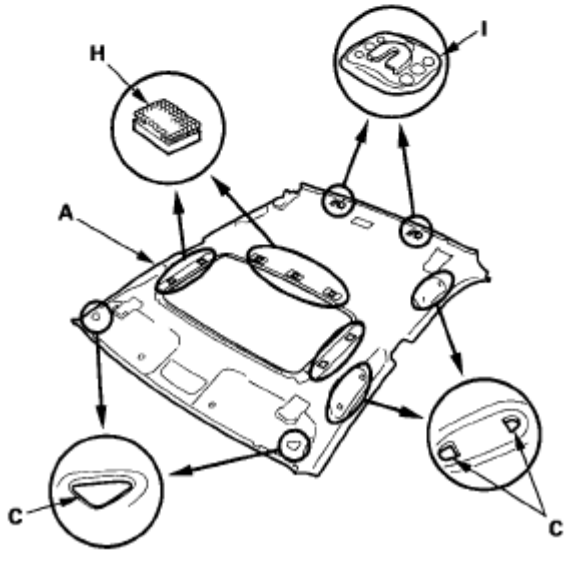



**Fig. 96: Installing Headliner (2-Door And 4-Door)**

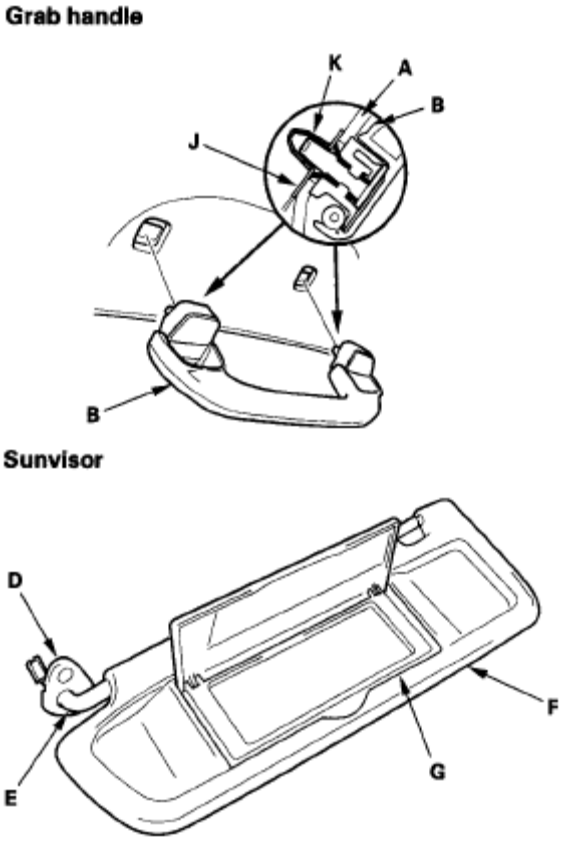



**Fig. 97: Installing Headliner (Grab Handle And Sunvisor)**

## CARPET REPLACEMENT

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**2-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to damage, wrinkle or twist the carpet.**
- **Be careful not to damage the dashboard or other interior trim pieces.**

1. Remove these items:
   - Front seats, both sides (see **FRONT SEAT REMOVAL/INSTALLATION** )
   - Rear seat cushion (see **REAR SEAT CUSHION COVER REPLACEMENT** )
   - Door sill trim, both sides (see **DOOR SILL AREA - 2-DOOR** )
   - Kick panels, both sides (see step 6 in **DOOR SILL AREA - 2-DOOR** )
   - Driver's dashboard undercover (see **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** )
   - Passenger's dashboard undercover (see **PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** )
   - Center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** )
   - Steering joint cover (see **STEERING COLUMN REMOVAL AND INSTALLATION** )
2. Push the knob (A) back to release the hooks (B) then pull up the accelerator pedal (C).

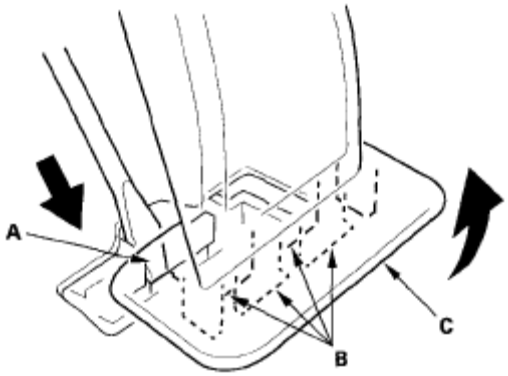
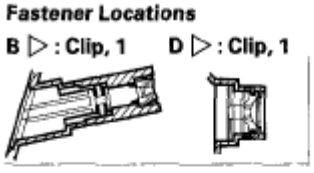



**Fig. 98: Pulling Up Accelerator Pedal**

3. Remove the footrest (A).

   -1 Using a 6 mm hexagon socket wrench, remove the lower clip (B) from the stud bolt (C).

   -2 Using a flat-tip screwdriver, remove the upper clip (D) from the stud bolt.



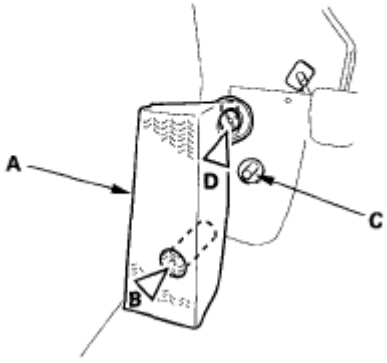




**Fig. 99: Removing Footrest**

4. Disconnect the parking brake cables from the equalizer (see **PARKING BRAKE CABLE REPLACEMENT** ).
5. Remove the floor mat holders (A) from the driver's side.

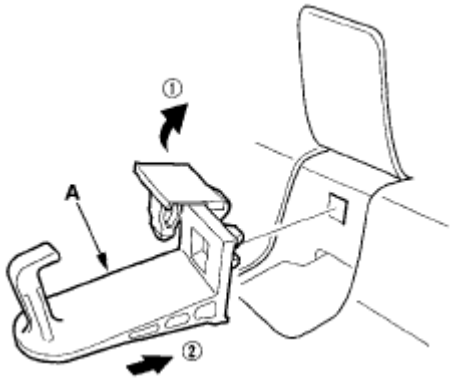



**Fig. 100: Removing Floor Mat Holders From Driver Side**

6. Release the clip from the rear portion of the carpet (A). Pull out the edge of the carpet from under both rear side trim panels (B).

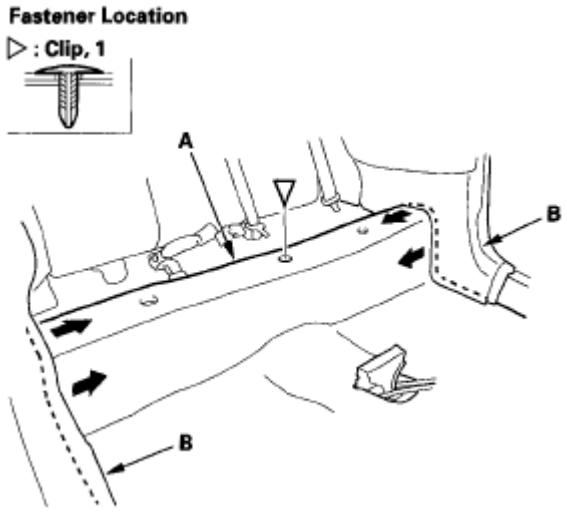



**Fig. 101: Removing Rear Portion Of Carpet**

7. Release the clips. Release the velcro fasteners (A), then pull the carpet out from under the dashboard.

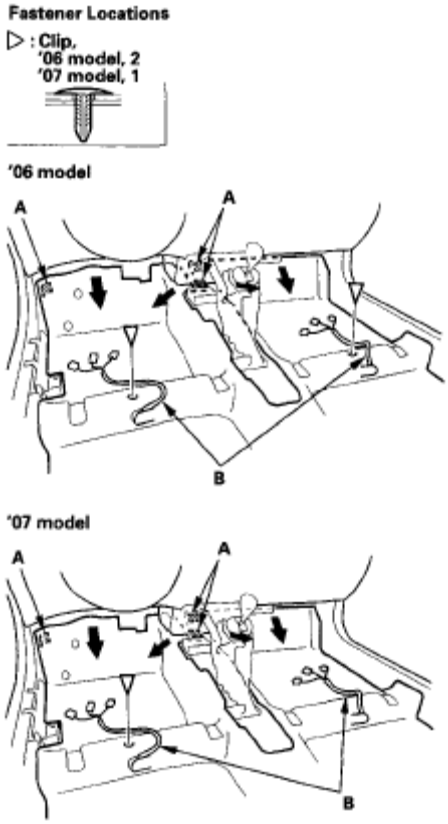



**Fig. 102: Releasing Velcro Fasteners**

8. Pull the seat harnesses (B) out through the hole in the carpet, then remove the carpet.
9. Install the carpet in the reverse order of removal, and note these items:
   - Take care not to damage, wrinkle or twist the carpet.
   - Make sure the seat harnesses and parking brake cables are routed correctly.
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the velcro fasteners and clips into place securely.
   - Slip the carpet under both rear side trim panels properly.
   - Push the accelerator pedal hooks into place securely, and after installing, make sure the accelerator pedal does not come off the floor by pulling it up.

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## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**4-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to damage, wrinkle or twist the carpet.**
- **Be careful not to damage the dashboard or other interior trim pieces.**

1. Remove these items:
   - Front seats, both sides (see **FRONT SEAT REMOVAL/INSTALLATION** )
   - Rear seat cushion (see **REAR SEAT CUSHION COVER REPLACEMENT** )
   - Front door sill trim, both sides (see step 3 in **FRONT DOOR SILL AREA - 4-DOOR**
   - Rear door sill trim, both sides (see **REAR DOOR SILL AREA - 4-DOOR** )
   - Kick panels, both sides (see step 5 in **FRONT DOOR SILL AREA - 4-DOOR** )
   - B-pillar lower trim (see **B-PILLAR UPPER/LOWER TRIM - 4-DOOR** )

- Driver's dashboard undercover (see **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** )
- Passenger's dashboard undercover (see **PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** )
- Center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** )
- Steering joint cover (see **STEERING COLUMN REMOVAL AND INSTALLATION** )

2. Push the knob (A) back to release the hooks (B) then pull up the accelerator pedal (C).

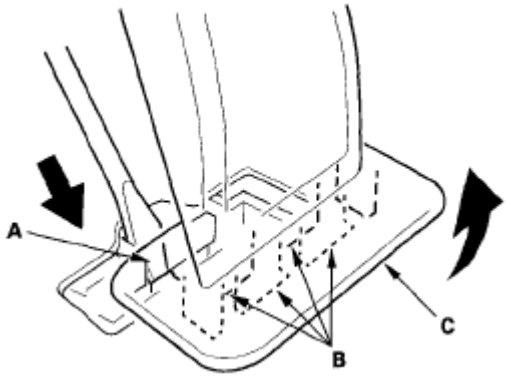



**Fig. 103: Pulling Up Accelerator Pedal**

3. Remove the footrest (A).

   -1 Using a 6 mm hexagon socket wrench, remove the lower clip (B) from the stud bolt (C).

   -2 Using a flat-tip screwdriver, remove the upper clip (D) from the stud bolt.

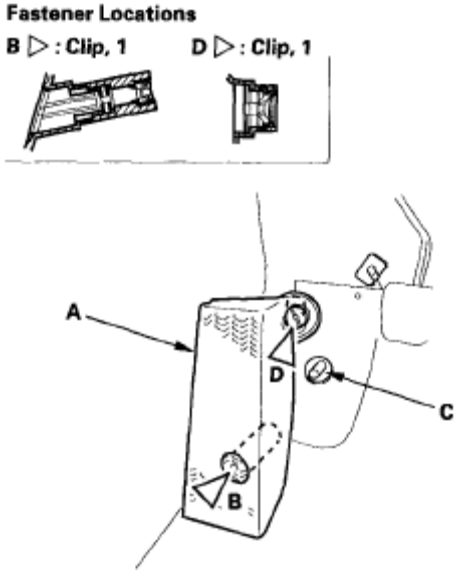



**Fig. 104: Removing Footrest**

4. Remove the bolts (A, B), and detach the connector clip (C), then remove the center pipe extension (D).

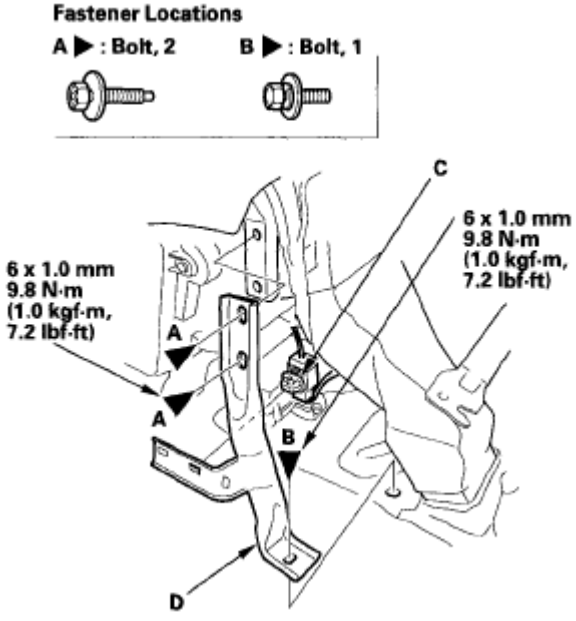



**Fig. 105: Removing Center Pipe Extension (With Specifications)**

5. Remove the rear heater joint duct (A).




**Fig. 106: Removing Rear Heater Joint Duct**

6. Disconnect the parking brake cables from the equalizer (see **PARKING BRAKE CABLE REPLACEMENT** ).
7. Remove the floor mat holders (A) from the driver's side.

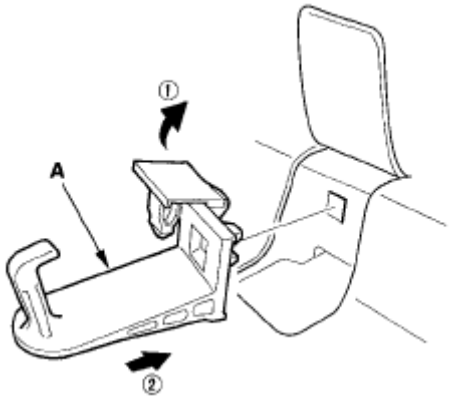



**Fig. 107: Removing Floor Mat Holders**

8. Remove the clips.

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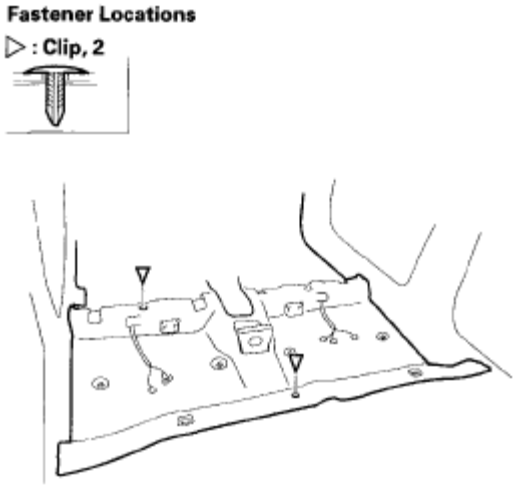



**Fig. 108: Removing Clips**

9. Release the velcro fasteners (A), then pull the carpet (B) out from under the dashboard.

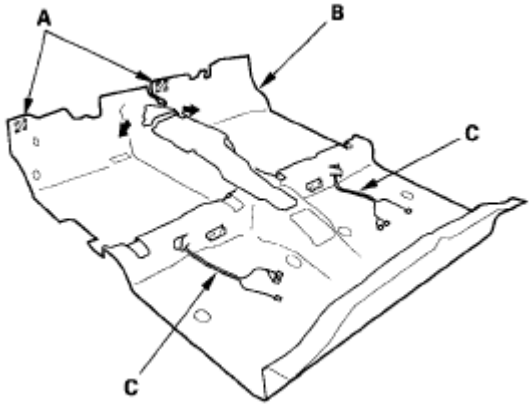



**Fig. 109: Releasing Velcro Fasteners**

10. Pull the seat harnesses (C) out through the hole in the carpet, then remove the carpet.
11. Install the carpet in the reverse order of removal, and note these items:
    - Take care not to damage, wrinkle or twist the carpet.
    - Make sure the seat harnesses and parking brake cables are routed correctly.
    - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

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- Push the velcro fasteners and clips into place securely.
- Push the accelerator pedal hooks into place securely, and after installing, make sure the accelerator pedal does not come off the floor by pulling it up.

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**2006-08 MAINTENANCE**

**Maintenance - Civic (Exept GX & Hybrid))**

## LUBRICANTS AND FLUIDS

For details of lubrication points and type of lubricants to be applied, refer to **LUBRICANT OR FLUID REFERENCE** and various work procedures (such as Assembly/Reassembly, Replacement, Overhaul, Installation, etc.) .

## LUBRICANT OR FLUID REFERENCE

| Application | | Lubricant or Fluid |
|---|---|---|
| A | Engine | Honda Motor Oil:<br>American Honda P/N 08798-9023 (5W-20),<br>Honda Canada P/N CA66806 (5W-20)<br>Look for the API certification seal on the oil container as shown in **Fig. 1**. Make sure it says "For Gasoline Engines." SAE viscosity . |
| B | Manual transmission | Honda Manual Transmission Fluid (MTF): P/N 08798-9016<br>Always use Honda MTF. Using motor oil can cause stiffer shifting because it does not contain the proper additives. |
| | Automatic transmission | Honda Automatic Transmission Fluid (ATF-Z1):<br>American Honda P/N 08200-9001, |

| | | |
|---|---|---|
| | | Honda Canada P/N CA66689<br>Always use Honda ATF-Z1. Using a non-Honda ATF can affect shift quality. |
| C | Brake system (including ABS/VSA line) | Honda DOT 3 Brake Fluid: P/N 08798-9008<br>Always use Honda DOT 3 Brake Fluid. Using a non-Honda brake fluid can cause corrosion and decrease the life of the system. |
| D | Clutch system (manual transmission) | Honda DOT 3 Brake Fluid: P/N 08798-9008<br>Always use Honda DOT 3 Brake Fluid. Using a non-Honda brake fluid can cause corrosion and decrease the life of the system. |
| E<br>F<br><br><br>G<br><br>H<br>I<br>J<br>K | Brake booster clevis<br>Clutch master cylinder clevis (manual transmission)<br>Release fork (manual transmission)<br>Battery terminals<br>Fuel fill door<br>Hood hinges<br>Trunk hinges and trunk latch | Multipurpose Grease |
| L | Rear brake shoe linkage (rear drum brake model) | Rubber Grease |
| M<br>N | Shift cable ends<br>Caliper piston boots, | Honda Silicone Grease: P/N 08C30-B0234M |

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| | | |
|---|---|---|
| | caliper piston seals, caliper pins, and boots | |
| O | Power steering system | Honda Power Steering Fluid: P/N 08206-9002 Always use Honda Power Steering Fluid. Using any other type of power steering fluid or automatic transmission fluid can cause increased wear and poor steering in cold weather. |
| P | Air conditioning compressor | Compressor Oil: SP-10 (P/N 38897-P13-A01AH or 38899-P13-A01) for refrigerant HFC-134a (R-134a) |
| Q | Cooling System | Honda Long Life Antifreeze/Coolant Type 2: P/N OL999-9001 |

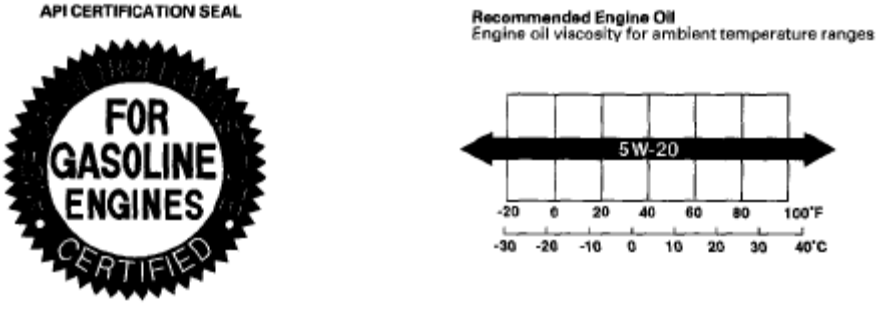



**Fig. 1: Identifying API Certification Seal And Recommended Engine Oil**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**NOTE: The illustration shows the 4-door model.**

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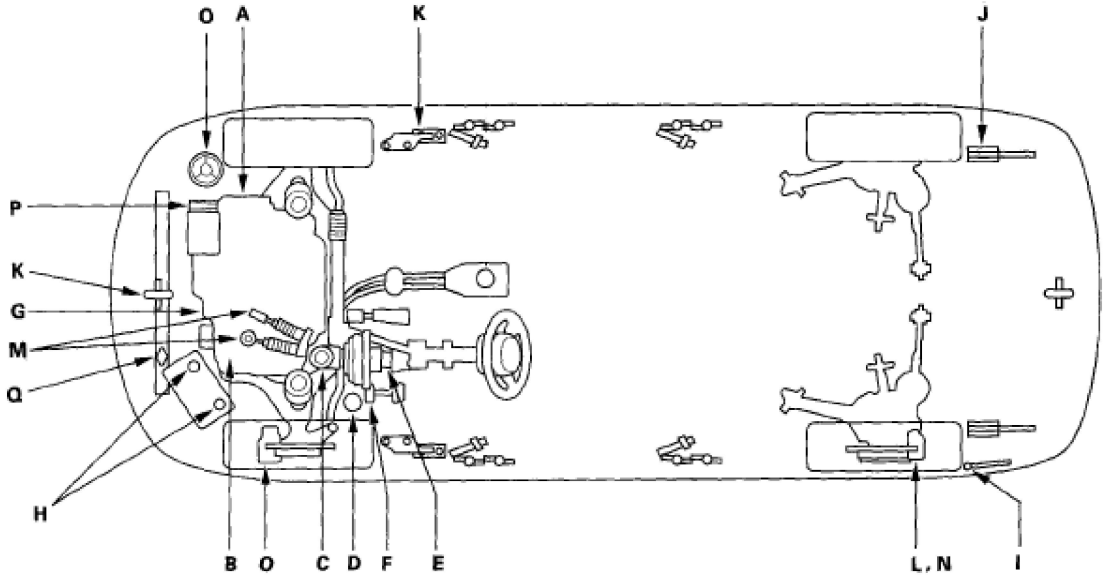


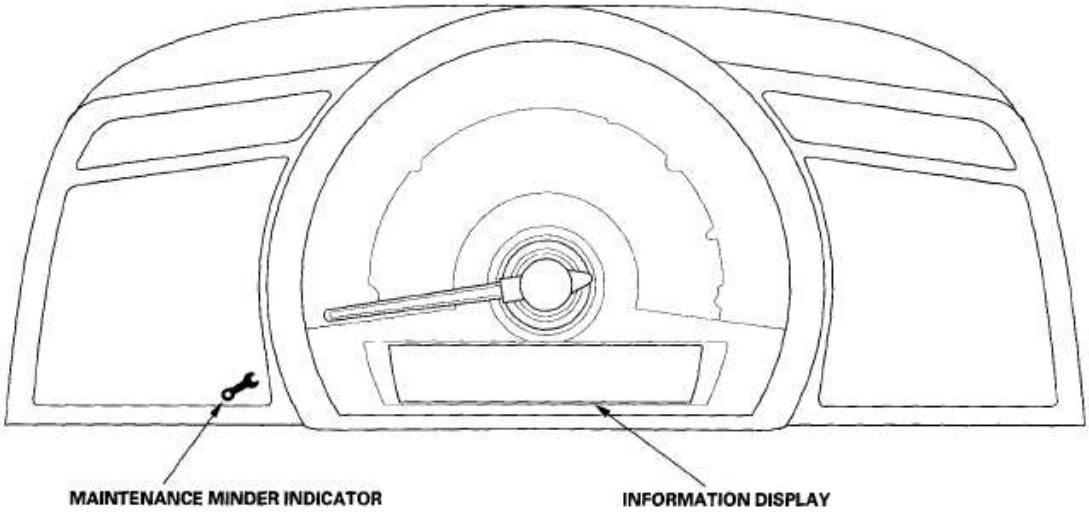

**Fig. 2: Identifying Grease Lubrication Points (4-Door Model)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## MAINTENANCE MINDER

### GENERAL INFORMATION

#### Maintenance Display

The Maintenance Minder is an important feature of the information display. The Civic's onboard computer (ECM/PCM) calculates the remaining engine oil life and automatic transmission fluid life. The system also displays the code for other scheduled maintenance items needing service.




Driver's Side Dashboard

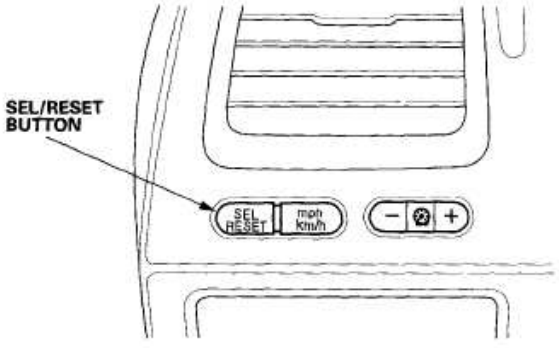



**Fig. 3: Identifying Maintenance Minder Display And Driver's Side Dashboard**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Service Information**

1. The remaining engine oil life (A) is shown as a percentage in the information display. To see the current engine oil life , turn the ignition switch to the ON (II) position, then push and release the SEL/RESET button repeatedly until the engine oil life displays.

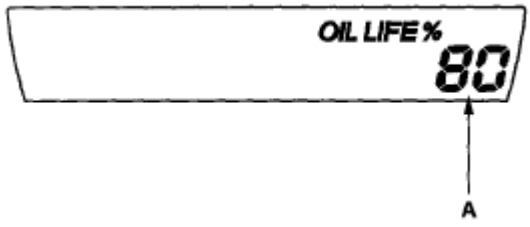


**Fig. 4: Engine Oil Life At 80 Percent Displayed**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. When the ignition switch is in the ON (II) position, and the remaining engine oil life is 6% to 15%, the remaining engine oil life (A) and other scheduled maintenance item(s) needing service are displayed. The maintenance minder indicator (B) also comes on when the engine oil life is 15% or less. To cancel the display and the indicator, press the SEL/RESET button.
   - Complete list of maintenance main items (C) (see **MAINTENANCE MAIN ITEMS** ).
   - Complete list of maintenance sub items (D) (see **MAINTENANCE SUB ITEMS** ).

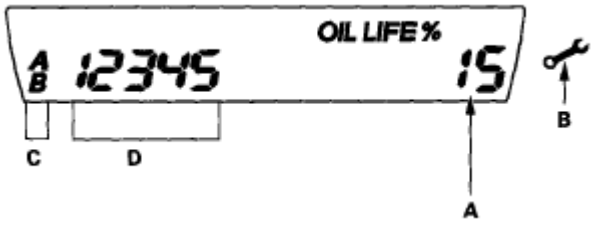



**Fig. 5: Engine Oil Life At 15 Percent Displayed**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. When the ignition switch in the ON (II) position, and the remaining engine oil life is 1% to 5%, the message "SERVICE" (A) is displayed along with engine oil life and the same maintenance item code(s).

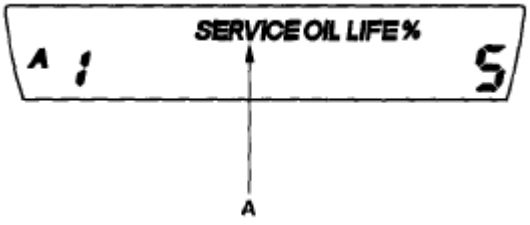



**Fig. 6: Service Oil Life At 5 Percent Displayed**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. When the ignition switch is in the ON (II) position, and the remaining engine oil life is 0%, the engine oil life indicator (A) blinks. Pressing the SEL/RESET

button cancels the display, but the maintenance minder indicator stays on.

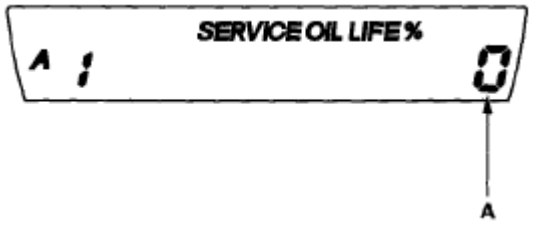



**Fig. 7: Service Oil Life At 0 Percent Displayed**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. If the indicated maintenance is not done, the engine oil life indicator shows a negative mileage, for example "-10,", on the display. If the negative mileage is between 0 and -9, the indicator is displayed for only a few seconds when the ignition switch is turned to the ON (II) position. The negative mileage remains displayed after the vehicle is driven more than 10 miles (for USA models) or 10 km (for Canada models) after 0% oil life is reached. This means the indicated maintenance item(s) should have been done more than 10 miles (or 10 km) ago.




**Fig. 8: Service Oil Life At Negative 10 Miles**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Resetting the Maintenance Information Display**

**NOTE:**

- **The vehicle must be stopped to reset the display.**
- **If a required service is done and the display is not reset, or if the maintenance display is reset without doing the service, the system will not show the proper maintenance timing. This can lead to serious mechanical problems because there will be no accurate record of when the required maintenance is needed.**

1. Turn the ignition switch to the ON (II) position.

2. Press the SEL/RESET button repeatedly until the engine oil life indicator is displayed.
3. Press and release and hold the SEL/RESET button for about 10 seconds. The engine oil life indicator and the maintenance item code(s) will blink.

**NOTE: If you are resetting the display when the engine oil life is more than 15%, make sure any maintenance item(s) requiring service are done before resetting the display.**

4. Press and hold the SEL/RESET button for another 5 seconds. The maintenance item code(s) will disappear, and the engine oil life will reset to "100."

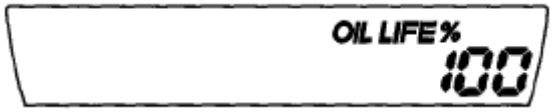



**Fig. 9: Oil Life At 100 Percent**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINTENANCE MAIN ITEMS**

If the message "SERVICE" does not appear more than 12 months after the display is reset, change the engine oil every year.

**NOTE:**

- **Replace the brake fluid every 3 years (Independent of the maintenance messages in the information display).**
- **Inspect idle speed every 160,000 miles (256,000 km).**
- **Adjust the valves during services A, B, 1,2 or 3, only if they are noisy.**

## MAINTENANCE MAIN ITEMS DESCRIPTION

| Symbol | Maintenance Main Items |
|---|---|
| A | Replace engine oil R18A1 (see **OIL PRESSURE TEST** ), K20Z3 (see **OIL PRESSURE TEST** ).<br>Engine oil capacity without oil filter: R18A1 3.5 L (3.7 US qt), K20Z3 4.2L (4.4 US qt). |
| | |

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| | Replace engine oil and oil filter R18A1 (see **ENGINE OIL FILTER REPLACEMENT** ), K20Z3 (see **ENGINE OIL FILTER REPLACEMENT** ).<br>Engine oil capacity with oil filter: R18A1 3.7 L (3.9 US qt), K20Z3 4.4 L (4.6 US qt). |
| | Inspect front and rear brakes (see **COMPONENT LOCATION INDEX** ).<br>• Check pads and discs for wear (thickness), damage, and cracks.<br>• Check calipers for damage, leaks, and tightness of mounting bolts.<br>• Check the wheel cylinder for leaks.<br>• Check the brake linings for craking, glazing, wear, or contamination. |
| B | Check parking brake adjustment (see **PARKING BRAKE INSPECTION AND ADJUSTMENT** ).<br>Check the number of clicks (8 to 10) when the parking brake lever is pulled with 196 N (20 kgf, 44 lbf) of force. |
| | Inspect tie-rod ends, steering gearbox, and gearbox boots (see **COMPONENT LOCATION INDEX** ).<br>• Check rack grease and steering linkage.<br>• Check boots for damage and leaking grease.<br>• Check fluid lines for damage and leaks. |
| | Inspect suspension components (see **COMPONENT LOCATION INDEX** ).<br>• Check bolts for tightness.<br>• Check condition of ball joint boots for deterioration and damage. |
| | Inspect driveshaft boots (see **DRIVESHAFT INSPECTION** ).<br>Check boots for cracks and boot bands for tightness. |
| | Inspect brake hoses and lines including ABS/VSA (see **BRAKE HOSE AND LINE INSPECTION** ).<br>Check the master cylinder and ABS/VSA modulator-control unit for |

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| | damage or leakage. |
| | Inspect all fluid levels and condition of fluids.<br>• Engine coolant R18A1 (see **COOLANT CHECK** ), K20Z3 (see **COOLANT CHECK** ).<br>• Automatic transmission fluid (ATF-Z1) (see **ATF LEVEL CHECK** ).<br>• Manual transmission fluid (MTF) SPFM (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ), PNN3, PNN4 (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).<br>• Clutch fluid (see **CLUTCH MASTER CYLINDER REPLACEMENT** ).<br>• Power steering fluid (see **STEERING COLUMN/TILT/TELESCOPIC INSPECTION** ).<br>• Brake fluid (see **BRAKE FLUID LEVEL SWITCH TEST** ).<br>• Windshield washer fluid. |
| | Inspect exhaust system* R18A1 (see **INTAKE MANIFOLD AND EXHAUST SYSTEM (R18A1)** ), K20Z3 (see **INTAKE MANIFOLD AND EXHAUST SYSTEM (K20Z3)** ).<br>Check catalytic converter heat shields, exhaust pipes, and muffler for damage, leaks, and tightness. |
| | Inspect fuel lines* and connections* R18A1 (see **FUEL LINE INSPECTION** ), K20Z3 (see **FUEL LINE INSPECTION** ).<br>Check for loose connections, cracks, and deterioration; retighten loose connections and replace damaged parts. |

**NOTE: According to state and federal regulations, failure to do the maintenance items marked with an asterisk ( * ) will not void the customer's emissions warranties. However, Honda recommends that all maintenance services be done at the recommended interval, to ensure long-term reliability.**

**MAINTENANCE SUB ITEMS**

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## MAINTENANCE SUB ITEMS DESCRIPTION

| Number | Maintenance Sub Items |
|---|---|
| 1 | Rotate tires, and check tire inflation and condition.<br>Follow the pattern shown in the Owner's Manual. |
| 2 | Replace air cleaner element R18A1 (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ), K20Z3 (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).<br>Replace every 15,000 miles (24,000 km), if the vehicle is driven primaly in dusty conditions. |
| | Replace dust and pollen filter (see **DUST AND POLLEN FILTER REPLACEMENT** ).<br>• Replace the filter at 15,000 miles (24,000 km) intervals if the vehicle is driven mostly in urban areas that have high concentrations of soot in the air from industry and diesel-powered vehicles.<br>• Replace the filter whenever airflow from the heating and cooling system is less than normal. |
| | Inspect drive belt R18A1 (see **DRIVE BELT AUTO-TENSIONER INSPECTION** ), K20Z3 (see **DRIVE BELT INSPECTION** ).<br>Look for cracks and damage, then check the position of the drive belt auto-tensioner indicator. |
| 3 | Replace automatic transmission fluid (see **ATF REPLACEMENT** ).<br>Capacity: 2.4 L (2.5 US qt); use Honda ATF-Z1. |
| | Replace manual transmission fluid SPFM (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ), PNN3, PNN4 (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).<br>Capacity: SPFM 1.4 L (1.5 US qt), PNN3 1.5 L (1.6 US qt); use Honda MTF. |
| | Replace spark plugs R18A1 (see **SPARK PLUG INSPECTION** ), K20Z3 (see **SPARK PLUG INSPECTION** ).<br>Use R18A1 IZFR6K1 IS (NGK) or SKJ20DR-M11S (DENSO), K20Z3 IFR7G11KS (NGK) or SK22PR-MIIS(DENSO). |
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|---|---|
| 4 | Inspect the valve clearance (cold) R18A1 (see **VALVE CLEARANCE ADJUSTMENT** ), K20Z3 (see **VALVE CLEARANCE ADJUSTMENT** ).<br>R18A1 Intake: 0.18-0.22 mm (0.007-0.009 in.), Exhaust: 0.23-0.27 mm (0.009-0.011 in.), K20Z3 engine Intake 0.21-0.25 mm (0.008-0.010 in.), Exhaust: 0.25-0.29 mm (0.010-0.011 in.). |
| 5 | Replace engine coolant R18A1 (see **COOLANT REPLACEMENT** ), K20Z3 (see **COOLANT REPLACEMENT** ).<br>Capacity (including the reservoir): 4-door model (except Si): 5.2 L (1.37 US gal), 2-door model (except Si): 5.2 L (1.37 US gal). Si: 4.5 L (1.19 US gal); use Honda Long Life Antifreeze/Coolant Type 2. |

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**2006-08 MAINTENANCE**

**Maintenance - Civic GX**

## LUBRICANTS AND FLUIDS

For details of lubrication points and type of lubricants to be applied, refer to the illustrated index and various work procedures (such as Assembly/Reassembly, Replacement, Overhaul, Installation, etc.) contained in each section.

## LUBRICANTS AND FLUIDS SPECIFICATION

| Application | | Lubricant or Fluid |
|---|---|---|
| A | Engine | Honda Motor Oil: P/N 08798-9023 (5W-20)<br>Look for the API certification seal on the oil container. Make sure it says "For Gasoline Engines."<br>SAE viscosity: See chart. |
| B | Automatic transmission | Honda Automatic Transmission Fluid (ATF-Z1): P/N 08200-9001<br>Always use Honda ATF-Z1. Using a non-Honda ATF can affect shift quality. |
| C | Brake system (including ABS line) | Honda DOT 3 Brake Fluid: P/N 08798-9008<br>Always use Honda DOT 3 Brake Fluid. Using a non-Honda brake fluid can cause corrosion and decrease the life of the system. |
| D | Brake booster clevis | Multipurpose Grease |
| E | Battery terminals | |
| F | Fuel fill door | |
| G | Hood hinges and hood latch | |
| H | Trunk hinges | |
| I | Rear brake shoe linkage | Rubber Grease |
| J | Caliper piston boots, caliper piston seals, caliper pins, and boots | Honda Silicone Grease: P/N 08C30-B0234M |
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|---|---|---|
| K | Power steering system | Honda Power Steering Fluid: P/N 08206-9002 Always use Honda Power Steering Fluid. Using any other type of power steering fluid or automatic transmission fluid can cause increased wear and poor steering in cold weather. |
| L | Air conditioning compressor | Compressor oil: SP-10 (P/N 38897-P13-A01AH or 38899-P13-A01) for refrigerant HFC-134a (R-134a) |
| M | Cooling system | Honda Long Life Antifreeze/Coolant Type 2 P/N OL999-9001 |




**Fig. 1: Identifying API Certification Seal**

## Recommended Engine Oil

Engine oil viscosity for ambient temperature ranges

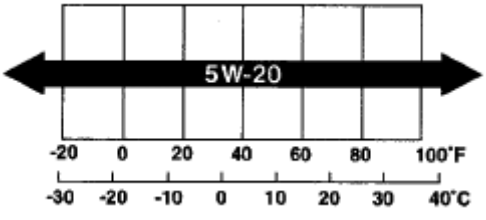



**Fig. 2: Identifying Engine Oil Viscosity Ranges**

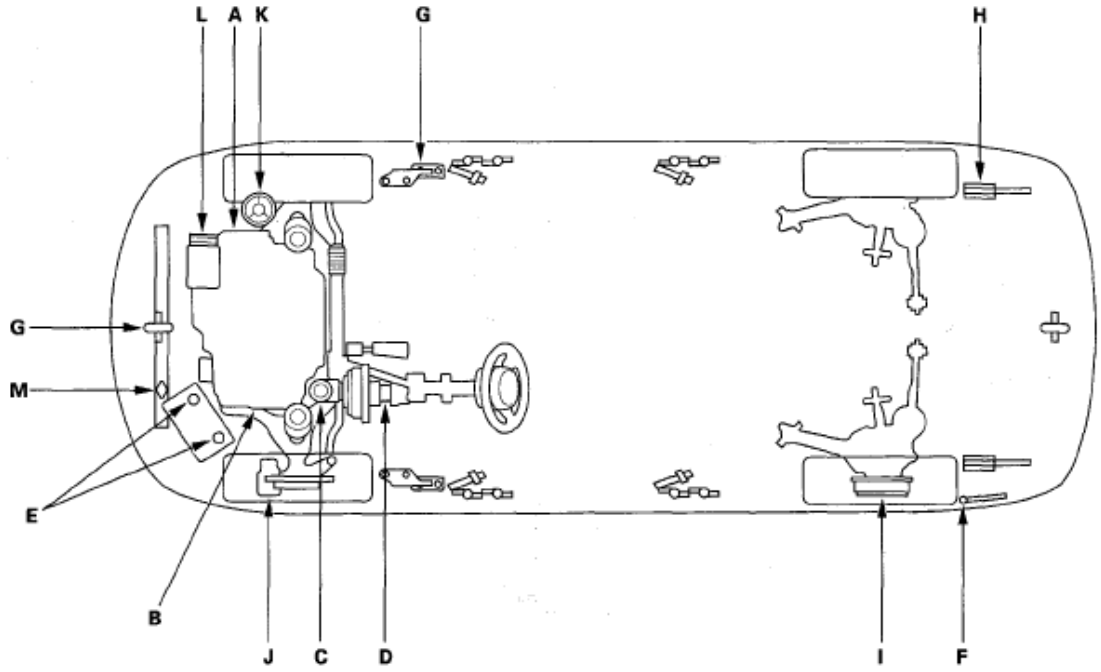


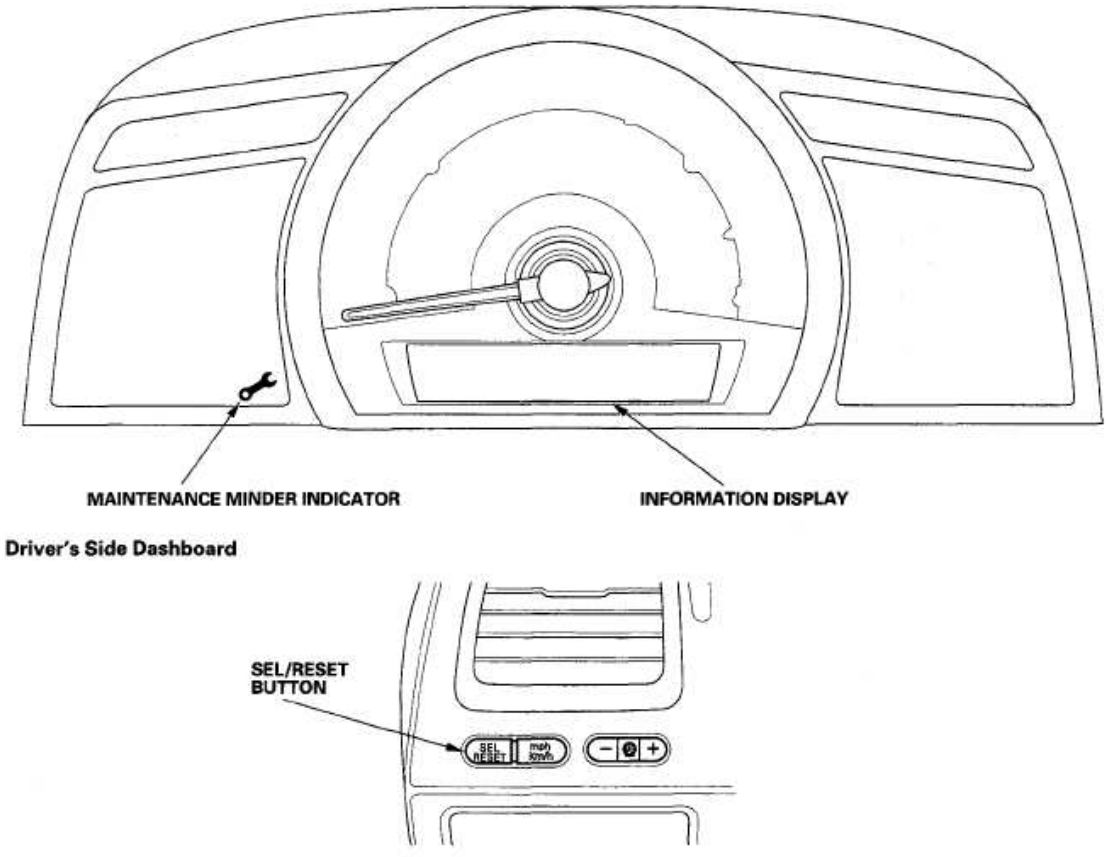

**Fig. 3: Identifying Lubrication Or Fluid Location**

## MAINTENANCE MINDER

### GENERAL INFORMATION

#### Maintenance Display

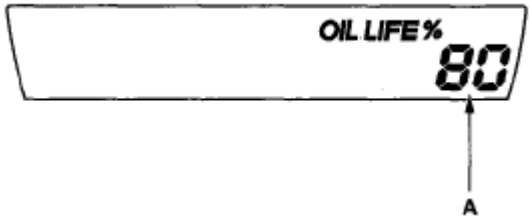
The Maintenance Minder is an important feature of the information display. The Civic GX's onboard computer (PCM) calculates the remaining engine oil life and automatic transmission fluid life. The system also displays the code for other scheduled maintenance items needing service.




## Fig. 4: Identifying Maintenance Display

**Service Information**

1. The remaining engine oil life (A) is shown as a percentage in the information display. To see the current engine oil life, turn the ignition switch to the ON (II) position, then push and release the SEL/RESET button repeatedly until the engine oil life displays.




## Fig. 5: Information Display - Remaining Engine Oil Life

2. When the ignition switch is in the ON (II) position, and the remaining engine oil life is 6 % to 15 %, the remaining engine oil life (A) and other scheduled

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maintenance item(s) needing service are displayed. The maintenance minder indicator (B) also comes on when the engine oil life is 15 % or less. To cancel the display and the indicator, press the SEL/RESET button.

- Complete list of maintenance main items (C) (see **MAINTENANCE MAIN ITEMS** ).
- Complete list of maintenance sub items (D) (see **MAINTENANCE SUB ITEMS** ).

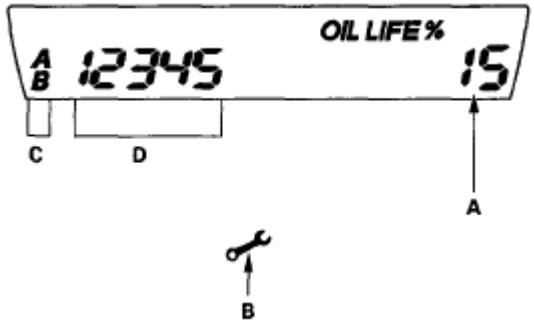



**Fig. 6: Information Display - Maintenance Main & Sub Items**

3. When the ignition switch is in the ON (II) position, and the remaining engine oil life is 1 % to 5 %, the message "SERVICE" (A) is displayed along with engine oil life and the same maintenance item code(s).

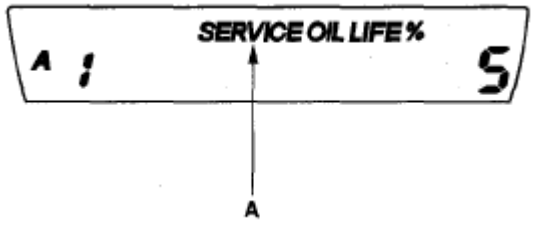



**Fig. 7: Information Display - Remaining Service Oil Life**

4. When the ignition switch is in the ON (II) position, and the remaining engine oil life is 0 %, the engine oil life indicator (A) blinks.

   Pressing the SEL/RESET button cancels the display, but the maintenance minder indicator stays on.

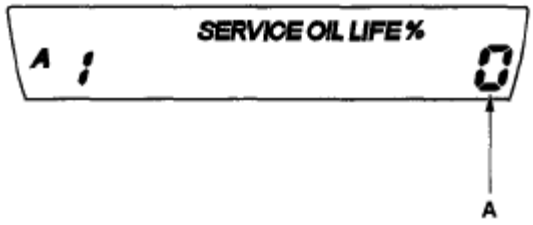



**Fig. 8: Information Display - 0% Service Engine Oil Life**

5. If the indicated maintenance is not done, the engine oil life indicator shows a negative mileage, for example "-10," on the display.

   If the negative mileage is between 0 and -9, the indicator is displayed for only a few seconds when the ignition switch is turned to the ON (II) position. The negative mileage remains displayed after the vehicle is driven more than 10 miles after 0 % oil life is reached.

   This means the indicated maintenance item(s) should have been done more than 10 miles ago.




**Fig. 9: Information Display - Negative Service Engine Oil Life**

**Resetting the Maintenance Information Display**

**NOTE:**

- **The vehicle must be stopped to reset the display.**
- **If a required service is done and the display is not reset, or if the maintenance display is reset without doing the service, the system will not show the proper maintenance timing. This can lead to serious mechanical problems because there will be no accurate record of when the required maintenance is needed.**

1. Turn the ignition switch to the ON (II) position.
2. Press the SEL/RESET button repeatedly until the engine oil life indicator is displayed.

3. Press and release and hold the SEL/RESET button for about 10 seconds. The engine oil life indicator and the maintenance item code(s) will blink.

**NOTE: If you are resetting the display when the engine oil life is more than 15 %, make sure any maintenance item(s) requiring service are done before resetting the display.**

4. Press and hold the SEL/RESET button for another 5 seconds. The maintenance item code(s) will disappear, and the engine oil life will reset to "100."

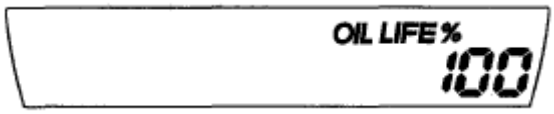



**Fig. 10: Information Display - Reset Engine Oil Life**

**MAINTENANCE MAIN ITEMS**

If the message "SERVICE" does not appear more than 12 months after the display is reset, change the engine oil every year.

**NOTE:**

- **Replace the brake fluid every 3 years (Independent of the maintenance messages in the information display).**
- **Inspect idle speed every 160,000 miles (256,000 km).**
- **Adjust the valves during services A, B, 1, 2 or 3, only if they are noisy.**

## MAINTENANCE MAIN ITEMS REFERENCE

| Symbol | Maintenance Main Items |
|---|---|
| A | Replace engine oil (see **ENGINE OIL REPLACEMENT** )<br>Engine oil capacity without oil filter: 3.5 L (3.7 US qt). |
| B | Replace engine oil and oil filter (see **ENGINE OIL FILTER REPLACEMENT** ) |

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| Engine oil capacity with oil filter: 3.7 L (3.9 US qt). |
| Replace fuel filter B element (low pressure) (see **FUEL FILTER B ELEMENT REPLACEMENT** ). |
| Drain fuel filter A (high pressure) (see **FUEL FILTER A WATER BLEEDING** ). |
| Inspect front and rear brakes (see **COMPONENT LOCATION INDEX** ).<br>• Check pads and discs for wear (thickness), damage, and cracks.<br>• Check calipers for damage, leaks, and tightness of mounting bolts.<br>• Check the wheel cylinder for leaks.<br>• Check the brake linings for cracking, glazing, wear or contamination. |
| Check parking brake adjustment (see **PARKING BRAKE INSPECTION AND ADJUSTMENT** )<br>Check the number of clicks (8 to 10) when the parking brake lever is pulled with 196 N (20 kgf, 44 lbf) of force. |
| Inspect tie-rod ends, steering gearbox, and gearbox boots (see **STEERING LINKAGE AND GEARBOX INSPECTION** )<br>• Check rack grease and steering linkage.<br>• Check boots for damage and leaking grease.<br>• Check fluid lines for damage and |

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| leaks. |
| Inspect suspension components (see **FRONT AND REAR SUSPENSION (INSPECTION) (ALL EXCEPT HYBRID)** )<br>• Check bolts for tightness.<br>• Check condition of ball joint boots for deterioration and damage. |
| Inspect driveshaft boots (see **DRIVESHAFT INSPECTION** )<br>Check boots for cracks and boot bands for tightness. |
| Inspect brake hoses and lines including ABS (see **BRAKE HOSE AND LINE INSPECTION** )<br>Check the master cylinder and ABS modulator-control unit for damage or leakage. |
| Inspect all fluid levels and condition of fluids.<br>• Engine coolant (see **COOLANT CHECK** )<br>• Automatic transmission fluid (ATF-Z1) (see **ATF LEVEL CHECK** )<br>• Power steering fluid (see **FLUID REPLACEMENT** )<br>• Brake fluid (see **BRAKE SYSTEM BLEEDING** )<br>• Windshield washer fluid. |
| Inspect exhaust system*2 (see **EXHAUST PIPE AND MUFFLER REPLACEMENT** ) |

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|---|---|
| | Check catalytic converter heat shields, exhaust pipes, and muffler for damage, leaks, and tightness. |
| | Inspect fuel lines and connections *2 (see **FUEL LINE INSPECTION** ). Check for loose connections, cracks, and deterioration; retighten loose connections and replace damaged parts. |

**NOTE: According to state and federal regulations, failure to do the maintenance items marked with an asterisk ( * 2) will not void the customer's emissions warranties. However, Honda recommends that all maintenance services be done at the recommended interval, to ensure long-term reliability.**

**MAINTENANCE SUB ITEMS**

- Fuel tank should be replaced 15 years after manufactured.
- If the item number 2 does not appear more than 36 months after the display is reset, inspect the fuel tank every 3 years.

## MAINTENANCE SUB ITEMS REFERENCE

| Number | Maintenance Sub Items |
|---|---|
| 1 | Rotate tires, and check tire inflation and condition. Follow the pattern shown in the Owner's Manual. |
| 2 | Replace air cleaner element (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ) Replace every 15,000 miles (24,000 km), if the vehicle is driven primarily in dusty conditions. |
| | Replace dust and pollen filter (see **DUST AND POLLEN FILTER** |

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| | |
|---|---|
| | **REPLACEMENT** )<br>• Replace the filter at 15,000 miles (24,000 km) intervals, if the vehicle is driven primarily in urban areas that have high concentrations of soot in the air from industry and diesel-powered vehicles.<br>• Replace the filter whenever airflow from the heating and cooling system is less than normal. |
| | Replace fuel filter A element (high pressure) (see **FUEL FILTER A REPLACEMENT** ). |
| | Inspect fuel tank (see **FUEL TANK INSPECTION** ). |
| | Inspect valve clearance (cold) (see **VALVE CLEARANCE ADJUSTMENT** )<br>Intake: 0.18-0.22 mm (0.007-0.009 in.),<br>Exhaust: 0.23-0.27 mm (0.009-0.011 in.). |
| | Inspect drive belt (see **DRIVE BELT INSPECTION** )<br>Look for cracks and damage, then check the position of the drive belt auto-tensioner indicator. |
| 3 | Replace automatic transmission fluid (see **ATF REPLACEMENT** )<br>Capacity: 2.4 L (2.5 US qt); use Honda ATF-Z1. |
| 4 | Replace spark plugs (see **SPARK PLUG INSPECTION** ).<br>Use IFR7F8DS (NGK). |
| 5 | Replace engine coolant (see **COOLANT REPLACEMENT** ) |

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| | Capacity (including the reservoir): 5.3 L (1.40 US gal); use Honda Long Life Antifreeze/Coolant Type 2. |

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**2006-08 TRANSMISSION**

**Manual Transmission (SPFM) 5-Speed) - Civic**

# 5-SPEED MANUAL TRANSMISSION

## SPECIAL TOOLS

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAK-SNAA400 | 1.8 Support Eyelet | 1 |
| ② | 07AAK-SNAA500 | 1.8 Support Bolt | 1 |
| * ③ | 07GAJ-PG20110 | Mainshaft Holder | 1 |
| * ④ | 07GAJ-PG20130 | Mainshaft Base | 1 |
| ⑤ | 07JAD-PL90100 | Oil Seal Driver | 1 |
| ⑥ | 07NAD-P20A100 | Oil Seal Driver Attachment | 1 |
| * * ⑦ | 07736-A01000B | Adjustable Bearing Puller, 20—40 mm | 1 |
| ⑧ | 07746-0010300 | Attachment, 42 x 47 mm | 1 |
| ⑨ | 07746-0010700 | Attachment, 24 x 26 mm | 1 |
| ⑩ | 07746-0030100 | Driver, 40 mm I.D. | 1 |
| ⑪ | 07746-0030300 | Driver, 30 mm I.D. | 1 |
| ⑫ | 07749-0010000 | Driver | 1 |

* Part of Mainshaft Inspection Tool Set, 07GAJ-PG20102.

* * Must be used with commercially available 3/8"-16 UNF Slide Hammer.

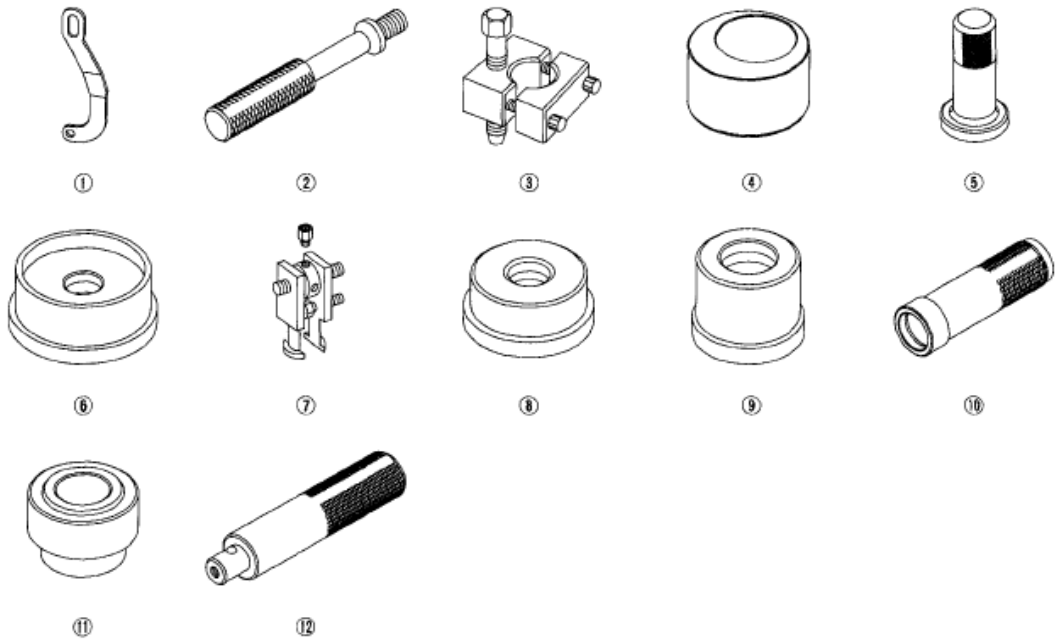



**Fig. 1: Identifying 5-Speed Manual Transmission Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

# REVERSE LOCKOUT SYSTEM

## SYSTEM DESCRIPTION

The reverse lockout system prevents mis-shifting from 5th gear to reverse.

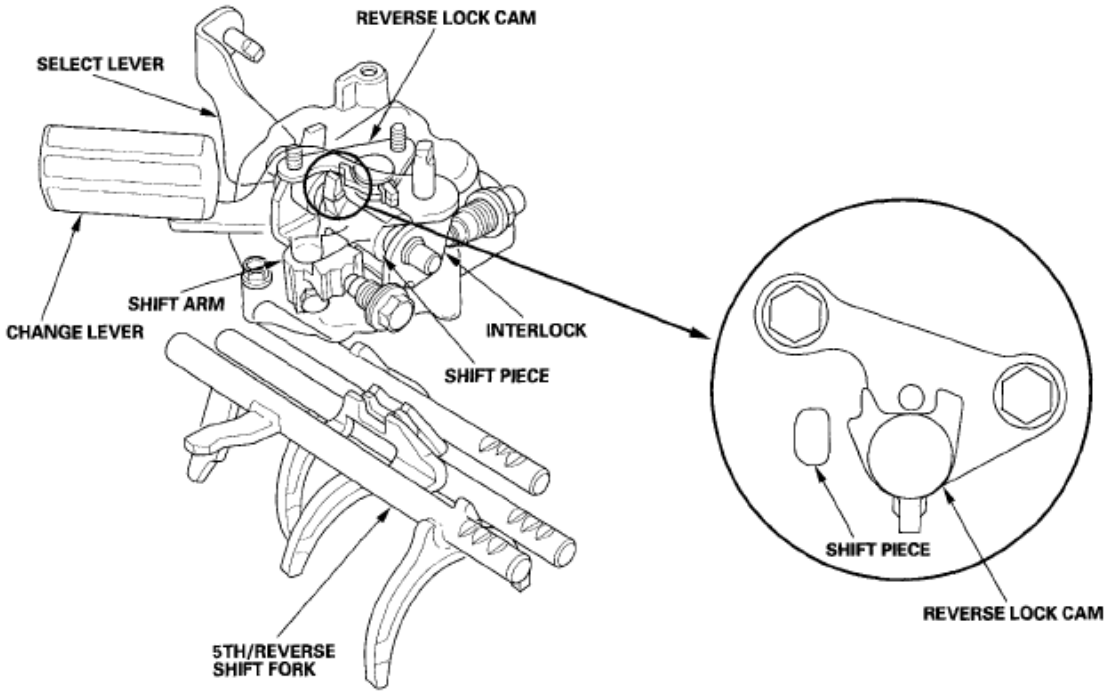



**Fig. 2: Identifying Reverse Lockout System Prevents Mis-Shifting From 5Th Gear To Reverse**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Shifting to 5th gear or reverse gear

When the shift lever is moved to the 5th gear-reverse plane, the shift piece pushes and turns the reverse lock cam. When the shift lever is shifted to 5th gear or reverse, the shift fork moves and completes the gear change. When the shift to 5th gear or reverse is completed, the reverse lock cam is turned back to a neutral position by the return spring.

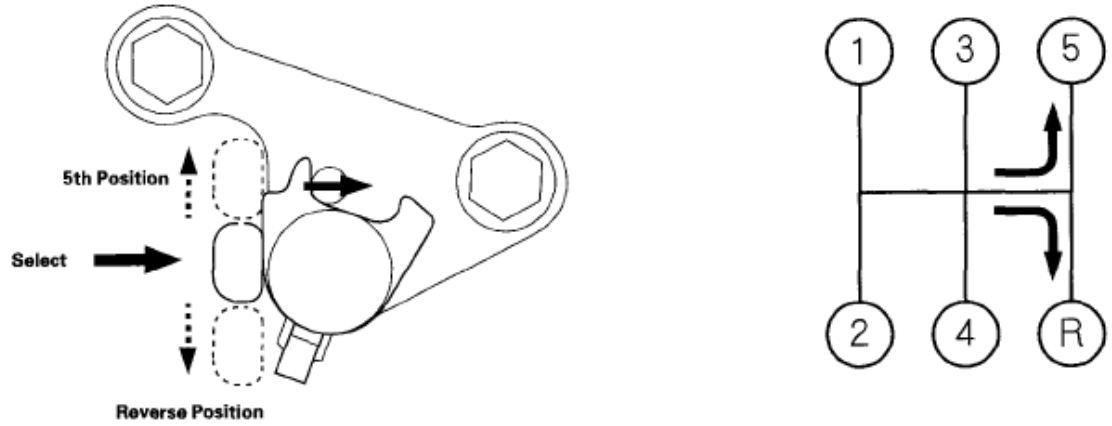



**Fig. 3: Identifying 5th Gear Or Reverse Gear Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Shifting from 5th gear to reverse

When shifting out of 5th gear, the shift piece is stopped by the notch in the reverse lock cam, thus preventing a mis-shift from 5th gear to reverse.

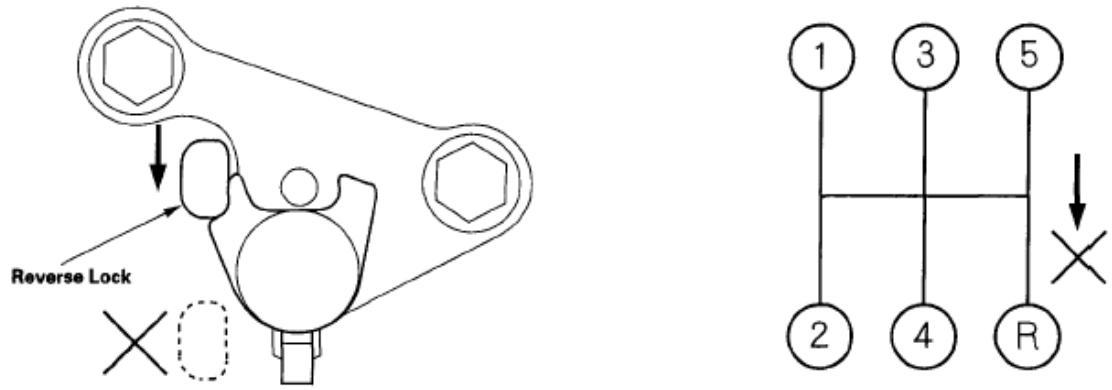



**Fig. 4: Identifying Reverse Lock Cam**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## MANUAL TRANSMISSION

### SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Probable cause(s) | Diagnostic procedure |
|---|---|---|
| Hard to shift | 1. 1st synchro ring | • Check the 1st synchro ring (see |

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| | | |
|---|---|---|
| into 1st gear | defective.<br><br>2. 1st/2nd synchro sleeve and hub defective.<br><br>3. 1st gear defective.<br><br>4. Change lever assembly defective. | **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the 1st/2nd synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 1st gear (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into 2nd gear | 1. 2nd synchro ring defective.<br><br>2. 1st/2nd synchro sleeve and hub defective.<br><br>3. 2nd gear defective.<br><br>4. Change lever assembly defective. | • Check the 2nd synchro ring (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the 1st/2nd synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 2nd gear (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into 3rd gear | 1. 3rd synchro ring defective.<br><br>2. 3rd/4th synchro sleeve and hub | • Check the 3rd synchro ring (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the 3rd/4th synchro sleeve and hub (see **SYNCHRO SLEEVE AND** |

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| | | |
|---|---|---|
| | defective.<br><br>3. 3rd gear defective.<br><br>4. Change lever assembly defective. | **HUB INSPECTION AND REASSEMBLY** ).<br>• Check 3rd gear (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into 4th gear | 1. 4th synchro ring defective.<br><br>2. 3rd/4th synchro sleeve and hub defective.<br><br>3. 4th gear defective.<br><br>4. Change lever assembly defective. | • Check the 4th synchro ring (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the 3rd/4th synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 4th gear (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into 5th gear | 1. 5th synchro ring defective.<br><br>2. 5th synchro sleeve defective.<br>3. 5th gear defective.<br>4. Change lever assembly defective. | • Check the 5th synchro ring (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check the 5th synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 5th gear (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ). |

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| | | |
|---|---|---|
| | | • Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into reverse | 1. Reverse shift fork defective.<br>2. Reverse idler gear defective.<br>3. Reverse gear defective.<br>4. Change lever assembly defective.<br>5. Reverse lockout system defective. | • Check the reverse shift fork (see **REVERSE SHIFT FORK CLEARANCE INSPECTION** ).<br>• Check the reverse idler gear (see **REVERSE SHIFT FORK CLEARANCE INSPECTION** ).<br>• Check reverse gear.<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ).<br>• Check the reverse lockout system. |
| Noise from the transmission | 1. Low transmission fluid level.<br>2. Worn or damaged transmission gears.<br>3. Worn or damaged transmission bearings. | • Check the transmission fluid level (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).<br>• Check the transmission gears.<br>• Check the transmission bearings. |
| Shift lever does not operate smoothly | 1. Shift cable defective.<br>2. Joint in shift cable and transmission or body. | • Check the change wires.<br>• Check joint in the change wires (see **GEARSHIFT MECHANISM REPLACEMENT** ). |
| Transmission jumps out of gear | 1. Detent ball springs defective.<br>2. Worn synchro teeth. | • Check the detent ball springs.<br>• Check the synchro teeth. |

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**TRANSMISSION FLUID INSPECTION AND REPLACEMENT**

1. Raise the vehicle on the lift.
2. Remove the filler plug (A) and washer (B), check the condition of the fluid, and make sure it is at the proper level (C).

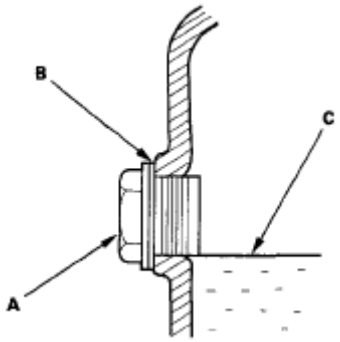



**Fig. 5: Identifying Filler Plug And Washer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the fluid is dirty, remove the drain plug (A), and drain it.

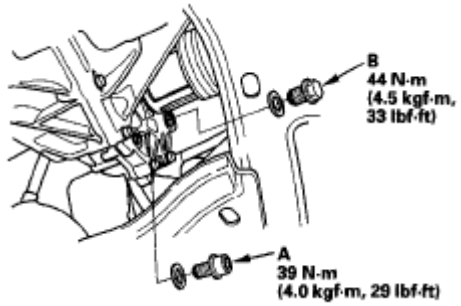



**Fig. 6: Identifying Drain Plug (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the drain plug with a new washer, and refill the transmission fluid to the proper level.

**Fluid Capacity**

**1.4 L (1.5 US qt) at fluid change**

**1.6 L (1.7 US qt) at overhaul**

Always use Honda Manual Transmission Fluid (MTF). Using engine oil can cause stiffer shifting because it does not contain the proper additives.

5. Install the filler plug (B) with a new washer.
6. If the maintenance minder required to replace the fluid, reset the maintenance minder (see **MAINTENANCE MINDER** ). If it did not, select BODY ELECTRICAL, GAUGES, ADJUSTMENT, MAINTENANCE MINDER, RESET, MAINTENANCE SUB ITEM 3 with the HDS.

**BACK-UP LIGHT SWITCH TEST**

1. Disconnect the back-up light switch connector (A).

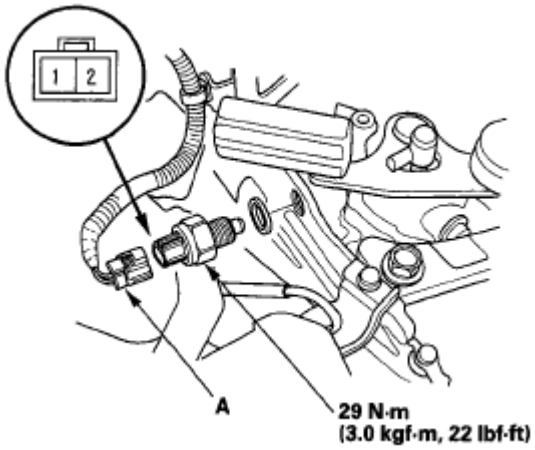



**Fig. 7: Identifying Back-Up Light Switch Connector (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check for continuity between the back-up light switch 2P connector terminals No. 1 and No. 2. There should be continuity when the change lever is only in reverse.
3. If necessary, replace the back-up light switch. Install the new washer and back-up light switch on the transmission housing.

**TRANSMISSION REMOVAL**

## Special Tools Required

- 1.8 Support eyelet 07AAK-SNAA400
- 1.8 Support bolt 07AAK-SNAA500
- Engine support hanger, A & Reds AAR-T-12566 *
- Subframe adapter VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *

* These special tools are available through the Honda Tool and Equipment program.

**NOTE: Use fender covers to avoid damaging painted surfaces.**

1. Make sure you have the anti-theft code for the audio unit and or the navigation system, then write down the audio presets.
2. Disconnect the negative cable from the battery, then disconnect the positive cable.
3. Remove the battery.
4. Remove the cowl cover and under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
5. Remove the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
6. Remove the harness clips (A) and the intake air duct (B), then remove the battery base (C) with the coolant reservoir (D).

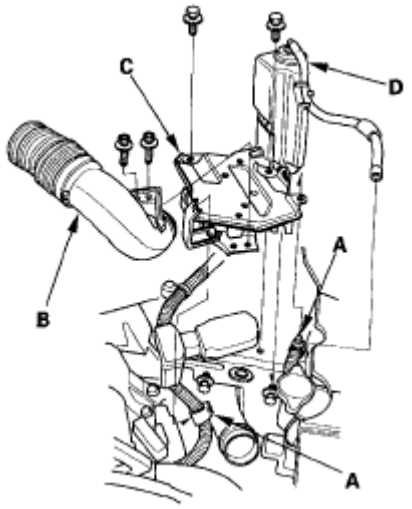



**Fig. 8: Identifying Harness Clips And Intake Air Duct**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the clutch line bracket (A), then carefully remove the slave cylinder (B) to avoid bending the clutch line.

**NOTE: Do not press the clutch pedal after the slave cylinder has been removed.**

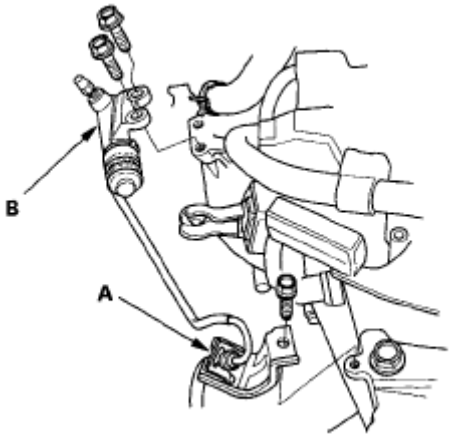



**Fig. 9: Identifying Clutch Line Bracket And Slave Cylinder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Disconnect the back-up light switch connector (A), then remove the engine harness cover (B) and the harness clips (C).

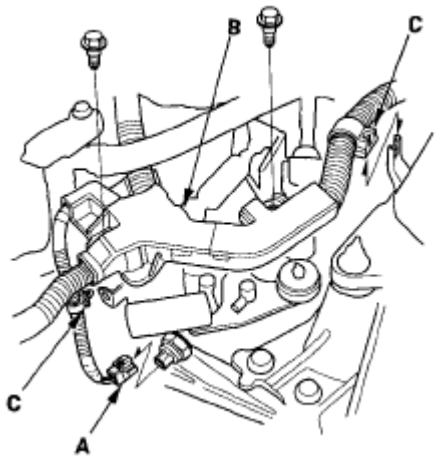
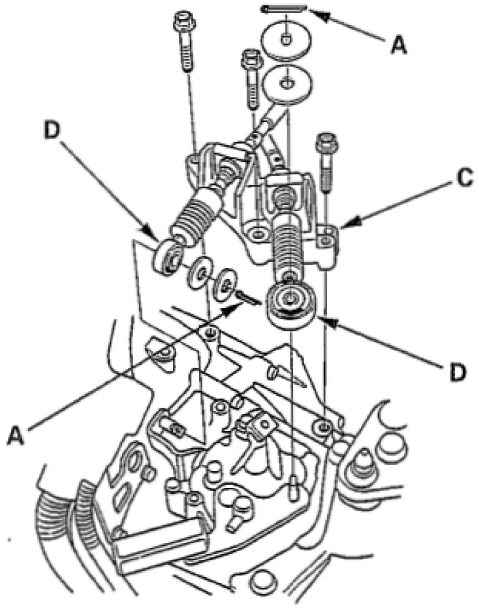



**Fig. 10: Identifying Back-Up Light Switch Connector And Engine Harness Cover**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the cable bracket (A), then disconnect the cables (B) from the top of the transmission housing. Carefully remove both cables and the bracket together to avoid bending the cables.

'06 model




'07-08 models

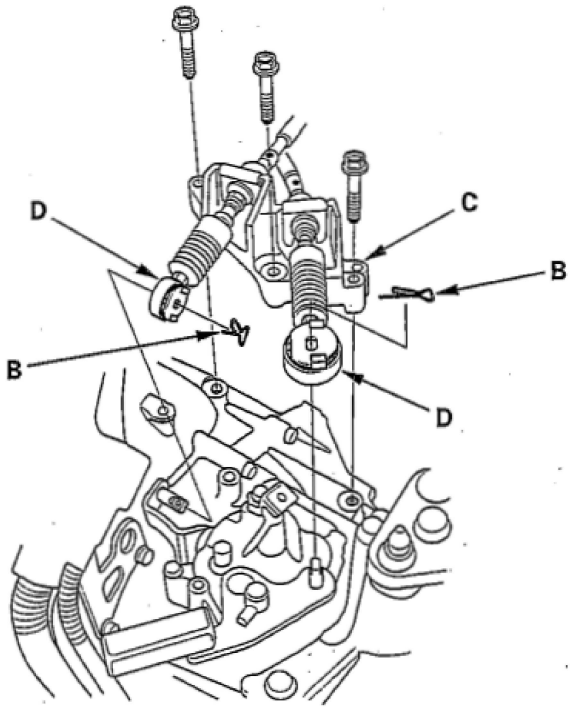



**Fig. 11: Identifying Cable Bracket And Cables**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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10. Disconnect the output shaft (countershaft) speed sensor connector (A).

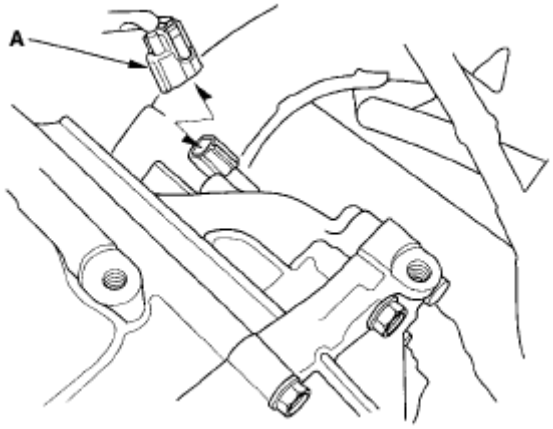



**Fig. 12: Identifying Output Shaft (Countershaft) Speed Sensor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the air cleaner housing bracket (A), and install support eyelet (B) behind the breather pipe (C) and down to the threaded hole (D) on the cylinder head.

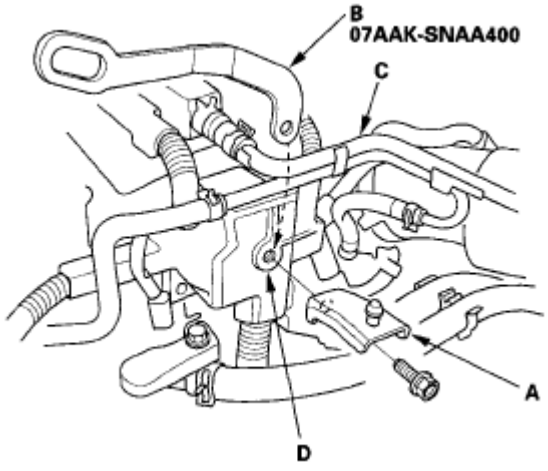



**Fig. 13: Identifying Air Cleaner Housing Bracket And Support Eyelet**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Attach the support eyelet (A) to the cylinder head with the support bolt (B). Tighten the bolt by hand.

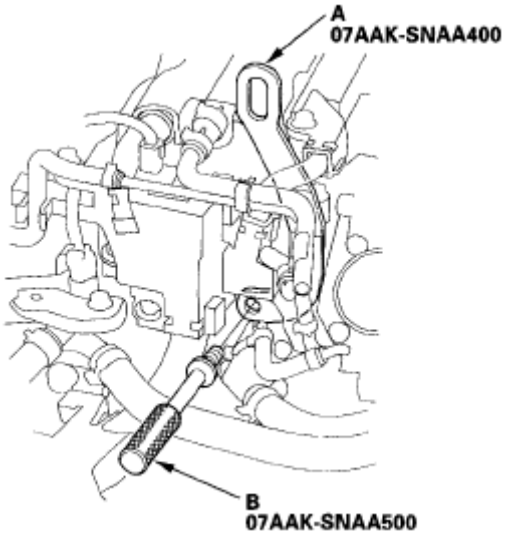



**Fig. 14: Identifying Support Eyelet To Cylinder Head**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the front leg assembly (A), hook (B), and wingnut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger. Carefully position the engine hanger on the vehicle, and attach the hook to the slotted hole in the support eyelet (D). Tighten the wingnut by hand to lift and support the engine/transmission assembly.

**NOTE: Use care when working around the windshield.**

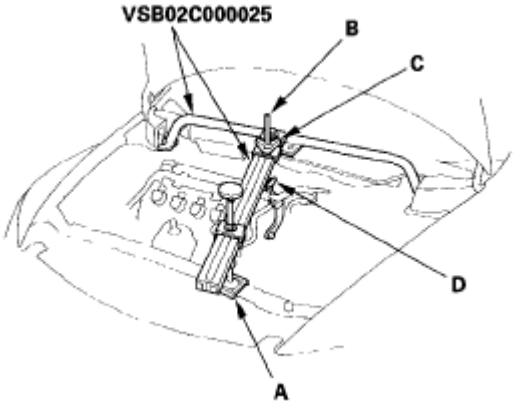



**Fig. 15: Identifying Front Leg Assembly Hook And Wingnut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Remove the upper transmission mounting bolt.

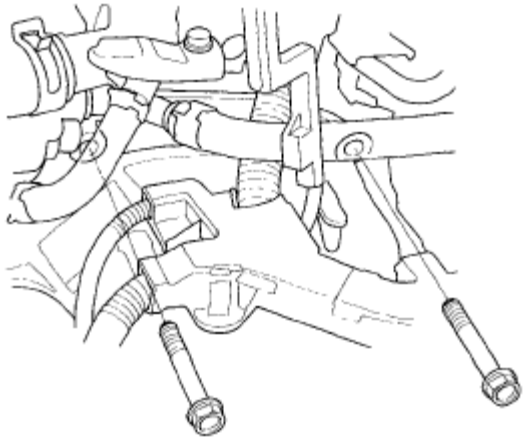


**Fig. 16: Identifying Upper Transmission Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Remove the transmission mounting bolt (A) and nuts (B), then remove the ground cable (C). Remove the transmission mounting bracket base bolts (D).

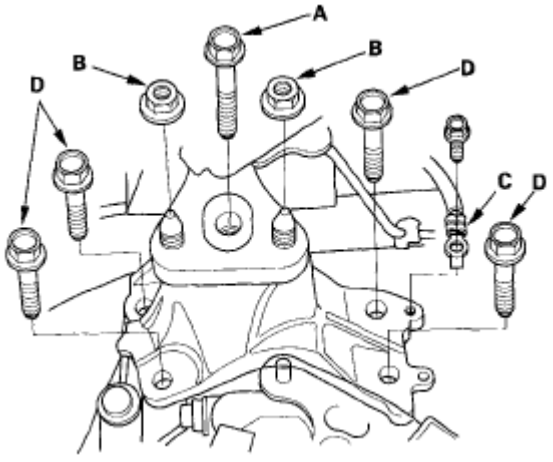



**Fig. 17: Identifying Transmission Mounting Bolt And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the stud bolts (A) and the transmission mounting bracket base (B).

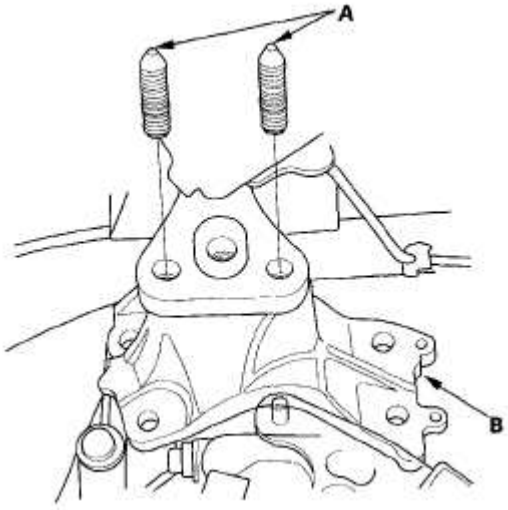



**Fig. 18: Identifying Stud Bolts And Transmission Mounting Bracket Base**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Raise the vehicle, on the lift.
18. Remove the splash shield.

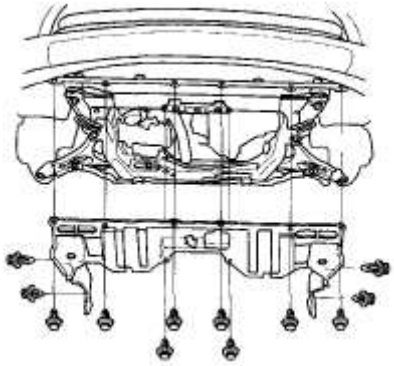


**Fig. 19: Identifying Splash Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Drain the transmission fluid. Reinstall the drain plug with a new washer (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
20. Separate the lower arm (see step 6 on **DRIVESHAFT REMOVAL** ).
21. Remove the stiffner plates (A) and mounting bracket (B) from the steering gearbox.

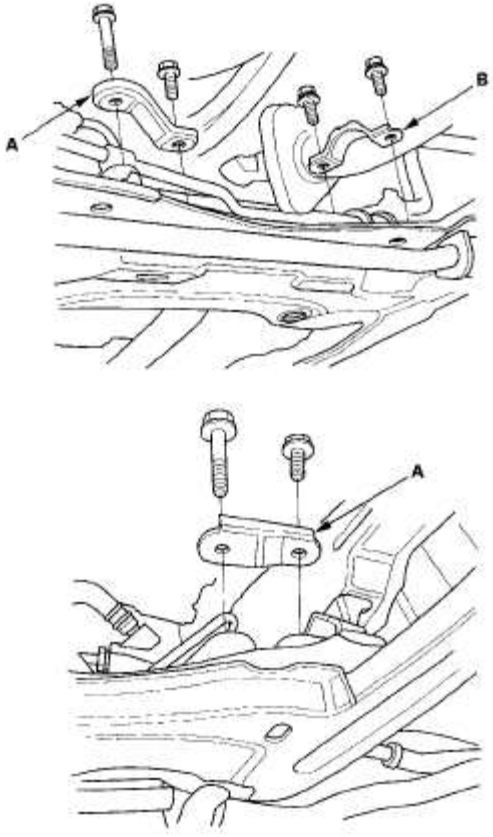



**Fig. 20: Identifying Stiffner Plates And Mounting Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Remove the steering line brackets (A) and clip (B).

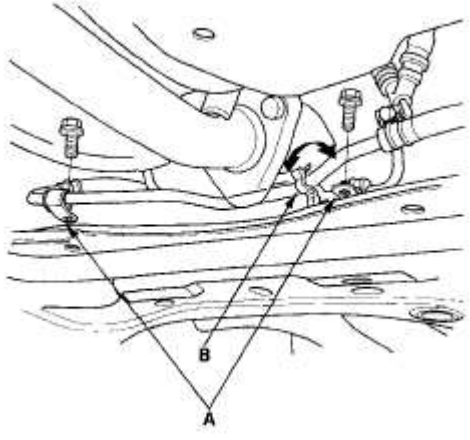



**Fig. 21: Identifying Steering Line Brackets And Clip**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Remove the middle subframe mounting bolts (A).

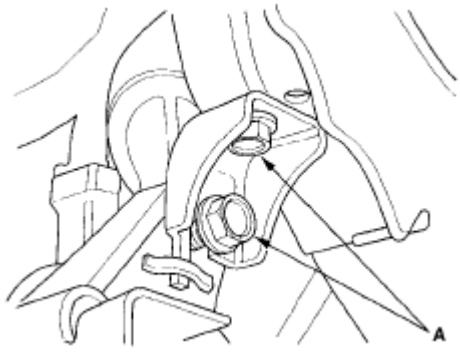



**Fig. 22: Identifying Subframe Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Remove the lower torque rod mounting bolts.

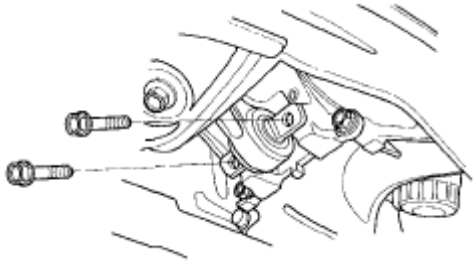


**Fig. 23: Identifying Lower Torque Rod Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Note the reference marks (A) on both sides of the subframe that line up with the body (B).

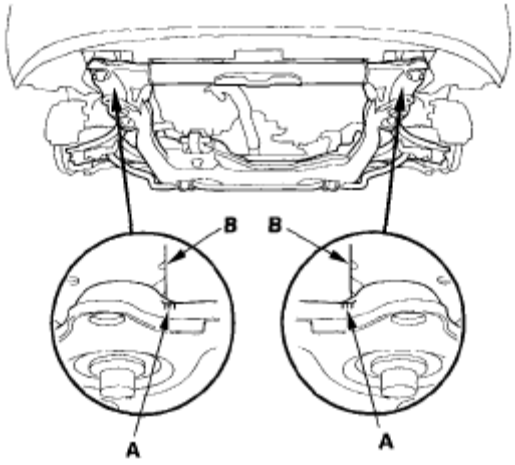



**Fig. 24: Locating Subframe Marks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

26. Attach the front subframe adapter to the front subframe by wrapping the band over the front subframe and attaching the end of the band to the front subframe adapter with the pin (A).

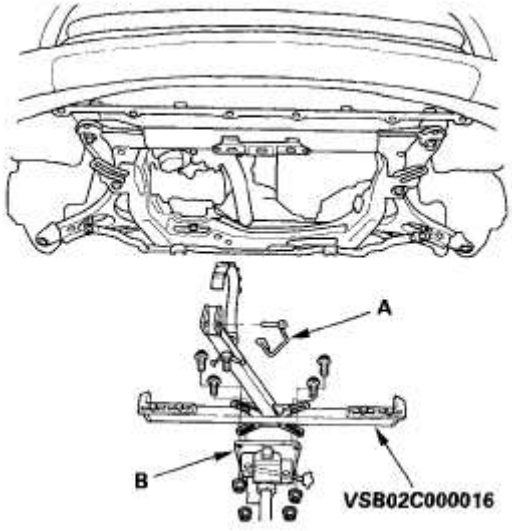



**Fig. 25: Attaching Front Subframe Adapter To Front Subframe By Wrapping Band**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

27. Raise the jack, and line up the slots in the arms with the bolt holes on the corner of the jack base (B), then attach them securely.
28. Remove the front subframe mounting bolts (A) and front subframe (B).

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**NOTE: Suspend the steering gearbox with an appropriate size wire.**

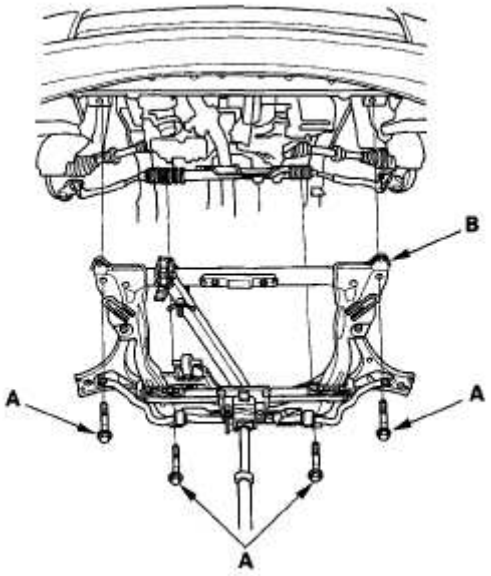



**Fig. 26: Identifying Front Subframe Mounting Bolts And Front Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

29. Pry the driveshafts inboard joint (see step 8 on **DRIVESHAFT REMOVAL** ).
30. Remove the intermediate shaft (see **INTERMEDIATE SHAFT REMOVAL** ).
31. Remove the clutch cover (A).

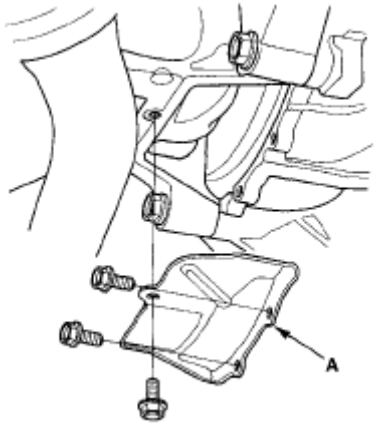



**Fig. 27: Identifying Clutch Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

32. Support the transmission with the transmission jack.
33. Remove the lower transmission mounting bolts.

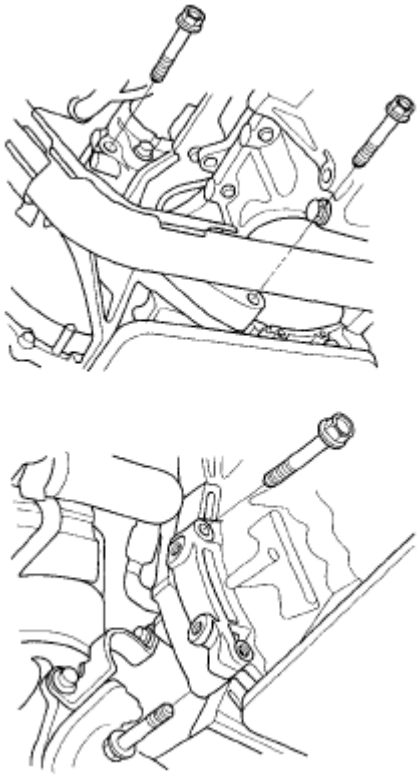


**Fig. 28: Identifying Lower Transmission Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Pull the transmission away from the engine until the transmission mainshaft clears the clutch pressure plate.
35. Slowly lower the transmission about 150 mm (6 in.) Check once again that all hoses and electrical wiring are disconnected and free from the transmission, then lower it all the way.
36. Remove the release fork boot (A) from the clutch housing (B).

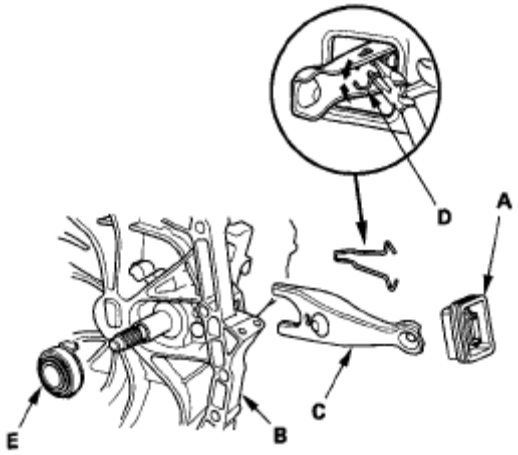



**Fig. 29: Identifying Release Fork Boot From Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Remove the release fork (C) from the clutch housing by squeezing the release fork set spring (D) with pliers. Remove the release bearing (E).

**TRANSMISSION INSTALLATION**

## Special Tools Required

- 1.8 Support eyelet 07AAK-SNAA400
- 1.8 Support bolt 07AAK-SNAA500
- Engine support hanger, A & Reds AAR-T-12566*
- Subframe adapter VSB02C000016 *
- 2006 Civic engine hanger *

* : These special tools are available through the Honda Tool and Equipment program.

**NOTE: Use fender covers to avoid damaging painted surfaces.**

1. Loosen the upper torque rod mounting bolt (A).

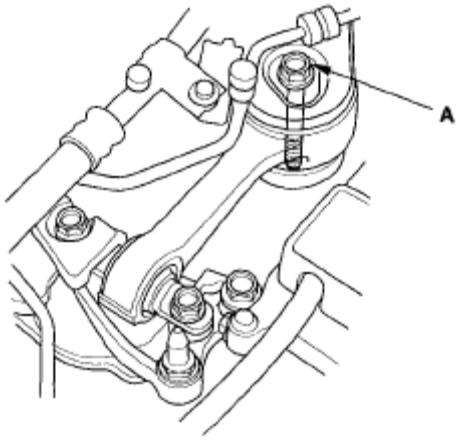



**Fig. 30: Identifying Upper Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Make sure the two dowel pins (A) are installed in the clutch housing.

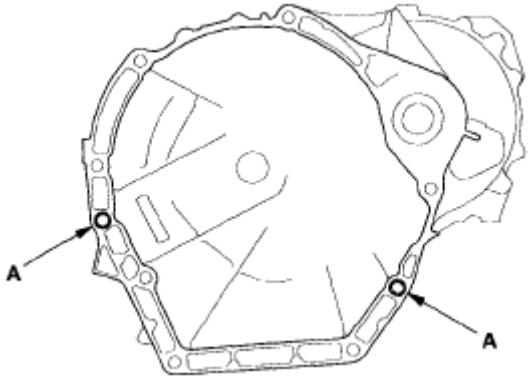



**Fig. 31: Identifying Dowel Pins**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the release fork, the release bearing, and the boot (see step 4 on **PRESSURE PLATE AND CLUTCH DISC REMOVAL (5-SPEED MODEL)** ).
4. Place the transmission on the transmission jack, and raise it to the engine level.
5. Install the lower transmission mounting bolts.

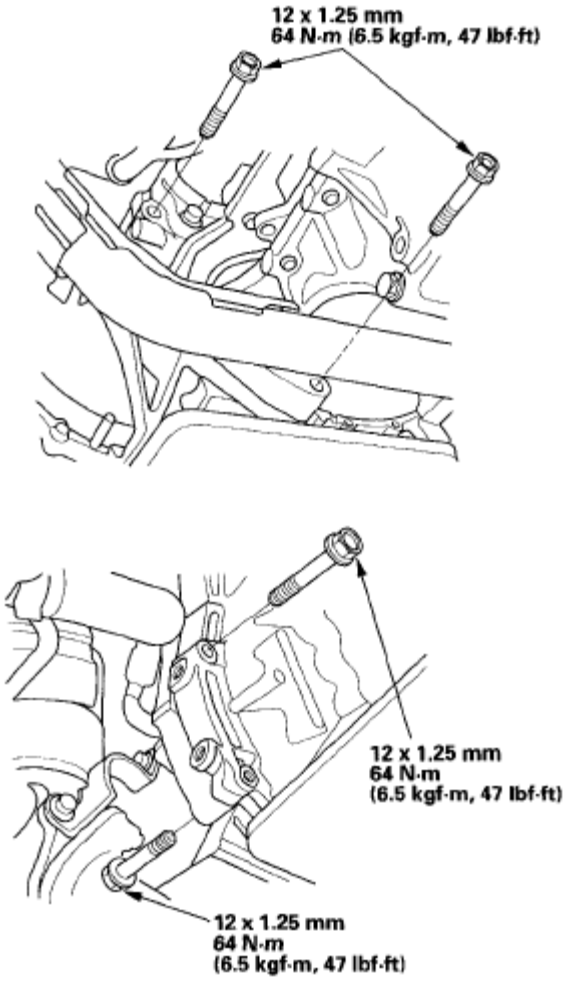



**Fig. 32: Identifying Lower Transmission Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the clutch cover.

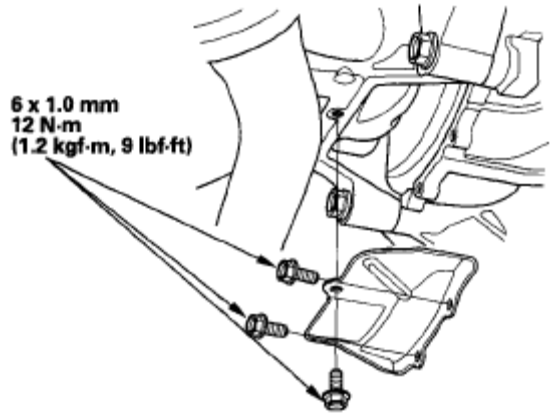



**Fig. 33: Identifying Clutch Cover (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the intermediate shaft (see **INTERMEDIATE SHAFT INSTALLATION** ).
8. Install the driveshaft inboard joint (see **DRIVESHAFT INSTALLATION** ).
9. Support the front subframe with the front subframe adapter and a jack.

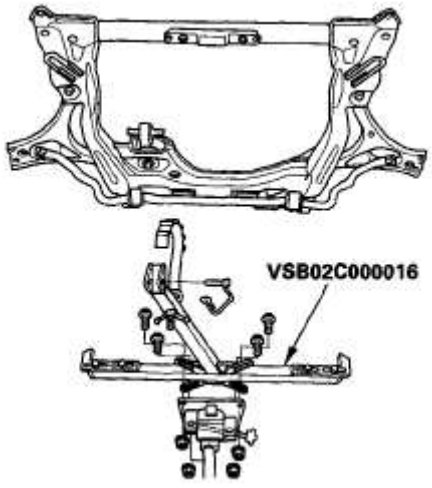



**Fig. 34: Identifying Driveshaft Inboard Joint**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the front subframe (A). Loosely install the new subframe mounting bolts (B).

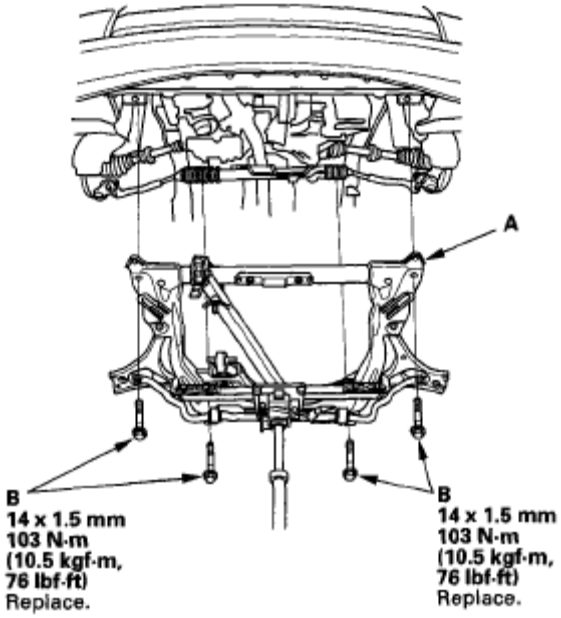



**Fig. 35: Installing Front Subframe (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Align the front subframe reference marks (A) to the body (B), as noted during removal. Tighten the subframe mounting bolts to the specified torque.

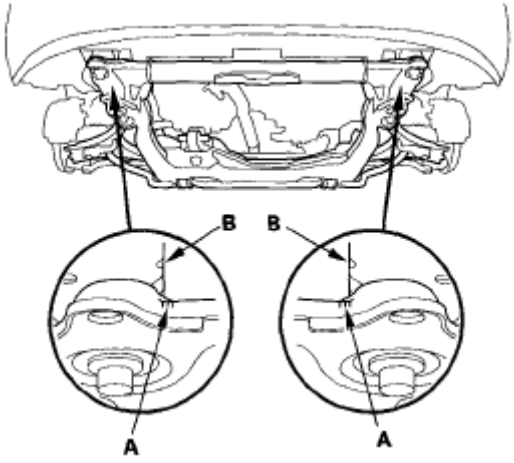



**Fig. 36: Aligning Front Subframe Marks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Install the lower torque rod mounting bolts.

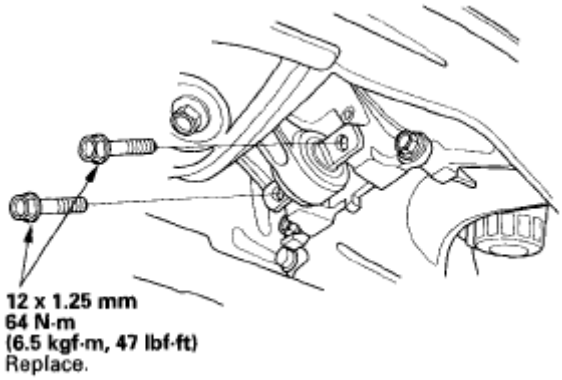



**Fig. 37: Installing Lower Torque Rod Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the middle subframe mounting bolts.

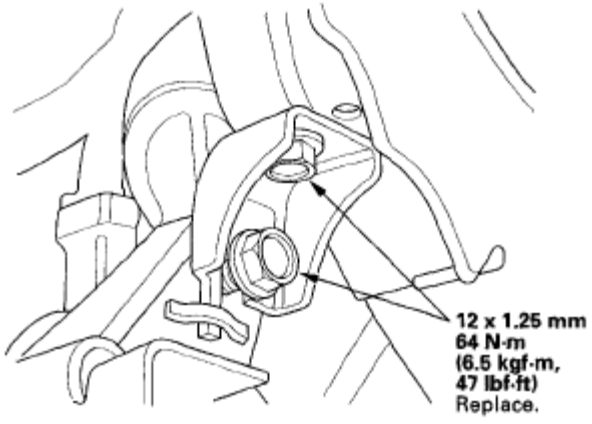



**Fig. 38: Identifying Subframe Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the steering gearbox stiffner plates (A) and mounting bracket (B). Tighten the mounting bolts to the specified torque.

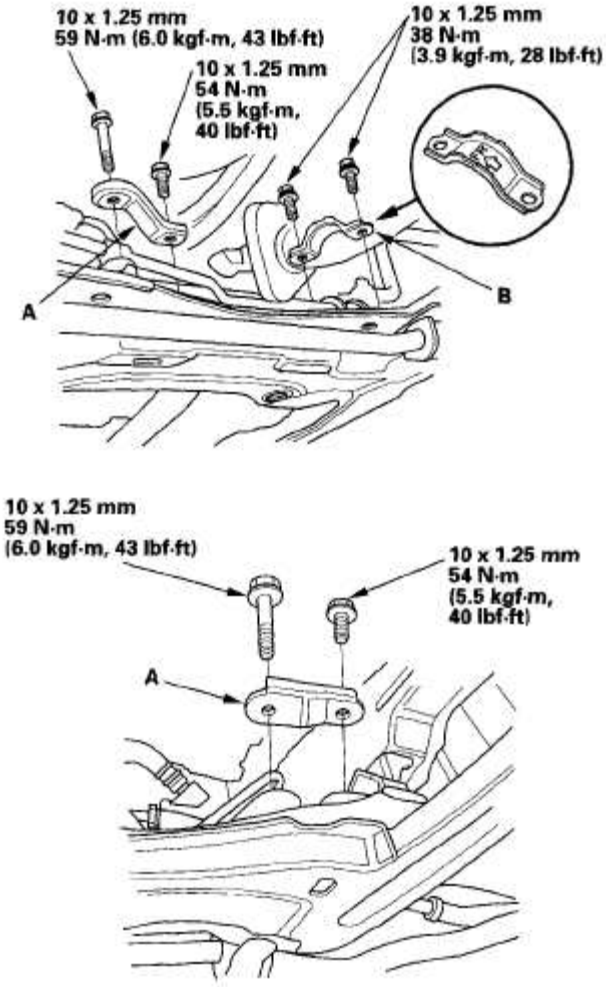



**Fig. 39: Installing Steering Gearbox Stiffner Plates (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the steering line bracket (A) and the clip (B).

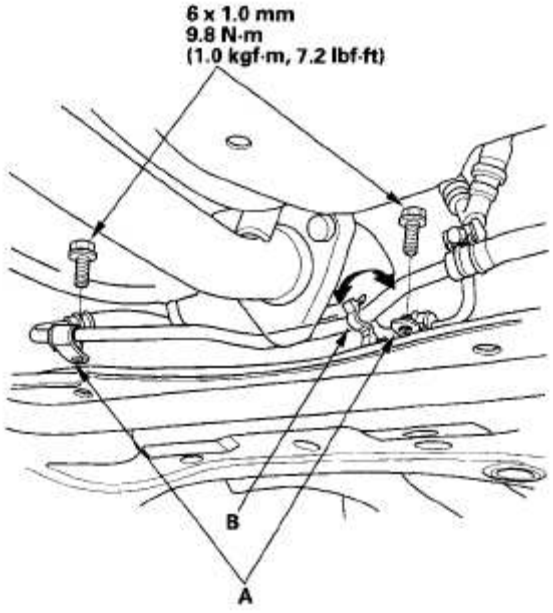



**Fig. 40: Identifying Steering Line Bracket And Clip (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Connect the lower arm (see step 7 on **DRIVESHAFT INSTALLATION** ).
17. Lower the vehicle on the lift.
18. Install the transmission mounting bracket base (A) and stud bolts (B).

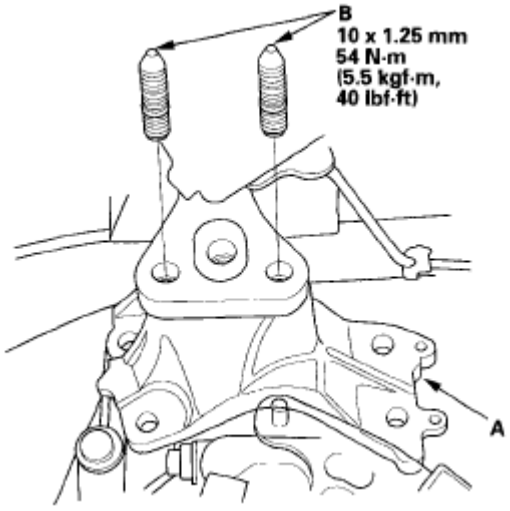



**Fig. 41: Identifying Transmission Mounting Bracket Base And Stud Bolts (With Torque Specifications)**

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**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Install the transmission mounting bracket bolts (A). Install the transmission mounting bolt (B) and nuts (C), then install the ground cable (D).

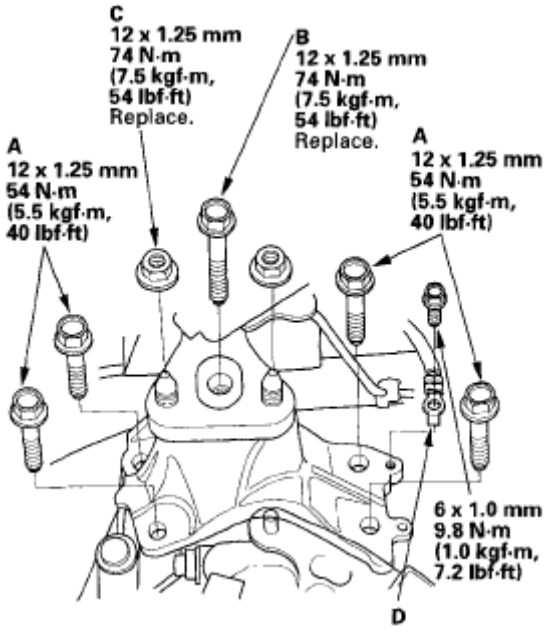



**Fig. 42: Identifying Transmission Mounting Bracket Bolts And Nuts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Raise the vehicle on the lift.
21. Loosen and retighten the lower torque rod mounting bolt.

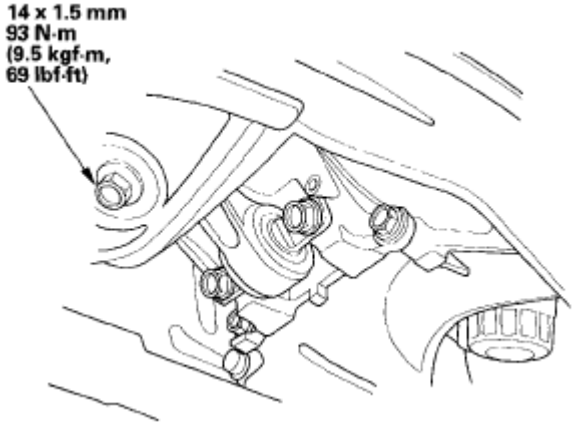


**Fig. 43: Identifying Lower Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Refill the transmission with the recommended transmission fluid (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
23. Install the splash shield.

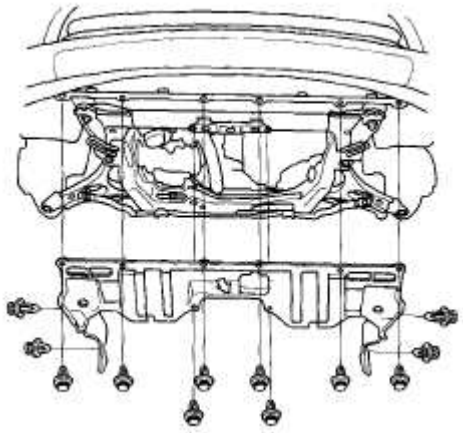


**Fig. 44: Locating Splash Shield**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Lower the vehicle on the lift.
25. Tighten the upper torque rod mounting bolt.

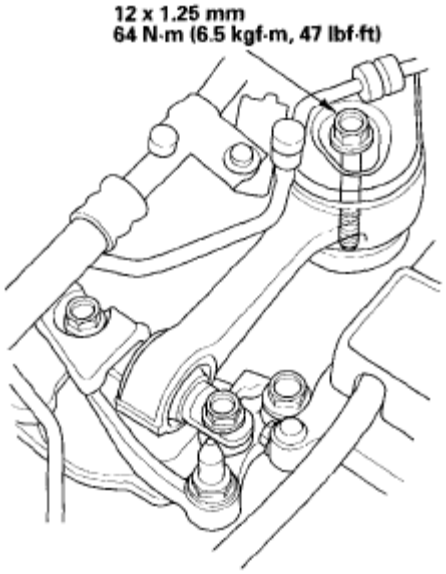



**Fig. 45: Tightening Upper Torque Rod Mounting Bolt (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

26. Install the upper transmission mounting bolts.

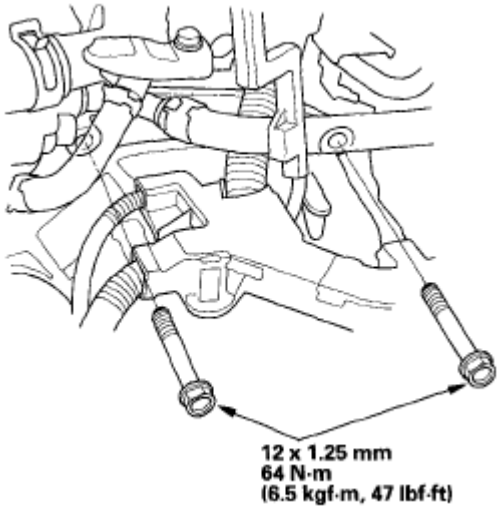



**Fig. 46: Installing Upper Transmission Mounting Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

27. Remove the engine hanger and support eyelet (A) from the engine.

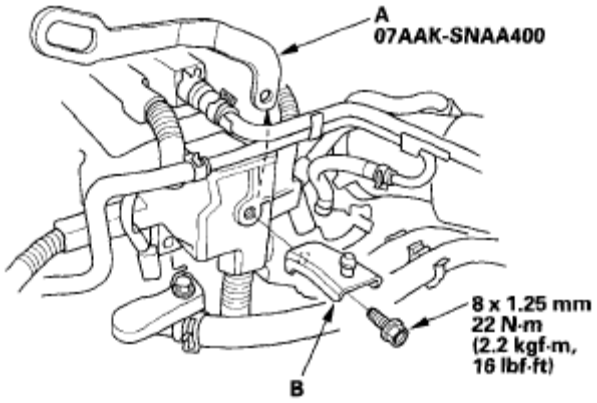



**Fig. 47: Identifying Engine Hanger And Support Eyelet (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Install the air cleaner housing bracket (B) on the cylinder head.
29. Connect the output shaft (countershaft) speed sensor connector (A).

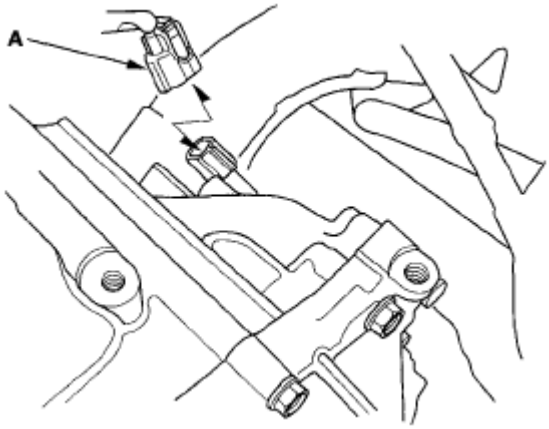



**Fig. 48: Locating Output Shaft (Countershaft) Speed Sensor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

30. Apply a light coat of super high temp urea grease (P/N 08798-9002) to the cable ends (A), and the surface of the cable end rubber (B) with silicone grease.

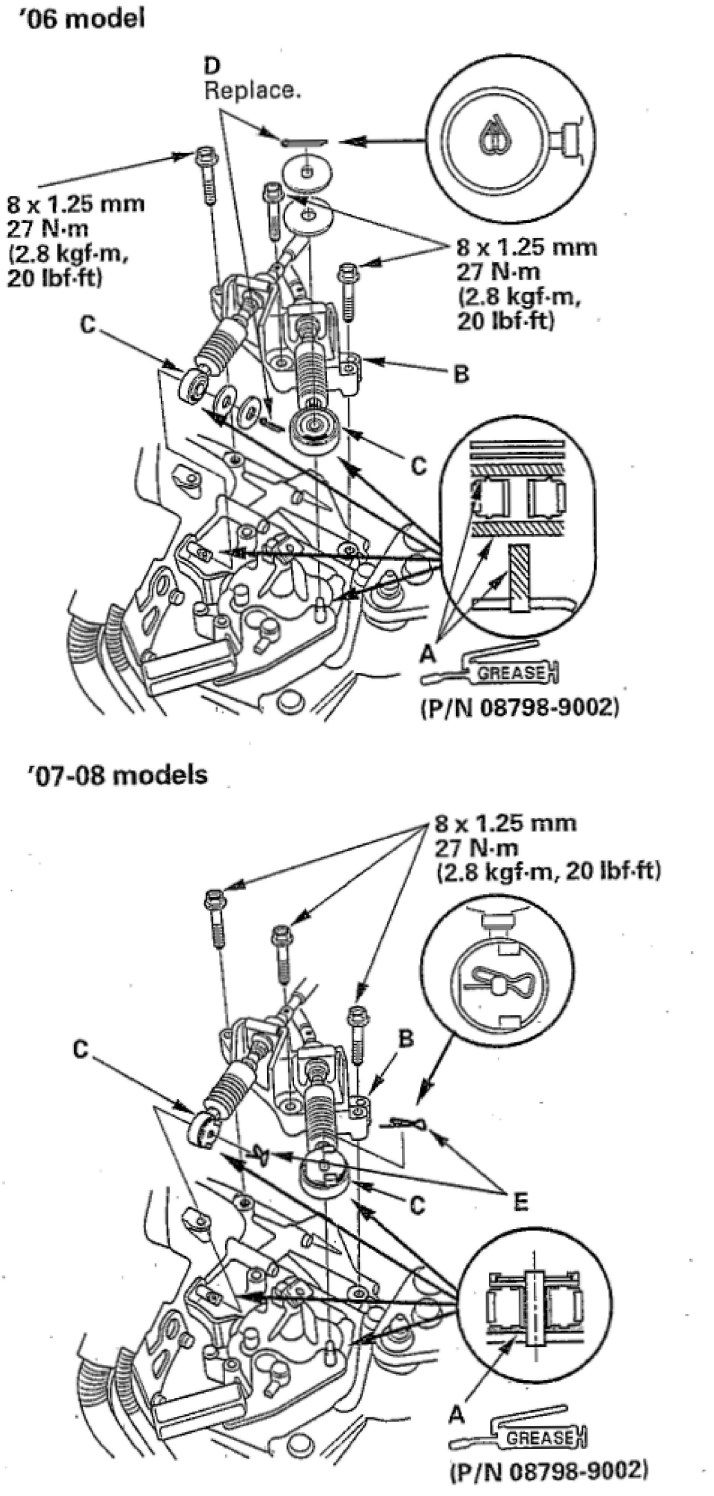



**Fig. 49: Identifying Area For Applying Super High Temp Urea Grease (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

31. Install the cable bracket (C) and the cables (D), then install the new cotter pins (E).
32. Connect the back-up light switch connector (A), then install the engine harness cover (B) and the harness clips (C).

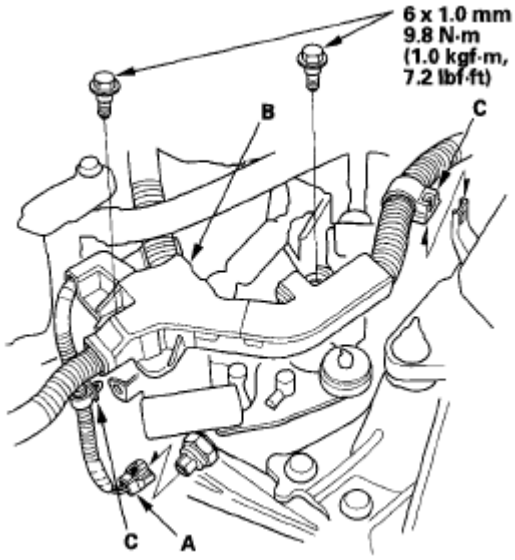



**Fig. 50: Identifying Back-Up Light Switch Connector (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Apply super high temp urea grease (P/N 08798-9002) to the end of the slave cylinder rod. Install the slave cylinder (A) then install the clutch line bracket (B). Be careful not to bend the clutch line.

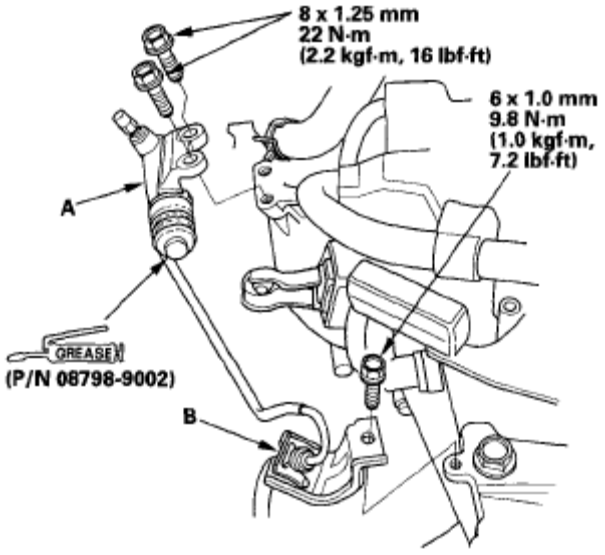



**Fig. 51: Identifying Area For Applying Super High Temp Urea Grease (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Install the battery base (A) with the coolant reservoir (B).

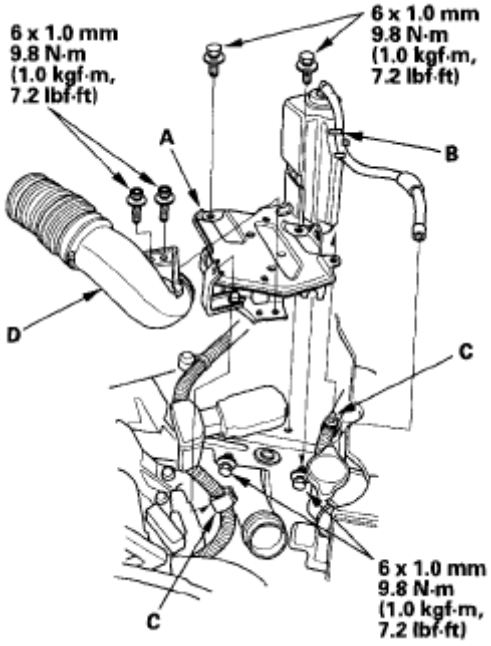



**Fig. 52: Identifying Battery Base With Coolant Reservoir (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

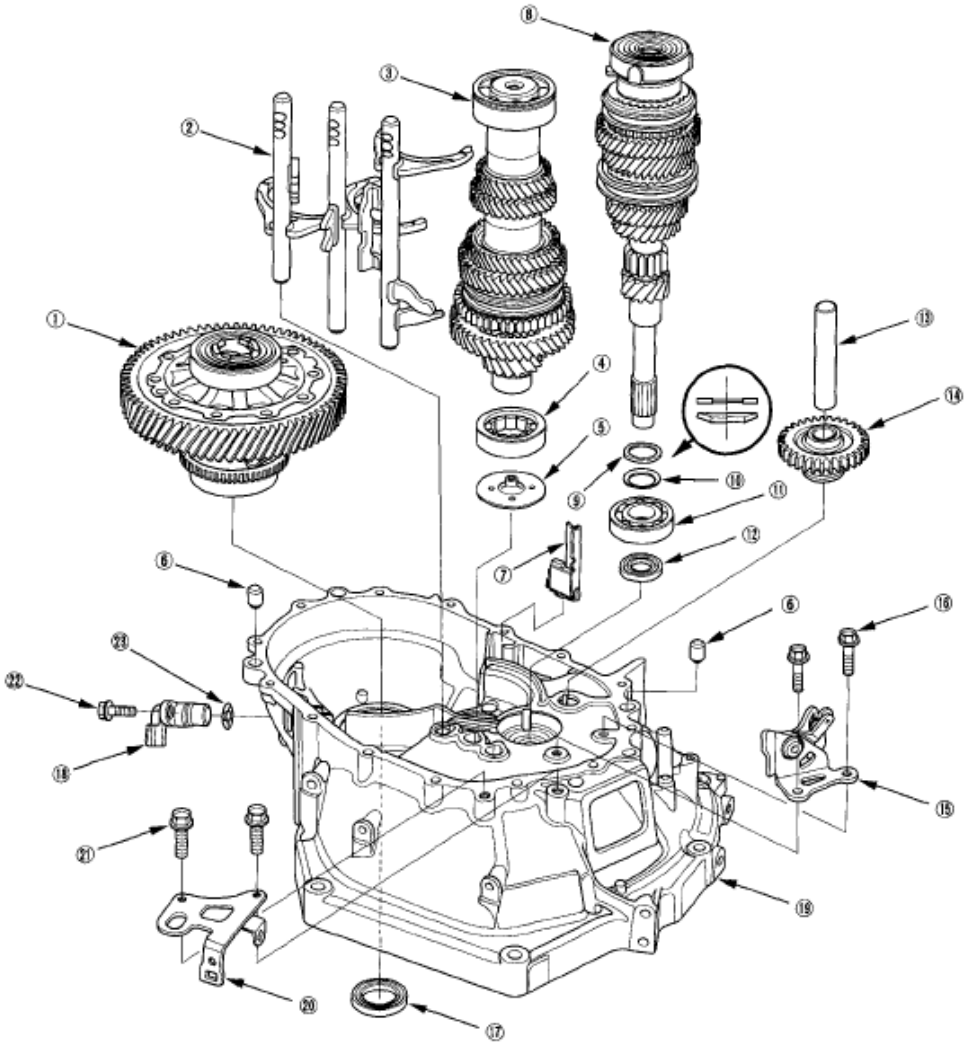
35. Install the harness clips (C) and the intake air duct (D).
36. Install the air cleaner assembly (see **THROTTLE BODY CLEANING** ).
37. Install the battery. Clean the battery posts and cable terminals. Connect the positive cable to the battery first, then connect the negative cable, and apply multipurpose grease to prevent corrosion.
38. Install the under-cowl panel and cowl cover (see **FRONT GRILLE COVER REPLACEMENT** ).
39. Test-drive the vehicle.
40. Check the change lever and the clutch operation.
41. Check the front wheel alignment (see **WHEEL ALIGNMENT** ).
42. Enter the anti-theft code for the audio unit or the navigation system, then enter the audio presets. Set the clock.
43. Do the power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT** ).

**TRANSMISSION DISASSEMBLY**

**Exploded View - Clutch Housing**

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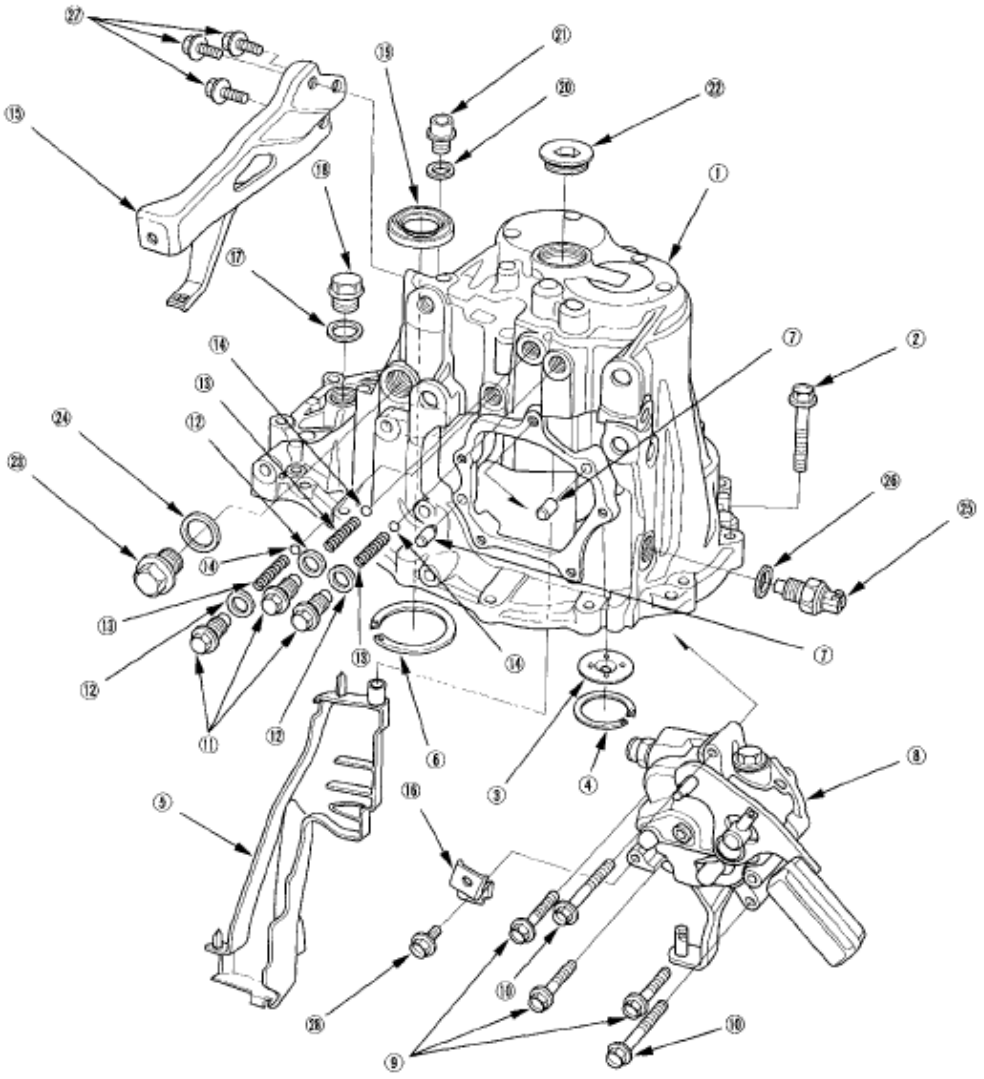
① DIFFERENTIAL ASSEMBLY
② SHIFT FORK
③ COUNTERSHAFT ASSEMBLY
④ NEEDLE BEARING
⑤ OIL GUIDE PLATE C
⑥ 14 x 20 mm DOWEL PIN
⑦ MAGNET
⑧ MAINSHAFT ASSEMBLY
⑨ 26 mm WASHER
⑩ 36 mm SPRING WASHER
⑪ BALL BEARING
⑫ 28 x 43 x 7 mm OIL SEAL
Replace.
⑬ REVERSE GEAR SHAFT
⑭ REVERSE IDLER GEAR
⑮ REVERSE SHIFT FORK
⑯ 6 mm SPECIAL BOLT
15 N·m (1.5 kgf·m, 11 lbf·ft)
⑰ 35 x 58 x 8 mm OIL SEAL
Replace.
⑱ OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR
⑲ CLUTCH HOUSING
⑳ TRANSMISSION HANGER
㉑ 8 mm FLANGE BOLT
27 N·m (2.8 kgf·m, 20 lbf·ft)
㉒ 6 mm BOLT
12 N·m (1.2 kgf·m, 9 lbf·ft)
㉓ O-RING
Replace.

## Fig. 53: Exploded View Of Clutch Housing (With Torque Specifications) Courtesy of AMERICAN HONDA MOTOR CO., INC.

**Exploded View - Transmission Housing**

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① TRANSMISSION HOUSING
② 8 mm FLANGE BOLT
27 N·m (2.8 kgf·m, 20 lbf·ft)
③ OIL GUIDE PLATE M
④ 52 x 62 mm SHIM
⑤ OIL GUTTER PLATE
⑥ 80 mm SHIM
⑦ 8 x 10 mm DOWEL PIN
⑧ CHANGE LEVER ASSEMBLY
⑨ 6 x 30 mm FLANGE BOLT
12 N·m (1.2 kgf·m, 9 lbf·ft)
⑩ 6 x 45 mm FLANGE BOLT
12 N·m (1.2 kgf·m, 9 lbf·ft)
⑪ DETENT BOLT
22 N·m (2.2 kgf·m, 16 lbf·ft)
⑫ 12 mm WASHER
Replace.
⑬ SPRING
⑭ STEEL BALL
⑮ AIR CLEANER HOUSING BRACKET
⑯ HARNESS BRACKET
⑰ 20 mm WASHER
Replace.
⑱ FILLER PLUG
44 N·m (4.5 kgf·m, 33 lbf·ft)
⑲ 40 x 56 x 8 mm OIL SEAL
Replace.
⑳ 14 mm WASHER
Replace.
㉑ DRAIN PLUG
39 N·m (4.0 kgf·m, 29 lbf·ft)
㉒ 32 mm SEALING CAP
34 N·m (3.5 kgf·m, 25 lbf·ft)
㉓ 20 mm BOLT
44 N·m (4.5 kgf·m, 33 lbf·ft)
㉔ 20 mm WASHER
Replace.
㉕ BACK-UP LIGHT SWITCH
㉖ 18 mm WASHER
Replace.
㉗ 6 mm BOLT
9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)
㉘ 6 mm BOLT
9.8 N·m (1.0 kgf·m, 7.2 lbf·ft)

## Fig. 54: Exploded View Of Transmission Housing (With Torque Specifications)

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**NOTE: Place the clutch housing on two pieces of wood thick enough to keep the mainshaft from hitting the workbench.**

1. Remove the air cleaner housing bracket (A) and the harness bracket (B).

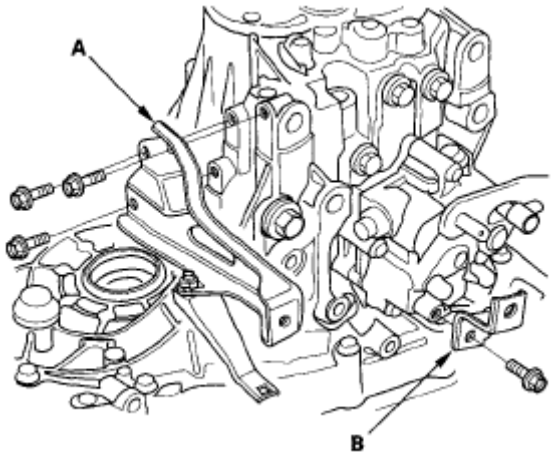



**Fig. 55: Identifying Air Cleaner Housing Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the detent bolts (A), springs (B) and steel balls (C).

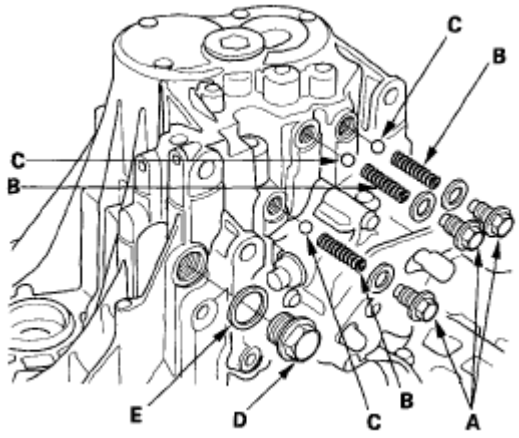



**Fig. 56: Identifying Detent Bolts, Springs And Steel Balls**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the 20 mm bolt (D) and 20 mm washer (E).
4. Remove the change lever assembly (A) and the 8x10 mm dowel pins (B).

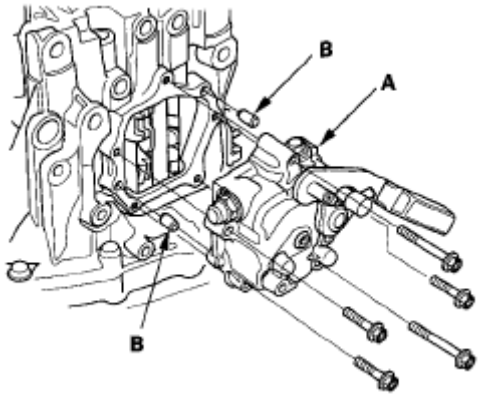



**Fig. 57: Identifying Change Lever Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the transmission hanger (A) and back-up light switch (B).

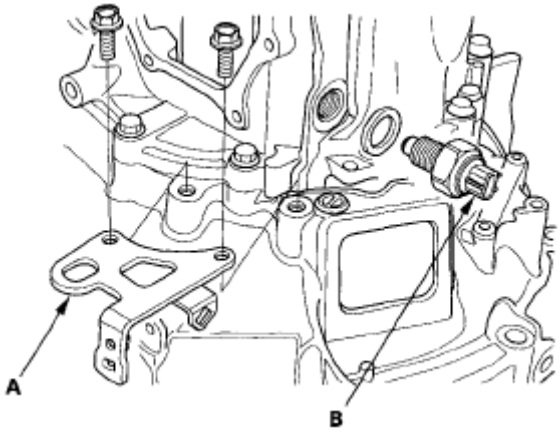



**Fig. 58: Identifying Transmission Hanger And Back-Up Light Switch**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the drain plug (A), filler plug (B) and the output shaft (countershaft) speed sensor (C), then remove the O-ring (D).

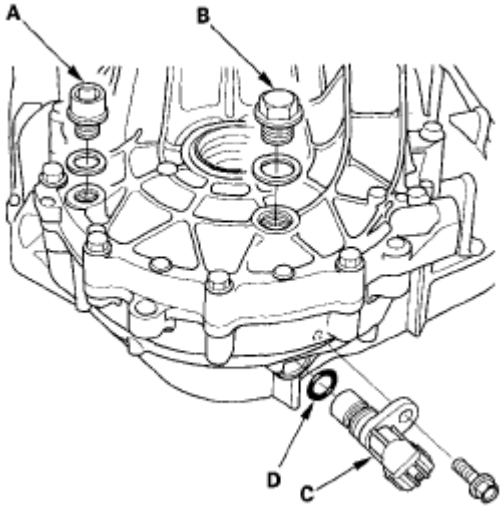



**Fig. 59: Identifying Drain Plug And Filler Plug**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the 8 mm flange bolts in a crisscross pattern in several steps.

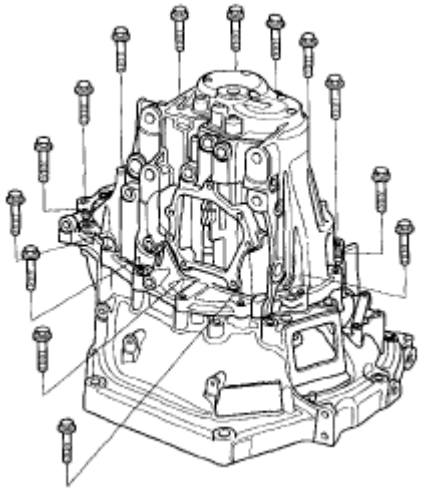


**Fig. 60: Identifying Flange Bolts In Crisscross Pattern**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Remove the 32 mm sealing cap (A). A,

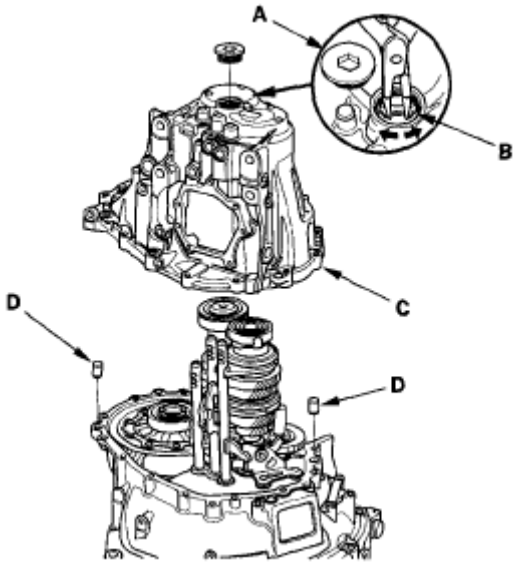



**Fig. 61: Identifying Sealing Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Expand the 69 mm snap ring (B) on the countershaft ball bearing, and remove it from the groove using a pair of snap ring pliers.
10. Remove the transmission housing (C) and the two 14 x 20 mm dowel pins (D).
11. Remove the reverse shift fork.

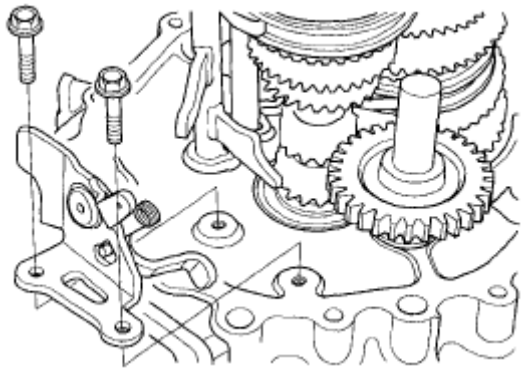


**Fig. 62: Identifying Reverse Shift Fork**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Remove the reverse idler gear (A) and reverse gear shaft (B).

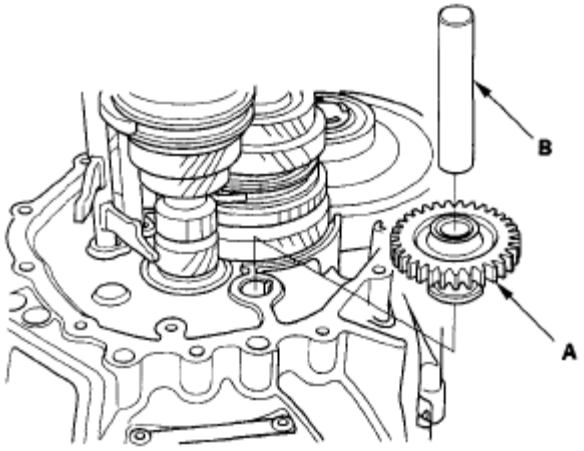



**Fig. 63: Identifying Reverse Idler Gear And Reverse Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Apply tape to the mainshaft splines to protect the seal, then remove the mainshaft assembly (A) and countershaft assembly (B) with the shift forks (C) from the clutch housing (D).

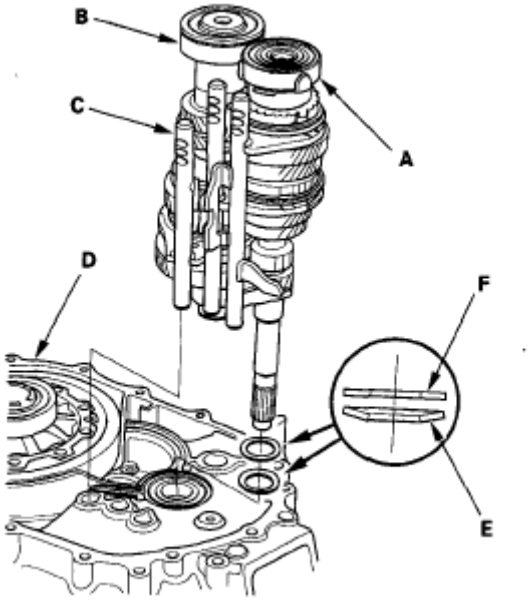



**Fig. 64: Identifying Area For Applying Tape To Mainshaft Splines To Protect Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Remove the 36 mm spring washer (E) and 26 mm washer (F).

15. Remove the differential assembly (A) and magnet (B).

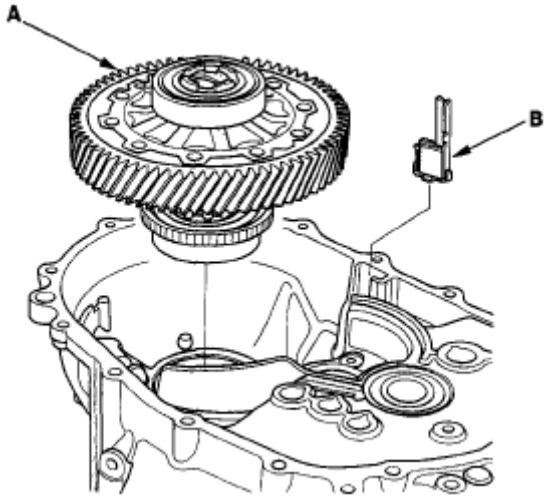



**Fig. 65: Identifying Spring Washer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the oil gutter plate (A), 52 x 62 mm shim (B), and oil guide plate M.

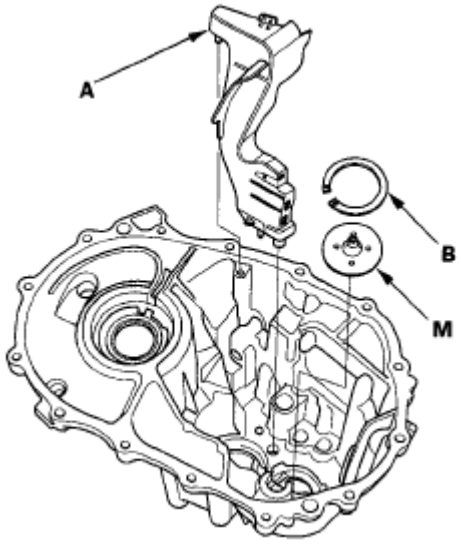



**Fig. 66: Identifying Oil Gutter Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**REVERSE SHIFT FORK CLEARANCE INSPECTION**

1. Measure clearance between the reverse idler gear (A) and the reverse shift fork

(B) with a feeler gauge (C). If the clearance is more than the service limit, go to step 2.

**Standard: 0.20-0.60 mm (0.007-0.024 in.)**

**Service Limit: 1.2 mm (0.047 in.)**

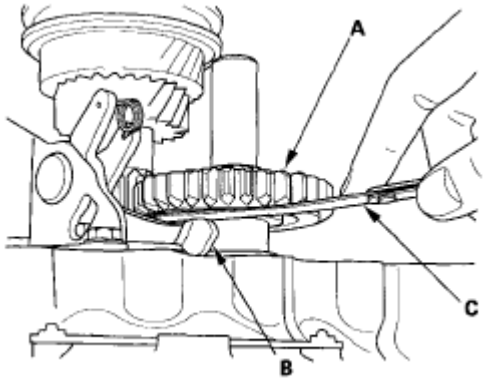



**Fig. 67: Measuring Clearance Between Reverse Idler Gear And Reverse Shift Fork**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure width of the reverse shift fork.
   - If the width is not within the standard, replace the reverse shift fork.
   - If the width is within the standard, replace the reverse idler gear.

**Standard: 14.7-14.9 mm (0.579-0.587 in.)**

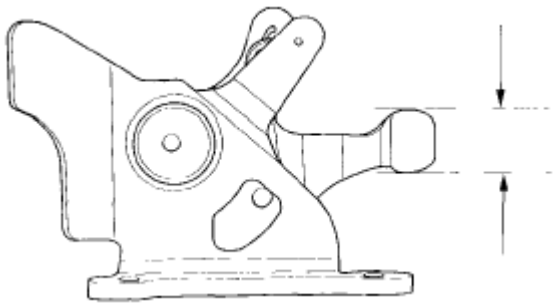


**Fig. 68: Identifying Width Of Reverse Shift Fork**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY**

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**Exploded View**

Prior to reassembling, clean all the parts in solvent, dry them, and apply MTF to any contact surface.

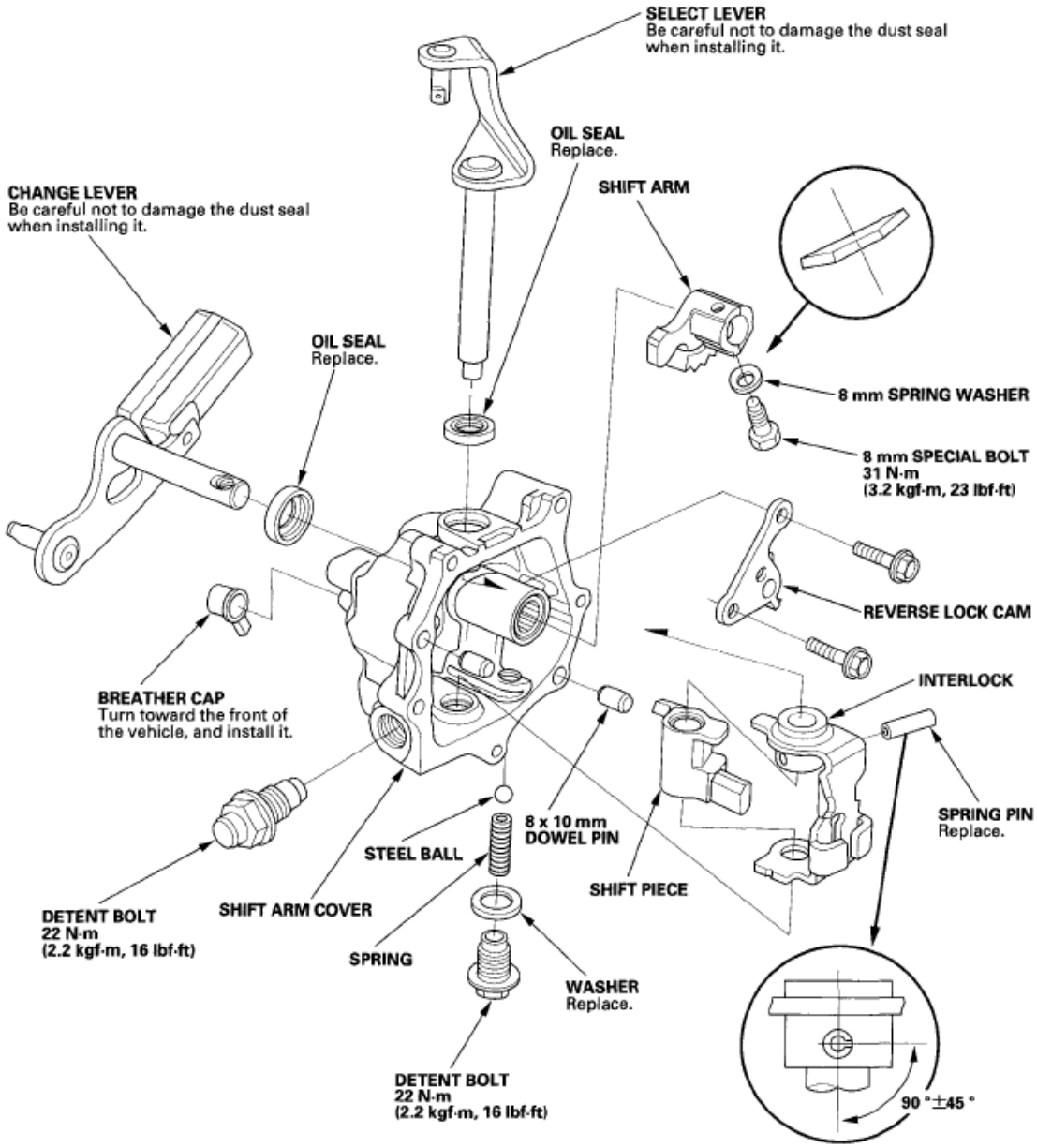



**Fig. 69: Exploded View Of Change Lever Assembly (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Attachment, 24 x 26 mm 07746-0010700
- Driver 07749-0010000

1. Remove the breather cap (A), detent bolt (B), washer (C), spring (D), and steel ball (E). Remove the detent bolt (F).

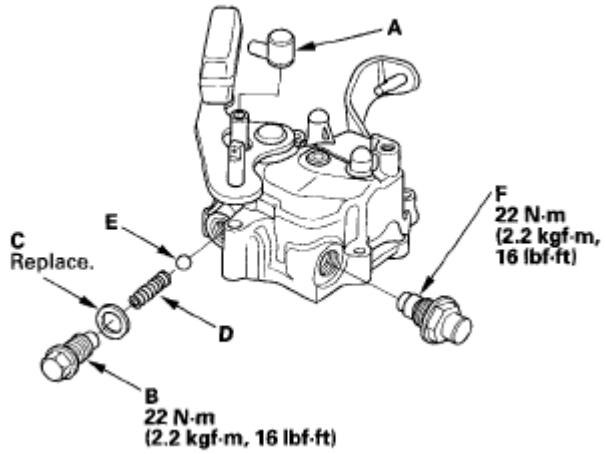



**Fig. 70: Identifying Breather Cap, Detent Bolt And Washer (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the special bolt (A) and spring washer (B).

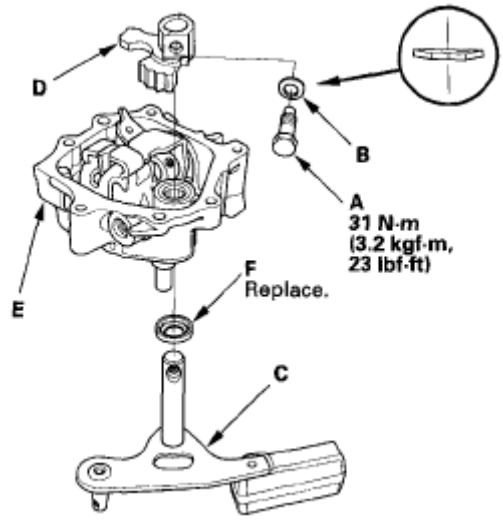



**Fig. 71: Identifying Bolt And Spring Washer (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the shift lever (C) and shift arm (D) from the shift arm cover (E).
4. Remove the oil seal (F).
5. Remove the spring pin (A) from the select lever (B).

**NOTE: Install the spring pin into the interlock with the groove of the spring pin at the angle shown.**

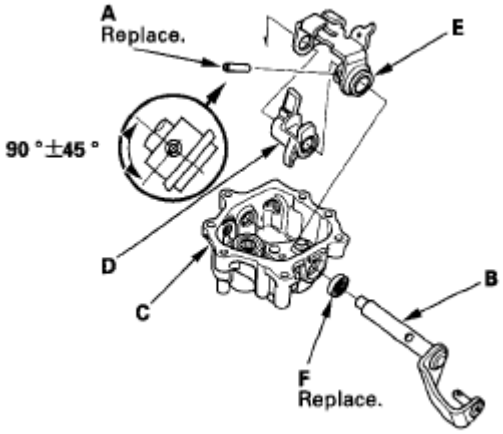



**Fig. 72: Identifying Shift Lever And Shift Arm From Shift Arm Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the select lever from the shift arm cover (C), then remove the shift piece (D) and the interlock (E).
7. Remove the oil seal (F).
8. Remove the reverse lock cam (A).

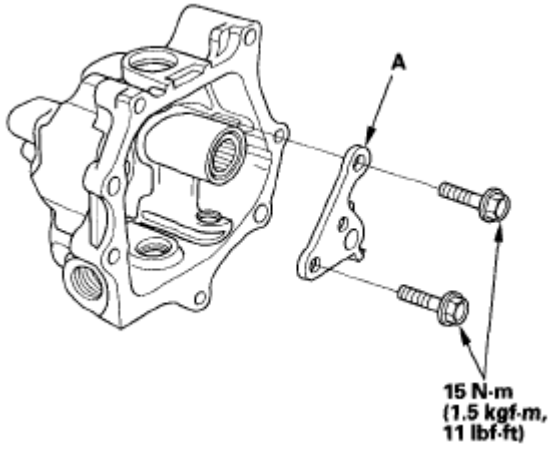


**Fig. 73: Identifying Select Lever From Shift Arm Cover (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install in the reverse order of removal.

**NOTE: Install the oil seal (A) using the attachment, 24 x 26 mm (B) and driver (C).**

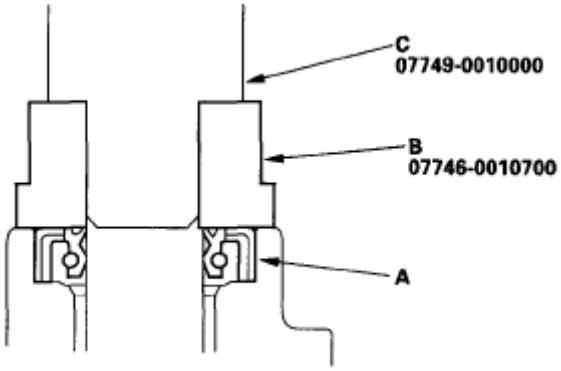



**Fig. 74: Installing Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SHIFT ARM CLEARANCE INSPECTION**

1. Measure clearance between the shift arm (A) and shift piece (B) with a feeler gauge (C). If the clearance exceeds the service limit, go to step 2.

   **Standard: 0.20-0.61 mm (0.008-0.024 in.)**

   **Service Limit: 0.7 mm (0.028 in.)**

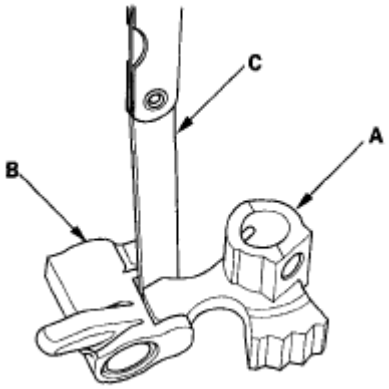



**Fig. 75: Measuring Clearance Between Shift Arm And Shift Piece**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure groove of the shift piece.
   - If the groove is not within the standard, replace the shift piece.
   - If the groove is within the standard, replace the shift arm.

   **Standard: 16.00-16.20 mm (0.630-0.638 in.)**

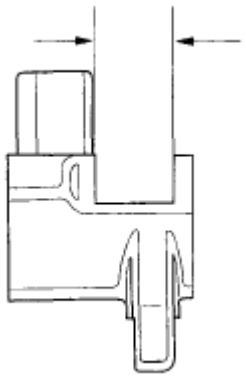


**Fig. 76: Identifying Groove Of Shift Piece**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SHIFT FORK CLEARANCE INSPECTION**

**NOTE: The synchro sleeve and synchro hub should be replaced as a set.**

1. Measure clearance between each shift fork (A) and its matching synchro sleeve (B). If the clearance exceeds the service limit, go to step 2.

**Standard: 0.35-0.65 mm (0.014-0.026 in.)**

**Service Limit: 1.0 mm (0.039 in.)**

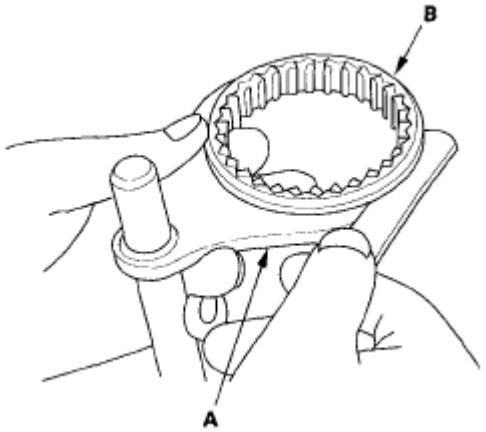



**Fig. 77: Measuring Clearance Between Shift Fork And Matching Synchro Sleeve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure thickness of the shift fork fingers.
   - If the thickness is not within the standard, replace the shift fork.
   - If the thickness is within the standard, replace the synchro sleeve and synchro hub as a set.

**Standard:**

**1st/2nd shift fork: 6.7-6.9 mm (0.26-0.27 in.)**

**3rd/4th, 5th shift fork: 7.4-7.6 mm (0.29-0.30 in.)**

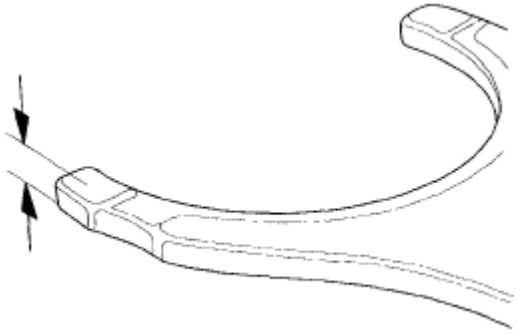


**Fig. 78: Identifying Thickness Of Shift Fork Fingers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Measure clearance between the shift fork (A) and the shift piece (B). If the clearance exceeds the standard, go to step 4.

   **Standard: 0.2-0.5 mm (0.008-0.020 in.)**

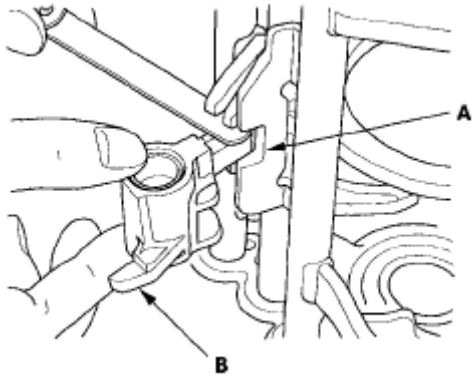



**Fig. 79: Measuring Clearance Between Shift Fork And Shift Piece**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure width of the shift piece.
   - If the width is not within the standard, replace the shift piece.
   - If the width is within the standard, replace the shift fork.

   **Standard: 15.9-16.0 mm (0.626-0.630 in.)**

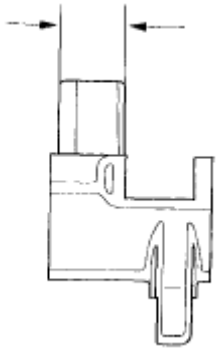


**Fig. 80: Identifying Width Of Shift Piece**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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**SHIFT FORK DISASSEMBLY/REASSEMBLY**

Prior to reassembling, clean all the parts in solvent, dry them, and apply MTF to any contact surfaces.

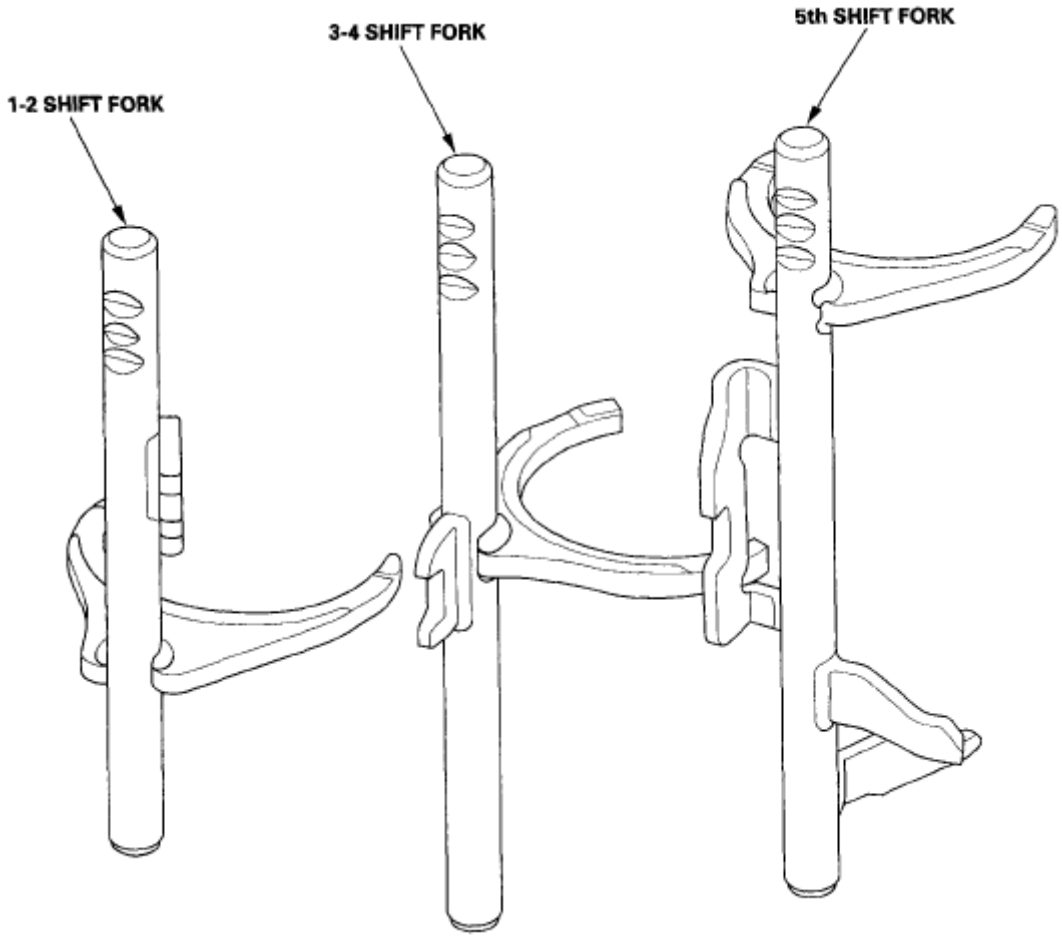



**Fig. 81: Identifying Shift Fork Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT ASSEMBLY CLEARANCE INSPECTION**

**NOTE: If replacement is required, always replace the synchro sleeve and synchro hub as a set.**

1. Support the bearing inner race with an appropriate sized socket (A), and push down on the mainshaft (B).

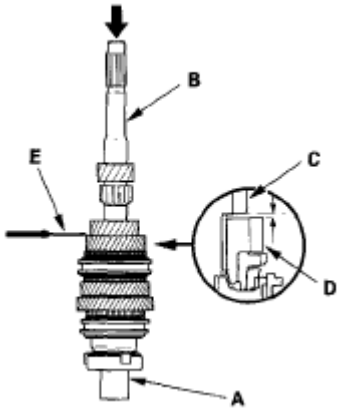



**Fig. 82: Identifying Bearing Inner Race**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure clearance between 2nd gear (C) and 3rd gear (D) with a feeler gauge (E).
   - If the clearance is more than the service limit, go to step 3.
   - If the clearance is within the service limit, go to step 4.

   **Standard: 0.06-0.21 mm (0.002-0.008 in.)**

   **Service Limit: 0.30 mm (0.012 in.)**

3. Measure thickness of 3rd gear.
   - If the thickness is less than the service limit, replace 3rd gear.
   - If the thickness is within the service limit, replace the 3rd/4th synchro hub and 3rd/4th synchro sleeve as a set.

   **Standard: 27.02-27.07 mm (1.064-1.066 in.)**

   **Service Limit: 26.95 mm (1.061 in.)**

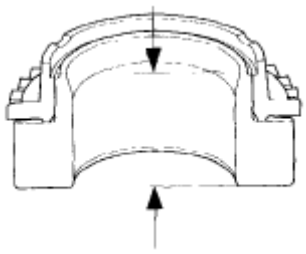


**Fig. 83: Identifying Thickness Of 3rd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure clearance between 4th gear (A) and the distance collar (B) with a dial indicator (C). If the clearance is more than the service limit, go to step 5.

   **Standard: 0.06-0.19 mm (0.002-0.007 in.)**

   **Service Limit: 0.28 mm (0.011 in.)**

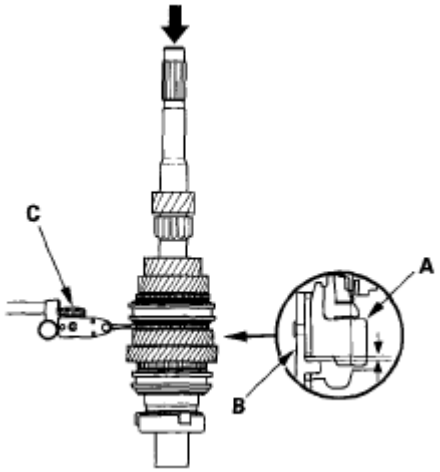



**Fig. 84: Identifying Clearance Between 4th Gear And Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure length (1) of the distance collar as shown
   - If the length (1) is not within the standard, replace the distance collar.
   - If the length (1) is within the standard, go to step 6.

   **Standard: 22.53-22.56 mm (0.887-0.888 in.)**

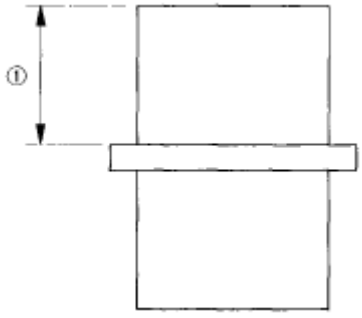


**Fig. 85: Identifying Length Of Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Measure thickness of 4th gear.
   - If the thickness is less than the service limit, replace 4th gear.
   - If the thickness is within the service limit, replace the 3rd/4th synchro hub and 3rd/4th synchro sleeve as a set.

   **Standard: 25.52-25.57 mm (1.005-1.007 in.)**

   **Service Limit: 25.45 mm (1.002 in.)**

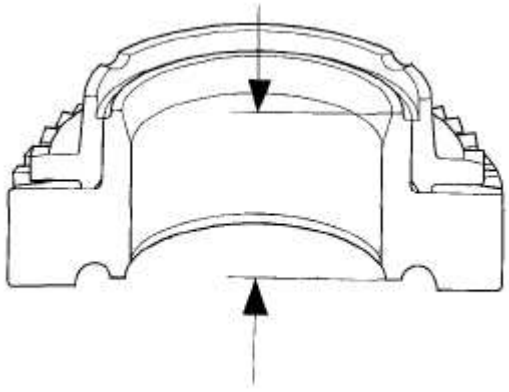


**Fig. 86: Identifying Thickness Of 4th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Measure clearance between the distance collar (A) and 5th gear (B) with a dial indicator (C). If the clearance is more than the service limit, go to step 8.

   **Standard: 0.06-0.14 mm (0.002-0.006 in.)**

   **Service Limit: 0.23 mm (0.009 in.)**

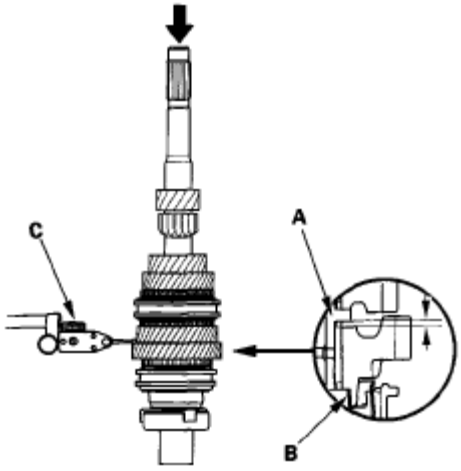



**Fig. 87: Identifying Clearance Between Distance Collar And 5th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure length (1) of the distance collar as shown
   - If the length (1) is not within the standard, replace the distance collar.
   - If the length (2) is within the standard, go to step 9.

   **Standard: 22.53-22.56 mm (0.887-0.888 in.)**

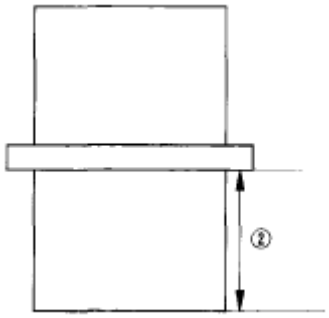



**Fig. 88: Identifying Length Of Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Measure thickness of 5th gear.
   - If the thickness is less than the service limit, replace 5th gear.
   - If the thickness is within the service limit, replace the 5th synchro hub and 5th synchro sleeve as a set.

   **Standard: 22.42-22.47 mm (0.883-0.885 in.)**

**Service Limit: 22.35 mm (0.880 in.)**

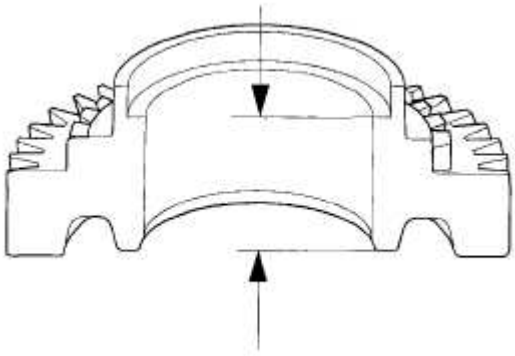


**Fig. 89: Identifying Thickness Of 5th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Measure length of the MBS distance collar.

    If the length is not within the standard, replace the MBS distance collar.

    **Standard: 24.03-24.08 mm (0.946-0.948 in)**

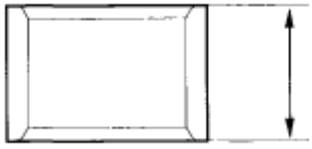


**Fig. 90: Identifying Length Of MBS Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT DISASSEMBLY**

1. Support 5th gear (A) on steel blocks, and press the mainshaft out of the 5th synchro hub (B) and ball bearing (C).

   **NOTE: Do not use a jaw-type puller; it can damage the gear teeth.**

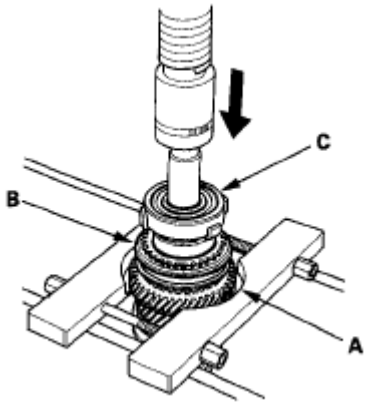



**Fig. 91: Supporting 5th Gear On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Support 3rd gear (A) on steel blocks, and press the mainshaft out of the 3rd/4th synchro hub (B).

**NOTE: Do not use a jaw-type puller; it can damage the gear teeth.**

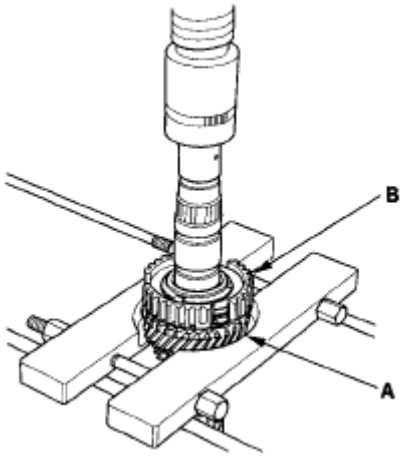



**Fig. 92: Identifying 3rd Gear On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT INSPECTION**

1. Inspect the gear and bearing contact areas for wear and damage, then measure the mainshaft at points A, B, C, D, and E. If any part of the mainshaft is less than the service limit, replace it.

**Standard:**

A. **Ball Bearing Contact Area (Transmission Housing Side): 24.987-25.000 mm (0.9837-0.9843 in.)**
B. **Distance Collar Contact Area: 28.992-29.005 mm (1.1414-1.1419 in.)**
C. **Needle Bearing Contact Area: 34.984-35.000 mm (1.3773-1.3780 in.)**
D. **Ball Bearing Contact Area (Clutch Housing Side): 25.977-25.990 mm (1.0227-1.0232 in.)**
E. **Bushing Contact Area: 18.800-18.850 mm (0.7402-0.7421 in.)**

**Service Limit:**

A. **24.93 mm (0.981 in.)**
B. **28.93 mm (1.139 in.)**
C. **34.93 mm (1.375 in.)**
D. **25.92 mm (1.020 in.)**
E. **18.75 mm (0.738 in.)**

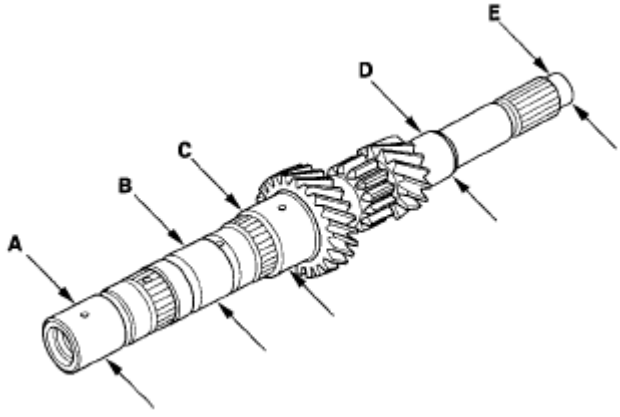
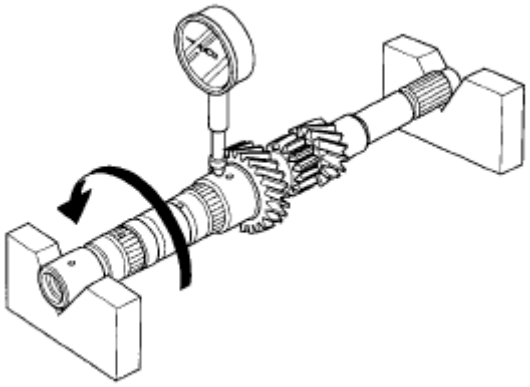



**Fig. 93: Identifying Main Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the runout by supporting both ends of the mainshaft. Rotate the mainshaft two complete turns while measuring with a dial gauge. If the runout is more than the service limit, replace the mainshaft.

**Standard: 0.02 mm (0.001 in.) max.**

## Service Limit: 0.05 mm (0.002 in.)



## Fig. 94: Identifying Mainshaft Runout
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**MAINSHAFT REASSEMBLY**

**Exploded View**

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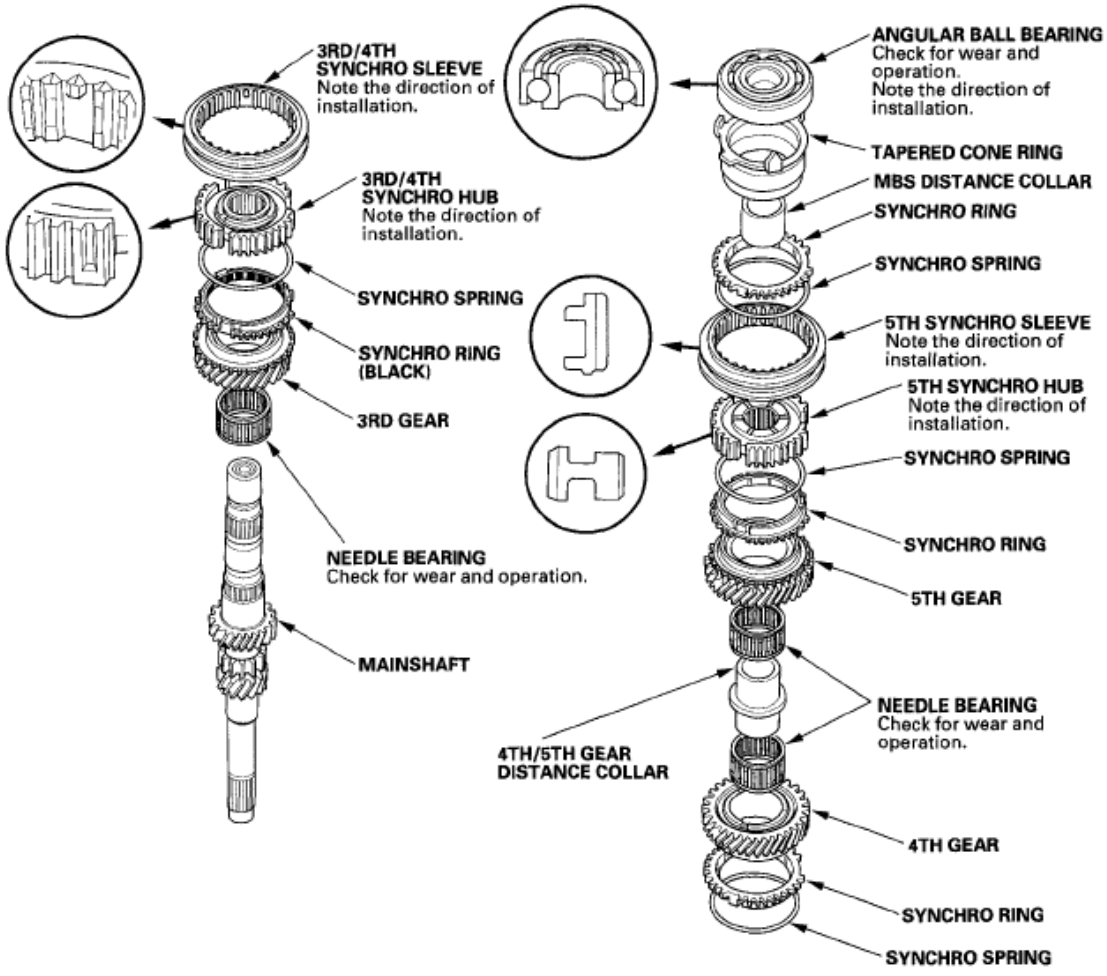



**Fig. 95: Exploded View Of Mainshaft Reassembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Driver, 40 mm I.D. 07746-0030100
- Attachment, 30 mm I.D. 07746-0030300

**NOTE: Refer to the Exploded View, as needed, during this procedure.**

1. Clean all the parts in solvent, dry them, and apply MTF to all contact surfaces except the 3rd/4th and 5th synchro hubs.
2. Install the needle bearing and 3rd gear on the mainshaft.

3. Install the 3rd gear synchro ring and synchro spring on the shaft.

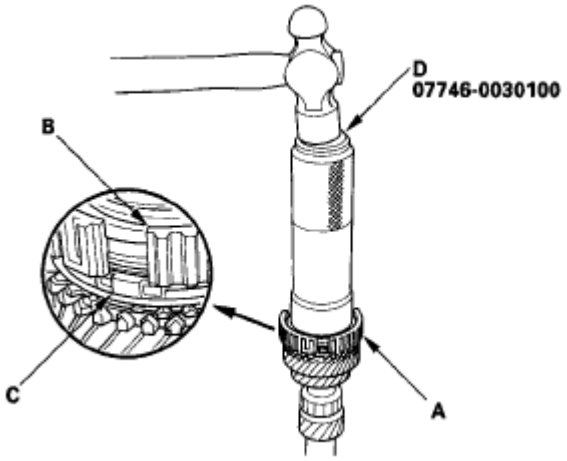



**Fig. 96: Installing 3rd Gear Synchro Ring And Synchro Spring On Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the 3rd/4th synchro hub (A) by aligning the synchro ring fingers (B) with the grooves in the 3rd/4th synchro hub (C).
5. Install the 3rd/4th synchro hub using the 40 mm I.D. driver (D).
6. Install the 3rd/4th synchro sleeve (A) by aligning the stops (B) of the 3rd/4th synchro sleeve and 3rd/4th synchro hub. After installing, check the operation of the 3rd/4th synchro hub set.

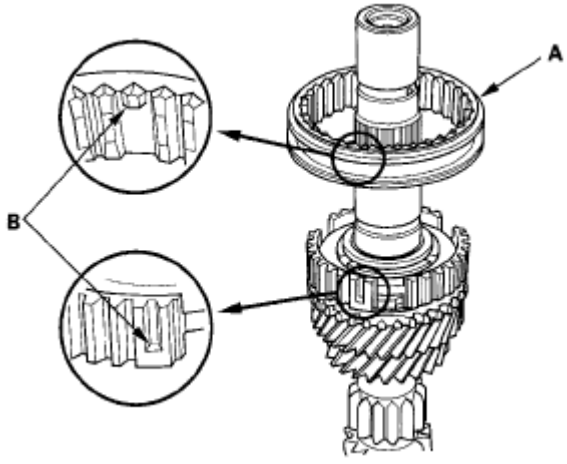



**Fig. 97: Locating 3rd/4th Synchro Sleeve By Aligning Stops**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the 4th gear synchro spring and synchro ring, 4th gear and needle bearing, the 4th/5th gear distance collar, and 5th gear and its needle bearing on the shaft.
8. Install the 5th gear synchro ring and synchro spring on the shaft.
9. Install the 5th synchro hub (A) using the 40 mm I.D. driver (B).

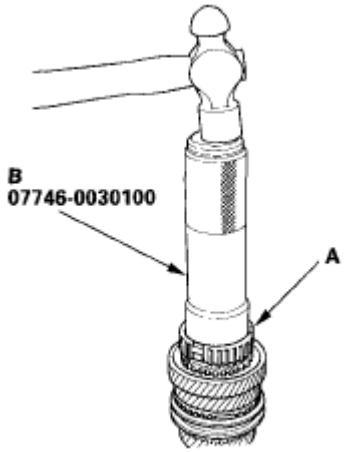



**Fig. 98: Installing 5th Synchro Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the 5th synchro sleeve.
11. Install the MBS distance collar and the tapered cone ring.
12. Install the new angular ball bearing (A) using 40 mm I.D. driver (B) and 30 mm I.D. attachment (C).

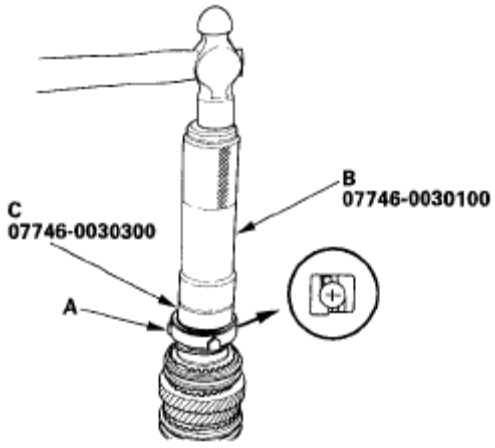



**Fig. 99: Installing Angular Ball Bearing**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT ASSEMBLY CLEARANCE INSPECTION**

1. Measure clearance between 1st gear (A) and the distance collar (B) with a feeler gauge (C). If the clearance is more than the service limit, go to step 2.

   **Standard: 0.06-0.21 mm (0.002-0.008 in.)**

   **Service Limit: 0.25 mm (0.010 in.)**

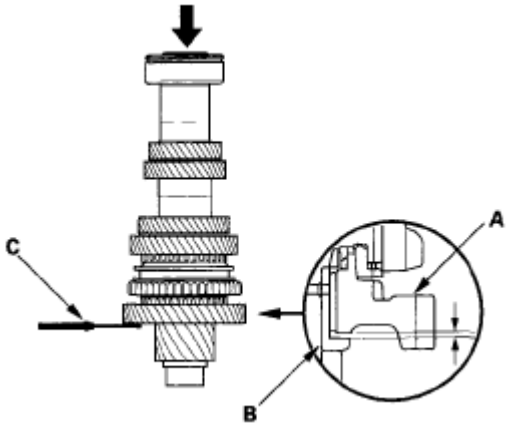



**Fig. 100: Measuring Clearance Between 1st Gear And Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure length of the distance collar as shown.
   - If the length is not within than the standard, replace the distance collar.
   - If the length is within the standard, go to step 3.

   **Standard: 21.53-21.58 mm (0.843-0.849 in.)**

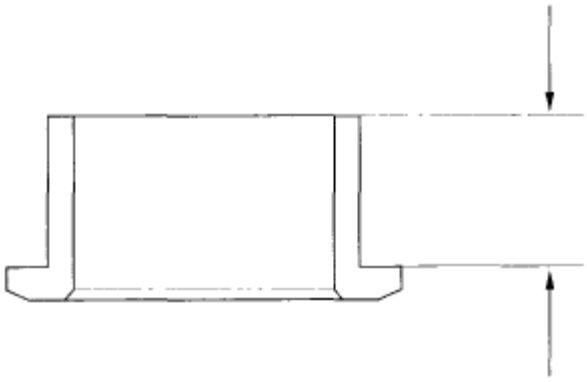


**Fig. 101: Identifying Length Of Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Measure thickness of 1st gear.
   - If the thickness is less than the service limit, replace 1st gear.
   - If the thickness is within the service limit, replace the 1st/2nd synchro hub and reverse gear as a set.

   **Standard: 27.42-27.47 mm (1.080-1.081 in.)**

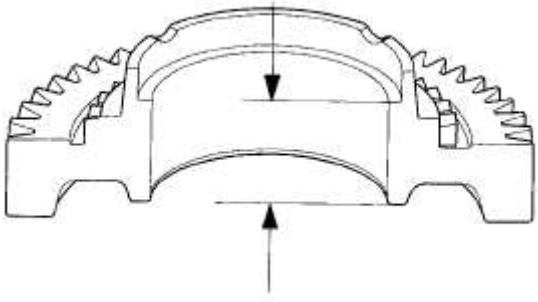


**Fig. 102: Identifying Thickness Of 1st Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure clearance between 2nd gear (A) and 3rd gear (B) with a feeler gauge (C). If the clearance is more than the service limit, go to step 5.

   **Standard: 0.06-0.14 mm (0.02-0.006 in.)**

   **Service Limit: 0.23 mm (0.009 in.)**

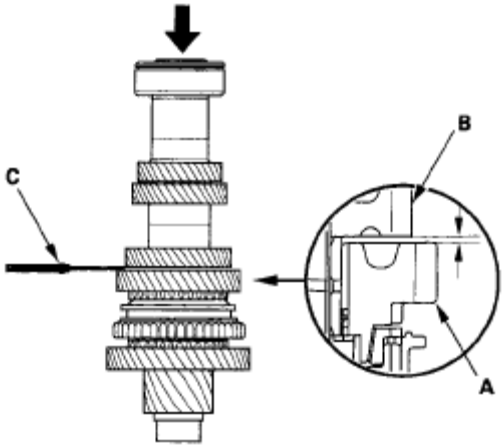



**Fig. 103: Measuring Clearance Between 2nd Gear And 3rd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure length of the distance collar.
   - If the length is not within the standard, replace the distance collar.
   - If the length is within the standard, go to step 6.

   **Standard: 26.53-26.56 mm (1.044-1.046 in.)**

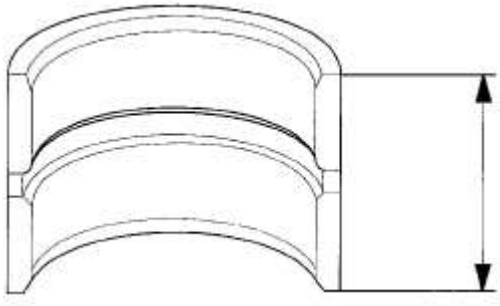


**Fig. 104: Identifying Length Of Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Measure thickness 2nd gear.
   - If the thickness is less than the service limit, replace 2nd gear.
   - If the thickness is within the service limit, replace the 1st/2nd synchro hub and reverse gear as a set.

   **Standard: 26.42-26.47 mm (1.040-1.042 in.)**

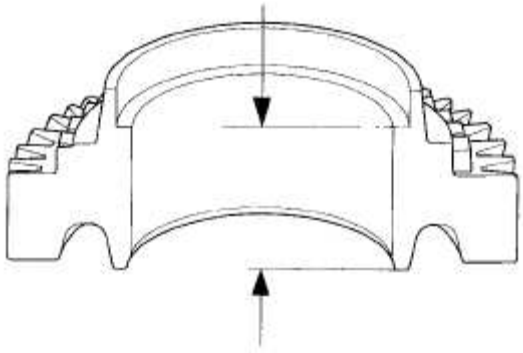


**Fig. 105: Identifying Thickness 2nd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT DISASSEMBLY**

1. Securely clamp the countershaft assembly in a bench vise with wood blocks.

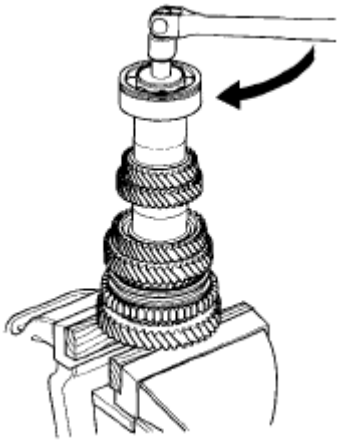


**Fig. 106: Clamping Countershaft Assembly In Bench Vise**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the special bolt (left-hand threads).
3. Support ball bearing (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft out of the ball bearing.

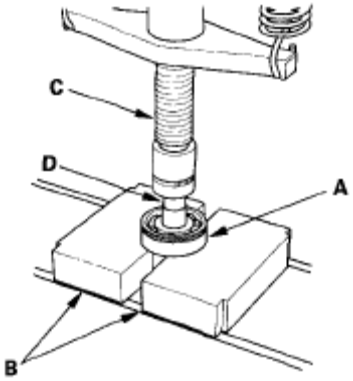



**Fig. 107: Supporting Ball Bearing On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the 32 mm shim and distance collar.
5. Support 4th gear (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft (E) out of 5th gear.

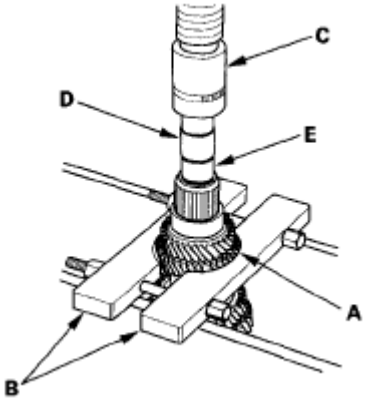



**Fig. 108: Supporting 4th Gear On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Support 2nd gear (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft (E) out of 3rd gear.

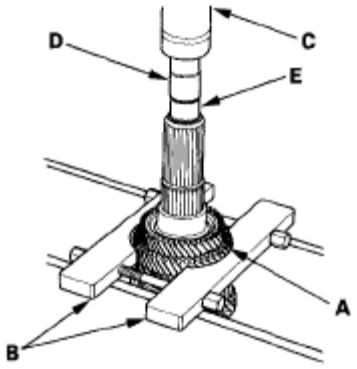



**Fig. 109: Supporting 2nd Gear On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Support 1st gear (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft (E) out of the 1st/2nd synchro hub.

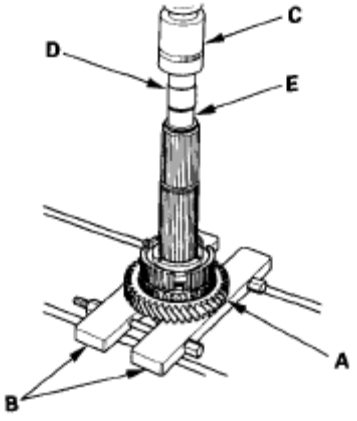



**Fig. 110: Supporting 1st Gear On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT INSPECTION**

1. Inspect the gear and bearing contact areas for wear and damage, then measure countershaft at points A, B, and C. If any part of the countershaft is less than the service limit, replace it.

   **Standard:**

   A. **Ball Bearing Contact Area (Transmission Housing Side): 26.020-26.033 mm (1.0244-1.0249 in.)**

B. **Distance Collar Contact Area: 38.987-39.000 mm (1.5349-1.5354 in.)**
C. **Needle Bearing Contact Area (Clutch Housing Side): 34.000-34.015 mm (1.3386-1.3392 in.)**

**Service Limit:**

A. **25.97 mm (1.022 in.)**
B. **38.94 mm (1.533 in.)**
C. **33.95 mm (1.337 in.)**

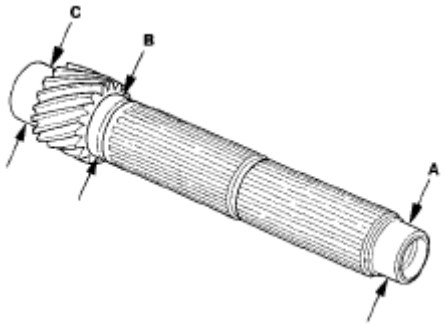
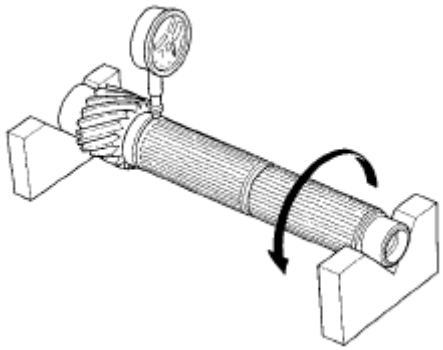



**Fig. 111: Identifying Countershaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the runout by supporting both ends of the countershaft. Rotate the countershaft two complete turns while measuring with a dial gauge. If the runout is more than the service limit, replace the countershaft.

**Standard: 0.02 mm (0.001 in.). max**

**Service Limit: 0.05 mm (0.002 in.)**



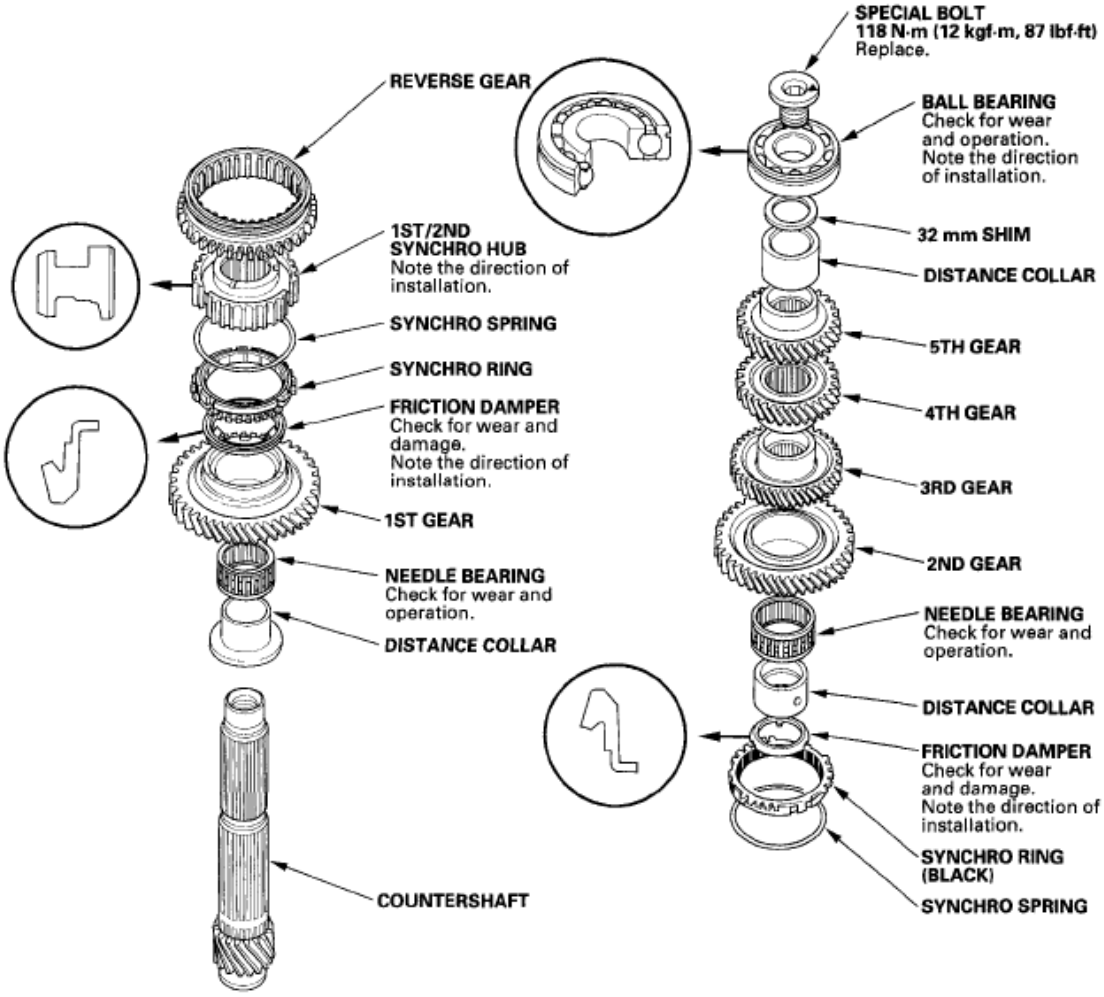
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## Fig. 112: Checking Countershaft Runout
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**COUNTERSHAFT REASSEMBLY**

**Exploded View**




## Fig. 113: Exploded View Of Countershaft Assembly (With Torque Specifications)
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

## Special Tools Required

- Driver, 40 mm I.D. 07746-0030100
- Attachment, 30 mm I.D. 07746-0030300

**NOTE: Refer to the Exploded View, as needed, during this procedure.**

1. Clean all parts in solvent, dry them, and apply MTF to all contact surfaces.
2. Install the distance collar and the needle bearing onto the countershaft.
3. Install the 1st gear synchro ring (A), synchro spring (B) and the friction damper (C) on the 1st/2nd synchro hub (D).

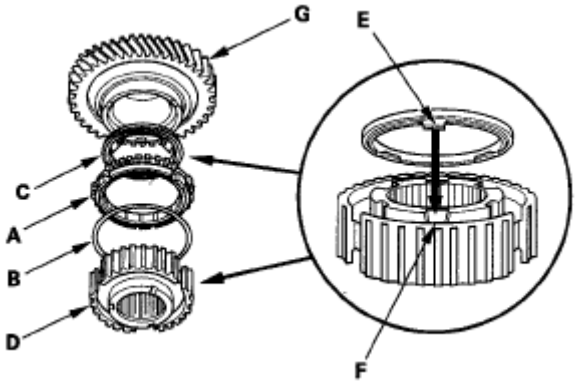



**Fig. 114: Installing 1st Gear Synchro Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Align the fingers (E) on the friction damper with the grooves (F) on the 1st/2nd synchro hub, then install the 1st gear (G) onto the 1st/2nd synchro hub.
5. Supporting by hand, turn the 1st/2nd synchro hub side upward, then install the 1st/2nd synchro hub with 1st gear on to the counter shaft.
6. Support the countershaft (A) on steel blocks, then install the 1st/2nd synchro hub (B) with 1st gear (C) using the 40 mm I.D. driver (D), 30 mm I.D. attachment (E), and a press (F).

**NOTE: Do not exceed the maximum pressure.**

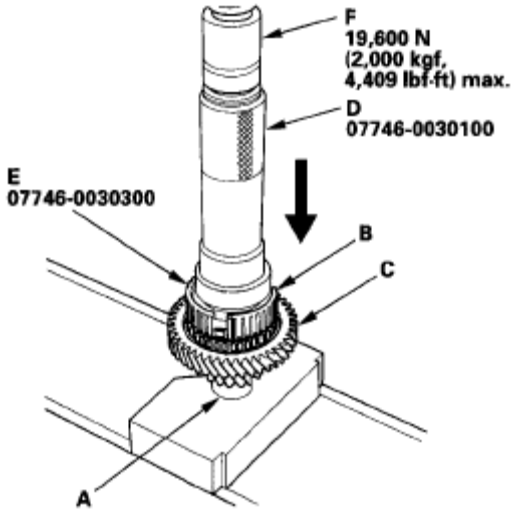



**Fig. 115: Supporting Countershaft On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install reverse gear, the synchro spring, and the synchro ring on the shaft.
8. Install the distance collar (A) and friction damper (B), by aligning the friction damper fingers (C) with the 1st/2nd synchro hub grooves (D).

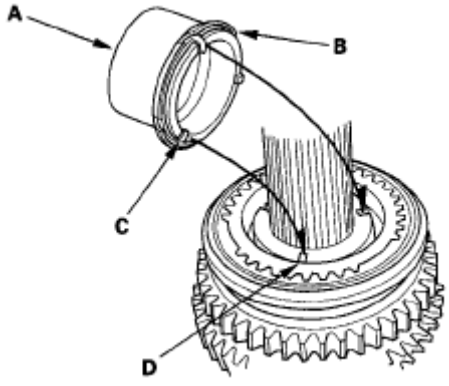



**Fig. 116: Identifying Distance Collar And Friction Damper**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install the needle bearing and 2nd gear.
10. Support the countershaft (A) on steel blocks, then install 3rd gear (B) using the 40 mm I.D. driver (C) and a press (D).

**NOTE: Do not exceed the maximum pressure.**

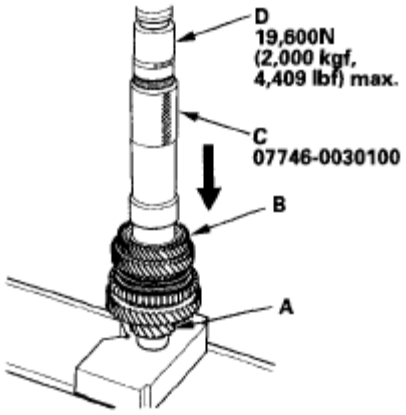



**Fig. 117: Supporting Countershaft On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Install 4th gear (A) using the 40 mm I.D. driver (B) and a press (C).

**NOTE: Do not exceed the maximum pressure.**

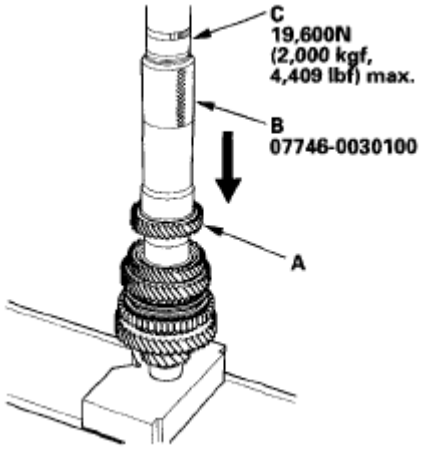



**Fig. 118: Installing 4th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Install 5th gear (A) using the 40 mm I.D. driver (B) and a press (C).

**NOTE: Do not exceed the maximum pressure.**

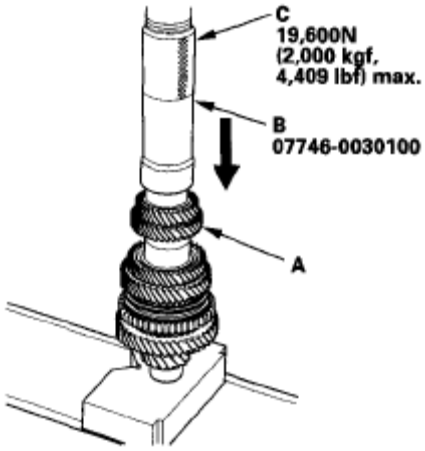



**Fig. 119: Installing 5th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the distance collar.
14. Install the 32 mm shim and the old ball bearing (A) using the 40 mm I.D. driver (B), 30 mm I.D. attachment (C), and a press.

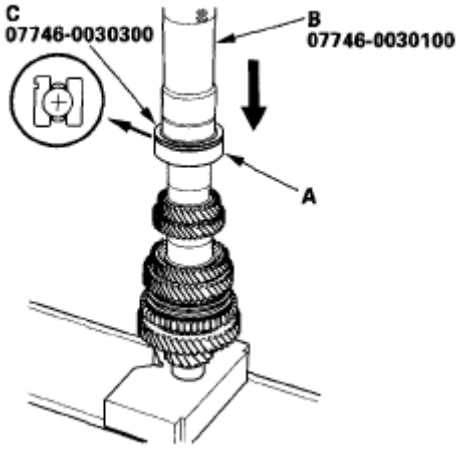



**Fig. 120: Installing Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Measure clearance between the old bearing (A) and the 32 mm shim (B) with a feeler gauge (C).

**Standard: 0.04-0.10 mm (0.0016-0.0039 in.)**

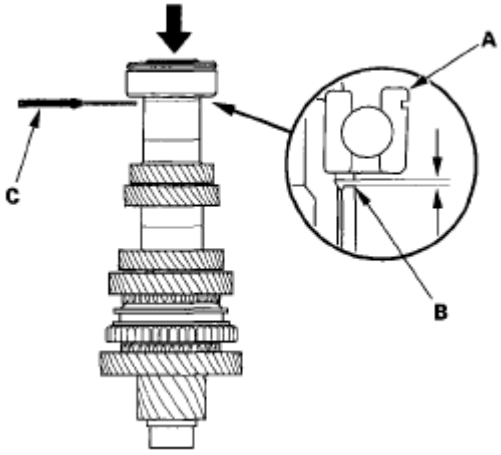



**Fig. 121: Measuring Clearance Between Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. If the clearance is more than the standard, select a new shim from the following table. If the clearance measured in step 15 is within the standard, replace only the new ball bearing.

**SHIM SPECIFICATION 32 MM**

| | Part Number | Thickness |
|---|---|---|
| A | 23971-RPF-000 | 1.56 mm (0.061 in.) |
| B | 23972-RPF-000 | 1.60 mm (0.063 in.) |
| C | 23973-RPF-000 | 1.64 mm (0.065 in.) |
| D | 23974-RPF-000 | 1.68 mm (0.066 in.) |
| E | 23975-RPF-000 | 1.72 mm (0.068 in.) |
| F | 23976-RPF-000 | 1.76 mm (0.069 in.) |
| G | 23977-RPF-000 | 1.80 mm (0.071 in.) |
| H | 23978-RPF-000 | 1.84 mm (0.072 in.) |
| J | 23979-RPF-000 | 1.88 mm (0.074 in.) |
| K | 23980-RPF-000 | 1.92 mm (0.076 in.) |
| L | 23981 -RPF-000 | 1.96 mm (0.077 in.) |
| M | 23982-RPF-000 | 2.00 mm (0.079 in.) |
| N | 23983-RPF-000 | 2.04 mm (0.080 in.) |
| P | 23984-RPF-000 | 2.08 mm (0.082 in.) |
| Q | 23985-RPF-000 | 2.12 mm (0.083 in.) |

| | | |
|---|---|---|
| R | 23986-RPF-000 | 2.16 mm (0.085 in.) |
| S | 23987-RPF-000 | 2.20 mm (0.087 in.) |
| T | 23988-RPF-000 | 2.24 mm (0.088 in.) |
| U | 23989-RPF-000 | 2.28 mm (0.090 in.) |
| V | 23990-RPF-000 | 2.32 mm (0.091 in.) |

17. Support ball bearing (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft out of the ball bearing.

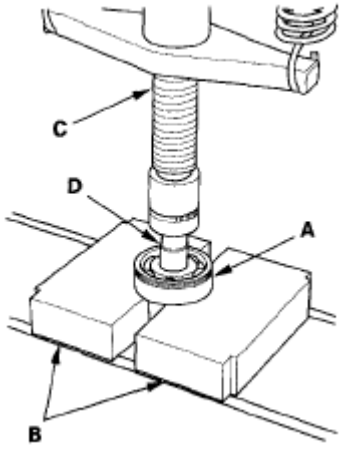



**Fig. 122: Supporting Ball Bearing On Steel Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. If necessary, install the 32 mm shim selected in step 16.
19. Install the new ball bearing (A) using the 40 mm I.D. driver (B), 30 mm I.D. attachment (C), and a press, then recheck the clearance.

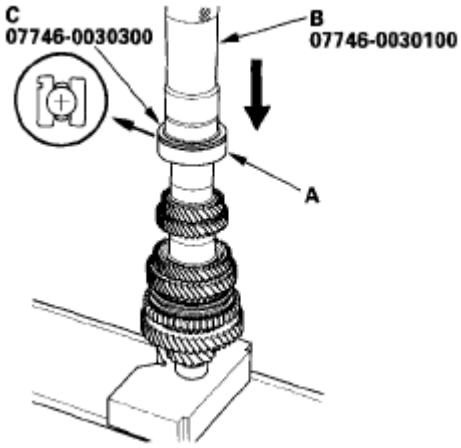



**Fig. 123: Installing Ball Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Securely clamp the countershaft assembly in a bench vise with wood blocks (A).

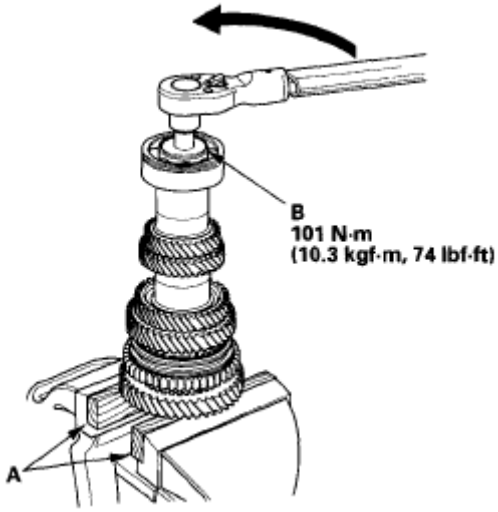



**Fig. 124: Securing Clamp Countershaft Assembly In Bench Vise (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Tighten the new special bolt (B) (left-hand threads).

**SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY**

1. Inspect gear teeth on all synchro hubs and synchro sleeves for rounded off

corners, which indicate wear.

2. Install each synchro hub (A) in its mating synchro sleeve (B), and check for free movement. Make sure to match the three sets of longer teeth (C) (120 degrees apart) on the synchro sleeve with the three sets of deeper grooves (D) in the synchro hub.

**NOTE:**

- **Do not install the synchro sleeve with its longer teeth in the synchro hub slots (E) because it will damage the spring ring.**
- **If replacement is required, always replace the synchro sleeve and synchro hub as a set.**

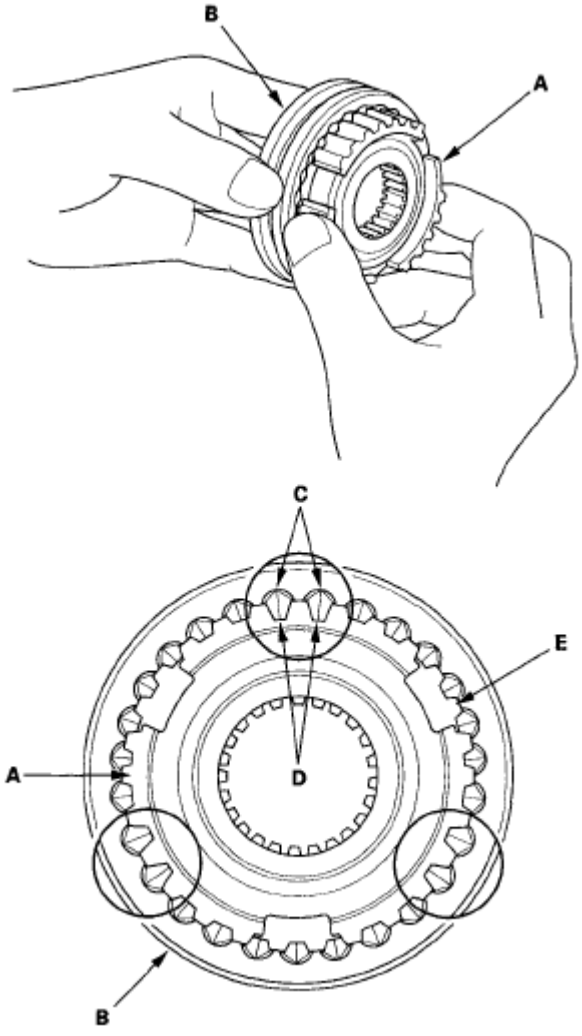
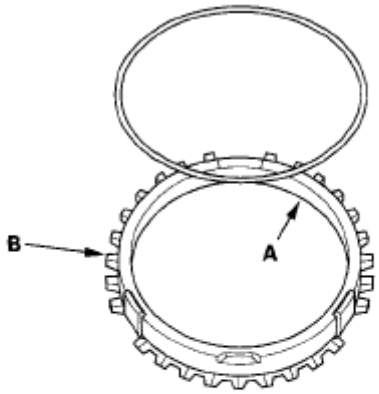



**Fig. 125: Inspecting Gear Teeth On Synchro Hubs And Synchro Sleeves**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SYNCHRO RING AND GEAR INSPECTION**

1. Inspect the inside of each synchro ring (A) for wear. Inspect the teeth (B) on each synchro ring for wear (rounded off).

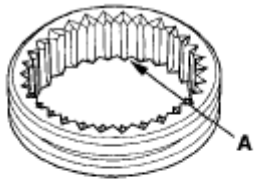



Example of synchro ring teeth




**Fig. 126: Locating Synchro Ring Teeth**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the teeth (A) on each synchro sleeve and matching teeth on each gear for wear (rounded off).




Example of synchro sleeve teeth and gear teeth

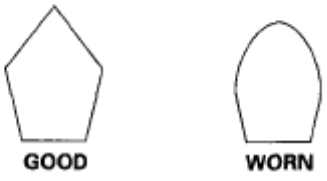


**Fig. 127: Locating Synchro Sleeve And Matching Teeth**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Inspect the thrust surface (A) on each gear hub for wear.

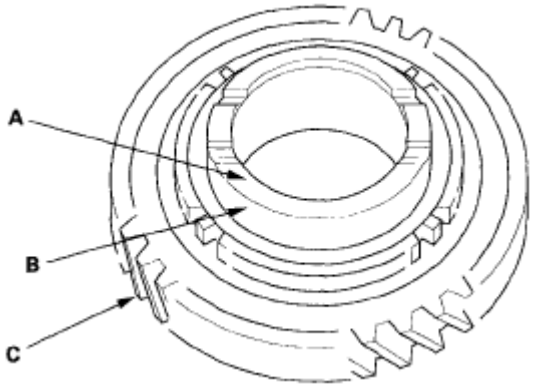



**Fig. 128: Locating Thrust Surface On Gear Hub For Wear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Inspect the cone surface (B) on each gear hub for wear and roughness.
5. Inspect the teeth on all gears (C) for uneven wear, scoring, and cracks.
6. Coat the cone surface of each gear with MTF, and place its synchro ring on it. Rotate the synchro ring, making sure that it does not slip.
7. Measure clearance between each gear (A) and its synchro ring (B) all around the gear. Hold the synchro ring against the gear evenly while measuring clearance. If the clearance is less than the service limit, replace the synchro ring and gear.

**Synchro Ring-to-Gear Clearance**

**Standard: 0.655-1.334 mm (0.026-0.053 in.)**

**Service Limit: 0.4 mm (0.016 in.)**

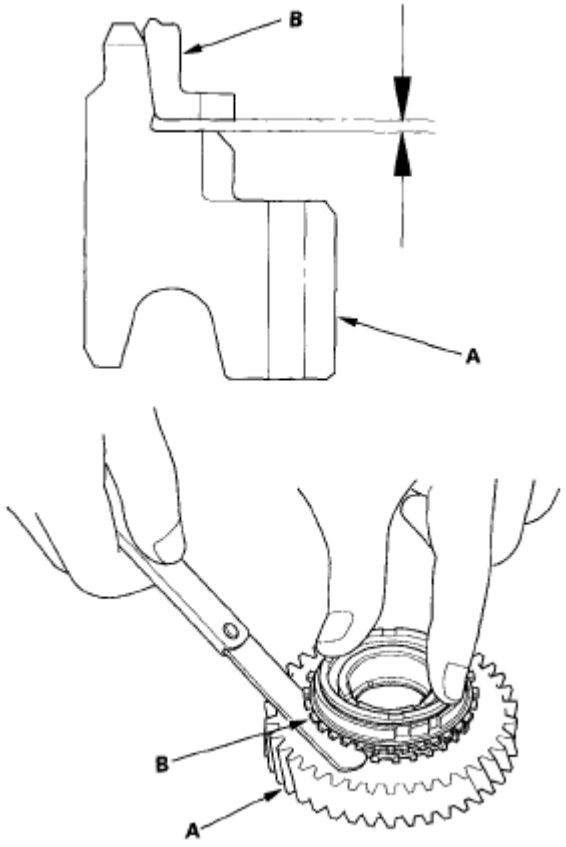



**Fig. 129: Measuring Clearance Between Gear And Synchro Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT BEARING AND OIL SEAL REPLACEMENT**

## Special Tools Required

- Oil seal driver 07JAD-PL90100
- Adjustable bearing puller, 20-40 mm 07736-A01000B
- Attachment, 42x47 mm 07746-0010300
- Driver 07749-0010000
- Slide hammer, 3/8-16 UNF commercially available

1. Remove the ball bearing (A) from the clutch housing (B) using the 20-40 mm adjustable bearing puller (C) and a commercially available 3/8"-16 UNF slide hammer (D).

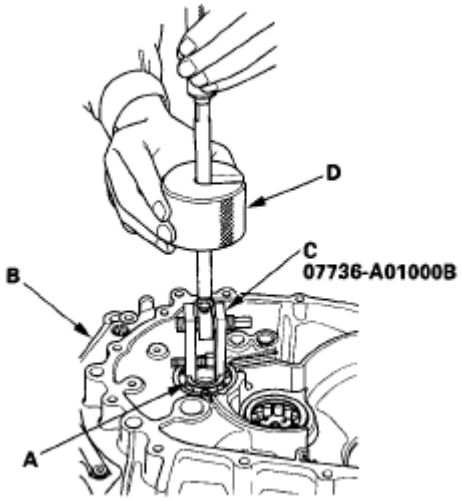



**Fig. 130: Removing Ball Bearing From Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the oil seal (A) from the clutch side. Be careful when removing the oil seal so the clutch housing is not damaged.

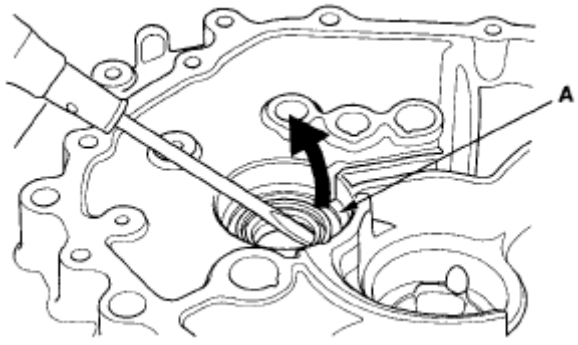



**Fig. 131: Locating Oil Seal From Clutch Side**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Drive in the new oil seal from the transmission side using the drive (A) and 42 x 47 mm attachment (B).

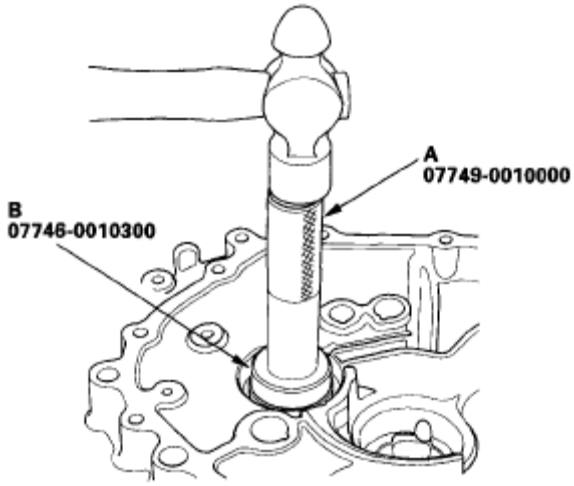



**Fig. 132: Driving Oil Seal From Transmission Side**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Drive in the new ball bearing from the transmission side using the oil seal driver (A).

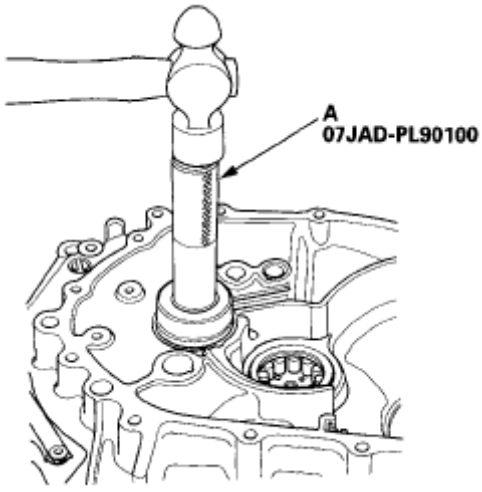



**Fig. 133: Driving Ball Bearing From Transmission Side**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT BEARING REPLACEMENT**

## Special Tools Required

- Oil seal driver 07JAD-PL90100
- Adjustable bearing puller, 20-40 mm 07736-A01000B

- Slide hammer, 3/8"-16 UNF commercially available

1. Remove the needle bearing (A) using the 20-40 mm adjustable bearing puller (B) and a commercially available 3/8"-16 UNF slide hammer (D), then remove oil guide plate C.

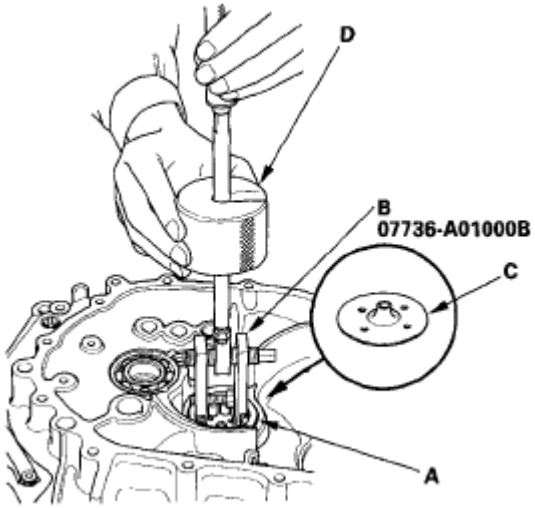



**Fig. 134: Removing Needle Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Position oil guide plate C and new needle bearing (A) in the bore of the clutch housing (B).

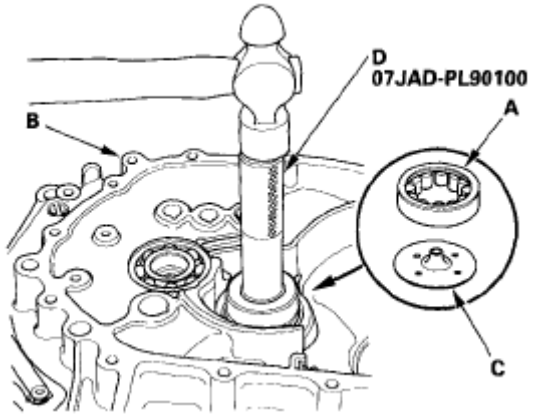



**Fig. 135: Installing Needle Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the needle bearing using the oil seal driver (D).

**MAINSHAFT THRUST CLEARANCE ADJUSTMENT**

## Special Tools Required

- Mainshaft holder 07GAJ-PG20110
- Mainshaft base 07GAJ-PG20130

1. Remove the 52 x 62 mm shim (A) and oil guide plate M from the transmission housing (B).

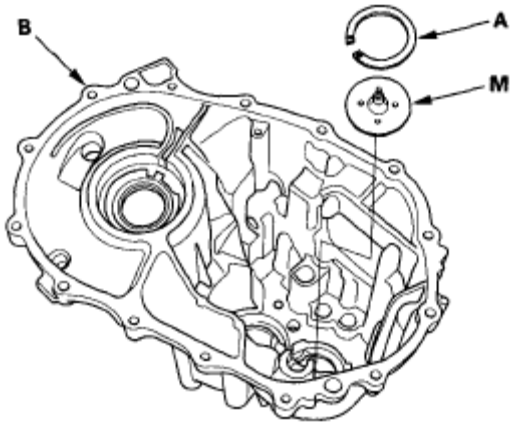



**Fig. 136: Identifying Shim And Oil Guide Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Thoroughly clean the 36 mm spring washer (A) and 26 mm washer (B) before installing them on the clutch housing side ball bearing (C). Note the installation direction of the spring washer.

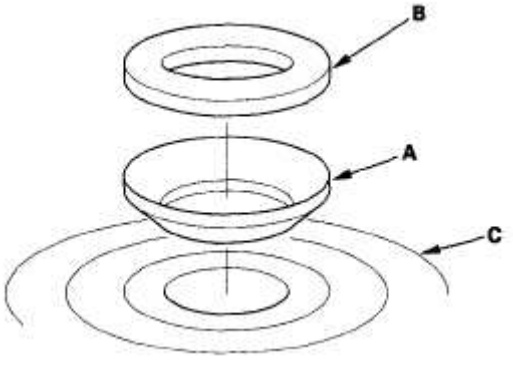


**Fig. 137: Identifying Spring Washer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the 3rd/4th synchro hub, the 4th/5th gear distance collar, the 5th synchro hub, the MBS distance collar, and angular ball bearing on the mainshaft.

**NOTE: Refer to the MAINSHAFT REASSEMBLY EXPLODED VIEW .**

4. Install the mainshaft in the clutch housing.
5. Place the transmission housing over the mainshaft and onto the clutch housing.
6. Tighten the clutch and transmission housings with several 8 mm bolts.

**NOTE: It is not necessary to use sealing agent between the housings for this procedure.**

7. Lightly tap on the mainshaft with a plastic hammer.
8. Attach the mainshaft holder (A) and mainshaft base (B) to the mainshaft as follows:
   - Backout the mainshaft holder bolt (C), and loosen the two hex bolts (D).
   - Fit the holder over the mainshaft so its lip is toward the transmission.
   - Align the mainshaft holder lip around the groove at the inside of the mainshaft splines, then tighten the hex bolts.

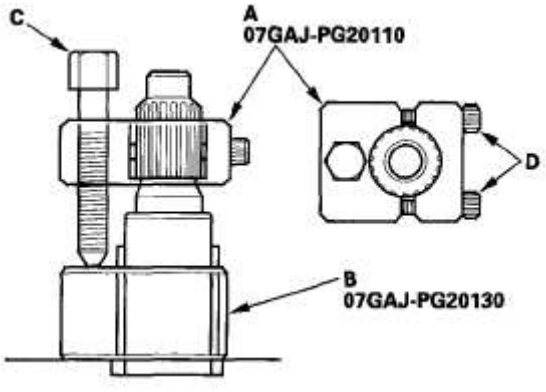



**Fig. 138: Identifying Mainshaft Holder And Mainshaft Base**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Fully seat the mainshaft by tapping its end with a plastic hammer.
10. Thread the mainshaft holder bolt in until it just contacts the wide surface of the mainshaft base.
11. Zero a dial gauge (A) on the end of the mainshaft.

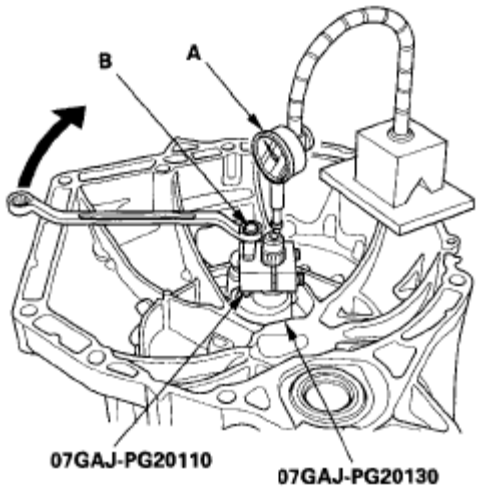



**Fig. 139: Identifying Dial Gauge On End Of Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Turn the mainshaft holder bolt (B) clockwise; stop turning when the dial gauge has reached its maximum movement. The reading on the dial gauge is the amount of mainshaft thrust clearance.

**NOTE: Do not turn the mainshaft holder bolt more than 60 degrees after the needle of the dial gauge stops moving. Applying more pressure with the mainshaft holder bolt could damage the transmission.**

13. If the reading is with in the standard, the clearance is correct. If the reading is not within the standard, select the appropriate shim needed from the table, and recheck the thrust clearance.

**Standard: 0.11-0.18 mm (0.004-0.007 in.)**

**(Example)**

http://ReadManuals.com



**Measure reading: 1.93 mm (0.0759 in.)**

Subtract the total clearance measurement from the middle of the clearance standard 0.14 mm (0.0055 in.)

**1.93 - 0.14 = 1.79 mm (0.0705 in.)**

Select the shim closest to the amount calculated, for example the 1.78 mm (0.0701 in.) shim.

14. With oil guide plate M and the appropriate size shim installed in the transmission housing, check the thrust clearance again to verify the clearance is within the standard.

**SHIM SPECIFICATION 52 X 62 MM**

| | Part Number | Thickness |
|---|---|---|
| A | 23931-PZ9-000 | 0.85 mm (0.0335 in.) |
| B | 23932-PZ9-000 | 0.88 mm (0.0346 in.) |
| C | 23933-PZ9-000 | 0.91 mm (0.0358 in.) |
| D | 23934-PZ9-000 | 0.94 mm (0.0370 in.) |
| E | 23935-PZ9-000 | 0.97 mm (0.0382 in.) |
| F | 23936-PZ9-000 | 1.00 mm (0.0394 in.) |
| G | 23937-PZ9-000 | 1.03 mm (0.0406 in.) |
| H | 23938-PZ9-000 | 1.06 mm (0.0417 in.) |
| I | 23939-PZ9-000 | 1.09 mm (0.0429 in.) |
| J | 23940-PZ9-000 | 1.12 mm (0.0441 in.) |
| K | 23941-PZ9-000 | 1.15 mm (0.0453 in.) |
| L | 23942-PZ9-000 | 1.18 mm (0.0465 in.) |
| M | 23943-PZ9-000 | 1.21 mm (0.0476 in.) |
| N | 23944-PZ9-000 | 1.24 mm (0.0488 in.) |
| O | 23945-PZ9-000 | 1.27 mm (0.0500 in.) |
| P | 23946-PZ9-000 | 1.30 mm (0.0512 in.) |
| Q | 23947-PZ9-000 | 1.33 mm (0.0524 in.) |
| R | 23948-PZ9-000 | 1.36 mm (0.0535 in.) |

| | | |
|---|---|---|
| S | 23949-PZ9-000 | 1.39 mm (0.0547 in.) |
| T | 23950-PZ9-000 | 1.42 mm (0.0559 in.) |
| U | 23951-PZ9-000 | 1.45 mm (0.0571 in.) |
| V | 23952-PZ9-000 | 1.48 mm (0.0583 in.) |
| W | 23953-PZ9-000 | 1.51 mm (0.0594 in.) |
| X | 23954-PZ9-000 | 1.54 mm (0.0606 in.) |
| Y | 23955-PZ9-000 | 1.57 mm (0.0618 in.) |
| Z | 23956-PZ9-000 | 1.60 mm (0.0630 in.) |
| AA | 23957-PZ9-000 | 1.63 mm (0.0642 in.) |
| AB | 23958-PZ9-000 | 1.66 mm (0.0654 in.) |
| AC | 23959-PZ9-000 | 1.69 mm (0.0665 in.) |
| AD | 23960-PZ9-000 | 1.72 mm (0.0677 in.) |
| AE | 23987-PZ9-000 | 1.75 mm (0.0689 in.) |
| AF | 23988-PZ9-000 | 1.78 mm (0.0701 in.) |
| AG | 23989-PZ9-000 | 1.81 mm (0.0713 in.) |
| AH | 23990-PZ9-000 | 1.84 mm (0.0724 in.) |
| AI | 23991-PZ9-000 | 1.87 mm (0.0736 in.) |
| AJ | 23992-PZ9-000 | 1.90 mm (0.0748 in.) |
| AK | 23993-PZ9-000 | 1.93 mm (0.0760 in.) |
| AL | 23994-PZ9-000 | 1.96 mm (0.0772 in.) |
| AM | 23995-PZ9-000 | 1.99 mm (0.0783 in.) |
| AN | 23996-PZ9-000 | 2.02 mm (0.0795 in.) |
| AO | 23997-PZ9-000 | 2.05 mm (0.0807 in.) |
| AP | 23998-PZ9-000 | 2.08 mm (0.0819 in.) |
| AQ | 23999-PZ9-000 | 2.11 mm (0.0831 in.) |

**TRANSMISSION REASSEMBLY**

**NOTE:**

- **Prior to reassembling, clean all the parts in solvent, dry them, and apply MTF to any contact surfaces.**
- **Place the clutch housing on two pieces of wood thick enough to keep the mainshaft from hitting the**

**workbench.**

1. Install the magnet (A) and differential assembly (B).

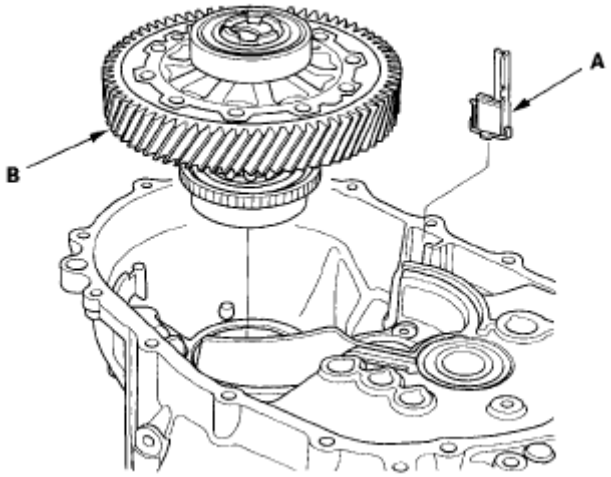



**Fig. 140: Identifying Magnet And Differential Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the 36 mm spring washer (A) and 26 mm washer (B) over the ball bearing (C). Note the installation direction of the spring washer.

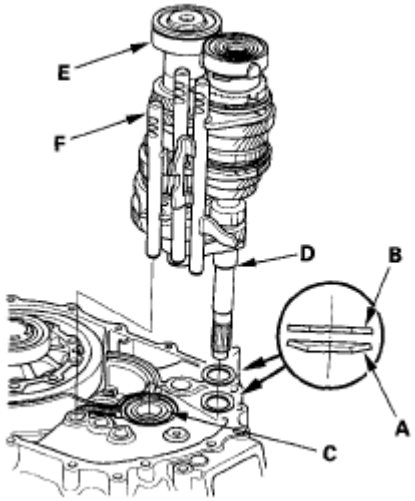



**Fig. 141: Identifying Spring Washer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Apply tape on the mainshaft (D) spline to protect the seal. Install the mainshaft

assembly and countershaft assembly (E) into the shift forks (F), and install them as an assembly.

4. Install the reverse idler gear (A) and the reverse gear shaft (B).

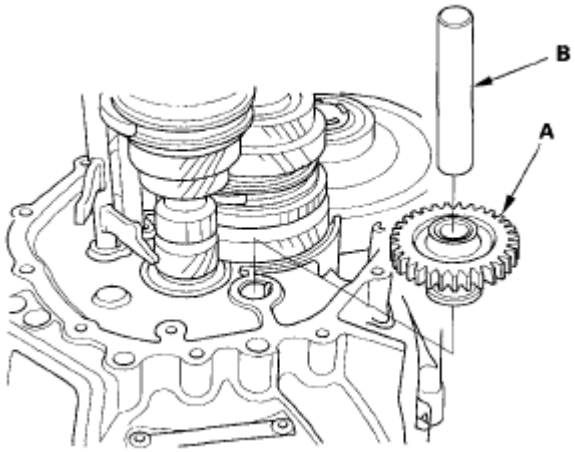



**Fig. 142: Identifying Reverse Idler Gear And Reverse Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the reverse shift fork.

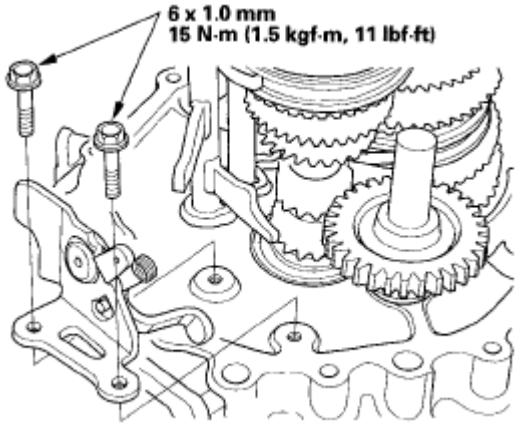



**Fig. 143: Identifying Reverse Shift Fork (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Select the proper size 52 x 62 mm shim (A) according to the measurements made during the Mainshaft Thrust Clearance Adjustment (see **MAINSHAFT THRUST CLEARANCE ADJUSTMENT** ). Install the oil gutter plate (B), oil guide plate M, and the 52 x 62 mm shim into the transmission housing (C).

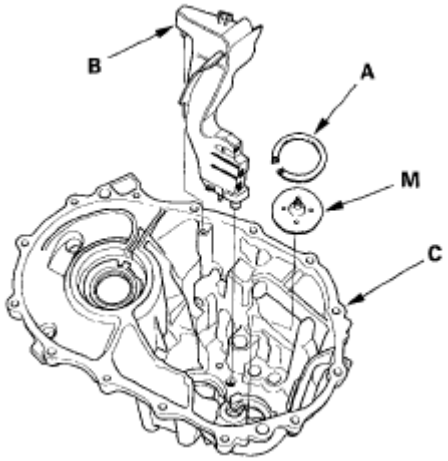



**Fig. 144: Identifying Oil Gutter Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Clean any dirt or oil from the transmission housing sealing surface.
8. Apply liquid gasket (P/IM 08718-0002) evenly to the mating surface of the transmission housing and clutch housing. Install the component within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket residue, then reapply new liquid gasket.**

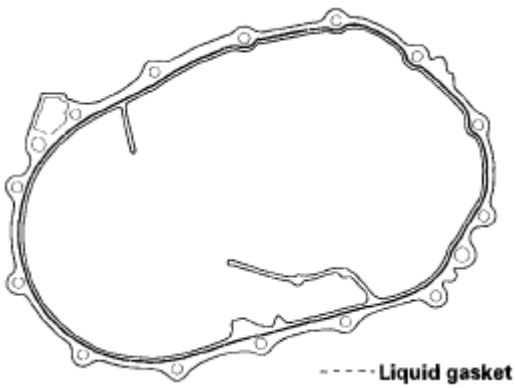



**Fig. 145: Identifying Liquid Gasket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install the two 14 x 20 mm dowel pins (A).

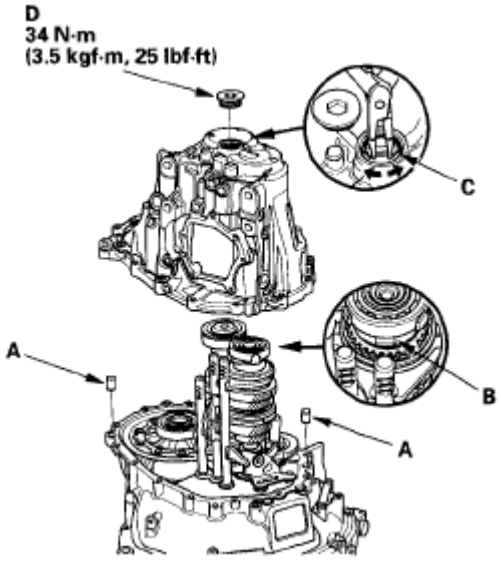



**Fig. 146: Identifying Dowel Pins**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

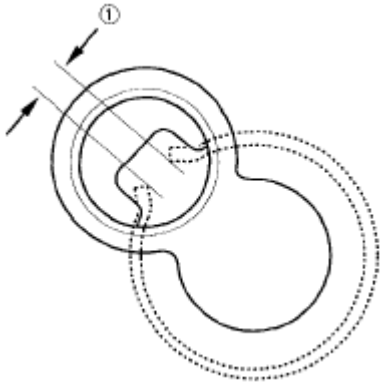



**Fig. 147: Identifying Snap Ring Groove Dimension**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Set the tapered cone ring (B) as shown. Place the transmission housing over the clutch housing, being careful to line up the shafts.
11. Lower the transmission housing the rest of the way as you expand the 69 mm snap ring (C). Release the snap ring so it seats in the groove of the countershaft bearing.
12. Make sure the 69 mm snap ring is securely seated in the groove of the

countershaft bearing.

**Dimension (1) as installed: 3.3-6.5 mm (0.13-0.25 in.)**

13. Apply liquid gasket (P/N 08718-0002) evenly to the threads of the 32 mm sealing cap (D), and install it on the transmission housing. Install the component within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket residue, then reapply new liquid gasket.**

14. Install the 8 mm flange bolts finger-tight.

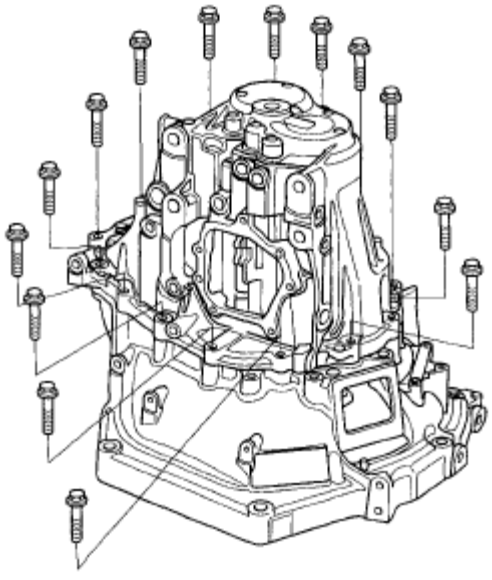


**Fig. 148: Identifying Flange Bolts Finger-Tight**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Tighten the 8 mm flange bolts in a crisscross pattern in several steps.

**Specified Torque:**

**8x1.25 mm**

**27 N.m (2.8 kgf.m, 20 lbf.ft)**

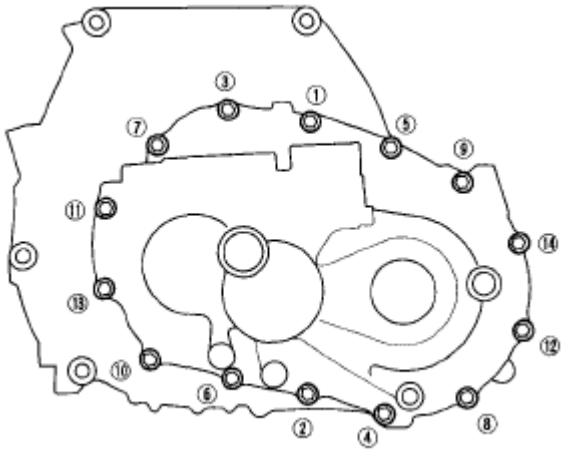



**Fig. 149: Identifying Tightening Flange Bolts In Crisscross Pattern**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Clean any dirt or oil from the change lever assembly sealing surface.
17. Apply liquid gasket (P/N 08718-0002) evenly to the mating surface of the change lever assembly and the transmission housing. Install the component within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket residue, then reapply new liquid gasket.**
- **Allow it to cure at least 30 minutes after assembly before filling the transmission with MRF.**

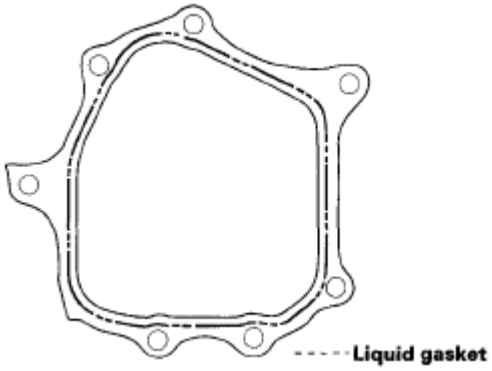



**Fig. 150: Identifying Liquid Gasket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Install the 8x14 mm dowel pins (A) and change lever assembly (B).

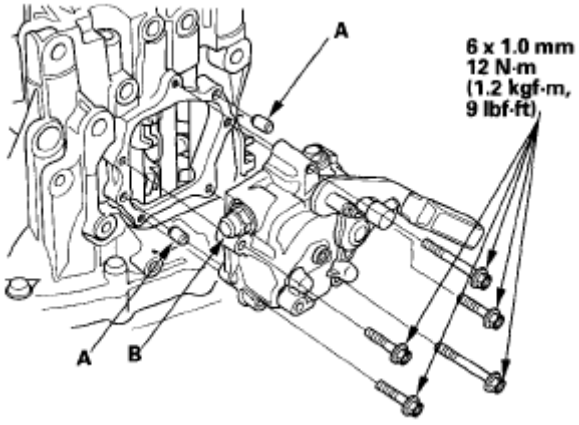



**Fig. 151: Identifying Dowel Pins And Change Lever Assembly (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Install the drain plug (A), output shaft (countershaft) speed sensor (B), and new O-ring (C). Install the filler plug (D) finger-tight.

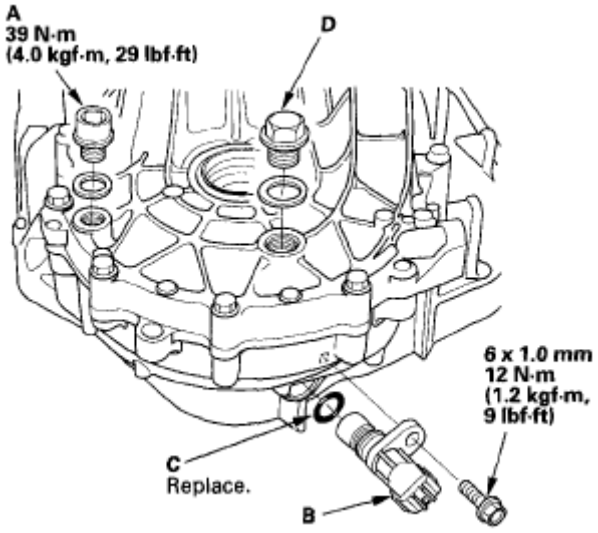



**Fig. 152: Identifying Drain Plug And Output Shaft (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Install the steel balls, the springs, and the detent bolts (A) with new washers (B).

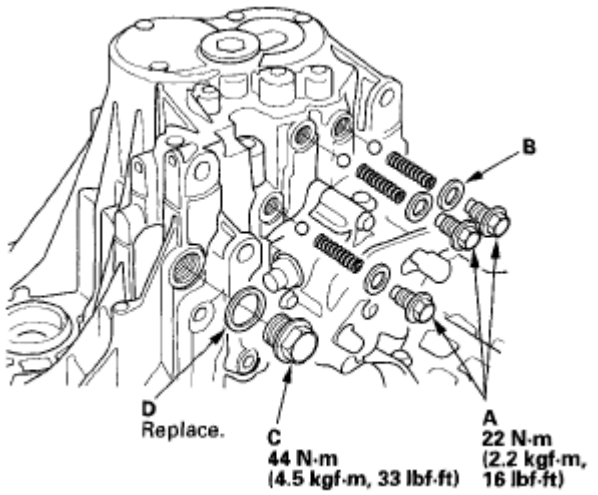



**Fig. 153: Identifying Detent Bolts Springs And Steel Balls (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Install the 20 mm bolt (C) and new 20 mm washer (D).
22. Install the new 18 mm washer (A), the back-up light switch (B), and the

transmission hanger (C).

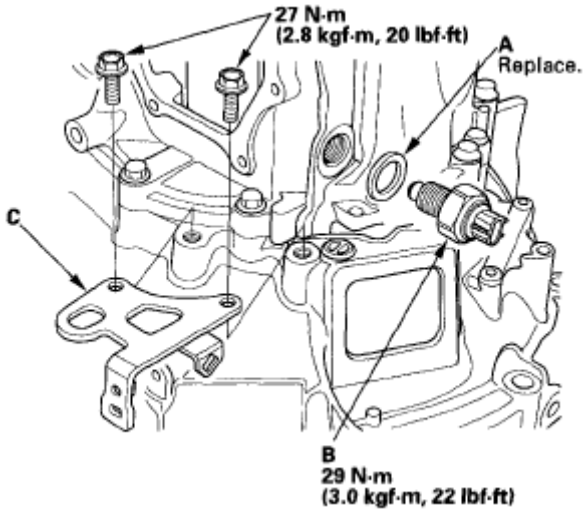



**Fig. 154: Identifying Washer And Back-Up Light Switch (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Install the air cleaner housing bracket (A) and the harness bracket (B).

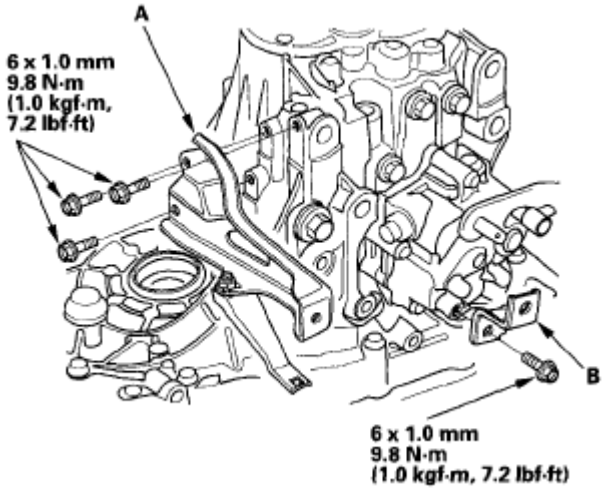



**Fig. 155: Identifying Air Cleaner Housing Bracket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**GEARSHIFT MECHANISM REPLACEMENT**

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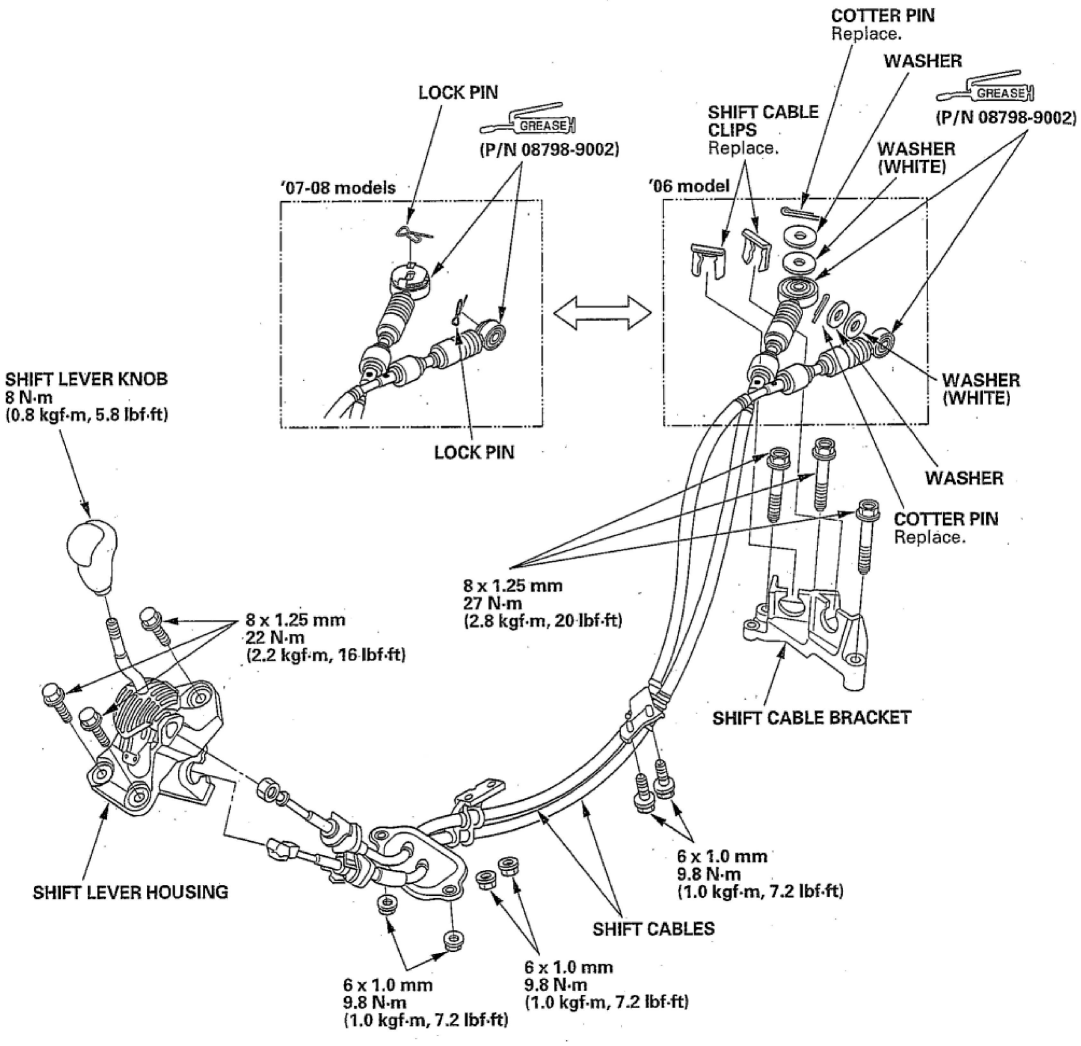



**Fig. 156: Identifying Gearshift Mechanism (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## M/T DIFFERENTIAL

### COMPONENT LOCATION INDEX

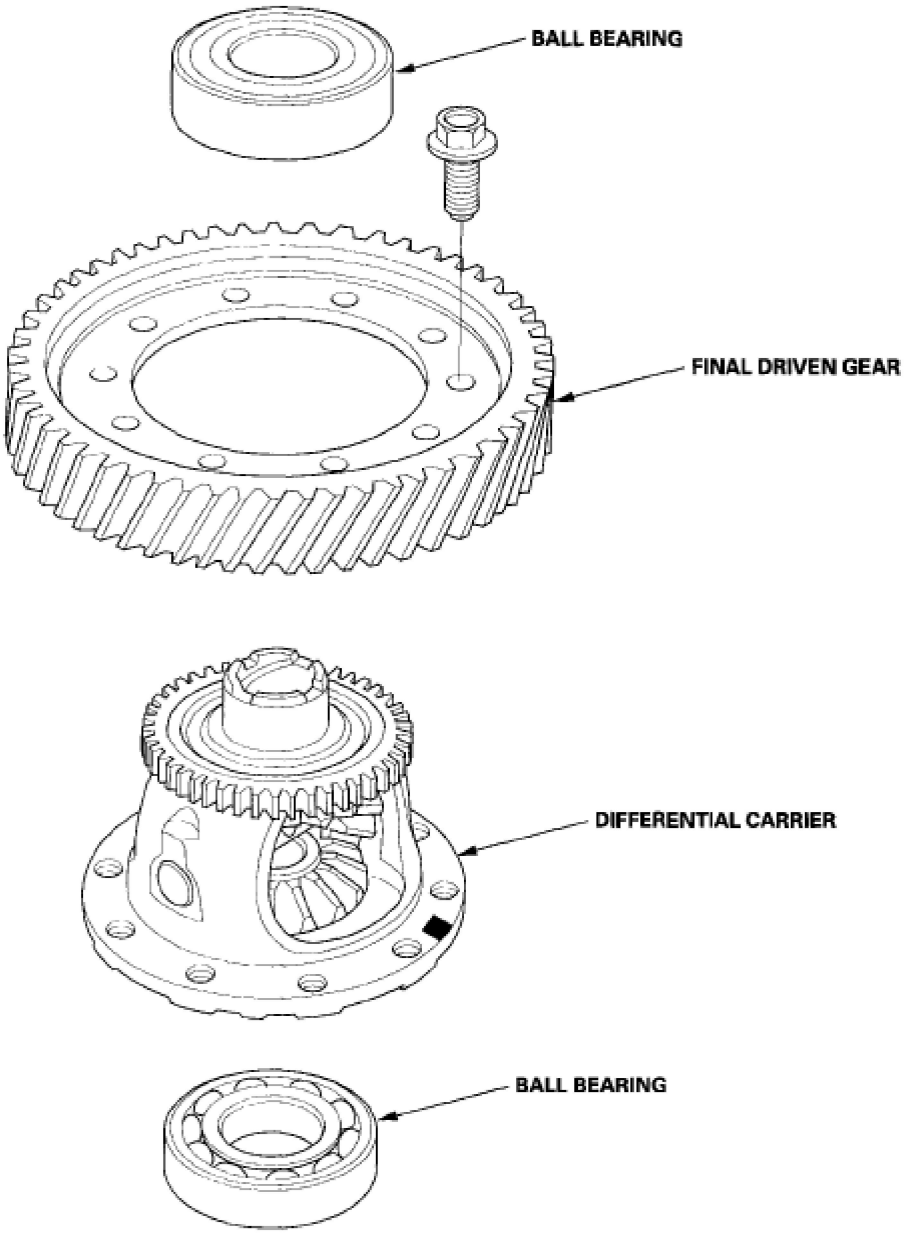



**Fig. 157: Identifying M/T Differential Component Location Index**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**BACKLASH INSPECTION**

1. Place the differential assembly on V-blocks (A), and install the intermediate shaft (B) and the left driveshaft (C).

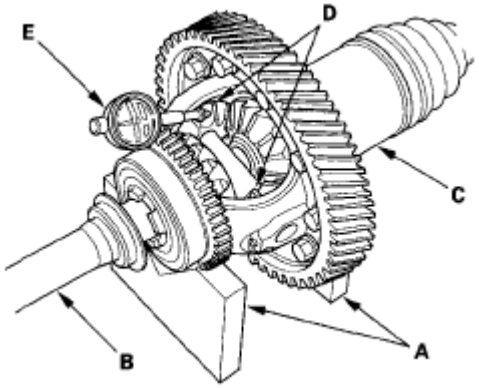



**Fig. 158: Placing Differential Assembly On V-Blocks**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure backlash of both pinion gears (D) with a dial indicator (E). If the backlash is not within the standard, replace the differential carrier.

**Standard (New): 0.05-0.15 mm (0.002-0.006 in.)**

**DIFFERENTIAL CARRIER, FINAL DRIVEN GEAR REPLACEMENT**

1. Remove the bolts (left-hand threads) in a crisscross pattern in several steps, then remove the final driven gear (A) from the differential carrier (B).

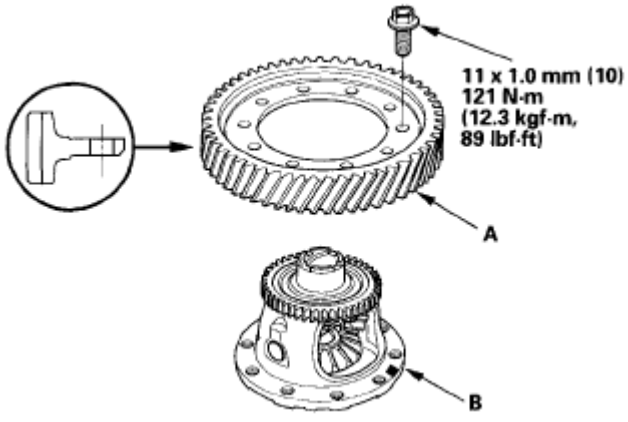



**Fig. 159: Identifying Driven Gear From Differential Carrier (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the final driven gear with the chamfer on the inside diameter facing the carrier. Tighten the bolts in a crisscross pattern in several steps.

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**CARRIER BEARING REPLACEMENT**

## Special Tool Required

Driver, 40 mm I.D. 07746-0030100

1. Check the carrier bearings for wear and rough rotation. If they rotate smoothly and their rollers show no signs of wear, the bearings are OK.
2. Remove the carrier bearings (A) with a commercially available bearing puller (B).

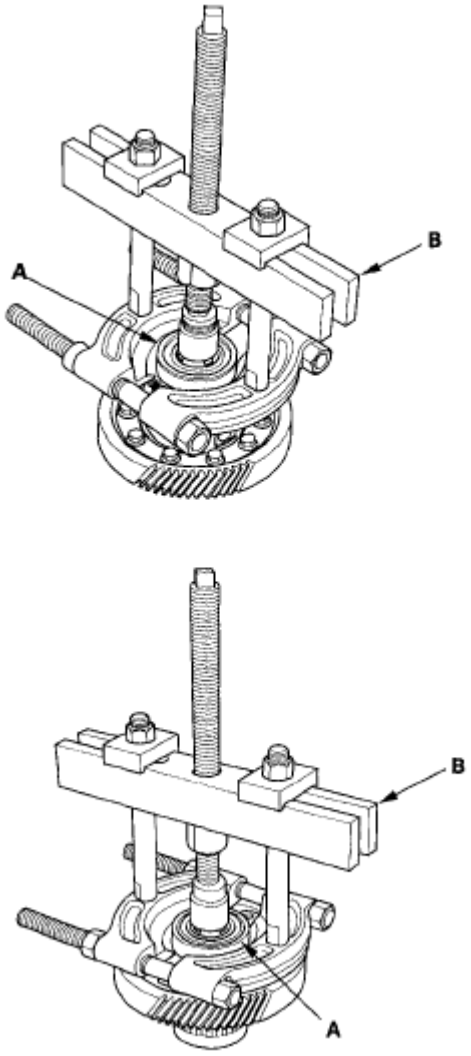



**Fig. 160: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the new bearings (A) with the 40 mm I.D. driver (B) and a press. Press on each bearing until it bottoms. There should be no clearance between the bearings and the carrier.

**NOTE: Place the seal (C) part of the bearing towards the outside of the differential, and install it.**

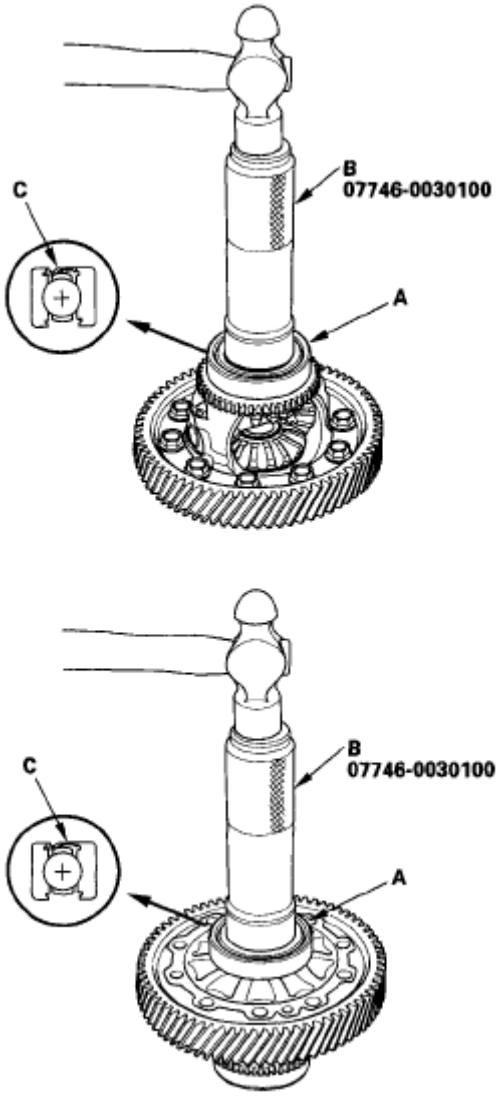



**Fig. 161: Identifying Special Tool**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**OIL SEAL REPLACEMENT**

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## Special Tools Required

- Oil seal driver 07JAD-PL90100
- Oil seal driver attachment 07NAD-P20A100
- Driver 07749-0010000

1. Remove the oil seal (A) from the transmission housing (B).




**Fig. 162: Identifying Oil Seal From Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the oil seal (A) from the clutch housing (B).

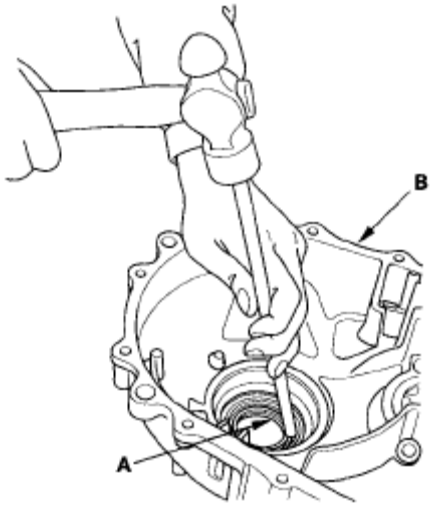


**Fig. 163: Identifying Oil Seal From Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the new oil seal in the transmission housing with the driver (A) and oil seal driver attachment (B).

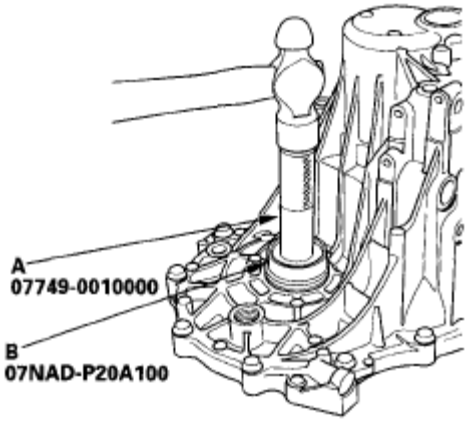



**Fig. 164: Identifying Oil Seal In Transmission Housing With Driver**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the new oil seal in the clutch housing with the oil seal driver (A).

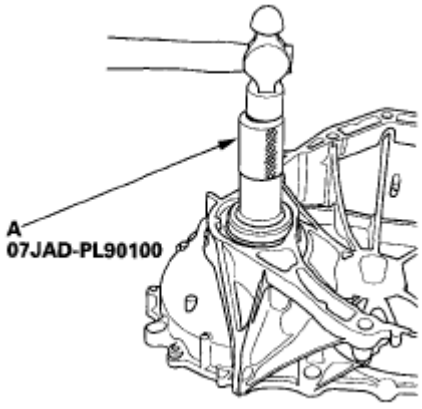



**Fig. 165: Installing Oil Seal In Clutch Housing With Oil Seal Driver**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**DIFFERENTIAL THRUST CLEARANCE ADJUSTMENT**

## Special Tool Required

Driver, 40 mm I.D. 07746-0030100

1. If you removed the 80 mm shim from the transmission housing, reinstall the same size shim.

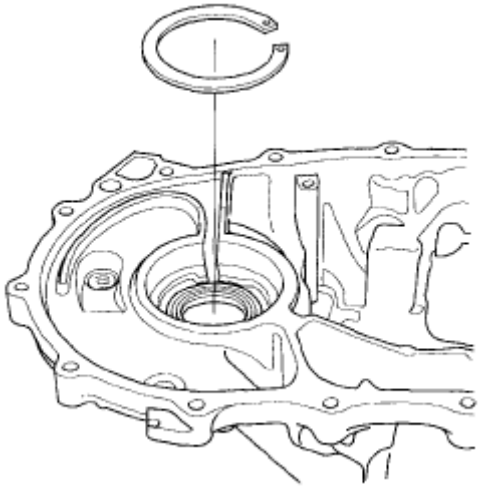


**Fig. 166: Identifying Transmission Housing Shim**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the differential assembly into the clutch housing.

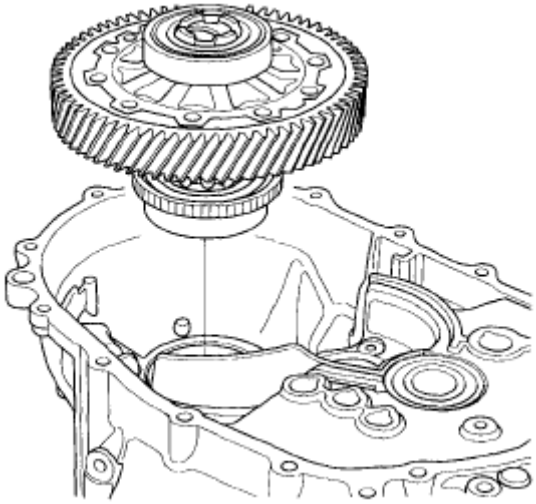


**Fig. 167: Identifying Differential Assembly Into Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the transmission housing onto the clutch housing, then tighten the 8 mm

flange bolts in a crisscross pattern in several steps (see step 15 ).

**Specified Torque**

**8x1.25 mm**

**27 N.m (2.8 kgf.m, 20 lbf.ft)**

4. Use the 40 mm I.D. driver (A) to bottom the differential assembly in the clutch housing.

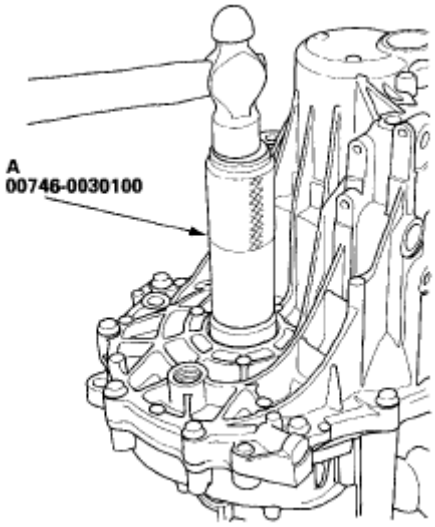



**Fig. 168: Installing Differential Assembly In Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure clearance between 80 mm shim and bearing outer race in transmission housing.

**Standard: 0-0.10 mm (0-0.0039 in.)**

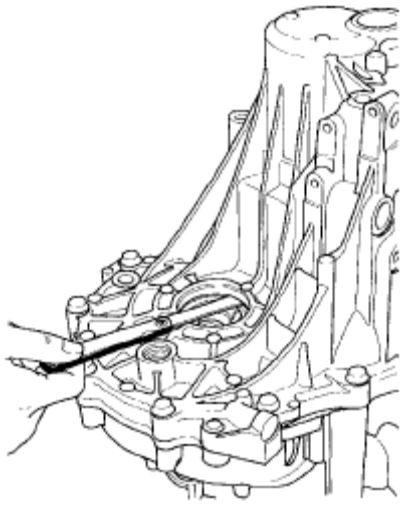


**Fig. 169: Measuring Clearance Between Shim And Bearing Outer Race In Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the clearance is more than the standard, select a new 80 mm shim from the following table. If the clearance measured in step 5 is within the standard, go to step 9.

**SHIM SPECIFICATION 80 MM**

| | Part Number | Thickness |
|---|---|---|
| A | 41441-PL3-B00 | 1.0 mm (0.039 in.) |
| B | 41442-PL3-B00 | 1.1 mm (0.043 in.) |
| C | 41443-PL3-B00 | 1.2 mm (0.047 in.) |
| D | 41444-PL3-B00 | 1.3 mm (0.051 in.) |
| E | 41445-PL3-B00 | 1.4 mm (0.055 in.) |
| F | 41446-PL3-B00 | 1.5 mm (0.059 in.) |
| G | 41447-PL3-B00 | 1.6 mm (0.063 in.) |
| H | 41448-PL3-B00 | 1.7 mm (0.067 in.) |
| J | 41449-PL3-B00 | 1.8 mm (0.071 in.) |
| K | 41450-PL3-B00 | 1.05 mm (0.041 in.) |
| L | 41451-PL3-B00 | 1.15 mm (0.045 in.) |
| M | 41452-PL3-B00 | 1.25 mm (0.049 in.) |
| N | 41453-PL3-B00 | 1.35 mm (0.053 in.) |

| | | |
|---|---|---|
| P | 41454-PL3-B00 | 1.45 mm (0.057 in.) |
| Q | 41455-PL3-B00 | 1.55 mm (0.061 in.) |
| R | 41456-PL3-B00 | 1.65 mm (0.065 in.) |
| S | 41457-PL3-B00 | 1.75 mm (0.069 in.) |

7. Remove the bolts and transmission housing.
8. Replace the thrust shim selected in step 6, then recheck the clearance.
9. Reinstall the transmission housing.

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## 2006-08 TRANSMISSION

## Manual Transmission (6-Speed)(Except Hybrid) - Civic

# 6-SPEED MANUAL TRANSMISSION

### SPECIAL TOOLS

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| *① | 07GAJ-PG20110 | Mainshaft Holder | 1 |
| *② | 07GAJ-PG20130 | Mainshaft Base | 1 |
| ③ | 07JAD-PL90100 | Oil Seal Driver | 1 |
| ④ | 07NAD-P20A100 | Oil Seal Driver Attachment | 1 |
| **⑤ | 07736-A01000B | Adjustable Bearing Puller, 20—40 mm | 1 |
| ⑥ | 07746-0010300 | Attachment, 42 x 47 mm | 1 |
| ⑦ | 07746-0030100 | Driver, 40 mm I.D. | 1 |
| ⑧ | 07746-0030300 | Attachment, 30 mm I.D. | 1 |
| ⑨ | 07749-0010000 | Driver | 1 |

* Part of Mainshaft Inspection Tool Set, 07GAJ-PG20102.
* * Must be used with commercially available 3/8"-16 UNF Slide Hammer.

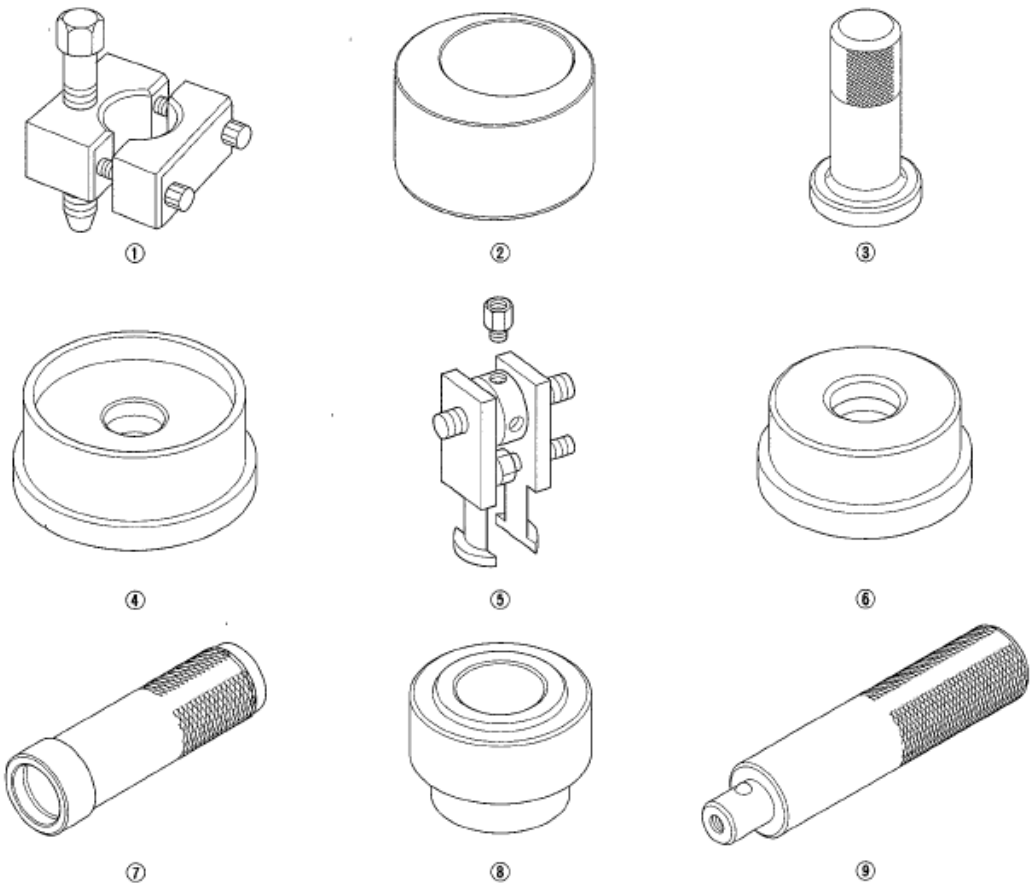



**Fig. 1: Identifying Special Tools**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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# REVERSE LOCKOUT SYSTEM

## GENERAL TROUBLESHOOTING INFORMATION

### How to Troubleshoot Circuits at the ECM Connectors

**NOTE: The ECM overwrites data and monitors the EVAP system for up to 15 minutes after the ignition switch is turned to OFF. Jumping the SCS line after turning the ignition switch to LOCK (0) cancels this function. Disconnecting the ECM during this function, without jumping the SCS line first, can damage the ECM.**

1. Jump the SCS line with the HDS.
2. Remove the cover (A).

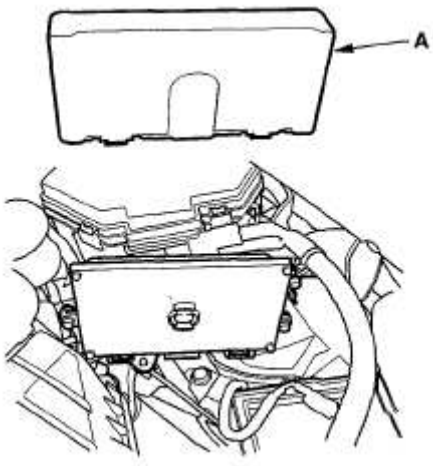



**Fig. 2: Identifying Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Lift up the under-hood fuse/relay box (D).

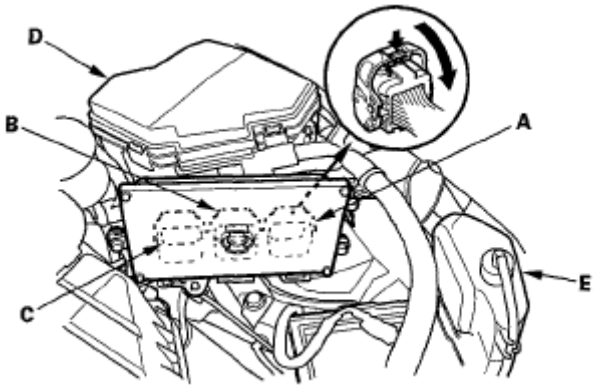



**Fig. 3: Identifying Under-Hood Fuse/Relay Box And ECM Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the coolant reservoir (E). Disconnect ECM connectors A, B, and C.

**NOTE: ECM connectors A, B and C have a symbols (A = [], B = triangle symbol , C = o) embossed on them for identification.**

5. When diagnosis/troubleshooting is done at the ECM connector, use the terminal test port (A) above the terminal you need to check.

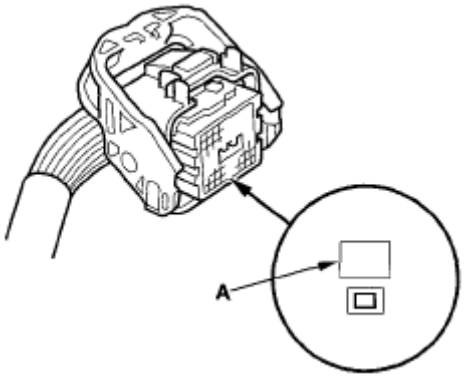



**Fig. 4: Identifying Terminal Test Port**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Connect one side of the patch cord (A) terminals to a commercially available digital multimeter (B), and connect the other side of the patch cord terminals to a commercially available banana jack (Pomona Electronics Tool No. 3563 or equivalent) (C).

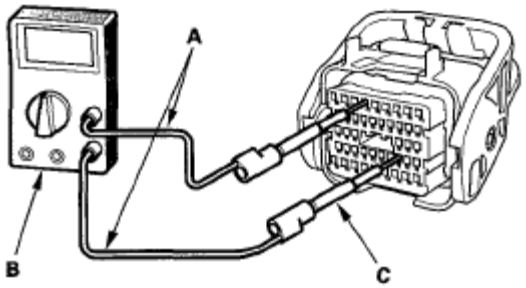



**Fig. 5: Connecting Patch Cord Terminals To Digital Multimeter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Gently contact the pin probe (male) at the terminal test port from the terminal side. Do not force the tips into the terminals.

**NOTE:**

- **For accurate results, always use the pin probe (male).**
- **To prevent damage to the connector terminals, do not insert test equipment probes, paper clips, or other substitutes as they can damage the terminals. Damaged terminals cause a poor connection and an incorrect measurement.**
- **Do not puncture the insulation on a wire. Punctures can cause poor or intermittent electrical connections.**

**COMPONENT LOCATION INDEX**

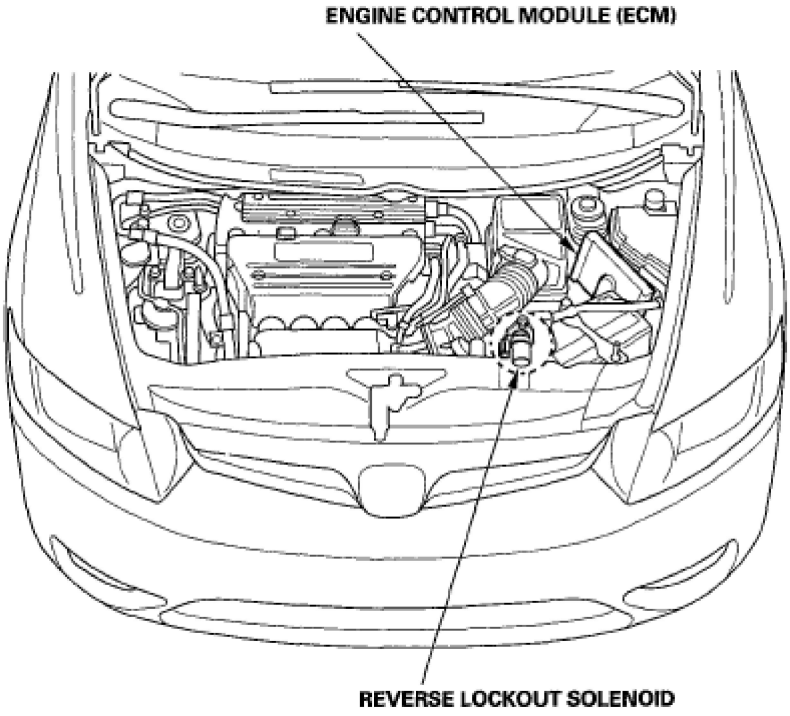



**Fig. 6: Identifying Reverse Lockout System Component Location Index**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SYSTEM DESCRIPTION**

At a vehicle speed of 12 mph (20 km/h) or more, the ECM receives a signal from the output shaft (countershaft) speed sensor and activates the reverse lockout solenoid, which pushes select lock cam B into the locked position. As a result, the select lever can not rotate to the reverse select position, making it impossible to engage reverse gear. At a vehicle speed of 9 mph (15 km/h) or less, the signal from the output shaft (countershaft) speed sensor is interrupted, the ECM turns off the reverse lockout solenoid. The select lock return spring pulls back select lock cam B, enabling the select lever to move freely so the reverse gear can be selected.

## VEHICLE SPEED CHART

| Vehicle speed | Inhibitor | Reverse selection |
|---|---|---|
| Above 12 mph (20 km/h) | ON | Not allowed |
| Below 9 mph (15 km/h) | OFF | Allowed |
| Ignition switch LOCK (0) | OFF | Allowed |

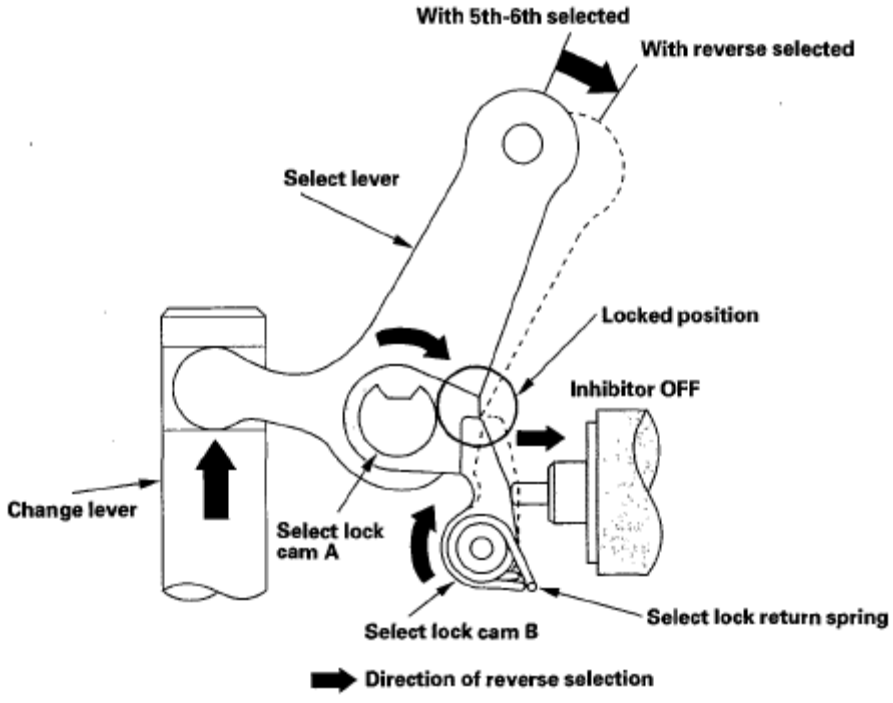
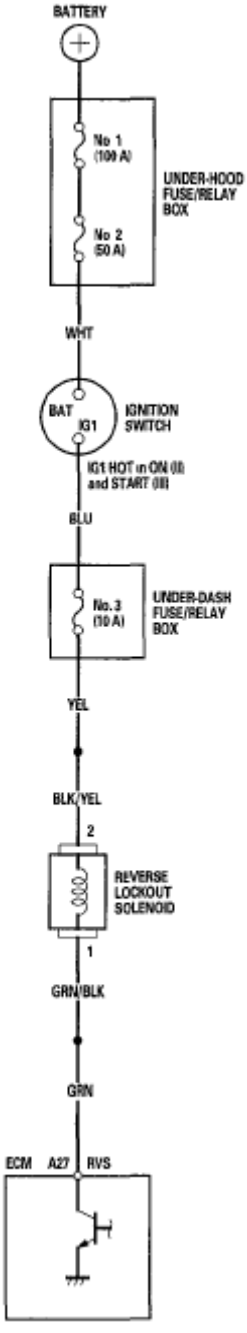



**Fig. 7: Reverse Lockout System Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CIRCUIT DIAGRAM**

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## Fig. 8: Reverse Lockout System - Circuit Diagram
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**CIRCUIT TROUBLESHOOTING**

1. Check the No. 3 (10 A) fuse in the under-dash fuse/relay box.

   *Is the fuse OK?*

**YES** -Go to step 2.

**NO** -Replace the fuse, and recheck.

2. Start the engine, and check the Malfunction Indicator Lamp (MIL).

   *Does the MIL come on?*

   **YES** -Troubleshoot the DTC (see **GENERAL TROUBLESHOOTING INFORMATION** ), and recheck.

   **NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Shift into reverse.

   *Can you shift the transmission into reverse?*

   **YES** -Go to step 5.

   **NO** -Repair the transmission, and recheck.

5. Raise the vehicle on the lift, make sure it is securely supported, and allow the front wheels to rotate freely.
6. Start the engine. With the vehicle moving slowly (vehicle speed below 9 mph (15 km/h), shift the transmission into reverse, but do not release the clutch pedal.

   *Can you shift the transmission into reverse?*

   **YES** -Go to step 7.

   **NO** -Turn the ignition switch to LOCK (0), then go to step 20.

7. Shift the transmission into 1st gear, and lightly press the throttle until the speedometer reads above 12 mph (20 km/h). Try to the shift the transmission into reverse.

*Can you shift the transmission into reverse?*

**YES** -Go to step 8.

**NO** -Intermittent failure, system is OK at this time.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the reverse lockout solenoid 2P connector (A).

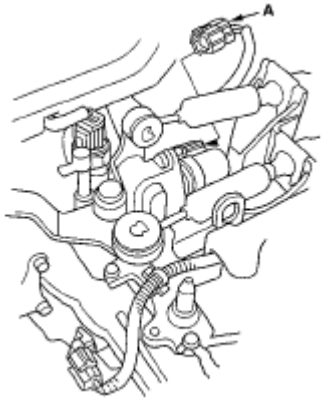



**Fig. 9: Identifying Reverse Lockout Solenoid 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Turn the ignition switch to ON (II).
11. Measure the voltage between the reverse lockout solenoid 2P connector terminal No. 2 and body ground.

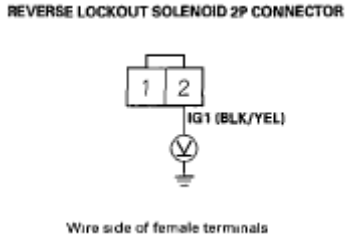



**Fig. 10: Measuring Voltage Between Reverse Lockout Solenoid 2P Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 12.

**NO** -Check for loose terminals or poor connections at connector. If the connections are OK, repair open or short in the wire between No. 3 (10 A) fuse in the under-dash fuse/relay box and the reverse lockout solenoid.

12. Turn the ignition switch to LOCK (0).
13. Remove the reverse lockout solenoid (see **REVERSE LOCKOUT SOLENOID TEST** ).
14. At the reverse lockout solenoid side, connect the reverse lockout solenoid 2P connector terminal No.2 to the battery positive terminal, and connect the terminal No. 1 to the battery negative terminal. Make sure the reverse lockout solenoid works.

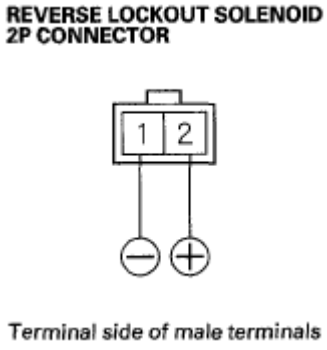



**Fig. 11: Connecting Reverse Lockout Solenoid 2P Connector Terminal To Battery Positive Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Does the reverse lockout solenoid work properly?*

**YES** -Go to step 15.

**NO** -Replace the reverse lockout solenoid (see **REVERSE LOCKOUT SOLENOID TEST** ).

15. Reinstall the reverse lockout solenoid, and reconnect the reverse lockout solenoid 2P connector.
16. Jump the SCS line with the HDS.

17. Disconnect ECM connector A (44P).
18. Turn the ignition switch to ON (II).
19. Measure the voltage between ECM connector A27 and body ground.

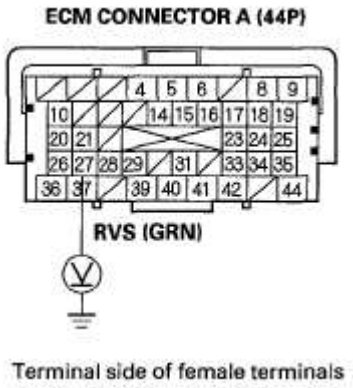



**Fig. 12: Measuring Voltage Between ECM Connector Terminals A27 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Check for loose terminals or poor connections at ECM connector A (44P). If necessary, update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT** ).

**NO** -Repair open in the wire between the reverse lockout solenoid and ECM (A27).

20. Jump the SCS line with the HDS.
21. Disconnect ECM connector A (44P).
22. Disconnect the reverse lockout solenoid 2P connector.
23. Check for continuity between the reverse lockout solenoid 2P connector terminal No. 1 and body ground.

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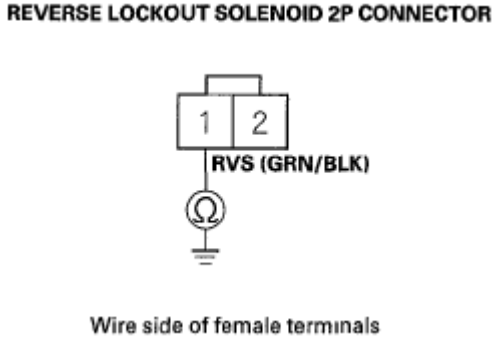



**Fig. 13: Checking Continuity Between Reverse Lockout Solenoid 2P Connector Terminal And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the reverse lockout solenoid and the ECM (A27).

**NO** -Update the ECM if it does not have the latest software (see **UPDATING THE ECM** ), or substitute a known-good ECM (see **SUBSTITUTING THE ECM** ), then recheck. If the symptom/indication goes away with a known-good ECM, replace the original ECM (see **ECM REPLACEMENT** ).

**REVERSE LOCKOUT SOLENOID TEST**

1. Remove the reverse lockout solenoid (see **REVERSE LOCKOUT SOLENOID TEST** ).
2. Connect battery positive terminal to the reverse lockout solenoid 2P connector No. 2 terminal, and connect the battery negative terminal to the No. 1 terminal.

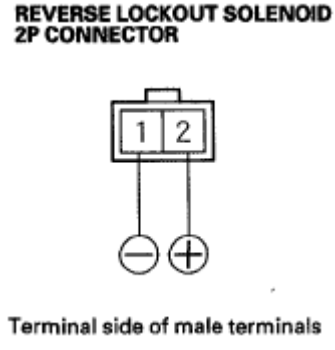


**Fig. 14: Connecting Reverse Lockout Solenoid 2P Connector Terminal To Battery Positive Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Make sure the reverse lockout solenoid works. If the reverse lockout solenoid does not work, replace it.

**REVERSE LOCKOUT SOLENOID DISASSEMBLY/REASSEMBLY**

1. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped), then write down the audio presets.
2. Disconnect the negative cable from the battery, then disconnect the positive cable.
3. Remove the battery.
4. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
5. Remove the battery base (see step 6 ).
6. Disconnect the output shaft (countershaft) speed sensor connector, back-up light switch connector, and reverse lockout solenoid connector (see step 8 ).
7. Carefully remove the shift cables, and cable bracket together to avoid bending the shift cables (see step 9 ).
8. Remove the three bolts (A) and reverse lockout solenoid (B).

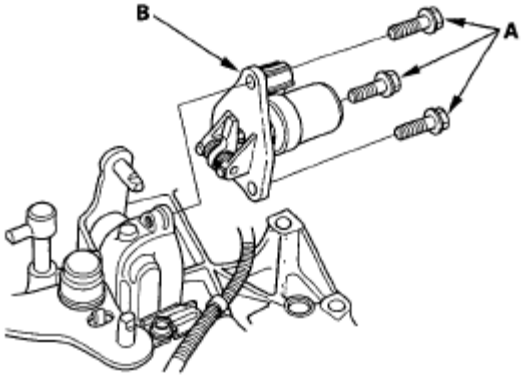



**Fig. 15: Identifying Reverse Lockout Solenoid And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the roller (A), the select lock return spring (C), and select lock cam B.

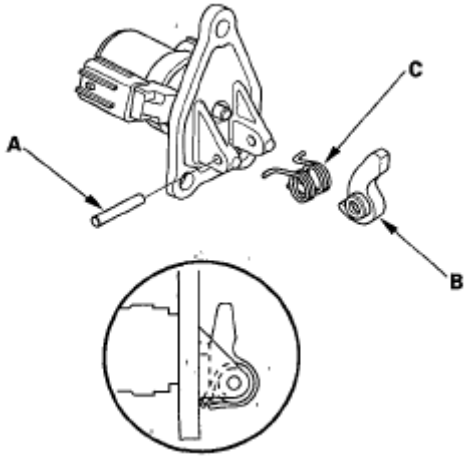



**Fig. 16: Identifying Roller And Select Lock Return Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the components in the reverse order of removal.
11. Clean any the dirt and oil from the sealing surface.
12. Apply liquid gasket, P/N 08718-0001 evenly to the transmission housing mating surface of the reverse lockout solenoid. Install the component within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.**

13. Install the reverse lockout solenoid.

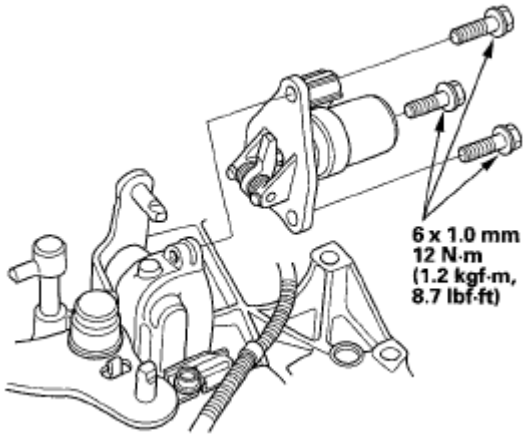



**Fig. 17: Identifying Reverse Lockout Solenoid And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the cable bracket and shift cables (see step 37 ).
15. Connect the reverse lockout solenoid connector, back-up light switch connector, and output shaft (countershaft) speed sensor connector (see step 39 ).
16. Install the battery base (see step 41 ).
17. Install the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
18. Install the battery. Clean the battery posts and cable terminals. Connect the positive cable to the battery, then connect the negative cable, and apply multipurpose grease to prevent corrosion.
19. Enter the anti-theft code for the audio system or the navigation system (if equipped), then enter the audio presets. Set the clock (on vehicles without navigation).
20. Do the power window control unit reset procedure (see **RESETTING THE POWER WINDOW CONTROL UNIT** ).

## MANUAL TRANSMISSION

**SYMPTOM TROUBLESHOOTING INDEX**

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Probable cause | Diagnostic procedure |
|---|---|---|

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| | (s) | |
|---|---|---|
| Hard to shift into 1st gear | 1. 1st synchro ring defective.<br>2. 1st/2nd synchro sleeve and hub defective.<br>3. 1st gear defective.<br>4. Change lever assembly defective. | • Check the 1st synchro ring (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the 1st/2nd synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 1st gear (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into 2nd gear | 1. 2nd synchro ring defective.<br>2. 1st/2nd synchro sleeve and hub defective.<br>3. 2nd gear defective.<br>4. Change lever assembly defective. | • Check the 2nd synchro ring (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the 1st/2nd synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 2nd gear (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| | 1. 3rd synchro ring defective.<br>2. 3rd/4th synchro sleeve and | • Check the 3rd synchro ring (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the 3rd/4th synchro sleeve and hub (see **SYNCHRO SLEEVE AND** |

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| | | |
|---|---|---|
| Hard to shift into 3rd gear | hub defective.<br>3. 3rd gear defective.<br>4. Change lever assembly defective. | **HUB INSPECTION AND REASSEMBLY** ).<br>• Check 3rd gear (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into 4th gear | 1. 4th synchro ring defective.<br>2. 3rd/4th synchro sleeve and hub defective.<br>3. 4th gear defective.<br>4. Change lever assembly defective. | • Check the 4th synchro ring (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the 3rd/4th synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 4th gear (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into 5th gear | 1. 5th synchro ring defective.<br>2. 5th/6th synchro sleeve defective.<br>3. 5th gear defective.<br>4. Change lever assembly defective. | • Check the 5th synchro ring (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the 5th/6th synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 5th gear (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| | 1. 6th synchro | • Check the 6th synchro ring (see |

| | | |
|---|---|---|
| Hard to shift into 6th gear | ring defective.<br>2. 5th/6th synchro sleeve defective.<br>3. 6th gear defective.<br>4. Change lever assembly defective. | **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the 5th/6th synchro sleeve and hub (see **SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY** ).<br>• Check 6th gear (see **SYNCHRO RING AND GEAR INSPECTION** ).<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ). |
| Hard to shift into reverse | 1. Reverse shift fork defective.<br>2. Reverse idler gear defective.<br>3. Reverse gear defective.<br>4. Change lever assembly defective.<br>5. Reverse lockout system defective. | • Check the reverse shift fork (see **REVERSE SHIFT FORK CLEARANCE INSPECTION** ).<br>• Check the reverse idler gear (see **REVERSE SHIFT FORK CLEARANCE INSPECTION** ).<br>• Check reverse gear.<br>• Check the change lever assembly (see **CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY** ).<br>• Check the reverse lockout system (see **CIRCUIT TROUBLESHOOTING** ). |
| Noise from the transmission | 1. Low transmission fluid level.<br>2. Worn or damaged transmission gears. | • Check the transmission fluid level (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).<br>• Check the transmission gears. |

| | | |
|---|---|---|
| | 3. Worn or damaged transmission bearings. | • Check the transmission bearings. |
| Shift lever does not operate smoothly | 1. Shift cable defective.<br>2. Joint in shift cable and transmission or body. | • Check the shift cables.<br>• Check the joint in the shift cables (see **GEARSHIFT MECHANISM REPLACEMENT** ). |
| Transmission jumps out of gear | 1. Detent ball springs defective.<br>2. Worn synchro teeth. | • Check the detent ball springs.<br>• Check the synchro teeth. |

**TRANSMISSION FLUID INSPECTION AND REPLACEMENT**

1. Raise the vehicle on a lift.
2. Remove the filler plug (A) and sealing washer (B), check the condition of the fluid, and make sure it is at the proper level (C).

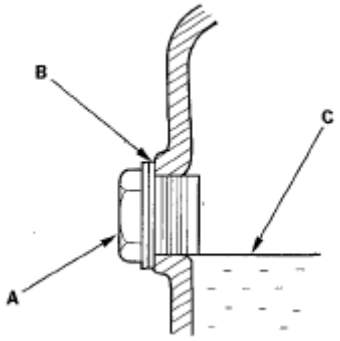



**Fig. 18: Identifying Filler Plug And Sealing Washer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. If the fluid is dirty, remove the drain plug (A), and sealing washer (B) drain it.

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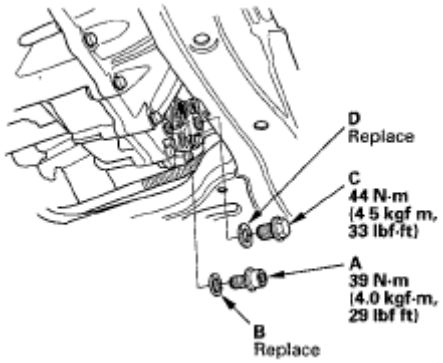



**Fig. 19: Identifying Drain Plug And Sealing Washer w/Torque Spec. Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the drain plug with a new sealing washer, and refill the transmission fluid to the proper level.

   **Fluid Capacity**

   **1.5 L (1.6 US qt) at fluid change**

   **1.7 L (1.8 US qt) at overhaul**

   Always use Honda Manual Transmission Fluid (MTF). Using engine oil can cause stiffer shifting because it does not contain the proper additives.

5. Install the filler plug (C) with a new sealing washer (D).
6. If the maintenance minder required to replace the fluid, reset the maintenance minder (see **MAINTENANCE MINDER** ).

   If it did not reset, select BODY ELECTRICAL, GAUGES, ADJUSTMENT, MAINTENANCE MINDER, RESET, MAINTENANCE SUB ITEM 3 with the HDS.

**BACK-UP LIGHT SWITCH TEST**

1. Disconnect the back-up light switch connector (A).

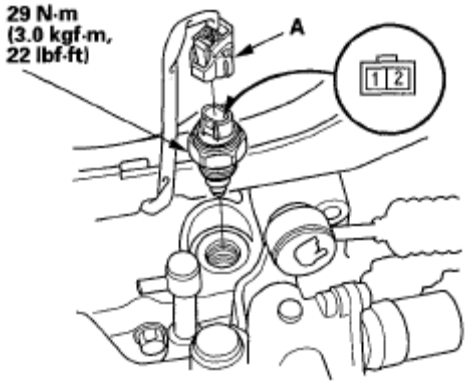



**Fig. 20: Identifying Back-Up Light Switch Connector w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Check for continuity between the back-up light switch 2P connector terminals No. 1 and No. 2. There should be continuity when the change lever is only in reverse.
3. If necessary, replace the back-up light switch. Apply liquid gasket (P/N 08718-0001) evenly to the threads of the transmission housing. Install the switch within 5 minutes of applying the liquid gasket. Tighten the back-up light switch to the specified torque.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.**

**TRANSMISSION REMOVAL**

## Special Tools Required

- Engine hanger/adapter VSB02C000015
- Engine support hanger, A & Reds AAR-T-12566
- Front subframe adapter VSB02C000016
- 2006 Civic engine hanger VSB02C000025

These special tools are available through the Honda Tool and Equipment Program

1-888-424-6857.

**NOTE: Use fender covers to avoid damaging painted surfaces.**

1. Make sure you have the anti-theft code for the audio system or the navigation system (if equipped), then write down the audio presets.
2. Remove the cowl cover and under-cowl panel (see **COWL COVER REPLACEMENT** ).
3. Disconnect the negative cable from the battery, then disconnect the positive cable.
4. Remove the battery.
5. Remove the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
6. Remove the harness clips (A) and the intake air duct (B), then remove the battery base (C) with the coolant reservoir (D).

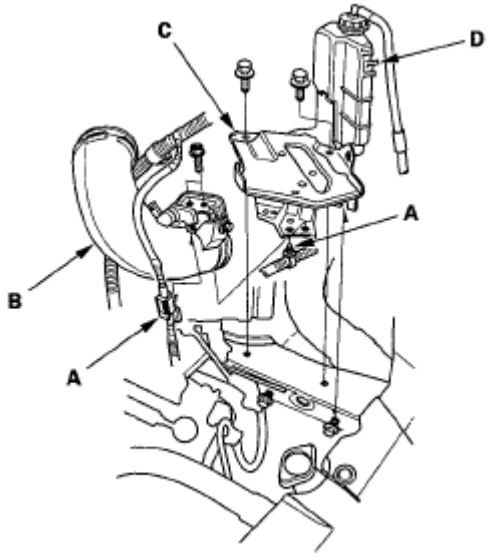



**Fig. 21: Identifying Intake Air Duct And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the clutch line bracket (A), then carefully remove the slave cylinder (B) to avoid bending the clutch line.

**NOTE: Do not press the clutch pedal after the slave cylinder**

**has been removed.**

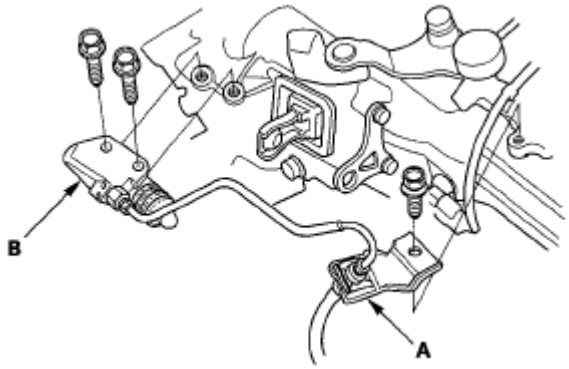



**Fig. 22: Identifying Clutch Line Bracket And Slave Cylinder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Disconnect the back-up light switch connector (A), the output shaft (countershaft) speed sensor connector (B), the reverse lockout solenoid connector (C), and the harness clips (D).

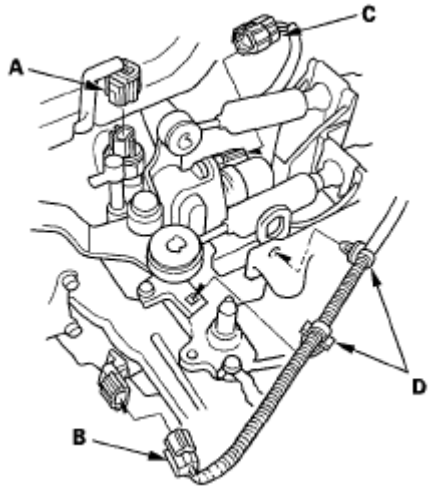



**Fig. 23: Identifying Back-Up Light Switch Connector And Countershaft Speed Sensor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the cotter pins (A) and lock pins (B), shift cable bracket (C), then disconnect the shift cables (D) from the top of the transmission housing. Carefully remove both cables and the bracket together to avoid bending the cables.

## '06 model

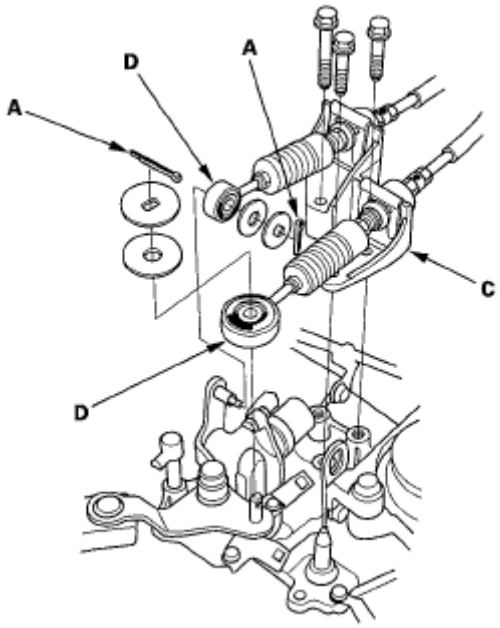



**Fig. 24: Identifying Shift Cable Bracket Cotter Pins And Lock Pins (06 Model)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## '07-08 models

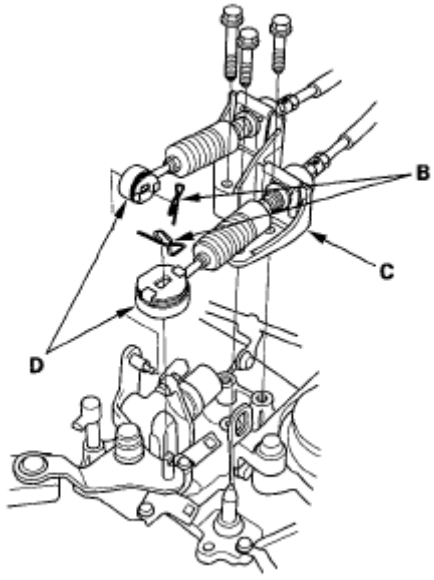



**Fig. 25: Identifying Shift Cable Bracket Cotter Pins And Lock Pins (07-08**

**Models)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Remove the harness clips (A) from the clutch cable bracket (B) and harness bracket (C).

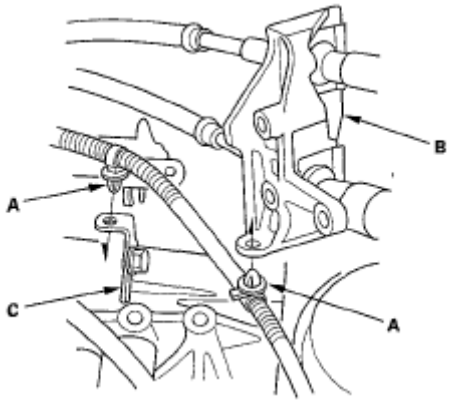



**Fig. 26: Identifying Clutch Cable Bracket And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the air cleaner housing bracket (A).

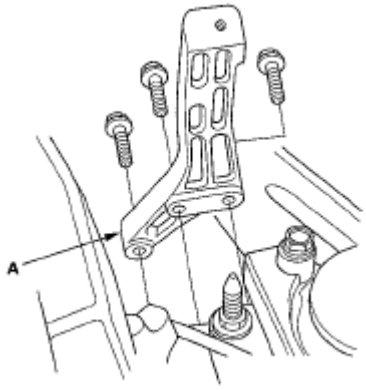



**Fig. 27: Identifying Air Cleaner Housing Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Remove the engine wire harness cover (A) by lifting up on the lock tab (B), then slide the harness forward off the air cleaner housing mounting bracket (C).

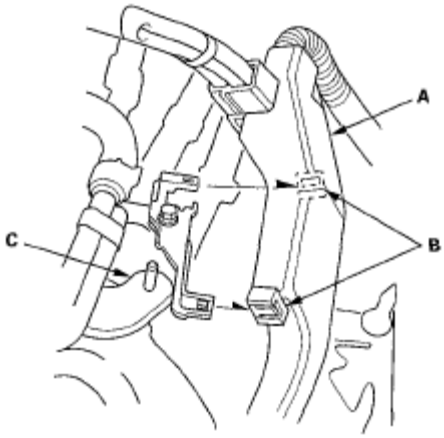



**Fig. 28: Identifying Engine Wire Harness Cover On Lock Tab**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Attach the engine hanger (A) to the threaded holes in the cylinder head.

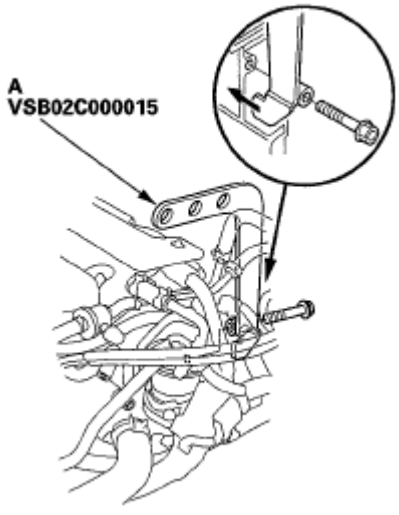



**Fig. 29: Identifying Engine Hanger**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install the front leg assembly (A), hook (B), and wingnut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the 2006 Civic engine hanger. Carefully position the engine hanger on the vehicle, and attach the hook to the forward hole in the engine hanger/adapter (D). Tighten the wingnut by hand to lift and support the engine/transmission assembly.

**NOTE: Use care when working around the windshield.**

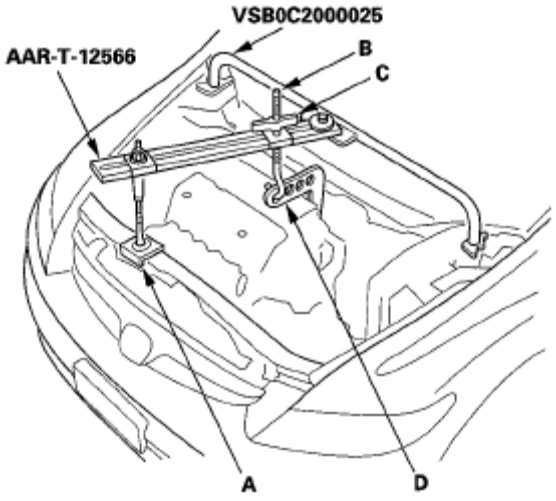



**Fig. 30: Identifying Front Leg Assembly With Hook And Wingnut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Remove the two upper transmission mounting bolts.

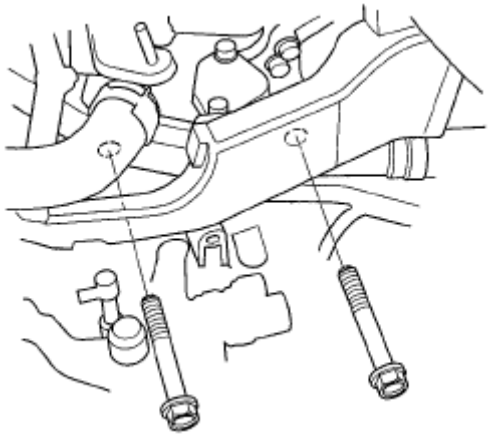


**Fig. 31: Identifying Upper Transmission Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Remove the under-hood fuse/relay box (A) by lifting up on the lock tabs (B), then move it aside.

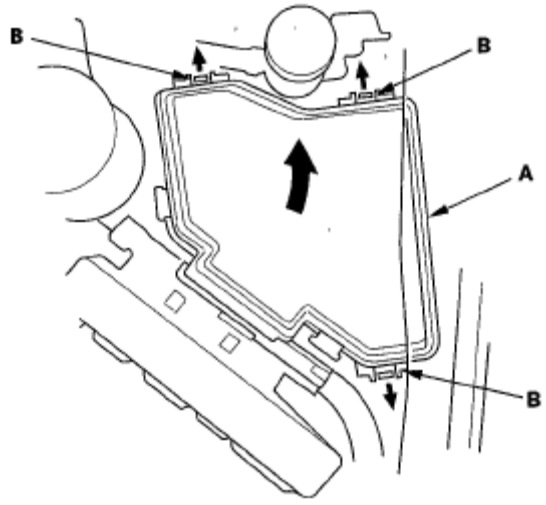



**Fig. 32: Identifying Under-Hood Fuse/Relay Box On Lock Tabs**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Remove the engine control module (ECM) stay (A), then move it aside. Remove the clutch line clamp (B).

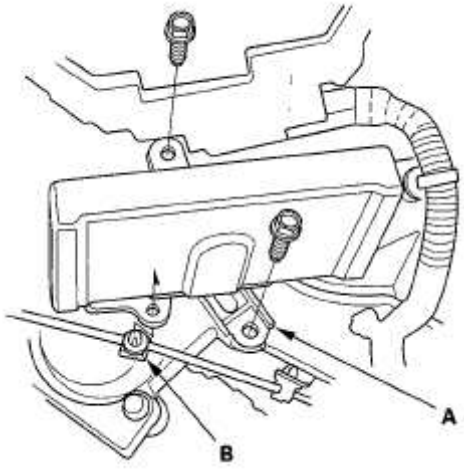



**Fig. 33: Identifying Engine Control Module (ECM) Stay And Clutch Line Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Disconnect the ground cable (A), then remove the transmission mount bracket bolts (B) and nuts (C). Remove the transmission mount bracket (D).

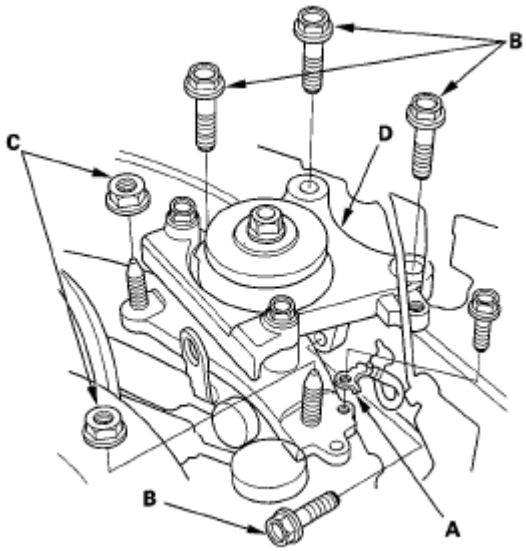



**Fig. 34: Identifying Transmission Mount Bracket Bolts And Nuts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Raise the vehicle on the lift.
20. Remove the splash shield.

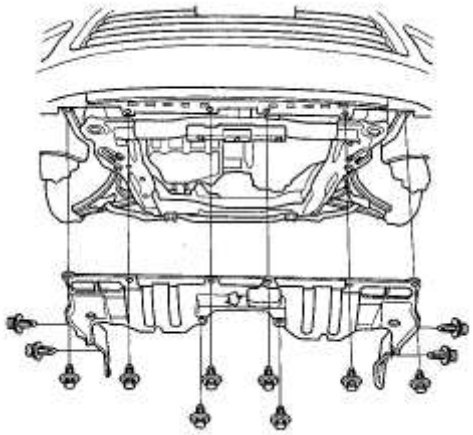


**Fig. 35: Identifying Splash Shield And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Drain the transmission fluid. Reinstall the drain plug with a new washer (see **TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).
22. Separate the lower arm (see step 5 on **DRIVESHAFT REMOVAL** ).
23. Remove the stiffner plate (A) and mounting bracket (B) from the steering

gearbox. Disconnect the exhaust mounting rubber (C).

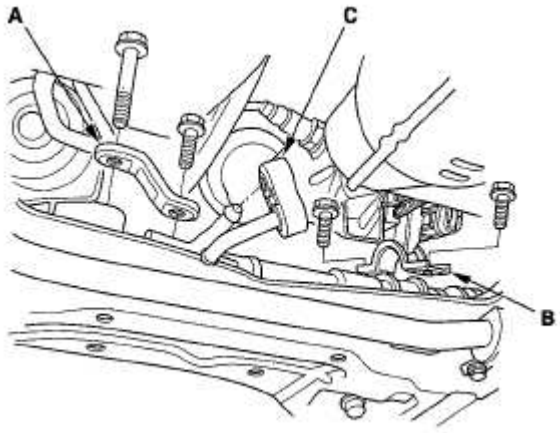



**Fig. 36: Identifying Stiffner Plate And Mounting Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Remove the stiffner plate (A) and harness clip (B).

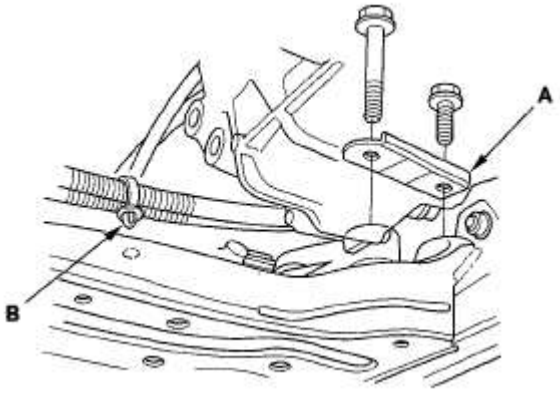



**Fig. 37: Identifying Stiffner Plate And Harness Clip**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Remove the front mount mounting bolt (A) and nut (B) then, remove the lower radiator hose from the front mount bracket.

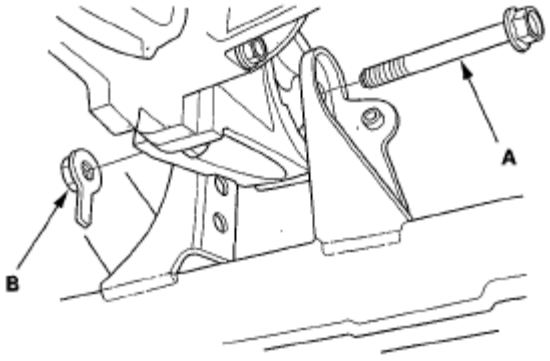



**Fig. 38: Identifying Front Mount Mounting Bolt And Nut**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

26. Remove the front engine mount bracket (A) from the transmission and engine.

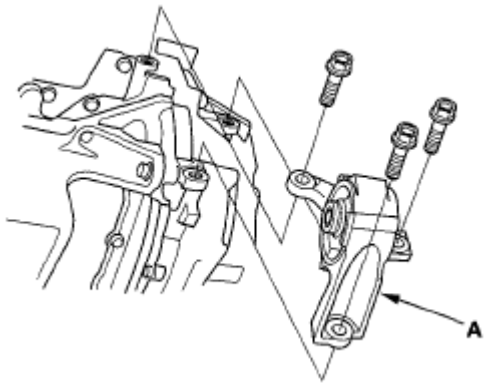



**Fig. 39: Identifying Front Engine Mount Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

27. Remove the lower torque rod mounting bolt.



**Fig. 40: Identifying Lower Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

28. Remove the middle subframe mounting bolts (A).

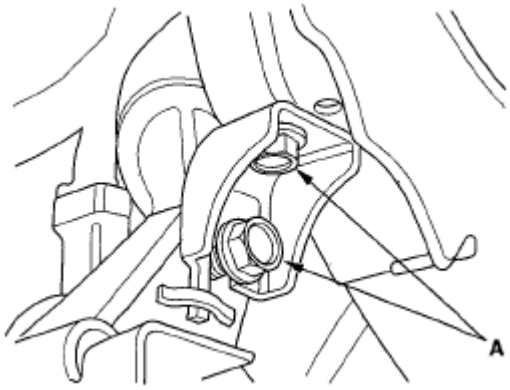



**Fig. 41: Identifying Middle Subframe Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

29. Note the reference marks (A) on both sides of the subframe that lines up with the body (B).

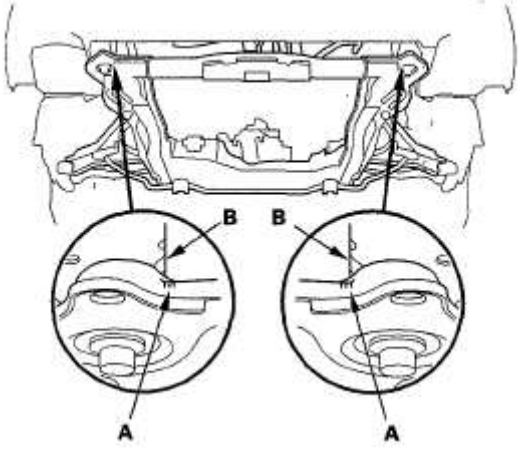



**Fig. 42: Identifying Marks On Both Sides Of Subframe**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

30. Attach the front subframe adapter to the front subframe by wrapping the band over the front subframe and attaching the end of the band to the front subframe adapter with the pin (A).

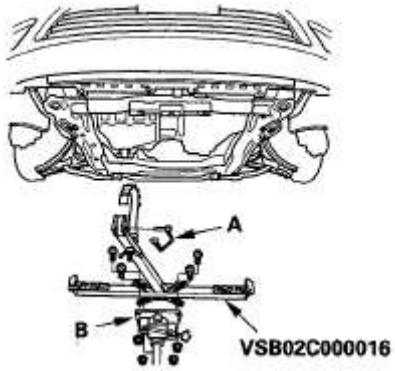



**Fig. 43: Identifying Front Subframe Adapter With Pin**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

31. Raise the jack, and line up the slots in the arms with the bolt holes on the corner of the jack base (B), then attach them securely.
32. Remove the front subframe mounting bolts (A) and front subframe (B).

**NOTE: Suspend the steering gearbox with an appropriate size wire.**

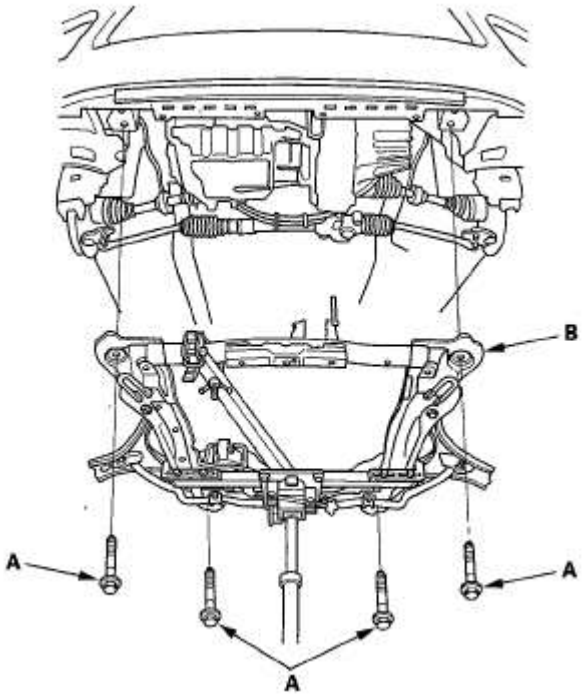



**Fig. 44: Identifying Front Subframe Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Pry out the driveshafts inboard joint (see step 8 on **DRIVESHAFT REMOVAL** ).
34. Remove the intermediate shaft (see **INTERMEDIATE SHAFT REMOVAL** ).
35. Remove the clutch cover.

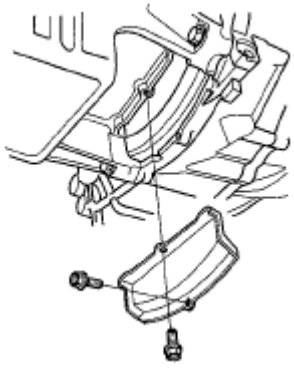


**Fig. 45: Identifying Clutch Cover And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

36. Support the transmission with the transmission jack.
37. Remove the transmission mounting bolts.

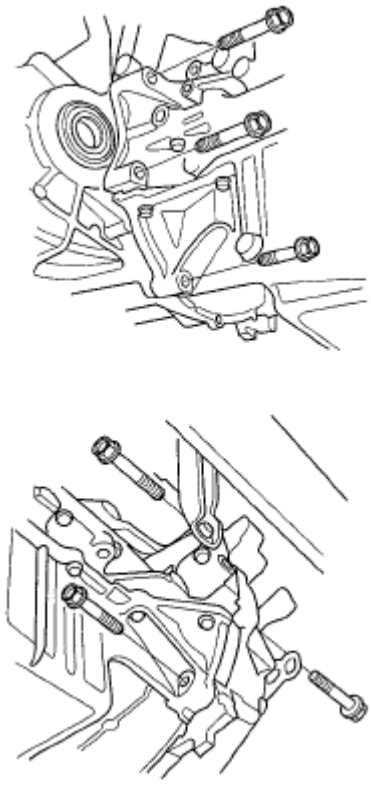


**Fig. 46: Identifying Transmission Mounting Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

38. Pull the transmission away from the engine until the transmission mainshaft clears the clutch pressure plate.
39. Slowly lower the transmission about 150 mm (6 in). Check once again that all hoses and electrical wiring are disconnected and free from the transmission, then lower it all the way.
40. Remove the release fork boot (A) from the clutch housing (B).

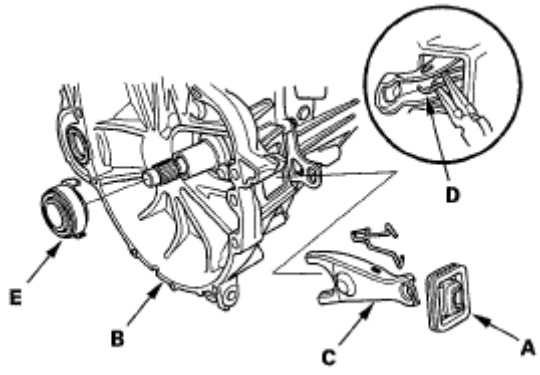


**Fig. 47: Identifying Release Fork Boot From Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

41. Remove the release fork (C) from the clutch housing by squeezing the release fork set spring (D) with pliers. Remove the release bearing (E).

**TRANSMISSION INSTALLATION**

## Special Tools Required

- Engine hanger/adapter VSB02C000015
- Engine support hanger, A & Reds AAR-T-12566
- Front subframe adapter VSB02C000016
- 2006 Civic engine hanger VSB02C000025

These special tools are available through the Honda Tool and Equipment Program 1-888-424-6857

**NOTE: Use fender covers to avoid damaging painted surfaces.**

1. Loosen the upper torque rod mounting bolt (A).

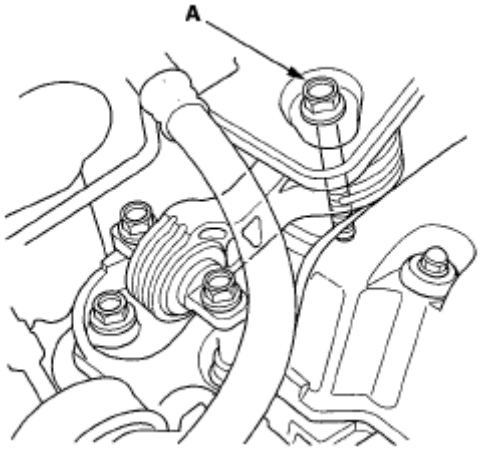



**Fig. 48: Identifying Upper Torque Rod Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Make sure the two dowel pins (A) are installed in the clutch housing.

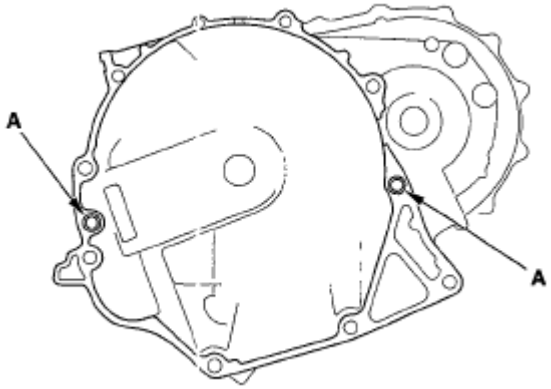



**Fig. 49: Identifying Dowel Pins In Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the release fork and the release bearing (see step 35 on **PRESSURE PLATE AND CLUTCH DISC REMOVAL (6-SPEED MODEL)** ), then install the release fork boot (see step 37 on page **PRESSURE PLATE AND CLUTCH DISC REMOVAL (6-SPEED MODEL)** ).
4. Place the transmission on the transmission jack, and raise it to the engine level.
5. Install the transmission mounting bolts.

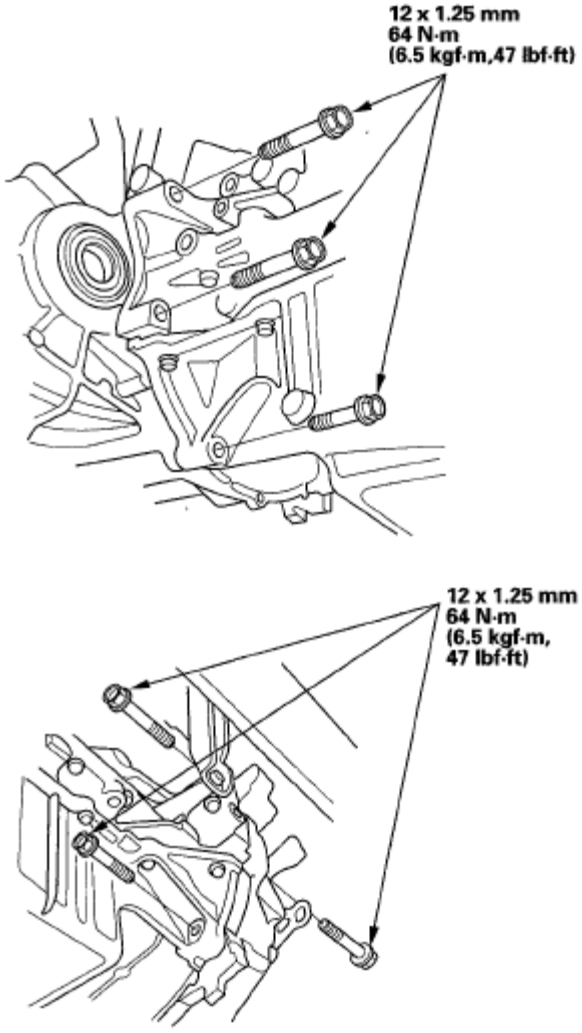



**Fig. 50: Identifying Transmission Mounting Bolts w/Torque Spec. Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the clutch cover.

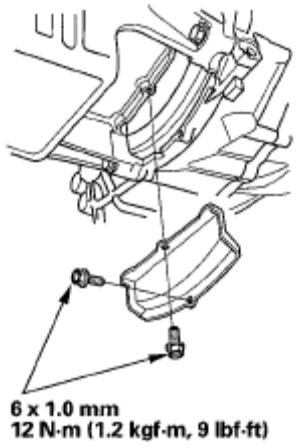



**Fig. 51: Identifying Clutch Cover And Bolts w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the intermediate shaft (see **INTERMEDIATE SHAFT INSTALLATION** ).
8. Install the driveshafts inboard joint (see **DRIVESHAFT INSTALLATION** ).
9. Support the front subframe with the front subframe adapter and a jack.

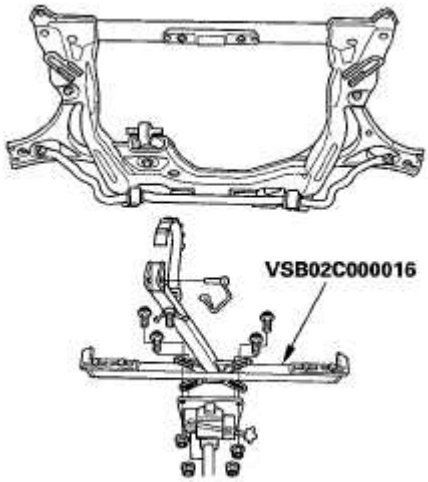



**Fig. 52: Supporting Front Subframe With Front Subframe Adapter And Jack**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the front subframe (A). Loosely install the new subframe mounting bolts (B).

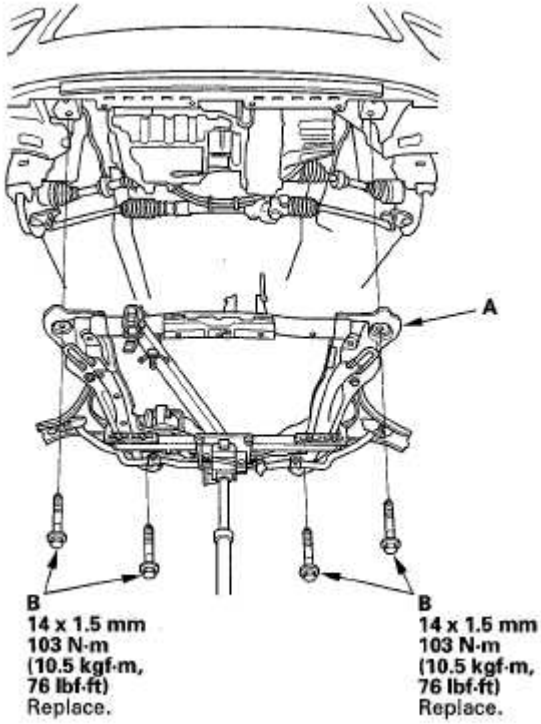



**Fig. 53: Identifying Front Subframe And Subframe Mounting Bolts w/Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Align the front subframe reference marks (A) to the body (B), as noted during removal. Tighten the subframe mounting bolts to the specified torque.

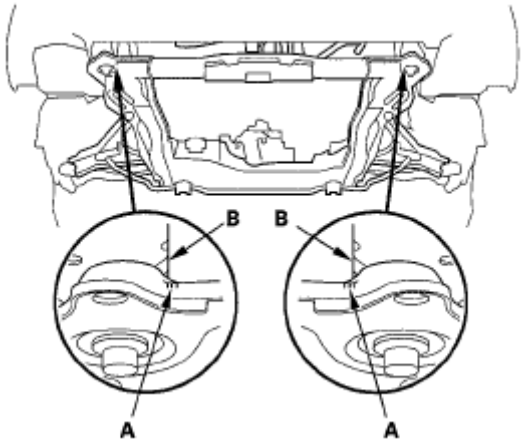



**Fig. 54: Identifying Front Subframe Reference Marks To Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Install the lower torque rod mounting bolt.

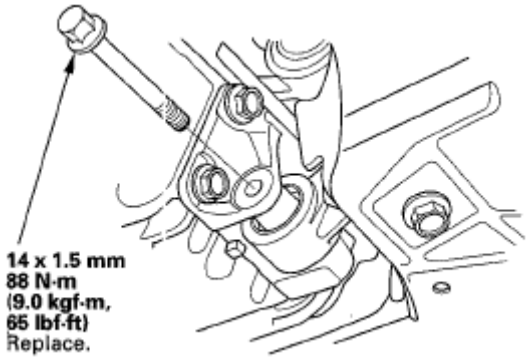



**Fig. 55: Identifying Lower Torque Rod Mounting Bolt w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the front engine mount bracket (A) on the transmission and engine.

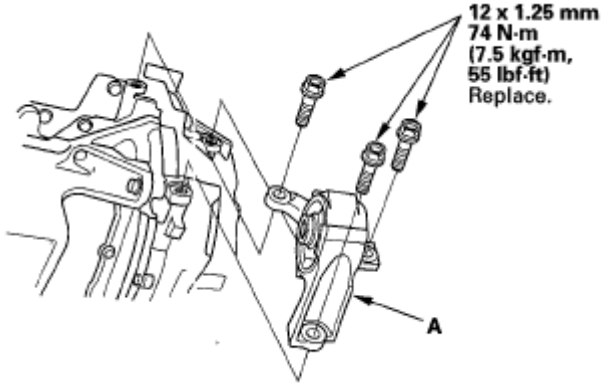



**Fig. 56: Identifying Front Engine Mount Bracket w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Loose tighten the new front mount mounting bolt (A). Then attach the lower radiator hose to the front engine mount bracket.

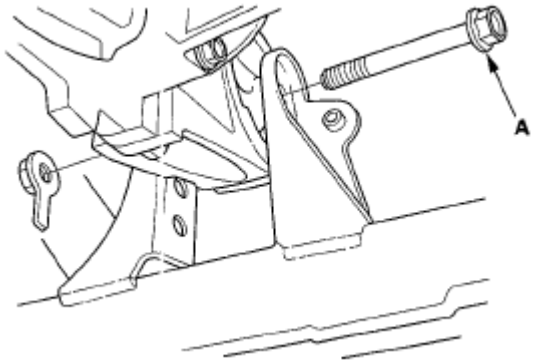



**Fig. 57: Identifying Front Mount Mounting Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the middle subframe mounting bolts.

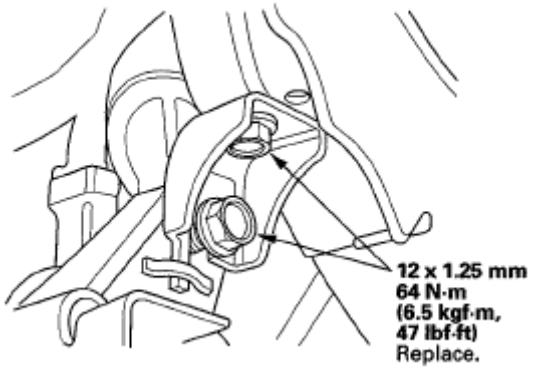



**Fig. 58: Identifying Middle Subframe Mounting Bolts w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Install the steering gearbox stiffner plate (A) and harness clip (B).

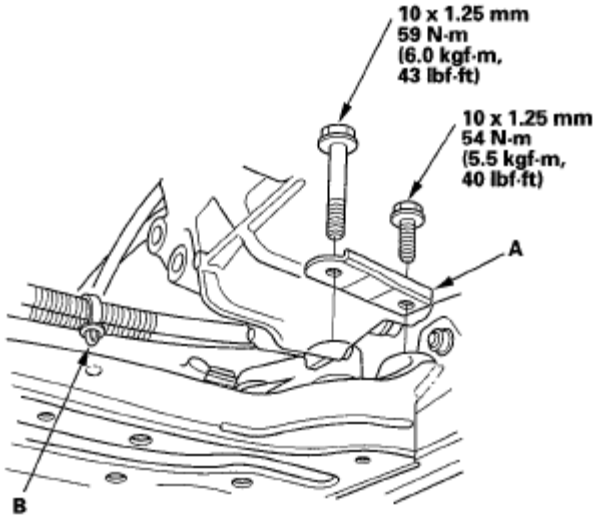



**Fig. 59: Identifying Steering Gearbox Stiffner Plate And Harness Clip w/Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Install the stiffner plate (A) and mounting bracket (B). Connect the exhaust mounting rubber (C).

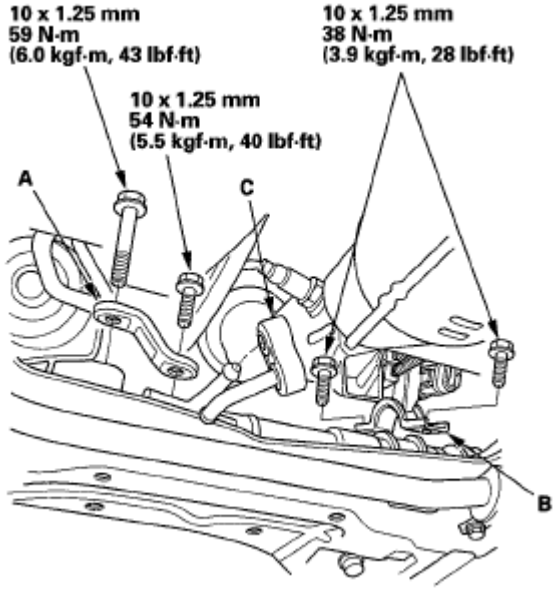



**Fig. 60: Identifying Stiffner Plate And Mounting Bracket w/Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Connect the lower arm (see step 7 on **DRIVESHAFT INSTALLATION** ).

19. Lower the vehicle on the lift.
20. Install the transmission mount bracket (A) and connect the ground cable (B).

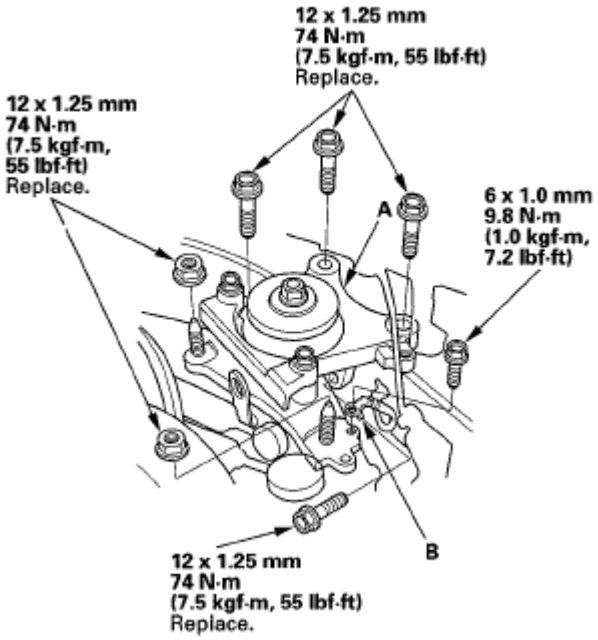



**Fig. 61: Identifying Transmission Mount Bracket And Ground Cable w/Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Raise the vehicle on the lift.
22. Loosen and retighten the lower torque rod mounting bolt.

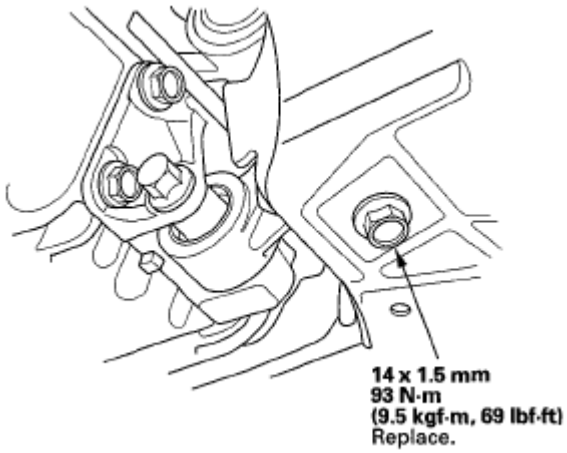



**Fig. 62: Identifying Lower Torque Rod Mounting Bolt w/Torque Spec.**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Lower the vehicle on the lift.
24. Tighten the upper torque rod mounting bolt.

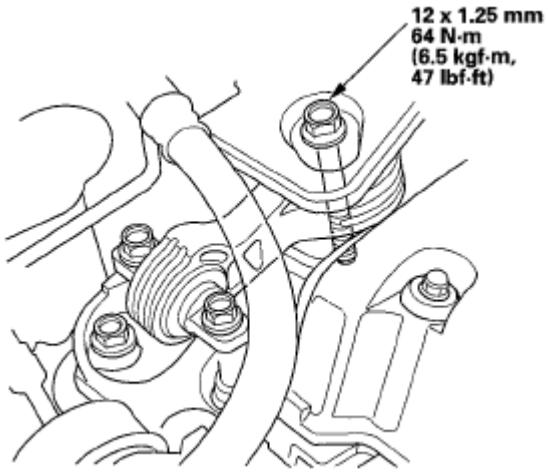



**Fig. 63: Identifying Upper Torque Rod Mounting Bolt w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

25. Raise the vehicle on the lift.
26. Tighten the front mount mounting bolt.

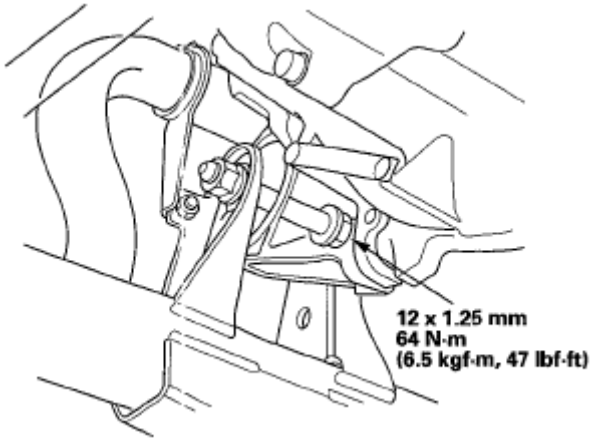



**Fig. 64: Identifying Front Mount Mounting Bolt w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

27. Refill the transmission with the recommended transmission fluid (see

**TRANSMISSION FLUID INSPECTION AND REPLACEMENT** ).

28. Install the splash shield.

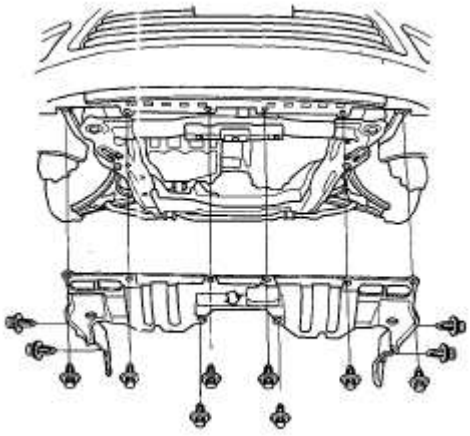


**Fig. 65: Identifying Splash Shield And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

29. Lower the vehicle on the lift.
30. Remove the engine hanger and the hanger/adapter from the engine.
31. Install the engine control module (ECM) bracket (A), then install the clutch line clamp (B).

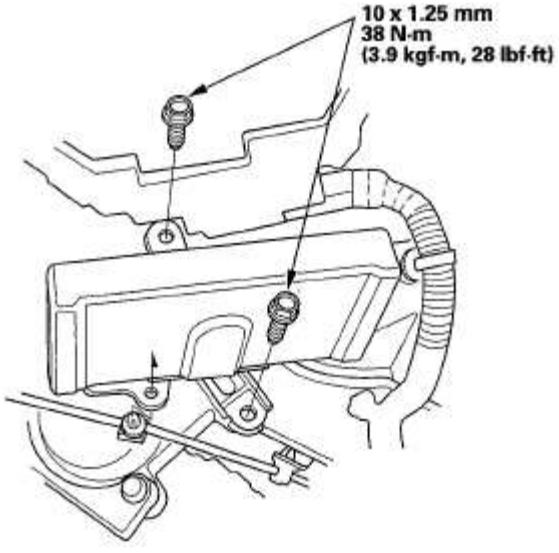



**Fig. 66: Identifying Engine Control Module (ECM) Bracket And Clutch Line Clamp w/Torque Spec.**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

32. Install the under-food fuse/relay box (A) on the under-hood fuse/relay bracket.

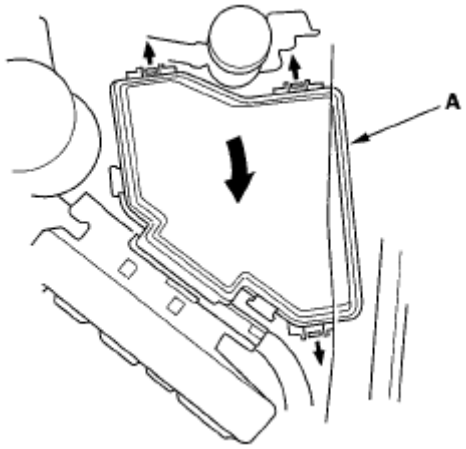



**Fig. 67: Identifying Under-Food Fuse/Relay Box On Under-Hood Fuse/Relay Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

33. Install the two upper transmission mounting bolts.

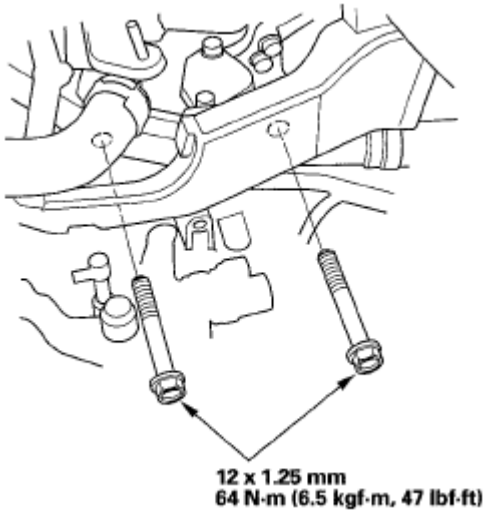



**Fig. 68: Identifying Upper Transmission Mounting Bolts w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

34. Install the engine harness cover (A).

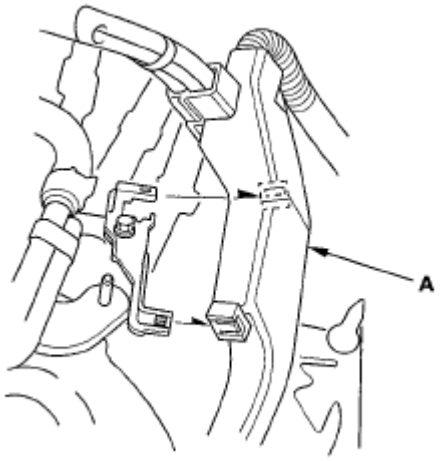



**Fig. 69: Identifying Engine Harness Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

35. Install the air cleaner housing mounting bracket.

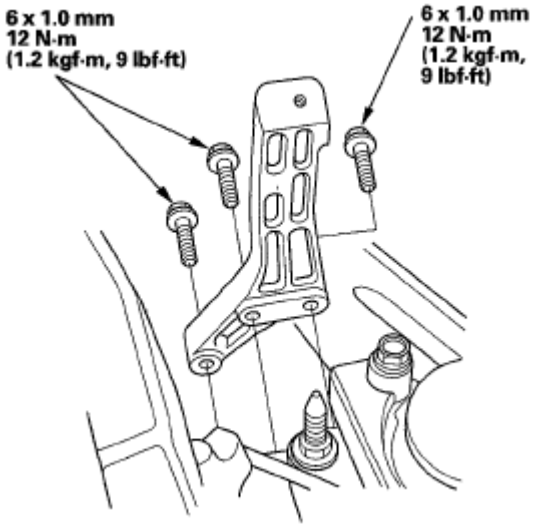



**Fig. 70: Identifying Air Cleaner Housing Mounting Bracket w/Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

36. Install the harness clips (A) on the shift cable bracket (B) and harness bracket (C).

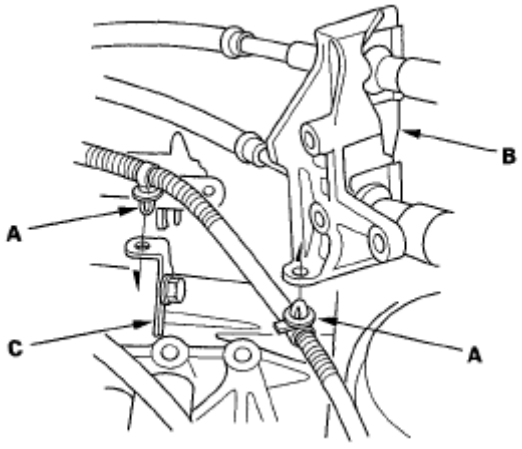



**Fig. 71: Identifying Shift Cable Bracket And Harness Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

37. Apply a light coat of super high temp urea grease (P/N 08798-9002) to the shift cable ends (A).

**'06 model**

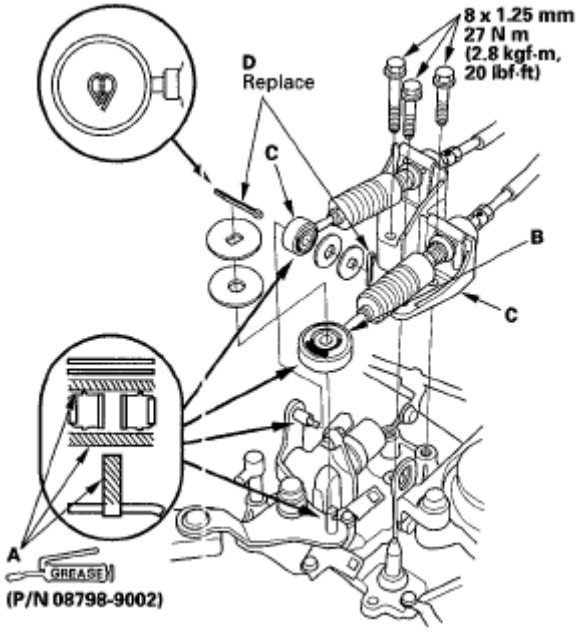



**Fig. 72: Identifying Shift Cable Ends And Shift Cable Bracket w/Torque Spec. (06 Model)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## '07-08 models

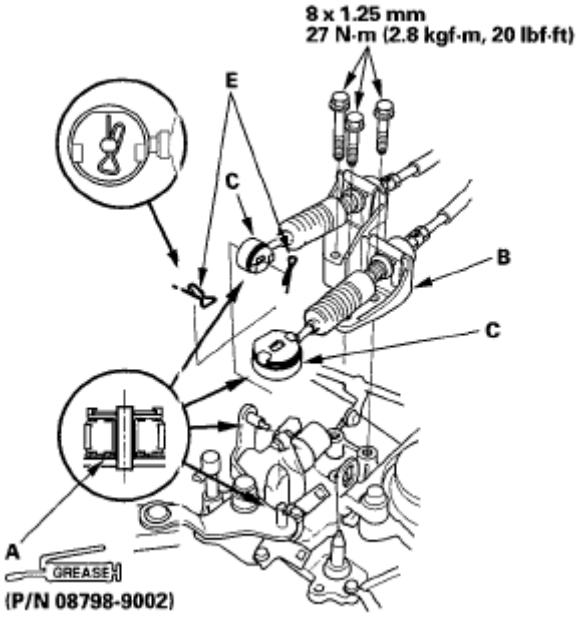



**Fig. 73: Identifying Shift Cable Ends And Shift Cable Bracket w/Torque Spec.(07-08 Models)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

38. Install the shift cable bracket (B) and the shift cables (C), then install the new cotter pins (D) and lock pins (E).
39. Connect the back-up light switch connector (A), and the output shaft (countershaft) speed sensor connector (B), and the reverse lockout solenoid connector (C). Install the harness clips (D).

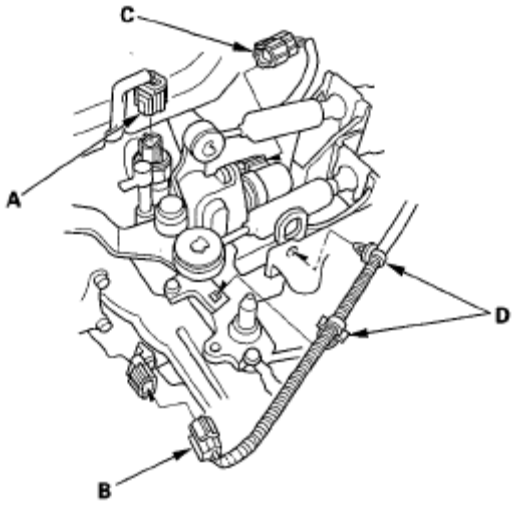



**Fig. 74: Identifying Back-Up Light Switch Connector And Countershaft Speed Sensor Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

40. Apply super high temp urea grease (P/N 08798-9002) to the end of the slave cylinder rod. Install the slave cylinder (A) then install the clutch line bracket (B). Be careful not to bend the clutch line.

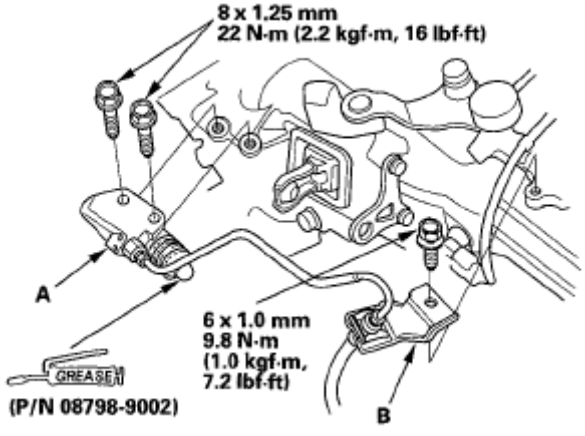



**Fig. 75: Identifying Slave Cylinder And Clutch Line Bracket w/Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

41. Install the battery base (A) with the coolant reservoir (B).

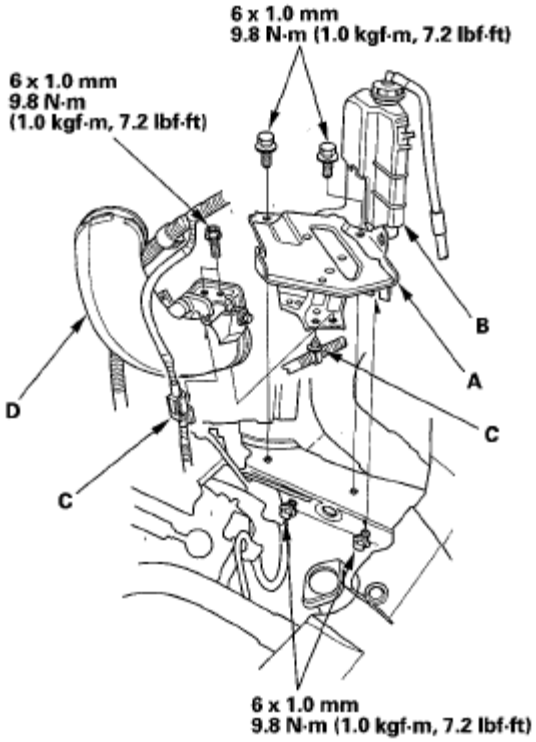



**Fig. 76: Identifying Battery Base With Coolant Reservoir w/Torque Specs. Courtesy of AMERICAN HONDA MOTOR CO., INC.**

42. Install the harness clips (C) and the intake air duct (D).
43. Install the air cleaner assembly (see **AIR CLEANER ELEMENT INSPECTION/REPLACEMENT** ).
44. Install the battery. Clean the battery posts and cable terminals. Connect the positive cable to the battery, then connect the negative cable, and apply multipurpose grease to prevent corrosion.
45. Install the under-cowl panel and cowl cover (see **COWL COVER REPLACEMENT** ).
46. Check the change lever and the clutch operation.
47. Check the front wheel alignment (see **WHEEL ALIGNMENT** ).
48. Test-drive the vehicle.
49. Enter the anti-theft code for the audio system or the navigation system (if equipped), then enter the audio presets. Set the clock (on vehicles without navigation).
50. Do the power window control unit reset procedure (see **RESETTING THE**

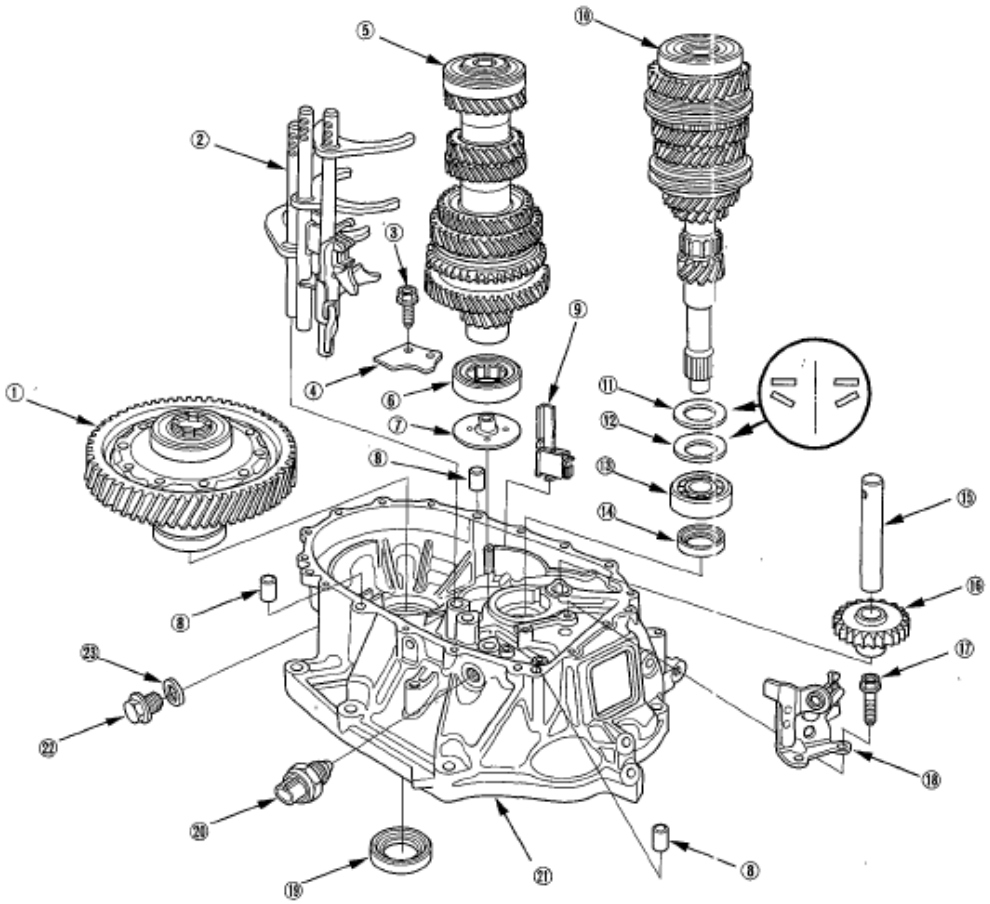
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# POWER WINDOW CONTROL UNIT ).

## TRANSMISSION DISASSEMBLY

### Exploded View-Clutch Housing



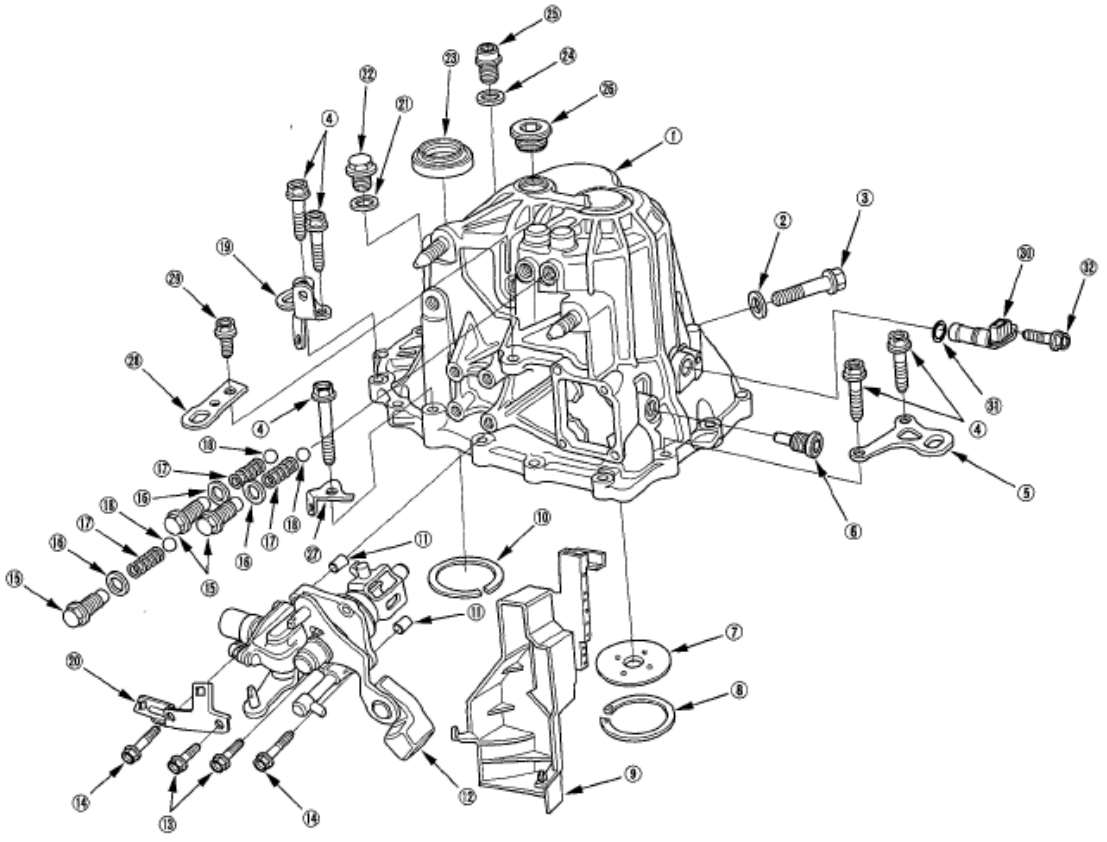
① DIFFERENTIAL ASSEMBLY
② SHIFT FORK
③ 6 mm FLANGE BOLT
12 N·m (1.2 kgf·m, 9 lbf·ft)
④ BEARING SET PLATE
⑤ COUNTERSHAFT ASSEMBLY
⑥ NEEDLE BEARING
⑦ OIL GUIDE PLATE C
⑧ 14 x 20 mm DOWEL PIN
⑨ MAGNET
⑩ MAINSHAFT ASSEMBLY
⑪ 28 mm WASHER
⑫ 28 mm SPRING WASHER
⑬ BALL BEARING
⑭ 28 x 43 x 7 mm OIL SEAL
Replace.
⑮ REVERSE GEAR SHAFT
⑯ REVERSE IDLER GEAR
⑰ 6 mm SPECIAL BOLT
15 N·m (1.5 kgf·m, 11 lbf·ft)
⑱ REVERSE SHIFT FORK
⑲ 35 x 58 x 8 mm OIL SEAL
Replace.
⑳ BACK-UP LIGHT SWITCH
29 N·m (3.0 kgf·m, 22 lbf·ft)
㉑ CLUTCH HOUSING
㉒ 20 mm BOLT
44 N·m (4.5 kgf·m, 33 lbf·ft)
㉓ 20 mm WASHER
Replace.

## Fig. 77: Exploded View Of Clutch Housing Components
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

### Exploded View-Transmission Housing

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① TRANSMISSION HOUSING
② 10 mm WASHER
Replace.
③ 10 mm FLANGE BOLT
44 N·m (4.5 kgf·m, 33 lbf·ft)
④ 8 mm FLANGE BOLT
27 N·m (2.8 kgf·m, 20 lbf·ft)
⑤ TRANSMISSION HANGER A
⑥ INTERLOCK BOLT
39 N·m (4.0 kgf·m, 29 lbf·ft)
⑦ OIL GUIDE PLATE M
⑧ 72 mm SHIM
⑨ OIL GUTTER PLATE
⑩ 80 mm SHIM
⑪ 8 x 14 mm DOWEL PIN
⑫ CHANGE LEVER ASSEMBLY
⑬ 6 x 30 mm FLANGE BOLT
12 N·m (1.2 kgf·m, 9 lbf·ft)
⑭ 6 x 20 mm FLANGE BOLT
12 N·m (1.2 kgf·m, 9 lbf·ft)
⑮ DETENT BOLT
22 N·m (2.2 kgf·m, 16 lbf·ft)
⑯ 12 mm WASHER
Replace.
⑰ SPRING
⑱ STEEL BALL
⑲ TRANSMISSION HANGER B
⑳ HARNESS BRACKET A
㉑ 20 mm SEALING WASHER
Replace.
㉒ FILLER PLUG
44 N·m (4.5 kgf·m, 33 lbf·ft)
㉓ 40 x 56 x 8 mm OIL SEAL
Replace.
㉔ 14 mm SEALING WASHER
Replace.
㉕ DRAIN PLUG
39 N·m (4.0 kgf·m, 29 lbf·ft)
㉖ 32 mm SEALING CAP
34 N·m (3.5 kgf·m, 25 lbf·ft)
㉗ HARNESS BRACKET B
㉘ TRANSMISSION HANGER
㉙ 10 mm FLANGE BOLT
44 N·m (4.5 kgf·m, 33 lbf·ft)
㉚ OUTPUT SHAFT (COUNTERSHAFT) SPEED SENSOR
㉛ O-RING
Replace.
㉜ 6 mm FLANGE BOLT
12 N·m (1.2 kgf·m, 9 lbf·ft)

**Fig. 78: Exploded View Of Transmission Housing Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**NOTE: Place the clutch housing on two pieces of wood thick enough to keep the mainshaft from hitting the workbench.**

1. Remove the detent bolts (A), 12 mm washers (B) springs, steel balls, and the back-up light switch (C). Then remove the transmission hanger (D).

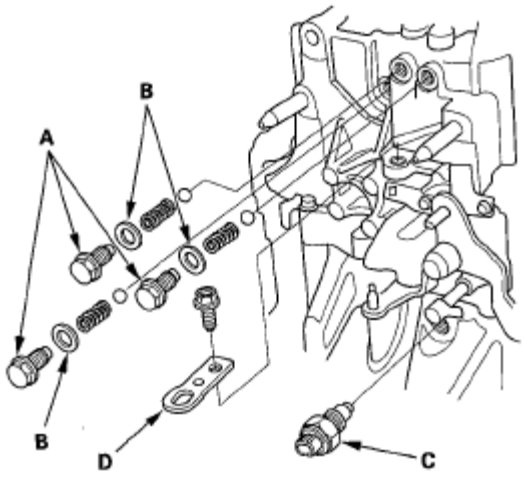



**Fig. 79: Identifying Back-Up Light Switch With Bolts And Washers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the 20 mm bolt (A) and the 20 mm washer (B).

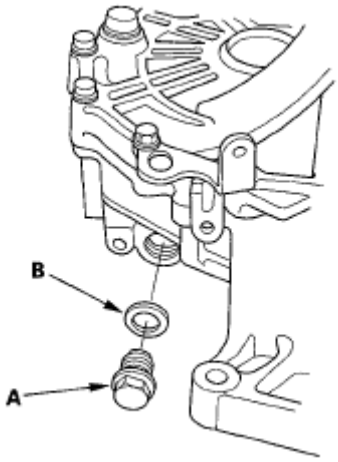



**Fig. 80: Identifying Bolts And Washers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the interlock bolt (B), change lever assembly (C), 8 x 14 mm dowel pins (D), and harness bracket A.

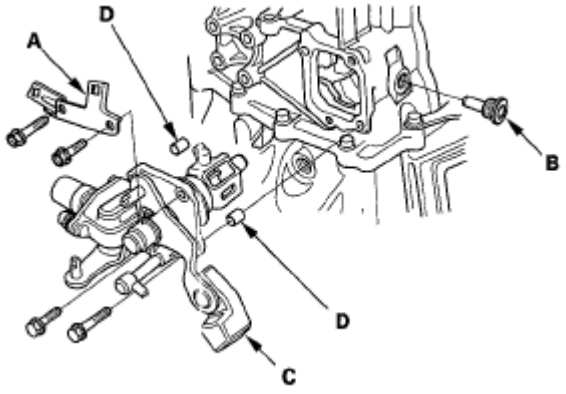



**Fig. 81: Identifying Change Lever Assembly And Interlock Bolt**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the drain plug (A), the 14 mm sealing washer (B), the filler plug (C), 20 mm sealing washer (D), the 10 mm flange bolt (E), 10 mm washer (F), the output shaft (countershaft) speed sensor (G), and the O-ring (H).

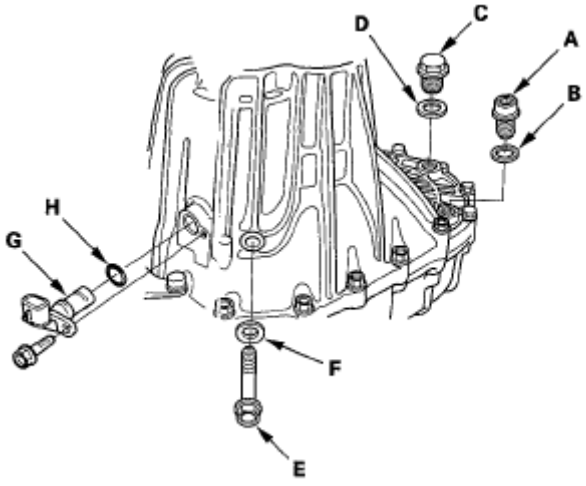



**Fig. 82: Identifying Drain Plug And Sealing Washer**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the transmission hanger A, the transmission hanger B, and the harness bracket (C).

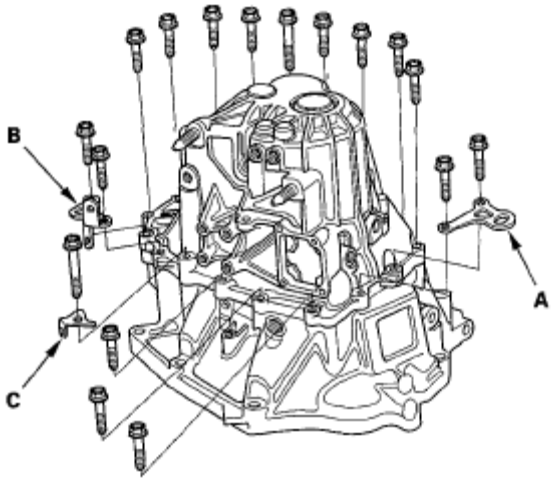



**Fig. 83: Identifying Transmission Hanger And Harness Bracket With Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the 8 mm flange bolts in a crisscross pattern in several steps.
7. Remove the 32 mm sealing cap (A).

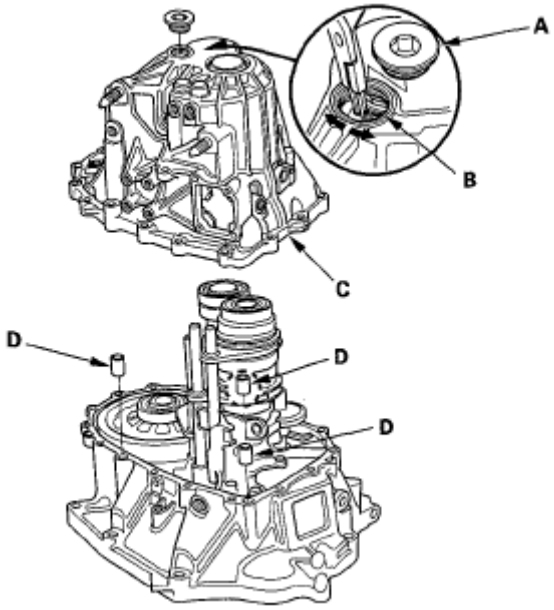



**Fig. 84: Identifying Sealing Cap**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Expand the 72 mm snap ring (B) on the countershaft ball bearing, and remove

it from the groove using a pair of snap ring pliers.

9. Remove the transmission housing (C) and the three 14 x 20 mm dowel pins (D).
10. Remove the reverse idler gear (A) and the reverse gear shaft (B).

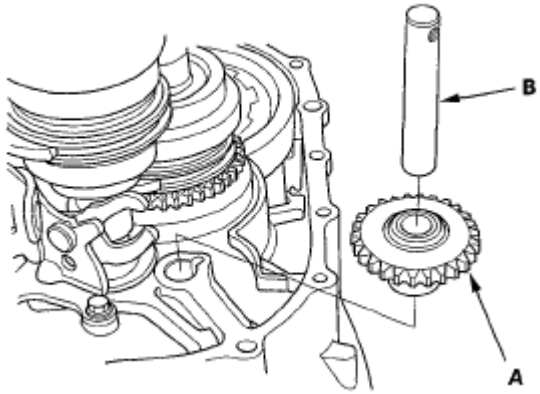



**Fig. 85: Identifying Reverse Idler Gear And Reverse Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Remove the reverse shift fork.

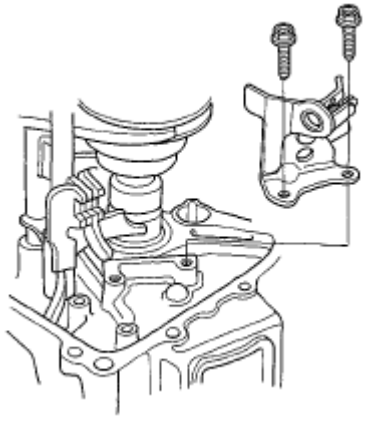


**Fig. 86: Identifying Reverse Shift Fork And Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Apply tape to the mainshaft splines to protect the seal, then remove the mainshaft assembly (A) and countershaft assembly (B) with the shift forks (C) from the clutch housing (D).

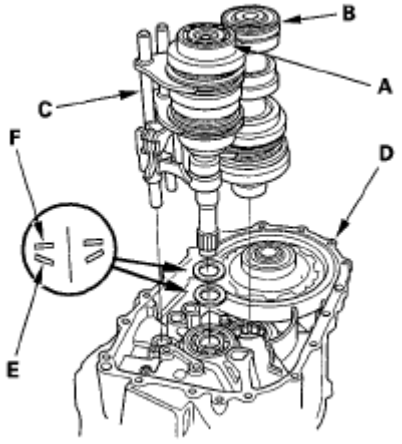



**Fig. 87: Identifying Mainshaft Assembly, Countershaft Assembly. Shift Forks And Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Remove the 28 mm spring washer (E) and 28 mm washer (F).
14. Remove the differential assembly (A) and the magnet (B).

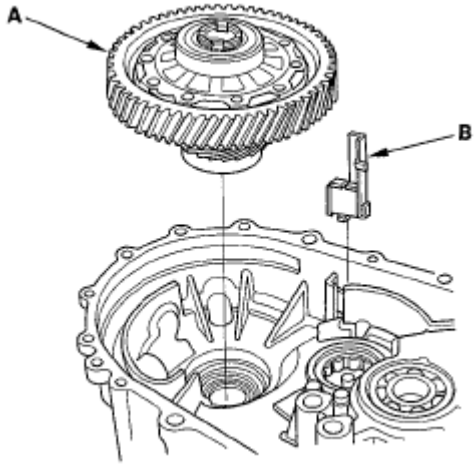



**Fig. 88: Identifying Differential Assembly And Magnet**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Remove the oil gutter plate (A), the oil guide plate M, and the 72 mm shim (B).

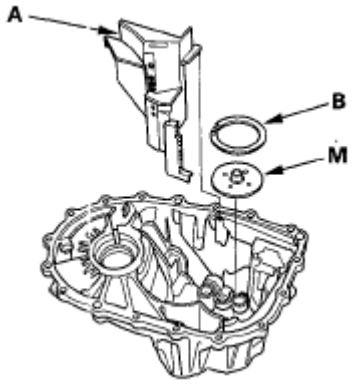



**Fig. 89: Identifying Oil Gutter Plate And Shim**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**REVERSE SHIFT FORK CLEARANCE INSPECTION**

1. Measure the clearance between the reverse idler gear (A) and the reverse shift fork (B) with a feeler gauge (C). If the clearance is more than the service limit, go to step 2.

   **Standard: 0.20-0.59 mm (0.007-0.024 in.) Service Limit: 1.3 mm (0.051 in.)**

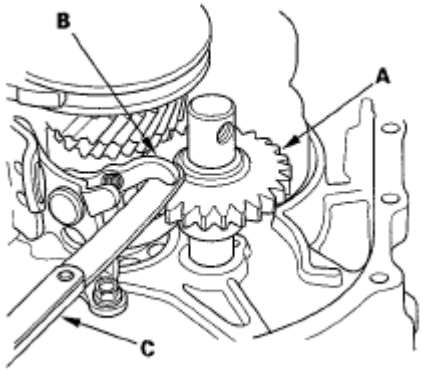



**Fig. 90: Identifying Reverse Idler Gear, Reverse Shift Fork And Feeler Gauge**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the width of the reverse shift fork.
   - If the width is not within the standard, replace the reverse shift fork.
   - If the width is within the standard, replace reverse idler gear.

**Standard: 13.4-13.7 mm (0.527-0.539 in.)**

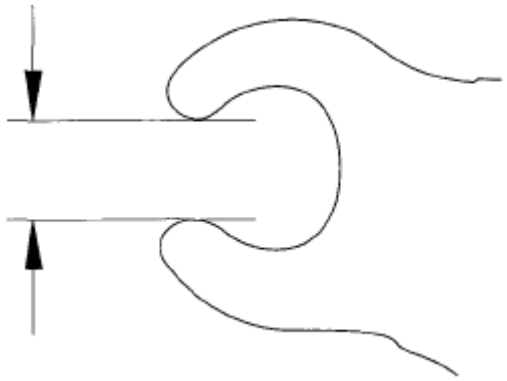


**Fig. 91: Identifying Width Of Reverse Shift Fork**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CHANGE LEVER CLEARANCE INSPECTION**

1. Measure the clearance between the change lever (A) and the select lever (B) with a feeler gauge (C). If the clearance is more than the service limit, go to step 2.

   **Standard: 0.05-0.25 mm (0.002-0.010 in.) Service Limit: 0.50 mm (0.020 in.)**

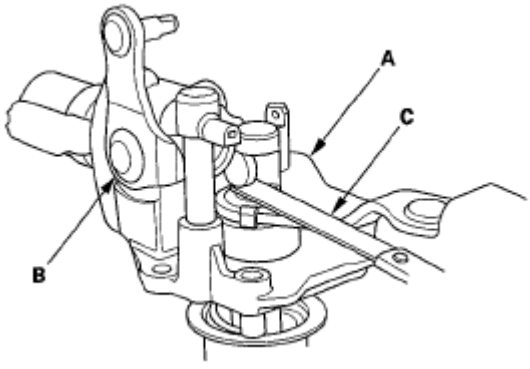



**Fig. 92: Identifying Lever, Select Lever And Feeler Gauge**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the groove of the change lever.
   - If the groove is not within the standard, replace the shift lever.

- If the groove is within the standard, replace the select lever.

**Standard: 15.00-15.10 mm (0.591-0.594 in.)**

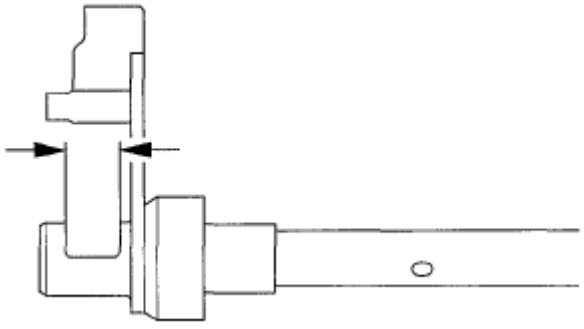


**Fig. 93: Identifying Groove Of Change Lever**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CHANGE LEVER ASSEMBLY DISASSEMBLY/REASSEMBLY**

**NOTE:**

- **If 5 minutes have passed after applying liquid gasket, reapply it, and assemble the shift arm cover.**
- **Prior to reassembling, clean all parts in solvent, dry them, and apply grease to the contact surfaces as shown.**

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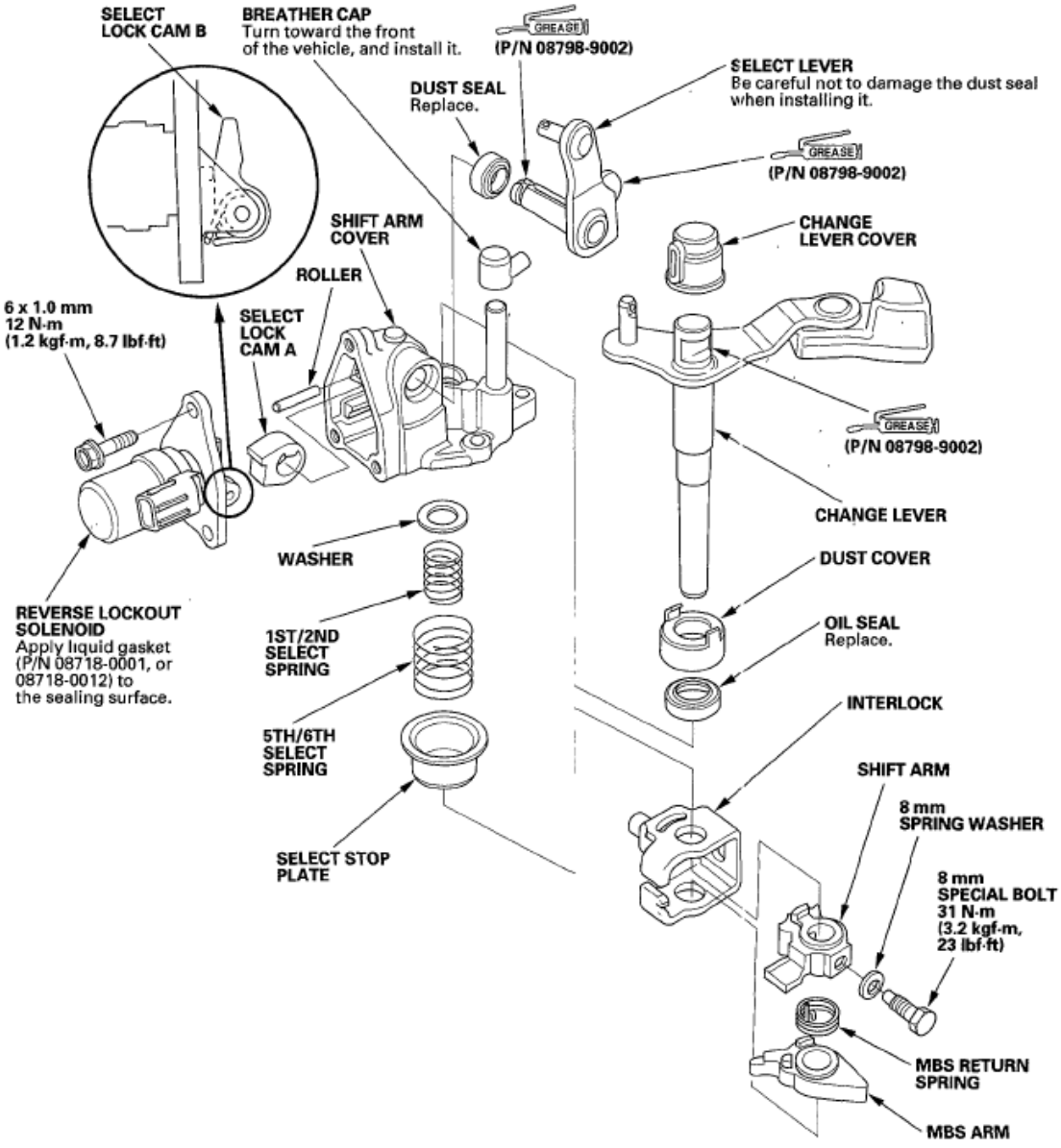



**Fig. 94: Exploded View Of Change Lever Assembly & Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SHIFT FORK CLEARANCE INSPECTION**

**NOTE: The synchro sleeve and synchro hub should be replaced as a set.**

1. Measure the clearance between each shift fork (A) and its matching synchro

sleeve (B). If the clearance exceeds the service limit, go to step 2.

**Standard: 0.35-0.65 mm (0.014-0.026 in.) Service Limit: 1.0 mm (0.039 in.)**

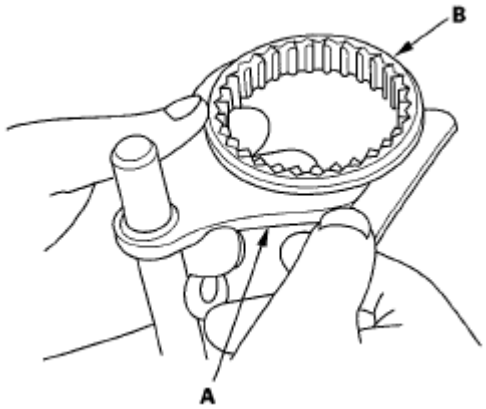



**Fig. 95: Identifying Shift Fork And Synchro Sleeve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the thickness of the shift fork fingers.
   - If the thickness is not within the standard, replace the shift fork.
   - If the thickness is within the standard, replace the synchro sleeve and synchro hub as a set.
   - If one arm of the shift fork shows more wear than others, the fork may be bent and needs to be replaced.

**Standard: 7.4-7.6 mm (0.29-0.30 in.)**

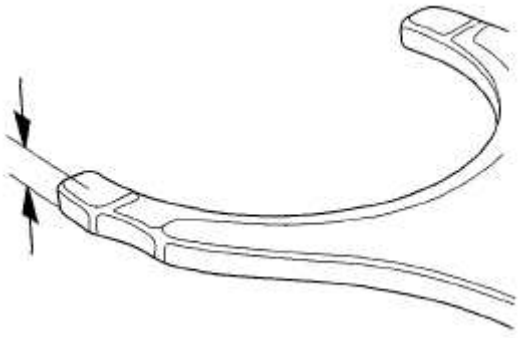


**Fig. 96: Identifying Thickness Of Shift Fork Fingers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Measure the clearance between the shift fork (A) and the shift arm (B). If the clearance exceeds the service limit, go to step 4.

   **Standard: 0.2-0.5 mm (0.007-0.020 in.) Service Limit: 0.62 mm (0.024 in.)**

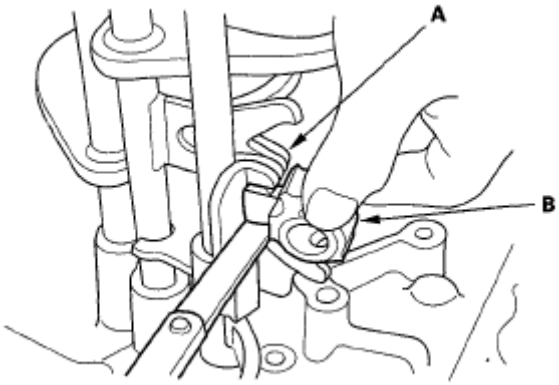



**Fig. 97: Identifying Shift Fork And Shift Arm**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the width of the shift arm.
   - If the width is not within the standard, replace the shift arm.
   - If the width is within the standard, replace the shift fork or reverse shift piece.

   **Standard: 16.9-17.0 mm (0.665-0.669 in.)**

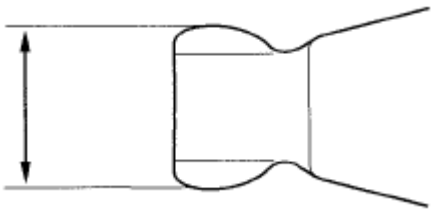


**Fig. 98: Identifying Width Of Shift Arm**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SHIFT FORK DISASSEMBLY/REASSEMBLY**

**NOTE: Prior to reassembling, clean all the parts in solvent, dry them, and apply manual transmission fluid (MTF) to all**

**contact surfaces.**

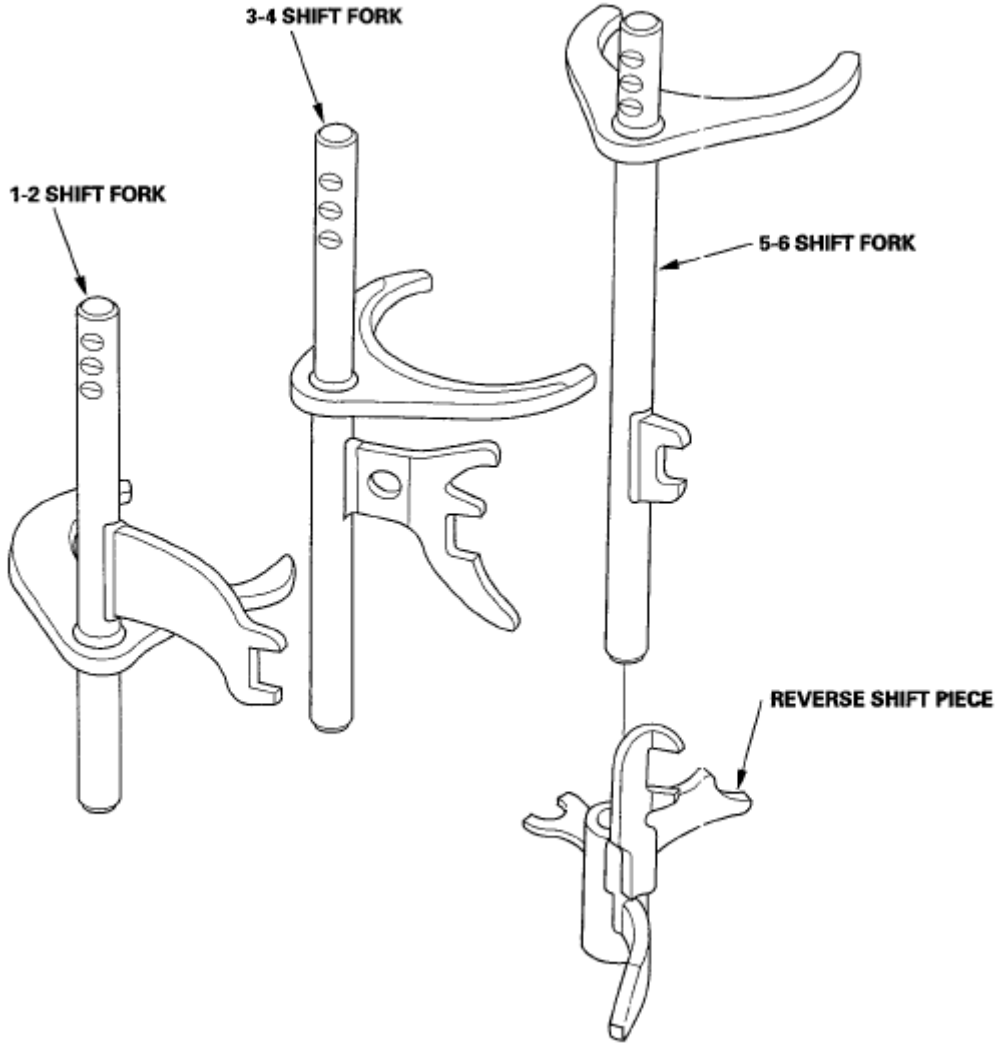



**Fig. 99: Exploded View Of Shift Fork**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT ASSEMBLY CLEARANCE INSPECTION**

**NOTE: If replacement is required, always replace the synchro sleeve and synchro hub as a set.**

1. Support the bearing inner race with an appropriate sized socket (A), and push down on the mainshaft (B).

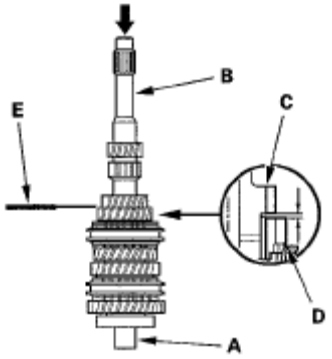



**Fig. 100: Identifying Socket And Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the clearance between 2nd gear (C) and 3rd gear (D) with a feeler gauge (E).
   - If the clearance is more than the service limit, go to step 3.
   - If the clearance is within the service limit, go to step 4.

   **Standard: 0.06-0.16 mm (0.002-0.006 in.) Service Limit: 0.25 mm (0.010 in.)**

3. Measure the thickness of 3rd gear.
   - If the thickness is less than the service limit, replace 3rd gear.
   - If the thickness is within the service limit, replace the 3rd/4th synchro hub and 3rd/4th synchro sleeve as a set.

   **Standard: 23.92-23.97 mm (0.941-0.944 in.) Service Limit: 23.80 mm (0.937 in.)**

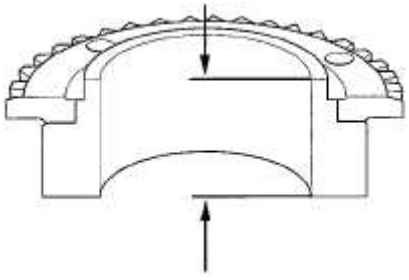


**Fig. 101: Identifying Thickness Of 3rd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the clearance between 4th gear (A) and the distance collar (B) with a dial indicator (C).
   - If the clearance is more than the service limit, go to step 5.
   - If the clearance is within the service limit, go to step 7.

   **Standard: 0.06-0.16 mm (0.002-0.006 in.) Service Limit: 0.25 mm (0.010 in.)**

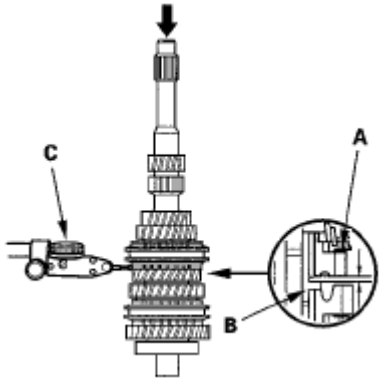



**Fig. 102: Identifying 4th Gear, Distance Collar And Dial Indicator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure the length (1) of the distance collar as shown.
   - If the length (1) is not within the standard, replace the distance collar.
   - If the length (1) is within the standard, go to step 6.

   **Standard: 24.03-24.08 mm (0.946-0.948 in.)**

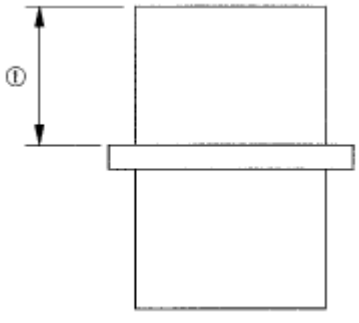



**Fig. 103: Identifying Length Of Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Measure the thickness of 4th gear.
   - If the thickness is less than the service limit, replace 4th gear.
   - If the thickness is within the service limit, replace the 3rd/4th synchro hub and 3rd/4th synchro sleeve as a set.

   **Standard: 23.92-23.97 mm (0.941-0.944 in.) Service Limit: 23.80 mm (0.937 in.)**

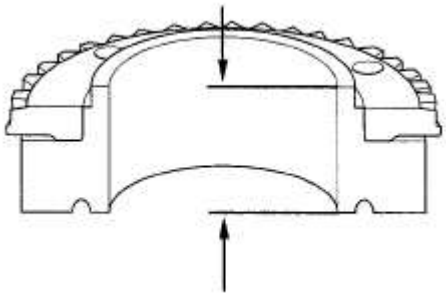


**Fig. 104: Identifying Thickness Of 4th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Measure the clearance between the distance collar (A) and 5th gear (B) with a dial indicator (C).
   - If the clearance is more than the service limit, go to step 8.
   - If the clearance is within the service limit, go to step 10.

   **Standard: 0.06-0.16 mm (0.002-0.006 in.) Service Limit: 0.25 mm (0.010 in.)**

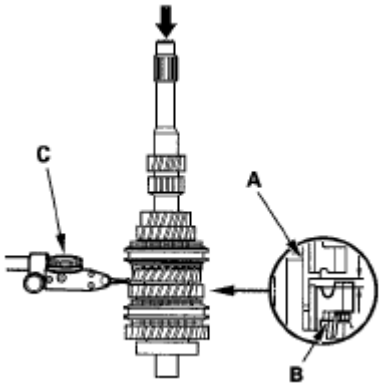



**Fig. 105: Identifying Distance Collar, 5th Gear And Dial Indicator**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Measure the length (2) of the distance collar as shown.
   - If the length (2) is not within the standard, replace the distance collar.
   - If the length (2) is within the standard, go to step 9.

**Standard: 24.03-24.08 mm (0.946-0.948 in.)**

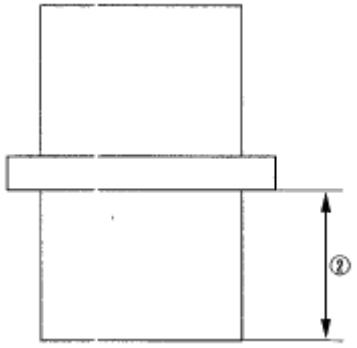



**Fig. 106: Identifying Length Of Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Measure the thickness of 5th gear.
   - If the thickness is less than the service limit, replace 5th gear.
   - If the thickness, is within the service limit, replace the 5th/6th synchro hub and 5th/6th synchro sleeve as a set.

**Standard: 23.92-23.97 mm (0.941-0.944 in.) Service Limit: 23.80 mm (0.937 in.)**

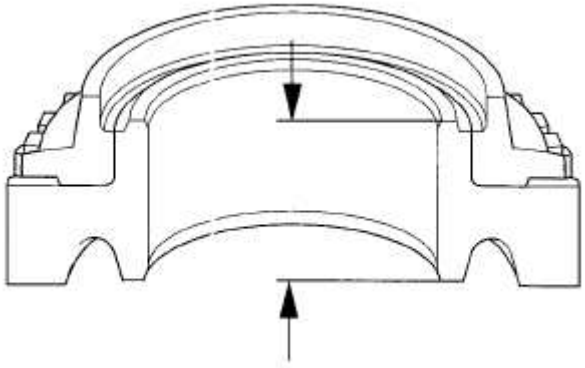


**Fig. 107: Identifying Thickness Of 5th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Measure the clearance between 6th gear (A) and the angular ball bearing (B) with a feeler gauge (C). If the clearance is more than the service limit, go to step 11.

    **Standard: 0.06-0.16 mm (0.002-0.006 in.) Service Limit: 0.25 mm (0.010 in.)**

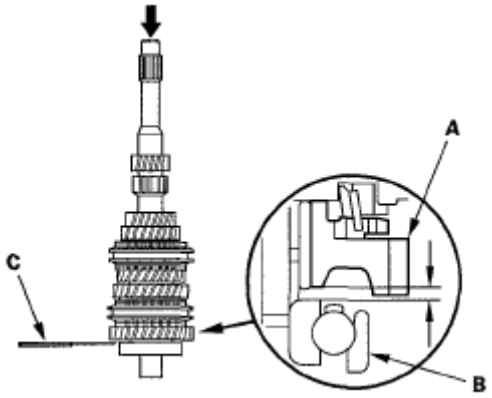



**Fig. 108: Identifying 6th Gear, Angular Ball Bearing And Feeler Gauge**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Measure the length of the 6th gear distance collar.
    - If the length is not within the standard, replace the 6th gear distance collar.
    - If the length is within the standard, go to step 12.

    **Standard: 24.03-24.08 mm (0.946-0.948 in.)**

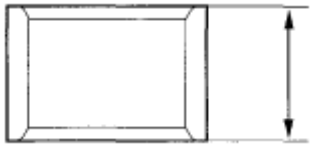


**Fig. 109: Identifying Length Of 6th Gear Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Measure the thickness of 6th gear.

- If the thickness is less than the service limit, replace 6th gear.
- If the thickness is within the service limit, replace the 5th/6th synchro hub and 5th/6th synchro sleeve as a set.

**Standard: 23.92-23.97 mm (0.941-0.944 in.) Service Limit: 23.80 mm (0.937 in.)**

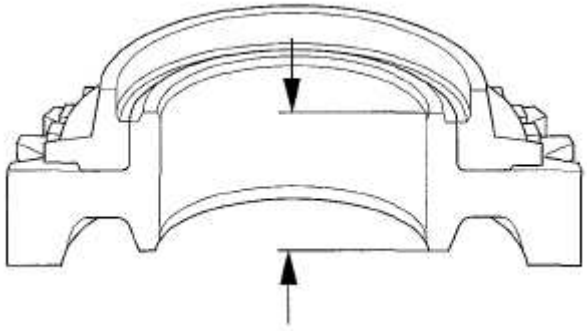


**Fig. 110: Identifying Thickness Of 6th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT DISASSEMBLY**

1. Remove the angular ball bearing (A) using a commercially available bearing separator (B) and bearing puller (C).

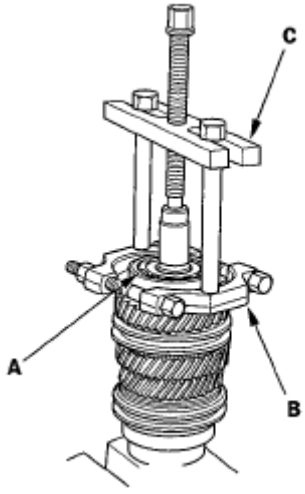



**Fig. 111: Identifying Angular Ball Bearing, Bearing Separator And Bearing Puller**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Support 5th gear (A) on steel blocks, and press the mainshaft out of the 5th/6th synchro hub (B).

**NOTE: Do not use a jaw-type puller; it can damage the gear teeth.**

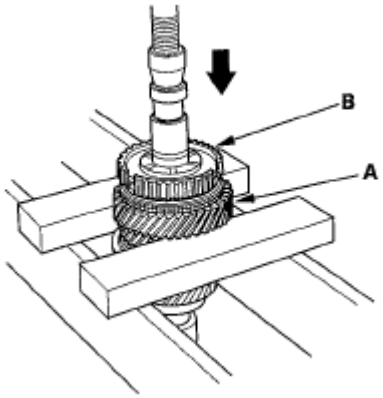



**Fig. 112: Identifying 5th Gear And 5th/6th Synchro Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Support 3rd gear (A) on steel blocks, and press the mainshaft out of the 3rd/4th synchro hub (B).

**NOTE: Do not use a jaw-type puller; it can damage the gear teeth.**

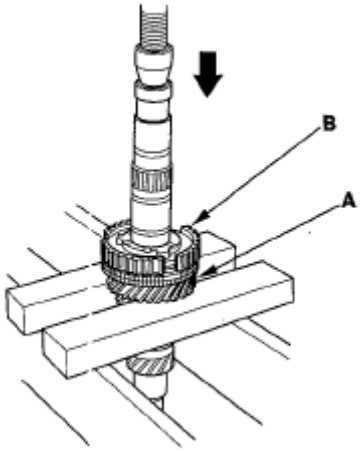



**Fig. 113: Identifying 3rd Gear And 3rd/4th Synchro Hub**

## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**MAINSHAFT INSPECTION**

1. Inspect the gear and bearing contact areas for wear and damage, then measure the mainshaft at points A, B, C, D, and E. If any part of the mainshaft is less than the service limit, replace it.

   **Standard:**

   **A Ball Bearing Contact Area (Transmission Housing Side): 27.987-28.000 mm (1.1019-1.1024 in.)**

   **B Distance Collar Contact Area: 31.984-32.000 mm (1.2594-1.2598 in.)**

   **C Needle Bearing Contact Area: 38.984-39.000 mm (1.5348-1.5354 in.)**

   **D Ball Bearing Contact Area (Clutch Housing Side): 27.977-27.990 mm (1.1015-1.1020 in.)**

   **E Bushing Contact Area: 20.80-20.85 mm (0.819-0.821 in.)**

   **Service Limit:**

   **A: 27.93 mm (1.100 in.)**

   **B: 31.93 mm (1.257 in.)**

   **C: 38.93 mm (1.533 in.)**

   **D: 27.92 mm (1.099 in.)**

   **E: 20.75 mm (0.817 in.)**

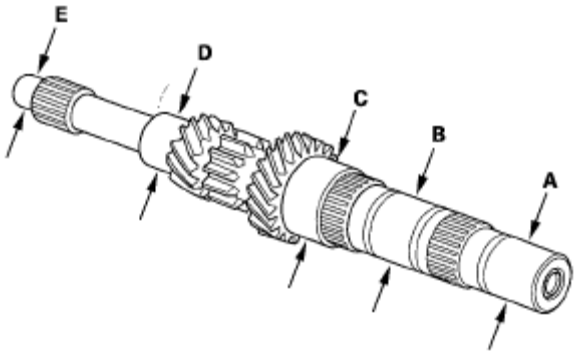



**Fig. 114: Inspecting Gear And Bearing Contact Areas**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the runout by supporting both ends of the mainshaft. Then rotate the mainshaft two complete turns while measuring with a dial gauge. If the runout is more than the service limit, replace the mainshaft.

   **Standard:**

   **0.02 mm (0.001 in.) max. Service Limit: 0.05 mm (0.002 in.)**

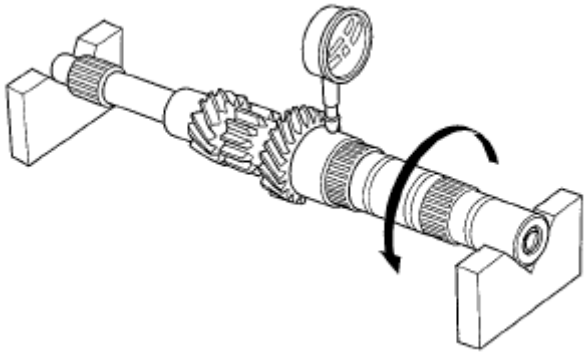


**Fig. 115: Inspecting Runout**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT REASSEMBLY**

**Exploded View**

http://ReadManuals.com



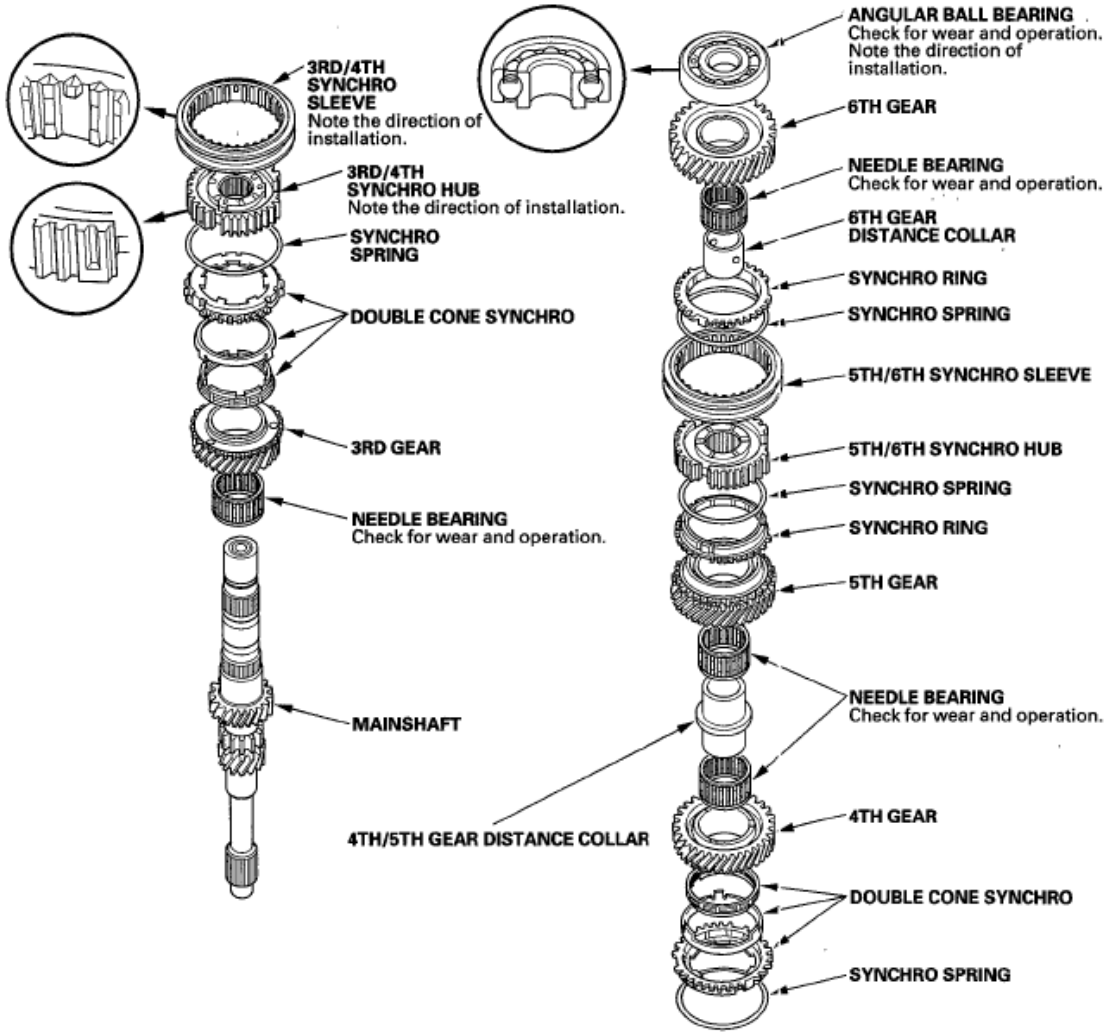



**Fig. 116: Exploded View Of Mainshaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Driver, 40 mm I.D. 07746-0030100
- Attachment, 30 mm I.D. 07746-0030300

**NOTE: Refer to the EXPLODED VIEW, as needed, during this procedure.**

1. Clean all the parts in solvent, dry them, and apply manual transmission fluid (MTF) to all contact surfaces except the 3rd/4th and 5th/6th synchro hubs.

2. Install the needle bearing and 3rd gear on the mainshaft.
3. Install the double cone synchro assembly (A) by aligning the synchro cone fingers (B) with the holes in 3rd gear (C), then install the synchro spring (D).

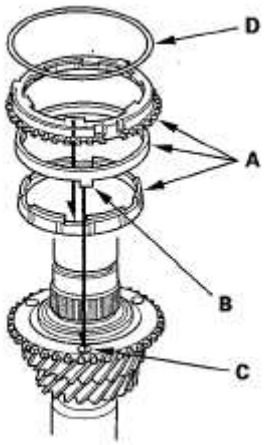



**Fig. 117: Identifying Double Cone Synchro Assembly, Synchro Cone Fingers, 3rd Gear And Synchro Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the 3rd/4th synchro hub (A) by aligning the synchro ring fingers (B) with the grooves in the 3rd/4th synchro hub (C).

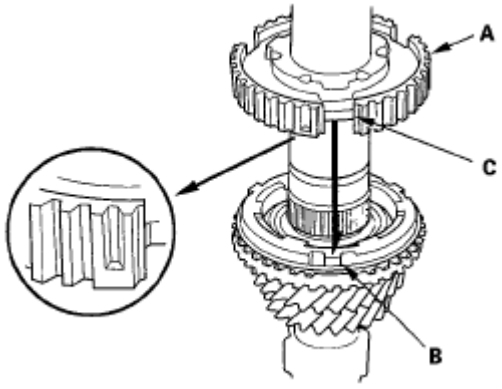



**Fig. 118: Identifying 3rd/4th Synchro Hub, Synchro Ring Fingers And 3rd/4th Synchro Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the 3rd/4th synchro hub (A) using the 40 mm I.D. driver (B).

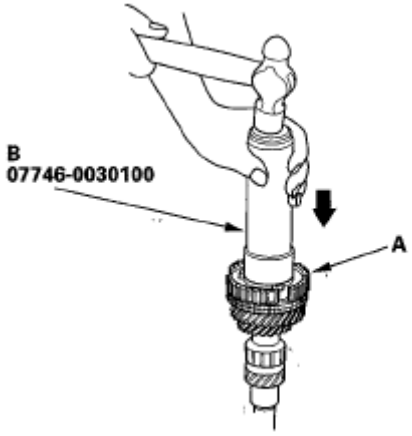



**Fig. 119: Identifying 3rd/4th Synchro Hub And Driver**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install the 3rd/4th synchro sleeve (A) by aligning the stops (B) of the 3rd/4th synchro sleeve and 3rd/4th synchro hub. After installing, check the operation of the 3rd/4th synchro hub set.

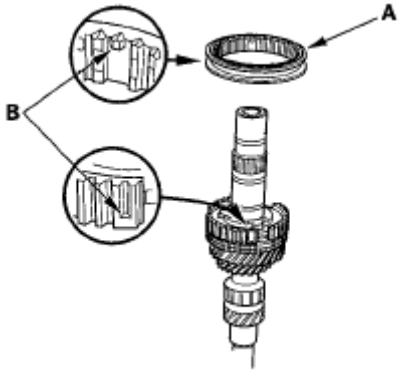



**Fig. 120: Identifying 3rd/4th Synchro Sleeve And Stops**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the synchro spring (A).

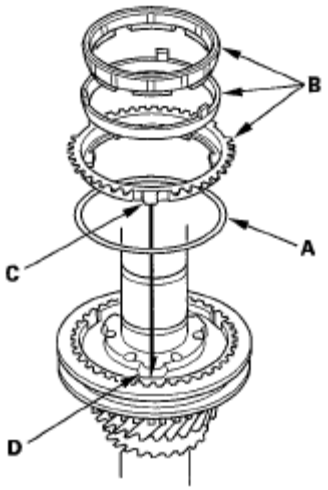



**Fig. 121: Identifying Synchro Spring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the double cone synchro assembly (B) by aligning the synchro ring fingers (C) with the grooves in the 3rd/4th synchro hub (D).
9. Install 4th gear (A) by aligning the synchro cone fingers (B) with the holes in 4th gear (C).

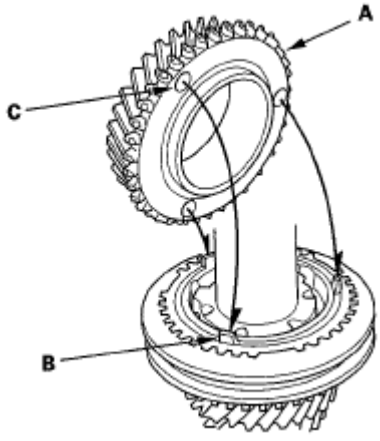



**Fig. 122: Identifying 4th Gear, Synchro Cone Fingers And 4th Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the needle bearings, 4th/5th gear distance collar, 5th gear, 5th gear synchro spring, and the synchro ring.
11. Install the 5th/6th synchro hub (A) by aligning the synchro ring fingers (B) with the grooves in the 5th/6th synchro hub (C).

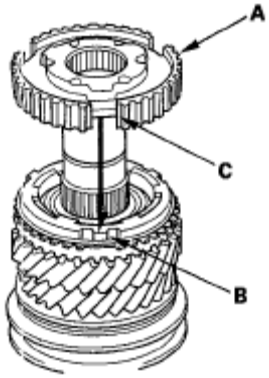



**Fig. 123: Identifying 5th/6th Synchro Hub, Synchro Ring Fingers And 5th/6th Synchro Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Install the 5th/6th synchro hub (A) using the 40 mm I.D. driver (B) and 30 mm I.D. attachment (C).

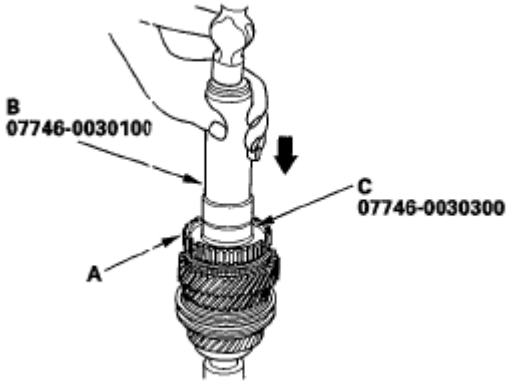



**Fig. 124: Identifying 5th/6th Synchro Hub, I.D. Driver And I.D. Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install the 5th/6th synchro sleeve.
14. Install the synchro spring (A).

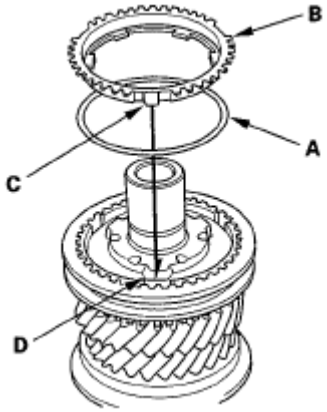



**Fig. 125: Identifying Synchro Spring, Synchro Ring And Synchro Ring Fingers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install the synchro ring (B) by aligning the synchro ring fingers (C) with the grooves in the 5th/6th synchro hub (D).
16. Install the 6th gear distance collar, needle bearing, and 6th gear.
17. Install the new angular ball bearing (A) using the 40 mm I.D. driver (B), 30 mm I.D. attachment (C), and press (D).

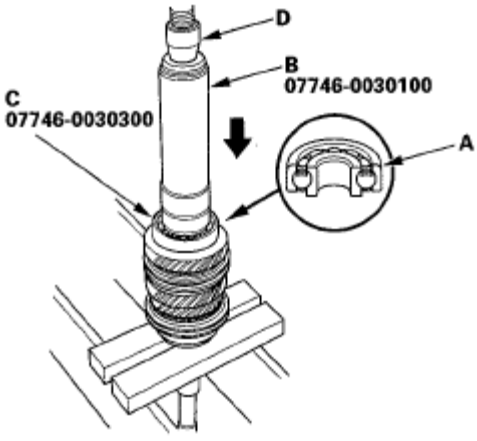



**Fig. 126: Identifying Angular Ball Bearing, I.D. Driver And I.D. Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT ASSEMBLY CLEARANCE INSPECTION**

1. Measure the clearance between 1st gear (A) and the distance collar (B) with a

feeler gauge (C).

- If the clearance is more than the service limit, go to step 2.
- If the clearance is within the service limit, go to step 4.

**Standard: 0.06-0.16 mm (0.002-0.006 in.)**

**Service Limit: 0.25 mm (0.010 in.)**

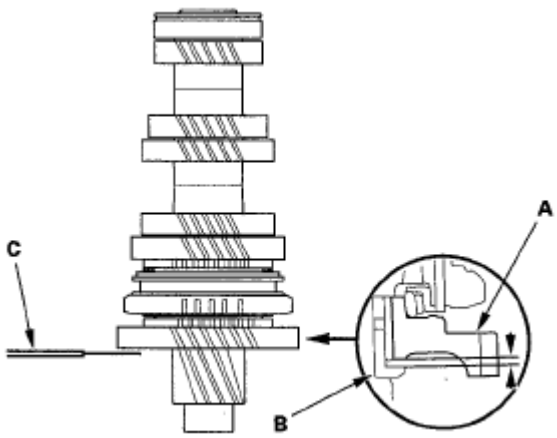



**Fig. 127: Identifying 1st Gear, Distance Collar And Feeler Gauge**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the length of the distance collar as shown.
   - If the length is not within the standard, replace the distance collar.
   - If the length is within the standard, go to step 3.

   **Standard: 23.03-23.08 mm (0.907-0.909 in.)**

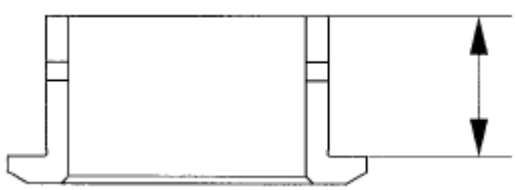


**Fig. 128: Identifying Length Of Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Measure the thickness of 1st gear.
   - If the thickness is less than the service limit, replace 1st gear.

- If the thickness is within the service limit, replace the 1st/2nd synchro hub and reverse gear as a set.

**Standard: 22.92-22.97 mm (0.902-0.904 in.)**

**Service Limit: 22.87 mm (0.900 in.)**

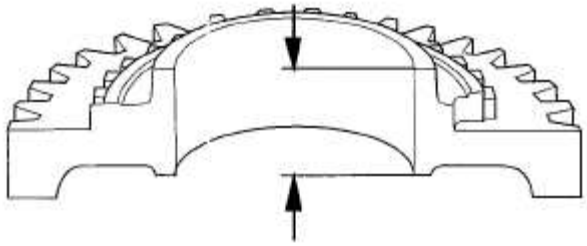


**Fig. 129: Identifying Thickness Of 1st Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Measure the clearance between 2nd gear (A) and 3rd gear (B) with a feeler gauge (C). If the clearance is more than the service limit, go to step 5.

   **Standard: 0.06-0.16 mm (0.002-0.006 in.)**

   **Service Limit: 0.25 mm (0.010 in.)**

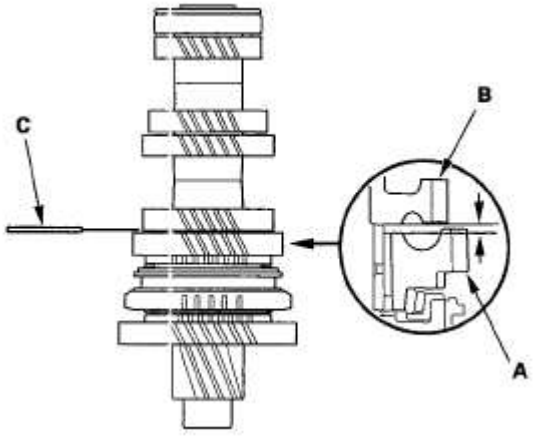



**Fig. 130: Identifying 1st Gear, Distance Collar And Feeler Gauge**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure the length of the distance collar.

- If the length is not within the standard, replace the distance collar.
- If the length is within the standard, go to step 6.

**Standard: 28.03-28.08 mm (1.104-1.106 in.)**

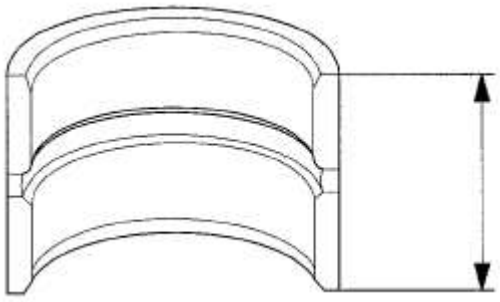


**Fig. 131: Identifying Length Of Distance Collar**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Measure the thickness of 2nd gear.
   - If the thickness is less than the service limit, replace 2nd gear.
   - If the thickness is within the service limit, replace the 1st/2nd synchro hub and reverse gear as a set.

**Standard: 27.92-27.97 mm (1.099-1.101 in.)**

**Service Limit: 27.87 mm (1.097 in.)**

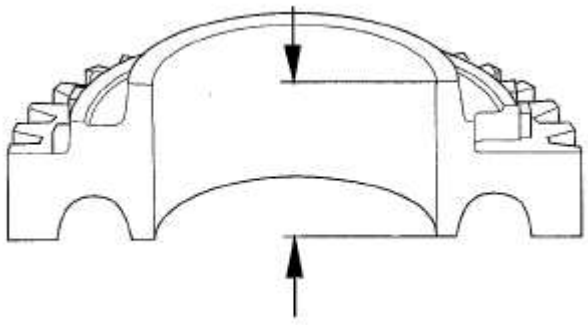


**Fig. 132: Identifying Thickness Of 2nd Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT DISASSEMBLY**

1. Securely clamp the countershaft assembly in a bench vise with wood blocks.

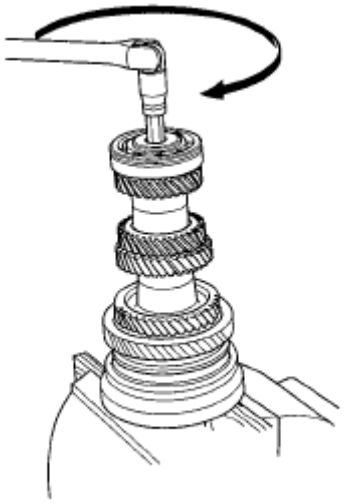


**Fig. 133: Identifying Countershaft Assembly In Bench Vise**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the special bolt (left-hand threads).
3. Support 6th gear (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft out of the ball bearing.

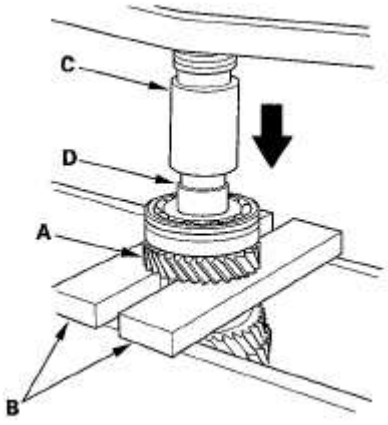



**Fig. 134: Identifying 6th Gear, Steel Blocks, Press And Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the 35 mm shim.
5. Support 4th gear (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft (E) out of the 5th gear.

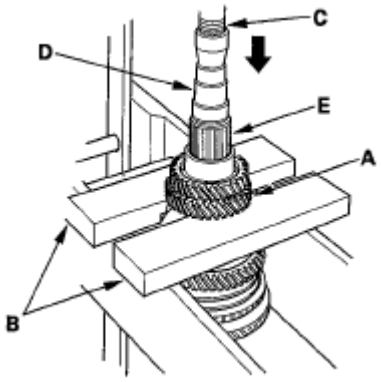



**Fig. 135: Identifying 4th Gear, Steel Blocks, Press, Attachment And Countershaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Support 2nd gear (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft (E) out of 3rd gear.

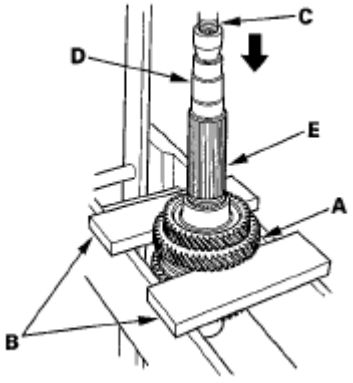



**Fig. 136: Identifying 2nd Gear, Steel Blocks, Press And Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT INSPECTION**

1. Inspect the gear and bearing contact areas for wear and damage, then measure the countershaft at points A, B, and C. If any part of the countershaft is less than the service limit, replace it.

   **Standard:**

   **A Ball Bearing Contact Area (Transmission Housing Side):**

**30.020-30.033 mm (1.1819-1.1824 in.)**

**B Distance Collar Contact Area:**

**39.937-39.950 mm (1.5723-1.5728 in.)**

**C Needle Bearing Contact Area (Clutch Housing Side):**

**35.000-35.015 mm (1.3780-1.3785 in.)**

**Service Limit:**

**A: 29.97 mm (1.180 in.)**

**B: 39.883 mm (1.5702 in.)**

**C: 34.95 mm (1.3760 in.)**

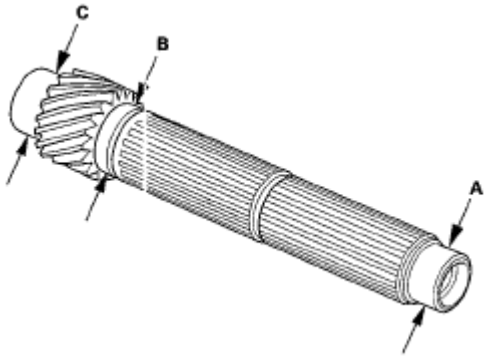



**Fig. 137: Inspecting Gear And Bearing Contact Areas**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the runout by supporting both ends of the countershaft. Then rotate the countershaft two complete turns while measuring with a dial gauge. If the runout is more than the service limit, replace the countershaft.

**Standard: 0.02 mm (0.001 in.) max.**

**Service Limit: 0.05 mm (0.002 in.)**

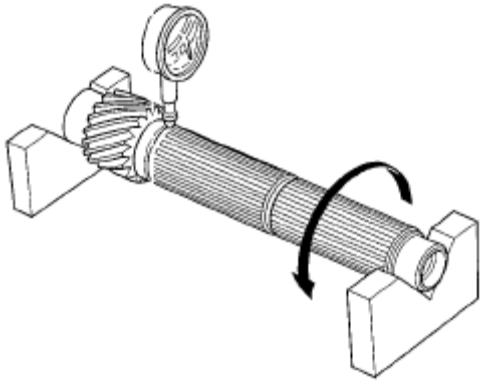


**Fig. 138: Inspecting Runout**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## COUNTERSHAFT REASSEMBLY

### Exploded View

http://ReadManuals.com



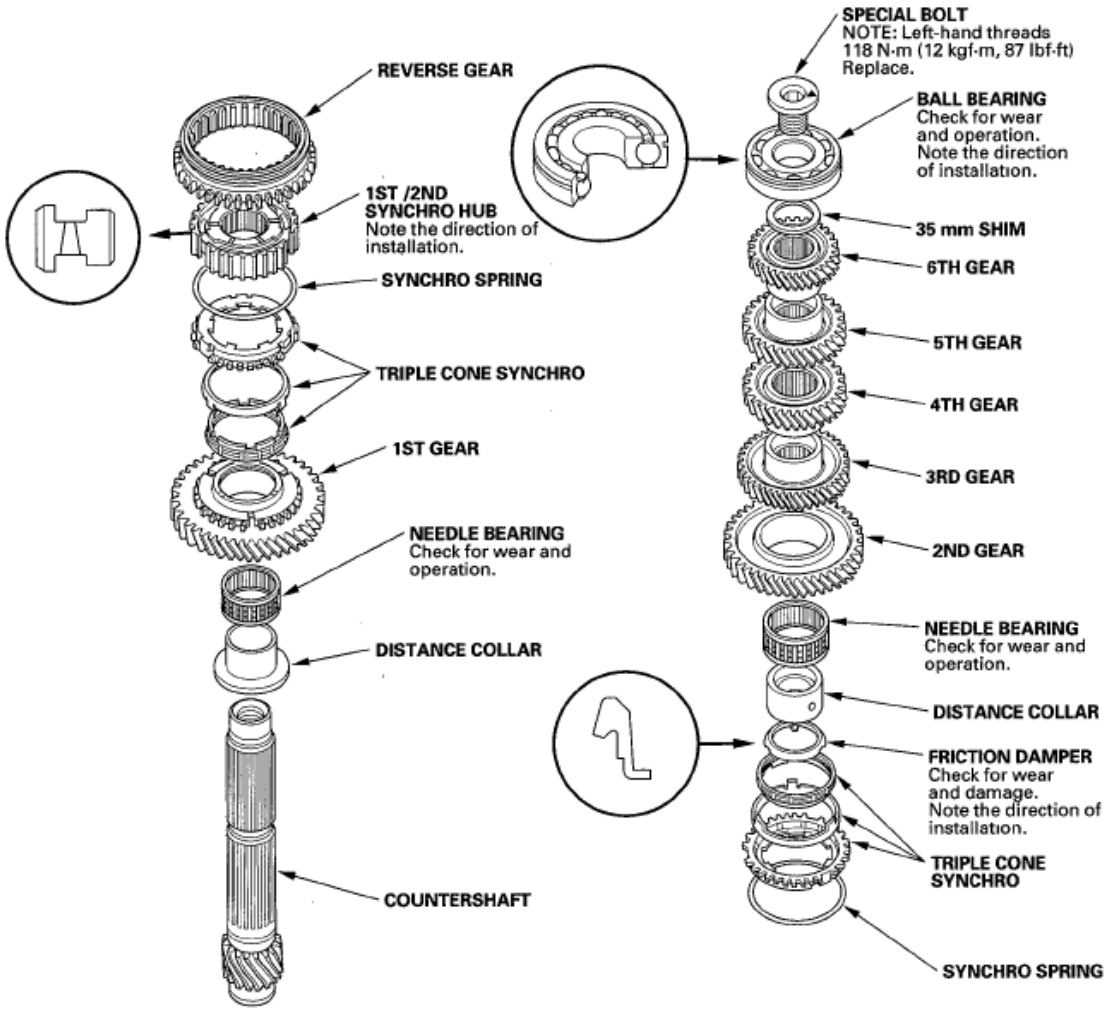



**Fig. 139: Exploded View Of Countershaft w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Special Tools Required

- Driver, 40 mm I.D. 07746-0030100
- Attachment, 30 mm I.D. 07746-0030300

**NOTE: Refer to the EXPLODED VIEW, as needed, during this procedure.**

1. Clean all parts in solvent, dry them, and apply manual transmission fluid (MTF) to all contact surfaces.
2. Install the distance collar and needle bearing onto the countershaft.

http://ReadManuals.com



3. Install 1st gear.
4. Install the triple cone synchro assembly (A) by aligning the synchro ring fingers (B) with the grooves in 1st gear (C), then install the synchro spring (D).

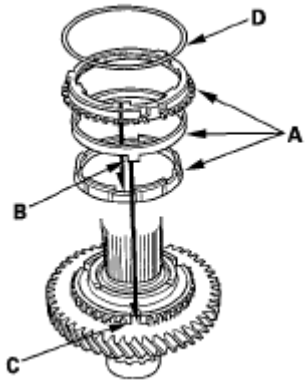



**Fig. 140: Identifying Triple Cone Synchro Assembly, Synchro Ring Fingers And 1st Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the 1st/2nd synchro hub (A) by aligning the synchro ring fingers (B) with the grooves in the 1st/2nd synchro hub (C).

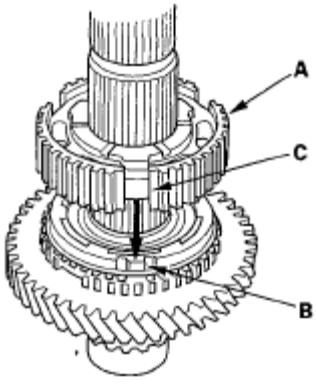



**Fig. 141: Identifying 1st/2nd Synchro Hub, Synchro Ring Fingers And 1st/2nd Synchro Hub**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install reverse gear.
7. Install the synchro spring (A).

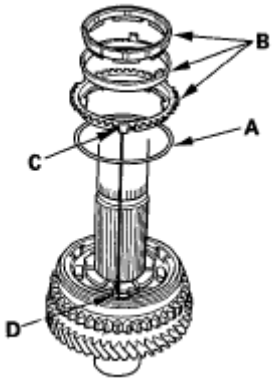



**Fig. 142: Identifying Synchro Spring, Triple Cone Synchro Assembly And Synchro Ring Fingers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Install the triple cone synchro assembly (B) by aligning the synchro ring fingers (C) with the grooves in the 1st/2nd synchro hub (D).
9. Install the distance collar (A) and friction damper (B) by aligning the friction damper fingers (C) with the grooves in the 1st/2nd synchro hub (D).

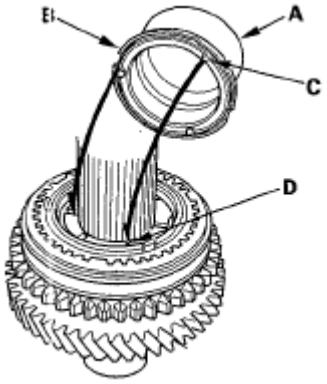



**Fig. 143: Identifying Distance Collar, Friction Damper And Friction Damper Fingers**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Install the needle bearing.
11. Install 2nd gear (A) by aligning the synchro cone fingers (B) with the grooves (C) in 2nd gear.

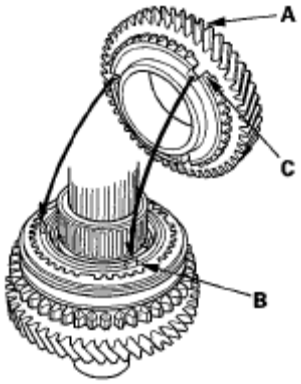



**Fig. 144: Identifying 2nd Gear, Synchro Cone Fingers And Grooves**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Support the countershaft (A) on steel blocks, then install 3rd gear (B) using the 40 mm I.D. driver (C) and a press (D).

**NOTE: Do not exceed the maximum pressure.**

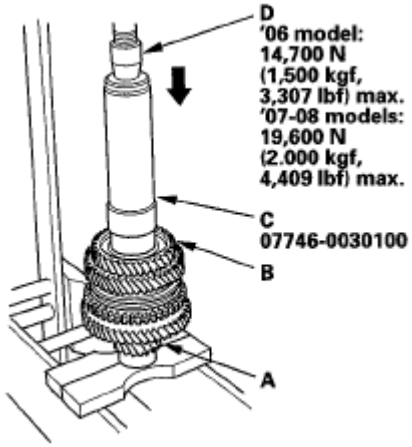



**Fig. 145: Identifying Countershaft And 3rd Gear w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Install 4th gear (A) using the 40 mm I.D. driver (B) and a press (C).

**NOTE: Do not exceed the maximum pressure.**

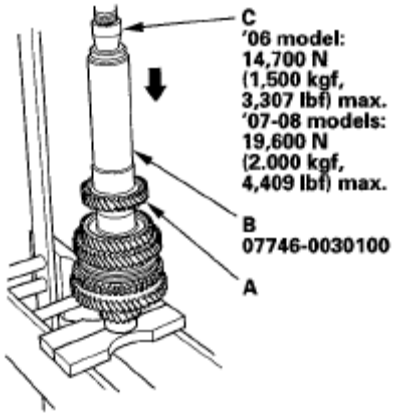



**Fig. 146: Identifying 4th Gear, I.D. Driver, Press & Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Install 5th gear (A) using the 40 mm I.D. driver (B) and a press (C).

**NOTE: Do not exceed the maximum pressure.**

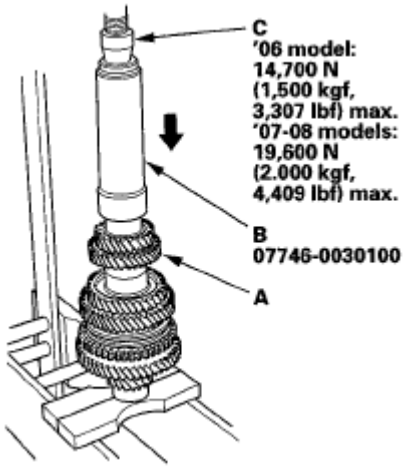



**Fig. 147: Identifying 5th Gear, I.D. Driver, Press & Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Install 6th gear (A) using the 40 mm I.D. driver (B), 30 mm I.D. attachment (C), and a press (D).

**NOTE: Do not exceed the maximum pressure.**

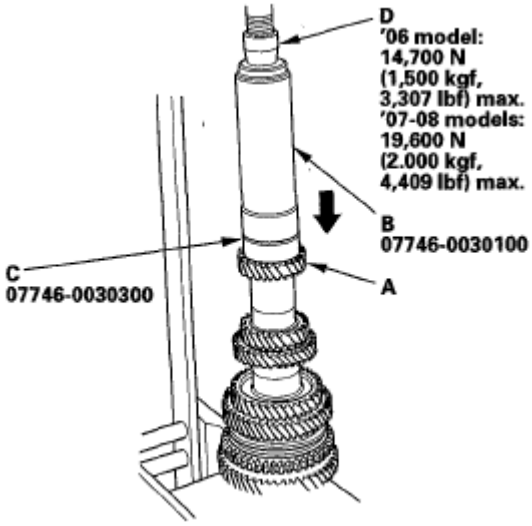



**Fig. 148: Identifying 6th Gear, I.D. Driver, I.D. Attachment, Press & Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Install the 35 mm shim and the old ball bearing (A) using the 40 mm I.D. driver (B), 30 mm I.D. attachment (C), and a press (D).

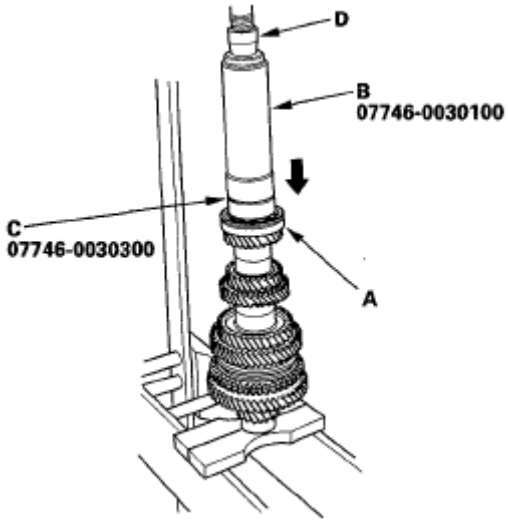



**Fig. 149: Identifying Ball Bearing, I.D. Driver, I.D. Attachment And Press**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Measure the clearance between the old bearing (A) and the 35 mm shim (B) with a feeler gauge (C).

**Standard: 0.04-0.10 mm (0.0016-0.0039 in.)**

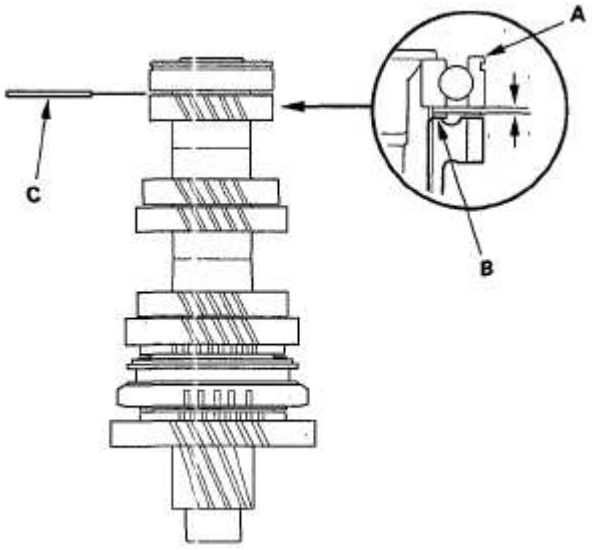



**Fig. 150: Identifying Bearing, Shim And Feeler Gauge**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. If the clearance is more than the standard, select a new shim from the following table. If the clearance measured in step 16 is within the standard, replace only the ball bearing.

**35 mm Shim**

**PART THICKNESS CHART**

| | Part Number | Thickness |
|---|---|---|
| A | 23981-PPP-000 | 0.87 mm (0.034 in.) |
| AA | 23981-PPP-900 | 0.91 mm (0.036 in.) |
| B | 23982-PPP-000 | 0.95 mm (0.037 in.) |
| AB | 23982-PPP-900 | 0.99 mm (0.039 in.) |
| C | 23983-PPP-000 | 1.03 mm (0.041 in.) |
| AC | 23983-PPP-900 | 1.07 mm (0.042 in.) |
| D | 23984-PPP-000 | 1.11 mm (0.044 in.) |
| AD | 23984-PPP-900 | 1.15 mm (0.045 in.) |
| E | 23985-PPP-000 | 1.19 mm (0.047 in.) |
| AE | 23985-PPP-900 | 1.23 mm (0.048 in.) |

| | | |
|---|---|---|
| F | 23986-PPP-000 | 1.27 mm (0.050 in.) |
| AF | 23986-PPP-900 | 1.31 mm (0.052 in.) |
| G | 23987-PPP-000 | 1.35 mm (0.053 in.) |
| AG | 23987-PPP-900 | 1.39 mm (0.055 in.) |
| H | 23988-PPP-000 | 1.43 mm (0.056 in.) |
| AH | 23988-PPP-900 | 1.47 mm (0.058 in.) |
| J | 23989-PPP-000 | 1.51 mm (0.060 in.) |
| AJ | 23989-PPP-900 | 1.55 mm (0.061 in.) |
| K | 23990-PPP-000 | 1.59 mm (0.063 in.) |
| AK | 23990-PPP-900 | 1.63 mm (0.064 in.) |
| L | 23991-PPP-000 | 1.67 mm (0.066 in.) |
| AL | 23991-PPP-900 | 1.71 mm (0.067 in.) |
| M | 23992-PPP-000 | 1.75 mm (0.069 in.) |
| AM | 23992-PPP-900 | 1.79 mm (0.070 in.) |
| N | 23993-PPP-000 | 1.83 mm (0.072 in.) |
| AN | 23993-PPP-900 | 1.87 mm (0.074 in.) |
| P | 23994-PPP-000 | 1.91 mm (0.075 in.) |
| AP | 23994-PPP-900 | 1.95 mm (0.077 in.) |
| Q | 23995-PPP-000 | 1.99 mm (0.078 in.) |

19. Support 6th gear (A) on steel blocks (B), then use a press (C) and an attachment (D) to press the countershaft out of the ball bearing.

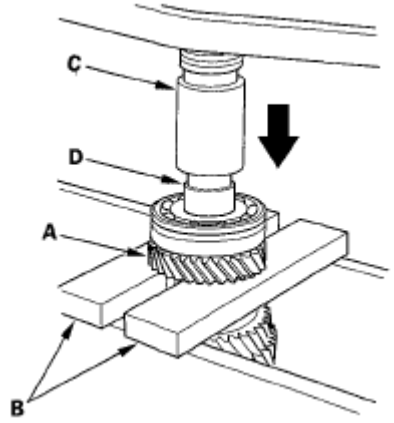



**Fig. 151: Identifying 6th Gear, Steel Blocks, Press And Attachment**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. If necessary, install the 35 mm shim selected in step 18.
21. Install 6th gear (A) using the 40 mm I.D. driver (B), 30 mm I.D. attachment (C), and a press (D).

**NOTE: Do not exceed the maximum pressure.**

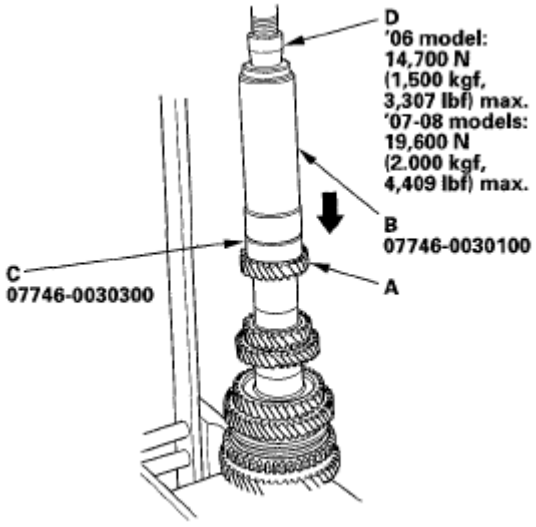



**Fig. 152: Identifying 6th Gear, I.D. Driver, I.D. Attachment, Press & Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

22. Install the new ball bearing (A) using the 40 mm I.D. driver (B), 30 mm I.D. attachment (C), and a press (D), then recheck the clearance.

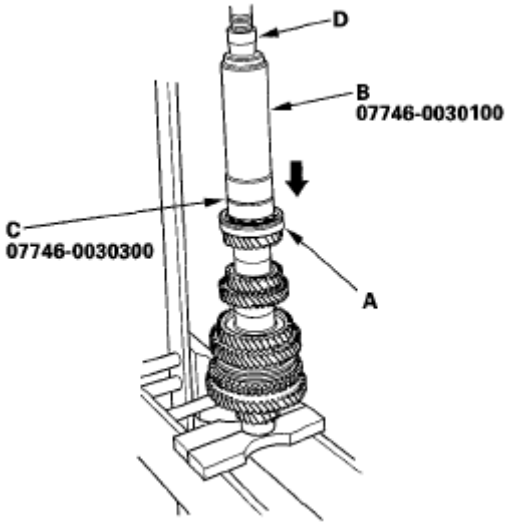



**Fig. 153: Identifying Ball Bearing, I.D. Driver, I.D. Attachment And Press**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Securely clamp the countershaft assembly in a bench vise with wood blocks (A).

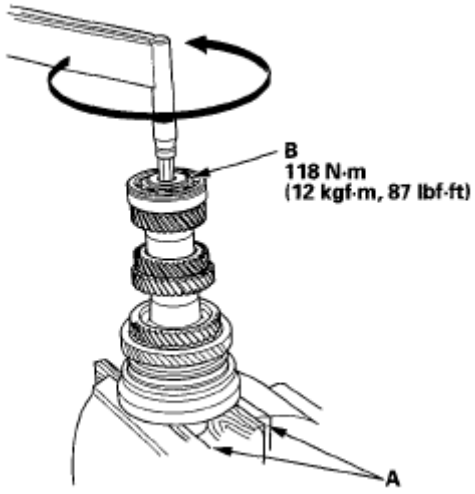



**Fig. 154: Identifying Clamp Countershaft Assembly In Bench Vise, Wood Blocks & Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

24. Tighten the new special bolt (B) (left-hand threads).

**SYNCHRO SLEEVE AND HUB INSPECTION AND REASSEMBLY**

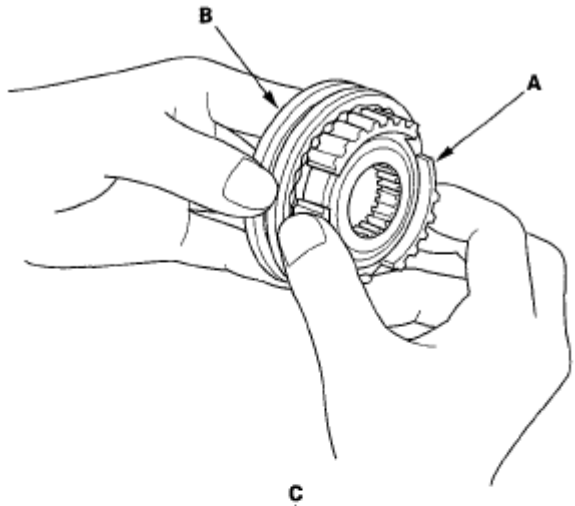
http://ReadManuals.com



1. Inspect gear teeth on all synchro hubs and synchro sleeves for rounded off corners, which indicate wear.
2. Install each synchro hub (A) in its mating synchro sleeve (B), and check for free movement. Make sure to match the three sets of longer teeth (C) (120 degrees apart) on the synchro sleeve with the three sets of deeper grooves (D) in the synchro hub.

**NOTE:**

- **Do not install the synchro sleeve with its longer teeth in the synchro hub slots (E) because it will damage the spring ring.**
- **If replacement is required, always replace the synchro sleeve and synchro hub as a set.**



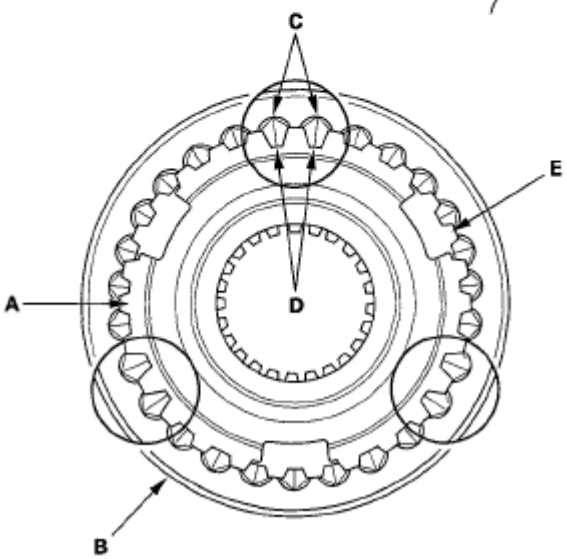



**Fig. 155: Identifying Synchro Hub, Mating Synchro Sleeve And Longer Teeth**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**SYNCHRO RING AND GEAR INSPECTION**

1. Inspect the inside of each synchro ring (A) for wear. Inspect the teeth (B) on each synchro ring for wear (rounded off).

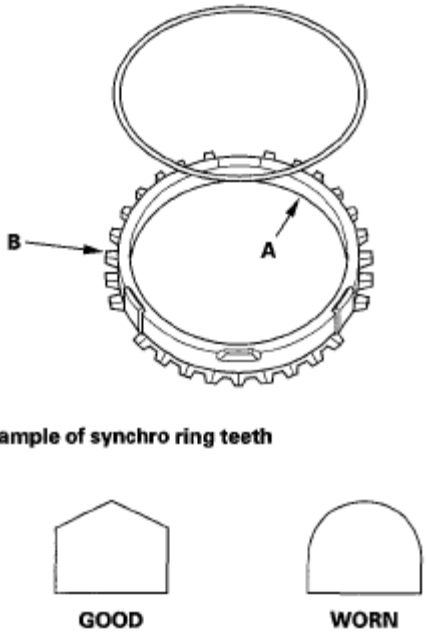



**Fig. 156: Identifying Synchro Ring And Teeth**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Inspect the teeth (A) on each synchro sleeve and matching teeth on each gear for wear (rounded off).

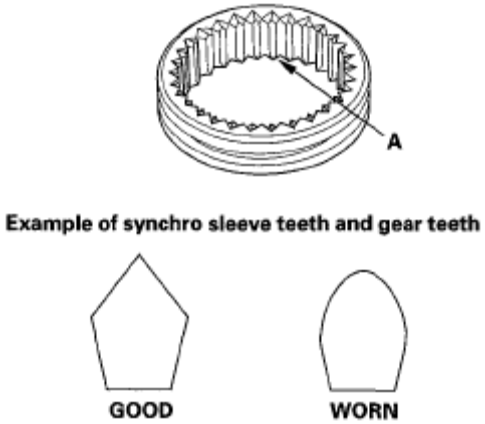



**Fig. 157: Inspecting Teeth On Synchro Sleeve**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Inspect the thrust surface (A) on each gear hub for wear.

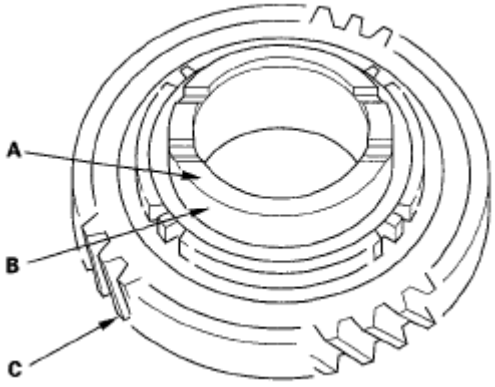



**Fig. 158: Identifying Thrust Surface, Cone Surface And Gears**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Inspect the cone surface (B) on each gear hub for wear and roughness.
5. Inspect the teeth on all gears (C) for uneven wear, scoring, and cracks.
6. Coat the cone surface of each gear with manual transmission fluid (MTF), and place its synchro ring on it. Rotate the synchro ring, making sure that it does not slip.
7. Measure the clearance between each gear (A) and its synchro ring (B) all around the gear. Hold the synchro ring against the gear evenly while measuring the clearance. If the clearance is less than the service limit, replace the synchro ring and gear.

**Synchro-Ring-to-Gear Clearance**

**Standard: 0.70-1.49 mm (0.028-0.059 in.)**

**Service Limit: 0.4 mm (0.016 in.)**

**Double Cone Synchro-to-Gear Clearance Standard:**

**(1): Outer Synchro Ring (B) to Synchro Cone (C)**

**0.70-1.19 mm (0.028-0.047 in.)**

**(2): Synchro Cone (C) to Gear (A)**

**0.50-1.04 mm (0.020-0.041 in.)**

**(3): Outer Synchro Ring (B) to Gear (A)**

**0.95-1.68 mm (0.037-0.066 in.)**

**Service Limit:**

**(1): 0.3 mm (0.012 in.)**

**(2): 0.3 mm (0.012 in.)**

**(3): 0.6 mm (0.024 in.)**

**Triple Cone Synchro-to-Gear Clearance Standard:**

**(1): Outer Synchro Ring (B) to Synchro Cone (C)**

**0.70-1.19 mm (0.028-0.047 in.)**

**(2): Synchro Cone (C) to Gear (A)**

**0.50-1.04 mm (0.020-0.041 in.)**

**(3): Outer Synchro Ring (B) to Gear (A)**

**0.95-1.68 mm (0.037-0.066 in.)**

**Service Limit:**

**(1): 0.3 mm (0.012 in.)**

**(2): 0.3 mm (0.012 in.)**

**(3): 0.6 mm (0.024 in.)**

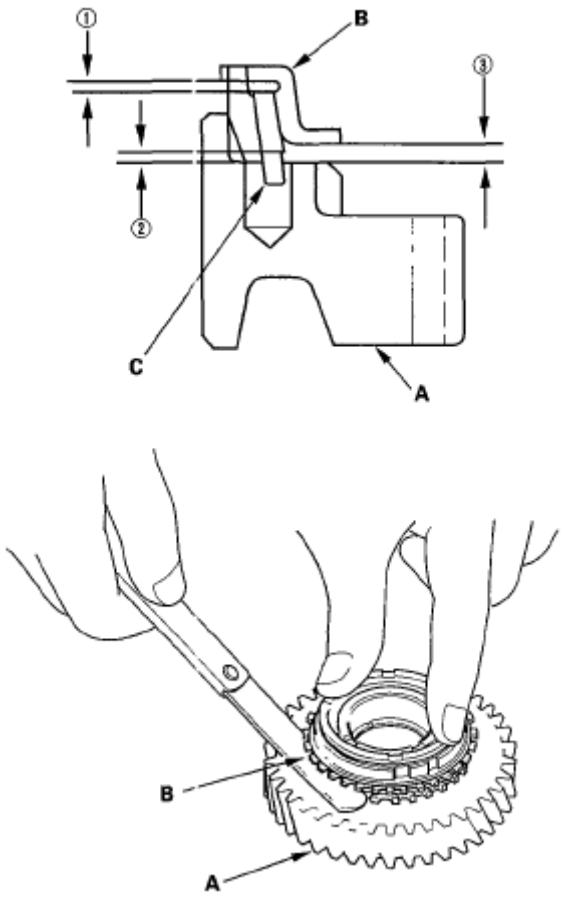



**Fig. 159: Identifying Gear And Synchro Ring**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT BEARING AND OIL SEAL REPLACEMENT**

## Special Tools Required

- Oil seal driver 07JAD-PL90100

- Adjustable bearing puller, 20-40 mm 07736-A01000B
- Attachment, 42 x 47 mm 07746-0010300
- Driver 07749-001000
- Slide hammer, 3/8"-16 UNF commercially available

1. Remove the ball bearing (A) from the clutch housing (B) using the 20-40 mm adjustable bearing puller (C) and a commercially available 3/8"-16 UNF slide hammer (D).

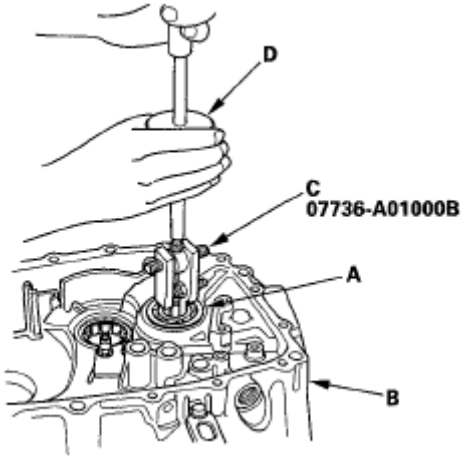



**Fig. 160: Identifying Ball Bearing, Clutch Housing And Adjustable Bearing Puller**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the oil seal (A) from the transmission side. Be careful when removing the oil seal so the clutch housing is not damaged.

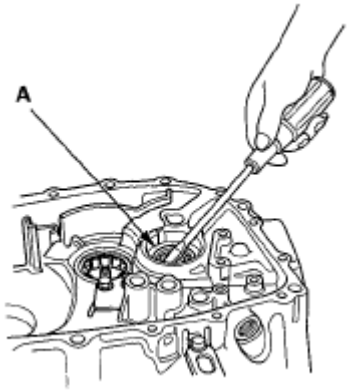


**Fig. 161: Identifying Oil Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Drive in the new oil seal from the transmission side using the driver (A) and 42 x 47 mm attachment (B).

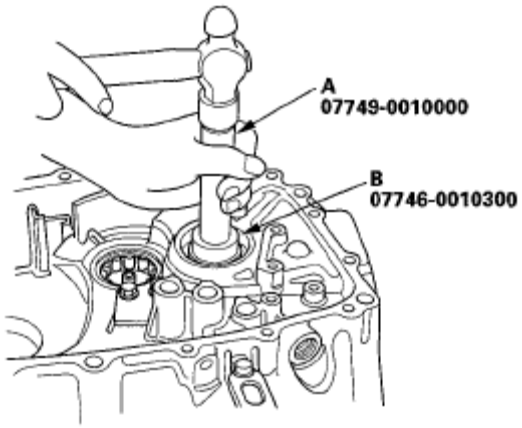



**Fig. 162: Identifying Driver And Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Drive in the new ball bearing (A) from the transmission side using the oil seal driver (B).

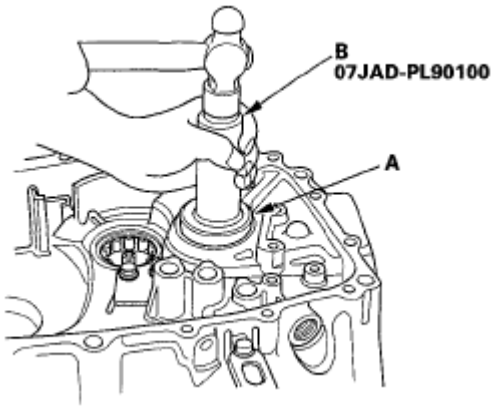



**Fig. 163: Identifying Ball Bearing And Oil Seal Driver**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**COUNTERSHAFT BEARING REPLACEMENT**

## Special Tools Required

- Oil seal driver 07JAD-PL90100
- Adjustable bearing puller, 20-40 mm 07736-A01000B
- Slide hammer, 3/8"-16 UNF commercially available.

1. Remove the bearing set plate (A) from the clutch housing (B).

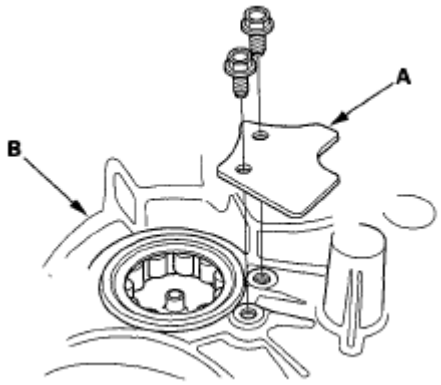



**Fig. 164: Identifying Bearing Set Plate And Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the needle bearing (A) using the 20-40 mm adjustable bearing puller (B) and a commercially available 3/8"-16 UNF slide hammer (D), then remove oil guide plate C.

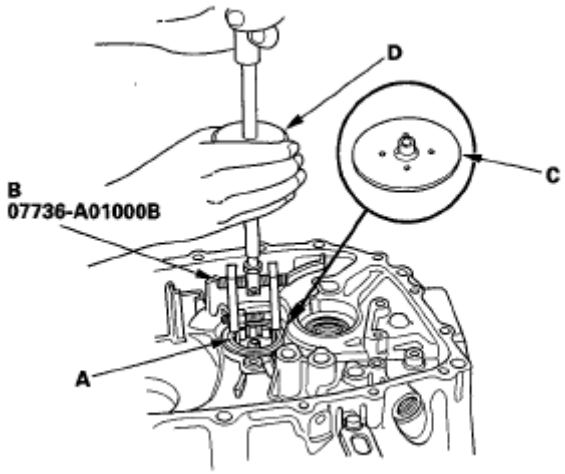



**Fig. 165: Identifying Needle Bearing, Adjustable Bearing Puller, Slide Hammer And Oil Guide Plate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Position oil guide plate C and new needle bearing (A) in the bore of the clutch housing (B).

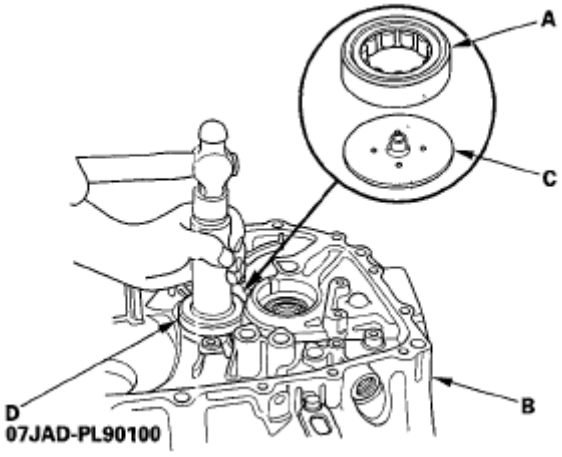



**Fig. 166: Identifying Needle Bearing And Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the needle bearing using the oil seal driver (D).
5. Install the bearing set plate (A) with the bolts (B).

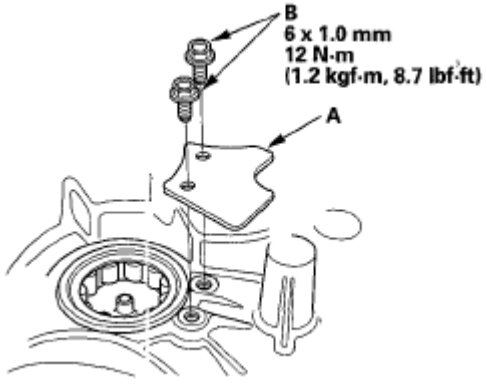



**Fig. 167: Identifying Bearing Set Plate, Bolts w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**MAINSHAFT THRUST CLEARANCE ADJUSTMENT**

## Special Tools Required

- Mainshaft holder 07GAJ-PG20110

- Mainshaft base 07GAJ-PG20130

**NOTE:**
- **Take measurement at normal room temperature.**
- **Clean all the parts thoroughly before installation.**

1. Remove the 72 mm shim (A) and oil guide plate M from the transmission housing (B).

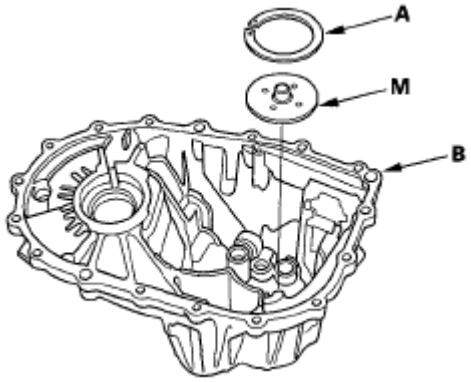



**Fig. 168: Identifying Shim And Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Thoroughly clean the 28 mm spring washer (A) and 28 mm washer (B) before installing them on the clutch housing side ball bearing (C).

**NOTE: Install the spring washer in the direction shown.**

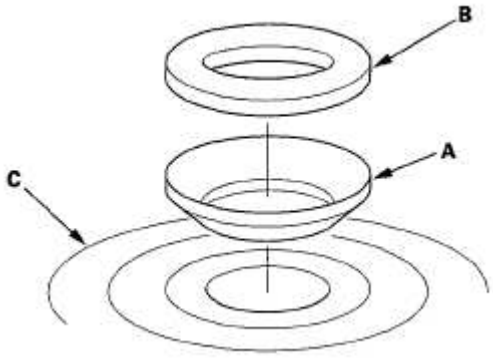



**Fig. 169: Identifying Spring Washer, Washer And Clutch Housing Side Ball Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the 3rd/4th synchro hub, the distance collar, the 5th/6th synchro hub, the distance collar, and the angular ball bearing on the mainshaft.

**NOTE: Refer to the MAINSHAFT REASSEMBLY Exploded View .**

4. Install the mainshaft in the clutch housing.
5. Place the transmission housing over the mainshaft and onto the clutch housing.
6. Tighten the clutch and transmission housings with several 8 mm bolts.

**NOTE: It is not necessary to use sealing agent between the housing for this procedure.**

7. Lightly tap on the mainshaft with a plastic hammer.
8. Attach the mainshaft holder (A) and mainshaft base (B) to the mainshaft as follows:
   - Backout the mainshaft holder bolt (C), and loosen the two hex bolts (D).
   - Fit the holder over the mainshaft so its lip is towards the transmission.
   - Align the mainshaft holder lip around the groove at the inside of the mainshaft splines, then tighten the hex bolts.

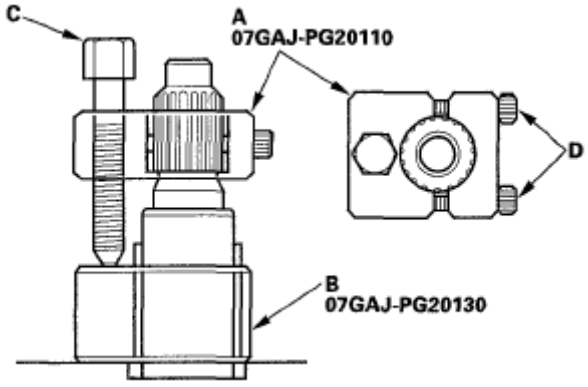



**Fig. 170: Identifying Mainshaft Holder And Mainshaft Base**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Fully seat the mainshaft by tapping its end with a plastic hammer.
10. Thread the mainshaft holder bolt in until it just contacts the wide surface of the

mainshaft base.

11. Zero a dial gauge (A) on the end of the mainshaft.

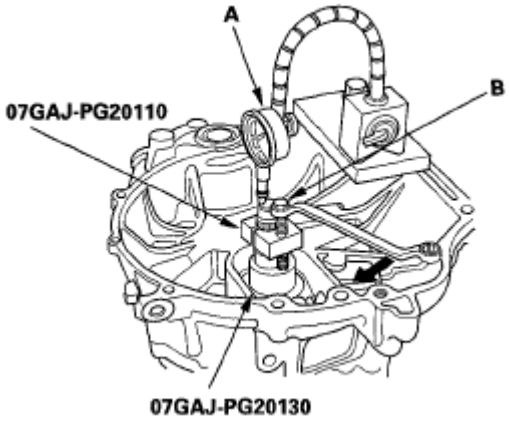



**Fig. 171: Identifying Dial Gauge**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

12. Turn the mainshaft holder bolt (B) clockwise; stop turning when the dial gauge has reached its maximum movement. The reading on the dial gauge is the amount of mainshaft thrust clearance.

**NOTE: Do not turn the mainshaft holder bolt more than 60 degrees after the needle of the dial gauge stops moving. Applying more pressure with the mainshaft holder bolt could damage the transmission.**

13. If the reading is within the standard, the clearance is correct. If the reading is not within the standard, select the appropriate shim needed from the table, and recheck the thrust clearance.

**Standard: 0.11-0.17 mm (0.004-0.007 in.)**

**(Example)**

**Measure reading: 1.93 mm (0.0759 in.)**

Subtract the total clearance measurement from the middle of the clearance standard 0.14 mm (0.0056 in.).

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**1.93 - 0.14 = 1.79 mm (0.0704 in.)**

Select the shim closest to the amount calculated. For this example, the 1.80 mm (0.0709 in.) shim is best.

14. With oil guide plate M and the appropriate size shim installed in the transmission housing, check the thrust clearance again to make sure the clearance is within the standard.

**72 mm Shim**

**PART THICKNESS CHART**

| | Part Number | Thickness |
|---|---|---|
| A | 23931-P21-000 | 0.60 mm (0.0236 in.) |
| B | 23932-P21-000 | 0.63 mm (0.0248 in.) |
| C | 23933-P21-000 | 0.66 mm (0.0260 in.) |
| D | 23934-P21-000 | 0.69 mm (0.0271 in.) |
| E | 23935-P21-000 | 0.72 mm (0.0283 in.) |
| F | 23936-P21-000 | 0.75 mm (0.0295 in.) |
| G | 23937-P21-000 | 0.78 mm (0.0307 in.) |
| H | 23938-P21-000 | 0,81 mm (0.0319 in.) |
| I | 23939-P21-000 | 0.84 mm (0.0331 in.) |
| J | 23940-P21-000 | 0.87 mm (0.0343 in.) |
| K | 23941-P21-000 | 0.90 mm (0.0354 in.) |
| L | 23942-P21-000 | 0.93 mm (0.0366 in.) |
| M | 23943-P21-000 | 0.96 mm (0.0378 in.) |
| N | 23944-P21-000 | 0.99 mm (0.0390 in.) |
| O | 23945-P21-000 | 1.02 mm (0.0402 in.) |
| P | 23946-P21-000 | 1.05 mm (0.0413 in.) |
| Q | 23947-P21-000 | 1.08 mm (0.0425 in.) |
| R | 23948-P21-000 | 1.11 mm (0.0437 in.) |
| S | 23949-P21-000 | 1.14 mm (0.0449 in.) |
| T | 23950-P21-000 | 1.17 mm (0.0461 in.) |
| | | |

| | | |
|---|---|---|
| U | 23951-P21-000 | 1.20 mm (0.0472 in.) |
| V | 23952-P21-000 | 1.23 mm (0.0484 in.) |
| W | 23953-P21-000 | 1.26 mm (0.0496 in.) |
| X | 23954-P21-000 | 1.29 mm (0.0508 in.) |
| Y | 23955-P21-000 | 1.32 mm (0.0520 in.) |
| Z | 23956-P21-000 | 1.35 mm (0.0531 in.) |
| AA | 23957-P21-000 | 1.38 mm (0.0543 in.) |
| AB | 23958-P21-000 | 1.41 mm (0.0555 in.) |
| AC | 23959-P21-000 | 1.44 mm (0.0567 in.) |
| AD | 23960-P21-000 | 1.47 mm (0.0579 in.) |
| AE | 23961-P21-000 | 1.50 mm (0.0591 in.) |
| AF | 23962-P21-000 | 1.53 mm (0.0602 in.) |
| AG | 23963-P21-000 | 1.56 mm (0.0614 in.) |
| AH | 23964-P21-000 | 1.59 mm (0.0626 in.) |
| AI | 23965-P21-000 | 1.62 mm (0.0638 in.) |
| AJ | 23966-P21-000 | 1.65 mm (0.0650 in.) |
| AK | 23967-P21-000 | 1.68 mm (0.0661 in.) |
| AL | 23968-P21-000 | 1.71 mm (0.0673 in.) |
| AM | 23969-P21-000 | 1.74 mm (0.0685 in.) |
| AN | 23970-P21-000 | 1.77 mm (0.0697 in.) |
| AO | 23971-P21-000 | 1.80 mm (0.0709 in.) |
| AP | 23972-PPP-J00 | 1.83 mm (0.0720 in.) |
| AQ | 23973-PPP-J00 | 1.86 mm (0.0732 in.) |
| AR | 23974-PPP-J00 | 1.89 mm (0.0744 in.) |
| AS | 23975-PPP-J00 | 1.92 mm (0.0756 in.) |
| AT | 23976-PPP-J00 | 1.95 mm (0.0768 in.) |
| AV | 23977-PPP-J00 | 1.98 mm (0.0779 in.) |
| AW | 23978-PPP-J00 | 2.01 mm (0.0791 in.) |
| AX | 23979-PPP-J00 | 2.04 mm (0.0803 in.) |
| AY | 23980-PPP-J00 | 2.07 mm (0.0815 in.) |
| AZ | 23981-PPP-J00 | 2.10 mm (0.0827 in.) |
| | | |

| | | |
|---|---|---|
| BA | 23982-PPP-J00 | 2.13 mm (0.0839 in.) |
| BB | 23983-PPP-J00 | 2.16 mm (0.0850 in.) |
| BC | 23984-PPP-J00 | 2.19 mm (0.0862 in.) |
| BD | 23985-PPP-J00 | 2.22 mm (0.0874 in.) |
| BE | 23986-PPP-J00 | 2.25 mm (0.0886 in.) |

**TRANSMISSION REASSEMBLY**

**NOTE:**

- **Prior to reassembling, clean all the parts in solvent, dry them, and apply manual transmission fluid (MTF) to any contact surfaces.**
- **Place the clutch housing on two pieces of wood thick enough to keep the mainshaft from hitting the workbench.**

1. Install the magnet (A) and the differential assembly (B).

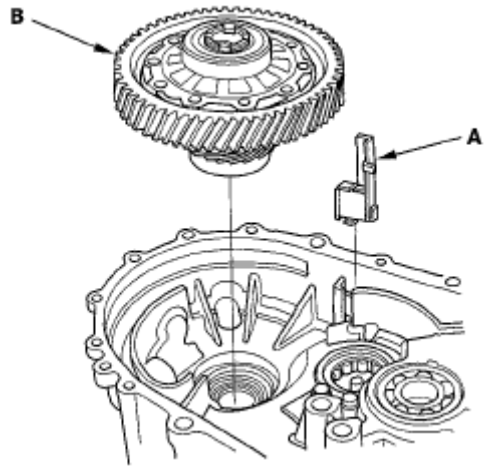



**Fig. 172: Identifying Magnet And Differential Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the 28 mm spring washer (A) and the 28 mm washer (B) over the ball bearing (C).

**NOTE: Install the spring washer in the direction shown.**

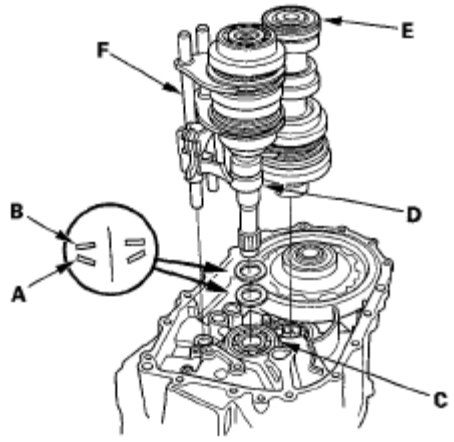



**Fig. 173: Identifying Spring Washer, Washer And Ball Bearing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Apply tape to the mainshaft (D) splines to protect the seal. Install the mainshaft assembly and the countershaft (E) into the shift forks (F), and install them as an assembly.
4. Install the reverse shift fork.

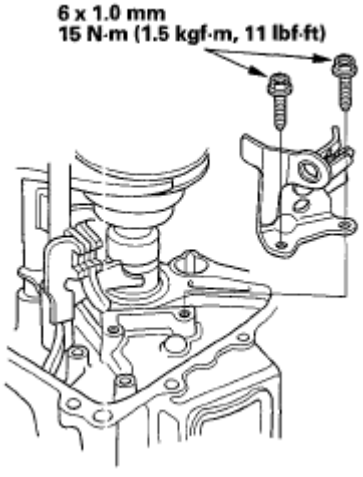



**Fig. 174: Identifying Mainshaft, Countershaft & Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the reverse idler gear (A) and the reverse gear shaft (B) by aligning the mark (C) with the reverse gear shaft hole (D).

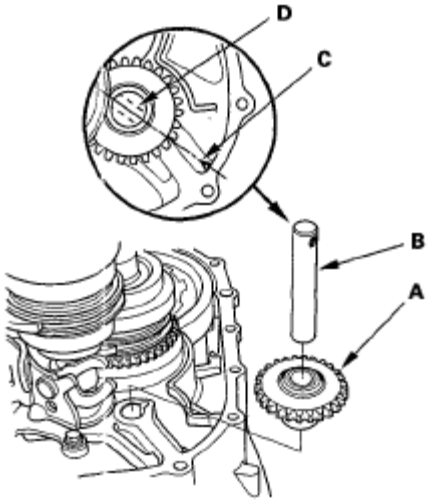



**Fig. 175: Identifying Reverse Idler Gear, Reverse Gear Shaft And Mark**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Select the proper size 72 mm shim (A) according to the measurements made during the Mainshaft Thrust Clearance Adjustment (see **MAINSHAFT THRUST CLEARANCE ADJUSTMENT** ). Install the oil gutter plate (B), the oil guide plate M, and the 72 mm shim into the transmission housing (C).

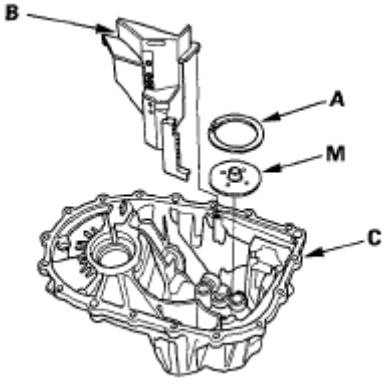



**Fig. 176: Identifying Oil Gutter Plate And Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Clean any dirt and oil from the transmission housing sealing surface.
8. Apply liquid gasket, P/N 08718-0001, evenly to the mating surface of the transmission housing and the clutch housing. Install the component within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.**

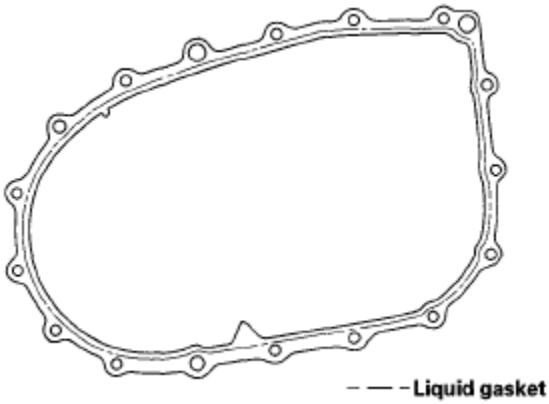



**Fig. 177: Applying Liquid Gasket To Mating Surface Of Transmission Housing And Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Install the three 14 x 20 mm dowel pins (A).

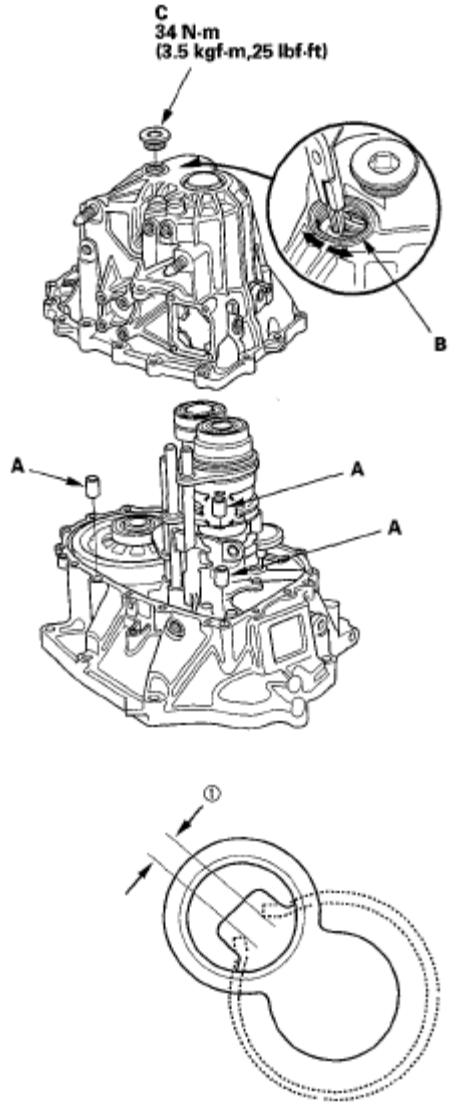



**Fig. 178: Identifying Dowel Pins w/Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Place the transmission housing over the clutch housing, being careful to line up the shafts.
11. Lower the transmission housing the rest of the way as you expand the 72 mm snap ring (B). Release the snap ring so it seats in the groove of the countershaft bearing.
12. Make sure the 72 mm snap ring is securely seated in the groove of the countershaft bearing.

**Dimension (1) as installed: 3.3-6.0 mm (0.13-0.24 in.)**

13. Apply liquid gasket, P/N 08718-0001, evenly to the threads of the 32 mm searing cap (C) mating surface of the transmission housing. Install the component within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.**

14. Install the transmission hanger A, the transmission hanger B, the harness bracket (C), and the 8 mm flange bolts finger-tight.

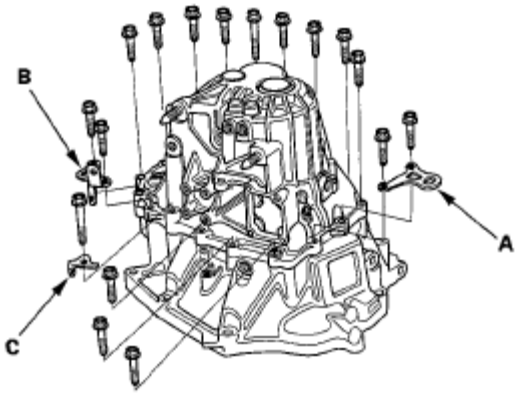



**Fig. 179: Identifying Transmission Hanger A, Transmission Hanger B And Harness Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. Tighten the 8 mm flange bolts in a crisscross pattern in several steps.

**Specified Torque:**

**8 x 1.25 mm**

**27 N.m (2.8 kgf.m, 20 lbf.ft)**

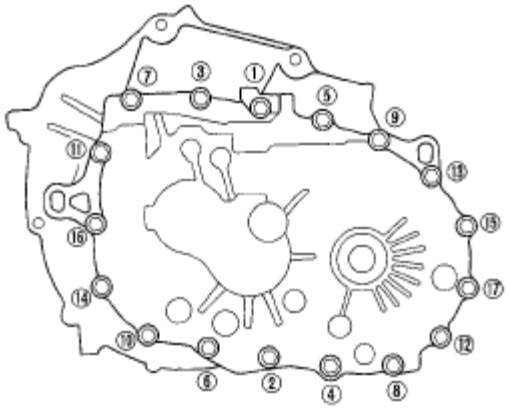


**Fig. 180: Tightening Flange Bolts w/Torque Spec. In Crisscross Pattern**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

16. Clean any dirt or oil from the change lever assembly sealing surface.
17. Apply liquid gasket, P/N 08718-0001, evenly to the mating surface of the charge lever assembly and the transmission housing. Install the component within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.**
- **Allow it to cure at least 30 minutes after assembly before filling the transmission with MTF.**

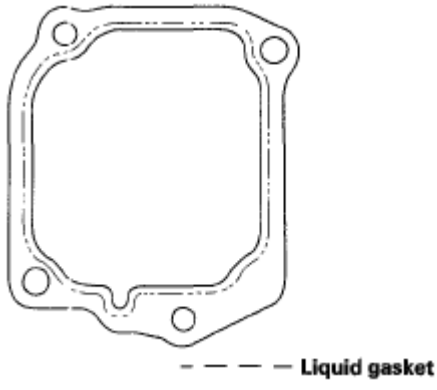



**Fig. 181: Applying Liquid Gasket To Mating Surface**

**Of Charge Lever Assembly And Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. Install the 8 x 14 mm dowel pins (B), change lever assembly (C), and harness bracket A.

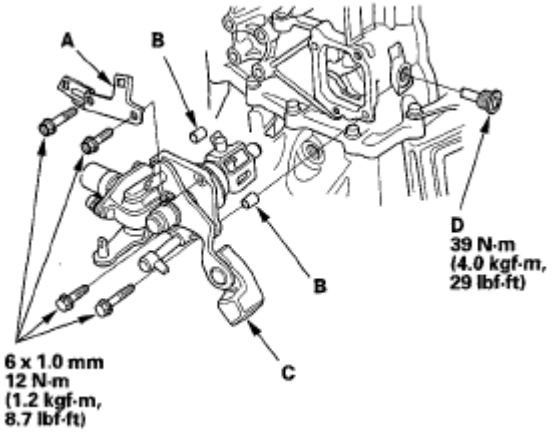



**Fig. 182: Identifying Dowel Pins, Change Lever Assembly & Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

19. Apply liquid gasket, P/N 08718-0001, evenly to the mating surface of the threads of the inter lock bolt (D) and transmission housing. Install the component within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.**

20. Install the drain plug (A) and 10 mm flange bolt (B) with new sealing washers (C). Install the filler plug (D) finger-tight.

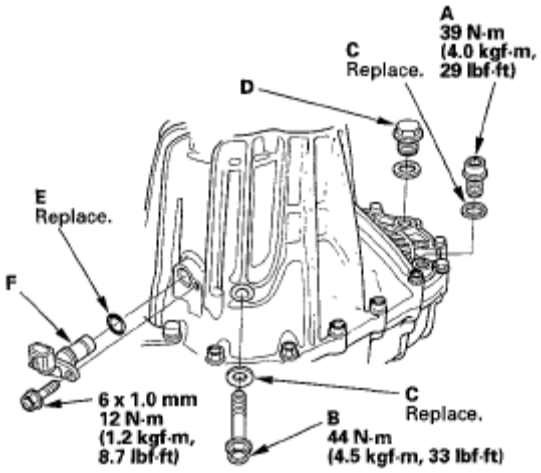



**Fig. 183: Identifying Drain Plug, Flange Bolt, Sealing Washers & Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Apply MTF to the new O-ring (E). Then install the new O-ring, and output shaft (countershaft) speed sensor (F).
22. Install the detent bolts (A), the springs, and steel balls with new washers (B). Then install the transmission hanger (C).

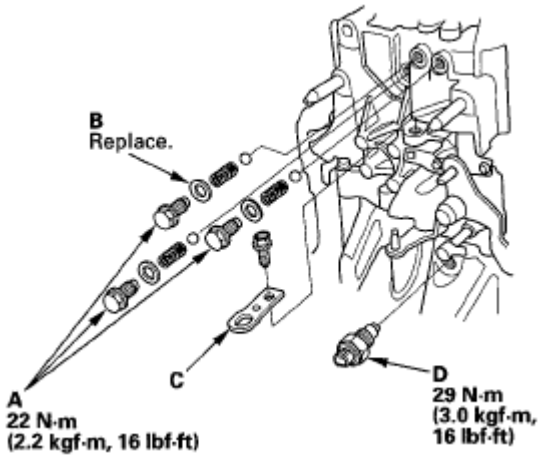



**Fig. 184: Identifying Detent Bolts, Springs, Steel Balls, New Washers & Torque Specs.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

23. Apply liquid gasket, P/N 08718-0001 evenly to the threads of the back-up light switch (D) mating surface of the transmission housing. Install the component

within 5 minutes of applying the liquid gasket.

**NOTE:**

- **If you apply liquid gasket P/N 08718-0012, the component must be installed within 4 minutes.**
- **If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.**

24. Install the 20 mm bolt (A) and new 20 mm washer (B).

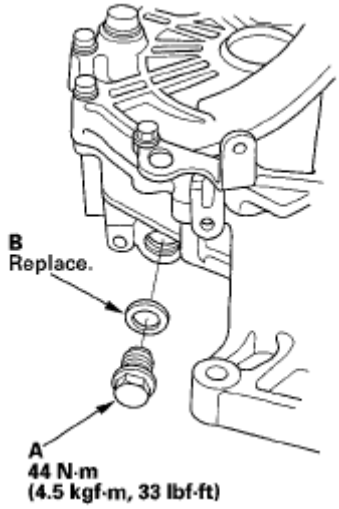



**Fig. 185: Identifying Bolt, Washer & Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**GEARSHIFT MECHANISM REPLACEMENT**

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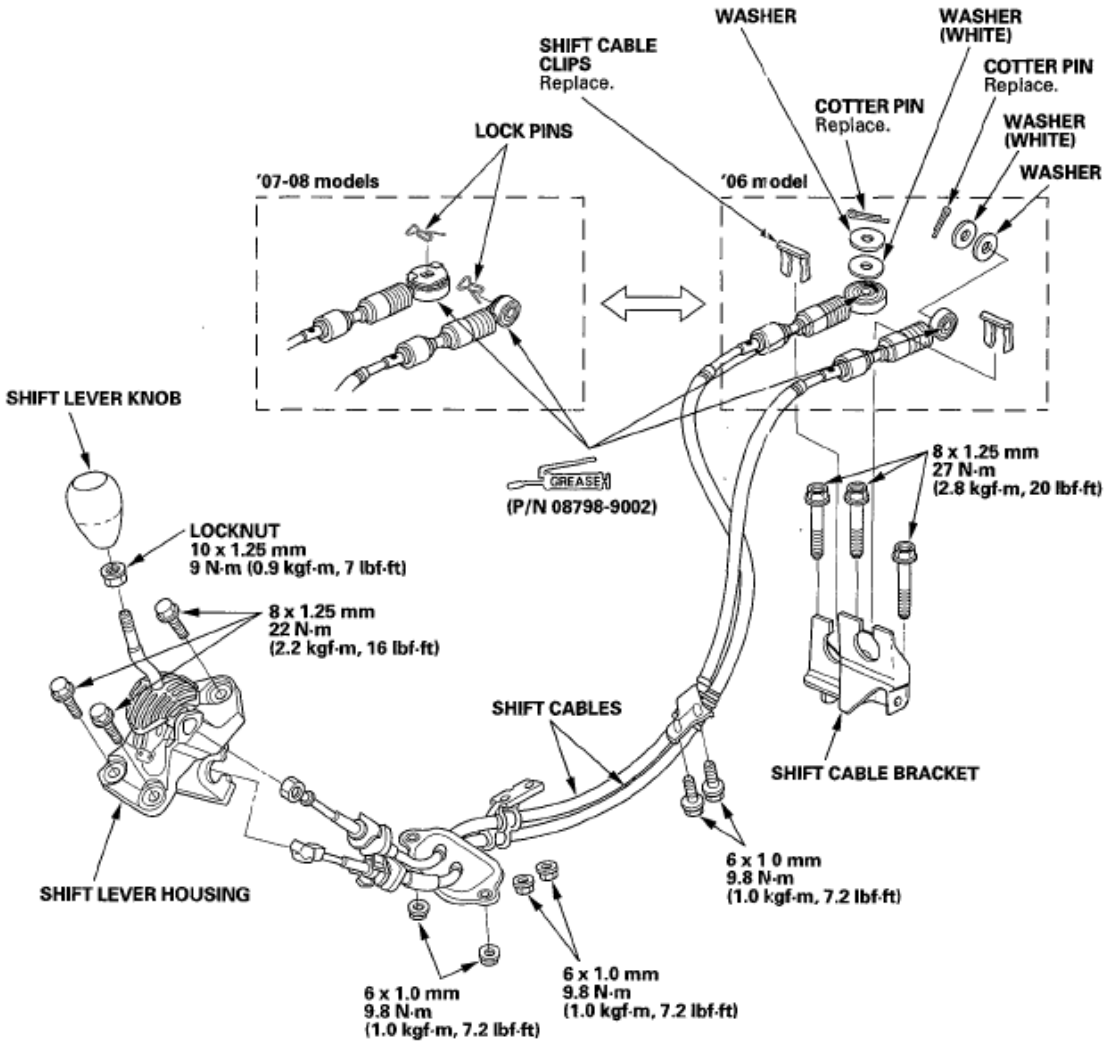



**Fig. 186: Identifying Gearshift Mechanism Components w/Torque Specs. Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## M/T DIFFERENTIAL

### COMPONENT LOCATION INDEX

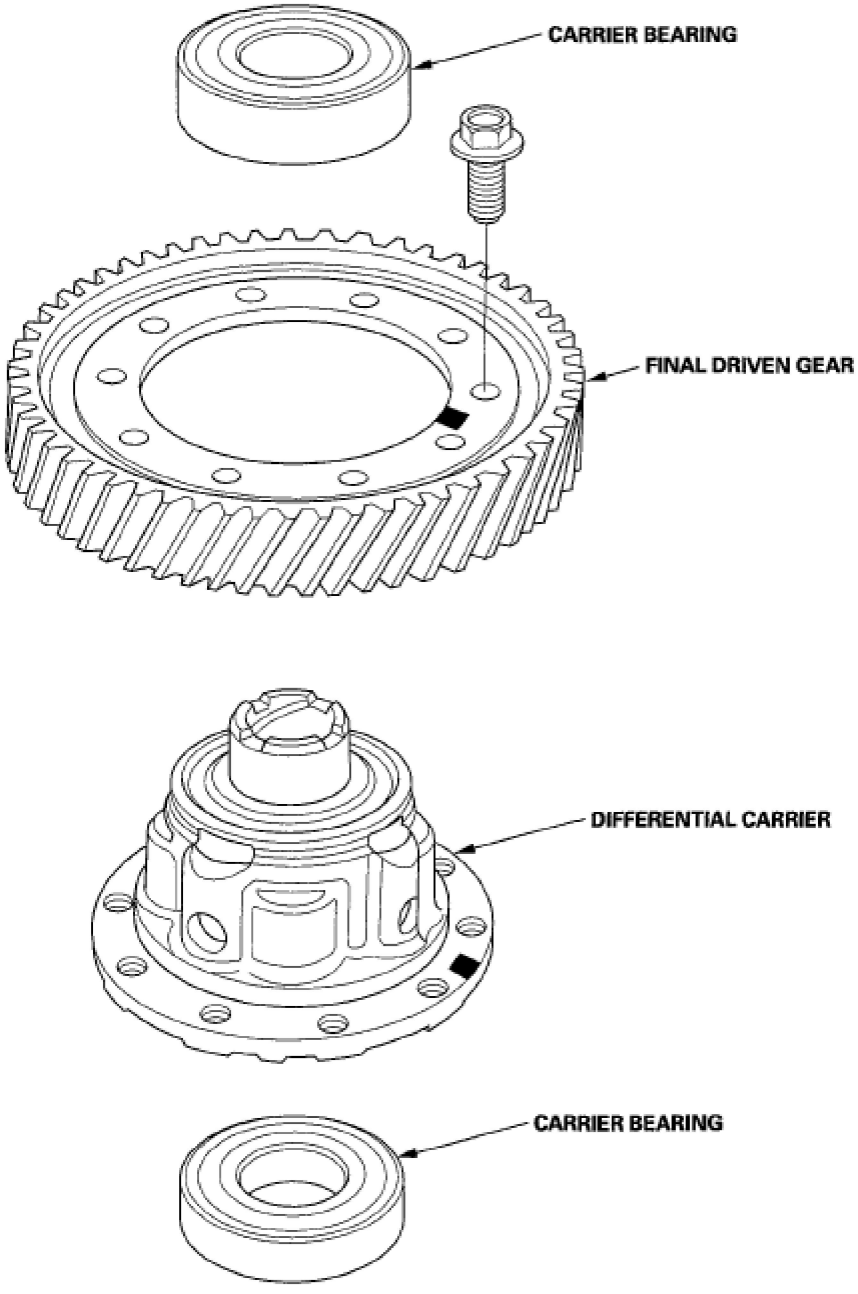



**Fig. 187: Identifying M/T Differential Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**DIFFERENTIAL CARRIER, FINAL DRIVEN GEAR REPLACEMENT**

1. Remove the bolts in a crisscross pattern in several steps, then remove the final driven gear (A) from the differential carrier (B).

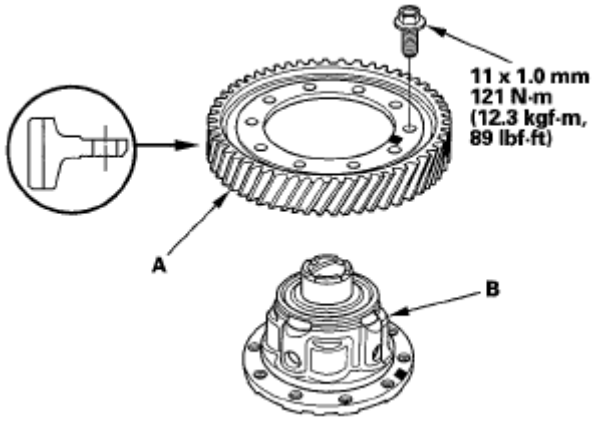



**Fig. 188: Identifying Final Driven Gear, Differential Carrier & Torque Spec.**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the final driven gear with the chamfer on the inside diameter facing the carrier. Tighten the bolts in a crisscross pattern in several steps.

**CARRIER BEARING REPLACEMENT**

## Special Tools Required

## Driver, 40 mm I.D. 07746-0030100

1. Check the carrier bearings for wear and rough rotation. If they rotate smoothly and their rollers show no signs of wear, the bearings are OK.
2. Remove the carrier bearings (A) with a commercially available bearing puller (B).

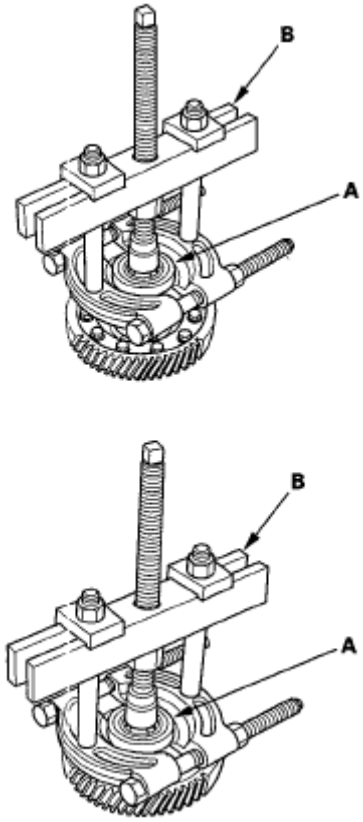



**Fig. 189: Identifying Carrier Bearings And Bearing Puller**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the new bearings (A) with the 40 mm I.D. driver (B) and a press. Press each bearing on until it bottoms. There should be no clearance between the bearings and the carrier.

**NOTE: Place the seal (C) part of the bearing towards the outside of the differential, and install it.**

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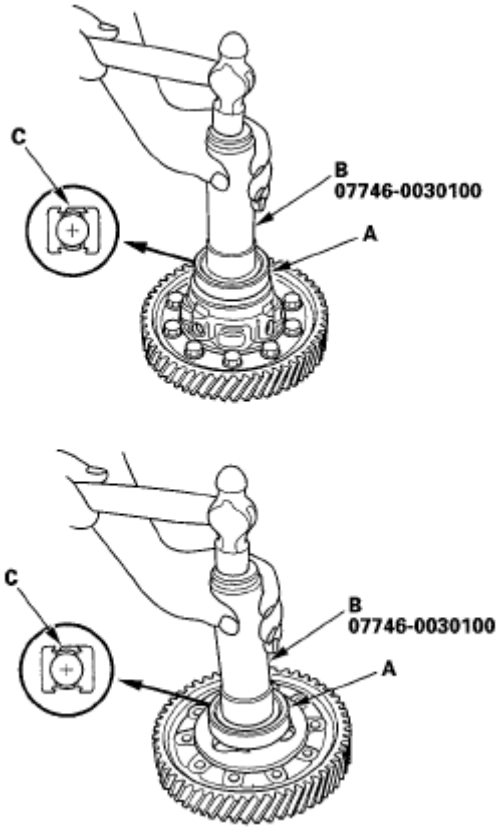



**Fig. 190: Identifying Bearings, I.D. Driver And Seal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**OIL SEAL REPLACEMENT**

## Special Tools Required

- Oil seal driver attachment 07NAD-P20A100
- Driver 07749-0010000

1. Remove the oil seal (A) from the transmission housing (B).

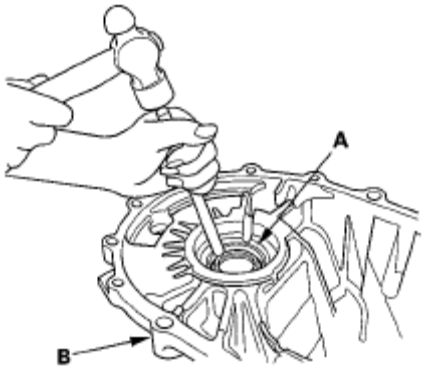



**Fig. 191: Identifying Oil Seal And Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the oil seal (A) from the clutch housing (B).

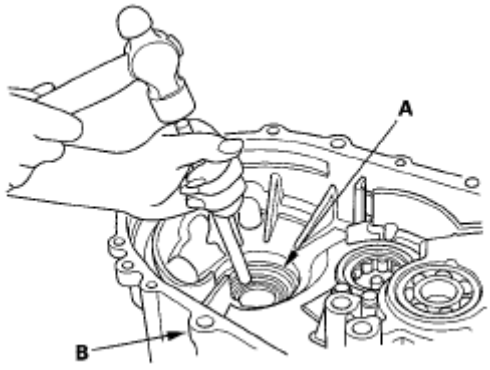



**Fig. 192: Identifying Oil Seal And Clutch Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the new oil seal in the transmission housing with the driver (A) and oil seal driver attachment (B).

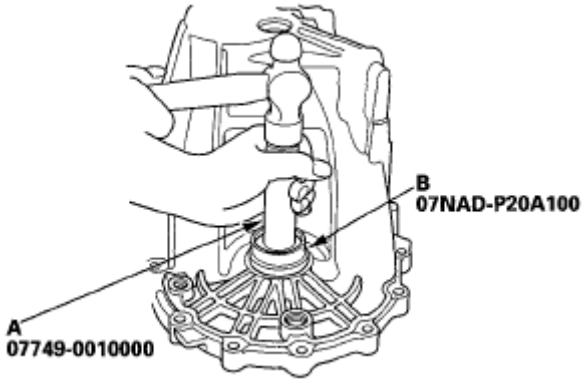


**Fig. 193: Identifying Driver And Oil Seal Driver Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the new oil seal in the clutch housing with the driver (A) and oil seal driver attachment (B).

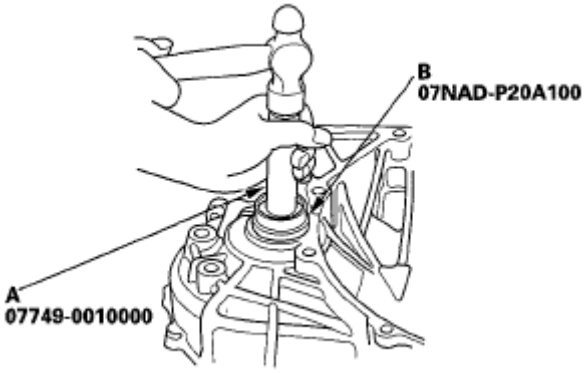



**Fig. 194: Identifying Driver And Oil Seal Driver Attachment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**DIFFERENTIAL THRUST CLEARANCE ADJUSTMENT**

## Special Tools Required

Driver, 40 mm I.D. 07746-0030100

1. If you removed the 80 mm shim from the transmission housing, reinstall the same sized shim.

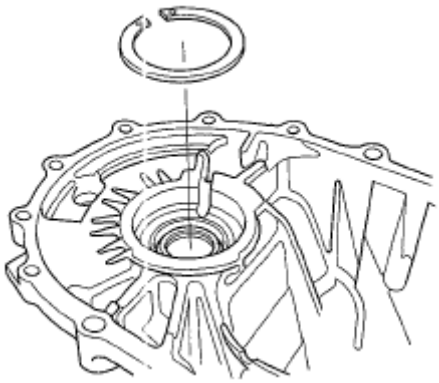


**Fig. 195: Identifying Shim**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the differential assembly into the clutch housing.

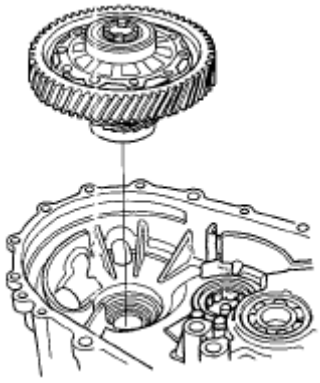


**Fig. 196: Identifying Differential Assembly**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Install the transmission housing onto the clutch housing, then tighten the 8 mm flange bolts in a crisscross pattern in several steps (see step 15 ).

   **Specified Torque**

   **8 x 1.25 mm**

   **27 N.m (2.8 kgf.m, 20 lbf.ft)**

4. Use the 40 mm I.D. driver (A) to bottom the differential assembly in the clutch housing.

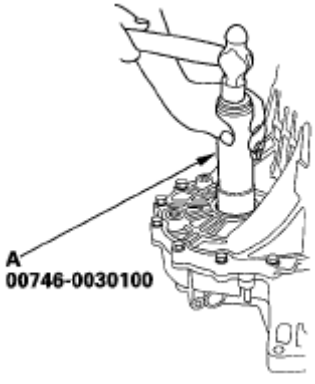



**Fig. 197: Identifying I.D. Driver**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Measure the clearance between the 80 mm shim and the bearing outer race in transmission housing.

   **Standard: 0-0.10 mm (0-0.004 in.)**



**Fig. 198: Measuring Clearance Between Shim And Bearing Outer Race In Transmission Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the clearance is more than the standard, select a new 80 mm shim from the following table. If the clearance measured in step 5 is within the standard, go to step 9.

   **80 mm Shim**

**PART THICKNESS CHART**

| | Part Number | Thickness |
|---|---|---|
| A | 41441-PL3-B00 | 1.0 mm (0.0394 in.) |
| B | 41442-PL3-B00 | 1.1 mm (0.0433 in.) |
| C | 41443-PL3-B00 | 1.2 mm (0.0472 in.) |
| D | 41444-PL3-B00 | 1.3 mm (0.0512 in.) |
| E | 41445-PL3-B00 | 1.4 mm (0.0551 in.) |
| F | 41446-PL3-B00 | 1.5 mm (0.0591 in.) |
| G | 41447-PL3-B00 | 1.6 mm (0.0630 in.) |
| H | 41448-PL3-B00 | 1.7 mm (0.0669 in.) |
| J | 41449-PL3-B00 | 1.8 mm (0.0709 in.) |
| | | |

| | | |
|---|---|---|
| K | 41450-PL3-B00 | 1.05 mm (0.0413 in.) |
| L | 41451-PL3-B00 | 1.15 mm (0.0453 in.) |
| M | 41452-PL3-B00 | 1.25 mm (0.0492 in.) |
| N | 41453-PL3-B00 | 1.35 mm (0.0531 in.) |
| P | 41454-PL3-B00 | 1.45 mm (0.0571 in.) |
| Q | 41455-PL3-B00 | 1.55 mm (0.0610 in.) |
| R | 41456-PL3-B00 | 1.65 mm (0.0650 in.) |
| S | 41457-PL3-B00 | 1.75 mm (0.0689 in.) |

7. Remove the bolts and transmission housing.
8. Replace the thrust shim selected in step 6, then recheck the clearance.
9. Reinstall the transmission housing.

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**2006-08 ACCESSORIES AND EQUIPMENT**

**Mirrors - Civic**

# COMPONENT LOCATION INDEX

## 2-door

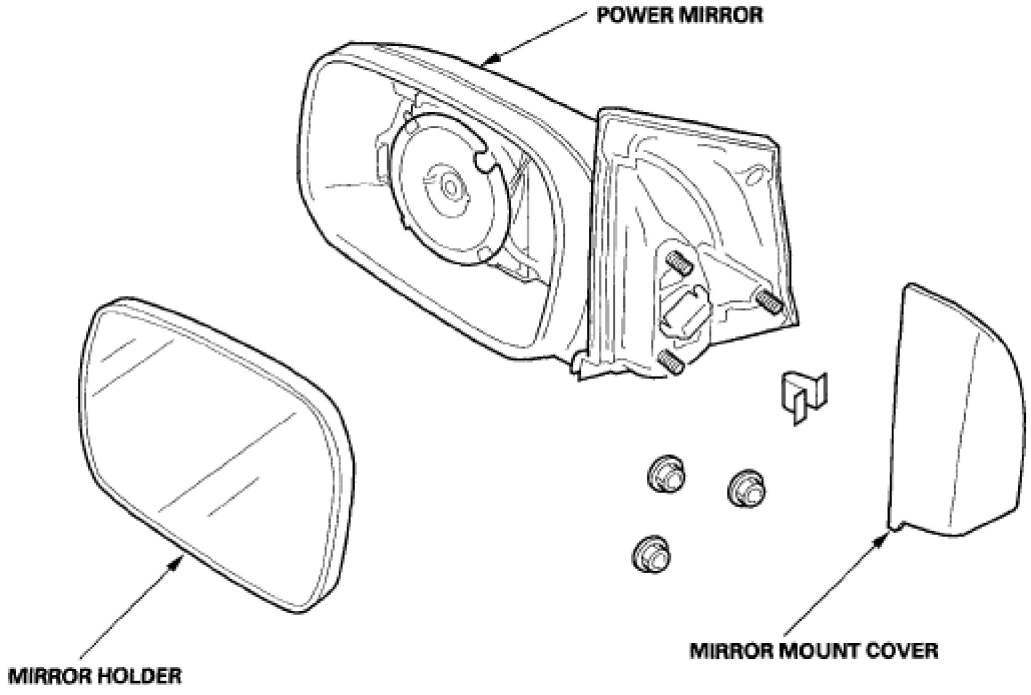



**Fig. 1: Identifying Mirrors Component Locations (2-Door)**

## 4-door

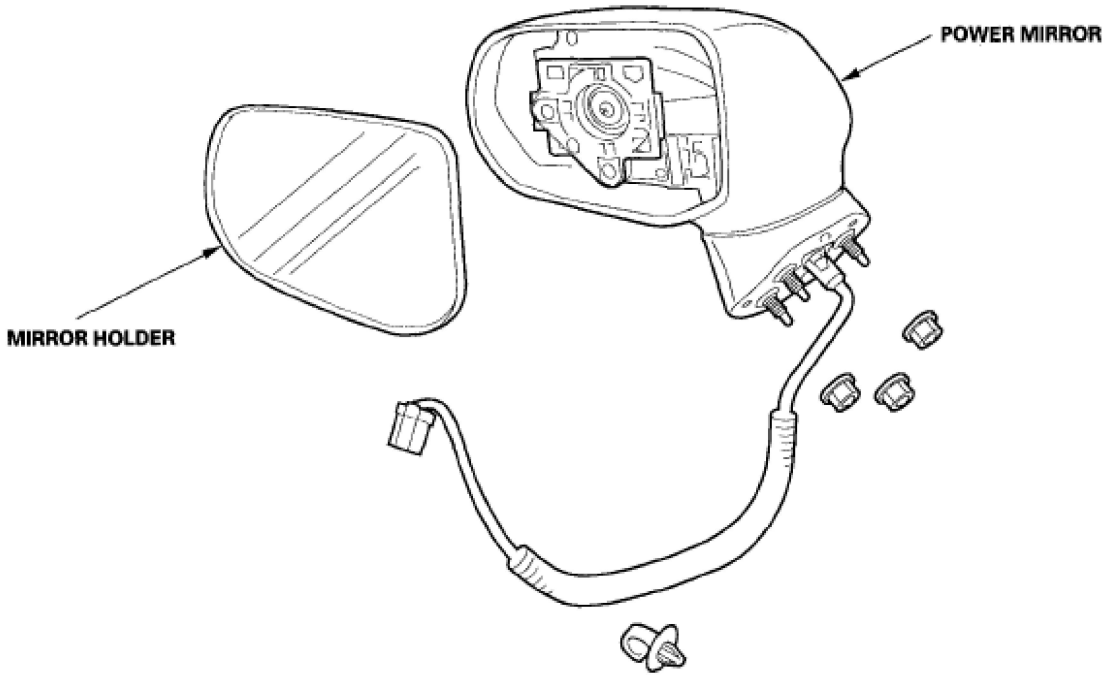



**Fig. 2: Identifying Mirrors Component Locations (4-Door) (1 Of 2)**

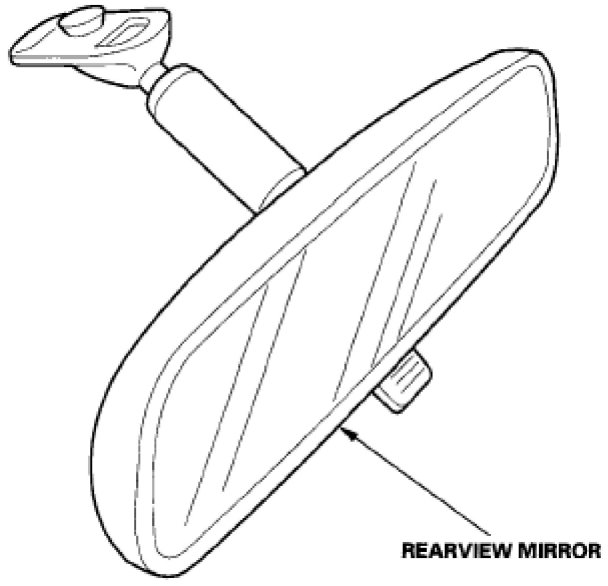



**Fig. 3: Identifying Mirrors Component Locations (4-Door) (2 Of 2)**

## POWER MIRROR REPLACEMENT

### 2-DOOR

1. Lower the door glass fully.

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2. With your hand, carefully release the clip, lift the cover upward to release the hook (A), and remove the mirror mount cover (B) in the sequence shown.

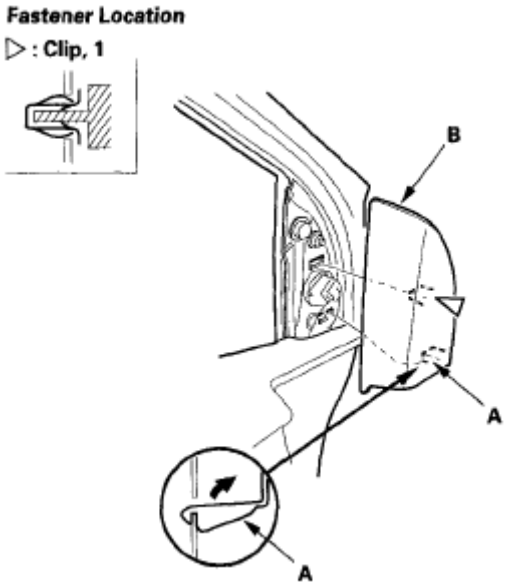



**Fig. 4: Identifying Mirror Mount Cover And Hook**

3. Disconnect the connector (A), and remove the cap (B).

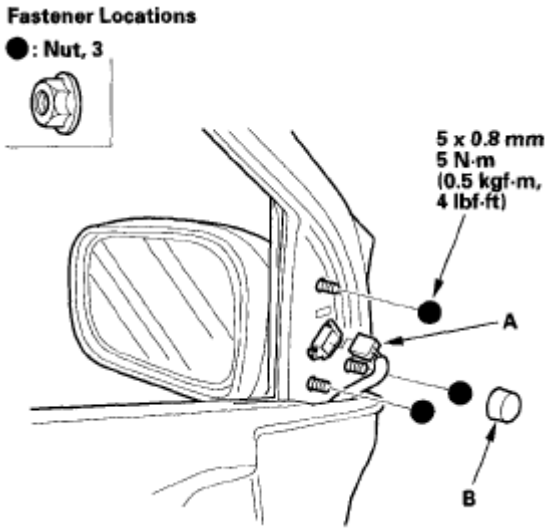



**Fig. 5: Identifying Connector And Cap (With Torque Specifications)**

4. While holding the mirror, remove the nuts securing the mirror.
5. While holding the mirror, push in on the connector clip (A), then push out to

remove the mirror (B). Take care not to scratch the door.

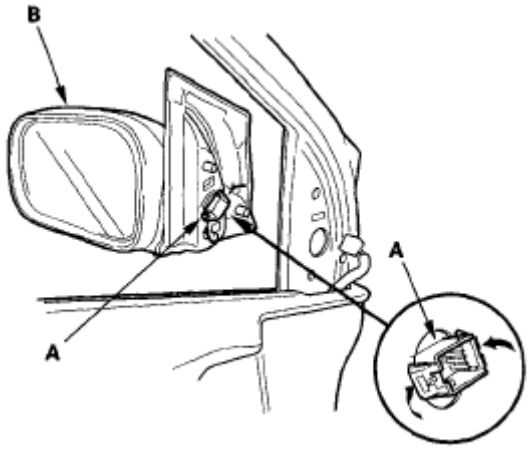



**Fig. 6: Identifying Connector Clip And Mirror**

6. Install the mirror in the reverse order of removal, and make sure the connector is plugged in properly.

**4-DOOR**

1. Raise the door glass fully.
2. Remove these items:
   - Door panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** )
   - Plastic cover, as needed
3. Disconnect the connector (A), and detach the harness clip (B).

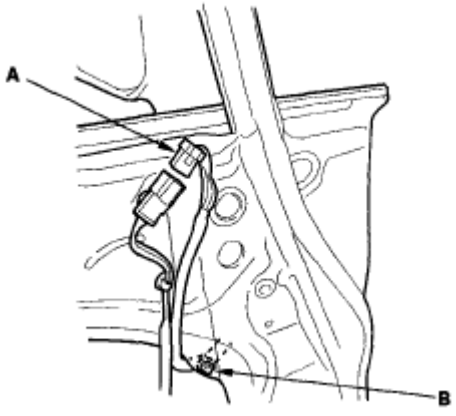


**Fig. 7: Identifying Connector And Clip**

4. Remove the maintenance caps (A), and remove the nuts.

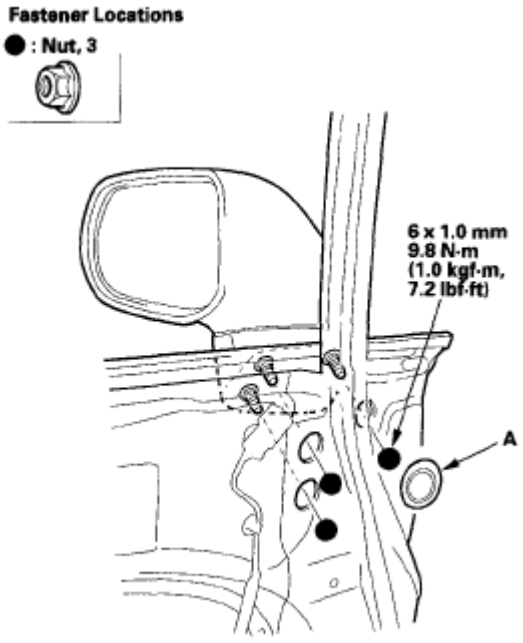



**Fig. 8: Identifying Maintenance Caps And Nuts (With Torque Specifications)**

5. While holding the mirror (A), detach the clip (B), then remove the mirror, and pull the harness (C) out through the hole in the door. Take care not to scratch the door.

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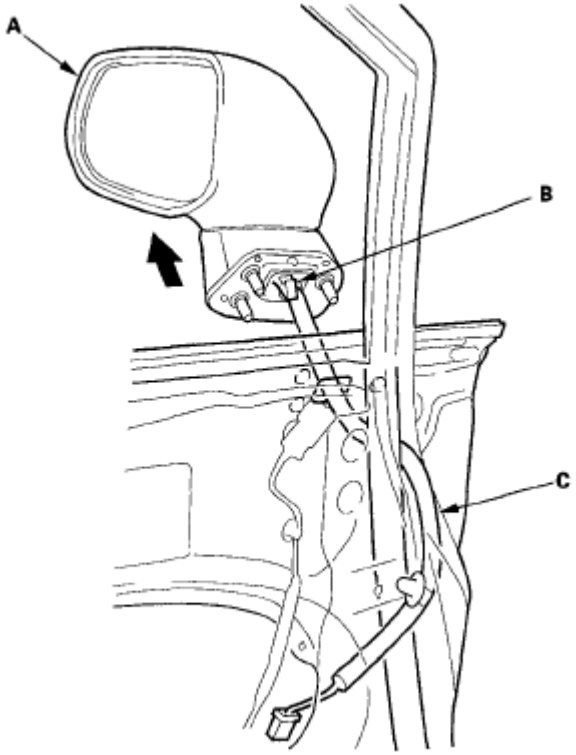



**Fig. 9: Identifying Mirror, Clip And Door**

6. Install the mirror in the reverse order of removal, and make sure the connector is plugged in properly.

## MIRROR HOLDER REPLACEMENT

**2-DOOR**

**NOTE: When prying with a flat-tipped screwdriver, wrap it with protective tape to prevent damage.**

1. Adjust the mirror fully to the inward position.
2. Insert a long, thin flat-tipped screwdriver along the notch (A) on the mirror holder (B). Slide the tip of the screwdriver between the mirror holder and the actuator (C).

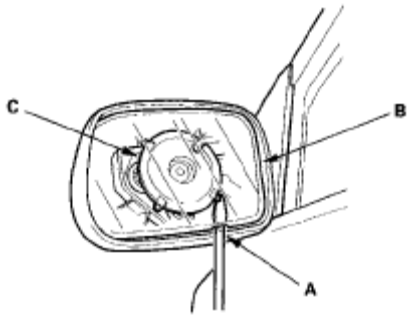



**Fig. 10: Identifying Mirror Holder And Actuator**

3. Quickly twist the screwdriver to separate the mirror holder from the mirror actuator.
4. Insert the screwdriver further under the mirror holder and twist it again.

**NOTE: Do not pry up on the mirror holder to separate the two parts, as this can cause either the mirror glass or actuator to break.**

5. Separate the mirror holder (A) from the actuator (B) by slowly pulling the mirror apart while separating the adhesive (C), and release the hooks (D). If equipped, disconnect the mirror defogger connectors from the heater pad terminals.

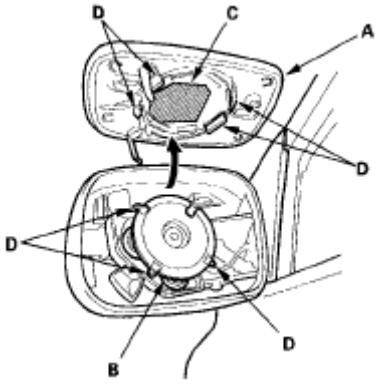



**Fig. 11: Identifying Mirror Holder From Actuator**

6. Before reinstalling the mirror holder to the inner holder (A) of the actuator, check the actuator rods (B) and the actuator boots (C):
   - If each rod is off the actuator hole, insert it securely.

- The whole of each rod should be covered with the boot. If not, adjust the boot into proper position.

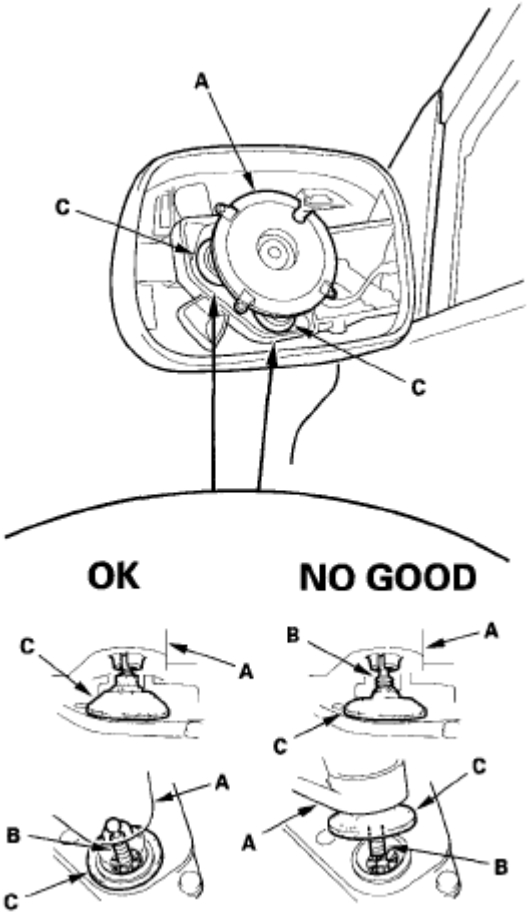



**Fig. 12: Identifying Actuator Rods And Actuator Boots**

7. If equipped, reconnect the mirror defogger connectors.
8. Reattach the hooks of the mirror holder to the actuator, then position the mirror holder on the actuator. Carefully push on the clip portions of the mirror holder until the mirror holder locks into place.
9. Check the actuator operation.

**4-DOOR**

**NOTE: Put on gloves to protect your hands.**

1. Carefully push on the top edge of the mirror holder (A) by hand.

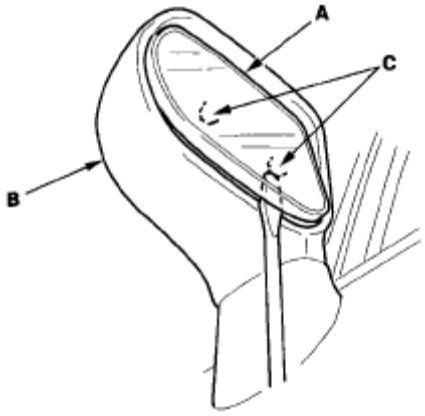



**Fig. 13: Identifying Top Edge Of Mirror Holder**

2. Put a shop towel in the opening between the lower edge of the mirror holder and the mirror housing (B) to prevent scratches, and detach the bottom clips (C) with a flat-tip screwdriver wrapped with protective tape.
3. Carefully pull out the bottom edge of the mirror holder (A) to separate the adhesive (B), and then release the side clips (C).

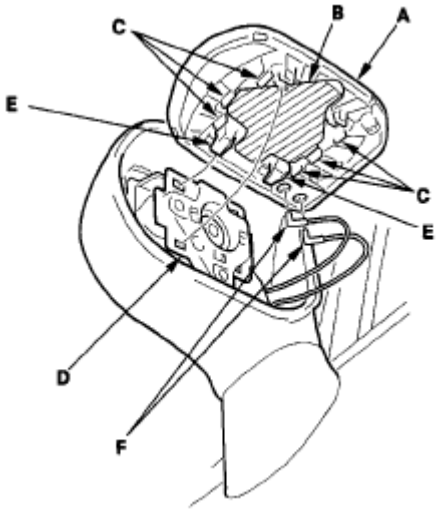



**Fig. 14: Identifying Mirror Holder And Adhesive**

4. Separate the mirror holder from the actuator (D) by releasing the hooks (E). If equipped, disconnect the mirror defogger connectors (F).
5. Before reinstalling the mirror holder to the inner holder (A) of the actuator, check the actuator rods (B) and the actuator boots (C):
    - If each rod is off the actuator hole, insert it securely.

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- Each rod should be covered with a boot. If not, adjust the boot into the proper position.

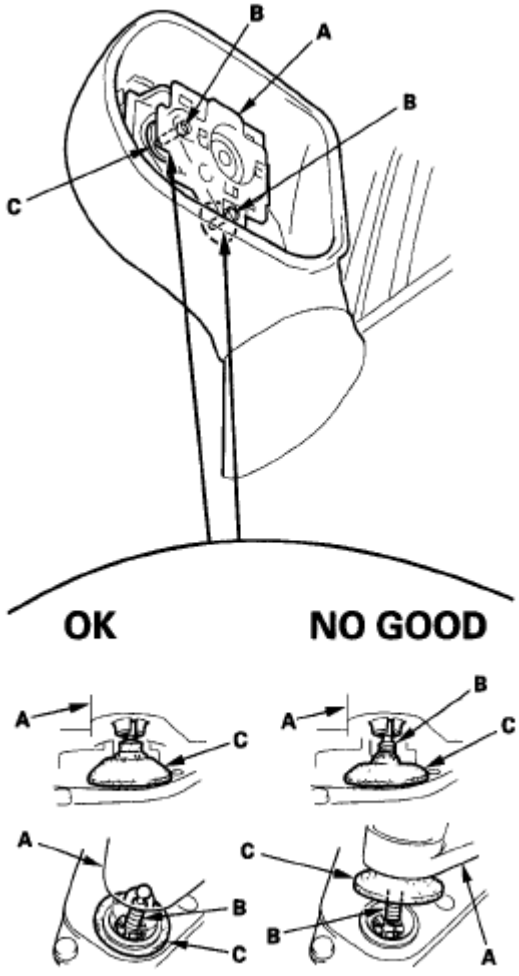



**Fig. 15: Identifying Actuator Rods And Actuator Boots**

6. If equipped, reconnect the mirror defogger connectors.
7. Reattach the hooks of the mirror holder to the actuator, then position the mirror holder on the actuator. Carefully push on the clip portions of the mirror holder until the mirror holder locks into place.
8. Check the actuator operation.

## REARVIEW MIRROR REPLACEMENT

1. Turn the rearview mirror base (A) 90 °.

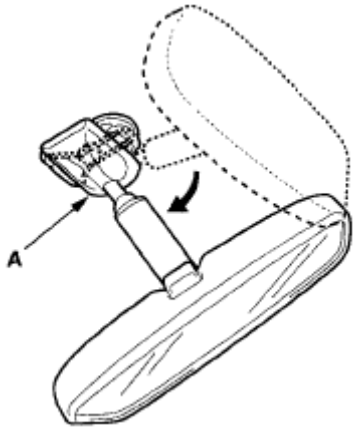



**Fig. 16: Identifying Rearview Mirror Base**

2. Slide the rearview mirror (A) down toward the bottom of the windshield to detach it from the spring (B) in the mount (C).

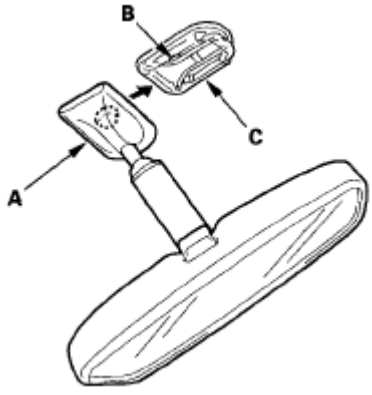



**Fig. 17: Identifying Rearview Mirror Down Toward Bottom Of Windshield**

3. Install the rearview mirror in the reverse order of removal.

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# 2006-08 ACCESSORIES & EQUIPMENT

## Moonroof - Civic

## COMPONENT LOCATION INDEX

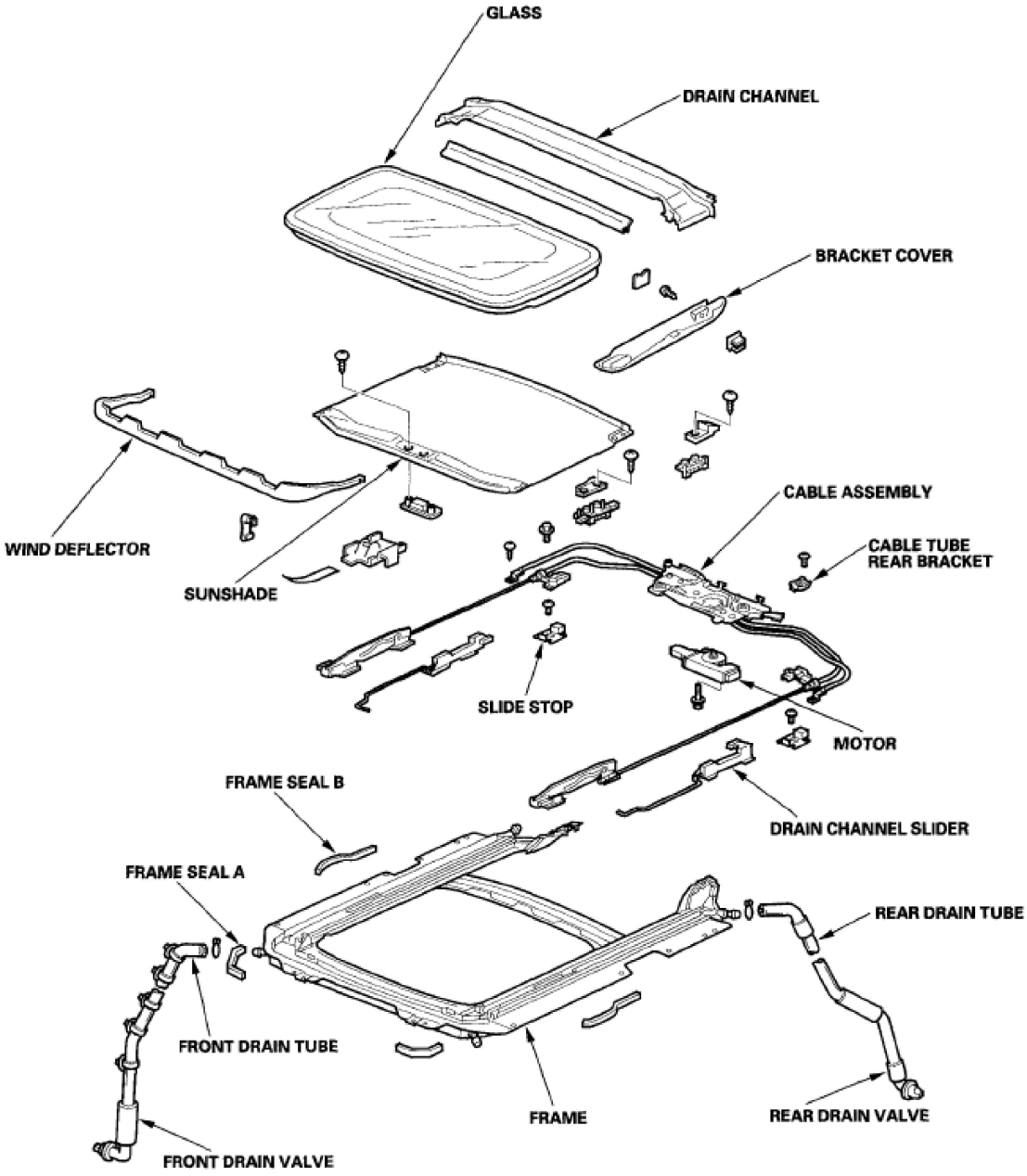



**Fig. 1: Exploded View Of Moonroof**

## SYMPTOM TROUBLESHOOTING INDEX

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## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure |
|---|---|
| Water leaks from moonroof | 1. Check for a clogged drain tube.<br>2. Check for a gap between the glass weatherstrip and the roof panel.<br>3. Check for a defective or an improperly installed glass weatherstrip or drain channel.<br>4. Check for a gap between the drain seal and the roof panel.<br>5. Adjust the moonroof height. |
| Wind noise from moonroof | 1. Check for excessive clearance between the glass weatherstrip and the roof panel.<br>2. Adjust the moonroof height. |
| Motor noise from moonroof | 1. Check for a loose motor.<br>2. Check for a worn gear or bearing.<br>3. Check for a deformed cable assembly. |
| Moonroof glass does not move, but motor turns | 1. Check for a defective gear or inner cable.<br>2. Check for foreign matter stuck between the guide rail and the slider.<br>3. Check for a loose inner cable.<br>4. Make sure the cable assembly is attached properly. |
| Moonroof glass does not move and motor does not turn (glass can be moved with moonroof wrench) | 1. Check for a blown fuse.<br>2. Check for a faulty moonroof switch.<br>3. Check for a run down battery.<br>4. Check for a defective motor control unit. |
| Moonroof glass does not stop at proper flush closed position | 1. Reset the moonroof control unit (see **RESETTING THE MOONROOF CONTROL UNIT** ). |

| | |
|---|---|
| | 2. Check glass height adjustment. |
| Moonroof glass moves in a jerking motion (moves 40 mm (1.57 in.), stops for 0.4 seconds, and repeats) | Reset the moonroof control unit (see **RESETTING THE MOONROOF CONTROL UNIT** ). |
| During auto close operation, moonroof glass reverses when no object is trapped | Check for dirt and debris in the track. Reset the moonroof control unit (see **RESETTING THE MOONROOF CONTROL UNIT** ). |
| Moonroof glass moves, but there is no AUTO function | Reset the moonroof control unit (see **RESETTING THE MOONROOF CONTROL UNIT** ). |

## GLASS POSITION ADJUSTMENT

The roof panel (A) should be even with the glass weatherstrip (B), to within 0+1/-1 mm (0+0.04/-0.04 in.) all the way around, and should be to length of between the roof panel and glass, to within 13.5+1/-1 mm (0.55+0.04/-0.04 in). If not, make the following adjustment:

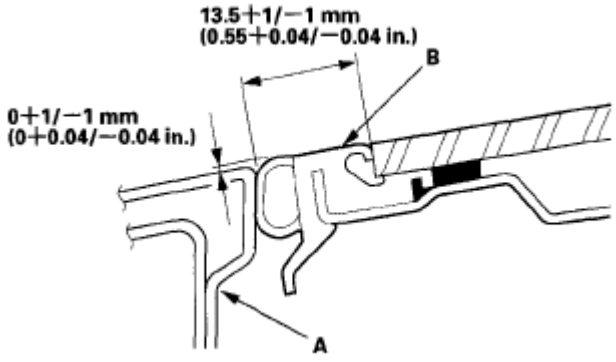



**Fig. 2: Adjusting Glass Position (with Specifications)**

1. Remove the bracket cover.
2. Adjust the glass (A).
   - -1 Using a T25 TORX bit, slightly loosen the bolts.
   - -2 Move the glass up or down and forward or rearward.
   - -3 Tighten all bolts securely.

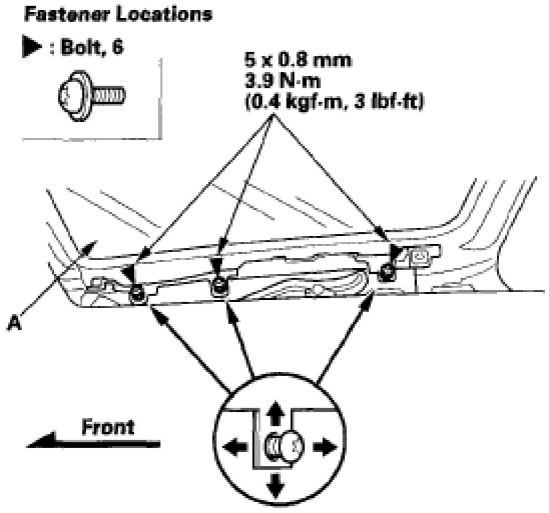



**Fig. 3: Adjusting Glass (With Specifications)**

3. If necessary, repeat on the opposite side.

## GLASS REPLACEMENT

1. Close the glass fully.
2. Slide the sunshade all the way back.
3. Pry out the lid (A), remove the screws (B), and release the hooks (C), then remove both bracket covers (D). With a T25 TORX bit, remove the bolts (E) from both glass brackets (F).

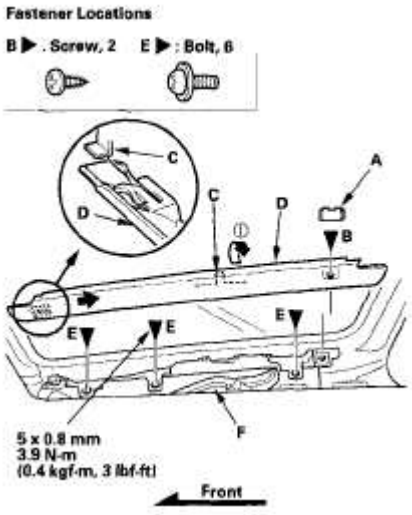



**Fig. 4: Removing Both Glass Brackets (With Specifications)**

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4. Remove the glass (A) by lifting it up. Do not damage the roof panel.

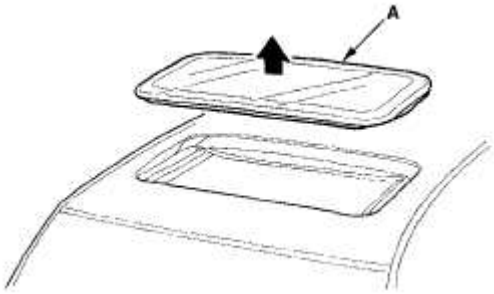



**Fig. 5: Removing Glass By Lifting Up**

5. Install the glass in the reverse order of the removal, and adjust the glass height alignment.
6. Reset the moonroof control unit (see **RESETTING THE MOONROOF CONTROL UNIT** ).
7. Check for water leaks. Use free-flowing water from a hose without a nozzle. Do not use high-pressure water.

**NOTE: It is normal for some water to seep past the moonroof into the moonroof frame, and exit through the drains.**

## WIND DEFLECTOR REPLACEMENT

1. Open the glass fully.
2. Remove the links (A) from both sides.

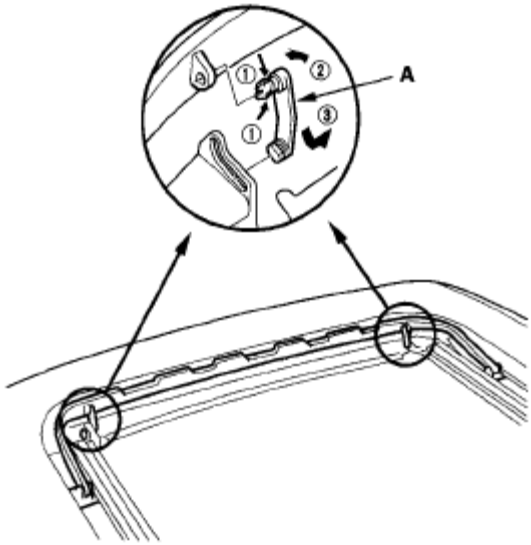



**Fig. 6: Removing Links**

3. Remove the wind deflector (A).

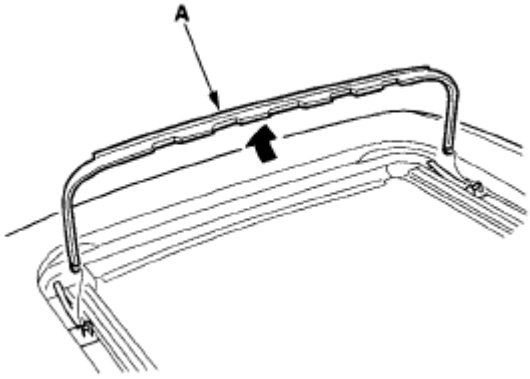



**Fig. 7: Removing Wind Deflector**

4. Pry up on the deflector bases (A) and release the hooks (B), then remove the bases with springs (C) from both sides.

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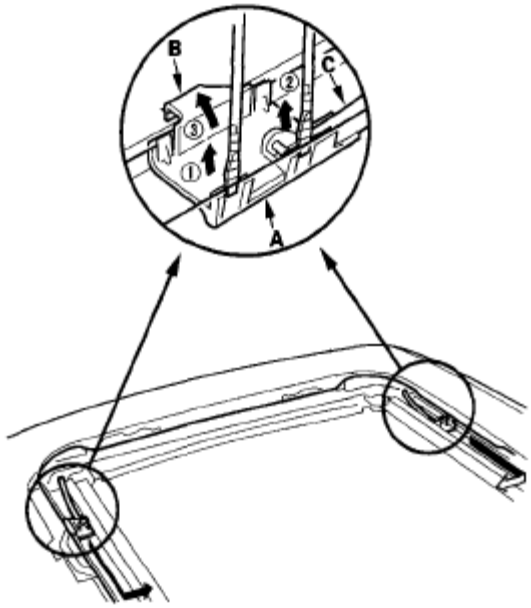



**Fig. 8: Removing Deflector Bases, Hooks And Springs**

5. Install the deflector in the reverse order of removal.
6. Reset the moonroof control unit (see **RESETTING THE MOONROOF CONTROL UNIT** ).

## DRAIN CHANNEL REPLACEMENT

1. Remove the glass (see **GLASS REPLACEMENT** ).
2. With the moonroof wrench, move both glass brackets (A) to the position where the moonroof normally tilts up and disconnect the drain channel rods (B) on both sides.

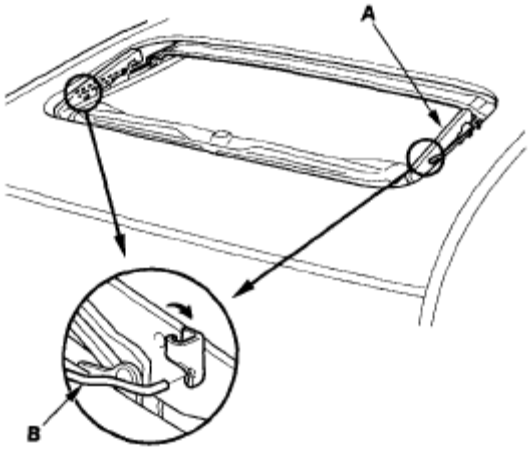



**Fig. 9: Moving Both Glass Bracket To Position Tilts Up**

3. Slide the drain channel (A) forward.

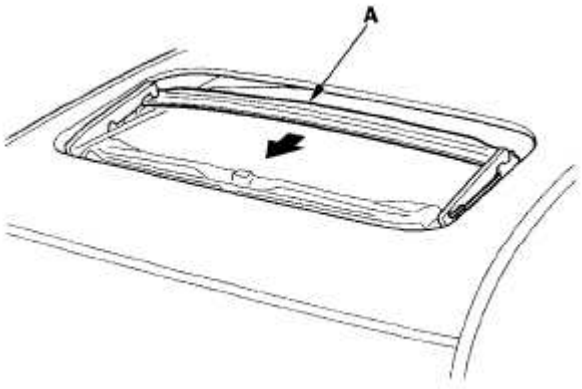



**Fig. 10: Sliding Drain Channel Forward**

4. Pull the rear edge of the drain channel (A) up while pushing both clips (B), and release the channel from both hooks (C) of the drain channel slider by pulling it rearward.

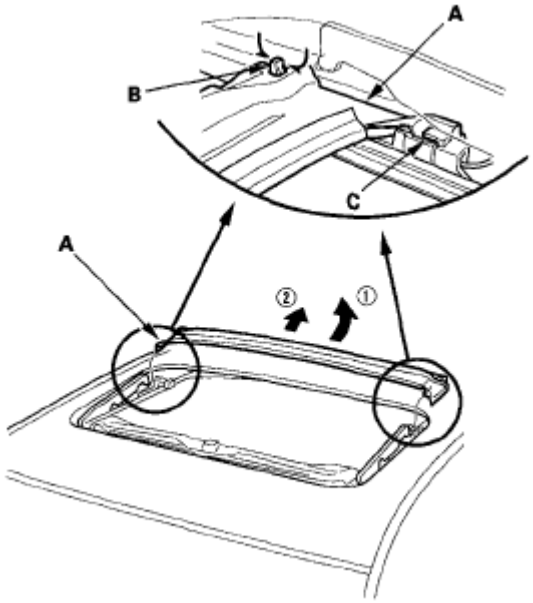



**Fig. 11: Releasing Channel From Hooks Of Drain Channel Slider**

5. Remove the drain channel.
6. Install the channel in the reverse order of removal, and note these items:
   - Push the clip portions into place securely.
   - Check the glass position adjustment (see **GLASS POSITION ADJUSTMENT** ).
7. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure spray.

## SUNSHADE REPLACEMENT

1. Remove the drain channel (see **DRAIN CHANNEL REPLACEMENT** ).
2. Slide the sunshade (A) until you can see both sunshade slider spacers (B).

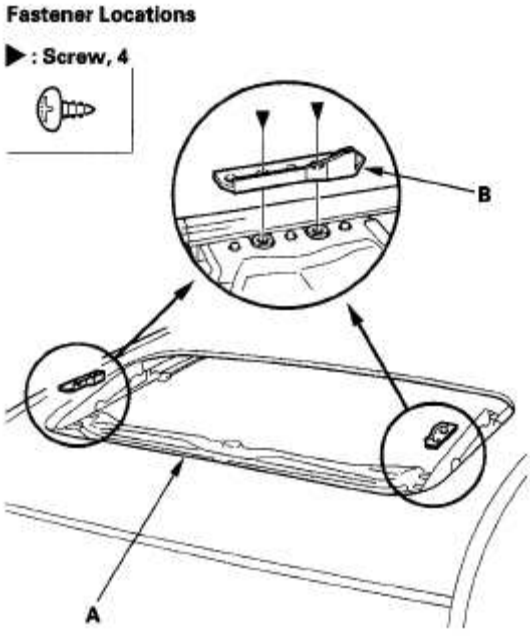



**Fig. 12: Sliding Sunshade**

3. Remove the screws, then remove both spacers.
4. While lifting the front portion of the sunshade (A), move the sunshade forward until you can see both sunshade rear hooks (B). Do not damage the sunshade and hooks.

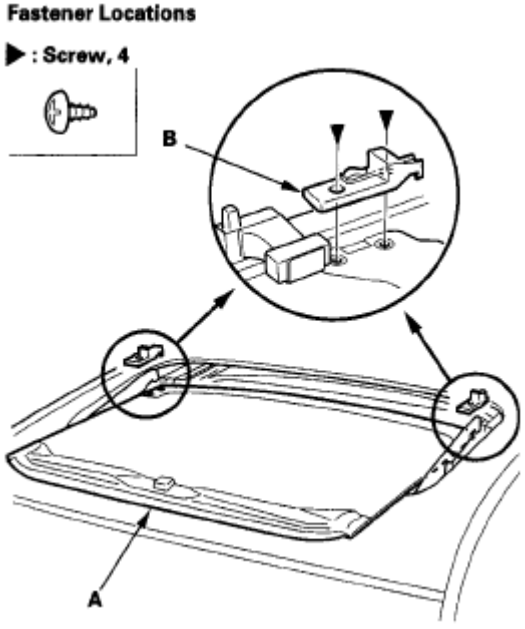



**Fig. 13: Moving Sunshade Forward**

5. Remove the screws, then remove both hooks.
6. Remove the sunshade (A).

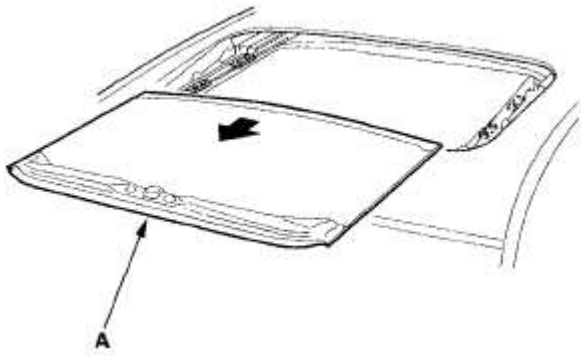



**Fig. 14: Removing Sunshade**

7. Remove both front sunshade base sliders (A) and both rear sunshade base sliders (B).

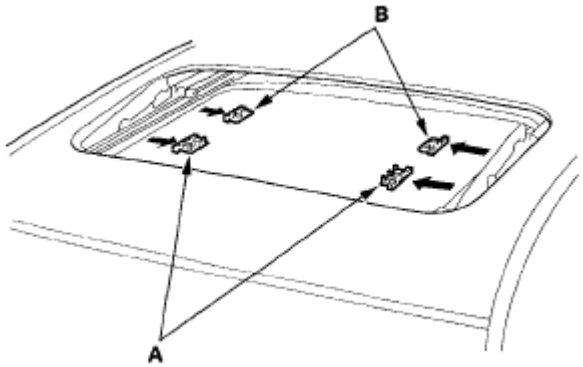



**Fig. 15: Removing Front And Rear Sunshade Base Sliders**

8. Install the sunshade in the reverse order of removal, and check the glass position adjustment (see **GLASS POSITION ADJUSTMENT** ).
9. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure spray.

## MOTOR REPLACEMENT

1. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION** ).
2. Put on gloves to protect your hands. Disconnect the connector (A), and remove

the bolts, then remove the motor (B).

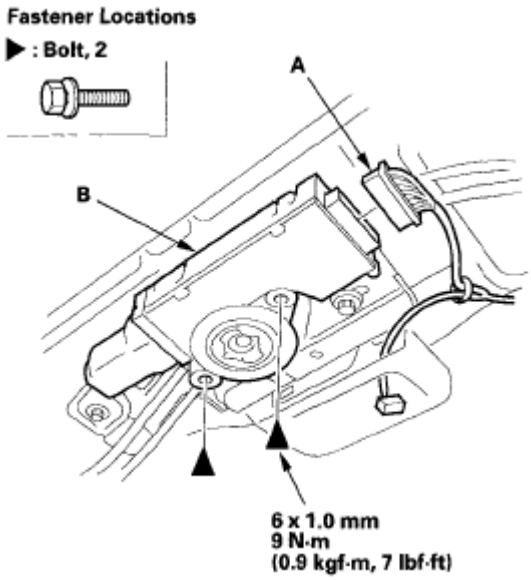



**Fig. 16: Removing Motor (With Specifications)**

3. Install the motor in the reverse order of removal, and note these items:
   - Make sure the connector is plugged in properly.
   - Reset the moonroof control unit (see **RESETTING THE MOONROOF CONTROL UNIT** ).
   - Check the motor operation.

## FRAME AND DRAIN TUBE REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

### 2-DOOR

1. Remove these items:
   - Headliner (see **HEADLINER REMOVAL/INSTALLATION** )
   - Moonroof glass (see **GLASS REPLACEMENT** )
2. Put on gloves to protect your hands. Disconnect the motor connector (A).

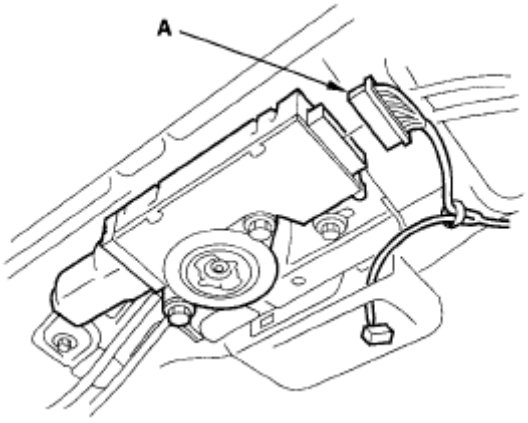



**Fig. 17: Disconnecting Motor Connector**

3. Disconnect the drain tubes (A).

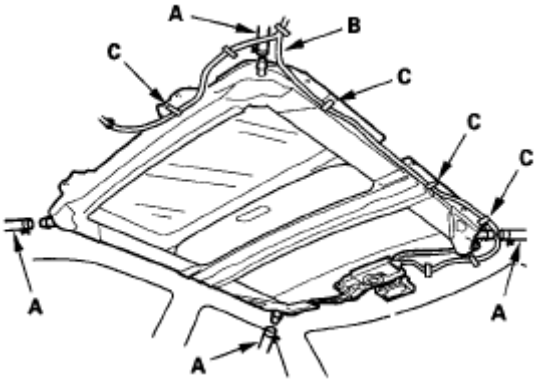



**Fig. 18: Disconnecting Drain Tubes**

4. Remove the roof wire harness (B) by detaching the harness clips (C).
5. With an assistant holding the frame (A), remove the bolts (B, C), starting at the rear, and release the rear hooks (D) by moving the frame forward.

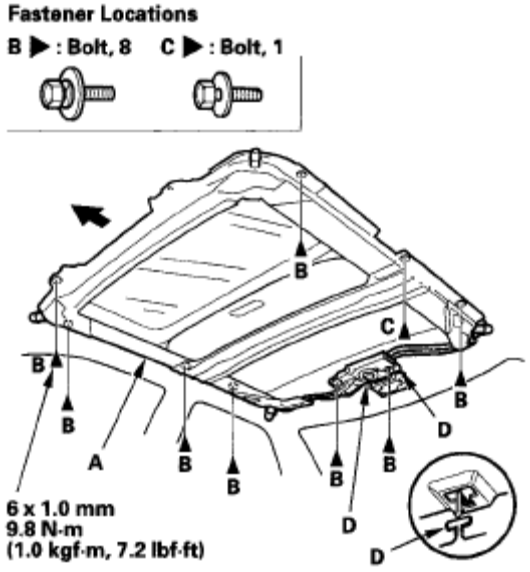



**Fig. 19: Releasing Rear Hooks By Moving Frame Forward (With Specifications)**

6. With the help of an assistant, carefully remove the frame through the front door opening. Take care not to scratch the interior trim and body, or tear the seat covers.
7. To remove a front drain valve (A) from the body, remove these parts:
   - Kick panel, left or right (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS** )
   - Driver's dashboard undercover (see **DRIVER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ) or passenger's dashboard undercover (see **PASSENGER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** )

   Tie a string to the top end of the drain tube, then pull the front drain tube (B) down out of the A-pillar. Leave the string in the pillar to use when reinstalling the drain tube.

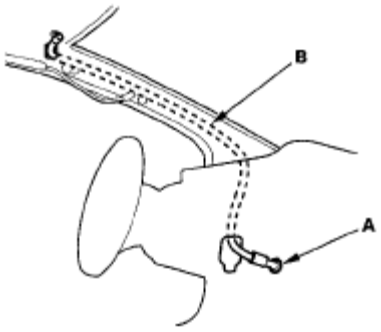



**Fig. 20: Pulling Front Drain Tube Down Out Of A-Pillar**

8. To remove a rear drain valve (A) from the body, remove these parts:
   - Spare tire lid (see step 3 in **TRIM REMOVAL/INSTALLATION - TRUNK AREA** )
   - Trunk rear trim panel (see step 5 in **TRIM REMOVAL/INSTALLATION - TRUNK AREA** )
   - Trunk side trim panel (see step 6 in **TRIM REMOVAL/INSTALLATION - TRUNK AREA** )

   Tie a string to the top end of the rear drain tube (B), then pull the drain tube down out of the pillar.

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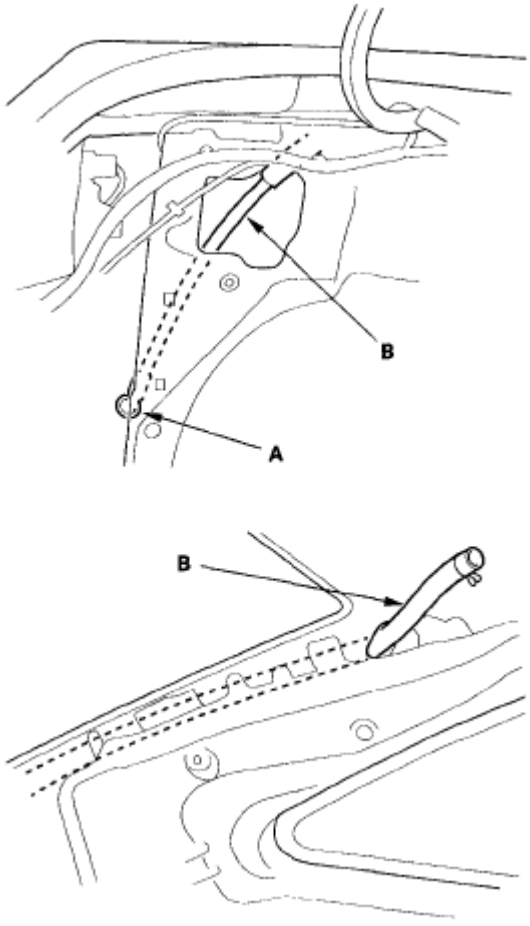



**Fig. 21: Removing Rear Drain Valve From Body**

9. Install the frame and drain tube in the reverse order of removal, and note these items:
   - Before installing the frame, clear the drain tubes and drain valves using compressed air.
   - When installing, tie a string to the top end of the new drain tube and pull it up into the roof.
   - Check the frame seal.
   - Clean the surface of the frame.
   - When installing the frame, first attach the rear hooks into the body holes.
   - Make sure the connectors are plugged in properly.
   - When connecting the drain tube, slide it over the frame nozzle at least 10 mm (0.39 in.).

- Install the tube clip (A) on the drain tube (B) as shown.

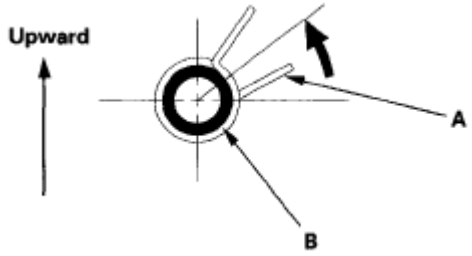



**Fig. 22: Installing Frame And Drain Tube**

10. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure spray.

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**4-DOOR**

1. Remove these items:
   - Headliner (see **HEADLINER REMOVAL/INSTALLATION** )
   - Moonroof glass (see **GLASS REPLACEMENT** )
2. Put on gloves to protect your hands. Disconnect the motor connector (A).

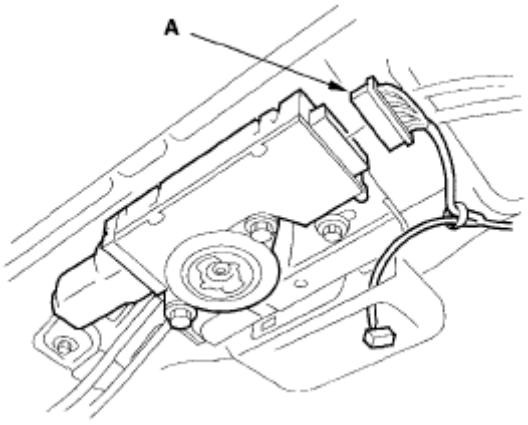



**Fig. 23: Disconnecting Motor Connector**

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3. Disconnect the drain tubes (A).

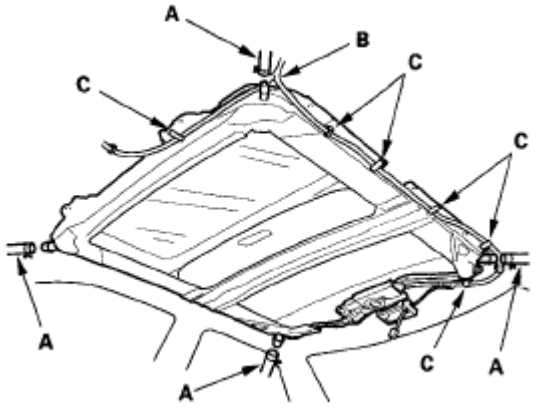



**Fig. 24: Disconnecting Drain Tubes**

4. Remove the roof wire harness (B) by detaching the harness clips (C).
5. With an assistant holding the frame (A), remove the bolts, starting at the rear, and release the rear hooks (B) by moving the frame forward.

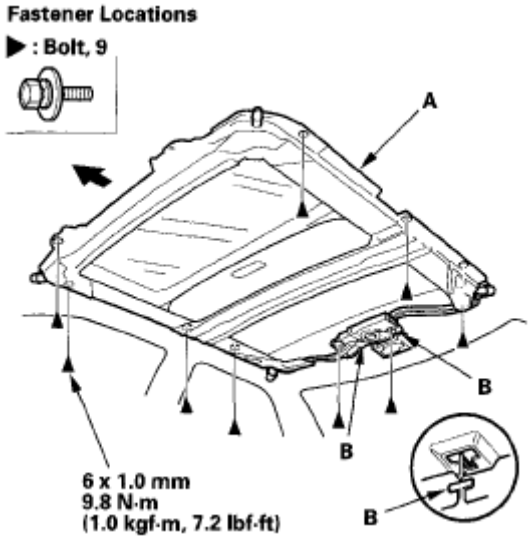



**Fig. 25: Releasing Rear Hooks Moving Frame Forward (With Specifications)**

6. With the help of an assistant, carefully remove the frame through the front door opening. Take care not to scratch the interior trim and body, or tear the seat covers.

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7. To remove a front drain valve (A) from the body, remove the kick panel, left or right (see **FRONT DOOR SILL AREA - 4-DOOR** ), and the driver's dashboard undercover (see **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ) or passenger's dashboard undercover (see **PASSENGER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).

   Detach the clips (B), then remove the front drain tube (C).

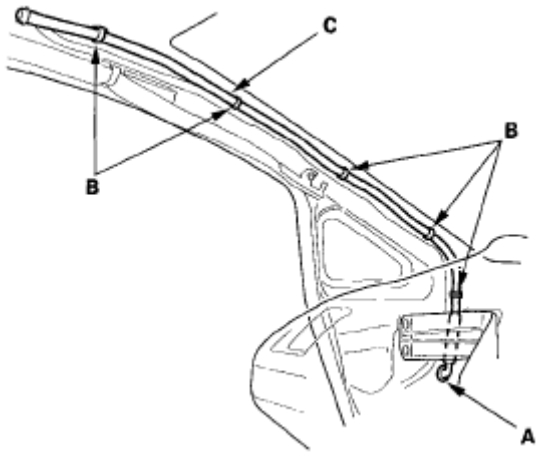



**Fig. 26: Removing Front Drain Valve From Body**

8. To remove a rear drain valve (A) from the body, remove these parts:
   - Spare tire lid (see step 2 in **TRIM REMOVAL/INSTALLATION - TRUNK AREA** )
   - Trunk rear trim panel (see step 5 in **TRIM REMOVAL/INSTALLATION - TRUNK AREA** )
   - Trunk side trim panel (see step 6 in **TRIM REMOVAL/INSTALLATION - TRUNK AREA** )

   Tie a string to the top end of the rear drain tube (B), then pull the drain tube down out of the pillar.

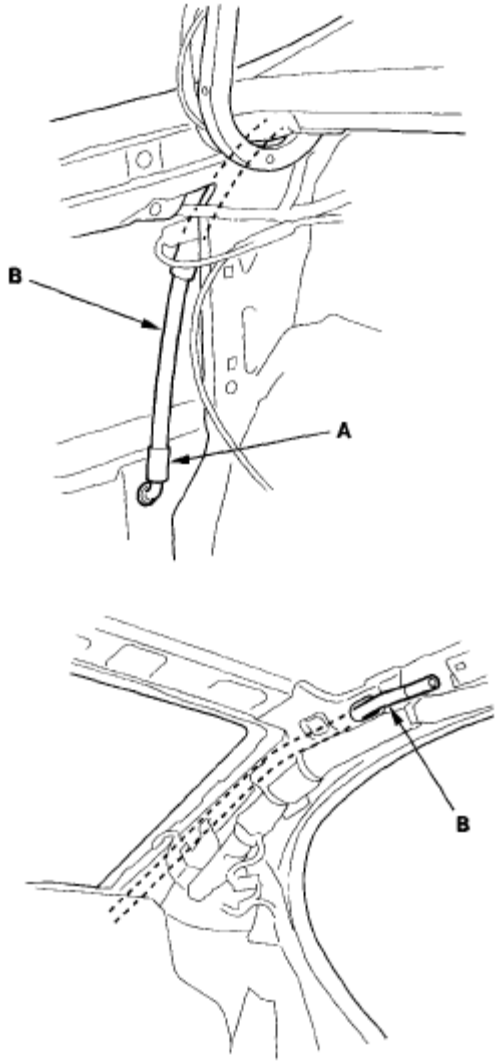



**Fig. 27: Removing Rear Drain Valve From Body**

9. Install the frame and drain tube in the reverse order of removal, and note these items:
   - Before installing the frame, clear the drain tubes and drain valves using compressed air.
   - When installing, tie a string to the top end of the new drain tube and pull it up into the roof.
   - Check the frame seal.
   - Clean the surface of the frame.
   - When installing the frame, first attach the rear hooks into the body holes.

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- Make sure the connectors are plugged in properly.
- When connecting the drain tube, slide it over the frame nozzle at least 10 mm (0.39 in.).
- Install the tube clip (A) on the drain tube (B) as shown.

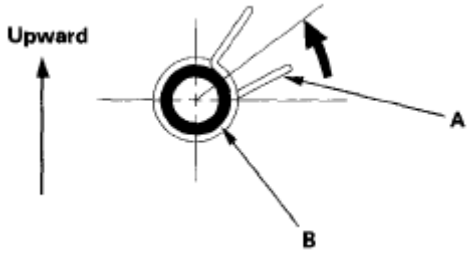



**Fig. 28: Installing Frame And Drain Tube**

10. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure spray.

## DRAIN CHANNEL SLIDER AND CABLE ASSEMBLY REPLACEMENT

1. Remove the frame:
   - 2-door (see **2-DOOR** )
   - 4-door (see **4-DOOR** )
2. Remove these parts from the frame:
   - Sunshade (see **SUNSHADE REPLACEMENT** )
   - Moonroof motor (see **MOTOR REPLACEMENT** )
3. Put on gloves to protect your hands. Remove the screws (A, B) securing the slide stops (C), and cable tube rear brackets (D), cable tube side bracket mounting bolts (E) and the cable tube mounting screws (F) from both sides of the frame (G).

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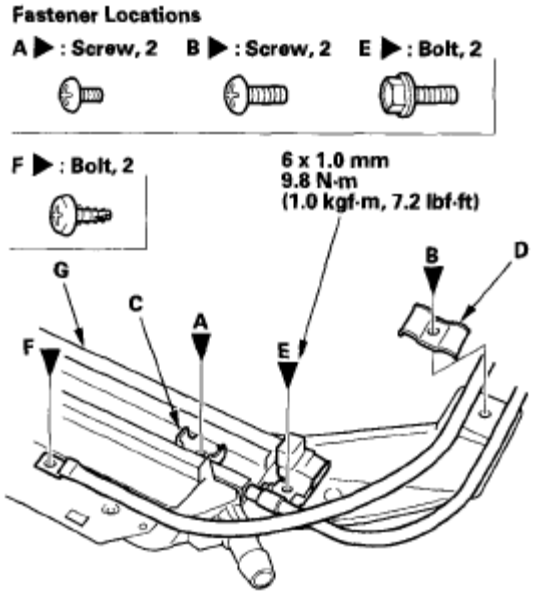



**Fig. 29: Removing Screws Securing Slide Stops (With Specifications)**

4. Turn both cable tube side brackets (A) up to release the hooks (B) from the holes in both sides of the frame.

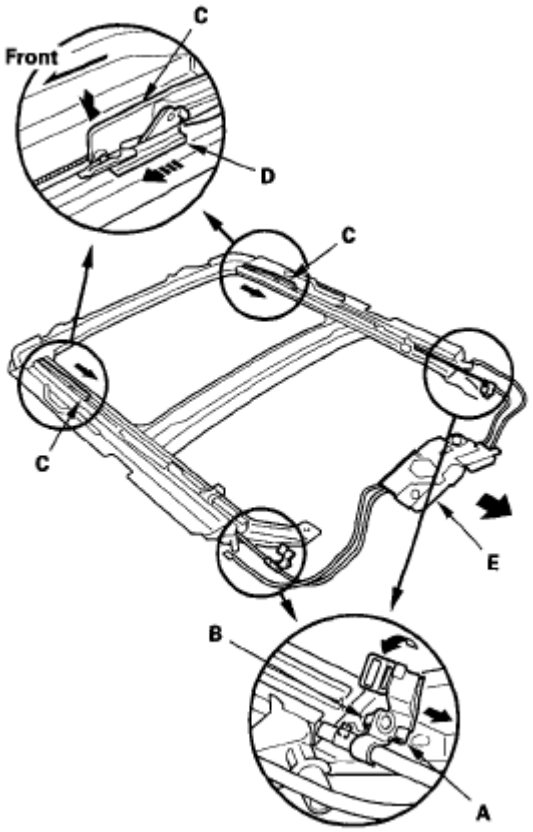


**Fig. 30: Turning Cable Tube Side Brackets Up To Release Hooks**

5. Pivot the glass brackets (C) down by sliding the link lifters (D) back, then slide both glass brackets back with the link lifters.
6. Slide the cable assembly (E) half-way.
7. Remove the slide stops (A) and the drain channel sliders (B) from both sides.

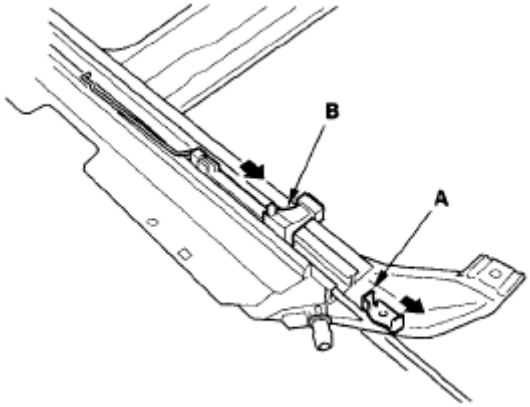



**Fig. 31: Removing Slide Stops Drain Channel Sliders**

8. Slide the cable assembly (A) and both glass brackets (B) back, remove the deflector sliders (C) from both glass brackets, then remove them from the frame (D).

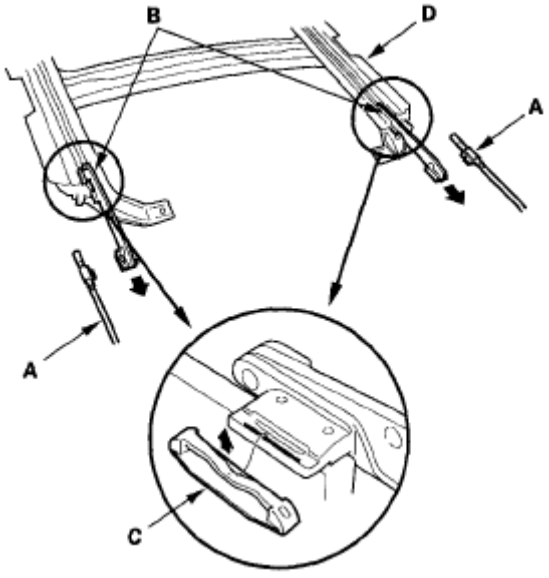



**Fig. 32: Sliding Cable Assembly And Both Glass Brackets Back**

9. Install the slider and cable assembly in the reverse order of removal, and note these items:
   - Damaged parts should be replaced.
   - Apply multipurpose grease to the glass bracket (A) and guide rail portion of the frame (B) indicated by the arrows.
   - Before reinstalling the motor, make sure both link lifters are parallel, and in the fully closed position.
   - Before reinstalling the motor, install the frame and glass, then check the opening drag (see **CLOSING FORCE AND OPENING DRAG CHECK** ).
   - After reinstalling the motor, reset the moonroof control unit (see **RESETTING THE MOONROOF CONTROL UNIT** ).

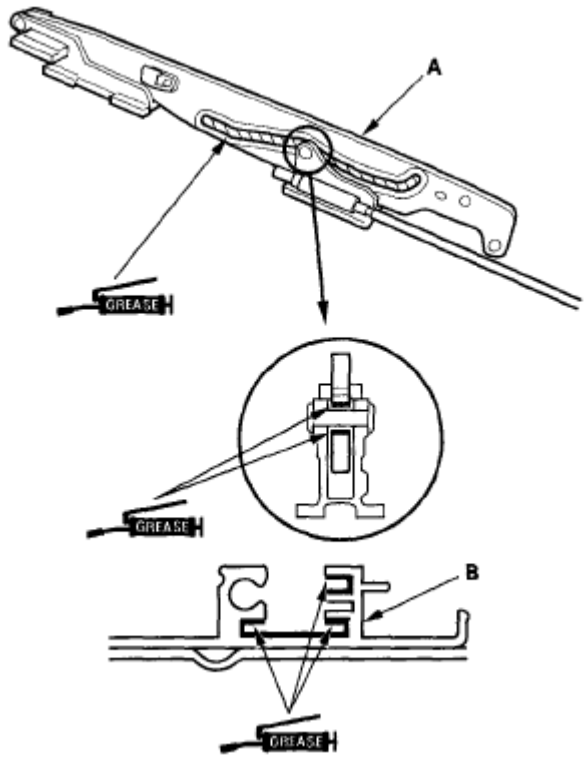



**Fig. 33: Installing Slider And Cable Assembly**

## CLOSING FORCE AND OPENING DRAG CHECK

1. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION** ).

2. Closing force check:
   - With a shop towel (A) on the leading edge of the glass (B), attach a spring scale (C) as shown in **Fig. 34**.
   - Have an assistant hold the switch to close the glass while you measure the force required to stop it.
   - Read the force as soon as the glass stops moving, then immediately release the switch and spring scale.

   **Closing force: 200-290 N (20-30 kgf, 44-66 lbf)**

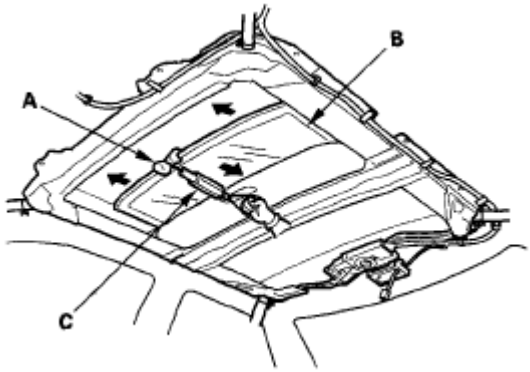



**Fig. 34: Checking Closing Force**

3. If the force in not within specification, remove the moonroof motor (see **MOTOR REPLACEMENT** ), then check:
   - The gear portion and the inner cable for breakage and damage. If the gear portion is broken, replace the motor. If the inner cable is damaged, remove the frame, 2-door (see **2-door** ), 4-door (see **4-door** ), and replace the cable (see **DRAIN CHANNEL SLIDER AND CABLE ASSEMBLY REPLACEMENT** ).
   - The moonroof motor (see **MOONROOF CONTROL UNIT INPUT TEST** ). If the motor fails to run or doesn't turn smoothly, replace it.
   - The opening drag. Go to step 4.
4. Opening drag check: Protect the leading edge of the glass with a shop towel (A). Measure the effort required to open the glass using a spring scale (B) as shown.

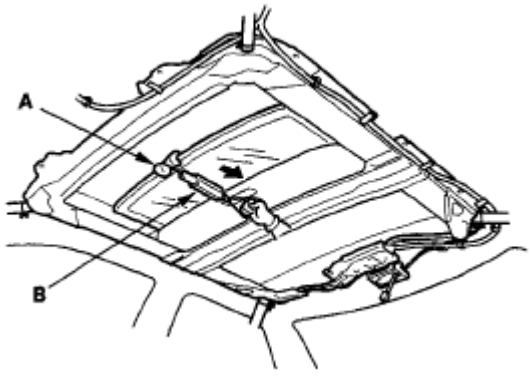



**Fig. 35: Checking Opening Drag**

5. If the load is over 40 N (4 kgf, 9 lbf), check:
   - The side clearance and glass position adjustment (see **GLASS POSITION ADJUSTMENT** ).
   - For broken or damaged sliding parts. If any sliding parts are damaged, replace them.

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**2006-08 ACCESSORIES & EQUIPMENT**

**Navigation System - Civic (Except Hybrid)**

## COMPONENT LOCATION INDEX

## 4-door

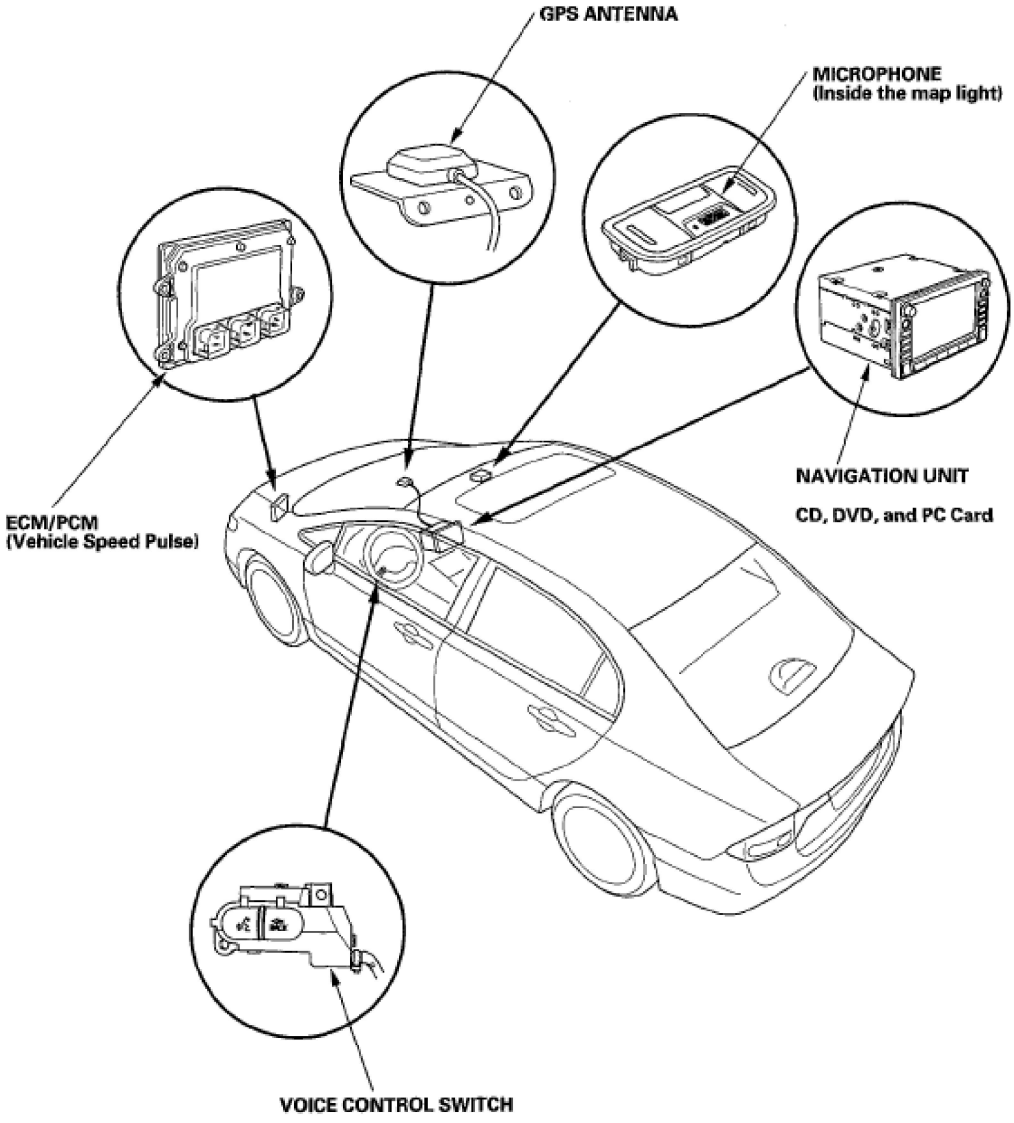



**Fig. 1: Identifying Navigation System Component Location - 4-Door**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 2-door

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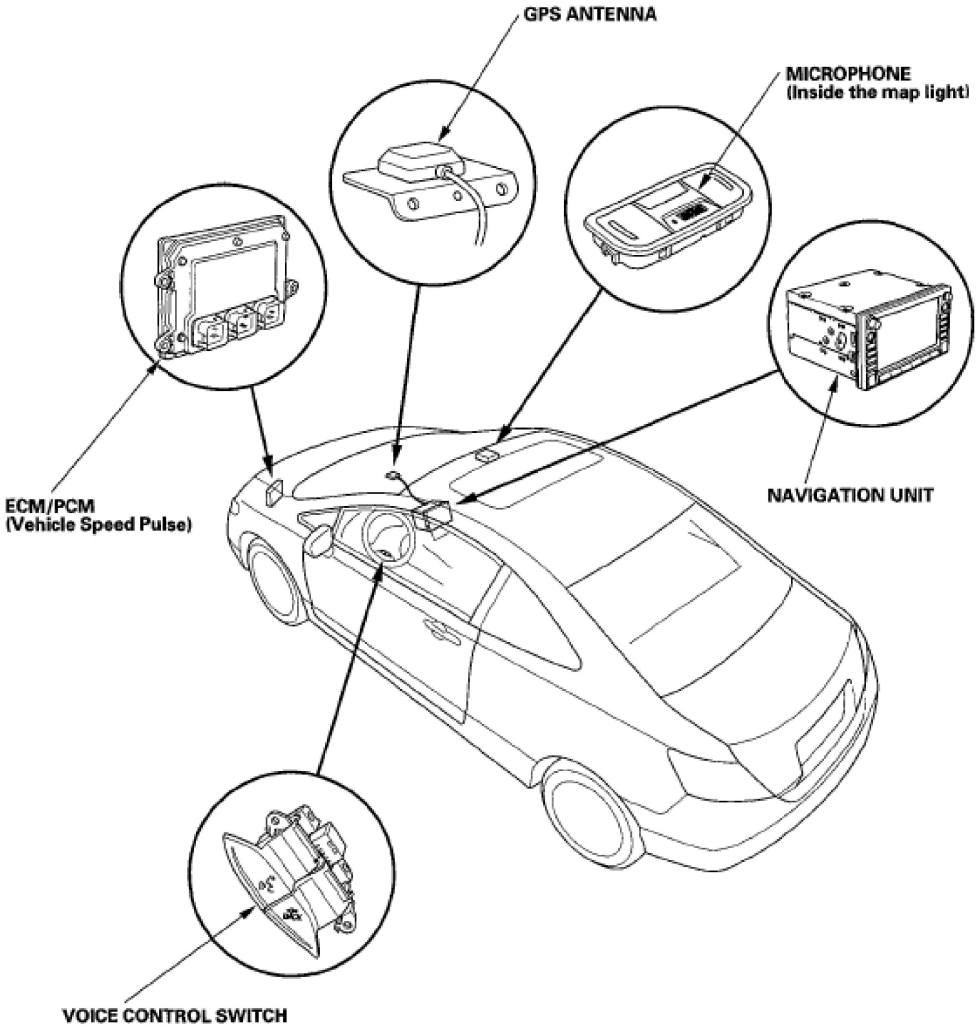



**Fig. 2: Identifying Navigation System Component Location - 2-Door**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## GENERAL TROUBLESHOOTING INFORMATION

### GENERAL OPERATION

Refer to the Navigation System manual, for the navigation system operating procedures.

### ANTI-THEFT FEATURE

The navigation system has a coded theft protection circuit. Be sure you have the customer's anti-theft security code before;

- Disconnecting the battery
- Disconnecting the navigation unit 12P and 17P connector
- Removing the No. 23 (10 A) fuse from the under-hood fuse/relay box

After service, reconnect power to the navigation unit, and turn the ignition switch ON (II). Enter the 4-digit anti-theft security codes, then select Done.

If the code cannot be found, use the interactive Network (*i* N) to look it up. You can view the serial number in one of the Navi ECU diagnostic screen (see **TOUCH PANEL CALIBRATION**). Alternatively, you will need the serial number from the navigation unit in the dash.

When replacing the navigation unit, be sure to give the customer the new anti-theft security code.

#### SYMPTOM DIAGNOSIS

Certain circumstances and system limitations will result in occasional vehicle positioning errors. Some customers may think this indicates a problem with the navigation system when, in fact, the system is normal. Keep the following items in mind when interviewing customers about symptoms of the navigation system.

#### SELF-INERTIAL NAVIGATION LIMITATIONS

The limitations of the self-inertial portion of the navigation system (the yaw rate sensor and the vehicle speed signal) can cause some discrepancies between the vehicle's actual position and the indicated vehicle position (GPS vehicle position).

The following circumstances may cause vehicle positioning errors:

- Moving the vehicle with the engine stopped and the vehicle stopped, such as by ferry or tow truck, or if the vehicle is spun on a turn table.
- Tire slippage, changes in tire rolling diameters, and some driving situations may cause discrepancies in travel distances. Examples of this include:
    - Continuous tire slippage on a slippery surface.
    - Driving with snow chains mounted.

  - Abnormal tire pressure.
  - Incorrect tire size.
  - Frequent lane changes across a wide highway.
  - Continuous driving on a straight or gently curving highway.
- Tolerances in the system and map inaccuracies will sometimes limit how precisely the vehicle position is indicated. Examples of this include:
  - Driving on roads not shown on the map (map matching is not possible).
  - Driving on a road that winds in one direction, such as a loop bridge, an interchange, or a spiral parking garage.
  - Driving on a road with a series of sharp hair-pin turns.
  - Driving near a gradual highway exit or transition.
  - Driving on one of two close parallel roads.
  - Making many 90 degree turns.
  - The direction to destination icon or the destination icon shown or the map may be up to several hundred feet away from the actual location.

**GLOBAL POSITIONING SYSTEM (GPS) LIMITATIONS**

The GPS cannot detect the vehicle's position during the following conditions:

- Metallic window tinting above the GPS antenna,
- When only three satellite signals can be received (Four satellite signals are required for accurate positioning).
- When driving near high tension power lines.
- When the satellite signals are blocked by the operation of some electronic after market accessories including, but not limited to non-OEM in-dash entertainment units (radio, CD players/changers, radar detectors and theft recovery systems) and cell phones placed near the navigation system.
- When the satellite control centers are experiencing problems.

The accuracy of GPS is reduced during these instances:

- Metallic window tinting above the GPS antenna.

- When only three satellite signals can be received (Four satellite signals are required for accurate positioning).
- When driving near high tension power lines.
- When the satellite signals are blocked by the operation of some electronic after market accessories including, but not limited to non-OEM in-dash entertainment units (radio, CD players/changers, radar detectors and theft recovery systems) and cell phones placed near the navigation system.
- When the satellite control centers are experiencing problems.

**MUTING LOGIC**

Whenever the navigation system is giving guidance, the front speakers are muted. When the voice control system is being used, all of the speakers are muted.

**LCD UNIT LIMITATIONS**

- In cold temperatures, the display may stay dark for the first 2 or 3 minutes until it warms up.
- When the display is too hot because of direct summer sunlight, it will remain dark until the temperature drops.
- When the humidity is high and the interior temperature is low, the display may appear cloudy. The display will clear up after some use.
- Fingerprints on the touch panel may sometimes be noticeable because of the panel's low-reflection coating. Clean the screen with a soft damp cloth. You may use a mild cleaner intended for eye glasses or computer screens. To avoid scratching the panel, do not rub too hard, or use abrasive cleaners, or shop towels.
- The touch panel consists of a touch sensitive resistive membrane covering the display. Unlike previous systems, you must actually touch the display to activate it. Never use hard or sharp implements to operate the screen because you risk damaging the sensing membrane. If a touch switch does not function immediately, shift your finger slightly, and touch it again.

**SYMPTOM DUPLICATION**

- If you can duplicate the symptom, compare it to a known-good vehicle. Only

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use a vehicle of the same model, year, trim, and software version. If you can duplicate the symptom in the known-good vehicle, then it is a characteristic of the system.

- When the symptom can be duplicated, follow the self-diagnostic procedures and the appropriate troubleshooting procedures.
- When the symptom does not reappear or only reappears intermittently, ask the customer about the conditions when the symptom occurred.
  - Try to establish if outside interference may be the cause.
  - Try to duplicate the symptom under the same conditions the customer experienced.
  - Vibration, temperature extremes, and moisture (dew, humidity) are factors that are difficult to duplicate.
  - Inspect the vehicle for after market electronic devices (vehicle locators, radar detector amps, etc.) that may be hidden.

**NOTE: When troubleshooting navigation system problems, ensure that the known-good vehicle is the same software version year and model as the vehicle being serviced. Mixing incompatible navigation DVDs or other system components can delay the troubleshooting process by causing effects unrelated to the original problem.**

**SERVICE PRECAUTIONS**

- If the navigation unit needs to be replaced, inform the client that personal information in the navigation system may be lost. If possible, have the customer record any personal information before the unit is replaced. On '07-08 models, you can back up the navigation data and transfer it to a new navigation unit. See **SAVE USER'S MEMORY** .
- Before disconnecting the battery, make sure you have the anti-theft codes for the audio and navigation systems, and write down the audio presets.

  Also obtain any PGM-FI or transmission DTCs and freeze frame date (which will be lost when the ECM/PCM loses power).

- When the battery is disconnected, the internal GPS clock is reset to 0:00. The clock will reset to the correct time after the system finishes GPS initialization.
- After reconnecting the battery, you have to wait to get the initial signal from the satellite. It will take 10 to 45 minutes.
- Before returning the vehicle to the client, enter the audio and navigation anti-theft security codes, then enter the audio presets.
- Adjust the setup clock settings (time zone and daylight savings) in the navigation system.

**SYSTEM INITIALIZATION**

If for any reason you lose power to the navigation system (the battery was disconnected), the navigation system will require initialization. Once completed, your system will be ready to use.

Initialization requires the following:

- Entering the 4-digit anti-theft security code to unlock the system.
- GPS initialization (may not be needed depending of the length of time the system was without power).
- Map-matching to align the GPS to a location on the map.

**ENTERING SECURITY CODE**

Anytime power is disconnected from the navigation unit, the 4-digit anti-theft code must be entered on the navigation system display. This 4-digit code can be found on a small code card that was given to the customer. Enter the 4-digit code, then select Done.

If the navigation system anti-theft code cannot be found, use the interactive Network (*i* N) to look it up. You will need the serial number from the navigation unit to do this. You can view the serial number in the diagnostic mode. Select Unit Check from the main menu, then the Navi ECU diagnostic screen. This allows you go get the serial number without removing the navigation unit.

The *i* N may display more than one code for a given serial number. This is because

serial numbers are not unique. You may have to try more than one 4-digit code. If no code is shown, or if the code(s) given do not work in the navigation unit, contact the Automobile Warranty department. If the code 0000 works, then replace the navigation unit.

When replacing the navigation unit or audio unit, be sure to give the customer the new anti-theft security code.

**GPS INITIALIZATION**

Depending on the length of time the battery was disconnected, your system may require GPS initialization. If it does, the following screen appears:

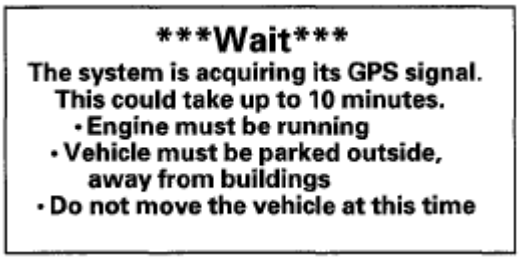



**Fig. 3: Identifying GPS Initialization Label**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

If this procedure is not necessary, the system proceeds directly to the Disclaimer screen. During initialization, the system searches for all available GPS satellites and obtains their orbital information. During this procedure, the vehicle should be out in the open with a clear view of the sky.

If the navigation system finds the satellites properly, this box clears and changes to the Disclaimer screen. If within 10 minutes the system fails to locate a sufficient number of satellites to locate your position, the following screen appears:

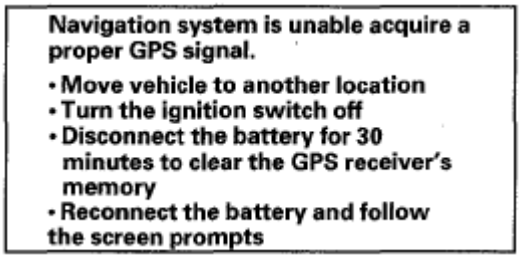


**Fig. 4: Identifying GPS Initialization Label**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

After 30 minutes with this screen displayed, turn off the engine, then restart the vehicle. If you now see the Disclaimer screen, the GPS initialization is complete.

**NOTE:**

- **The average acquiring time is less than 10 minutes, but it can take as long as 45 minutes.**
- **If the system is still unable to acquire a signal, follow the instructions on the screen. If this screen appears again, go to troubleshooting for the GPS icon is white or not shown (see GPS ICON IS WHITE OR NOT SHOWN).**
- **To bypass the GPS acquire screens, press and hold the Menu and Zoom Out keys at the same time. Touch the Return button on the screen to exit the diagnostic mode. This allows you to continue troubleshooting while in the shop.**

**AFTER SERVICING PROCEDURES-MAP MATCHING**

- Park the vehicle in an area where the GPS satellite signals are unobstructed, and check the satellite mark on the display.
- Drive the vehicle 1 mile before entering a destination and confirm the road being used is displayed at the bottom of the screen (map-matched).
- Enter the dealer address and confirm the system routes and performs normally.
- Clear any previous destinations and address entries that may have been entered for testing purposes.

**OBTAINING A NAVIGATION DVD**

If the navigation DVD is lost or damaged, or you need a yearly updated DVD, you have two ways to purchase one. You can either call (888) 291-4675, or order online at www.honda.com.

Both methods require a credit card. The DVD for this model has a turquoise

(blue/green) label and cannot be ordered through the parts system. The following DVDs will not work in this navigation system:

- Earlier model navigation DVDs (black, orange, or white label)
- Map software programs manufactured by other companies
- DVD movies or DVDs containing audio recordings
- Copies of an original navigation DVD

Updated DVDs are available for purchase usually in the fall of each year. They may contain the following:

- Enhanced maps and points of interest (POI) coverage
- Fixes for minor software bugs
- Additional features

**NOTE:**

- **Map-matching must be done any time the DVD is removed or replaced.**
- **Always order navigation DVDs on an as-needed basis. During a typical model year, each color DVD may undergo a half a dozen software-only version upgrades to fix minor issues on some or all models the DVD supports. This is normal. Usually only the letter at the end of the version number changes, while the database (maps and POIs) remain unchanged.**
- **Never promise your clients future free updates. There are no free programs for updating the navigation DVD. Update DVDs are generally available for purchase each fall. The online DVD order site provides information when an update for a particular color DVD is available. Damaged discs are not warrantable.**

**DVD HANDING AND CLEANING**

To avoid damaging or leaving fingerprints on the DVD, always handle it by the edges and place it in a jewel case whenever it is outside the navigation unit. Deep

scratches or fingerprints on the back of the DVD can cause intermittent rebooting or other system errors.

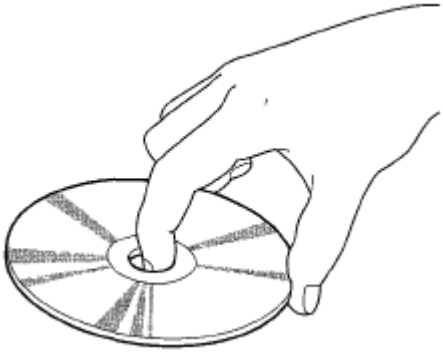


**Fig. 5: Precaution For - DVD Handing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Smudges and fingerprints can be carefully removed using a mild cleaner and tissues designed to clean eyeglasses. To clean a DVD, use a clean soft cloth. Very gently wipe across the DVD from the center to the outside edge, never in a circular motion.

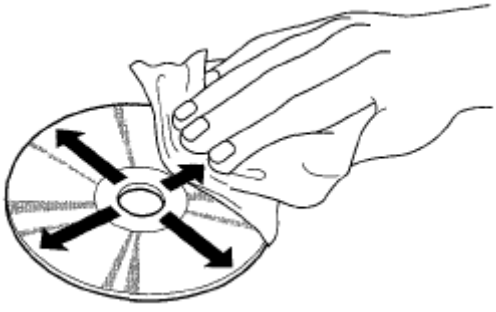


**Fig. 6: Precaution For - DVD Cleaning**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Do not place stabilizer rings or labels on the DVD.

#### EARLIEST DVD VERSION APPLICATION FOR EACH MODEL

Each navigation system DVD contains a map/POI (point of interest) database and the navigation system software for each model that it supports. Inserting an older DVD can cause problems since it lacks the software to provide the specific features

needed for that model. Unfortunately, the navigation software does not detect or warn you that the version is outdated, and it may even appear to operate.

**NOTE: Replacing a DVD just because the version number is higher is not always warranted. A higher software version does not necessarily mean it contains newer software for your model. The DVD contains software for all models that use the same color DVD, and a revised number may or may not have software fixes or upgrades for the model in question.**

Typical warning symptoms that an outdated DVD is being used include:

- The Honda model navigation screen may display a Acura logo while booting up.
- A newly introduced model future or accessory may not display properly, and Extension will display instead.

**NOTE: Extension may be displayed when using Music Link, but should never be displayed when XM is selected.**

- The current street (the street being driven on) may not appear properly at the bottom of the map screen display when the vehicle is driven on a main road.

**NOTE: If necessary, compare the operation to the navigation system of the same model and year vehicle that has a current DVD.**

#### HOW TO IDENTIFY NAVIGATION DVD VERSIONS, AND HOW TO INSPECT A DVD FOR DAMAGE

To determine the navigation version on a particular model, start the engine, then locate the navigation unit. Open the DVD door, and push the eject button to eject the DVD. Hold the DVD by the edges, and check for these items:

- The label color.
- Read the DVD version on the label, and note it on the repair order. The version number is near the bottom of the label text (for example, ver: 4.23A). You will

need this version number:

- To verify that the DVD version is appropriate for the vehicle.
- Any time you call Tech Line regarding a navigation system issue.
- To answer customer inquires concerning update or coverage issue.

**NOTE: Customers may obtain DVDs from sources outside the normal ordering process. If you determine this is the case, recommend that your customer purchase the appropriate DVD from the Honda Disc Fulfillment Center (see ORDERING A DVD).**

- Check the underside of the DVD for signs of mishandling. Deep scratches, swirl marks, or fingerprints can cause random lock-ups, reboots, and DVD read or format errors.

**NOTE: A damaged DVD is not covered under warranty unless the disc is damaged by the navigation unit. Damage by the navigation unit typically appears as circular scratches caused by something rubbing against the DVD as it spins. The damage may appear as arcs or complete circles on the DVD reading surface.**

- Verify that the underside of the DVD is silver, and not a copy with a blue color. Copies will not work properly and can cause other symptoms that mimic hardware problems.

- Incorrectly colored DVDs being put into navigation vehicles. This causes the system to either display error messages, or it causes system malfunctions that mimic a hardware problem. This result in the customer driving away with a malfunctioning navigation system.
- The DVD version provided to the customer is out-of date or incompatible with a particular model. This inconveniences your customer by delaying the repair, or by causing additional (and unnecessary) returns to your dealership.
- The customer experiences bugs or other issues that have already been resolved in later versions currently available at the fulfillment desk.

If the DVD is defective, or has any of the issues mentioned above, return the vehicle to your customer and recommend that they order the proper DVD from the Honda Disc Fulfillment Center (see ORDERING A DVD).

**NOTE: If it is determined that the navigation unit is defective (through the appropriate service manual troubleshooting procedures) and the DVD will not eject, order a replacement navigation unit, and also order a DVD from the Honda Disc Fulfillment Center.**

**HOW TO ANSWER CUSTOMER QUESTIONS ABOUT NAVIGATION COVERAGE**

Some customers may ask questions regarding a city, address or POI (point of interest) covered by the navigation system. It is better to verify a coverage question on an actual vehicle than to disappoint your customer by promising coverage that may be incomplete or missing in their area. The following suggestions can be used to answer coverage inquiries from your customer.

**Is my address covered by the navigation system?**

Using a current production vehicle (of the same model), try entering the customer's address (street first) to see if their area is covered. Always enter the street first, because sometimes their city may be included in a neighboring township, or under some lager metropolitan city name. If the address is shown in a later year vehicle, but not your customer's vehicle, you might want to recommend that your customer purchase an update.

**Is my city covered by the navigation system?**

For general questions about whether a city is covered, view the map coverage link on the DVD order site. On the site, you enter a year and model, and then click on the Coverage link. You then select a state or province, and the cities are listed. Of course, this does not guarantee that the customer's road or address is in the system. Verifying on an actual production vehicle is always the best guarantee that your information is accurate.

**The gas station on my corner is now a restaurant. Why is it still incorrect in**

**the navigation system?**

For POI-related customer questions, explain that businesses are constantly moving, and there can be a considerable lag in updating the millions of POIs in the system. The database is updated annually, and the best way to the verify whether the POI is accurate is verify the inquiry on a current production vehicle.

Answers to these and other questions regarding coverage can be found in these locations:

- In the Frequently Asked Questions section of the navigation system manual.
- At the on-line DVD order site, by clicking on the **FAQs** link (see ORDERING A DVD).

#### PRECAUTION ON CUSTOMER SNEAK PREVIEWS

Your customer might request a look (or sneak preview) at features in the latest navigation software. You should never preview a navigation DVD in a customer's vehicle. Inserting a new DVD installs the latest software from the DVD into the memory of the customer's navigation system. When the original DVD is reinstalled, the newer software remains in memory and is often incompatible with the customer's original DVD Map and POI database.

If your customer wishes to see the latest navigation coverage or software features, demonstrate it on an in-stock vehicle that already has the latest DVD version.

If, by chance, a newer version is located accidentally, either by the dealer or the customer, the only remedy is to enter the navigation diagnostic mode's Version screen and do a forced download. Refer to the *i* N for applicable patches that may need reinstalling.

## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING CHART

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| | Symptom Troubleshooting | • Navigation unit<br>• Open/short between the |

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| | | |
|---|---|---|
| No picture is displayed | (see **NO PICTURE IS DISPLAYED**) | navigation unit, or the XM receiver or the GA-Net bus<br>• Harness/fuses/switches |
| Picture has lines/rolls/other issues or is an odd color | Symptom Troubleshooting (see **PICTURE HAS LINES/ROLLS/OTHER ISSUES OR IS AN ODD COLOR**) | • Navigation unit<br>• Harness/fuses/switches |
| Navigation display buttons do not work or respond properly | Symptom Troubleshooting (see **NAVIGATION DISPLAY BUTTONS DO NOT WORK OR RESPOND PROPERLY**) | • Navigation unit<br>• Open/short between the XM receiver or the GA-Net bus<br>• Harness/fuses/switches |
| GPS icon is white or not shown | Symptom Troubleshooting (see **GPS ICON IS WHITE OR NOT SHOWN**) | • Navigation unit<br>• GPS antenna/cable<br>• Harness/fuses/switches |
| Voice guidance cannot be heard, is broken up, or there is static | Symptom Troubleshooting (see **GPS ICON IS WHITE OR NOT SHOWN**) | • Navigation unit<br>• Harness/fuses/switches |
| Voice control does not work/respond | Symptom Troubleshooting (see **VOICE CONTROL DOES NOT WORK/RESPOND**) | • Navigation unit<br>• Microphone/steering buttons<br>• Harness/fuses/switches |
| Vehicle position icon constantly leaves road, moves erratically, or is very far from actual position | Symptom Troubleshooting (see **VEHICLE POSITION ICON CONSTANTLY LEAVES ROAD, MOVES ERRATICALLY, OR IS VERY FAR FROM ACTUAL POSITION**) | • Navigation unit<br>• GPS antenna/cable<br>• ECM/PCM (speed and fuel pulses)<br>• Harness/fuses/switches |
| | Symptom Troubleshooting | |

| | | |
|---|---|---|
| DVD screen error messages | (see **DVD SCREEN ERROR MESSAGES**) | • Navigation unit<br>• DVD |
| System always comes up in in-line diagnostic mode | Symptom Troubleshooting (see **DVD SCREEN ERROR MESSAGES**) | Software remedy, do not replace hardware |
| Display day/night mode does not work | Symptom Troubleshooting (see **DISPLAY DAY/NIGHT MODE DOES NOT WORK**) | • Navigation unit<br>• Gauge control module (CAN)<br>• Harness/fuses/switches |
| System locks up or freezes constantly | Symptom Troubleshooting (see **DISPLAY DAY/NIGHT MODE DOES NOT WORK**) | • Navigation unit<br>• Harness/fuses/switches<br>• DVD |
| Vehicle icon wanders across the map when driving (does not follow a displayed road) or map or vehicle ICON spins | Symptom Troubleshooting (see **VEHICLE ICON WANDERS ACROSS THE MAP WHEN DRIVING (DOES NOT FOLLOW A DISPLAYED ROAD) OR MAP OR VEHICLE ICON SPINS**) | Navigation unit (Yaw rate sensor) |
| Vehicle icon moves by itself or spins when parked | Symptom Troubleshooting (see **VEHICLE ICON WANDERS ACROSS THE MAP WHEN DRIVING (DOES NOT FOLLOW A DISPLAYED ROAD) OR MAP OR VEHICLE ICON SPINS**) | Navigation unit |
| Navigation | Symptom Troubleshooting (see **NAVIGATION** | • Harness/fuses/switches |

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| | | |
|---|---|---|
| display stays on with ignition switch OFF | **DISPLAY STAYS ON WITH IGNITION SWITCH OFF**) | • Aftermarket accessory or cell phone installed |
| Navigation cannot control audio system | Symptom Troubleshooting (see **NAVIGATION DISPLAY STAYS ON WITH IGNITION SWITCH OFF**) | • Navigation unit<br>• Open/short between the Navigation unit, or the XM receiver or the GA-Net bus |
| Navigation cannot control XM radio | Symptom Troubleshooting (see **NAVIGATION CANNOT CONTROL XM RADIO**) | • Navigation unit<br>• Open/short between the Navigation unit, or the XM receiver or the GA-Net bus<br>• Harness |
| Navigation frequently asks for anti-theft code and needs GPS initialization | Symptom Troubleshooting (see **NAVIGATION CANNOT CONTROL XM RADIO**) | • Navigation unit<br>• Harness/fuses/switches/unit grounds |
| OPEN/CLOSE function of the display does not work | Symptom Troubleshooting (see **OPEN/CLOSE FUNCTION OF THE DISPLAY DOES NOT WORK**) | • Navigation unit<br>• Harness |
| Navigation display will not close | Symptom Troubleshooting (see **NAVIGATION DISPLAY WILL NOT CLOSE**) | • Navigation unit<br>• Harness |
| Navigation display does not open or opens part way | Symptom Troubleshooting (see **NAVIGATION DISPLAY WILL NOT CLOSE**) | • Navigation unit<br>• Harness |
| PC card will not play/card icon | Symptom Troubleshooting (see **AUDIO DISC** | |

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| | | |
|---|---|---|
| on audio screen cannot be selected | **CANNOT BE INSERTED AND/OR EJECTED (WITH NAVIGATION)** ) | Navigation unit |
| The vehicle icon lags behind when the vehicle turns | See **SELF-INERTIAL NAVIGATION LIMITATIONS** | • Aftermarket accessories connected to the system<br>• GPS antenna/cable |
| Navigation screen is darker than normal or takes time to start up when it is cold | See **LCD UNIT LIMITATIONS** | |
| A new navigation DVD is needed | See **OBTAINING A NAVIGATION DVD** | |
| The DVD is scratched or dirty | See **DVD HANDING AND CLEANING** | Navigation unit |
| The wrong DVD was installed and now the system does not function properly | See **PRECAUTION ON CUSTOMER SNEAK PREVIEWS** | • Install the correct version DVD<br>• Check on-line for service bulletins or other service information for the navigation system |
| A specific city cannot be found | See **PRECAUTION ON CUSTOMER SNEAK PREVIEWS** | The DVD is scratched or dirty |

## SYSTEM DESCRIPTION

### OVERVIEW

The navigation system is a highly sophisticated, hybrid locating system.

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The navigation unit uses global positioning system (GPS) satellite signals, internal yaw and vehicle speed inputs, and a map database to show where the vehicle is and to help guide you to a desired destination.

The navigation unit's GPS receiver receives signals from the GPS, a network of 24 satellites in orbit around the earth. By receiving signals from several of these satellites, the navigation system can determine the latitude, longitude, and elevation of the vehicle.

Signals from the system's yaw rate sensor (inside the navigation unit) detects turns, and the ECM/PCM vehicle speed pulse (VSP) and reverse signal enable the system to keep track of the vehicle's speed and direction of travel. The advantage of this hybrid system is that the system can track your position if either the GPS signal or the vehicle speed signal is missing. For instance, when in a tunnel (no GPS), the speed signal is used to update your position on the map. Alternately, while the vehicle is being transported on a ferry, GPS signals can show the vehicle position on the map as it crosses the water.

The navigation system uses the location, direction, and speed information to display the appropriate map and calculate a route to the destination entered. As you drive to a destination, the system provides both visual and audio guidance. Audio guidance is sent to the audio unit, and an RGB graphics color signal is sent to the navigation display.

This navigation system also has voice recognition that allows voice control of most of the navigation, and audio functions. The voice control switches (TALK and BACK buttons on the steering wheel) activate the voice control system. The microphone on the ceiling receives your voice commands. For more information on this feature, consult the navigation owner's guide.

The illumination signal is used by the navigation unit to automatically switch the display mode between the Night and Day display modes. When the headlights are on, the dash brightness control setting full brightness overrides the Night display mode, and allows a daytime navigation display with the lights on.

When the navigation system is giving voice guidance commands, the front speakers are muted. When the voice control system is being used (TALK button pressed), all

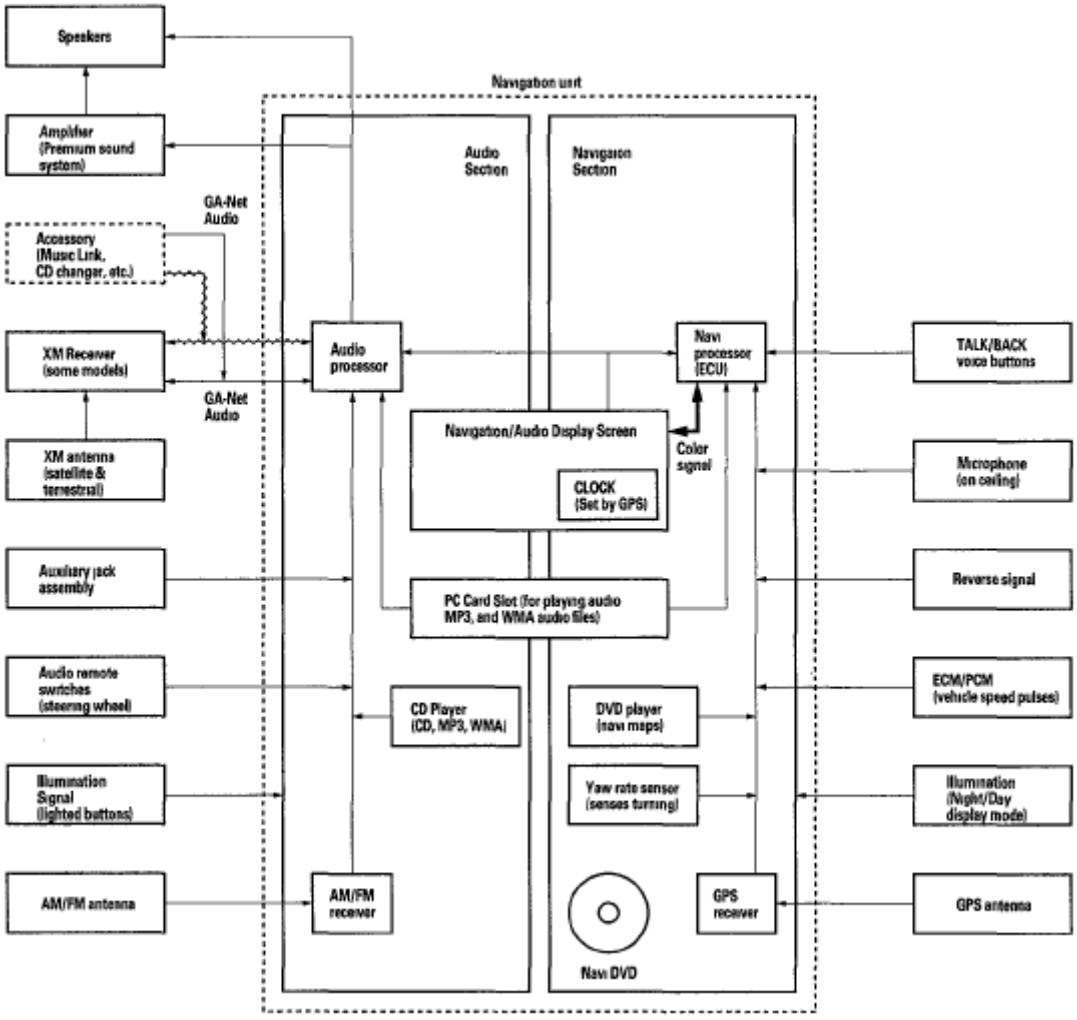
of the speakers are muted.

The internal GA-Net II bus passes information back and forth between the navigation display, the navigation unit, and the audio system components. The information passed on this bus are touch button commands, audio muting signal, audio (radio and XM), and any open in these bus lines can affect the navigation system or other audio accessory operation.

The clock on the navigation display is set and maintained by the navigation unit. The time is automatically adjusted for daylight savings, and time zone changes while driving. The time can be adjusted in setup.

Additional information is available about the navigation components following the System Diagram. A glossary of terms that are used throughout this article follows the detailed information.

The Navigation System Manual in the glove box covers all of the system functions and settings. Use this as a resource when evaluating a customer concern.




## Fig. 7: Navigation System Diagram
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**NAVIGATION FUNCTION**

The navigation system is composed of the navigation unit, the ECM/PCM (vehicle speed signal), the GPS antenna, microphone, voice control switch, XM receiver, and the climate control unit.

These units communicate with each other on the GA-Net bus.

**Function Diagram**

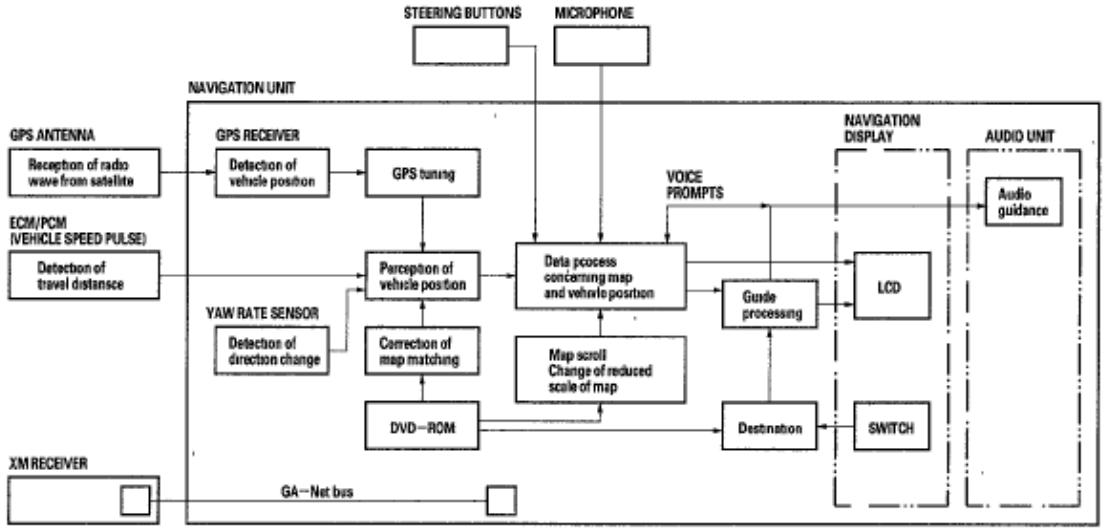



**Fig. 8: Navigation System Function Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Vehicle Speed Pulse**

The vehicle speed pulse is sent by the ECM/PCM. The ECM/PCM receives a signal from the countershaft speed sensor, then it processes the signal and transmits it to the speedometer and other systems.

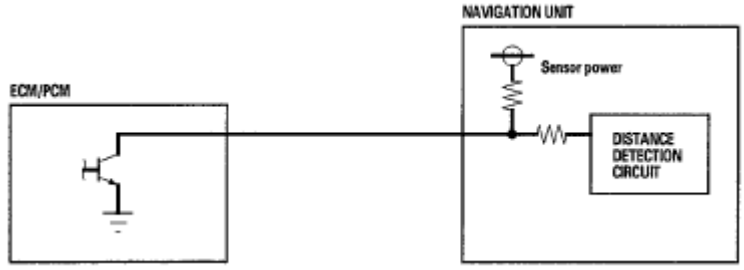



**Fig. 9: Vehicle Speed Pulse Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**GA-Net Bus Configuration**

The GA-Net bus passes audio and navigation commands throughout the navigation and audio components.

These commands include audio/XM selections by voice, and XM station and music title names. Because the entire bus is daisy chained between components (see

diagram below), any open or short in the GA-Net bus harness will cause any or all of these functions to become inoperative. The addition of any factory audio accessory must maintain the continuity of the GA-Net bus by installing the Y cable included with the accessory kit.

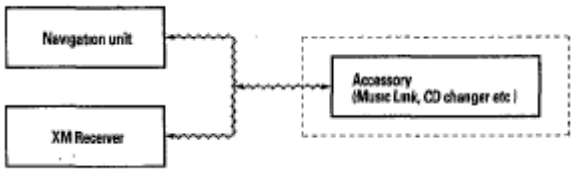



**Fig. 10: GA-NET Bus Configuration - Communication Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Yaw Rate Sensor**

The yaw rate sensor (located in the navigation unit) detects the direction change (angular speed) of the vehicle. The sensor is an oscillation gyro built into the navigation unit.

**Sensor Element Structure**

The sensor element is shaped like a tuning fork, and it consists of the piezoelectric parts, the metal block, and the support pin. There are four piezoelectric parts: one to drive the oscillators, one to monitor and maintain the oscillation at a regular frequency, and two to detect angular velocity. The two oscillators, which have a 90-degree twist in the center, are connected at the bottom by the metal block and supported by the support pin. A detection piezoelectric part is attached to the top of each oscillator. The driving piezoelectric part is attached to the bottom of one oscillator, and the monitoring piezoelectric part is attached to the bottom of the other oscillator.

**Oscillation Gyro Principles**

The piezoelectric parts have electric/mechanical transfer characteristics. They bend vertically when voltage is applied to both sides of the parts, and voltage is generated between both sides of the piezoelectric parts when they are bent by an external force. The oscillation gyro functions by utilizing this characteristic of the piezoelectric parts and Coriolis force. (Coriolis force deflects moving objects as a result of the earth's rotation.) In the oscillation gyro, this force moves the sensor

element when angular velocity is applied.

**Operation**

1. The driving piezoelectric part oscillates the oscillator by repeatedly bending and returning when an AC voltage of 6 kHz is applied to the part, The monitoring-side oscillator resonates because it is connected to the driving-side oscillator by the metal block.
2. The monitoring piezoelectric part bends in proportion to the oscillation and outputs voltage (the monitor signal). The navigation unit control circuit controls the drive signal to stabilize the monitor signal.
3. When the vehicle is stopped, the detecting piezoelectric parts oscillate right and left with the oscillators, but no signal is output because the parts are not bent (no angular force).
4. When the vehicle turns to the right, the sensor element moves in a circular motion with the right oscillator bending forward and the left oscillator bending rearward. The amount of forward/rearward bend varies according to the angular velocity of the vehicle.
5. The detecting piezoelectric parts output voltage (the yaw rate signal) according to the amount of bend. The amount of vehicle direction change is determined by measuring this voltage.

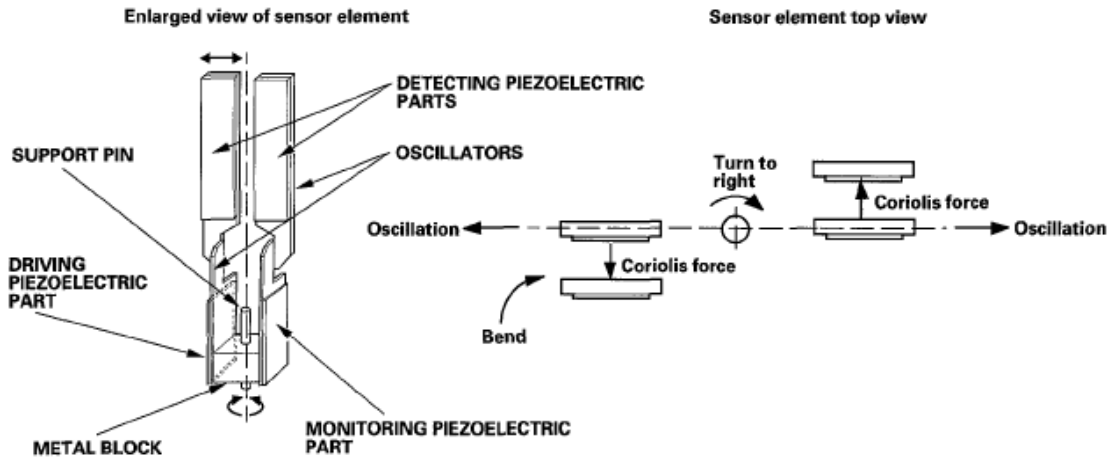



**Fig. 11: Enlarged View Of Sensor Element**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Global Positioning System (GPS)**

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The global positioning system (GPS) enables the navigation system to determine the current position of the vehicle by using the signals transmitted from the satellites in orbit around the earth. The satellites transmit the satellite identification signal, orbit information, transmission time signal, and other information. When the GPS receiver receives a signal from four or more satellites simultaneously, it calculates the current position of the vehicle based on the distance to each satellite and the satellite's positions in its respective orbit.

**Position Detection Image with GPS Satellite**

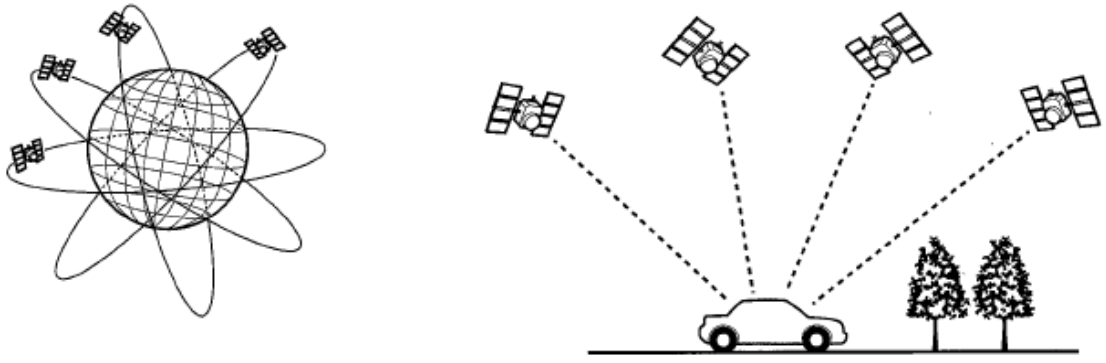


**Fig. 12: Identifying Position Detection Image With GPS Satellite**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Precision of GPS**

The precision of the GPS varies according to the number of satellites from which signals are received and the view of the sky. The precision is indicated by the color and shape of the GPS icon shown on the display.

**PRECISION GPS**

| GPS ICON COLOR | NUMBER OF SATELLITES | CONDITION | DESCRIPTION |
|---|---|---|---|
| White GPS icon | None | Faulty | The GPS can't be utilized due to a faulty GPS receiver, open in the wire, or other fault or interference. |
| | | Impossible to detect | GPS function is normal. The satellite signals received by |

| | | | |
|---|---|---|---|
| | 2 or less | vehicle position | the GPS are too few to detect the vehicle position. |
| Green GPS icon | 3 | Vehicle position detectable in 2 dimensions | The longitude and latitude of the vehicle position can be detected. (Less precise than detection in three dimensions) |
| | 4 or more | Vehicle position detectable in 3 dimensions (elevation displayed) | The longitude, latitude and the altitude of the vehicle position can be detected. (More precise than detection in two dimensions) |

**GPS Antenna**

The GPS antenna amplifies and transmits the signals received from the satellites to the GPS receiver.

**GPS Receiver and Clock**

The GPS receiver is built into the navigation unit. It calculates the vehicle position by receiving the signal from the GPS antenna. The current time vehicle position and signal reception condition is transmitted from the GPS receiver to the navigation unit to adjust vehicle position.

**Navigation Unit**

The navigation unit calculates the vehicle position and guides you to the destination. The unit performs map matching correction, GPS correction, and distance tuning. It also controls the menu functions and the DVD-ROM drive, and interprets voice commands. With control of all these items, the navigation unit makes the navigation picture signal, then it transmits the signal to the navigation display and audio driving instructions to the audio unit.

**Calculation of Vehicle Position**

The navigation unit calculates the vehicle position (the driving direction and the current position) by receiving the directional change signals from the yaw rate

sensor and the travel distance signals from the PCMs vehicle speed pulse (VSP) signal.

**Map Matching Tuning**

The map matching tuning is accomplished by indicating the vehicle position on the roads on the map. The map data transmitted from the DVD-ROM is checked against the vehicle position data, and the vehicle position is indicate on the nearest road. Map matching tuning does not occur when the vehicle travels on a road not shown on the map, or when the vehicle position is far away from a road on the map.

**GPS Tuning**

The GPS tuning is accomplished by indicating the vehicle position as the GPS's vehicle position. The navigation unit compares its calculated vehicle position data with the GPS vehicle position data. If there is large difference between the two, the indicated vehicle position is adjusted to the GPS vehicle position.

**Distance Tuning**

The distance tuning reduces the difference between the travel distance signal from the VSP and the distance data on the map. The navigation unit compares its calculated vehicle position data with the GPS vehicle position data. The navigation unit then decreases the tuning value when the vehicle position is always ahead of the GPS vehicle position, and it increases the tuning value when the vehicle position is always behind the GPS vehicle position.

**Route Guidance**

The navigation unit can calculate different routes to a selected destination. You have five options:

- Direct Route - Calculate a route that is the most direct.
- Easy Route - Calculate a route that minimizes the number of turns needed.
- Minimize Freeways - Calculate a route that avoids freeway travel. If that is not possible, keep the amount of freeway travel to a minimum.
- Minimize Toll Roads - Calculate a route that avoids, or minimizes travel on toll roads.

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- Maximize Freeways - Calculate a route that uses freeways as much as possible.

**Audio Guidance**

The navigation unit transmits audio driving instructions before entering an intersection or passing a junction.

The audio instructions come through the audio unit to the front speakers.

**NOTE: The front speakers are muted whenever the navigation system is giving guidance commands, and all of the speakers are muted when the voice control system is being used.**

**DVD-ROM**

The map data (including all scale rates) is stored in the DVD-ROM. The map data includes:

- Road distances, road widths, speed limits, traffic regulations, passing time at junction, distances to junctions, and the driving instructions for audio guidance.
- Latitude and longitude GPS.

**Audio Unit (Built in the navigation unit)**

The audio unit receives the audio driving instructions from the navigation unit, and transmits the instructions through the front speakers even when the audio system is in use.

**Navigation Display**

The navigation display uses liquid crystal display (LCD). The LCD is a 6.5-inch-diagonal, thin film transistor (TFT), stripe type with 65,536 color, The color film and fluorescent light are laid out on the back of the liquid crystal film. The touch sensor on the front of the LCD consists of a touch sensitive resistive membrane with an infinite number of possible touch locations.

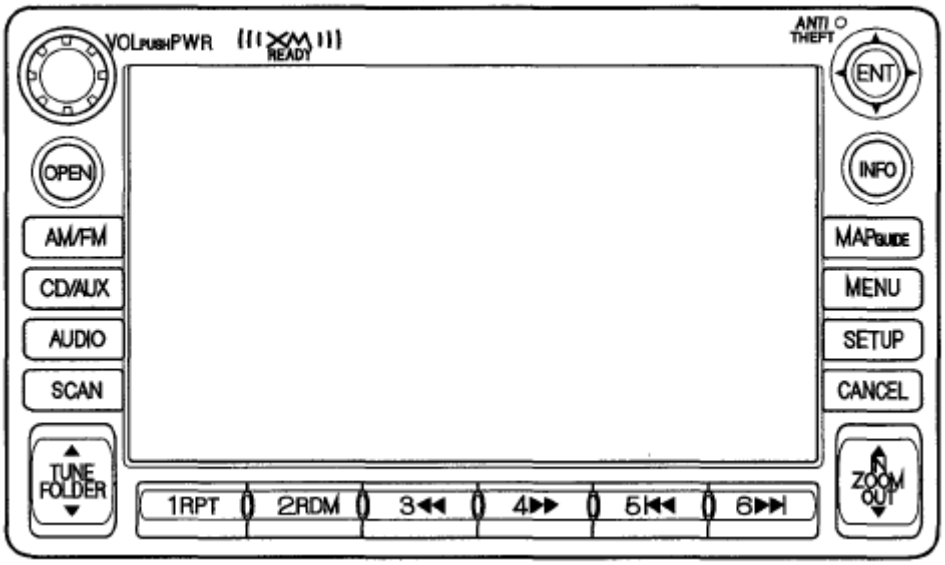



**Fig. 13: Identifying Audio Unit**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Microphone**

The microphone (on the ceiling, near the front map light) receives voice commands and transmits them to the navigation unit for interpretation.

**TALK Button**

Activates the voice control system in the navigation unit to accept voice commands.

**BACK Button**

Returns the display to the previous screen (similar function as the CANCEL button).

**Glossary**

The following is a glossary of terms pertaining to the Voice Recognition Navigation System.

## GLOSSARY ITEM AND DESCRIPTION CHART

| Item | Definition |
|---|---|
| Breadcrumbs | Off road tracking dots that can be followed on the map to retrace your route back to a mapped (digitized) road. This |

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| | |
|---|---|
| | function can be turned on/off in Setup screen 1. |
| CPU | Central Processing Unit. The main device within the navigation unit that coordinates the rest of the electronic functions. |
| Database | This consists of the Map data, and the POI (Points Of Interest) data stored on the DVD. |
| DBW | Drive By Wire. Allows electrical control of the throttle without the need of a mechanical linkage. |
| DCA | Detailed coverage area, an area that is covered in the database digital mapping. For example, the 48 continuous United States are within the DCA. Hawaii and Alaska are outside of the DCA. |
| DTC | Diagnostic Trouble Codes. Use the HDS tablet to obtain, and troubleshoot the cause of these codes. |
| Dead Reckoning | The use of the speed signal, and yaw rate sensor to position the vehicle on the map even when tall buildings, or driving in a tunnel obscures the GPS signal. |
| Digitized Road | A road that appears on the navigation screen. The road name will appear at the bottom of the navigation screen. If the user drives off road, the navigation system will display Not on a digitized road. The breadcrumbs will appear after driving for 1/2 mile. |
| Disclaimer Screen | Screen containing cautionary information. It is meant to be read carefully and acknowledged by the customer when using the navigation system. |
| DVD or DVD-ROM | Digital Versatile Disk. The navigation program and database resides on this disk. See the Navigation Owner's Manual for information on how to order a replacement or an update DVD. |
| ECM | Engine Control Module. Typically referred to as the ECM. |
| FAQ | Frequently Asked Question. See the Navigation Owner's Manual for a list of the customer FAQs, and troubleshooting information. |
| GA-Net bus | Units communication line. |

| | |
|---|---|
| GPS | Global Positioning System. A network of 24 satellites in orbit around the earth. The navigation system can simultaneously receive signals from up to 12 satellites to accurately position the vehicle on the map. |
| HDS | Honda Diagnostic System. A hand held tablet PC used for diagnosing vehicle problems. |
| H/U | Head Unit. The navigation system display unit assembly in the dash. |
| Initialization | This refers to the period needed to re-acquire the GPS satellite orbital information whenever the navigation system power has been disconnected. This can take from 10 to 45 minutes. |
| LCD | Liquid Crystal Display (the navigation screen) |
| Map Matching | The received GPS information allows the navigation system to position the vehicle on the map. Map matching has occurred if the map screen is displaying the current street name in the bottom-shaded area. |
| Mic | Abbreviation for the microphone used for receiving voice commands. It is located near the map light in the ceiling. |
| MW | Maneuver Window. While on-route to a destination, this window displays information about the next maneuver. |
| Navi | Abbreviation for the Navigation System |
| Off Route | This occurs when the user leaves mapped roads. Off road tracking dots (breadcrumbs) are displayed if the option is enabled in Setup. The user can use them to return to a mapped road. The bottom of the navigation screen will say "Not on a digitized road". Breadcrumbs will appear after driving for 1/2 mile. |
| Outlying Areas | These are rural areas that typically have only their main roads mapped. All other roads are shown in light brown for reference only, since they have not been verified. |
| PC Card Slot | The PC card (PCMCIA, type II) slot is for playing MP3 and WMA audio files. |
| | Powertrain Control Module. This unit supplies the navigation |

| | |
|---|---|
| PCM | system speed signal. |
| PCMCIA | A computer industry defined term referring to the PC card slot standard. |
| PIN | Personal Identification Number. A random 4 digit number created by the customer to protect personal information. |
| POI | Point Of Interest. These are the businesses, schools etc. found under the places option on the main menu. |
| Polygon | Colored areas on the map screen denoting parks, schools etc. See the Navigation System Manual "Traveling to Your Destination" for a list of the assigned colors. |
| QWERTY | Keyboard layout resembling the typewriter keys. The keyboard layout can be changed to an alphabetical layout in the Setup mode. |
| Security Code | Code needed to activate the navigation system. You can obtain the security code from the iN by entering the navigation system control serial number. You can find the serial number on the diagnostic screens (Unit Check, Navi ECU) or on the underside of the navigation unit. |
| Touch Screen Buttons or Touch Sensor | The display panel has 2 layers of clear film on the screen panel. If you touch the screen panel, the layers engage and the navigation display detects the touch point. |
| Tuning | A continual update of internal navigation system scaling factors. See the individual sensor tuning discussions under either System Description, or System Diagnostic Mode (see **SYSTEM DIAGNOSTIC MODE**) in this article. |
| Unverified Streets | These streets have not been verified for turn restrictions, one-way, etc. They are shown in light brown on the map. You can enter address destinations in these areas, but depending on your Unverified Routing choice in setup, voice guidance may end at the last verified street closest to your destination. |
| Verified Streets | These streets consist of the detailed metropolitan coverage areas, and all other inter-town connection roads. These roads are shown in black on the map. |
| | Vehicle Position. When in map mode, this circular icon |

| | |
|---|---|
| VP | shows the vehicle position on the map. Touch this icon to show the latitude, longitude, and elevation of your current position. |
| VR | Voice Recognition. This allows voice control of many of the navigation functions. The hardware consists of the microphone, steering wheel (TALK/BACK) buttons, and the front speakers. See the overview for more information. |
| VSP | Vehicle Speed Pulse. This pulse signal coming from the ECM/PCM is used to update the Vehicle position on the map. These pulses do not indicate direction (forward or backward). When in reverse, the navigation receives a signal from the MICU and directs the VP to move backwards on the map. |
| VSS | Vehicle Speed Signal. The counter shaft speed sensor reads the output shaft speed at the transmission and provides a speed pulse to the ECM/PCM. The ECM/PCM sends this pulse to the navigation system. |
| XM Satellite Radio | A satellite band radio system where signals are received from either a satellite or land based transmitters. |
| Yaw Sensor | This device is located in the navigation system control unit and senses the side-to-side twisting force generated when the vehicle turns. See a detailed description of how this sensor works in this article. |

**Diagnostic System Diagram**

This diagram below shows an overview of the navigation diagnostic features starting at the center and working outward in layers. The diagram starts with "Key On." Next the diagram shows two ways to get the diagnostic main menu:

From any of the navigation Map or Menu screens, press and simultaneously hold the keys Menu Map Cancel.

Finally, the diagram shows the available diagnostic menu choices, starting at the bottom left, and moving clockwise. In most cases, do not clear or change settings in any diagnostic screen unless instructed to do so in the explanation, or by the

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factory. If the factory asks you to insert a PCMCIA memory card into the PC card slot, then the features specified on the diagram with PC card are available.

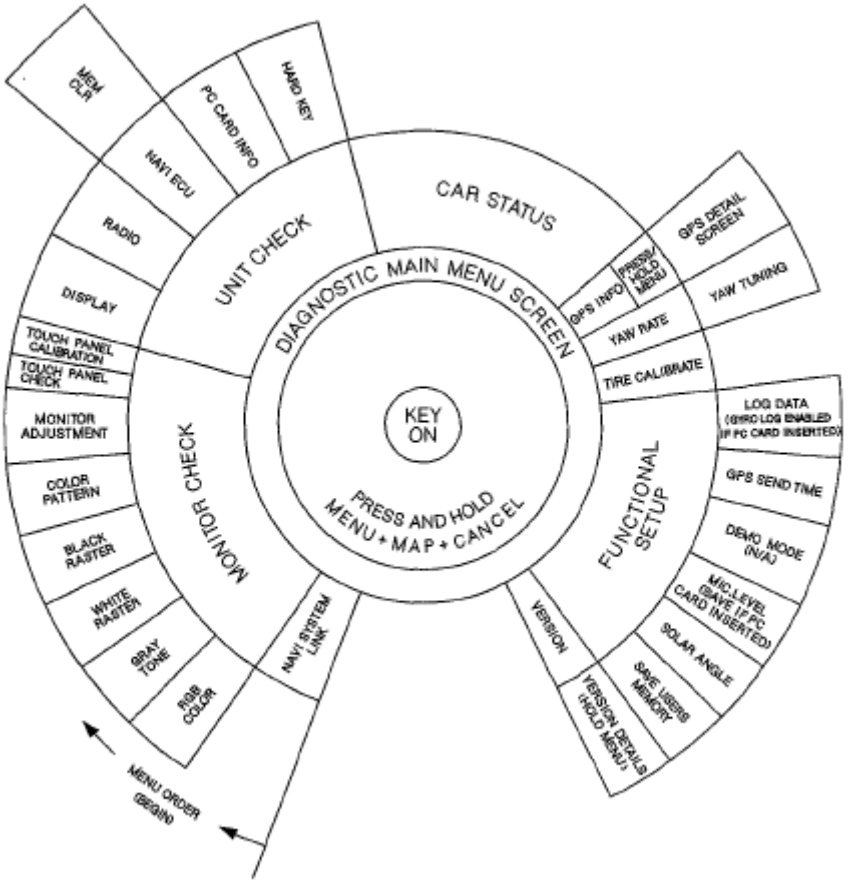
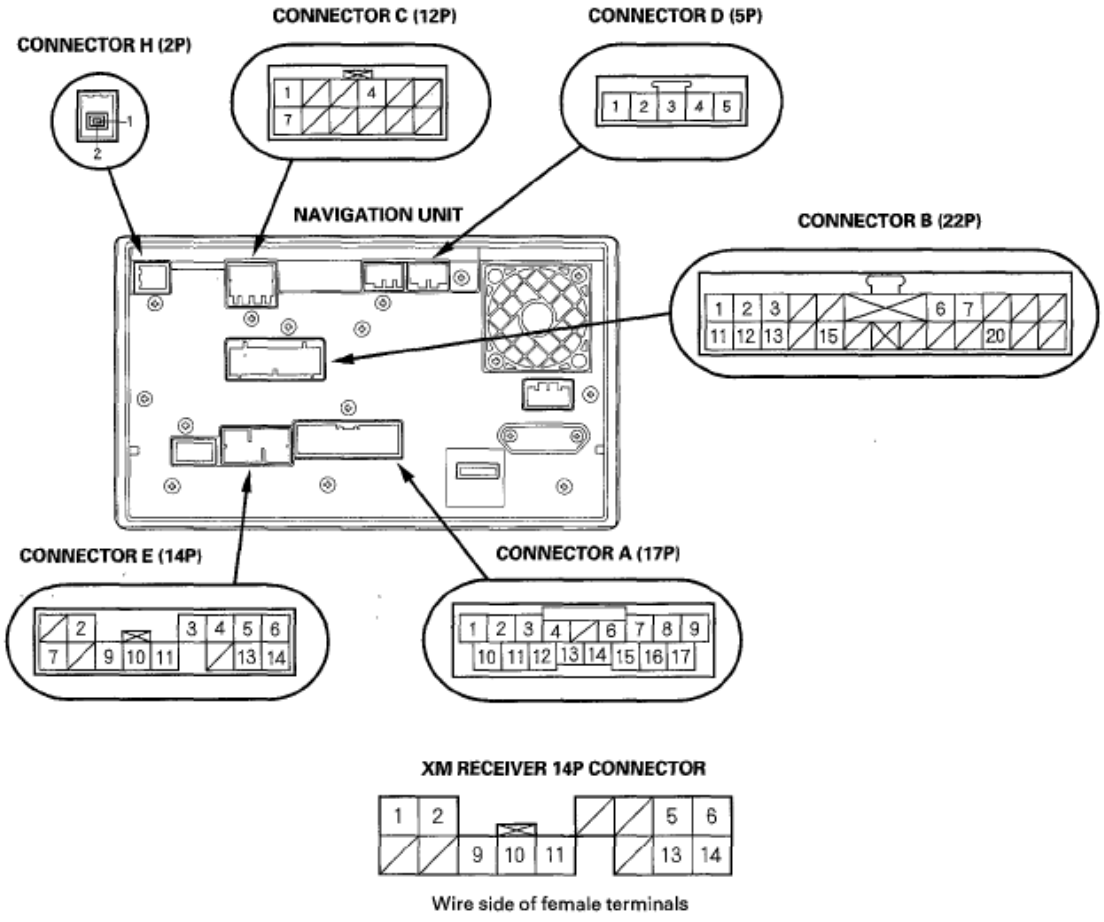



**Fig. 14: Diagnostic System Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**NAVIGATION SYSTEM CONNECTOR LOCATION**

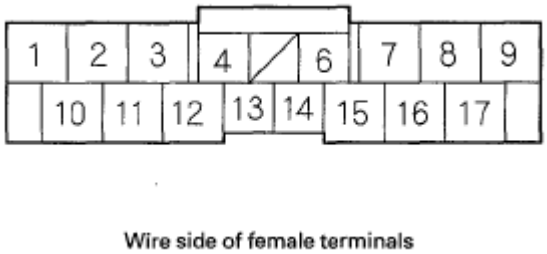
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## Fig. 15: Identifying Navigation System Connector Location
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

### NAVIGATION UNIT INPUTS AND OUTPUTS FOR CONNECTOR A (17P)




## Fig. 16: Identifying Navigation Unit Connector A (17P) Terminals
## Courtesy of AMERICAN HONDA MOTOR CO., INC.

## TERMINALS REFERENCE CHART

| Terminal | Wire | Terminal | Description | Voltage | Symptom |
|---|---|---|---|---|---|

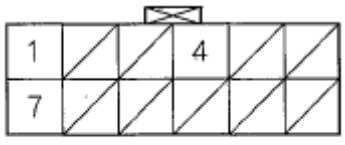
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| Number | Color | Name | | (about) | |
|---|---|---|---|---|---|
| 1 | RED | ILL (-) | Ground for illumination light | With full dash lights brightness, 0 V | If open: When brightness = Auto, night mode for the display is inoperative when lights on.<br>If short to ground: No change to display |
| 9 | BLK | RADIO GND (Ground) | Ground for display unit | 0 V | If open: No change to display.<br>If short to ground: No change to display. |
| 10 | GRY | ILL (+) (Illumination positive) | Parking light on signal from dash and console lights | Light on = battery voltage, Lights off = 0 V | If open: When brightness = Auto, night mode for the display is inoperative when lights on<br>If short to ground: Blows fuse No. 14 (7 5 A) in under-dash fuse/relay box. |
| | | | | | If open: No vehicle speed pulses. Diagnostic |

| | | | | | |
|---|---|---|---|---|---|
| 13 | BLU | VSP (Vehicle speed pulse) | Vehicle speed pulse signal from ECM/PCM | Pulses 0-5 V: Average 2.5 V, when moving | screen Car Status, VSP Navi = 0. If short to ground: No vehicle speed pulses. Diagnostic screen Car Status, VSP Navi = 0. |
| 17 | WHT | +B (+B power source) | Continuous power source | Battery voltage | If open: Screen completely off (no backlight visible). If short to ground: Blows fuse No. 23 (10 A) in the under-hood fuse/relay box. |

**NAVIGATION UNIT INPUTS AND OUTPUTS FOR CONNECTOR C (12P)**




Wire side of female terminals

**Fig. 17: Identifying Navigation Unit Connector C (12P) Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## TERMINALS REFERENCE CHART

| Terminal Number | Wire Color | Terminal Name | Description | Voltage (about) | Symptom |
|---|---|---|---|---|---|

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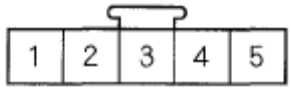


| | | | | | |
|---|---|---|---|---|---|
| 1 | WHT | +B BACK UP | Continuous power source | Battery voltage | If open: Display picture goes out (display back light still on). NOTE: System will reboot to enter code screen.<br>If short to ground: Blows fuse No 23 (10 A) in the under-dash fuse/relay box. |
| 4 | BLK | GND | Ground for navigation unit | 0 V | If open: No effect on system.<br>If short to ground: No effect on system. |
| 7 | BRN | BACK LT- | Reverse signal of select laver from Multiplex integrated Control unit (A/T) or backup light switch (M/T) | In reverse, battery voltage Otherwise 0 V | If open: Navigation never sees the reverse signal and back-up camera does not come on when in reverse. Diagnostic screen Car Status, Back = 0.<br>If short to ground' Blows fuse No. 10 (7 5 A) in the under-dash fuse/relay box. |

**NAVIGATION UNIT INPUTS AND OUTPUTS FOR CONNECTOR D (5P)**

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Wire side of female terminals

**Fig. 18: Identifying Navigation Unit Connector D (5P) Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

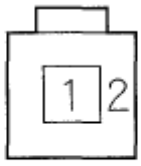
## TERMINALS REFERENCE CHART

| Terminal Number | Wire Color | Terminal Name | Description | Voltage (about) | Symptom |
|---|---|---|---|---|---|
| 1 | BRN | MIC GND | Ground for microphone signal | 0 V | If open: No microphone signal shown in diagnostics: Navi System Link and Functional Set up Mic Level.<br>If short to ground: No effect on voice recognition. |
| 2 | YEL | MIC SIG+ | Microphone output signal positive | 4-5 V (with TALK button pressed) | If open: No microphone signal shown in diagnostic screens: Navi System Link and Functional Setup Mic Level.<br>If short to ground: No microphone signal shown in diagnostic screens: Navi System Link and Functional Setup Mic Level. |
| 3 | GRY | MIC | Shield for terminal No. | 0 V | If open: No effect on voice recognition.<br>If short to ground: No |

| | | | | | |
|---|---|---|---|---|---|
| | (1) | SHIELD | 1, 2, 5 | | effect on voice recognition. |
| 4 | GRN | NAVI GUIDE | Steering wheel switch output | 4-5 V (TALK button pressed) 2.5-3 V (BACK button pressed) | If open: Steering wheel TALK, and BACK switch/ buttons do not work. If short to ground: Steering wheel TALK, and BACK switch/buttons do not work. |
| 5 | ORN | MIC ADPT | Control signal for microphone | 0 V | If open: No effect on voice recognition. If short to around: No effect on voice recognition. |

(1) The shielded wires have a heat-shrunk tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire listed on the schematic.

**NAVIGATION UNIT INPUTS AND OUTPUTS FOR CONNECTOR H (2P)**




Wire side of female terminals

**Fig. 19: Identifying Navigation Unit Connector H (2P) Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## TERMINALS REFERENCE CHART

| Terminal Number | Wire Color | Terminal Name | Description | Voltage (about) | Symptom |
|---|---|---|---|---|---|
| | | | | | If open: GPS icon on |

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| | | | | | |
|---|---|---|---|---|---|
| 1 | - | GPS | GPS signal (5 V in, GPS signal out) | 5 V | screen is white, system links screen ANT shows NG.<br>If short to ground: GPS icon on screen is white, system links screen ANT shows NG. |
| 2 | - | GPS SH | Shield for terminal No. 1 | 0 V | If open: GPS icon on screen is white, system links screen ANT shows NG.<br>If short to around: No effect on system. |

## CIRCUIT DIAGRAM

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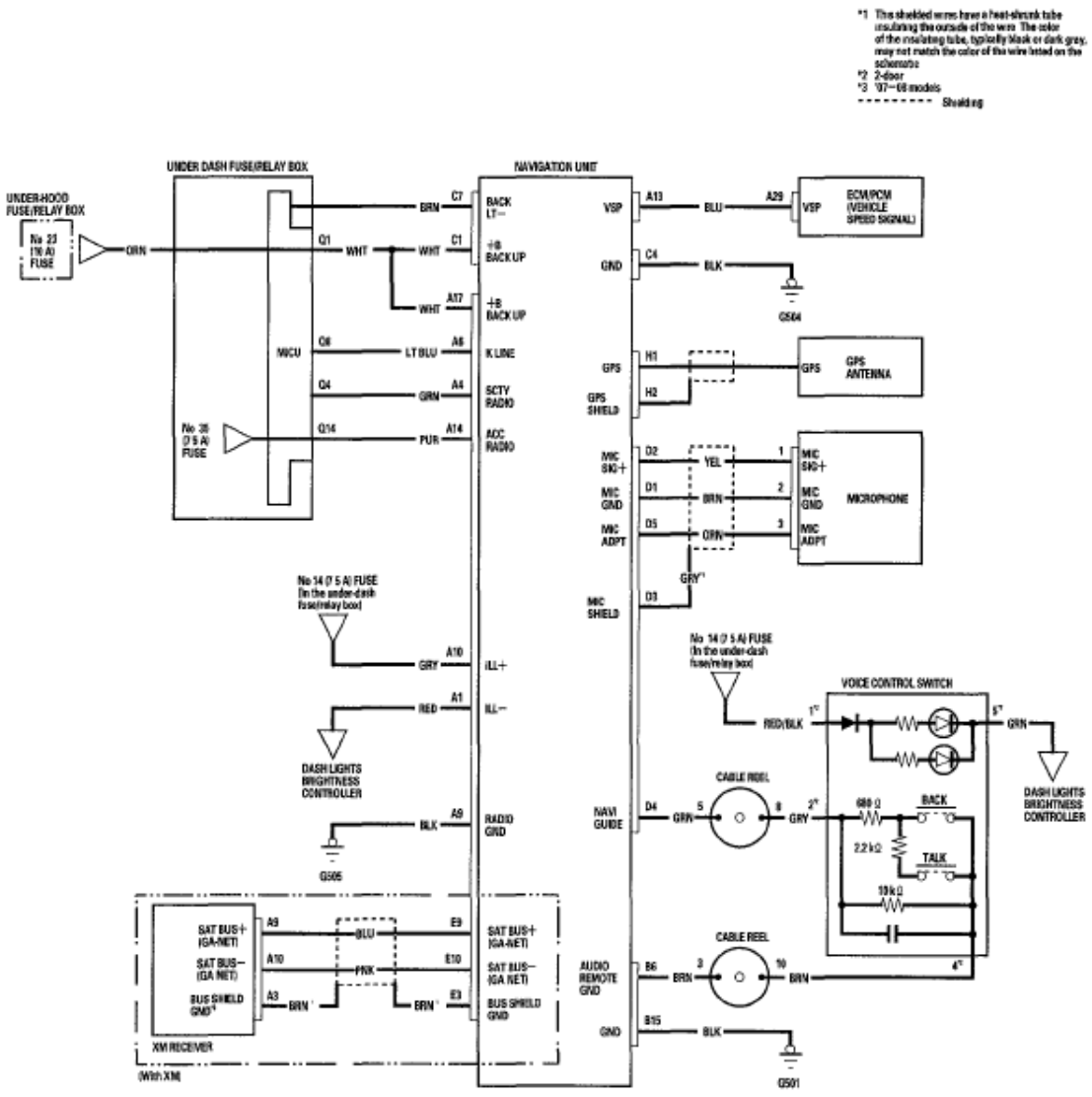



**Fig. 20: Navigation System - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SYMPTOM TROUBLESHOOTING

### NO PICTURE IS DISPLAYED

**NOTE:**

- **Make sure that the correct DVD color and version are installed.**
- **Check any official Honda service website for more service information about the navigation system.**
- **For problems with the rearview camera, do the rearview**

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**camera does not come on or work properly troubleshooting.**

- **Check the connectors for poor connections or loose terminals.**
- **Before troubleshooting, make sure you have the navigation system anti-theft code.**

1. Check the No. 23(10 A) fuse in the under-hood fuse/relay box and No. 35 (7.5 A) fuse in the under-dash fuse/relay box, and reinstall the fuse if it is OK.

   *Is the fuse OK?*

   **YES** -Go to step 2.

   **NO** -Replace the fuse and recheck.

2. Turn the ignition switch to ON (II).
3. Operate the radio and listen to the audio.

   *Can you hear the audio?*

   **YES** -Go to step 4.

   **NO** -Refer to audio system troubleshooting.

4. Turn the ignition switch to LOCK (0).
5. Remove the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).
6. Measure the voltage between navigation unit connector A (17P) terminal No. 17 and body ground.

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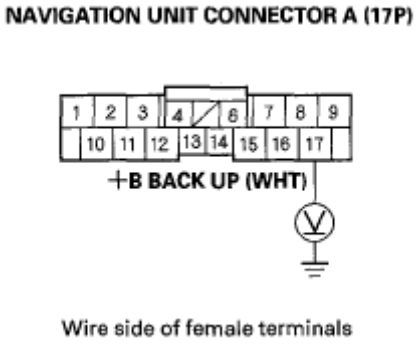



**Fig. 21: Measuring Voltage Between Navigation Unit Connector A (17P) Terminal No. 17 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 7.

**NO** -Repair open in the wire between the under-dash fuse/relay box and the navigation unit.

7. Turn the ignition switch to ON (II).
8. Measure the voltage between navigation unit connector A (17P) terminal No. 14 and body ground.

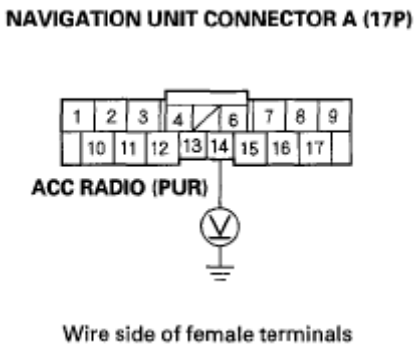



**Fig. 22: Measuring Voltage Between Navigation Unit Connector A (17P) Terminal No. 14 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 9.

**NO** -Repair open in the wire between the under-dash fuse/relay box and the navigation unit.

9. Measure the voltage between the navigation unit connector A (17P) terminal No. 9 and body ground, and between navigation unit connector C (12P) terminal No. 4 and body ground.

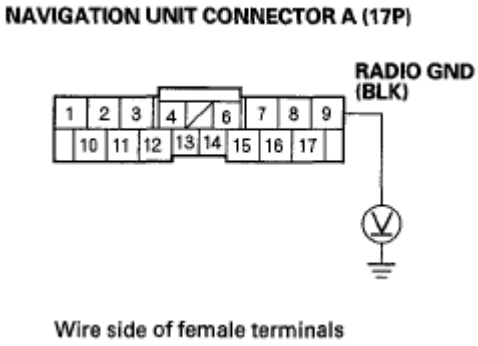



**Fig. 23: Measuring Voltage Between Navigation Unit Connector A (17P) Terminal No. 9 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

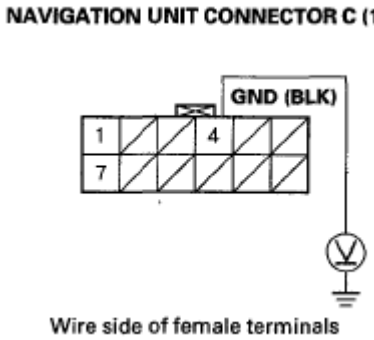



**Fig. 24: Measuring Voltage Between Navigation Unit Connector C (12P) Terminal No. 4 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V?*

**YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between the navigation unit and body ground (G504) (see **CONNECTOR TO HARNESS INDEX** ), (G505) (see **CONNECTOR TO HARNESS INDEX** ).

**PICTURE HAS LINES/ROLLS/OTHER ISSUES OR IS AN ODD COLOR**

**NOTE:**

- **Make sure that the correct DVD color and version are installed.**
- **Check any official Honda service website for more service information about the navigation system.**
- **Check the navigation screen settings for brightness, contrast, black level and the color screen for map color and menu color.**
- **Check the connectors for poor connections or loose terminals.**
- **Before troubleshooting, make sure you have the navigation and audio system anti-theft codes.**

1. Check for electronic aftermarket accessories (possibly hidden) mounted near the navigation unit.

   *Are there any electronic accessories?*

   **YES** -Disable the accessories, and recheck.

   **NO** -Go to step 2.

2. Turn the ignition switch to ON (II).
3. Start up the navigation picture.

   *Is the picture scrolling horizontally (left to right or right to left)?*

   **YES** -Go to step 5.

   **NO** -Go to step 4.

4. Go into the Diagnostic mode and use RGB Color diagnostic under Monitor Check (see **MONITOR CHECK**).

   *Are the red, green, and blue colored circle shown?*

   **YES** -Go to step 5.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

5. Turn the ignition switch to LOCK (0), then turn to ON (II) and observe the navigation picture.

   *Did the image improve?*

   **YES** -Check for sources of electrical noise, such as poor battery connection, alternator, defective battery, aftermarket accessories or cell phone, and poor pin fits at the display or control unit.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NAVIGATION DISPLAY BUTTONS DO NOT WORK OR RESPOND PROPERLY**

**NOTE:**

- **Always make sure that the correct DVD color and version are installed.**
- **Check any official Honda service website for more service information about the navigation system.**
- **Always check the connectors for poor connections or loose terminals.**
- **Before troubleshooting, make sure you have the navigation and audio system anti-theft codes.**

1. Turn the ignition switch to ON (II).

   *Does the navigation display turn on?*

**YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NO** -Refer to troubleshooting for **NO PICTURE IS DISPLAYED** .

**GPS ICON IS WHITE OR NOT SHOWN**

**NOTE:**

- **Make sure the vehicle is parked outside and away from buildings.**
- **Refer to GPS INFORMATION for realtime satellite reception display.**
- **Check for window tinting above the GPS antenna and any non-OEM accessories mounted near the navigation unit or GPS antenna.**

1. Check for metallic window tint on the windshield and electronic aftermarket accessories (possibly hidden) mounted near the GPS antenna or the navigation unit.

   *Is there metallic window tint or electronic accessories?*

   **YES** -Remove tint or the accessories and recheck.

   **NO** -Go to step 2.

2. Go into the Diagnostic Menu and use the Navi System Link test (see **SYSTEM DIAGNOSTIC MODE**) to check the GPS antenna.

   *Is the GPS Ant icon red?*

   **YES** -Use the Navi ECU test under Unit Check (see **UNIT CHECK**) to check for a kinked, crushed, or disconnected GPS antenna wire. If necessary, try a known-good GPS antenna. If icon is still red, replace the navigation unit.

   **NO** -Check that nothing is blocking the GPS antenna located behind the gauge assembly and recheck. Substitute a known-good navigation unit, and recheck.

**VOICE GUIDANCE CANNOT BE HEARD, IS BROKEN UP, OR THERE IS STATIC**

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**NOTE:**

- **Make sure that the correct DVD color and version are installed.**
- **Check any official Honda service website for more service information about the navigation system.**
- **Check that the volume setting and voice feedback are turned ON.**
- **Check the connectors for poor connection or loose terminals.**
- **Before troubleshooting, make sure you have the navigation system 4-digit anti-theft code, then write down the audio presets.**
- **After troubleshooting, enter the navigation system anti-theft code, then enter the audio presets.**

1. Press the display unit SET-UP button.
2. Check the volume setting for the navigation system.

   *Is it set to OFF?*

   **YES** -Set the volume to an audible level.

   **NO** -Go to step 3.

3. Check the radio operation.

   *Can you hear the radio?*

   **YES** -Go to step 4.

   **NO** -Troubleshoot the audio system.

4. Go into the Diagnostic Menu and use the Navi System Link test (see **SYSTEM DIAGNOSTIC MODE**) to check the radio.

   *Is the Radio icon red?*

**YES** -Troubleshoot the audio system.

**NO** -Go to step 5.

5. Test the voice control switch (see **VOICE CONTROL SWITCH TEST**).

   *Is voice control switch OK?*

   **YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

   **NO** -Replace the voice control switch (see **VOICE CONTROL SWITCH REPLACEMENT**).

**VOICE CONTROL DOES NOT WORK/RESPOND**

**NOTE:**

- **Make sure that the correct DVD color and version are installed.**
- **Check any official Honda service website for more service information about the navigation system.**
- **Check the connector for poor connection or loose terminals.**
- **Before troubleshooting, make sure you have the navigation system 4-digit anti-theft code, then write down the audio presets.**
- **After troubleshooting, enter the anti-theft code then enter the audio presets.**

Before assuming that a voice complaint is hardware related, ensure that the voice control system is being operated correctly.

- Make sure you are on the correct screen when trying to issue a voice command. For instance, the command "Find the nearest Italian Restaurant" only works on a Map screen.

  (See the Navigation System Manual for a complete list of allowed voice

commands for the information being displayed.)

- Close the windows, moonroof, and doors.
- Set the fan speed to low (1 or 2).
- Adjust the air flow from the air conditioning vents so that they do not blow against the microphone on the ceiling.
- Pause after pressing the TALK button, then give a voice command clearly in a natural speaking voice. If the system cannot recognize your command, speak louder.
- If the microphone picks up voices other than yours, the system may not interpret your voice commands correctly.
- If you speak a command with something in your mouth, or your voice is too husky, the system may misunderstand your command.
- Compare the system operation with a known-good vehicle. Have more than one person test the system operation. If the like known-good vehicle performs the same, if is a characteristic of the system.

1. Turn the ignition switch to ON (II).
2. Go into the Diagnostic Menu and use the Mic Level test under Functional Setup (see **FUNCTIONAL SETUP**) to check the operation of the TALK and BACK buttons.

   *Are the TALK and BACK buttons operational?*

   **YES** -Go to step 15.

   **NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Do the voice control switch test (see **VOICE CONTROL SWITCH TEST**).

   *Is the voice control switch OK?*

   **YES** -

   - 2-door model: Go to step 5.

- 4-door model: Go to step 10.

**NO** -Replace the voice control switch.

5. Disconnect the voice control switch 5P connector and navigation unit connector D (5P).
6. Check for continuity between body ground and navigation unit connector D (5P) terminals No. 4.

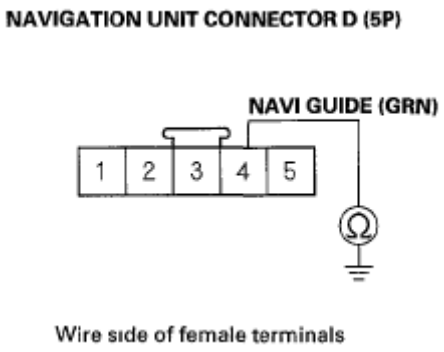



**Fig. 25: Checking Continuity Between Body Ground And Navigation Unit Connector D (5P) Terminals No. 4**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace short to body ground in the wire between navigation unit and voice control switch, or replace the cable reel.

**NO** -Go to step 7.

7. Check for continuity between navigation unit connector D (5P) terminal No. 4 and voice control switch 5P connector terminal No. 2.

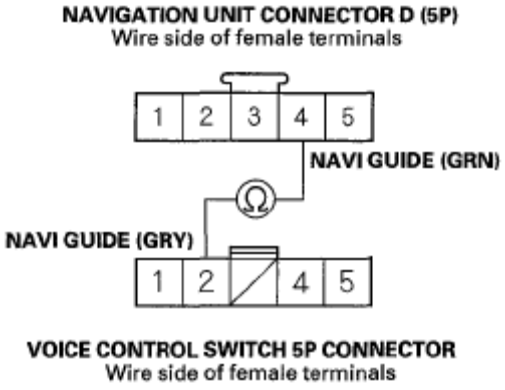



**Fig. 26: Checking Continuity Between Navigation Unit Terminal No. 4 And Voice Control Switch 5P Connector Terminal No. 2**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 8.

**NO** -Repair open in the wire between navigation unit and voice control switch, or replace the cable reel.

8. Disconnect navigation unit connector D (22P).
9. Check for continuity between navigation unit connector B (22P) terminal No. 6 and voice control switch 5P connector terminal No. 4.

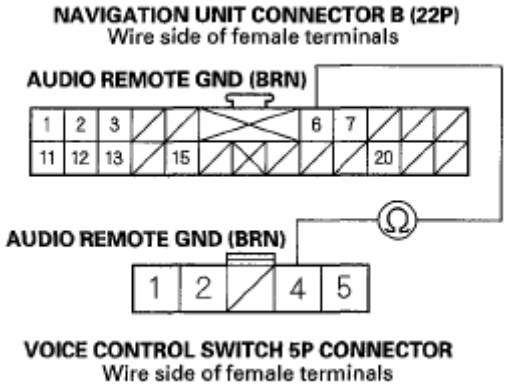



**Fig. 27: Checking Continuity Between Navigation Unit Terminal No. 6 And Voice Control Switch 5P Connector Terminal No. 4**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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*Is there continuity?*

**YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between navigation unit and voice control switch, or replace the cable reel.

10. Disconnect the cable reel 20P connector and navigation unit connector D (5P).
11. Check for continuity between body ground and navigation unit connector D (5P) terminals No. 4.

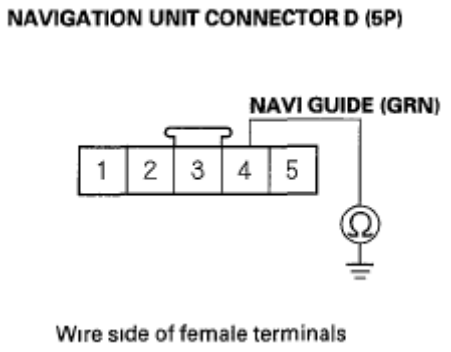



**Fig. 28: Checking Continuity Between Body Ground And Navigation Unit Connector D (5P) Terminals No. 4**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between navigation unit and voice control switch, or replace the cable reel.

**NO** -Go to step 12.

12. Check for continuity between navigation unit connector D (5P) terminal No. 4 and cable reel 20P connector terminal No. 8.

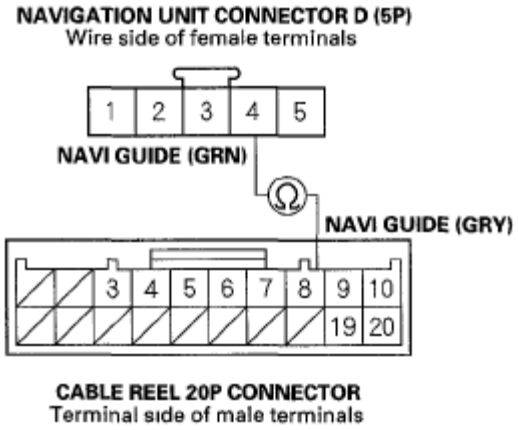



**Fig. 29: Checking Continuity Between Navigation Unit Terminal No. 4 And Cable Reel 20P Connector Terminal No. 8**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Go to step 13.

**NO** -Repair open in the wire between navigation unit and voice control switch, or replace the cable reel.

13. Disconnect navigation unit connector B (22P).
14. Check for continuity between navigation unit connector B (22P) terminal No. 6 and cable reel 20P connector terminal No. 10.

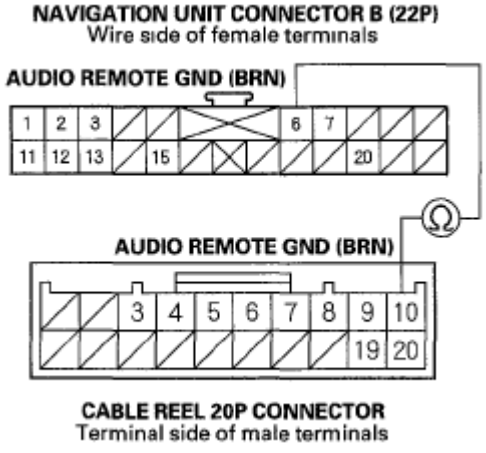



**Fig. 30: Checking Continuity Between Navigation Unit Terminal No. 6**

**And Cable Reel 20P Connector Terminal No. 10**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between navigation unit and voice control switch, or replace the cable reel.

15. Use the Mic Level diagnostic under Functional Setup (see **FUNCTIONAL SETUP**) to check the operation of the microphone.

    *Is the microphone operational?*

    **YES** -Check the operation of the voice control system (see the Navigation System Manual).

    **NO** -Go to step 16.

16. Turn the ignition switch to LOCK (0).
17. Remove the moonroof switch and disconnect the microphone 3P connector (see **MICROPHONE REPLACEMENT**).
18. Disconnect navigation unit connector D (5P).
19. Check for continuity between body ground and navigation unit connector D (5P) terminal No. 2 and No. 5 individually.

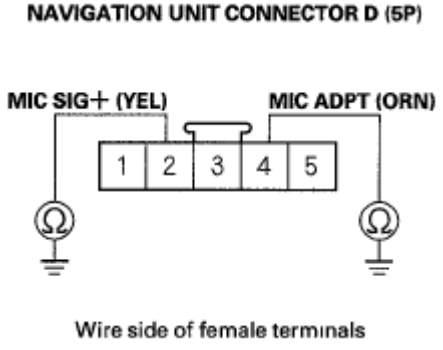



**Fig. 31: Checking Continuity Between Body Ground And Navigation Unit**

**Connector D (5P) Terminal No. 2 And No. 5**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Repair short to body ground in the wire(s) between navigation unit and microphone.

**NO** -Go to step 20.

20. Check for continuity between navigation unit connector D (5P) according to the table.

**TERMINALS CONTINUITY CHART**

| From terminal | To terminals |
|---|---|
| D2 | D3, D5 |
| D3 | D5 |

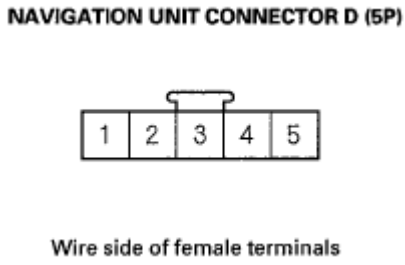



**Fig. 32: Identifying Navigation Unit Connector D (5P) Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity between any of the terminals?*

**YES** -Short in the wire(s) between the navigation unit and microphone. Replace the affected shielded harness.

**NO** -Go to step 21.

21. Check for continuity between navigation unit connector D (5P) and microphone 3P connector according to the table.

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## TERMINALS CONTINUITY CHART

| Navigation unit connector | Microphone connector | Wire color |
|---|---|---|
| D1 | 2 | BRN |
| D2 | 1 | YEL |
| D5 | 3 | ORN |

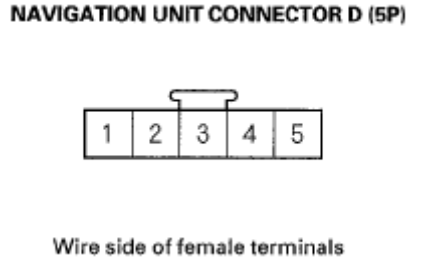



**Fig. 33: Identifying Navigation Unit Connector D (5P) Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

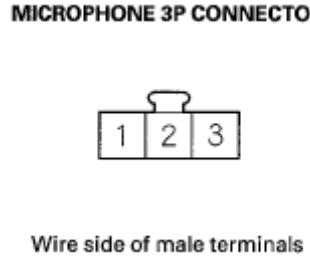



**Fig. 34: Identifying Microphone 3P Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** -Substitute a known-good microphone, then reconnect all of the connectors and recheck. If the symptom/indication goes away, replace the original microphone. If the symptom/indication is still present, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire(s) between the navigation unit and microphone. Replace the affected shielded harness.

**VEHICLE POSITION ICON CONSTANTLY LEAVES ROAD, MOVES ERRATICALLY, OR IS VERY FAR FROM ACTUAL POSITION**

**NOTE:**

- **Make sure that the correct DVD color and version are installed.**
- **Check any official Honda service website for more service information about the navigation system.**
- **Check for aftermarket accessories.**

1. Check the GPS icon on the navigation picture.

   *Is the GPS icon on the map screen?*

   **YES** -Do the troubleshooting for GPS icon is white or not shown (see **GPS ICON IS WHITE OR NOT SHOWN**).

   **NO** -Go to step 2.

2. Go into the Diagnostic Menu, and use the Yaw Rate test (see **YAW RATE**) to check the yaw rate sensor.
3. Go into the Diagnostic Menu and use the Car Status test (see **CAR STATUS**) to check the vehicle speed pulse.

   *Are the yaw rate sensor and vehicle speed pulse OK?*

   **YES** -The problem may be a normal characteristic. Check to see if the problem occurs in the same place. If it does, the problem could be in the database. Compare to a known-good vehicle under the same conditions. If you can duplicate the problem, report it. Refer to the Customer Assistance section of the Navigation User's Guide, "Reporting Errors".

   **NO** -If the problem is the yaw rate sensor, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**). If the problem is the vehicle speed pulse, troubleshoot the vehicle speed signal circuit.

**DVD SCREEN ERROR MESSAGES**

**NOTE:**

- **Make sure that the correct DVD color and version are installed.**

- **Check any official Honda service website for more service information about the navigation system.**
- **Check the Navigation System Manual for a list of common DVD screen error messages and the probable cause.**
- **Go into the Diagnostic Menu and use the Car Status test (see CAR STATUS) to check the status of the display.**

1. Check the DVD-ROM reading surface for scratches.

   *Are there scratches?*

   **YES** -Replace the DVD-ROM.

   **NO** -If the problem occurs occasionally when the system is cold, this is normal. If the problem occurs frequently when driving, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**SYSTEM ALWAYS COMES UP IN IN-LINE DIAGNOSTIC MODE**

1. When a navigation unit is powered up for the first time at the factory, the factory diagnosis screen (In Line Diag) appears. Normally the factory performs the steps necessary to verify proper operation and terminate the factory diagnostic. Until the proper confirmation sequence is performed, the screen will appear every time the vehicle is started.

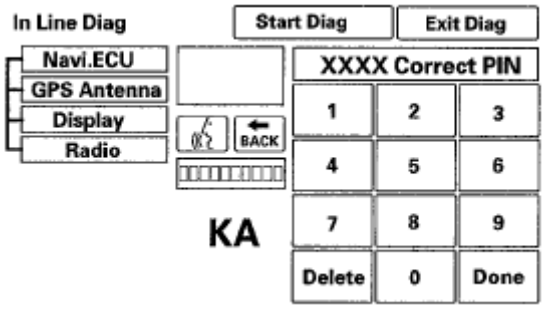



**Fig. 35: Display Screen - In-Line Diagnostic Mode**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Follow the steps to prevent the screen from showing up in the future:
   - Hold down the buttons (Menu+Map/Guide+Cancel) for about 5 seconds (the Select Diagnosis Items screen will appear).
   - Hold down the Map/Guide button for 5-10 seconds (A screen with a Complete button, will appear).
   - Touch Complete, and then the Return button (the system may re-boot).
   - Restart the vehicle, and confirm normal operation by completing the "PDI of the navigation system" Service Bulletin.

**DISPLAY DAY/NIGHT MODE DOES NOT WORK**

**NOTE:**

- **Check the connectors for poor connection or loose terminals.**
- **Before troubleshooting, get the navigation system anti-theft code.**
- **After troubleshooting, enter the navigation system anti-theft code.**
- **Full brightness on the instrument panel brightness control with the head lights turned on causes the system to stay in the day mode, even when the lights are on.**

1. Make sure the instrument panel brightness control is not on full brightness. Turn the headlights on and adjust the dash brightness to the middle range.
2. Change the day/night mode under Set-up to AUTO and recheck.

   *Does the display change to day and night modes when turning the headlights on and off?*

   **YES** -The system is OK at this time.

   **NO** -Go to step 3.

3. Go into the Diagnostic Menu and use the Car Status test to check for an ILL signal (see **CAR STATUS**).

*Is the ILL signal OK?*

**YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NO** -Check the ILL+ circuit between the navigation unit and No. 14 (7.5 A) fuse in the under-dash fuse/relay box.

**SYSTEM LOCKS UP OR FREEZES CONSTANTLY**

**NOTE:**

- **Make sure that the correct DVD color and version are installed.**
- **Check any official Honda service website for more service information about the navigation system.**

1. Start the engine and turn the ignition switch to LOCK (0), then turn the ignition switch to ON (II).

   *Does the system reboot?*

   **YES** -The system is OK at this time.

   **NO** -Check the DVD for scratches or damage, and the navigation unit for water damage. If OK, go into the Diagnostic Menu and do all of the Unit Check tests (see **UNIT CHECK**). Also check for low battery charge or poor charging system performance.

**VEHICLE ICON WANDERS ACROSS THE MAP WHEN DRIVING (DOES NOT FOLLOW A DISPLAYED ROAD) OR MAP OR VEHICLE ICON SPINS**

**NOTE:**

- **This symptom is usually caused by a defective yaw rate sensor. Perform this diagnostic when the vehicle is cold and warm.**
- **Also refer to symptom troubleshooting for GPS ICON IS WHITE OR NOT SHOWN .**

1. Go into the Diagnostic Menu and use the Yaw Rate test (see **YAW RATE**).

*Are the values correct?*

**YES** -The system is OK.

**NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**VEHICLE ICON MOVES BY ITSELF OR SPINS WHEN PARKED**

**NOTE:**

- **Check the connectors for poor connection or loose terminals.**
- **Before troubleshooting, get the navigation system anti-theft code, then write down the audio presets.**
- **After troubleshooting, re-enter the anti-theft code, and re-initialize the navigation system, then enter the audio presets.**

1. Start the engine.
2. From the main menu, select places, then select any destination, and begin the trip.
3. With the vehicle parked, watch the vehicle icon on the display.

*Does the vehicle position icon move by itself?*

**YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NO** -The system is OK at this time.

**NAVIGATION DISPLAY STAYS ON WITH IGNITION SWITCH OFF**

**NOTE:**

- **Check the connectors for poor connections or loose terminals.**
- **Before troubleshooting, get the navigation system anti-theft code, then write down the audio presets.**
- **After troubleshooting, re-enter the anti-theft code, and**

**re-initialize the navigation system, then enter the audio presets.**

- **Check for aftermarket accessories that use the same power circuit. A feedback can cause this problem.**

1. Remove the key from the ignition.

   *Does the navigation screen stay on?*

   **YES** -Go to step 2.

   **NO** -The system is OK at this time.

2. The vehicle may have been used as a demonstration vehicle at an event like an auto show. In these events, power is often jumpered to the navigation system so that the ignition key is not needed in the vehicle. At the end of the show, the jumper wire may not have been removed. Check the navigation unit connector A (17P) for a non-factory jumper wire in series with the factory cable.

   *Is there a jumper wire?*

   **YES** -Remove the jumper wire, and re-test. Return the jumper wire to Tech Line.

   **NO** -Go to step 3.

3. Check if the audio unit works.

   *Does the audio unit work with the ignition switch off?*

   **YES** -Troubleshoot the ACC circuit for a short to power with another circuit.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NAVIGATION CANNOT CONTROL AUDIO SYSTEM**

1. Make sure the anti-theft code for the navigation system is entered.

2. Go into the Diagnostic Menu and use the Navi System Link test (see **SYSTEM DIAGNOSTIC MODE**).

   *Is the Radio icon red?*

   **YES** -Do the troubleshooting for the voice guidance cannot be heard (see **GPS ICON IS WHITE OR NOT SHOWN**).

   **NO** -Go to step 3.

3. Substitute a known-good navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**), and recheck.

   *Can the navigation control audio?*

   **YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

   **NO** -Do the audio system troubleshooting.

**NAVIGATION CANNOT CONTROL XM RADIO**

- Review the audio system diagnostic article.
- If you can only tune to channels 000, 001, 174, and 247, make sure the audio unit is set to the channel mode (see owner's manual), if is set to channel mode, call XM satellite radio customer support and check the account activation status.

1. Substitute a known-good navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**), and recheck.

   *Can the navigation control the XM radio?*

   **YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

   **NO** -Do the audio system troubleshooting.

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**NAVIGATION FREQUENTLY ASKS FOR ANTI-THEFT CODE AND NEEDS GPS INITIALIZATION**

1. Measure the voltage between navigation unit connector A (17P) terminal No. 17 and body ground.

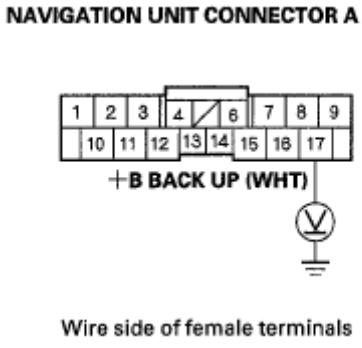



**Fig. 36: Measuring Voltage Between Navigation Unit Connector A (17P) Terminal No. 17 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 2.

**NO** -Repair open in the wire between the under-dash fuse/relay box and the navigation unit.

2. Turn the ignition switch to ON (II).
3. Measure the voltage between navigation unit connector A (17P) terminal No. 14 and body ground.

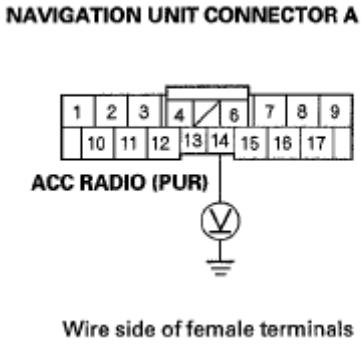


**Fig. 37: Measuring Voltage Between Navigation Unit Connector A (17P) Terminal No. 14 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** -Go to step 4.

**NO** -Repair open in the wire between the under-dash fuse/relay box and the navigation unit.

4. Measure the voltage between navigation unit connector A (17P) terminal No. 9 and body ground, and between navigation unit connector C (12P) terminal No. 4 and body ground.

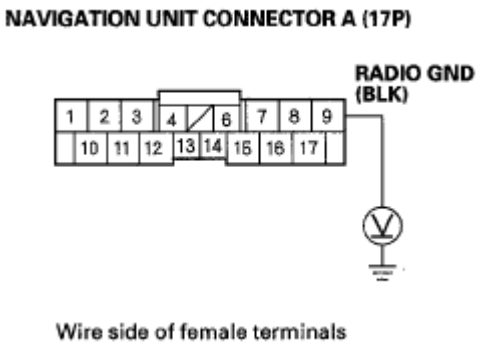



**Fig. 38: Measuring Voltage Between Navigation Unit Connector A (17P) Terminal No. 9 And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

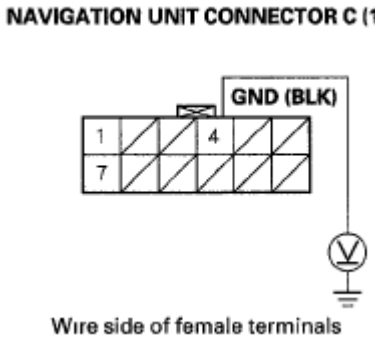



**Fig. 39: Measuring Voltage Between Navigation Unit Connector C (12P) Terminal No. 4 And Body Ground**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 0.1 V?*

**YES** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NO** -Repair open in the wire between the navigation unit and body ground (G504, G505).

**OPEN/CLOSE FUNCTION OF THE DISPLAY DOES NOT WORK**

**NOTE: If the display's Open/Close button does not work, you must manually open the display to obtain the customer's navigation DVD, audio CD, and PC card (see CD, DVD, AND PC CARD REMOVAL/INSTALLATION).**

1. Press the OPEN/CLOSE button.

   *Does the display open and/or close normally?*

   **YES** -The system is OK at this time.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

**NAVIGATION DISPLAY WILL NOT CLOSE**

1. Check the CD slot. Look for foreign objects, stuck CD, broken or sticking slot.

   *Is the CD slot OK?*

   **YES** -Go to step 2.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

2. Check the PC card.

*Is the PC card fully seated?*

**YES** -Go to step 3.

**NO** -Reseat the card or remove it. If it still won't close, replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

3. Press the OPEN/CLOSE button.

   *Does the display open and/or close normally?*

   **YES** -The system is OK at this time.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

#### NAVIGATION DISPLAY DOES NOT OPEN OR OPENS PART WAY

1. Press the OPEN/CLOSE button.

   *Does the unit beep?*

   **YES** -Go to step 2.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

2. Press the OPEN/CLOSE button.

   *Does the display open normally?*

   **YES** -The system is OK at this time.

   **NO** -Replace the navigation unit (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).

## SYSTEM DIAGNOSTIC MODE

#### START-UP PROCEDURE AND DIAGNOSIS MENU

1. Turn the ignition switch to ON (II).

   Press and hold the Menu, the Map/Guide, and the Cancel buttons. Keep them pressed for approximately 3 seconds. The display screen then goes directly to the Diagnostic Menu.

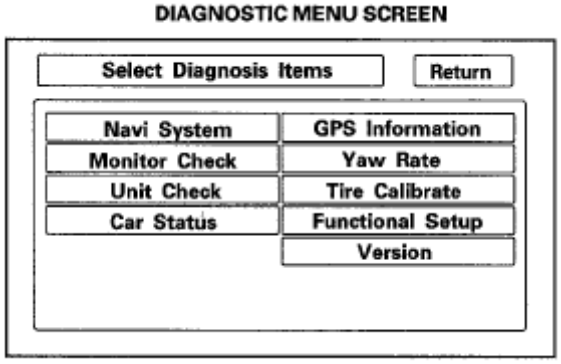



**Fig. 40: Diagnostic Menu Screen Display**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. After the display changes to the Diagnostic Menu, select the item you want to check, and the test will begin. To return to the previous screen, select Return.
   - Navi System (Link)
   - Monitor Check
   - Unit Check
   - Car Status
   - GPS Information
   - Yaw Rate
   - Tire Calibrate
   - Functional Setup
   - Version

**NAVI SYSTEM LINK**

- This diagnostic step tests the cables connecting the navigation components. Ensure that the ignition switch is in the ON (II) position. When the diagnosis begins, you hear a bong sound. The system is in a Detecting mode, and is

waiting for all the items in white to be tested. This includes the voice control switch (TALK/BACK buttons), and the microphone. Press the TALK button on the steering wheel, and in a normal voice, say "testing". The Talk indicator on the screen should turn green, and the voice level indicator should move to at least the 6th bar to pass. Next, press the BACK button. The Cancel indicator should turn green.

- If all of the communication lines connecting the system components, and the TALK/BACK buttons/ microphone check out OK (all block diagram items green), then the OK indicator turns green.
- If there is a problem with the system, the faulty system component item turns red, and the screen will show NG in red. Use the troubleshooting index, and other diagnostic screens to help locate the problem.
- The indicator on the screen may not change until you cycle the ignition switch. After repairing the affected cable or system, repeat this diagnostic.

**NOTE: Green boxes and green OK indicate that the communications lines (cables) are intact. This diagnostic does not necessarily imply that the individual components are functioning properly. For instance, the GPS antenna wire may be crushed, but still show as green. A road test, or other diagnostic may be necessary to find the problem.**

- Select Return to return to the Diagnostic Menu, or the Exit Diag button to exit.

**NOTE: The Mic Level indicator must reach the 6th bar or greater to pass the test.**

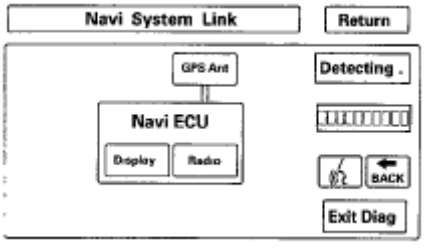



**Fig. 41: Diagnostic Menu Screen Display - Navi System Link**

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## Courtesy of AMERICAN HONDA MOTOR CO., INC.

**MONITOR CHECK**

Overview of navigation display

The illumination input from the gauge brightness control provides back lighting for the buttons surrounding the screen.

These screens allow troubleshooting of the navigation display. Select the item you want to troubleshoot, and follow the diagnostic instructions.

- RGB Color
- Gray Tone
- White Raster
- Black Raster
- Color Pattern
- Monitor Adjustment
- Touch Panel Check
- Touch Panel Calibration

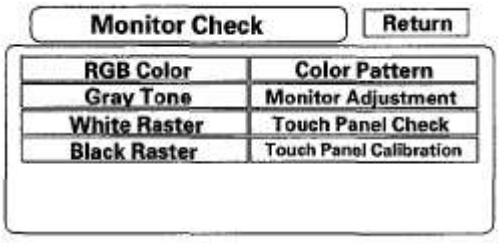



**Fig. 42: Diagnostic Menu Screen Display - Monitor Check**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**RGB Color**

This screen verifies that the navigation display is receiving the video (R, G, B and Composite sync) signals properly. The three primary colors should all be shown without distortion. The combination of all three should produce a central white section. If the picture has lines in it, or scrolls horizontally or vertically, and any of the colors are missing, troubleshoot for a Composite sync and color signal problem

(see **PICTURE HAS LINES/ROLLS/OTHER ISSUES OR IS AN ODD COLOR**).

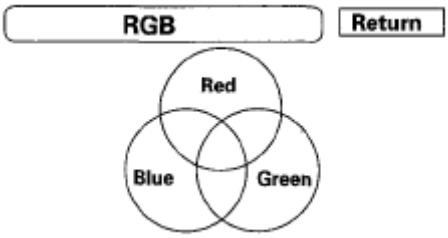



**Fig. 43: Diagnostic Menu Screen Display - RGB Color**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Gray Tone**

This screen looks for problems with contrast. You should be able to see the changes from bar to bar across the scale. If you can't see the shade changes from bar to bar, replace the navigation unit.

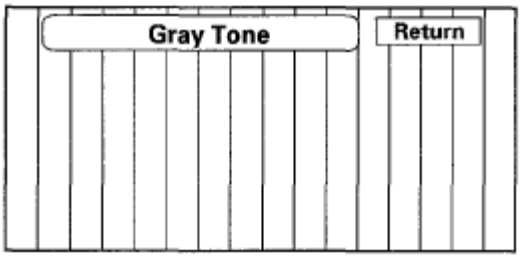
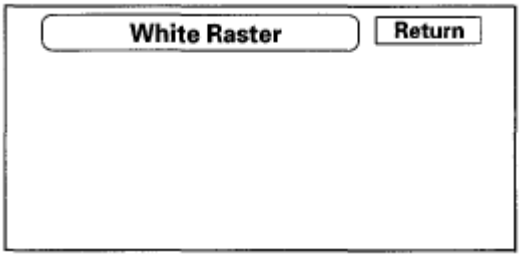



**Fig. 44: Diagnostic Menu Screen Display - Gray Tone**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**White Raster**

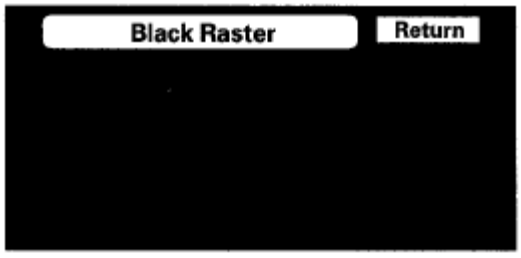
This diagnostic screen checks for pixels that may be dead (off). The entire display must be white. If pixels are dead, replace the navigation unit.



## Fig. 45: Diagnostic Menu Screen Display - White Raster
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Black Raster**

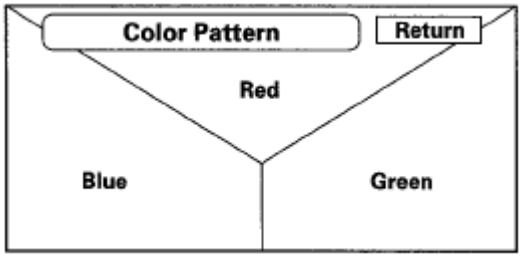
The entire display must be black. This diagnostic screen checks for pixels that may be stuck (on). If pixels are stuck on, replace the navigation unit.




## Fig. 46: Diagnostic Menu Screen Display - Black Raster
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Color Pattern**

The chart below shows the colors being used for the Map and Menu screens. This is for factory use only. To check the color signal use the RGB test.




## Fig. 47: Diagnostic Menu Screen Display - Color Pattern
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Monitor Adjustment**

This allows you to center the navigation display. Use the joystick to move the picture up/down or left/right. It is unlikely that you will ever need to adjust the monitor position. The Default button will reset the display position to factory specifications. The factory default is 0, 0. The H-POS button is for factory use only.

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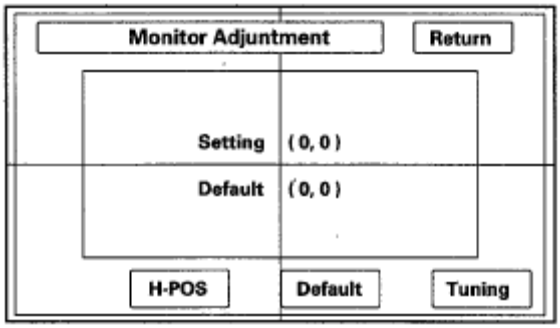



**Fig. 48: Diagnostic Menu Screen Display - Monitor Adjustment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Touch Panel Check**

The panel touch sensing system consists of a touch sensitive resistive membrane covering the display. Contrary to other systems using infrared beams, the screen has to be physically touched to make it work. The display has the capability of 479 touch locations (left to right), and 233 touch locations (top to bottom). The upper left hand corner is position (0, 0) and the lower right hand corner is (479, 233) as displayed. Touching anywhere on the screen will display the coordinate of the location, and cause the place you touch to display a + icon. If any area of the screen either doesn't respond, or responds at some other location when touched, then replace the navigation unit.

**NOTE: Unlike earlier screens that used infrared sensors, direct sunlight will not affect this test.**

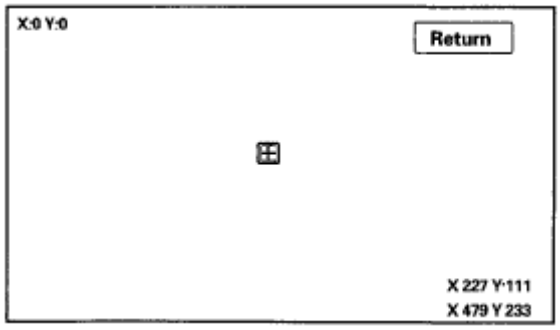



**Fig. 49: Diagnostic Menu Screen Display - Touch Panel Check**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Touch Panel Calibration**

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The display screen uses a touch sensitive membrane. This means that every location of the entire surface of the display is touch sensitive. This diagnostic allows alignment of these touch locations with the location of the buttons images on the screen.

Normally this should never need adjustment, and is used only to adjust the touch locations for parallax (the touch locations appear different when viewed at an angle). However, if an adjustment is necessary, follow this procedure:

- The screen consists of the + button icons. Touch the center of the five + buttons on order 1-5.
- To store any change you make, touch the Set button.
- Use the Return key to exit the diagnostic.

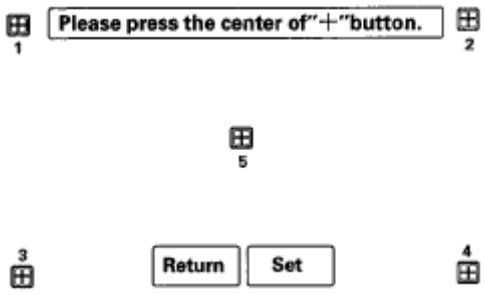



**Fig. 50: Diagnostic Menu Screen Display - Touch Panel Calibration**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**UNIT CHECK**

Select the item you want to check, and the test starts.

- Display
- Radio
- Navi ECU
- PC Card Info
- Hard Key

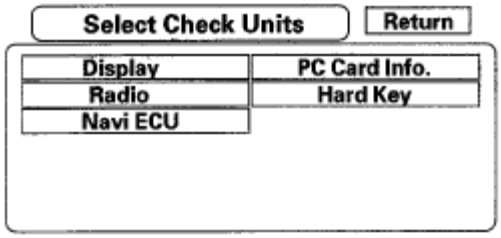



**Fig. 51: Diagnostic Menu Screen Display - Unit Check**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Display**

This performs additional checks on the communication bus between the navi CPU and the display. In addition, the internal electronics and touch screen functionality are confirmed.

If the connection is NG, replace the navigation unit.

- Connection verifies internal communications.
- Version represents the software version for the display.

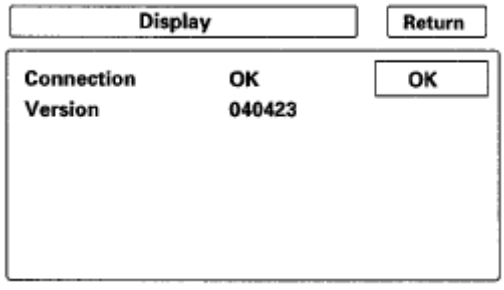



**Fig. 52: Diagnostic Menu Screen Display**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Radio**

This diagnostic screen checks the internals of the radio (AM and FM) and CD player. If NG, replace the navigation unit.

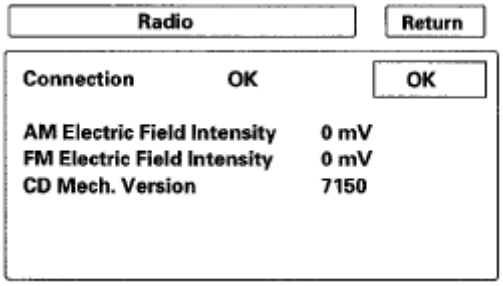



**Fig. 53: Diagnostic Menu Screen Display - Radio**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Navi ECU**

This screen looks for problems with the navigation unit. When you initiate this diagnostic, the navigation unit may delay up to a minute while the diagnostic runs.

- If V-RAM or D-RAM is NG, then replace the navigation unit.
- If GPS indicates NG (ANT), then check the entire GPS antenna wire from the navigation unit to the antenna. If the wire is crushed or damaged, try a known-good antenna. If this diagnostic reads OK, then order a new GPS antenna. If the diagnostic still reads NG (ANT), then replace the navigation unit.
- DVD ROM represents the database version on the DVD. You can also find this information in setup by selecting System Information.
- Serial No. should be the same as the serial number found on the underside of the navigation unit. You need this number to obtain the security code from the Interactive Network system.
- Mem Clear is for factory use, and should never be used unless instructed by the factory. Accidental selection will erase the customer's personal data, PINS, and settings. If selected, a popup box appears asking if you want to clear the memory. If so, select Yes.

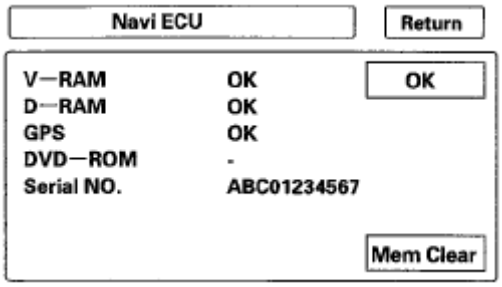


**Fig. 54: Diagnostic Menu Screen Display - Navi ECU**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**PC Card info**

There is no PC card in the PC slot, and the screen should say, "PC card is not inserted".

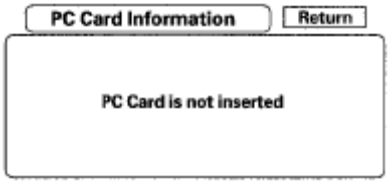



**Fig. 55: Diagnostic Menu Screen Display - PC Card Info**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

If the factory provides a PC card and instructs you to insert a card, then the screen displays the Manufacturer, and Product Name as shown in the following screen. Touch the FILES button to see the contents of the card.

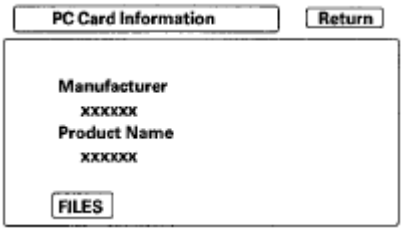



**Fig. 56: Diagnostic Menu Screen Display - FILES Button**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Hard Key**

This diagnostic screen checks the status of each of the hard buttons surrounding the navigation display. When you press each hard button, the corresponding item on the screen should flash blue. Touch the return key, or press and hold the joystick to exit.

**NOTE: It is normal for the VOL (+, -) CH (+, -) and MODE button to be inactive.**

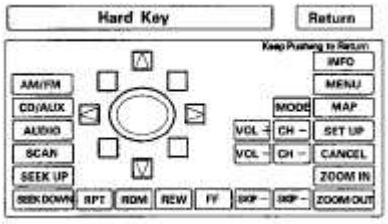



**Fig. 57: Diagnostic Menu Screen Display - Hard Key**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**CAR STATUS**

Use this screen to confirm that navigation unit is properly receiving input signals. Signals equal to (0) are OFF, and signals equal to (1) are ON. If the value on the display does not match the actual vehicle status, then check the wire carrying the signal.

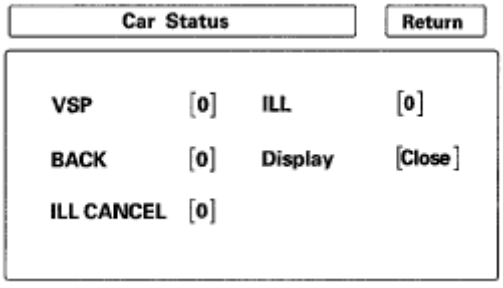



**Fig. 58: Diagnostic Menu Screen Display - Car Status**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- VSP-Vehicle Speed Pulse from ECM/PCM connector A (Navigation unit connector A (17P) terminal No. 13)
  a. OFF (0) when vehicle is not moving
  b. ON (1) when vehicle is moving

The VSP comes from the ECM/PCM as a dedicated signal. Internally, the navigation unit compares the actual VP on the map against street data to adjust the pulse to speed scaling factor.

- BACK-Reverse indication from taillight relay (Navigation unit connector C (12P) terminal No. 7)

a. OFF (0) when shift lever is in any position other than reverse
b. ON (1) when shift lever is in reverse

The Back signal is used by the navigation unit to allow the map screen to show the VP moving backwards when in reverse and to trigger the optional rear view camera. This signal is needed because the Speed Pulse does not provide any directional information to the system.

- ILL CANCEL
  a. OFF (0) when the dash lights brightness control button is less than 90 % brightness with the headlights turned on.
  b. ON (1) when the dash lights brightness control button is more than 90 % brightness with the headlights turned on.
- ILL-Illumination Indication (Navigation unit connector A (17P) terminal No. 10)
  a. OFF (0) when parking lights, or headlights are off
  b. ON (1) when parking lights, or headlights are on

The navigation unit uses the signal to determine whether to put the navigation screen into the Day or Night brightness mode. (Setup screen 1)

- Display-this displays the current position of the display
  a. (Close) when the display is closed
  b. (Open) when the display is open

The navigation unit has a microswitch to detect this. If open is indicated when the display is closed, replace the navigation unit.

**GPS INFORMATION**

This screen shows the current status of GPS reception. The circular diagram shows the current location of the GPS satellites (yellow balls) as they would appear in the sky. The outer circle represents the horizon (0 degrees elevation). The middle and inner circles represents 30 and 60 degrees respectively. The very center of the diagram (90 degrees elevation) is directly overhead. Nearby obstructions, like tall

buildings, will block satellites in that direction. That is why it is necessary to be in an open area to effectively troubleshoot GPS reception issues. The satellites shown on the diagram correspond to the PRN number in the GPS Details screen. There are always 24 active GPS satellites in orbit. Because satellites fail, and have to be removed from service, spares are always parked in orbit, ready to be activated. This is why the PRN (satellite ID number) can be greater than 24.

**NOTE:**

- **To use this screen for troubleshooting, the vehicle should be outside, away from buildings, tall trees, and high-tension wires for at least 10 minutes with the engine running.**
- **Metallic window tinting on the front or side window or after-market electronic accessories mounted near the navigation unit, GPS antenna, or navigation display can interfere with GPS acquisition.**
- **The Number of Satellites box shows the number of acquired satellites (maximum of 12). It should contain 4 or more icons. If not, troubleshoot for GPS icon is white or not shown (see GPS ICON IS WHITE OR NOT SHOWN).**
- **The Current Position shows latitude, longitude, and elevation (in meters). If there are less than 4 satellites, the elevation can be grossly inaccurate.**
- **The Date/Time field shows the current date, and also a time that includes daylight savings and other offsets entered by the customer in Setup function Adjust Time Zone/Clock.**

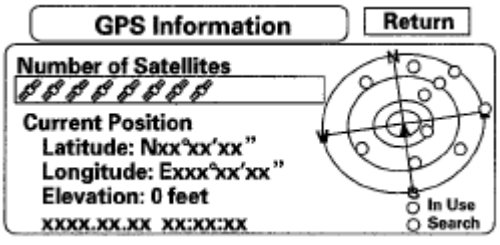



**Fig. 59: Diagnostic Menu Screen Display - GPS Information**

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**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**NOTE: Push and hold the Map/Guide button, and the dots on the diagram are replaced with the PRN # (satellite numbers). These numbers correspond to the numbers in the PRN column on the GPS details screen.**

**GPS DETAIL**

By pressing and holding the MENU button for 10 seconds, a GPS Detail screen appears. This screen displays real time incoming satellite positional data. Most of the information shown on this screen is for factory use, however some of the data can indicate partial GPS signal interference.

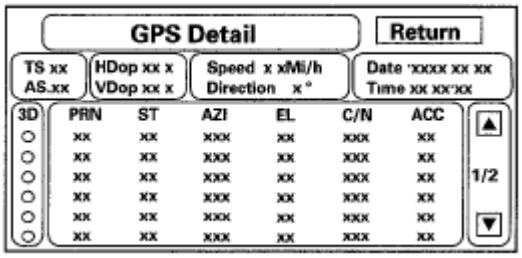



**Fig. 60: Diagnostic Menu Screen Display - GPS Detail**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- The box TS/AS and HDop/VDop is for factory use.
- The Speed and Direction information is updated in real time when driving, and can be used to detect intermittent speed sensor problems.
- The Date/Time Information is the same as in Setup screen 2 Adjust Time Zone/Clock.
- If the 3D icon is shown above the yellow dots, this implies that at least 4 satellites are available for map positioning, and the GPS indicator on the map screen will be green. See the **GLOBAL POSITIONING SYSTEM** detailed explanation in the System Description .
- If the row of data in the table below begins with a yellow dot, the AZI and EL fields can be used to locate each satellite PRN # on the circular GPS diagram (see prior screen).

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**NOTE: The data shown in the GPS Detail screen is an example only.**

## GPS DATA CHART

| Column | Description | Problem indication |
|---|---|---|
| 3D | Active satellites (Yellow Dot) | If 3D is missing follow GPS icon is white or not shown (see **GPS ICON IS WHITE OR NOT SHOWN**). |
| PRN | The satellite ID number | |
| ST | The status: 0 = cannot view or searching, 2 = acquiring | If all 0, then, follow GPS icon is white or not shown troubleshooting (see **GPS ICON IS WHITE OR NOT SHOWN**). |
| AZI | Azimuth, the angle (0-360) clockwise from north | |
| EL | Elevation from the horizon (90 deg is overhead) | |
| C/N | N/A | Healthy signal is 49-52, no signal: 27-33 |
| ACC | N/A | |

#### YAW RATE

This diagnostic checks the yaw rate sensor in the control unit. This device detects when the vehicle turns, and repositions the vehicle position icon on the map screen. For more detailed information, see **YAW RATE SENSOR** theory of operation under System Description.

- Sensor indicates the voltage output from the yaw rate sensor. It should indicate about 2.500 V when stopped.
- Offset is the reference voltage or standard within the yaw rate sensor. It also should indicate about 2.500 V when stopped.
- A sensor output voltage LOWER than the Offset voltage indicates that the vehicle is turning to the right.

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A sensor output voltage HIGHER than the Offset voltage indicates that the vehicle is turning to the left.

- The yaw rate offset and sensor should both indicate about 2.500 V when stopped. If either reads zero or 5.000 V, replace the navigation unit.
- The yaw rate offset and sensor should be within +/- 0.01 V of each other when stopped. The sensor value should change relative to the offset as the car is turned while driving. If not, replace the navigation unit.

**Example: Vehicle stopped**

**VEHICLE STOPPED SPECIFICATION**

| **Normal** | | **Abnormal** | |
|---|---|---|---|
| Offset | 2.526 V | Offset | 2.526 V |
| Sensor | 2.516-2.536 V | Sensor | 2.623 V |

**Example: Vehicle turning**

**VEHICLE TURNING SPECIFICATION**

| **Normal** | | **Abnormal** | |
|---|---|---|---|
| Offset | 2.526 V | Offset | 2.526 V |
| Sensor | 2.678 V (right turn)<br>2.478 V (left turn) | Sensor | 2.623 V (no change on turns) |

The settings CCW Cal Factor, CW Cal Factor, and Set are for factory use only. THIS SHOULD NEVER BE USED.

**NOTE: Do not try to adjust the yaw rate sensor without instructions from the factory. See next paragraph for tuning.**

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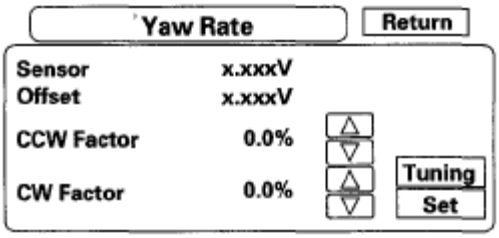



**Fig. 61: Diagnostic Menu Screen Display - Yaw Rate**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**YAW RATE TUNING**

This diagnostic allows you to graphically display problems with the yaw rate sensor.

- The ANG-Disp value accumulates any differences between the offset, and sensor voltages (see Yaw Rate diagnostic). When the sensor is healthy, the random changes in these two voltages generally cancels out, so the value is 0. However if one voltage is consistently higher than the other, then the ANG-Disp value accumulates the constant change.
- The Reset button temporarily clears the angular accumulation (ANG-Disp), and clears the display dots.
- Do not touch the CCW or CW, or Set buttons. These are used for factory setup only.

For serious problems with the sensor, the stationary test usually confirms whether the sensor is defective. For yaw rate issues related to driving, perform the road test described below.

1. Stationary test: If the-VP icon spins in place and the ANG-Disp value slowly increases or decreases in value, the yaw rate sensor is defective. Replace the Navigation unit.
2. Road test: Drive the vehicle on a very straight road. Enter the diagnostic mode, select Yaw rate, and touch the Tuning button. While driving down a straight road, the white dots should trace a straight line across the screen. However, if you are driving on a straight road, and you notice the dots constantly dropping down or heading up as you drive, the navigation unit's yaw sensor is defective.

You can touch Reset to clear ANG-Disp, and dotted line.

3. If either test fails, please enter "Yaw rate sensor defective" for the problem description, on the "Navigation core return form".

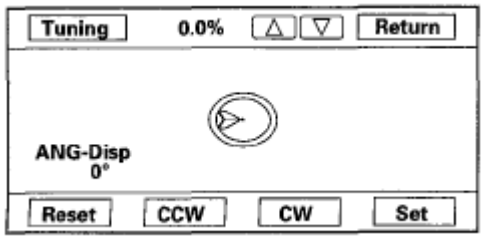



**Fig. 62: Diagnostic Menu Screen Display - Yaw Rate Tuning**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**TIRE CALIBRATION**

As the vehicle moves, the navigation system receives speed pulses from the ECM/PCM. These pulses are converted using a conversion factor to a mph speed that moves the vehicle position (VP) on the map. The navigation system has an internal tuning function that generates and refines this factor based on actual driving. The Level indicates the status of the tuning. At navigation initialization, it begins at 0, and increases to 10 as the navigation system is used.

- The Auto Tuning is factory set to ON, and should remain on.
- The Study indicates the tuning status. If it is less than 10, the unit is still calibrating.
- The Tire-Cal. Tuning and Set should not be used. It is for factory use only.

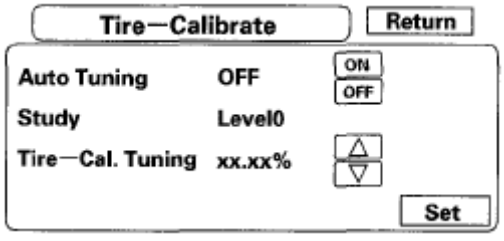



**Fig. 63: Diagnostic Menu Screen Display - Tire Calibration**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**FUNCTIONAL SETUP**

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Select the item you want to check.

- Log Data
- GPS Send Time
- Demo Mode
- Mic Level
- Solar Angle
- Save Users Memory ('07-08 models)

## '06 model

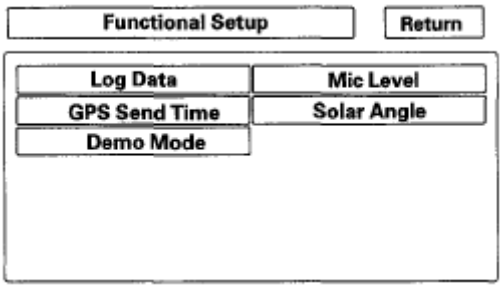



**Fig. 64: Diagnostic Menu Screen Display - Functional Setup (06 Model)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## '07-08 models

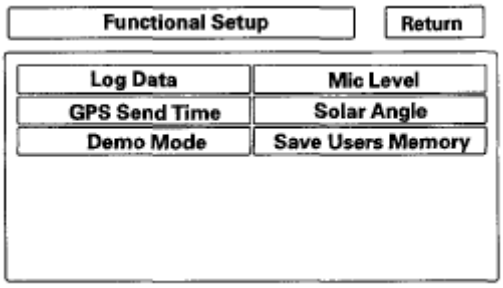



**Fig. 65: Diagnostic Menu Screen Display - Functional Setup (07 Model)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Log Data**

This screen allows the factory to collect log data to troubleshoot navigation system issues.

- There is no card in the PC card Slot, the screen appears as:

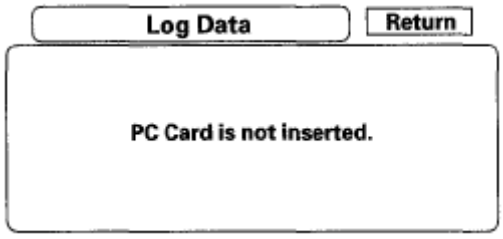



**Fig. 66: Diagnostic Menu Screen Display - Log Data**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

- However, if the factory provides a PC card, insert it into the card slot (label side up). Follow the factory logging VD data procedure for gathering test data and properly ending the test.

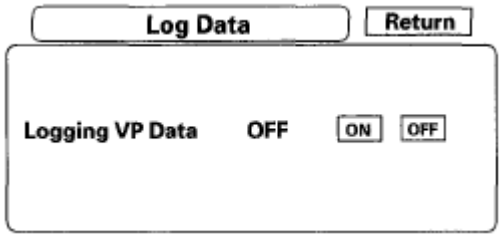



**Fig. 67: Diagnostic Menu Screen Display - Log Data**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**GPS Send Time**

This screen is for factory use only. It allows adjustment of the GPS time. This display updates in realtime.

- GPS Time is the time as received from the GPS satellites. It is in Greenwich Mean Time (GMT).
- Date, Hour, Minute, and Set should not be used.

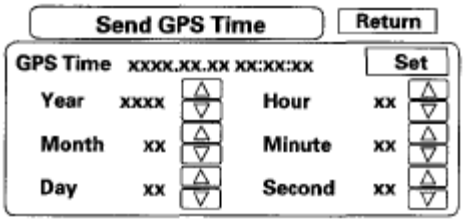



**Fig. 68: Diagnostic Menu Screen Display - GPS Send Time**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Demo Mode**

This screen allows the navigation system to drive a route, when the vehicle is stationary. Typical applications include auto shows, and other events. This feature allows a visitor to enter a destination, and see the system drive to the destination. No speed signal is needed.

- To initiate the mode select ON.
- Changing the speed rate in ms (milliseconds) is optional, and represents the time between updates of the VP (vehicle position) movement.
  - When you increase the rate, the VP slows down because it is updated (moved) at a slower rate.
  - When you decrease the rate, VP is faster because it is updated (moved) more frequently.
  - 1500 ms is VP at its slowest in demo mode.
  - 150 ms is VP at its fastest in demo mode (Default).
- At key off, the setting automatically returns to the default of Off.

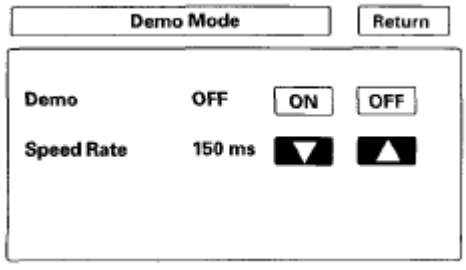



**Fig. 69: Diagnostic Menu Screen Display - Demo Mode**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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**Mic Level**

This diagnostic screen allows you to independently test the microphone and the TALK and BACK buttons. They are used to activate the voice control system. The microphone is located near the map light in the ceiling. It is directional, and works best if the voice is coming from the drivers seat.

- Press the TALK button on the steering wheel, and in a normal voice say "testing". The TALK indicator on the screen should momentarily turn green, and the text "Now Recording..." should appear in yellow. If the Mic Level indicator on the screen does not briefly turn green, then check the wiring from the TALK button to the navigation unit.
- If there is no Mic Level movement when you speak, then you should check the wire running from the microphone to the navigation unit.
- If the mic level bar is full or almost full without you speaking or other back ground noise, replace the microphone and recheck.
- Press the BACK button on the steering wheel. The Cancel indicator on the screen should momentarily turn green. If it does not briefly turn green, then check the wiring from the steering wheel BACK button to the navigation unit.

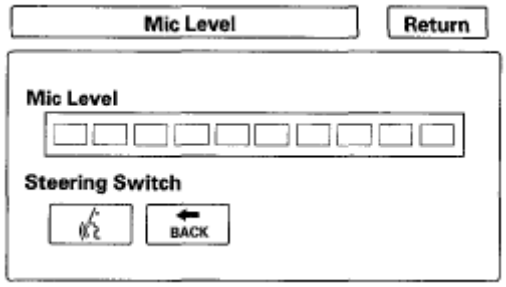



**Fig. 70: Diagnostic Menu Screen Display - Mic Level**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**NOTE: If the radio is off, and there is movement in the indicator- even without speaking, ensure that the vents are not blowing on the microphone.**
**This should resolve voice control complaints such as:**

- **Sometimes the system does not understand my**

**commands.**

- **I have to shout at the navi for a command to be recognized.**
- **The system just says "pardon".**

**SOLAR ANGLE**

This screen graphically displays the sun's position as determined by GPS.

This screen is for factory use only, and allows simulation of this feature for development purposes.

- The manual tuning button should always be OFF
- The Angle is the angle that the sun (shown with the red dot) is above the horizon.
- The vehicle value represents the angle, clockwise from North, to the direction that the vehicle position (VP) icon is pointing (always points straight up).
- The direction value is the angle, measured clockwise from the VP (straight up) to the suns position.
- The reliability ranges from 1 to 3, and represents the accuracy of the Vehicle Position relative to the sun.

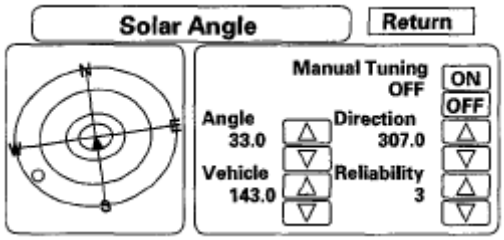



**Fig. 71: Diagnostic Menu Screen Display - Solar Angle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**VERSION**

This screen displays the current version of the program, and allows the loading of a new version of the program either from a CD/DVD or from a PC card.

The Program Flash version should always be greater than or equal to the Program Disc version. IPL, APL, DBOOT, and system ucomare for factory use only.

The Model code is SNA for the 4-door and SVA for the 2-door, and is for factory use only. This code is stored on a chip in the navigation unit. Therefore, every model has a unique part number for the navigation unit.

**NOTE: If any model number other than SNA or SVA is displayed, replace the navigation unit with the correct part. The model code tells the navigation unit what software to load off the DVD.**

Do not use Download, unless instructed to do so by the factory.

**4-door**

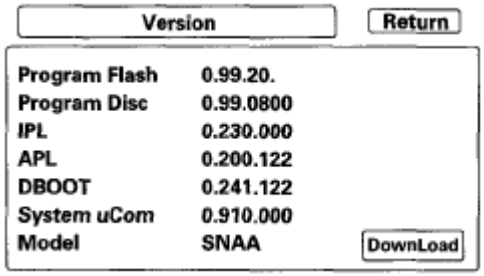



**Fig. 72: Diagnostic Menu Screen Display - Version (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2-door**

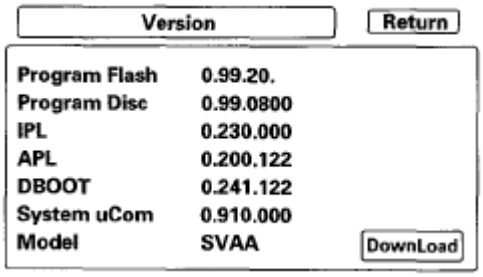



**Fig. 73: Diagnostic Menu Screen Display - Version (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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**SAVE USERS MEMORY**

When replacing the navigation unit, this function allows the dealer to transfer the customer's personal data td the new navigation unit. The transferred information includes their Setup settings, and personal addresses. The dealer inserts a PC card to the navigation unit, and then selects the Save Users Memory function. The two functions in this diagnostic screen are EXPORT and IMPORT. EXPORT saves the customer's data to the PC card, and IMPORT moves the PC card files to the new navigation unit.

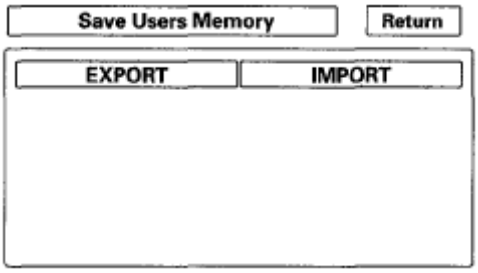



**Fig. 74: Diagnostic Menu Screen Display - Save Users Memory**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

Before starting this function, see the **PC CARD FAQS** for information regarding PC cards, and the use of this function.

1. Select EXPORT button to move the customer's data from the original navigation unit to the PC card. Select YES on the Export User Data Confirmation screen. The process takes only a couple of seconds. The system stores two files on the card.

**NOTE: If the EXPORT button is grayed out, check the PC card's edge connector, and the pins inside the navigation unit (with a flashlight) for damage.**

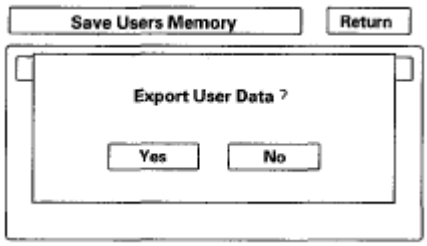


**Fig. 75: Diagnostic Menu Screen Display - Save Users Memory**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. After installing the customer's original DVD in the new navigation unit, allow the system to boot up. Insert the PC card in the new navigation unit and enter the Save Users Memory in the navigation system diagnostic mode.
3. Select IMPORT button to move the two files stored by the Export process from the PC card to the new navigation unit. Select YES on the Import User Data Confirmation screen. When the transfer is finished (a few seconds) the system will automatically reboot. After the system reboots, remove the PC card from the PC card slot.

**NOTE: If the IMPORT button is grayed out, check if the Model and the Program Flash shown on the Version screen are the same.**

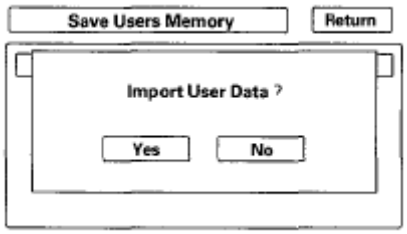



**Fig. 76: Diagnostic Menu Screen Display - Save Users Memory**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**PC CARD FAQS**

## PC CARD FAQs REFERENCE

| Question | Answer |
|---|---|
| Where do we buy the flash memory or adaptors, and what do we ask for? | You need a PCMCIA type II adaptor and a flash memory chip. You can purchase them at a computer, or office supply store. The card will have the same size and shape as the PC card in the HDS. Adaptors that accept multiple flash types are not recommended. |
| What memory flash | The flash memory devices that have been tested |

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| | |
|---|---|
| chips will work with what adaptors? | include Compact Flash (CF), and ATA style (like the card in the HDS). Other card types and flash memory chips may work, but have not been tested. |
| What capacity card do I need for this function? | A memory chip with capacity of 64 MB to 2 GB will work. The two files moved to the PC card during export are less than a Megabyte in size. |
| Should the dealer have a dedicated PC card for the Export and Import navigation function? | Yes, treat the PC card as a dedicated special tool that should be used anytime the owner of an '07 or later vehicle needs their navigation personal files transferred to a new navigation unit. |
| What device can I use to maintain the PC card, and delete files | Any computer store sells USB style card readers that accept the PC card, and allow you to perform file maintenance on your PC card. Most laptops will also accept the PC card. |
| Can we move the customer's data to different models? | No, the files are model specific and will only load into a navigation unit with the same part number. |
| Can we move the customer's data to the same vehicle with a different software version? | The customer's files can only be transferred to a new navigation unit, if the Model and the Program Flash shown on the Version screen are the same. Files cannot be transferred to the different model and different versions. |
| Will other files on the PC card like images or music files prevent the Export/Import function from working? | No, the system simply adds two small files that are recognized by the new navigation unit when performing the import function. However, it the PC card is full, the Export function won't work correctly. |
| Do I have to delete the files on the PC card after each transfer of the customer's data? | After the transfer of customer data to the new navigation unit, the files remain on the PC card. Since this is confidential information, we recommend that you delete these files after each use. Please note that each time you export navigation files of the same model and version, the files are overwritten. Over time the PC card will accumulate |

| | |
|---|---|
| | two files for each version of the 8 or so Honda navigation models. |
| What format should be used if the PC card needs reformatting? | It is unlikely that the PC card will ever need formatting, however the FAT file system should be used. |
| I can't enter the navigation diagnostic mode to do the Export/Import function. How can I transfer the customer's data? | Some internal navigation unit ECU failures may make it impossible to use the Export/Import function. |
| Why wont the Export or Import functions work? What do I check as part of troubleshooting? | • The card may not be fully inserted into the slot. Eject the PC card, and inspect for warping or damage to the edge connector. Never use excessive force to insert a PC card. This can result in damage to the pins in the rear of the slot.<br>• The PC card may not contain files that are recognized by the new navigation unit. Navigation data can only be transferred between navigation units with the same Model code, and with the same navi Program flash version.<br>• The flash memory chip type may not be accepted by the system. Only Compact Flash and ATA cards have been tested.<br>• The card's PCMCIA adaptor may be preventing a known-good PC card from playing. Avoid multi-slot type PCMCIA adaptors that accept several different flash memory types.<br>• The card may be full and as a result the files are stored, but without any data. Export and import appear to function, but move nothing. Delete unused files from the PC card.<br>• There may not be any files on the PC card. If the |

| | |
|---|---|
| | PC card has a write protection switch, make sure it is turned off before attempting to use the Export function.<br>• Although flash memory chips are reliable, occasionally they develop bad sectors or other formatting errors that prevents them from accepting files. The PC card should be reformatted using the FAT format.<br>• The PC card may have been formatted using the format NTFS. Only the FAT format is accepted by the system.<br>• Hard Disc Drive (HDD) cards may not work properly in the system and can overheat or quit functioning, particularly in a hot vehicle. They are not recommended.<br>• Before performing the Import function, ensure that the customer's original DVD is loaded into the new navigation unit and working properly. |

**ERROR MESSAGE TABLE**

## ERROR MESSAGE CHART

| Screen Error Message | Solution |
|---|---|
| Navigation system is unable to acquire a proper GPS signal. | Make sure there is nothing on the dashboard blocking the GPS antenna. If not, move the vehicle to an open space away from tall buildings, trees, etc. After-market devices can affect the GPS reception. |
| Navigation is open or No DVD disc installed. Please check system. | Make sure the correct white-labeled navigation DVD is installed with the label side up and the navigation display is closed. |
| DVD reading error (incorrect DVD disc) place consult your dealer. | Verify correct color (white) DVD installed. |

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| | |
|---|---|
| Display temp is too high. System will shut down until display cools down. | This message will appear briefly when the display temperature is too high, and the display will turn off until the temperature cools down. The system will turn back on when the display cools down. |
| Outside temperature is low, system will take a while to start up. | The temperature is below -30 °C and the navigation ECU has difficulties reading the DVD. The system will start up when the temperature warms up. |
| DVD disc reading error (unformatted), please consult your dealer. | Check the DVD source for deep scratches or other damage. Make sure you are using an official Honda navigation DVD (white in color). The system cannot read other mapping databases or video DVDs. Check online for any service publications to update the navigation system. |
| Route has not been completed. Please try again from a different location. | Routing to or from a place (new area) that is not in the database. Try planning a different route to or from a different location. |
| No alternate route found. Original route will be guided. | No alternate route method was found. The original route will be used. |
| This destination cannot be found in database. | The destination was not found in the database. Try another destination nearby, or select the destination with the joystick. |

## CD, DVD, AND PC CARD REMOVAL/INSTALLATION

If the display will not open, use this procedure to manually open the display and remove the CD, DVD, and or the PC card.

1. Remove the navigation unit from the vehicle (see **NAVIGATION UNIT REMOVAL/INSTALLATION**).
2. On the bench, carefully pull the display (A) straight out (about 1/2 inch).

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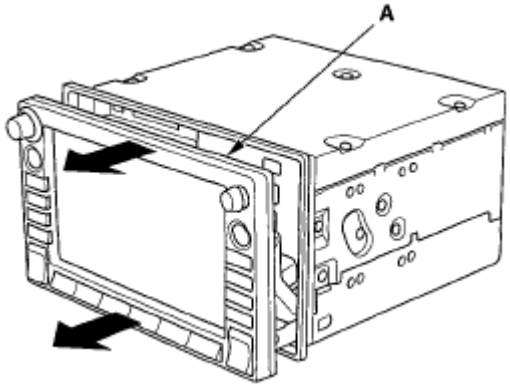



**Fig. 77: Identifying Display**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Fold down the display as shown in the diagram below.

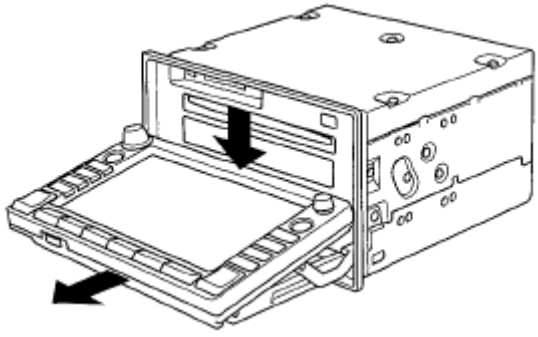


**Fig. 78: Folding Down Display**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Push the PC card eject button (A) to eject the customer's PC card (if installed). Power is not required for this function.

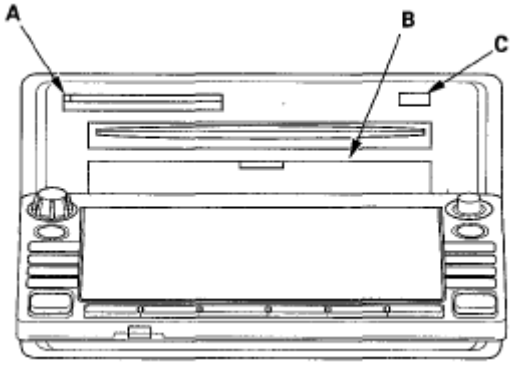


**Fig. 79: Identifying PC Card Eject Button And Plastic Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Open the plastic cover (B) for the navigation DVD slot. Do not remove the plastic cover.
6. With the display open, temporarily reconnect the unit in the dash (to power it up).
7. Push the CD eject button (C), and navigation DVD eject button and remove the discs (holding the discs by their edges to avoid fingerprints). To avoid scratches, place the navigation DVD, and customer's CD in a jewel case if available.
8. Close the plastic cover that hides the navigation DVD slot.
9. Close the display by first returning the display to the upward position, and then pushing the entire display straight back into the unit.
10. After installing the new navigation unit, re-insert the navigation DVD, the customer's CD, and PC card.

## NAVIGATION UNIT REMOVAL/INSTALLATION

SRS components are located in this area. Review the SRS component location, 4-door (see **COMPONENT LOCATION INDEX** ), 2-door (see **COMPONENT LOCATION INDEX** ).

Also review the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS article before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the dashboard and related parts.**
- **Lay a workshop towel under the parts when working on them to protect the face panel from scratches or other damage.**
- **Do not work in a dusty or dirty place.**
- **Discharge static electricity from your body before and**

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**during the work.**

- **Do not touch the circuit board(s) with your bare hands.**
- **Do not work with dirty hands.**
- **Be careful not to fold the flat plate cable.**
- **Do not touch the terminal connector of the flat plate cable with your bare hands. (If you have touched it, wipe it off thoroughly.)**
- **Before replacing the navigation unit, make sure to remove the customer's navigation DVD, and their audio CD, or PC card. Remanufactured navigation units do not come with a navigation DVD. Re-install the customer's navigation DVD, audio CD, and audio PC card into the new Remanufactured unit. If the navigation display won't open, manually remove the navigation DVD, audio CD, and PC card (see CD, DVD, AND PC CARD REMOVAL/INSTALLATION).**

1. Make sure you have the 4-digit anti-theft code for the navigation system, then write down the audio presets.
2. Eject the DVD from the original navigation unit (see **CD, DVD, AND PC CARD REMOVAL/INSTALLATION**). To avoid scratching or damaging the DVD, temporarily place the DVD in a jewel case.
3. Remove the subdisplay visor (see **SUBDISPLAY VISOR REMOVAL/INSTALLATION** ).
4. Remove the center pocket hole lid and bolts, then pull out the center panel (A).

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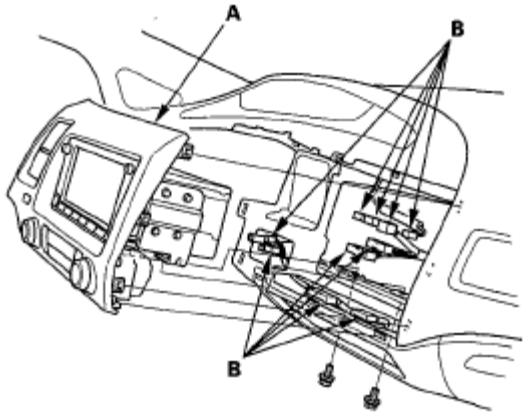



**Fig. 80: Identifying Center Panel And Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Disconnect the connectors (B), then remove the center panel.
6. Remove the screws, brackets (A), and the navigation unit (B) from the center panel (C).

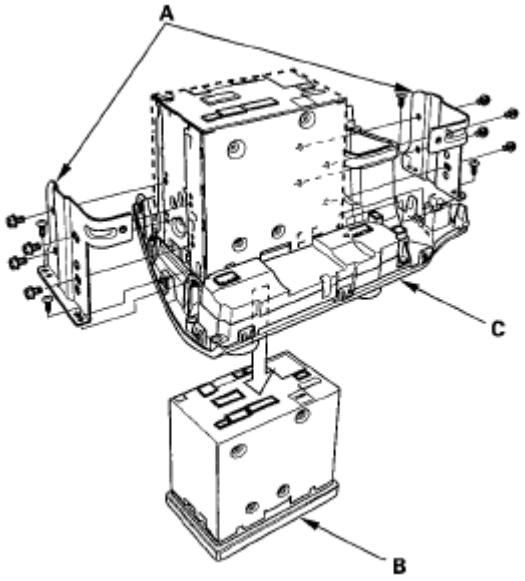



**Fig. 81: Identifying Screws, Brackets And Navigation Unit**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the navigation unit in the reverse order of removal, and make sure all connectors are secure.
8. Turn the ignition switch to ON (II), then reinstall the customer's original DVD,

verifying that the DVD is free of scratches or smudges.

9. Check any official Honda service website for more service information about the navigation system.

**NOTE: Simply transferring the DVD from the original navigation unit to the new navigation unit does not assure the correct software for the vehicle will be loaded into the new navigation unit. Doing the DVD transfer without doing software patches may cause the new navigation unit to appear to be malfunctioning.**

10. Enter the new navigation anti-theft code, then enter the audio presets.
11. Park the vehicle outside, and do the GPS initialization (see **GPS INITIALIZATION**).
12. Give the new navigation anti-theft code to the customer.

## VOICE CONTROL SWITCH TEST

**4-DOOR**

1. Remove the driver's airbag assembly (see **DRIVER'S AIRBAG REPLACEMENT** ).
2. Remove the 20P connector (A) from the cable reel (B).

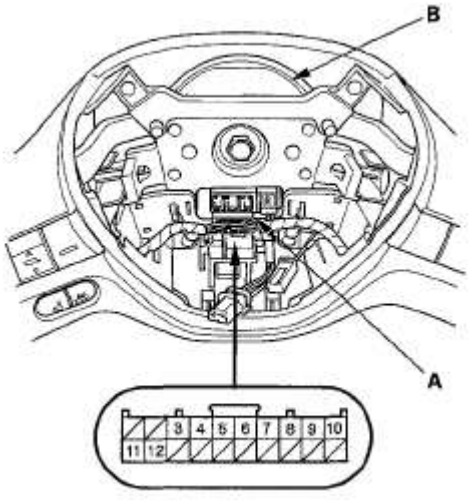



**Fig. 82: Identifying Voice Control Switch 20P Connector Terminals**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Measure the resistance between the No. 8 and No. 10 terminals in each switch position according to the table.

**TERMINALS RESISTANCE REFERENCE**

| Position | Resistance |
|---|---|
| No button pressed | About 10 kohms |
| TALK | About 2.9 kohms |
| BACK | About 680 ohms |

4. If the resistance is not as specified, replace the voice control switch (see **VOICE CONTROL SWITCH REPLACEMENT**).

**2-DOOR**

1. Remove the voice control switch (see **VOICE CONTROL SWITCH REPLACEMENT**).

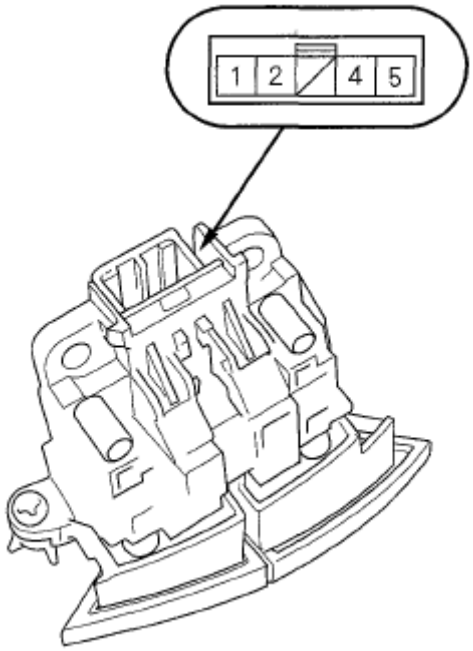



**Fig. 83: Identifying Voice Control Switch Connector Terminals**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Measure the resistance between the No. 2 and No. 4 terminals in each switch position according to the table.

**TERMINALS RESISTANCE REFERENCE**

| Position | Resistance |
|---|---|
| No button pressed | About 10 kohms |
| TALK | About 2.9 kohms |
| BACK | About 680 ohms |

3. If the resistance is not as specified, replace the voice control switch (see **VOICE CONTROL SWITCH REPLACEMENT**).
4. Use a diode tester between the terminals in each switch position according to the table.

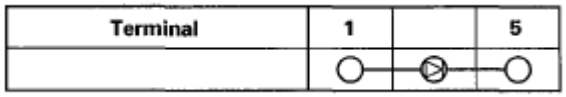



**Fig. 84: Terminals Diode Chart**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. If the diode test is not as specified, replace the switch (see **VOICE CONTROL SWITCH REPLACEMENT**).

## VOICE CONTROL SWITCH REPLACEMENT

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL** ).
2. Remove the voice control switch.
   - Si model (see **STEERING WHEEL DISASSEMBLY/REASSEMBLY** )
   - Except Si model (see **STEERING WHEEL DISASSEMBLY/REASSEMBLY** )
3. Install the voice control switch in the reverse order of removal.

## MICROPHONE REPLACEMENT

1. Remove the navigation unit (see **NAVIGATION UNIT**

**REMOVAL/INSTALLATION**).

2. Remove the meter upper visor (see **INSTRUMENT PANEL REMOVAL/INSTALLATION** ).
3. Remove the wire harness clip (A), screws and GPS antenna (B).

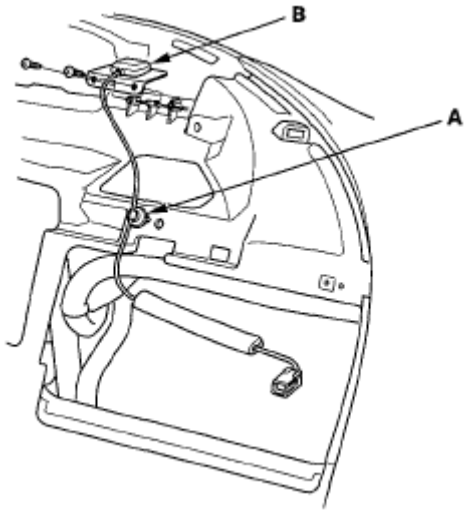



**Fig. 85: Identifying Wire Harness Clip, Screws And GPS Antenna**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the antenna in the reverse order of removal.

## GPS ANTENNA REMOVAL/INSTALLATION

1. Remove the front individual map light lens (A).

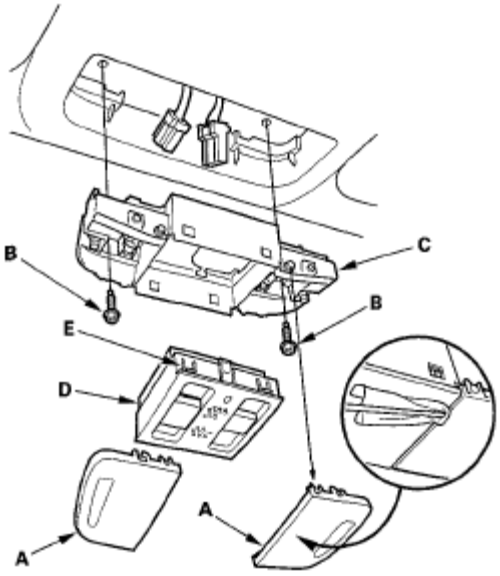



**Fig. 86: Identifying Front Individual Map Light Lens**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the bolts (B), then disconnect the connectors and remove the map lights housing (C).
3. Carefully pry off the moonroof switch (D) from the map light housing while pressing the retaining tabs (E).
4. From the moonroof switch (A), remove the screw and microphone (B).

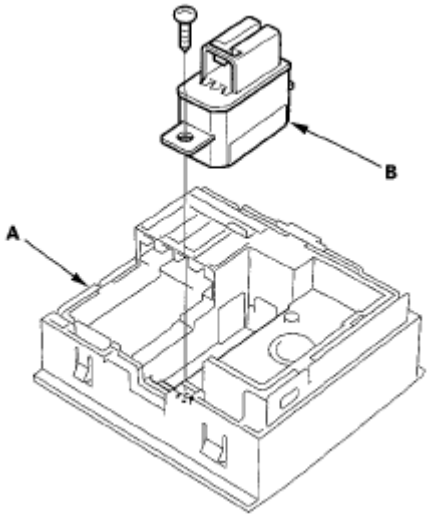



**Fig. 87: Identifying Moonroof Switch And Microphone**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the microphone in the reverse order of removal.

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**2006-08 ACCESSORIES AND EQUIPMENT**

**Openers - Civic**

## COMPONENT LOCATION INDEX

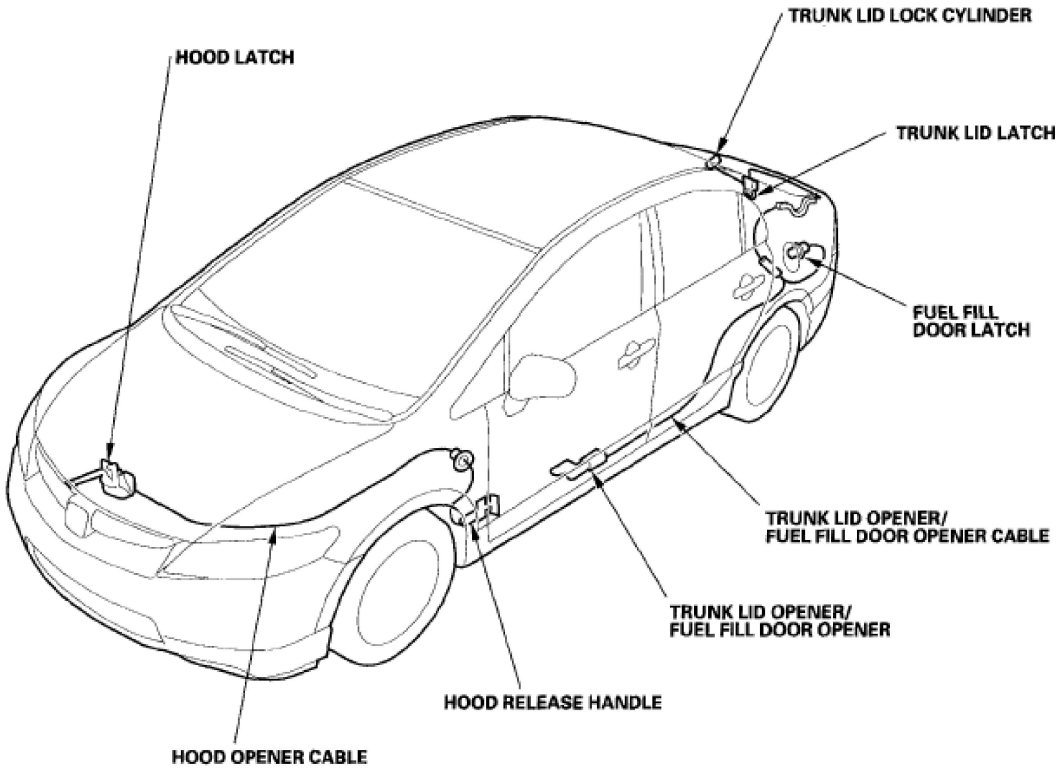



**Fig. 1: Identifying Openers Component Location**

## HOOD OPENER CABLE REPLACEMENT

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the body and related parts.**

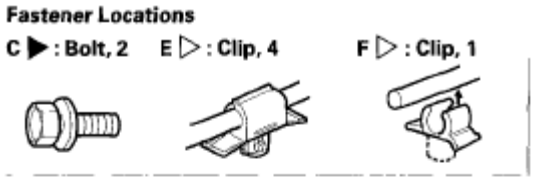
1. Remove these items:
   - Front grille cover (see **FRONT GRILLE COVER REPLACEMENT** )
   - Front inner fender (see **FRONT INNER FENDER REPLACEMENT** )
   - Kick panel:
     - 2-door (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS** )

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- 4-door (see **FRONT DOOR SILL AREA - 4-DOOR** )

2. Disconnect the hood opener cable (A) from the hood latch (B) (see **HOOD LATCH REPLACEMENT** ), and remove the bolts (C), then remove the hood release handle (D). Take care not to kink the cable.



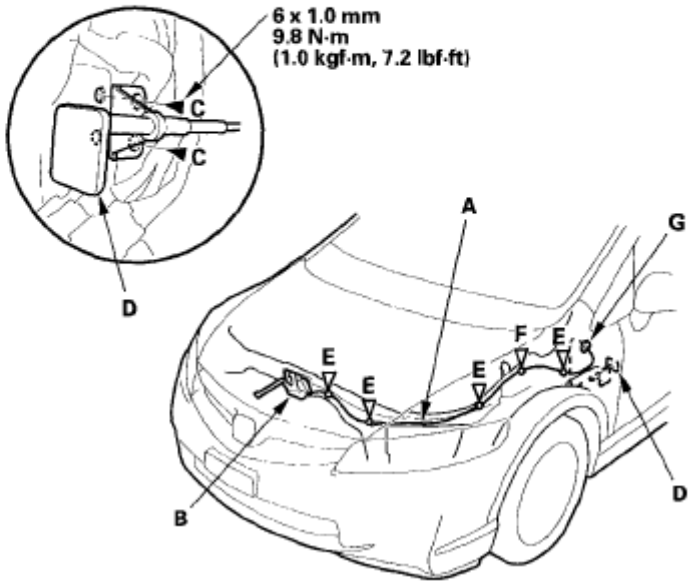




**Fig. 2: Identifying Hood Opener Cable, Hood Latch And Hood Release Handle (With Torque Specifications)**

3. Using a clip remover, detach the clips (E), release the hood opener cable from the clip (F), and remove the grommet (G) from the body, then remove the hood opener cable from the vehicle. Take care not to kink the cable.
4. Install the cable in the reverse order of removal, and check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.

## TRUNK LID OPENER CABLE/FUEL FILL DOOR OPENER CABLE REPLACEMENT

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SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to scratch the body and related parts.**

1. Remove these items:
   - Rear seat cushion (see **SEAT CUSHION** )
   - Rear seat side bolster (see **SEAT SIDE BOLSTER - 4-DOOR** )
   - Front door sill trim, driver's:
     - 2-door (see step 4 on **DOOR SILL AREA - 2-DOOR** )
     - 4-door (see step 3 on **FRONT DOOR SILL AREA - 4-DOOR** )
   - Kick panels, driver's sides:
     - 2-door (see **DOOR SILL AREA - 2-DOOR** )
     - 4-door (see **FRONT DOOR SILL AREA - 4-DOOR** )
   - Rear door sill trim, both sides (see **REAR DOOR SILL AREA - 4-DOOR** )
   - B-pillar lower trim (see **B-PILLAR UPPER/LOWER TRIM - 4-DOOR** )
   - Side trim panel (see **2-DOOR** )
   - Trunk side trim panel, left side:
     - 2-door (see step 6 on **2-DOOR** )
     - 4-door (see step 6 on **4-DOOR** )
   - Trunk lid trim (for some models) (see **TRIM REMOVAL/INSTALLATION - TRUNK LID** )
   - Trunk lid opener/fuel fill door opener (see **TRUNK LID OPENER/FUEL FILL DOOR OPENER REPLACEMENT** )
2. Pull the carpet back as needed.
3. Release the opener cable (A) from the clips (B). Remove the cushion tape (C).

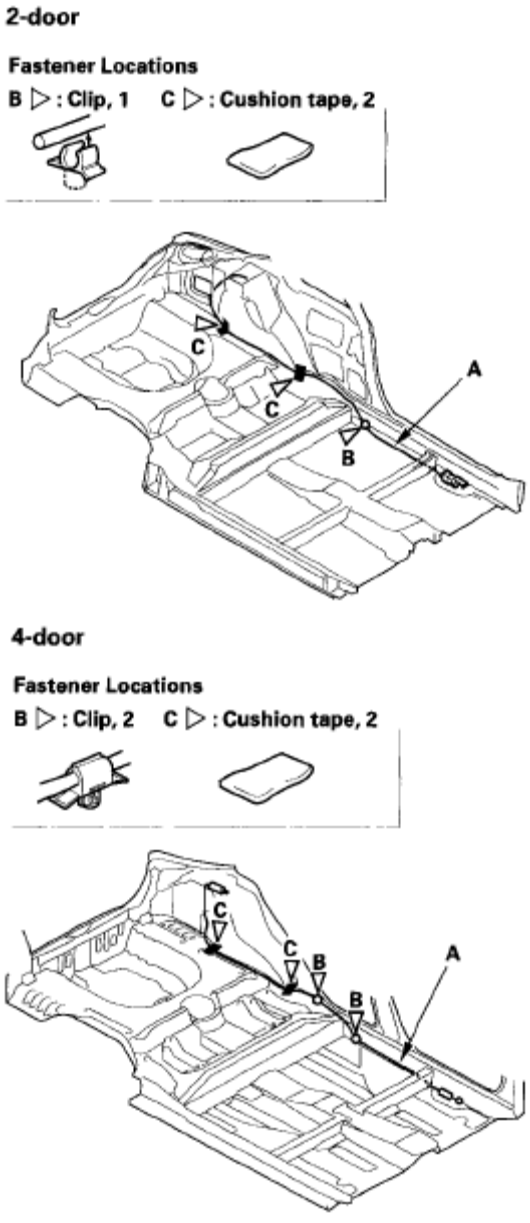



**Fig. 3: Identifying Opener Cable From Clips And Cushion Tape**

4. Remove the screw. Remove the fuel cap (A) by turning it counterclockwise.

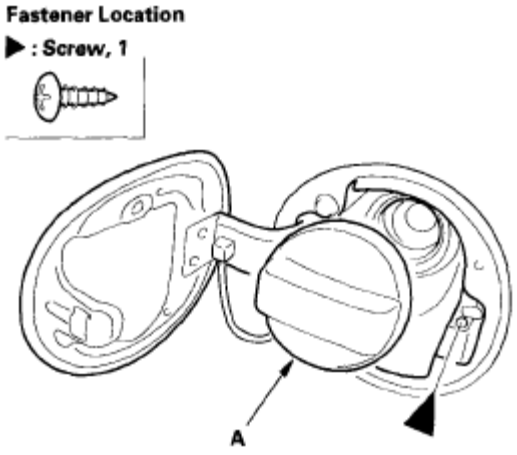



**Fig. 4: Identifying Fuel Cap**

5. While pinching the hooks (A) from inside the vehicle, remove the grommet (B) from the body.

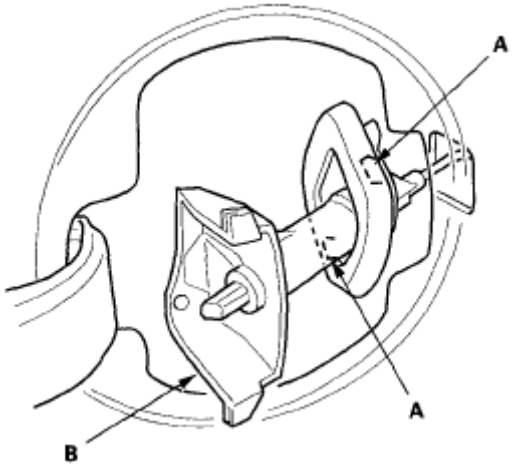



**Fig. 5: Identifying Grommet From Body**

6. Release the hook (A), then remove the grommet (B) from the fuel fill door latch (C).

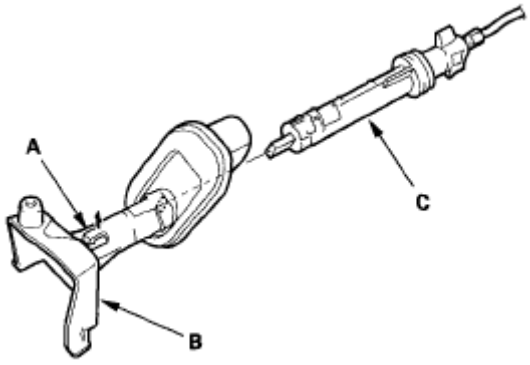



**Fig. 6: Identifying Grommet From Fuel Fill Door Latch**

7. Remove the fuel fill door opener cable from inside the body.
8. Detach the opener cable junction box (A) from the body.

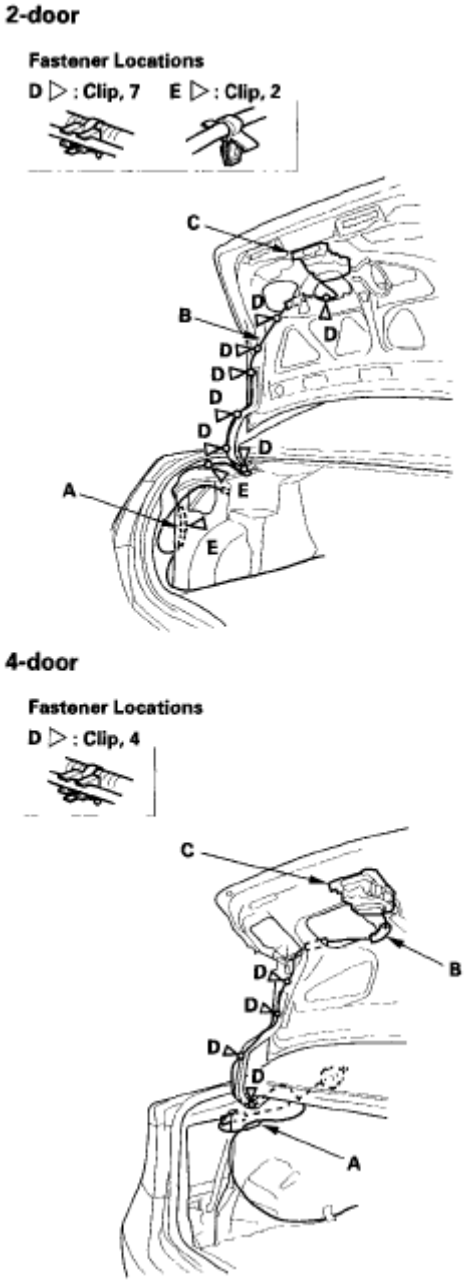



**Fig. 7: Identifying Opener Cable Junction Box From Body**

9. Disconnect the trunk lid opener cable (B) from the trunk lid latch (C) (see **TRUNK LID LATCH REPLACEMENT** ).
10. Release the trunk lid opener/fuel fill door opener cable from the clips (D, E).
11. Remove the trunk lid opener/fuel fill door opener cable from the vehicle. Take care not to kink the cable.

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12. Install the opener cable in the reverse order of removal, and note these items:
    - Align the marks (A) on the opener cable (B) with the cable clips (C) as shown.
    - Replace any damaged clips, and replace the cushion tape.

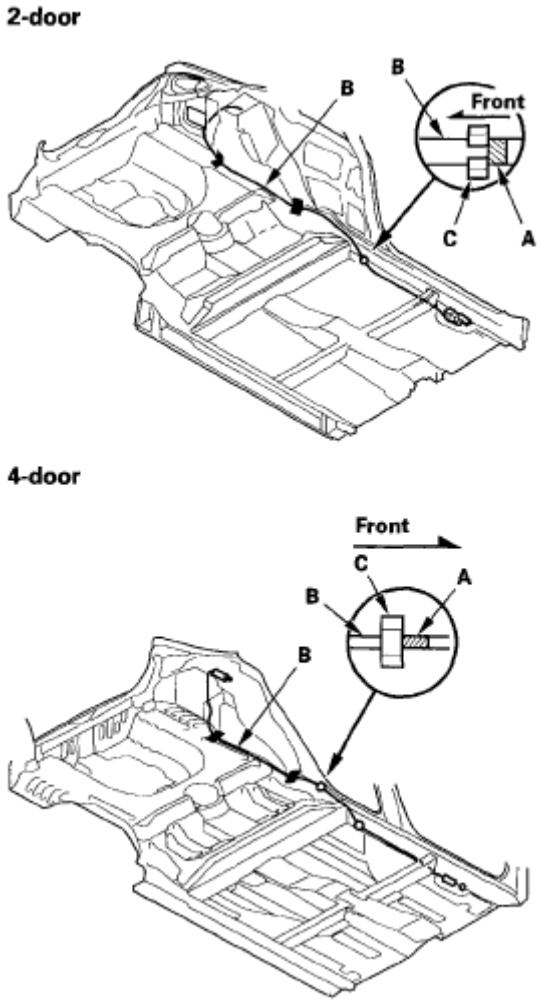



**Fig. 8: Aligning Marks On Opener Cable With Cable Clips**

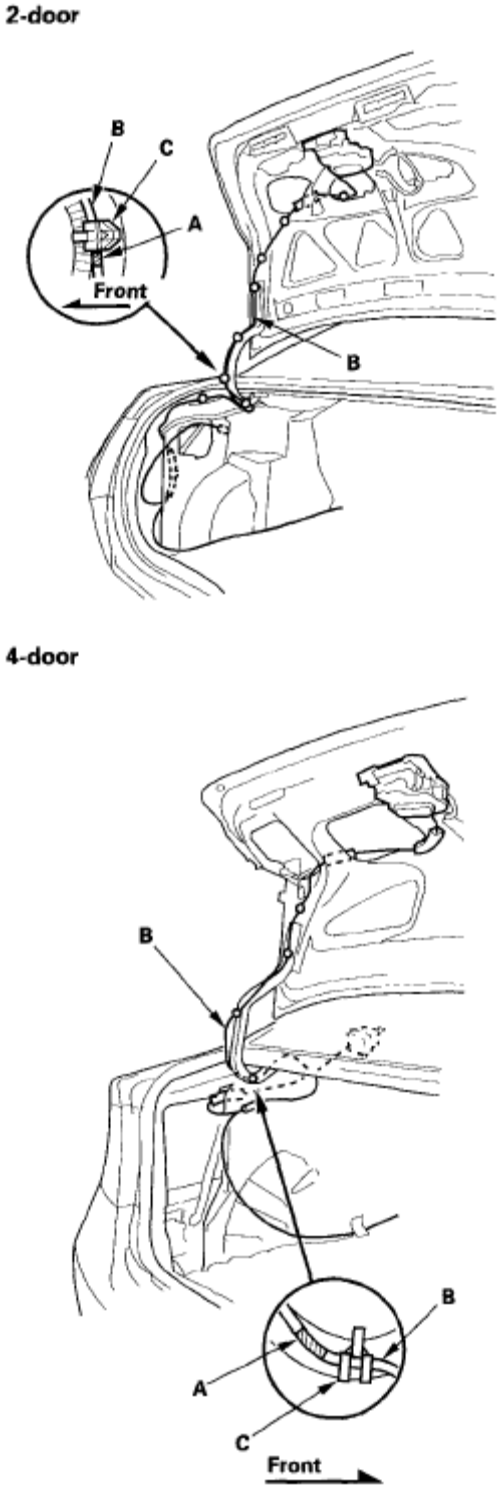



**Fig. 9: Identifying Damaged Clips And Cushion Tape**

## HOOD LATCH REPLACEMENT

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1. Remove the front grille cover (see **FRONT FENDER TRIM REPLACEMENT** ).
2. With hood latch switch: Remove the clip (A), then disconnect and detach the hood latch switch connector (B).

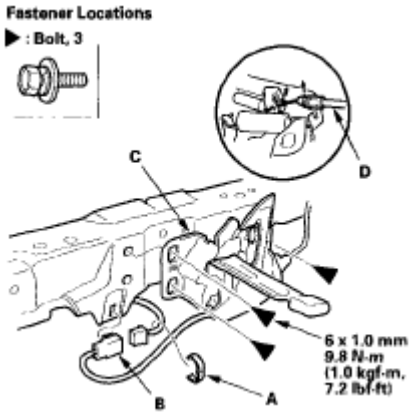



**Fig. 10: Identifying Hood Latch Switch Connector (With Torque Specifications)**

3. Remove the bolts, then remove the hood latch (C) from the body, and disconnect the hood opener cable (D) from the hood latch.
4. Install the latch in the reverse order of removal, and note these items:
   - Apply multipurpose grease to each location of the hood latch indicated by the arrows.
   - Make sure the hood opener cable is connected properly and hood latch switch connector is plugged in properly (for some models).
   - Adjust the hood latch alignment (see **ADJUSTMENT** ).
   - Make sure the hood opens properly and locks securely.

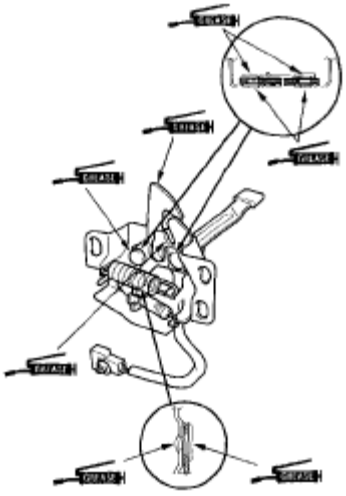


**Fig. 11: Applying Multipurpose Grease To Each Location Of Hood Latch Indicated By Arrows**

## TRUNK LID OPENER/FUEL FILL DOOR OPENER REPLACEMENT

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**NOTE: Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Using a trim tool, detach the hooks (A) by prying the front side cap (B), then remove it from the front door sill trim (C), and remove the opener lock cylinder (D).

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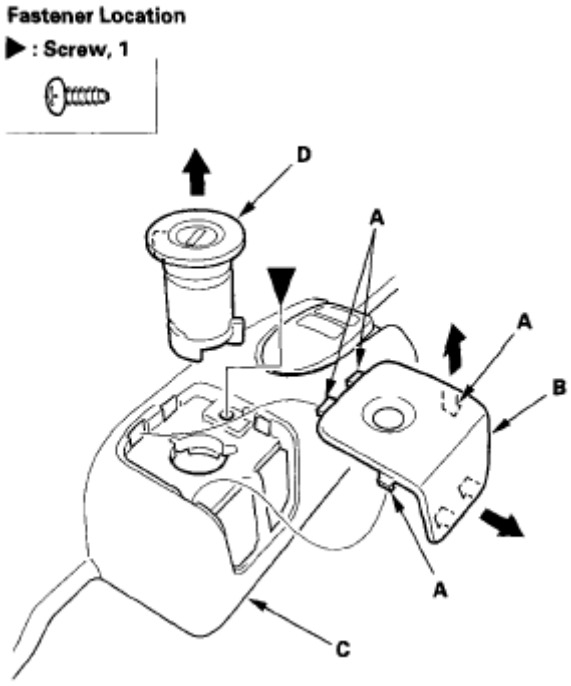



**Fig. 12: Identifying Hooks, Side Cap And Lock Cylinder**

2. Remove the screw.
3. Remove the front door sill trim, 2-door (see step 4 on **DOOR SILL AREA - 2-DOOR** ), 4-door (see step 3 on **FRONT DOOR SILL AREA - 4-DOOR** ).
4. Loosen the bolt (A), and remove the bolt (B, C), then remove the trunk lid opener/fuel fill door opener (D).

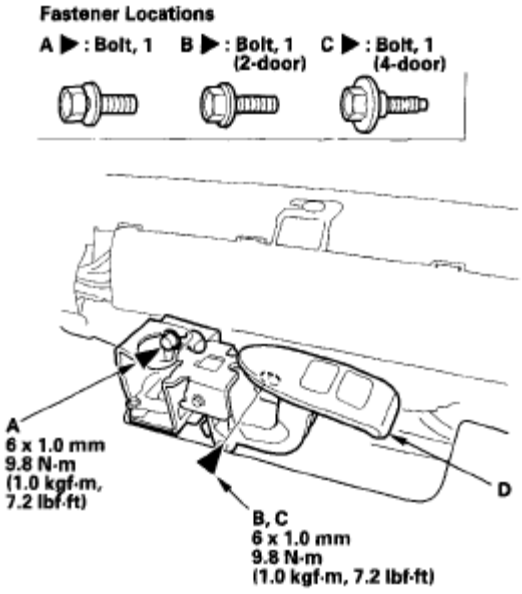



**Fig. 13: Identifying Trunk Lid Opener/Fuel Fill Door Opener Bolt (With Torque Specifications)**

5. Disconnect the trunk lid opener/fuel fill door opener cable (A), then remove the opener (B). Take care not to kink the cable.

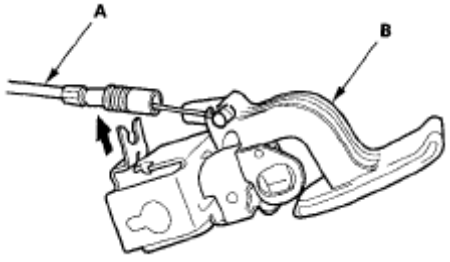



**Fig. 14: Identifying Trunk Lid Opener/Fuel Fill Door Opener Cable**

6. Install the opener in the reverse order of removal, and note these items:
   - Make sure the opener cable is connected properly.
   - Make sure the trunk lid and fuel fill door open properly and lock securely.
   - Fix at the original position in the outer end of cable on the trunk lid opener/fuel fill door opener securely. And check the trunk lid latch operation: Make sure trunk lid latch, and fuel fill door latch unlock when pulling, and pushing the trunk lid opener/fuel fill door opener. If necessary, adjust the position of the cable end.

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# TRUNK LID LOCK CYLINDER REPLACEMENT

**2-DOOR**

1. Disconnect the cylinder rod (A), and if equipped, disconnect the cylinder switch connector (B).

**NOTE: Check for damaged or stress-whitened rod fastener (C).**

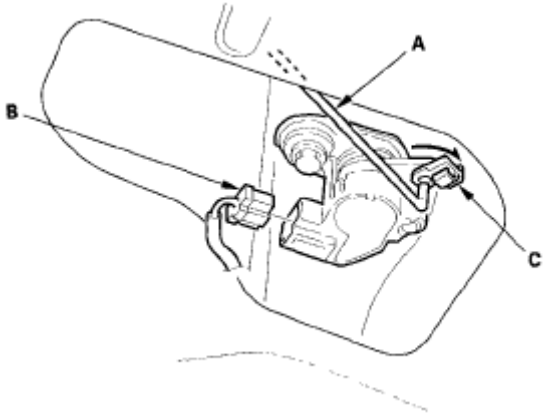



**Fig. 15: Identifying Cylinder Rod And Cylinder Switch Connector**

2. Remove the bolt securing the lock cylinder (A). Then turn the trunk lid lock cylinder clockwise, and remove it.

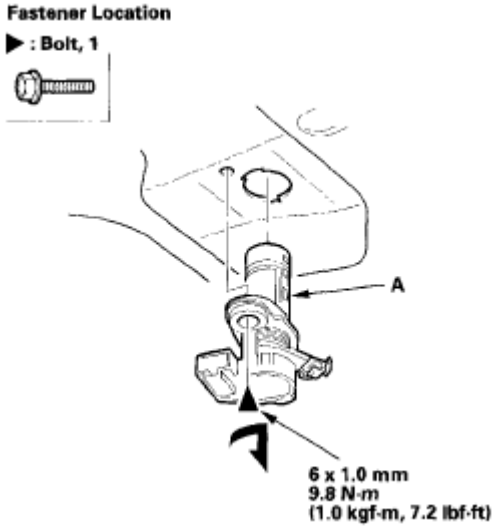



**Fig. 16: Identifying Bolt Securing Lock Cylinder (With Torque**

**Specifications)**

3. Install the lock cylinder in the reverse order of removal, and note these items:
   - Replace the rod fastener if it is damaged.
   - Make sure the cylinder switch connector is plugged in properly (if equipped) and the cylinder rod is connected properly.
   - Make sure the trunk lid opens properly and locks securely.

**4-DOOR**

1. If equipped, remove the trunk lid trim (see **TRIM REMOVAL/INSTALLATION - TRUNK LID** ).
2. Disconnect the cylinder rod (A), and if equipped, disconnect the cylinder switch connector (B).

**NOTE: Check for damaged or stress-whitened, rod fastener (C).**

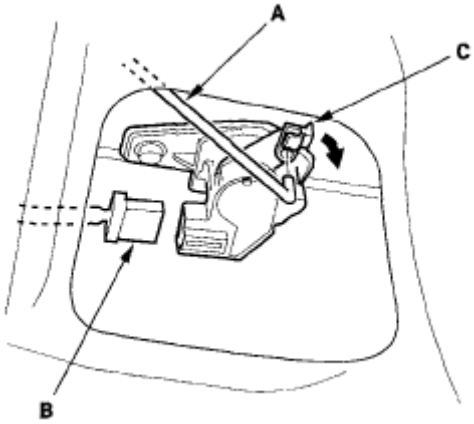



**Fig. 17: Identifying Cylinder Rod And Cylinder Switch Connector**

3. Remove the bolt securing the lock cylinder (A).

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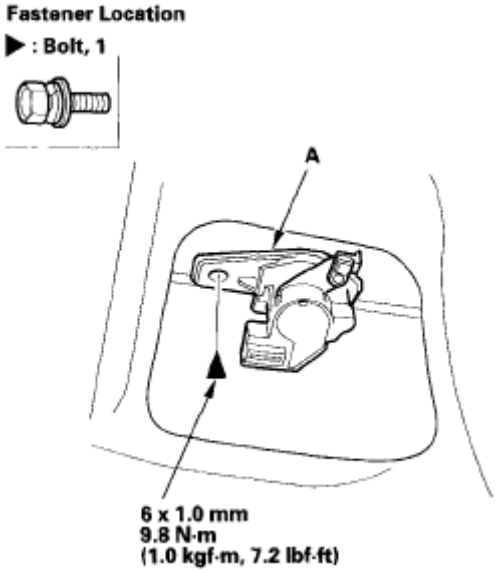



**Fig. 18: Identifying Bolt Securing Lock Cylinder (With Torque Specifications)**

4. Remove the rear license trim (see **SIDE SILL PROTECTION TAPE REPLACEMENT** ).
5. Remove the bolt securing the lock cylinder (A).

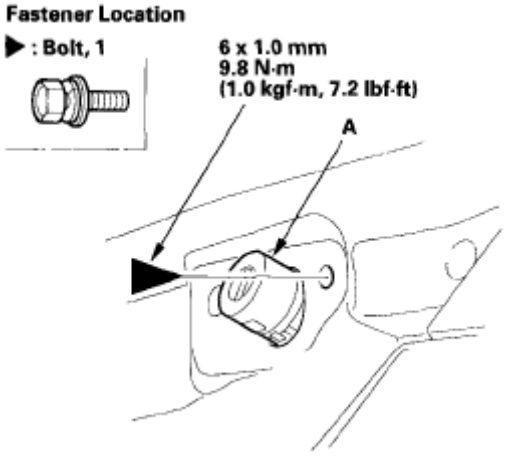



**Fig. 19: Identifying Securing Lock Cylinder (With Torque Specifications)**

6. Turn the lock cylinder (A) to release the hook (B) from the trunk lid (C), then remove the lock cylinder.

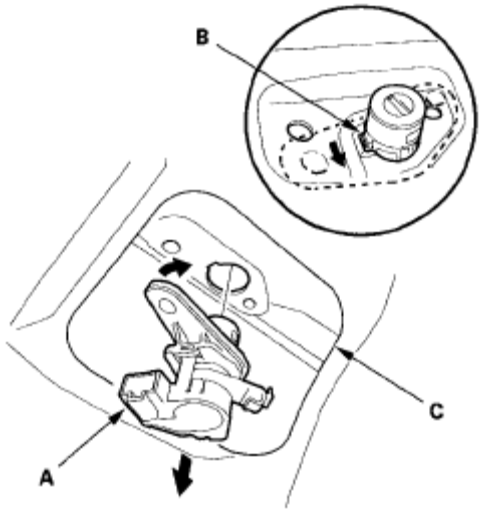



**Fig. 20: Identifying Lock Cylinder, Hook From Trunk Lid**

7. Install the lock cylinder in the reverse order of removal, and note these items:
   - Replace the rod fastener if it is damaged.
   - Make sure the cylinder switch connector is plugged in properly (if equipped) and the cylinder rod is connected properly.
   - Make sure the trunk lid opens properly and locks securely.

## TRUNK LID LATCH REPLACEMENT

1. 4-door: If equipped, remove the trunk lid trim (see **TRIM REMOVAL/INSTALLATION - TRUNK LID** ).
2. Disconnect the cylinder rod from the lock cylinder:
   - 2-door (see step 1 on **2-door** )
   - 4-door (see step 1 on **4-door** )
3. Disconnect the trunk lid opener cable (A), and on power trunk lid latch model and security switch model, disconnect trunk lid latch switch connector (B). Take care not to bend the opener cable.

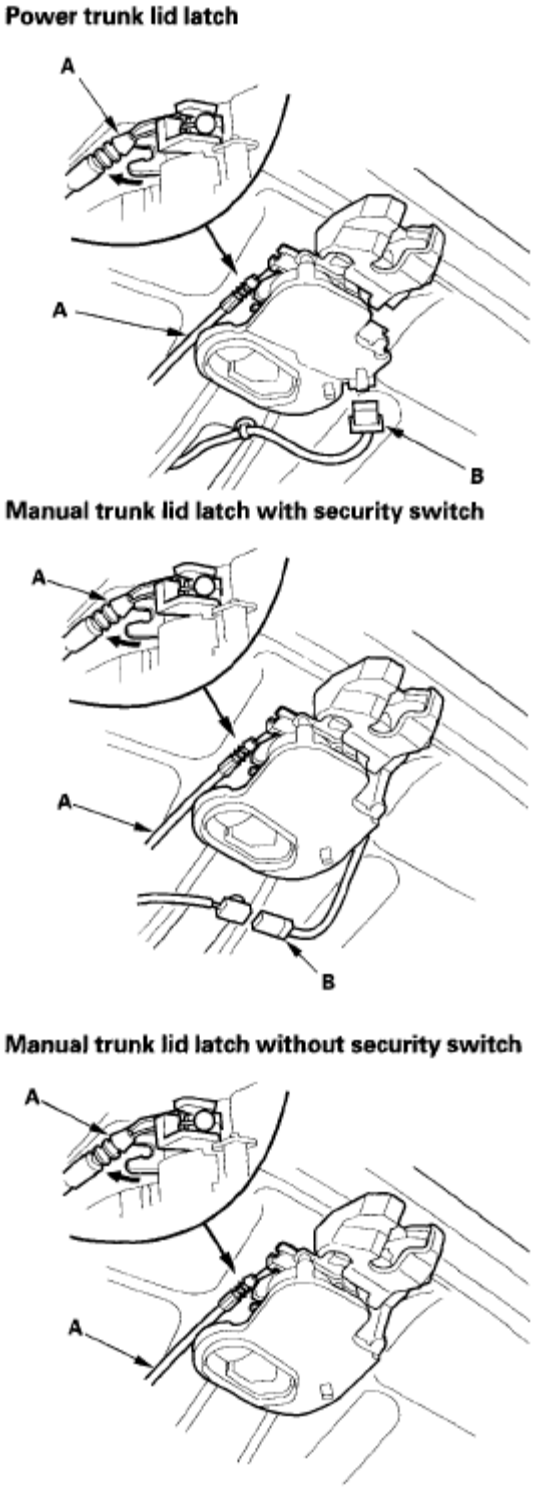



**Fig. 21: Identifying Trunk Lid Opener Cable, And Trunk Lid Latch Switch Connector**

4. Remove the bolts from the trunk lid latch (A).

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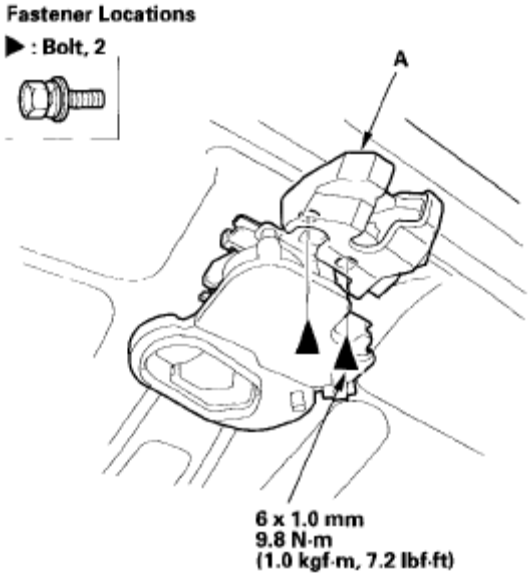



**Fig. 22: Identifying Bolts From Trunk Lid Latch (With Torque Specifications)**

5. Pull the trunk lid latch (A) out, and disconnect the cylinder rod (B) from the trunk lid latch, and on no security switch model, disconnect the latch switch connector (C). Take care not to bend the cylinder rod.

**NOTE: Check for damaged or stress-whitened rod fastener (D).**

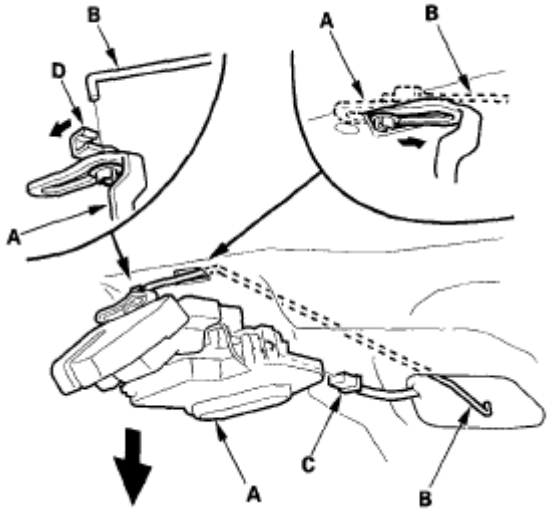



**Fig. 23: Identifying Trunk Lid Latch, Cylinder Rod And Latch Switch Connector**

6. Install the latch in the reverse order of removal, and note these items:
   - Replace the rod fastener if it is damaged.
   - Make sure the connector is plugged in properly and the opener cable is connected properly.
   - Make sure the trunk lid opens properly and locks securely.
   - Fix the original position of the outer end of cable (A) on the trunk lid latch securely. And check the trunk lid latch operation:

     Make sure the trunk lid latch unlock when pulling the trunk lid opener/fuel fill door opener. If necessary, adjust the position of the cable end.

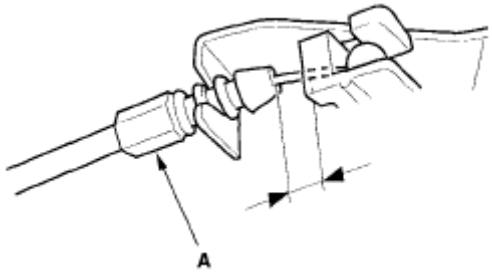



**Fig. 24: Identifying Position Of Outer End Of Cable On Trunk Lid Latch Securely**

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# 2006-08 ACCESSORIES & EQUIPMENT

## Keyless/Power Door Locks/Security System - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX

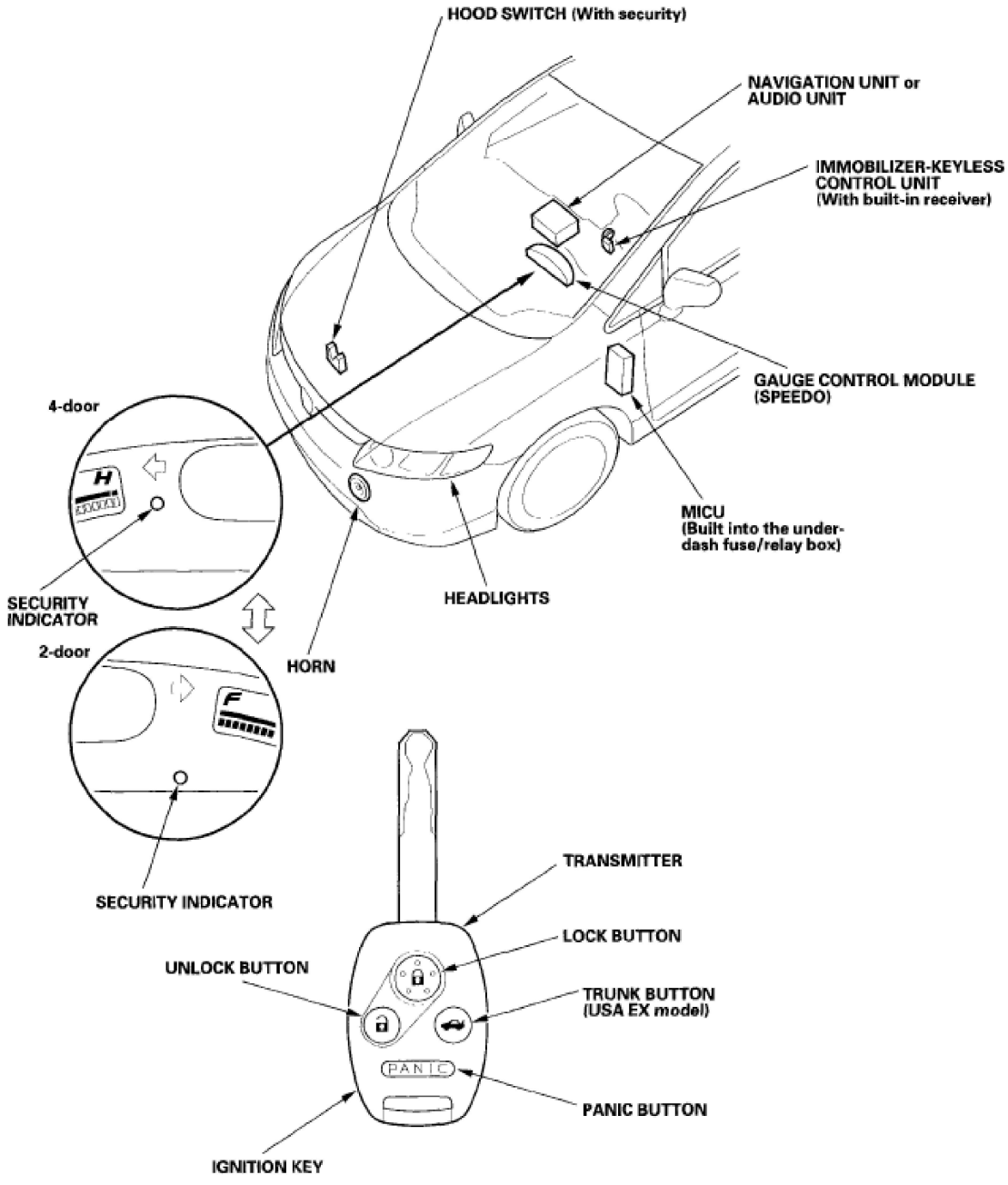
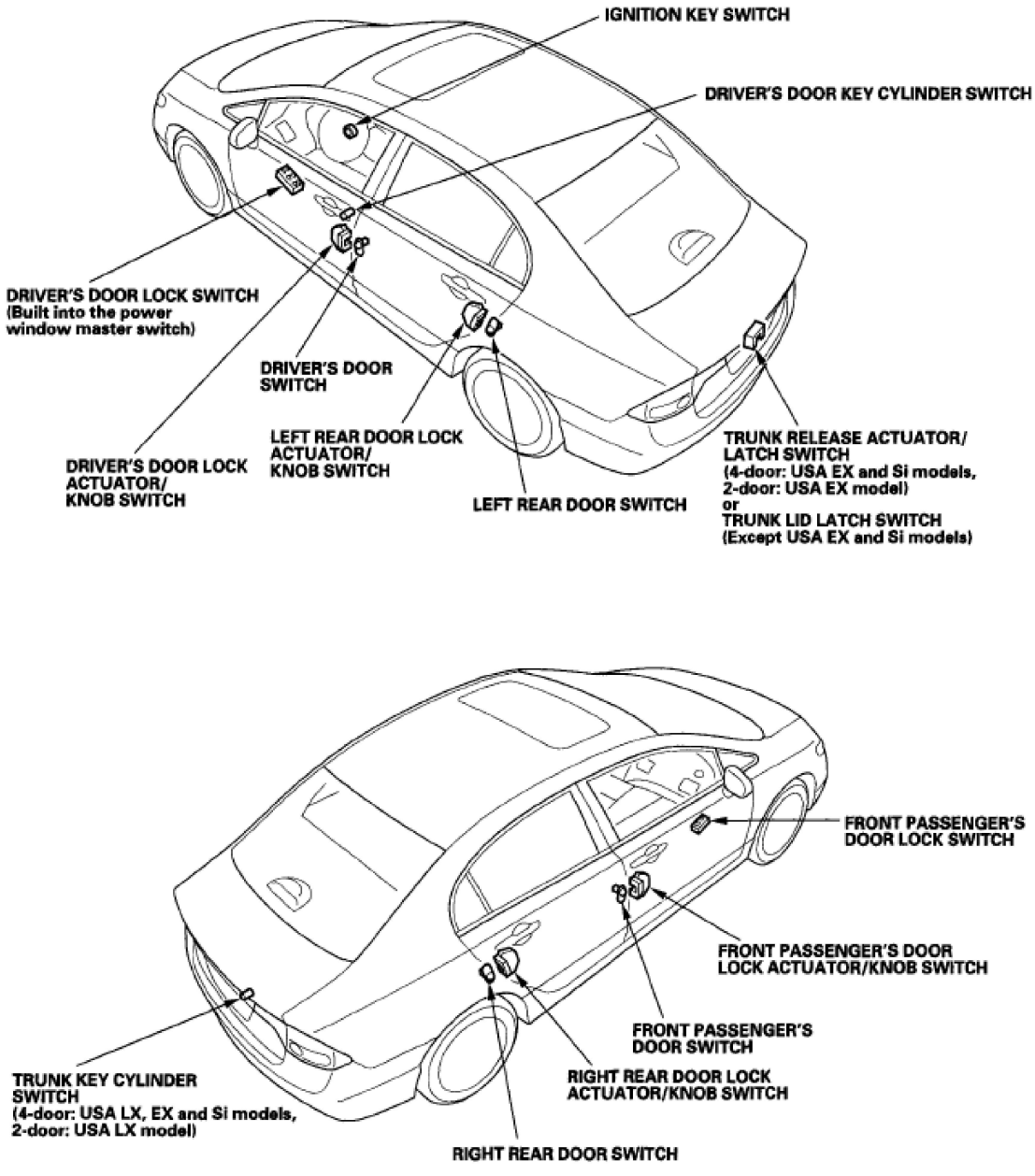



**Fig. 1: Identifying Keyless/Power Door Locks/Security System Component Location (1 Of 3)**

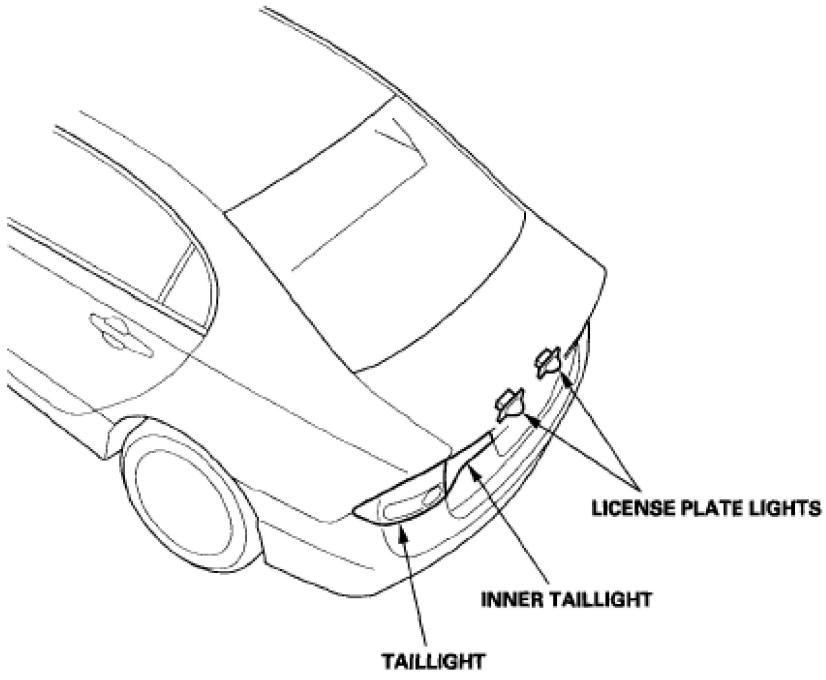
# 2008 Honda Civic LX

2006-08 ACCESSORIES & EQUIPMENT Keyless/Power Door Locks/Security System - Civic (All Except Hybrid)




## Fig. 2: Identifying Keyless/Power Door Locks/Security System Component Location (2 Of 3)

4-door




2-door

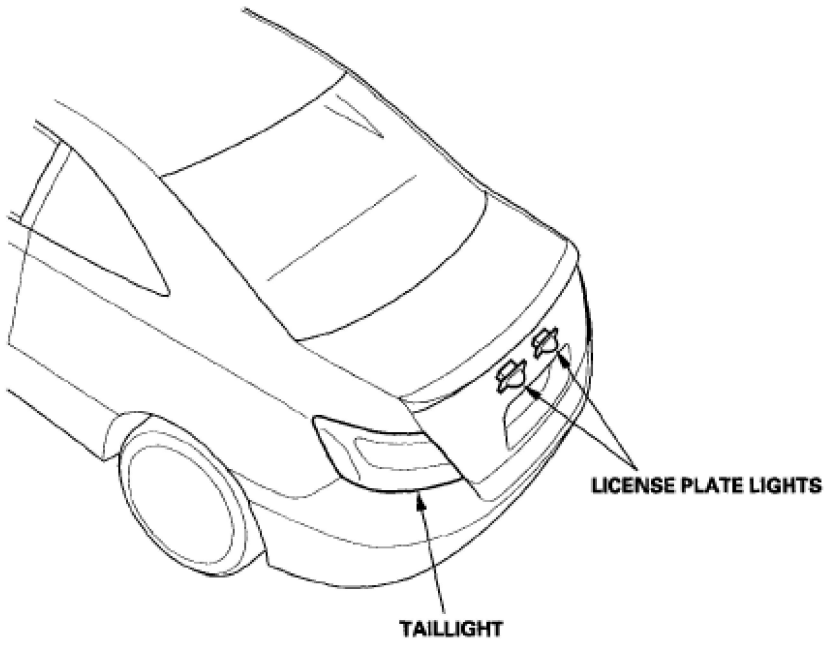



**Fig. 3: Identifying Keyless/Power Door Locks/Security System Component Location (3 Of 3)**

## SYSTEM DESCRIPTION

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**SECURITY ALARM SYSTEM**

## NOTE: This applies to USA LX, EX and Si models.

The security alarm system is armed automatically after the doors, hood, and trunk are closed and locked. For the system to arm, the ignition switch must be off, the key must be removed from the ignition switch, and the MICU must receive signals that the doors, hood, and trunk are closed and locked. The alarm can be disarmed at any time by unlocking the driver's door with the key or pressing the UNLOCK button on the transmitter.

When everything is closed and locked, the only inputs that are grounded, and have 0 V, are the driver's door lock knob switch (LOCK position), and the audio unit or navigation unit (if equipped). In other words, all of the other switches are open, and have about 10 to 12 V, including the key cylinder switches. The security indicator in the gauge control module (speedo) begins to flash immediately after the vehicle is completely closed and locked, and 15 seconds later, the security system arms. If the security indicator does not flash, the system is not arming. A beep sounds and the parking lights flash to confirm the security alarm system is armed if the LOCK button is pressed a second time within 5 seconds.

If one of the switches is misadjusted or shorted internally, or there is a short in the circuit, the security system will not arm. As long as the control unit continues to receive a ground signal (0 V), it senses that the vehicle is not closed and locked, and the system will not arm. A switch that is slightly misadjusted can cause the alarm to sound for no apparent reason. In this case, a significant change in outside air temperature, the vibration of a passing truck, or someone bumping into the vehicle could cause the alarm to sound. There is no glass breakage or motion detector feature.

If anything is opened or improperly unlocked after the system is armed, the control unit receives a ground signal from that switch, and the 10 to 12 V reference drops to 0 V. If the audio unit or navigation unit (if equipped) is disconnected, the input loses its ground, and the input voltage goes to 10 to 12 V. The system sounds the alarm when any of these occur:

- A door or the trunk is forced open.

- A door is unlocked without using the key or the transmitter.
- The hood is opened.
- The audio unit or navigation unit (if equipped) is disconnected.
- The transmitter PANIC button is pressed.

When the system sounds the alarm, the horn sounds and the exterior lights flash for 2 minutes. The alarm can be stopped at any time by unlocking the driver's door with the key or by pressing any button on the transmitter.

**PANIC MODE**

The panic mode sounds the alarm in order to attract attention. When the PANIC button on the transmitter is pressed and held for 2 seconds, the horn sounds and the exterior lights flash for about 20 seconds.

The panic mode can be cancelled at anytime by pressing any button on the transmitter or by turning the ignition switch ON (II). The panic mode will not function if the ignition switch is ON (II).

**KEYLESS ENTRY SYSTEM**

The keyless entry system is integrated with the multiplex integrated control system. The multiplex integrated control unit (MICU) receives LOCK, UNLOCK and PANIC signals from the immobilizer-keyless control unit (keyless receiver).

The keyless entry system allows you to lock and unlock the vehicle with the transmitter. When you press the LOCK button, all doors lock. When you press the UNLOCK button once, only the driver's door unlocks. The other doors will unlock when you press the button a second time. The doors will not lock with the transmitter if a door is not fully closed, or if the key is in the ignition switch.

When the switch for the ceiling light is in the center (DOOR) position, it will come on when the UNLOCK button is pressed. If a door is not opened, the light will go off in about 30 seconds, and the doors will relock. If the doors are locked with the transmitter within 30 seconds, the light will go off immediately.

## CIRCUIT DIAGRAM

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# 2008 Honda Civic LX

2006-08 ACCESSORIES & EQUIPMENT Keyless/Power Door Locks/Security System - Civic (All Except Hybrid)

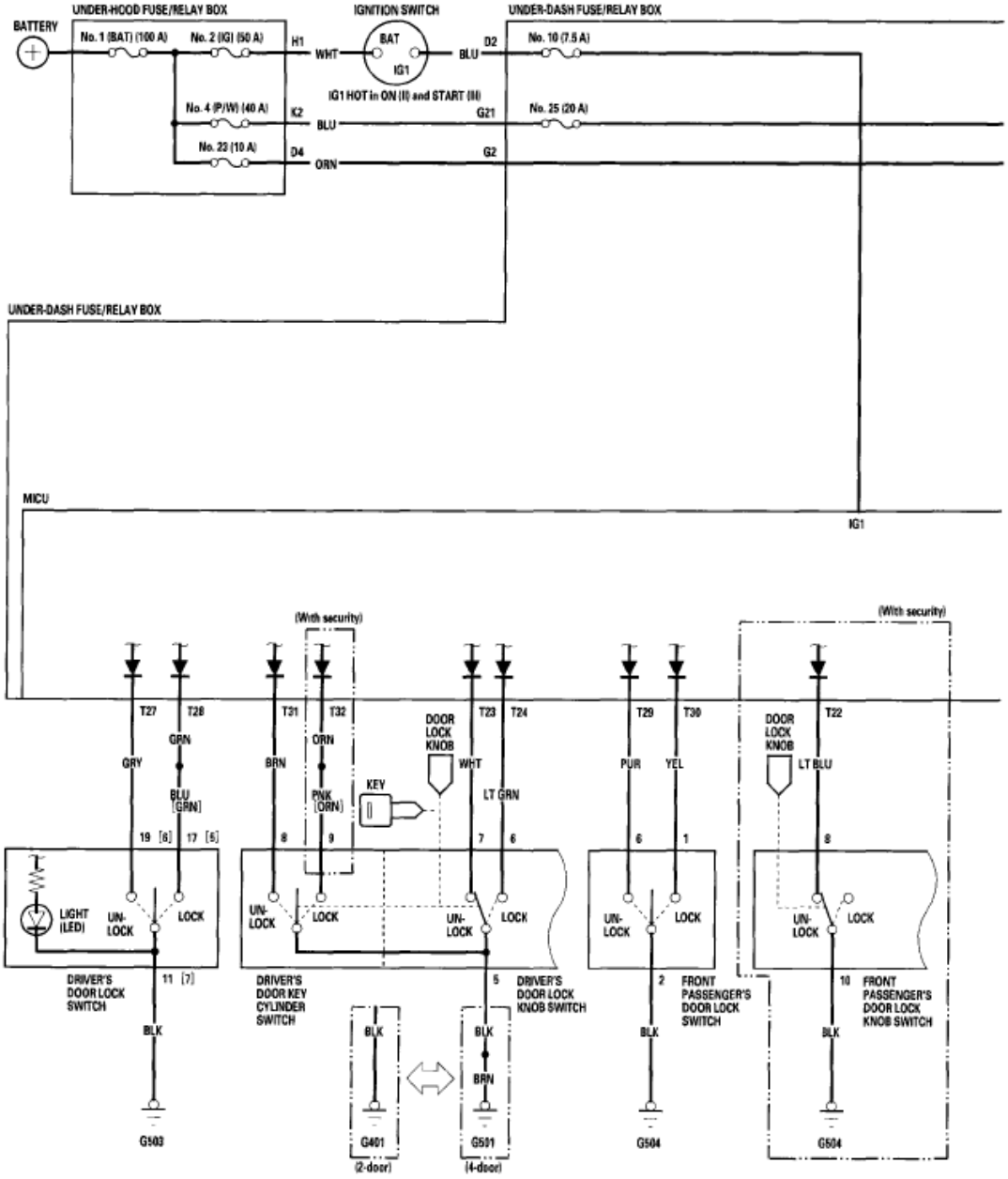



**Fig. 4: Keyless/Power Door Locks/Security System - Circuit Diagram (1 Of 4)**

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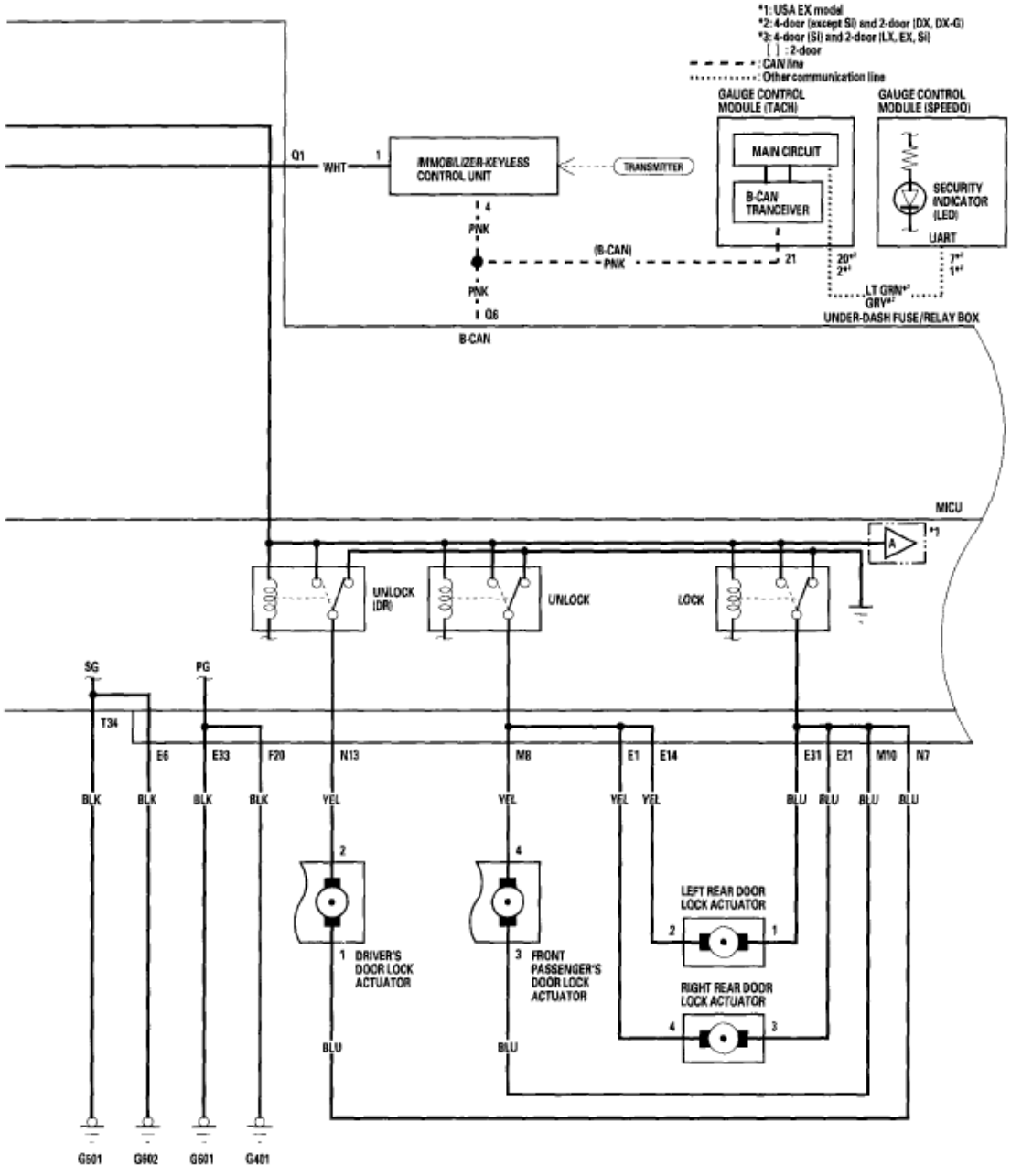



**Fig. 5: Keyless/Power Door Locks/Security System - Circuit Diagram (2 Of 4)**

# 2008 Honda Civic LX

2006-08 ACCESSORIES & EQUIPMENT Keyless/Power Door Locks/Security System - Civic (All Except Hybrid)

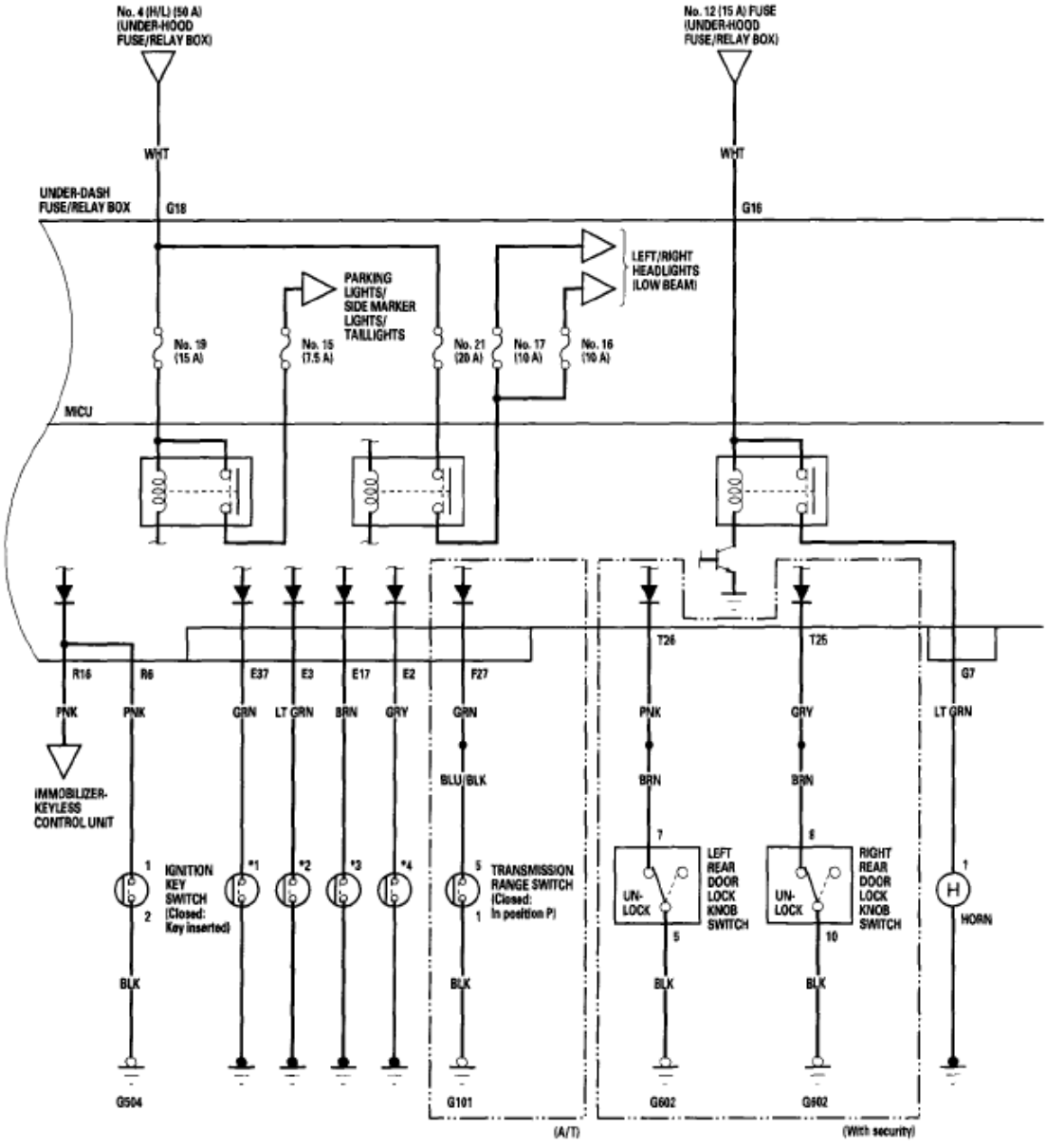



**Fig. 6: Keyless/Power Door Locks/Security System - Circuit Diagram (3 Of 4)**

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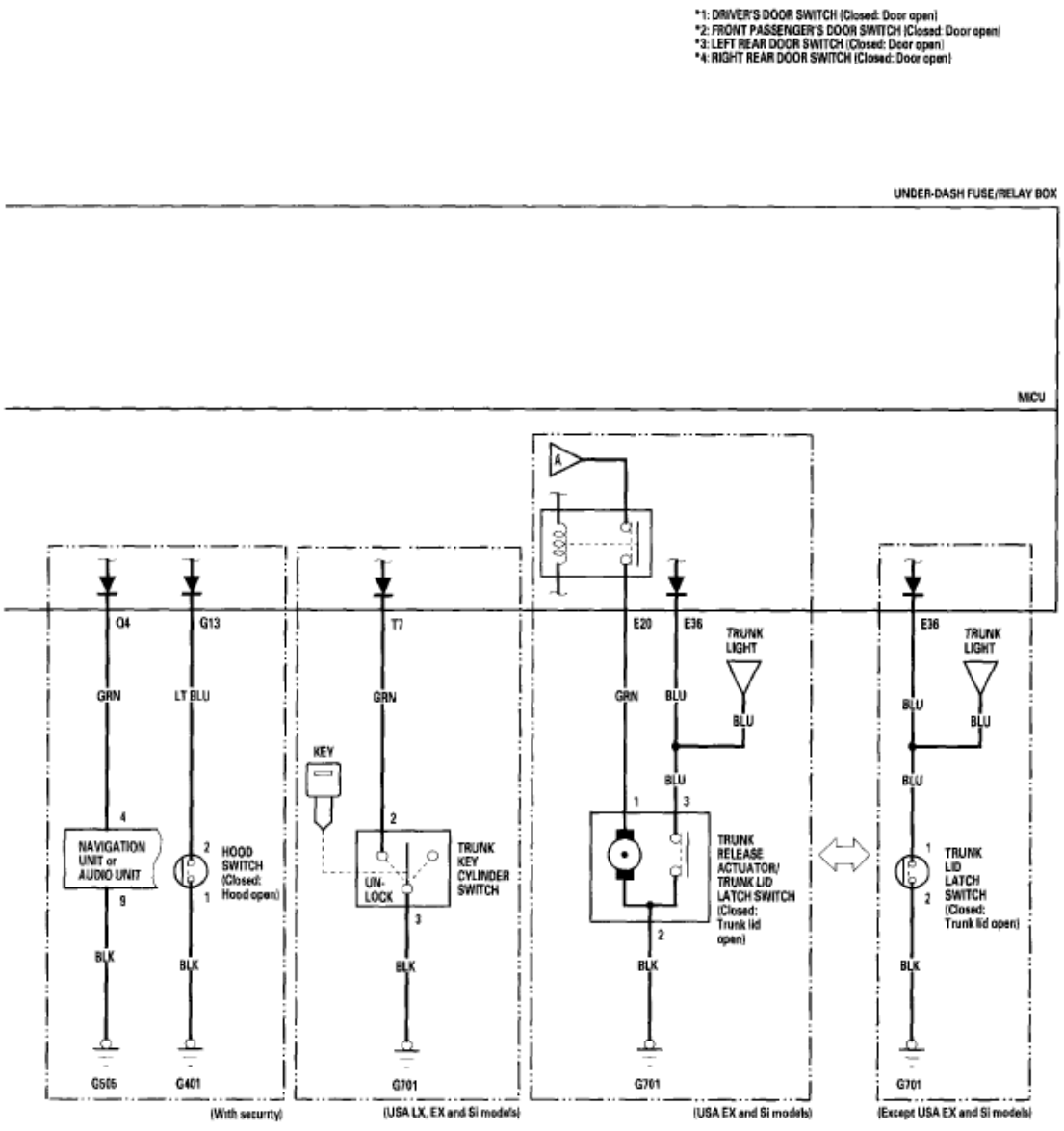



**Fig. 7: Keyless/Power Door Locks/Security System - Circuit Diagram (4 Of 4)**

## DTC TROUBLESHOOTING

### DTC B1026: FRONT PASSENGER'S DOOR LOCK SWITCH SIGNAL ERROR

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the front passenger's door lock switch several times.
4. Check for DTCs with the HDS.

   *Is DTC B1026 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure. The front passenger's door lock system is OK at this time.

5. With the front passenger's door lock switch in the neutral position, select KEYLESS from the HDS and enter the DATA LIST.
6. Check the ON/OFF information of the FRONT PASSENGER'S DOOR LOCK SWITCH (LOCK) and FRONT PASSENGER'S DOOR LOCK SWITCH (UNLOCK) in the DATA LIST.

   *Are both information indicators OFF?*

   **YES** - Go to step 12.

   **NO** - Go to step 7.

7. Disconnect the front passenger's power window switch 8P connector.
8. Check the ON/OFF information of the FRONT PASSENGER'S DOOR LOCK SWITCH (LOCK) and FRONT PASSENGER'S DOOR LOCK SWITCH (UNLOCK) in the DATA LIST.

   *Are both information indicators OFF?*

   **YES** - Faulty door lock switch; replace the front passenger's power window switch.

   **NO** - Go to step 9.

9. Turn the ignition switch OFF.

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10. Disconnect the under-dash fuse/relay box connector T(34P).
11. Check for continuity between the No. 1 (UNLOCK) and No. 6 (LOCK) terminals of the front passenger's power window switch 8P connector and body ground.

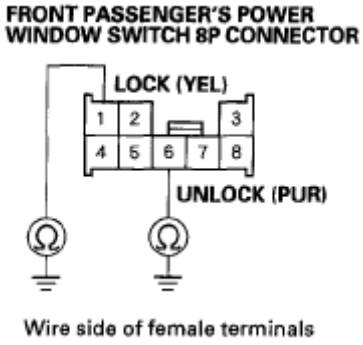



**Fig. 8: Checking Continuity Between Front Passenger Power Window Switch 8P Connector Terminals And Body Ground**

*Is there continuity?*

**YES** - Repair a short in the LOCK or UNLOCK wire.

**NO** - Faulty MICU, replace the under-dash fuse/relay box.

12. Turn the ignition switch OFF.
13. Disconnect the front passenger's window switch 8P connector.
14. Disconnect under-dash fuse/relay box connector T (34P).
15. Check for continuity between the No. 1 (UNLOCK) and No. 6 (LOCK) terminals of the front passenger's power window switch 8P connector.

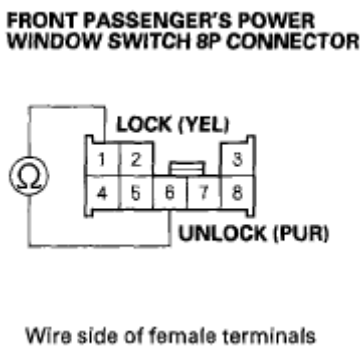


**Fig. 9: Checking Continuity Between Terminals Of Front Passenger Power Window Switch 8P Connector**

*Is there continuity?*

**YES** - Repair a short in the wire between the LOCK and UNLOCK wires.

**NO** - Substitute a known-good passenger's window master switch, and recheck. If the symptom/indication goes away, replace the original passenger's window switch. If not, the MICU is faulty, replace the under-dash fuse/relay box.

**DTC B1127: DRIVER'S DOOR KEY CYLINDER SWITCH SIGNAL ERROR**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II)
3. Insert the ignition key into the driver's door key cylinder switch, and turn the key in LOCK and UNLOCK positions ten times.
4. Check for DTCs with the HDS.

   *Is DTC B1127 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure. The driver's door key cylinder switch system is OK at this time.

5. With the driver's door key cylinder in the neutral position, select KEYLESS with the HDS, and enter the DATA LIST.
6. Check the ON/OFF information of the DRIVER'S DOOR KEY CYLINDER SWITCH (LOCK) and DRIVER'S DOOR KEY CYLINDER SWITCH (UNLOCK) in the DATA LIST.

*Are both information indicators OFF?*

**YES** - Go to step 12.

**NO** - Go to step 7.

7. Disconnect the driver's door lock actuator 10P connector.
8. Check the ON/OFF information of the DRIVER'S DOOR KEY CYLINDER SWITCH (LOCK) and DRIVER'S DOOR KEY CYLINDER SWITCH (UNLOCK) in the DATA LIST.

*Are both information indicators OFF?*

**YES** - Faulty driver's door key cylinder switch; replace the driver's door lock actuator.

**NO** - Go to step 9.

9. Turn the ignition switch OFF.
10. Disconnect the under-dash fuse/relay box connector T(34P).
11. Check for continuity between the No. 31 (UNLOCK) and No. 32 (LOCK) terminals of the under-dash fuse/relay box connector T (34P) and body ground.

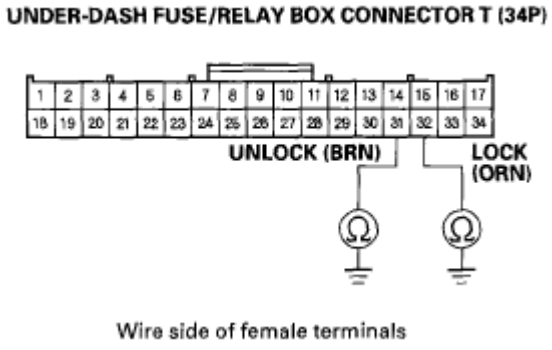



**Fig. 10: Checking Continuity Between No. 31 And No. 32 Terminals Of Under-Dash Fuse/Relay Box Connector T (34P) And Body Ground**

*Is there continuity?*

**YES** - Faulty MICU, replace the under-dash fuse/relay box.

**NO** - Go to step 12.

12. Turn the ignition switch OFF.
13. Disconnect the driver's door lock actuator 10P connector.
14. Disconnect under-dash fuse/relay box connector T (34P).
15. Check for continuity between the No. 31 (UNLOCK) and No. 32 (LOCK) terminals of the under-dash fuse/relay box connector T (34P).

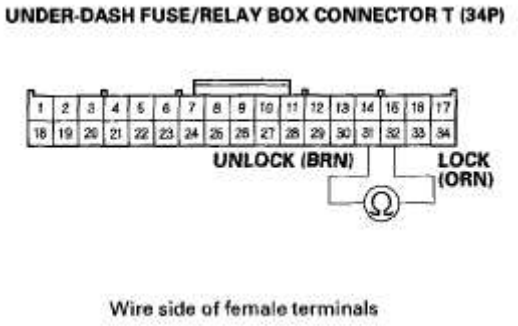



**Fig. 11: Checking Continuity Between No. 31 And No. 32 Terminals Of Under-Dash Fuse/Relay Box Connector T (34P)**

*Is there continuity?*

**YES** - Repair a short in the wire between the LOCK and UNLOCK wires.

**NO** - Substitute a known-good MICU, and recheck. If the symptom/indication goes away, replace the original MICU, if not, replace the driver's door lock actuator.

**DTC B1128: DRIVER'S DOOR LOCK SWITCH SIGNAL ERROR**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the driver's door lock switch LOCK/UNLOCK several times.

4. Check for DTCs with the HDS.

   *Is DTC B1128 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure. The driver's door lock system is OK at this time.

5. With the driver's door lock switch in the neutral position, select KEYLESS from the HDS and enter the DATA LIST.
6. Check the ON/OFF information of the DRIVER'S DOOR LOCK SWITCH (LOCK) and DRIVER'S DOOR LOCK SWITCH (UNLOCK) in the DATA LIST.

   *Are both information indicators OFF?*

   **YES** - Go to step 12.

   **NO** - Go to step 7.

7. Disconnect the driver's power window switch 22P (16P)* connector.

   *: 2-door

8. Check the ON/OFF information of the DRIVER'S DOOR LOCK SWITCH (LOCK) and DRIVER'S DOOR LOCK SWITCH (UNLOCK) in the DATA LIST.

   *Are both information indicators OFF?*

   **YES** - Faulty door lock switch; replace the driver's power window switch.

   **NO** - Go to step 9.

9. Turn the ignition switch OFF.
10. Disconnect the under-dash fuse/relay box connector T(34P).
11. Check for continuity between the No. 28 (LOCK) and No. 27 (UNLOCK) terminals of the under-dash fuse/relay box connector T (34P) and body ground.

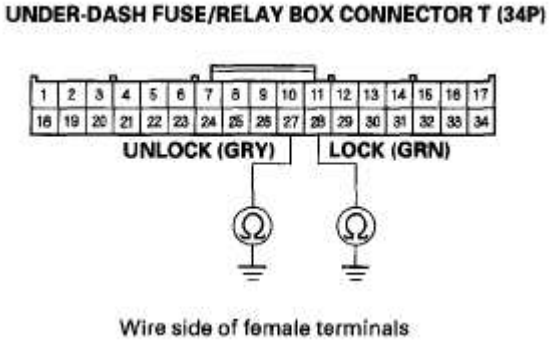



**Fig. 12: Checking Continuity Between Terminals Of Under-Dash Fuse/Relay Box Connector T (34P) And Body Ground**

*Are there continuity?*

**YES** - Repair a short in the LOCK or UNLOCK wire.

**NO** - Faulty MICU, replace the under-dash fuse/relay box.

12. Turn the ignition switch OFF.
13. Disconnect the power window master switch 22P (16P)* connector.

    *: 2-door

14. Disconnect under-dash fuse/relay box connector T (34P).
15. Check for continuity between the No. 28 (LOCK) and No. 27 (UNLOCK) terminals of the under-dash fuse/relay box connector T (34P).

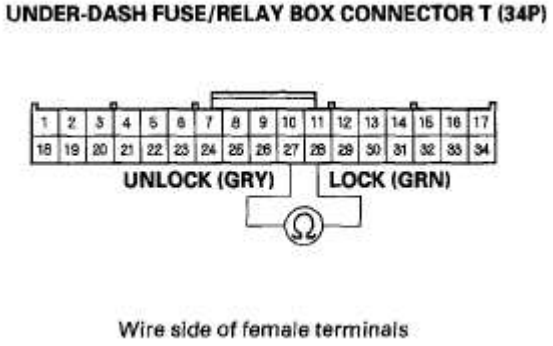



**Fig. 13: Checking Continuity Between No. 28 And 27 Terminals Of Under-Dash Fuse/Relay Box Connector T (34P)**

*Is there continuity?*

**YES** - Repair a short in the wire between the LOCK and UNLOCK wires.

**NO** - Substitute a known-good power window master switch, and recheck. If the symptom/indication goes away, replace the original power window master switch. If not, the MICU is faulty, replace the under-dash fuse/relay box.

**DTC B1129: DRIVER'S DOOR LOCK KNOB SWITCH SIGNAL ERROR**

**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the driver's door lock knob switch several times.
4. Check for DTCs with the HDS.

*Is DTC B1129 indicated?*

**YES** - Go to step 5.

**NO** - Intermittent failure. The driver's door lock knob switch system is OK at this time.

5. Select KEYLESS from the BODY ELECTRICAL menu, and enter the DATA LIST.
6. Check the ON/OFF information of the DRIVER'S DOOR LOCK KNOB SWITCH (LOCK) and the DRIVER'S DOOR LOCK KNOB SWITCH (UNLOCK).

*Does the DRIVER'S DOOR LOCK KNOB SWITCH (LOCK) information indicator ON and DRIVER'S DOOR LOCK KNOB SWITCH (UNLOCK) information indicator OFF with the driver's door lock knob switch in LOCK position, and does the DRIVER'S DOOR LOCK KNOB SWITCH (LOCK)*

*information indicator OFF and DRIVER'S DOOR LOCK KNOB SWITCH (UNLOCK) information indicator ON with the driver's door lock knob switch in UNLOCK position?*

**YES** - Faulty MICU, replace the under-dash fuse/relay box.

**NO** - Go to step 7.

7. Disconnect the driver's door lock actuator 10P connector.
8. Check the ON/OFF information of the DRIVER'S DOOR LOCK KNOB SWITCH (LOCK) and DRIVER'S DOOR LOCK KNOB SWITCH (UNLOCK) in the DATA LIST.

   *Are both information indicators OFF?*

   **YES** - Check for an open in the driver's door lock knob switch (LOCK) wire or the driver's door lock knob switch (UNLOCK) wire between the MICU and the driver's door lock knob switch. If OK, replace the driver's door lock actuator.

   **NO** - Go to step 9.

9. Turn the ignition switch OFF.
10. Disconnect the under-dash fuse/relay box connector T(34P).
11. Check for continuity between the No. 23 (UNLOCK) and No. 24 (LOCK) terminals of the under-dash fuse/relay box connector T (34P) and body ground.

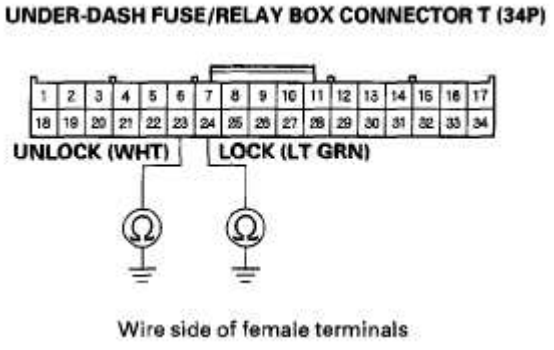



**Fig. 14: Checking Continuity Between Terminals Of Under-Dash Fuse/Relay Box Connector T (34P) And Body Ground**

*Is there continuity?*

**YES** - Repair a short in the LOCK or UNLOCK wire.

**NO** - Go to step 12.

12. Check for continuity between the No. 23 (UNLOCK) and No. 24 (LOCK) terminals of the under-dash fuse/relay box connector T (34P).

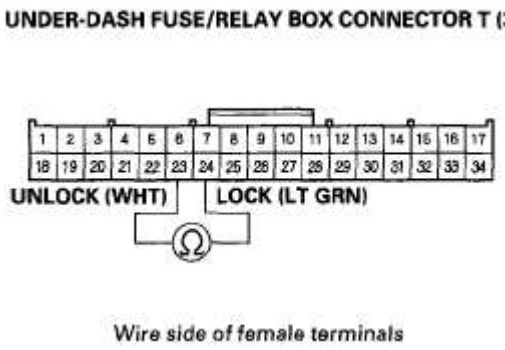



**Fig. 15: Checking Continuity Between No. 23 And No. 24 Terminals Of Under-Dash Fuse/Relay Box Connector T (34P)**

*Is there continuity?*

**YES** - Repair a short in the wire between the LOCK wire and UNLOCK wire.

**NO** - Faulty MICU, replace the under-dash fuse/relay box.

## SYMPTOM TROUBLESHOOTING

### POWER DOOR LOCKS/KEYLESS

1. If the door lock system works properly, but the keyless operation does not, refer to the immobilizer-keyless control unit symptom troubleshooting information (see **SYMPTOM TROUBLESHOOTING INFORMATION** ).

**NOTE: The door lock system does not function when:**

- Any of the doors is open.
- Ignition key is in the ignition key switch.

- Ignition switch is ON (II).

## SYMPTOM TROUBLESHOOTING CHART

| No. | Symptom | Check Items |
|---|---|---|
| 1 | The doors will not lock or unlock.(1) | • MICU input test (see **MICU INPUT TEST** )<br>• Driver's door key cylinder switch test (see **DOOR KEY CYLINDER SWITCH TEST** )<br>• Door lock switch test (see **DOOR LOCK SWITCH TEST** )<br>• Door lock knob switch test (see **DOOR LOCK KNOB SWITCH TEST** ) |
| 2 | The doors will not lock. (1) | • MICU input test (see **MICU INPUT TEST** )<br>• Door lock knob switch test (see **DOOR LOCK KNOB SWITCH TEST** )<br>• Driver's door switch test (check the door switch ON/OFF information with the HDS) |
| 3 | | • MICU input test (see **MICU INPUT TEST** )<br>• Door lock knob switch test (see **DOOR LOCK KNOB SWITCH** |

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| | | |
|---|---|---|
| | The doors will not unlock.(1) | **TEST** )<br>• Door switch test (check the door switch ON/OFF information with the HDS) |
| 4 | **KEYLESS OPERATION DOES NOT WORK (LOCK, UNLOCK, PANIC)**. | |
| 5 | **DOORS WILL NOT UNLOCK WITH THE TRANSMITTER, BUT WILL UNLOCK WITH THE DOOR SWITCH**. | |
| 6 | **DOORS WILL NOT LOCK WITH THE TRANSMITTER, BUT WILL LOCK WITH THE DOOR SWITCH**. | |
| 7 | **DOORS AUTOMATICALLY RELOCK AFTER BEING UNLOCKED WITH THE TRANSMITTER EVEN THOUGH A DOOR HAS BEEN OPENED**. | |
| 8 | **THE HORN DOES NOT SOUND WHEN PANIC BUTTON ON THE TRANSMITTER PRESSED (USA ONLY)**. | |
| 9 | Keyless operation will work even though the ignition key is in the ignition switch. | Ignition key switch test (see **IGNITION KEY SWITCH TEST** ). |
| (1) If only one door is not working properly, check that door's lock actuator first, then check the other items listed in this table. | | |

**KEYLESS OPERATION DOES NOT WORK (LOCK, UNLOCK, PANIC)**

**NOTE:**

- **Before troubleshooting, check the B-CAN DTCs. If any DTC is indicated, troubleshoot the indicated DTC first.**
- **Before troubleshooting, do the keyless transmitter test (see TRANSMITTER TEST/REPLACEMENT ).**

1. Turn the ignition switch ON (II).
2. Try to start the engine.

   *Does the engine start?*

   **YES** - The immobilizer system is OK, go to step 3.

   **NO** - Go to the immobilizer symptom troubleshooting (see **SYMPTOM TROUBLESHOOTING** ).

3. Turn the ignition switch OFF.
4. Connect the HDS to the data link connector.
5. Close all doors, then turn the ignition switch ON (II).
6. Enter the BODY ELECTRICAL menu, and check the door switch parameters.

   *Do all door switches indicate OFF?*

   **YES** - Go to step 6.

   **NO** - Faulty door switch, or shorted door switch wire. Repair as necessary.

7. Remove the ignition key from the ignition switch.
8. Disconnect the immobilizer-keyless control unit 7P connector.
9. Check for voltage between the immobilizer-keyless control unit 7P connector No. 1 terminal and body ground.

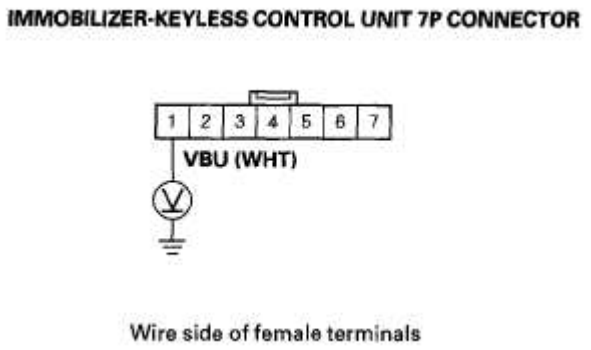



**Fig. 16: Checking Voltage Between Immobilizer-Keyless Control Unit 7P Connector No. 1 Terminal And Body Ground**

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*Is there battery voltage?*

**YES** - Go to step 10.

**NO** - Check the No. 23 (10 A) fuse in the under-hood fuse/relay box. If the fuse is blown, replace the fuse and repair a short to ground in the wire. If the fuse is OK, repair an open in the wire.

10. Disconnect the ignition key switch 6P connector.
11. At the ignition key switch side, check for continuity between the ignition key switch 6P connector No. 1 and No. 2 terminals.

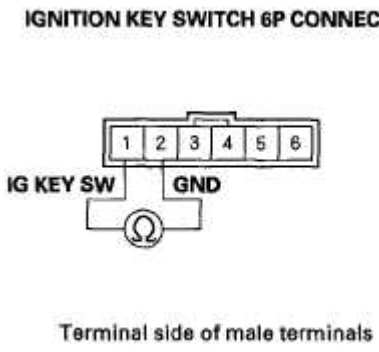



**Fig. 17: Checking Continuity Between Ignition Key Switch 6P Connector No. 1 And No. 2 Terminals**

*Is there continuity?*

**YES** - Faulty ignition key switch or short to ground, replace the steering lock assembly.

**NO** - Go to step 12.

12. Insert the ignition key into the ignition switch.
13. At the ignition key switch side, check for continuity between the ignition key switch 6P connector No. 1 and No. 2 terminals.

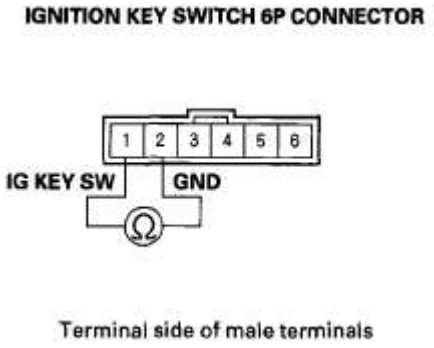



**Fig. 18: Checking Continuity Between Ignition Key Switch 6P Connector No. 1 And No. 2 Terminals**

*Is there continuity?*

**YES** - Go to step 14.

**NO** - Faulty ignition key switch, replace the steering lock assembly.

14. Check for continuity between the immobilizer-keyless control unit 7P connector No. 6 terminal and the ignition key switch 6P connector No. 1 terminal.

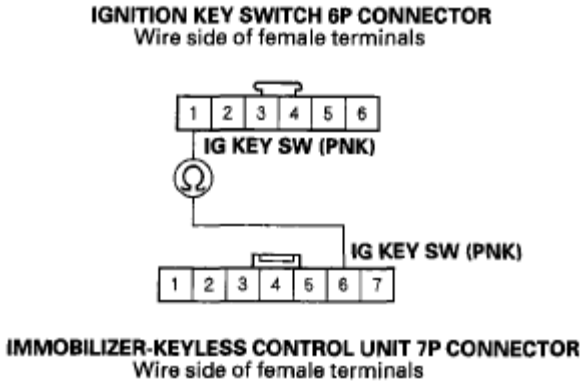



**Fig. 19: Checking Continuity Between Immobilizer-Keyless Control Unit 7P Connector No. 6 Terminal And Ignition Key Switch 6P Connector No. 1 Terminal**

*Is there continuity?*

**YES** - Go to step 15.

**NO** - Repair an open in the wire.

15. Check for continuity between the immobilizer-keyless control unit 7P connector No. 6 terminal and body ground.

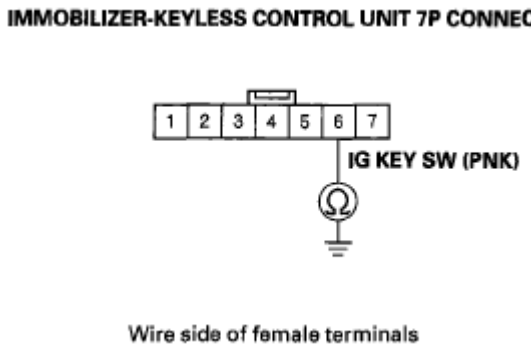



**Fig. 20: Checking Continuity Between Immobilizer-Keyless Control Unit 7P Connector No. 6 Terminal And Body Ground**

*Is there continuity?*

**YES** - Repair a short to ground in the wire.

**NO** - Replace the immobilizer-keyless control unit.

**DOORS WILL NOT UNLOCK (OR LOCK) WITH THE TRANSMITTER, BUT WILL UNLOCK (LOCK) WITH THE DOOR SWITCH**

**NOTE: Before troubleshooting, check the B-CAN DTCs. If any DTC is indicated, troubleshoot the indicated DTC first.**

1. Turn the ignition switch OFF.
2. Remove the ignition key from the ignition switch.
3. Close and lock the doors.
4. Try to lock/unlock the doors with the keyless transmitter.

*Do the door lock actuators work normally?*

**YES** - Intermittent failure. The system is OK at this time.

**NO** - Go to step 5.

5. Open the driver's door.

   *Does the key-in reminder chime sound?*

   **YES** - Faulty ignition key switch, or short to ground on the ignition switch PNK wire. Repair as necessary.

   **NO** - Go to step 6.

6. Do the transmitter test (see **TRANSMITTER TEST/REPLACEMENT** ).

   *Is the transmitter OK?*

   **YES** - Substitute a known-good MICU and recheck.

   **NO** - Replace the transmitter.

**THE HORN DOES NOT SOUND WHEN THE PANIC BUTTON ON THE TRANSMITTER IS PRESSED**

**NOTE: Before troubleshooting, check the B-CAN DTCs. If any DTC is indicated, troubleshoot the indicated DTC first.**

1. Press the PANIC button.

   *Does the horn sound?*

   **YES** - Go to step 3.

   **NO** - Go to step 2.

2. Press the horn button.

   *Does the horn sound?*

   **YES** - Go to step 3.

**NO** - Check the horn circuit.

3. Turn the headlight switch ON.

   *Do the headlights come on?*

   **YES** - Go to step 4.

   **NO** - Check the lighting circuit.

4. Do the transmitter test (see **TRANSMITTER TEST/REPLACEMENT** ).

   *Is the transmitter OK?*

   **YES** - Substitute a known-good MICU and recheck.

   **NO** - Replace the transmitter.

**DOORS AUTOMATICALLY RELOCK AFTER BEING UNLOCKED WITH THE TRANSMITTER EVEN THOUGH A DOOR HAS BEEN OPENED**

1. Turn the ceiling light switch in DOOR position.
2. Turn the ignition switch ON (II).
3. Close all doors.
4. Watch the ceiling light and the door indicator on the gauge control module.

   *Does the ceiling light and door indicator go off?*

   **YES** - Go to step 5.

   **NO** - Repair a short to ground in the wire between the MICU and door switch.

5. Open and close each door one at a time.
6. Watch the ceiling light and the door indicator on the gauge control module.

   *Does the ceiling light and door indicator come on when the door is open, and go off when the door is closed?*

**YES** - Substitute a known-good MICU and recheck. If the symptom goes away, replace the original MICU.

**NO** - Repair an open in the wire between the MICU and the door switch. If the wire is OK, faulty the door switch, replace the door lock actuator assembly.

## TRIPPED SENSOR HISTORY

The security system stores information on the last tripped sensor if the security system has been violated. The information can be retrieved using the HDS.

To retrieve the last tripped sensor data:

1. Select HISTORY DATA from the security system test mode menu.
2. Select CURRENT DATA.
3. Confirm that the VIN matches the Vehicle then press the enter button.
4. Scroll through the data ist.
    - Sensors that were violated will indicate DETECT.
    - Sensors the were not violated will indicated NONE.
5. Inspect the DETECT circuit for:
    - Misadjusted or damaged switch.
    - Loose or corroded connections.
    - Intermittent short to ground.

## MICU INPUT TEST

1. Before troubleshooting the keyless/poor door locks/security system, troubleshoot the B-CAN System Diagnosis Test Mode A (see **TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A** ).
2. Check the No. 10 (7.5 A) and No. 25 (20 A) fuses in the under-dash fuse/relay box. If any fuse is blown, replace it and go to step 3.
3. Disconnect the under-dash fuse/relay box connectors E, F, G, M, N, Q, R, and T.

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**NOTE: All connector views are wire side of female terminals.**

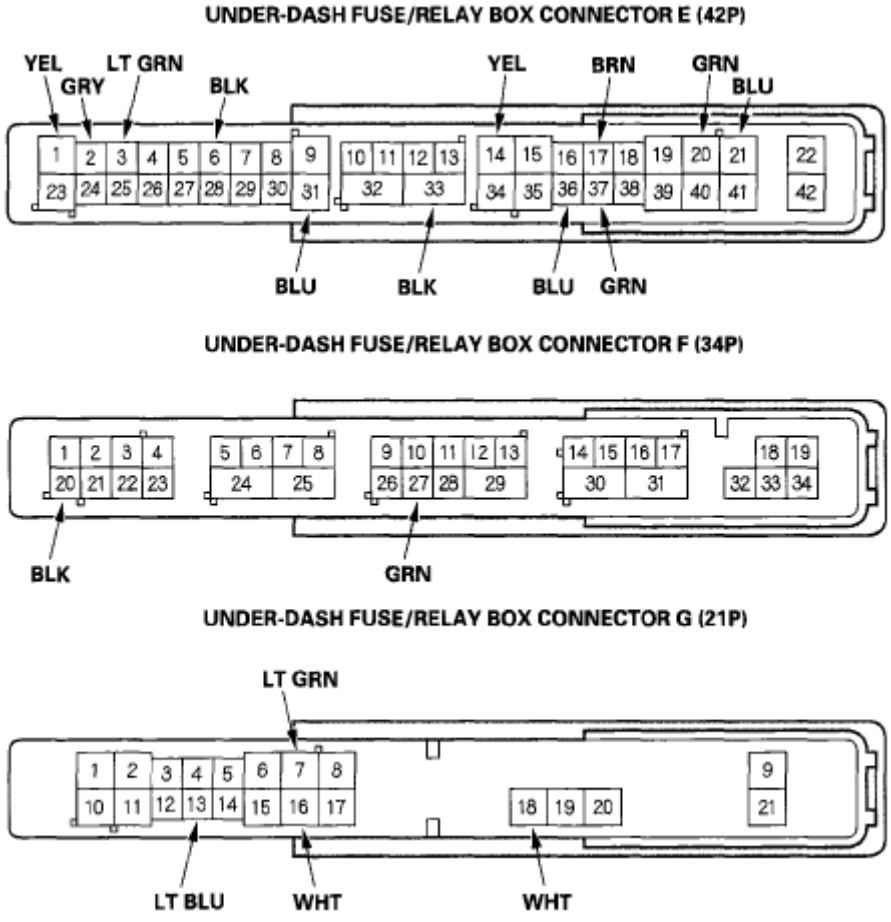



**Fig. 21: Identifying Under-Dash Fuse/Relay Box Connector Terminals (1 Of 2)**

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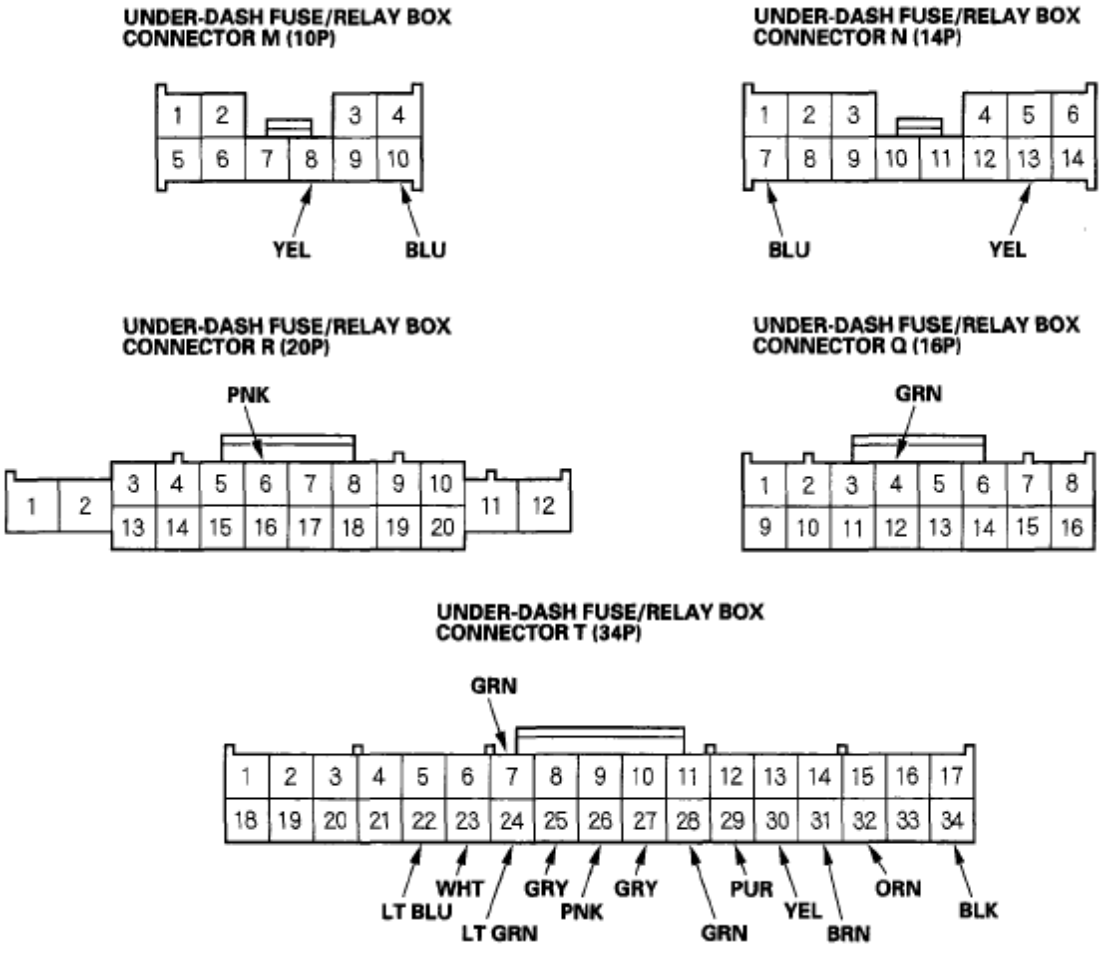



**Fig. 22: Identifying Under-Dash Fuse/Relay Box Connector Terminals (2 Of 2)**

4. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary and recheck the system.
   - If the terminals look OK, go to step 5.
5. With the connector still disconnected, make these input tests at the appropriate connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 6.

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## MICU INPUT TEST (CONNECTORS DISCONNECTED)

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| G16 | WHT | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 12 (15 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| G18 | WHT | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 4 (50 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| G7 | LTGRN | Under all conditions | Connect G16 and G7 terminals with a jumper wire momentarily: The horn should sound. | • Poor ground (body ground)<br>• Blown No. 12 (15 A) fuse in the under-hood fuse/relay box<br>• Faulty horn<br>• An open in the wire |
| E20 | GRN | Under all conditions | Connect G2 and E20 terminals with a jumper wire: The trunk release actuator should work (Trunk lid should open). | • Poor ground (G701)<br>• Faulty trunk release actuator<br>• An open in the wire |
| | | | Connect battery power | • Faulty driver's |

| | | | | |
|---|---|---|---|---|
| N7 | BLU | Under all conditions | to the N13 terminal and ground the N7 terminal momentarily: The driver's door lock actuator should lock. | door lock actuator<br>• An open in the wire |
| N13 | YEL | | | |
| M8 | YEL | Under all conditions | Connect battery power to the M8 terminal and ground the M10 terminal momentarily: The front passenger's door lock actuator should unlock. | • Faulty front passenger's door lock actuator<br>• An open in the wire |
| M10 | BLU | | | |
| E1 (4-door) | YEL | Under all conditions | Connect battery power to the E1 terminal and ground the E21 terminal momentarily: The right rear door lock actuator should unlock. | • Faulty right rear door lock actuator<br>• An open in the wire |
| E21 (4-door) | BLU | | | |
| E14 (4-door) | YEL | Under all conditions | Connect battery power to the E14 terminal and ground the E31 terminal momentarily: The left rear door lock actuator should unlock. | • Faulty left rear door lock actuator<br>• An open in the wire |
| E31 (4-door) | BLU | | | |

6. Reconnect the connectors to the under-dash fuse/relay box, and make these input tests at the connectors.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the MICU must be faulty; replace the under-dash fuse/relay box.

**MICU INPUT TEST (CONNECTORS RECONNECTED)**

| Cavity | Wire | Test condition | Test: Desired | Possible cause if result is not obtained |
|---|---|---|---|---|

| | | | result | |
|---|---|---|---|---|
| E6 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G602)<br>• An open in the wire |
| E33 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| F20 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G401)<br>• An open in the wire |
| T34 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G501)<br>• An open in the wire |
| | | Right rear door open | Check for voltage to ground: There should be less than 1 | • Faulty right rear door switch<br>• An open in the wire |

| | | | | |
|---|---|---|---|---|
| | | | V. | |
| E2 (4-door) | GRY | Right rear door closed | Check for voltage to ground: There should be 5 V or more. | • Faulty right rear door switch<br>• Short to ground in the wire |
| E3 | LTGRN | Front passenger's door open | Check for voltage to ground: There should be less than 1 V. | • Faulty front passenger's door switch<br>• An open in the wire |
| | | Front passenger's door closed | Check for voltage to ground: There should be 5 V or more. | • Faulty front passenger's door switch<br>• Short to ground in the wire |
| E17 (4-door) | BRN | Left rear door open | Check for voltage to ground: There should be less than 1 V. | • Faulty left rear door switch<br>• An open in the wire |
| | | Left rear door closed | Check for voltage to ground: There should be 5 V or more. | • Faulty left rear door switch<br>• Short to ground in the wire |
| | | | Check for voltage to | • Poor ground |

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| | | | | |
|---|---|---|---|---|
| E36 | BLU | Trunk lid open | ground: There should be less than 1 V. | (G701)<br>• Faulty trunk lid latch switch<br>• An open in the wire |
| | | Trunk lid closed | Check for voltage to ground: There should be 5 V or more. | • Faulty trunk lid latch switch<br>• Short to ground in the wire |
| E37 | GRN | Driver's door open | Check for voltage to ground: There should be less than 1 V. | • Faulty driver's door switch<br>• An open in the wire |
| | | Driver's door closed | Check for voltage to ground: There should be 5 V or more. | • Faulty driver's door switch<br>• Short to ground in the wire |
| F27 | GRN | Transmission range switch in P | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G101)<br>• Faulty transmission range switch<br>• An open in the wire |
| | | Transmission range | Check for voltage to ground: | • Faulty transmission |

| | | | | |
|---|---|---|---|---|
| | | switch in any other position than P | There should be 5 V or more. | range switch<br>• Short to ground in the wire |
| G13 | LT BLU | Hood open | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G401)<br>• Faulty hood switch<br>• An open in the wire |
| | | Hood closed | Check for voltage to ground: There should be 5 V or more. | • Faulty hood switch<br>• Short to around in the wire |
| Q4 | GRN | Under all conditions | Check for voltage to ground: There should be battery voltage. | A short in the wire |
| R6 | PNK | Ignition key inserted into the ignition switch | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G504)<br>• Faulty ignition key switch<br>• An open in the wire |
| | | Ignition switch OFF and ignition key removed from the ignition switch | Check for voltage to ground: There should be 5 | • Faulty ignition key switch<br>• Short to ground |

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| | | | | |
|---|---|---|---|---|
| | | | V or more. | in the wire |
| T7 | GRN | Trunk key cylinder switch unlocked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G701)<br>• Faulty trunk key cylinder switch<br>• An open in the wire |
| | | Trunk key cylinder switch neutral | Check for voltage to ground: There should be 5 V or more. | • Faulty trunk key cylinder switch<br>• Short to ground in the wire |
| T22 | LT BLU | Front passenger's door lock knob switch unlocked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G504)<br>• Faulty front passenger's door lock knob switch<br>• An open in the wire |
| | | Front passenger's door lock knob switch locked | Check for voltage to ground: There should be 5 V or more. | • Faulty front passenger's door lock knob switch<br>• Short to ground in the wire |
| | | Driver's door lock knob switch unlocked | Check for voltage to ground: There should be less than 1 | • Poor ground (4-door: G501,2-door: G401)<br>• Faulty driver's door lock knob switch |

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| | | | | |
|---|---|---|---|---|
| | | | V. | • An open in the wire |
| T23 | WHT | Driver's door lock knob switch locked | Check for voltage to ground: There should be 5 V or more. | • Faulty driver's door lock knob switch<br>• Short to ground in the wire |
| T24 | LTGRN | Driver's door lock knob switch locked | Check for voltage to ground: There should be 5 V or more. | • Faulty driver's door lock knob switch<br>• Short to around in the wire |
| | | Driver's door lock knob switch unlocked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (4-door: G501,2-door: G401)<br>• Faulty driver's door lock knob switch<br>• An open in the wire |
| T25 (4-door) | GRY | Right rear door lock knob switch unlocked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G602)<br>• Faulty right rear door lock knob switch<br>• An open in the wire |
| | | Right rear door lock knob switch locked | Check for voltage to ground: There | • Faulty right rear door lock knob switch<br>• Short to ground |

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| | | | | |
|---|---|---|---|---|
| | | | should be 5 V or more. | in the wire |
| T26 (4-door) | PNK | Left rear door lock knob switch unlocked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G602)<br>• Faulty left rear door lock knob switch<br>• An open in the wire |
| | | Left rear door lock knob switch locked | Check for voltage to ground: There should be 5 V or more. | • Faulty left rear door lock knob switch<br>• Short to ground in the wire |
| T27 | GRY | Driver door lock switch unlocked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G503)<br>• Faulty driver door lock switch<br>• An open in the wire |
| | | Driver door lock switch in neutral | Check for voltage to ground: There should be 5 V or more. | • Faulty driver door lock switch<br>• Short to ground in the wire |
| | | Driver door lock switch locked | Check for voltage to ground: There should be less than 1 | • Poor ground (G503)<br>• Faulty driver door lock switch<br>• An open in the |

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| | | | | |
|---|---|---|---|---|
| | | | V. | wire |
| T28 | GRN | Driver door lock switch in neutral | Check for voltage to ground: There should be 5 V or more. | • Faulty driver door lock switch<br>• Short to ground in the wire |
| T29 | PUR | Front passenger's door lock switch unlocked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G504)<br>• Faulty front passenger's door lock switch<br>• An open in the wire |
| | | Front passenger's door lock switch in neutral | Check for voltage to ground: There should be 5 V or more. | • Faulty front passenger's door lock switch<br>• Short to ground in the wire |
| T30 | YEL | Front passenger's door lock switch locked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G504)<br>• Faulty front passenger's door lock switch<br>• An open in the wire |
| | | Front passenger's door lock switch in neutral | Check for voltage to ground: There should be 5 V or more. | • Faulty front passenger's door lock switch<br>• Short to ground in the wire |

| | | | | |
|---|---|---|---|---|
| T31 | BRN | Driver door key cylinder switch unlocked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty driver door key cylinder switch<br>• An open in the wire |
| | | Driver door key cylinder switch in neutral | Check for voltage to ground: There should be 5 V or more. | • Faulty driver door key cylinder switch<br>• Short to ground in the wire |
| T32 | ORN | Driver door key cylinder switch locked | Check for voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty driver door key cylinder switch<br>• An open in the wire |
| | | Driver door key cylinder switch in neutral | Check for voltage to ground: There should be 5 V or more. | • Faulty driver door key cylinder switch<br>• Short to ground in the wire |

## DOOR LOCK ACTUATOR TEST

### DRIVER'S DOOR AND LEFT REAR DOOR

1. Remove the door panel.
   - 2-door (see **DOOR PANEL REMOVAL/INSTALLATION** ).
   - 4-door (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).

2. Disconnect the 10P connector (A) from the actuator (B).

**NOTE: Driver's door shown.**

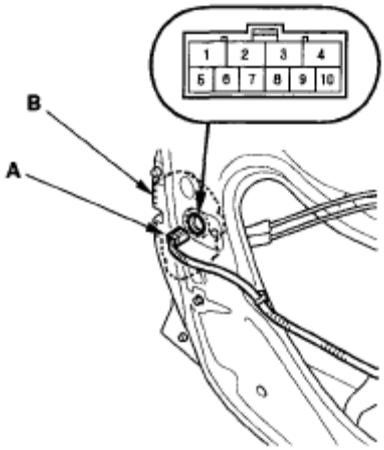



**Fig. 23: Disconnecting 10P Connector From Actuator**

3. Check actuator operation by connecting power and ground according to **Fig. 24** . To prevent damage to the actuator, apply battery voltage only momentarily.

| Terminal / Position | 1 | 2 |
|---|---|---|
| LOCK | ⊕ | ⊖ |
| UNLOCK | ⊖ | ⊕ |

**Fig. 24: Checking Actuator Operation Connecting Power And Ground Chart**

4. If the actuator does not operate as specified, replace it.

**FRONT PASSENGER'S DOOR AND RIGHT REAR DOOR**

1. Remove the door panel.
   - 2-door (see **DOOR PANEL REMOVAL/INSTALLATION** ).
   - 4-door (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 10P connector (A) from the actuator (B).

**NOTE: Front passenger's door shown.**

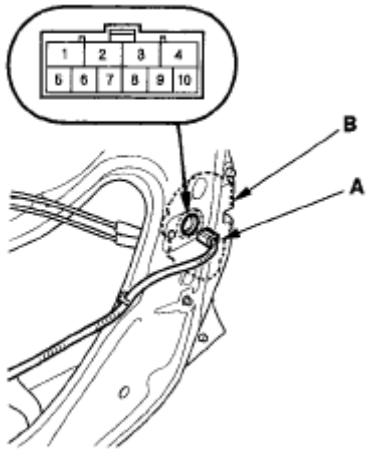



**Fig. 25: Disconnecting 10P Connector From Actuator**

3. Check actuator operation by connecting power and ground according to **Fig. 26** . To prevent damage to the actuator, apply battery voltage only momentarily.

| Terminal / Position | 3 | 4 |
|---|---|---|
| LOCK | ⊕ | ⊖ |
| UNLOCK | ⊖ | ⊕ |

**Fig. 26: Checking Actuator Operation By Connecting Power And Ground Chart**

4. If the actuator does not operate as specified, replace it.

## DOOR LOCK KNOB SWITCH TEST

### DRIVER'S DOOR

1. Remove the driver's door panel.
   - 2-door (see **DOOR PANEL REMOVAL/INSTALLATION** ).
   - 4-door (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 10P connector (A) from the actuator (B).

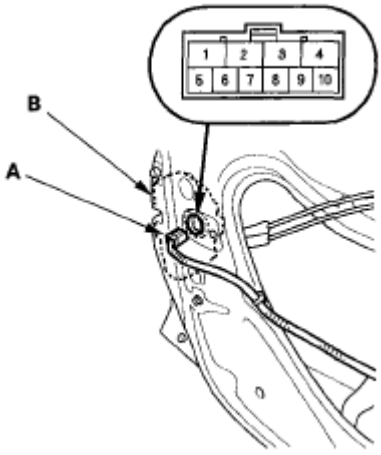



**Fig. 27: Disconnecting 10P Connector From Actuator**

3. Check for continuity between the terminals.
   - There should be continuity between the No. 6 and No. 5 terminals when the door lock knob switch is in the LOCK position and no continuity when the switch is in the UNLOCK position.
   - There should be continuity between the No. 7 and No. 5 terminals when the door lock knob switch is in the UNLOCK position and no continuity when the switch is in the LOCK position.
4. If the continuity is not as specified, replace the door lock actuator.

**PASSENGER'S DOOR**

1. Remove the passenger's door panel.
   - 2-door (see **DOOR PANEL REMOVAL/INSTALLATION** ).
   - 4-door (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 10P connector (A) from the actuator (B).

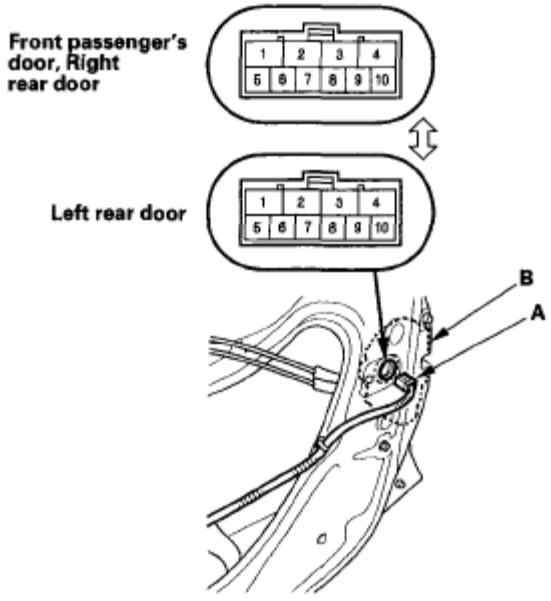



**Fig. 28: Disconnecting 10P Connector From Actuator**

3. Check for continuity between the terminals.

   There should be continuity between the No. 8 [No. 7] and No. 10 [No. 5] terminals when the door lock knob switch in the UNLOCK position and no continuity when the switch is in the LOCK position.

   [ ] : Left rear door

4. If the continuity is not specified, replace the door lock actuator.

## DOOR LOCK SWITCH TEST

### DRIVER'S DOOR (4-DOOR)

1. Remove the power window master switch and disconnect its connector (see **MASTER SWITCH TEST/REPLACEMENT** ).

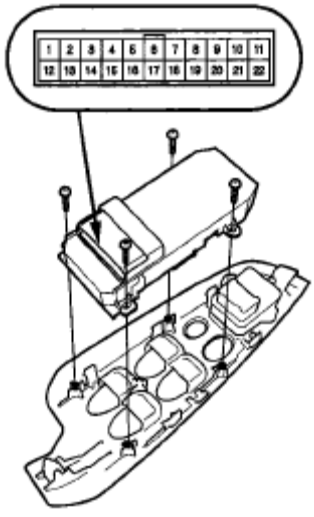


**Fig. 29: Removing Power Window Master Switch (4-Door)**

2. Check for continuity between the power window master switch 22P connector terminals.
   - There should be continuity between the No. 11 and No. 17 terminals when the door lock switch is in the LOCK position. (With security)
   - There should be no continuity between the No. 11 and No. 17 terminals when the door lock switch is in the UNLOCK position. (With security)
   - There should be continuity between the No. 11 and No. 19 terminals when the door lock switch is in the UNLOCK position.
   - There should be no continuity between the No. 11 and No. 19 terminals when the door lock switch is in the LOCK position.
3. If the continuity is not as specified, replace the power window master switch.

**DRIVER'S DOOR (2-DOOR)**

1. Remove the power window master switch and disconnect its connector (see **2-DOOR** ).

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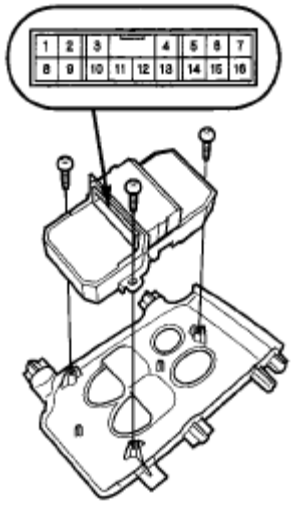



**Fig. 30: Removing Power Window Master Switch (2-Door)**

2. Check for continuity between the power window master switch 16P connector terminals.
   - There should be continuity between the No. 5 and No. 7 terminals when the door lock switch is in the LOCK position. (With security)
   - There should be no continuity between the No. 5 and No. 7 terminals when the door lock switch is in the UNLOCK position. (With security)
   - There should be continuity between the No. 6 and No. 7 terminals when the door lock switch is in the UNLOCK position.
   - There should be no continuity between the No. 6 and No. 7 terminals when the door lock switch is in the LOCK position.
3. If the continuity is not as specified, replace the power window master switch.

**FRONT PASSENGER'S DOOR**

1. 4-door: Remove the front passenger's window switch (see **PASSENGER'S POWER WINDOW SWITCH TEST/REPLACEMENT** ).

   2-door: Remove the passenger's power window switch (see **DOOR PANEL REMOVAL/INSTALLATION** ).

   **NOTE: Shown is 4-door front passenger's door.**

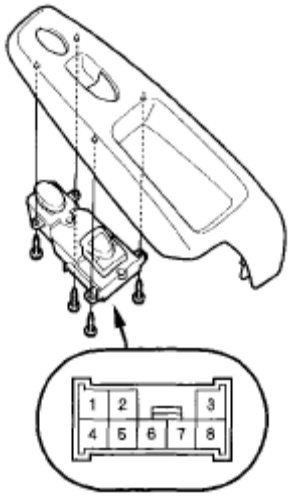



**Fig. 31: Identifying Front Passenger's Door (4-Door)**

2. Check for continuity between the front passenger's power window switch 8P connector terminals.
   - There should be continuity between the No. 1 and No. 2 terminals when the door lock switch is in the LOCK position.
   - There should be no continuity between the No. 1 and No. 2 terminals when the door lock switch is in the UNLOCK position.
   - There should be continuity between the No. 2 and No. 6 terminals when the door lock switch is in the UNLOCK position.
   - There should be no continuity between the No. 2 and No. 6 terminals when the door lock switch is in the LOCK position.
3. If the continuity is not as specified, replace the front passenger's window switch.

## DOOR KEY CYLINDER SWITCH TEST

1. Remove the driver's door panel.
   - 2-door (see **DOOR PANEL REMOVAL/INSTALLATION** ).
   - 4-door (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 10P connector (A) from the key cylinder switch (B).

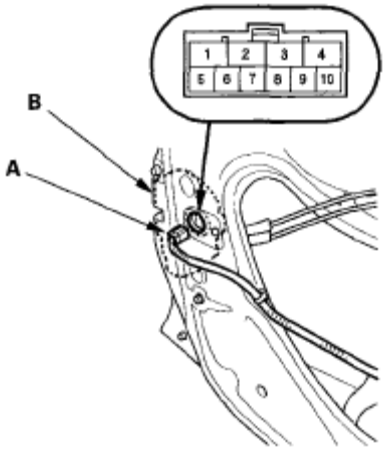



**Fig. 32: Disconnecting 10P Connector From Key Cylinder Switch**

3. Check for continuity between the terminals.
   - There should be continuity between the No. 9 and No. 5 terminals when the door key cylinder switch is in LOCK position. (With security)
   - There should be no continuity between the No. 9 and No. 5 terminals when the door key cylinder switch is in the neutral or UNLOCK position. (With security)
   - There should be continuity between the No. 8 and No. 5 terminals when the door key cylinder switch is in UNLOCK position.
   - There should be no continuity between the No. 8 and No. 5 terminals when the door key cylinder switch is in the neutral or LOCK position.
4. If the continuity is not as specified, replace the door key cylinder assembly (see **FRONT DOOR OUTER HANDLE REPLACEMENT** ).

## TRUNK RELEASE ACTUATOR TEST

1. Open the trunk lid.
2. Disconnect the 3P connector from the trunk lid latch switch/trunk release actuator.

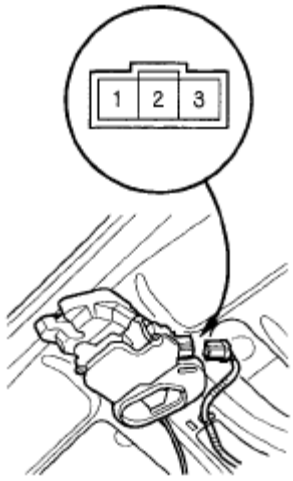



**Fig. 33: Disconnecting 3P Connector From Trunk Lid Latch Switch/Trunk Release Actuator**

3. Check actuator operation by connecting power to the No. 1 terminal and ground to the No. 2 terminal momentarily. The actuator should work.
4. If the actuator does not work, replace the trunk lid latch switch/release actuator assembly (see **TRUNK LID LATCH REPLACEMENT** ).

## TRUNK KEY CYLINDER SWITCH TEST

1. Open the trunk lid.
2. Disconnect the 3P connector (A) from the trunk key cylinder switch (B).

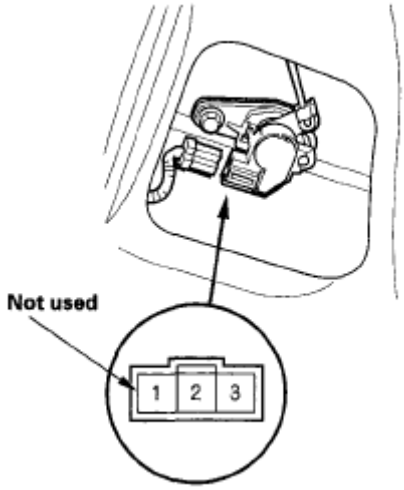



**Fig. 34: Disconnecting 3P Connector From Trunk Key Cylinder Switch**

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3. Check for continuity between the terminals.
   - There should be no continuity between the No. 2 and No. 3 terminals when the trunk key cylinder switch is in the neutral position.
   - There should be continuity between the No. 2 and No. 3 terminals when the trunk key cylinder switch is in the UNLOCK position.
4. If the continuity is not as specified, replace the trunk key cylinder switch.
   - 4-door (see **TRUNK LID LOCK CYLINDER REPLACEMENT** )
   - 2-door (see **TRUNK LID LOCK CYLINDER REPLACEMENT** )

## HOOD SWITCH TEST

1. Open the hood.
2. Disconnect the 2P connector from the hood switch.

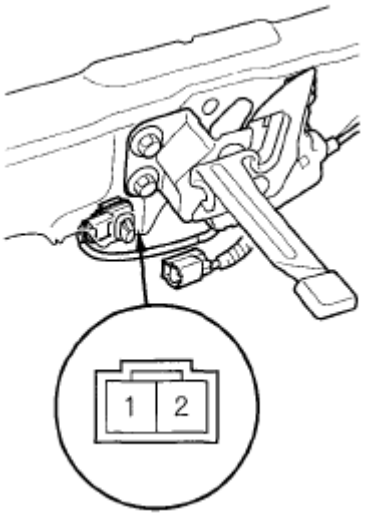



**Fig. 35: Disconnecting 2P Connector From Hood Switch**

3. Check for continuity between the terminals.
   - There should be continuity between the No. 1 and No. 2 terminals when the hood is opened (latch released).
   - There should be no continuity between the No. 1 and No. 2 terminals when the hood is closed (latch pushed down).
4. If the continuity is not as specified, replace the hood latch assembly (see **HOOD LATCH REPLACEMENT** ).

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## TRANSMITTER TEST/REPLACEMENT

**NOTE:**

- **If the doors unlock or lock with the transmitter, but the LED on the transmitter does not come on, the LED is faulty; replace the transmitter.**
- **If any door is open, you cannot lock the doors with the transmitter.**
- **If you unlocked the doors with the transmitter, but do not open any of the doors within 30 seconds, the doors relock automatically.**
- **The doors do not lock or unlock with the transmitter if the ignition key is inserted in the ignition switch.**

**WITH HDS**

1. Press the lock or unlock button five or six times to reset the transmitter.
   - If the locks work, the transmitter is OK.
   - If any of the transmitter buttons does not work, replace the transmitter, then do the transmitter programming register (see **IMMOBILIZER KEY REGISTRATION** ).
   - If the locks don't work, go to step 2.
2. Connect the HDS to the data link connector.
3. Select the KEYLESS from the BODY ELECTRICAL menu, then enter the KEYLESS CHECK.
4. Press lock, unlock, trunk, or panic button and check the responce on the screen of the HDS.

**NOTE: The door lock actuators may or may not cycle when receiving input from the transmitter.**

- If KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, the transmitter is OK.
- If DIFFERENT KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, the transmitter is not registered to the vehicle, if

necessary, reprogram and register the transmitter (see **IMMOBILIZER KEY REGISTRATION** ).

- If KEYLESS ENTRY TRANSMITTER CODE IS NOT RECEIVED is indicated, go to step 5.

5. Open the transmitter and check for water damage.
   - If you find any water damage, replace the transmitter, then reprogram and register the transmitter (see **IMMOBILIZER KEY REGISTRATION** ).
   - If there is no water damage, go to step 6.

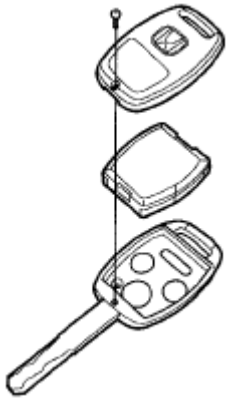


**Fig. 36: Checking Transmitter For Water Damage**

6. Replace the transmitter battery (A) with a new one, and press lock or unlock button and check the receive condition on the screen of the HDS.
   - If KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, the transmitter is OK.
   - If KEYLESS ENTRY TRANSMITTER CODE IS NOT RECEIVED is indicated, go to step 7.

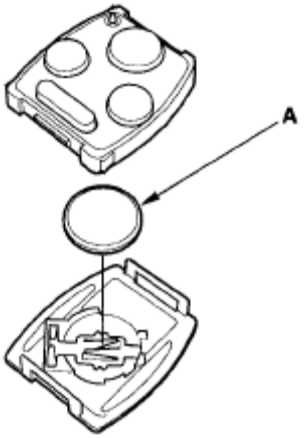



**Fig. 37: Replacing Transmitter Battery**

7. Use a different known-good keyless transmitter assembly and repeat steps 3 and 4.

**NOTE: The keyless transmitter does not need to be programmed to the vehicle for this test.**

- If (DIFFERENT) KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, replace the keyless transmitter and do the immobilizer system registration (see **IMMOBILIZER KEY REGISTRATION** ).
- If KEYLESS ENTRY TRANSMITTER CODE IS NOT RECEIVED is indicated, the immobilizer-keyless control unit is faulty, replace it and do the immobilizer system registration (see **IMMOBILIZER KEY REGISTRATION** ).

**NOTE: As the keyless transmitter is combined with the immobilizer transponder, so when the transponder is registered by the HDS, the keyless transmitter programming is completed automatically.**

**WITHOUT HDS**

1. Start the engine.
   - If the engine does not start, go to the immobilizer system troubleshooting

(see **SYMPTOM TROUBLESHOOTING** ).

- If the engine starts, go to step 2.

2. Press the lock or unlock button five or six times to reset the transmitter.
   - If the locks work, the transmitter is OK.
   - If the locks don't work, go to step 3.
3. Open the transmitter and check for water damage.
   - If you find any water damage, replace the transmitter.
   - If there is no water damage, go to step 4.

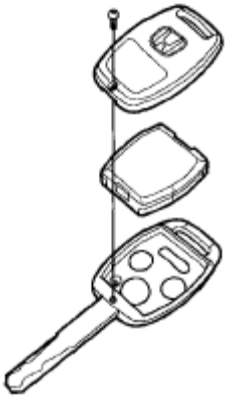


**Fig. 38: Checking Transmitter For Water Damage**

4. Replace the transmitter battery (A) with a new one, and try to lock and unlock the doors with the transmitter by pressing the lock or unlock button five or six times.
   - If the doors lock and unlock, the transmitter is OK.
   - If the doors don't lock and unlock, go to step 5.

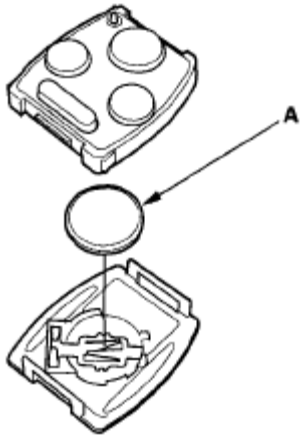



**Fig. 39: Replacing Transmitter Battery**

5. Reprogram and register the transmitter (see **IMMOBILIZER KEY REGISTRATION** ), then try to lock and unlock the doors.
   - If the doors lock and unlock, the transmitter is OK.
   - If the doors don't lock and unlock, substitute a known-good transmitter and recheck (see **IMMOBILIZER KEY REGISTRATION** ). If still not operating, replace the immobilizer-keyless control unit.

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# 2006-08 ACCESSORIES & EQUIPMENT

## Power Mirrors - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX

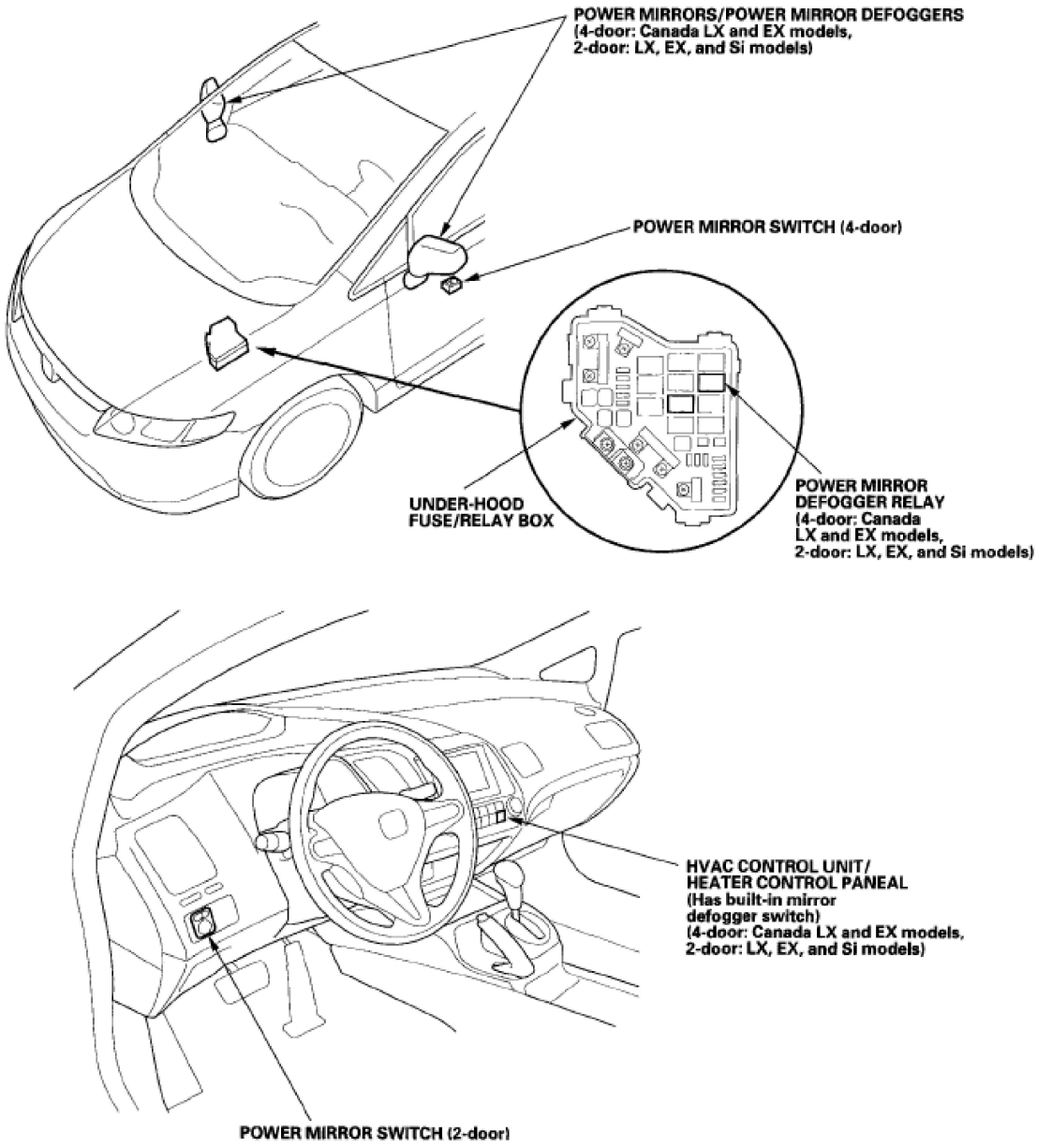



**Fig. 1: Locating Power Mirrors Components**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CIRCUIT DIAGRAM

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# 4-door

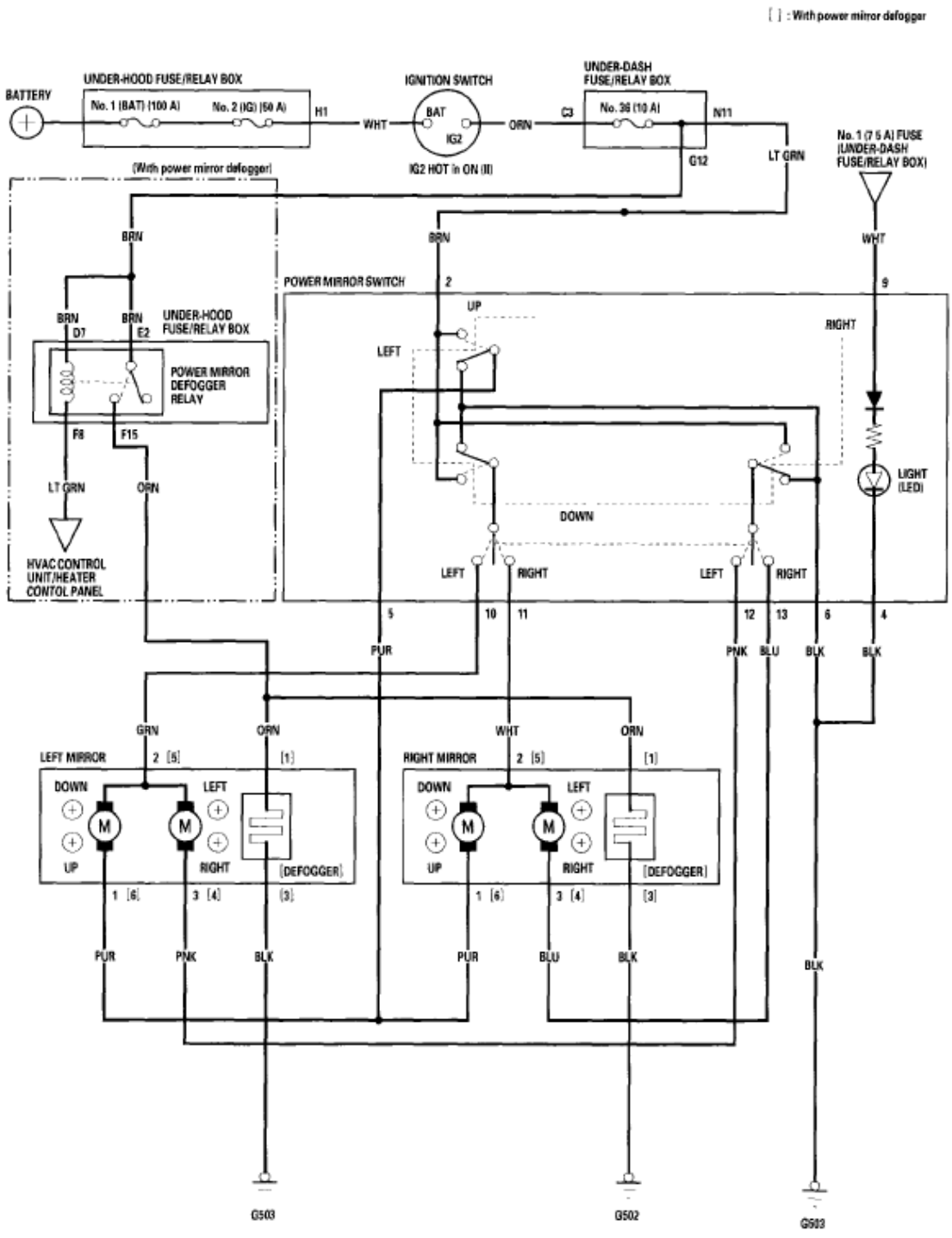



**Fig. 2: Power Mirrors Circuit Diagram (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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# 2-door

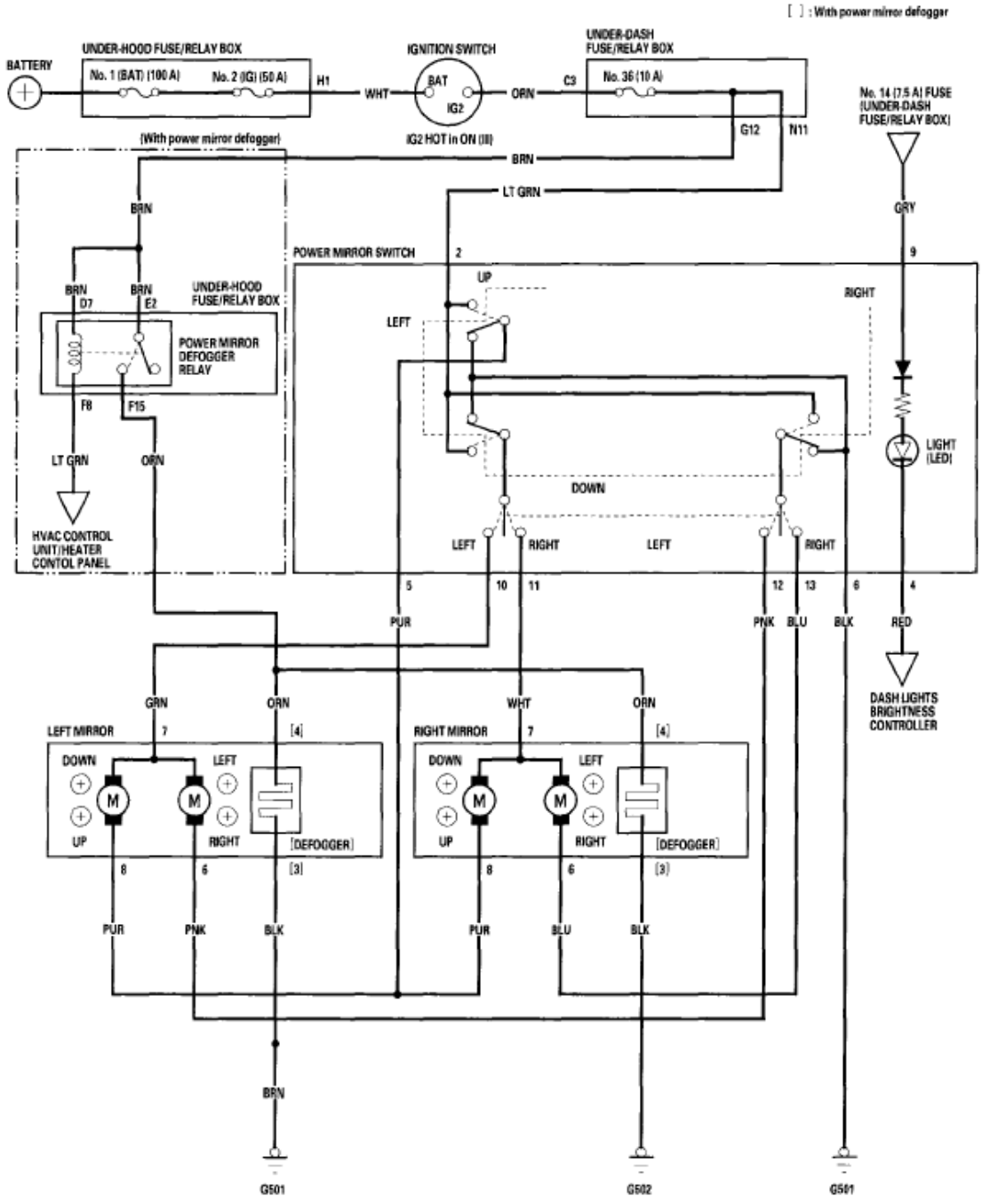



**Fig. 3: Power Mirrors Circuit Diagram (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## FUNCTION TEST

1. 4-door: Remove the power window master switch (A).

   2-door: Remove the driver's dashboard lower cover (see **DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ).

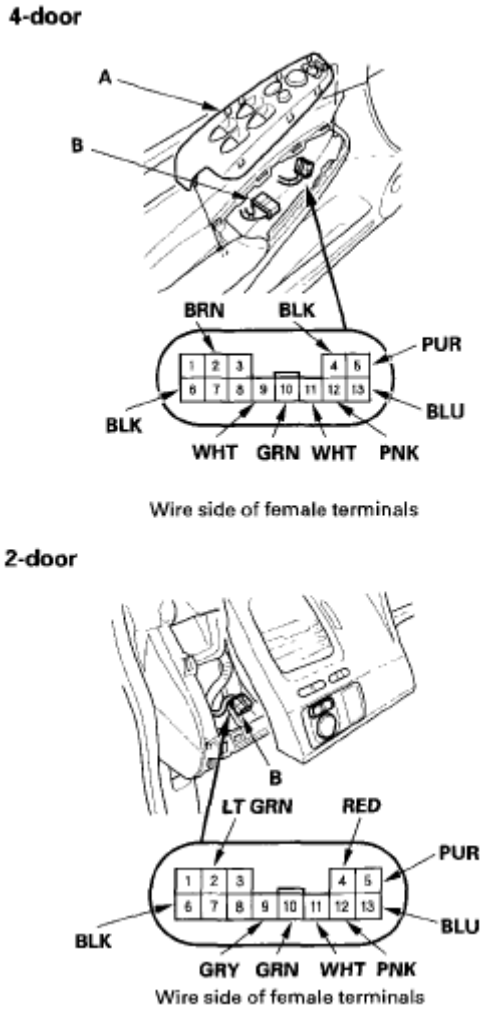



**Fig. 4: Removing Power Window Master Switch (4-Door) And Driver's Dashboard Lower Cover (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Disconnect the 13P connector (B) from the power mirror switch.
3. Choose the appropriate test based on the symptom:
   - Both mirrors don't work, go to step 4.
   - Left mirror doesn't work, go to step 6.

- Right mirror doesn't work, go to step 7.

**Both mirrors**

4. Check for voltage between the No. 2 terminal and body ground with the ignition switch ON (II). There should be battery voltage.
   - If there is no battery voltage, check for:
     - Blown No. 36 (10 A) fuse in the under-dash fuse/relay box.
     - An open in the BRN (or PUR *) wire.
   - If there is battery voltage, go to step 5.

   *: 2-door

5. Check for continuity between the No. 6 terminal and body ground.

   There should be continuity.

   - If there is no continuity, check for:
     - An open in the BLK wire.
     - Poor ground (G 503, G501 *).
   - If there is continuity, check both mirrors individually as described in the next steps.

     * : 2-door

**Left mirror**

6. Connect the No. 2 and No. 10 terminals, and the No. 5 (or No. 12) and No. 6 terminals with jumper wires.

   The left mirror should tilt down (or swing left) with the ignition switch ON (II).

   - If the left mirror does not tilt down (or does not swing left), check for an open in the PUR (or PNK) wire between the left mirror and the 13P connector.

If the wire is OK, check the left mirror actuator.

- If the mirror neither tilts down nor swings left, repair the GRN wire.
- If the mirror works properly, check the mirror switch.

**Right mirror**

7. Connect the No. 2 and No. 11 terminals, and the No. 5 (or No. 13) and No. 6 terminals with jumper wires. The right mirror should tilt down (or swing left) with the ignition switch ON (II).
   - If the mirror does not tilt down (or does not swing left), check for an open in the PUR (or BLU) wire between the right mirror and the 13P connector. If the wire is OK, check the right mirror actuator.
   - If the mirror neither tilts down nor swings left, repair the WHT wire.
   - If the mirror works properly, check the mirror switch.

## POWER MIRROR SWITCH TEST/REPLACEMENT

**4-DOOR**

1. Remove the driver's door power switch panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 13P connector from the power mirror switch (A).

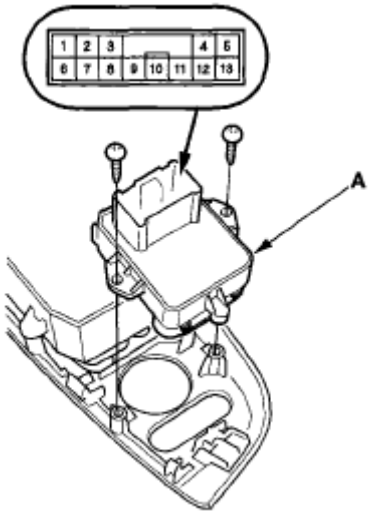



**Fig. 5: Disconnecting 13P Connector From Power Mirror Switch (4-Door)**

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**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between the terminals in each switch position according to **Fig. 6** .

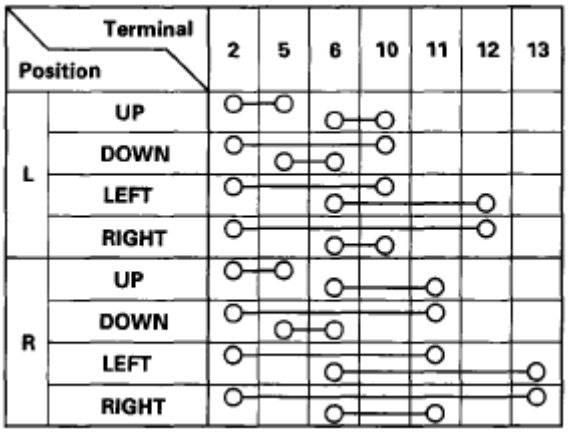



**Fig. 6: Checking Continuity Between Power Mirror Switch (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the continuity is not as specified, remove the screws and replace the switch.

**2-DOOR**

1. Remove the driver's dashboard lower cover (see **DRIVER's DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ).
2. Disconnect the 13P connector from the power mirror switch (A).

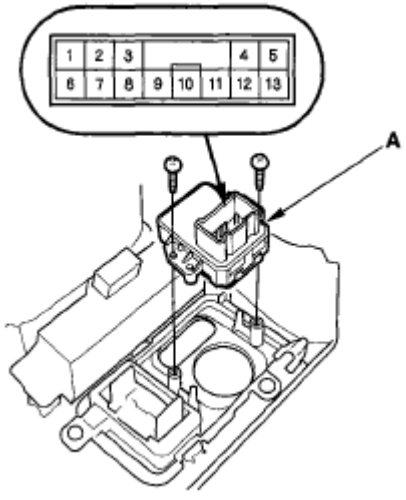


**Fig. 7: Disconnecting 13P Connector From Power Mirror Switch (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between the terminals in each switch position according to **Fig. 8** .

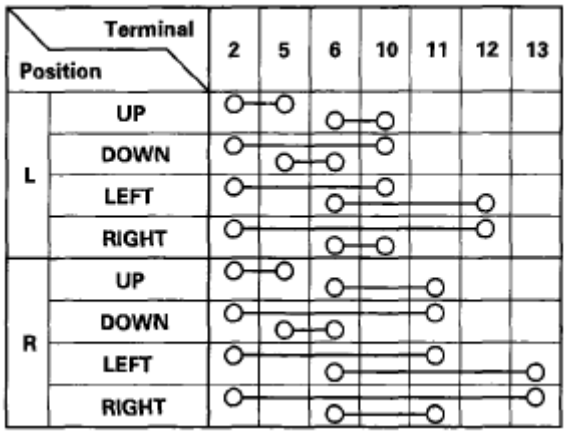



**Fig. 8: Checking Continuity Between Power Mirror Switch (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the continuity is not as specified, remove the screws and replace the power mirror switch.

## POWER MIRROR ACTUATOR TEST

#### 4-DOOR

1. Remove the door panel (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 3P (or 6P)* connector (A) from the power mirror actuator (B).

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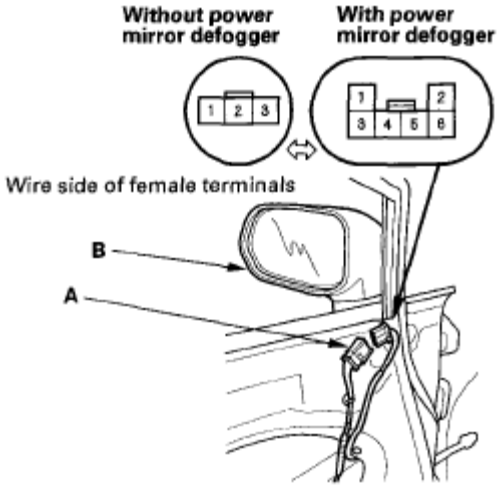



**Fig. 9: Disconnecting 3P (or 6P)* Connector From Power Mirror Actuator (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check actuator operation by connecting power and ground according to **Fig. 10** .

| Position \ Terminal | 1 [6] | 2 [5] | 3 [4] |
|---|---|---|---|
| TILT UP | ⊕ | ⊖ | |
| TILT DOWN | ⊖ | ⊕ | |
| SWING LEFT | | ⊕ | ⊖ |
| SWING RIGHT | | ⊖ | ⊕ |

[ ] : With power mirror defogger

**Fig. 10: Checking Actuator Operation By Connecting Power And Ground (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the mirror fails to work properly, replace the mirror actuator.

**Defogger Test**

5. Check for continuity between the No. 1 and No. 3 terminals of the 6P connector. These should be continuity.
6. If the continuity is not as specified, check for:

- An open in the wire.
- A faulty mirror holder.

**2-DOOR**

1. Remove the mirror mount cover (see **POWER MIRROR REPLACEMENT** ).
2. Disconnect the 8P connector (A) from the power mirror actuator (B).

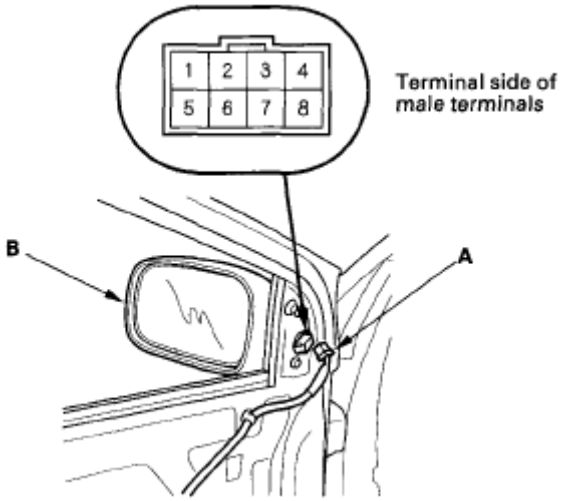



**Fig. 11: Disconnecting 8P Connector From Power Mirror Actuator (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check actuator operation by connecting power and ground according to **Fig. 12** .

| Terminal / Position | 6 | 7 | 8 |
|---|---|---|---|
| TILT UP | | ⊖ | ⊕ |
| TILT DOWN | | ⊕ | ⊖ |
| SWING LEFT | ⊖ | ⊕ | |
| SWING RIGHT | ⊕ | ⊖ | |

**Fig. 12: Checking Actuator Operation By Connecting Power And Ground (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the mirror fails to work properly, replace the mirror actuator.

**Defogger Test**

5. Check for continuity between the No. 3 and No. 4 terminals of the 6P connector. These should be continuity.
6. If the continuity is not as specified, check for:
   - An open in the wire.
   - A faulty mirror holder.

## POWER MIRROR ACTUATOR REPLACEMENT

**4-DOOR**

1. Remove the mirror holder (see **4-DOOR** ).
2. Remove the power mirror (see **4-DOOR** ).
3. Disconnect the 3P (without power mirror defogger) or 6P (with power mirror defogger) connector from the mirror.
4. With power mirror defogger:

   Disassemble the power mirror 6P connector (A), and remove the No. 1 and No. 3 terminals from it.

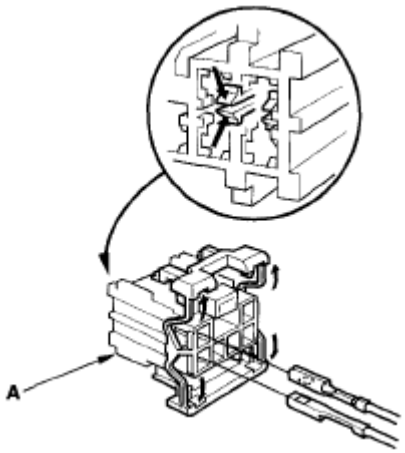



**Fig. 13: Removing No. 1 And No. 3 Terminals (With Power Mirror Defogger)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the screw from the gasket (A).

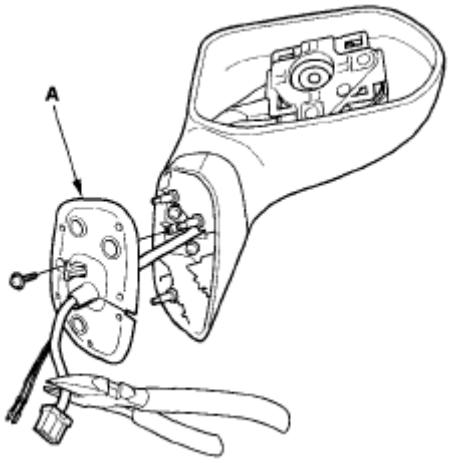



**Fig. 14: Removing Screw From Gasket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Record the terminal locations and wire colors.
7. Cut the wire harness with wire cutters, and remove the gasket.
8. Remove the three screws, and separate the mirror housing (A) from the bracket (B).

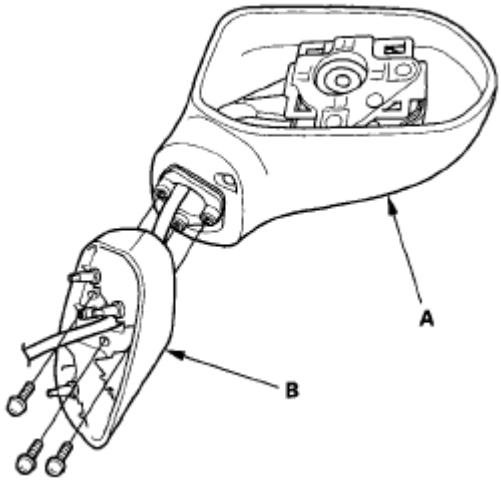



**Fig. 15: Separating Mirror Housing From Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Remove the six screws, and the actuator (A).

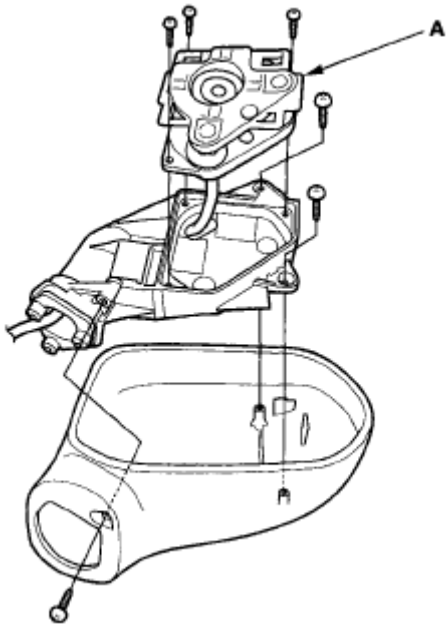



**Fig. 16: Removing Actuator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Route the wire harness (A) of the new actuator through the hole in the bracket (B) and gasket (C).

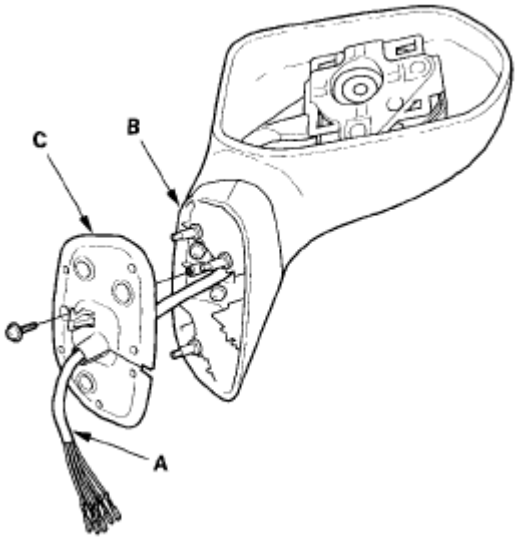



**Fig. 17: Routing Wire Harness Of Actuator Through Hole In Bracket And Gasket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

11. Install the actuator, bracket, harness clip, and gasket in the reverse order of removal.
12. Insert the new actuator terminals into the connector in the original arrangement.

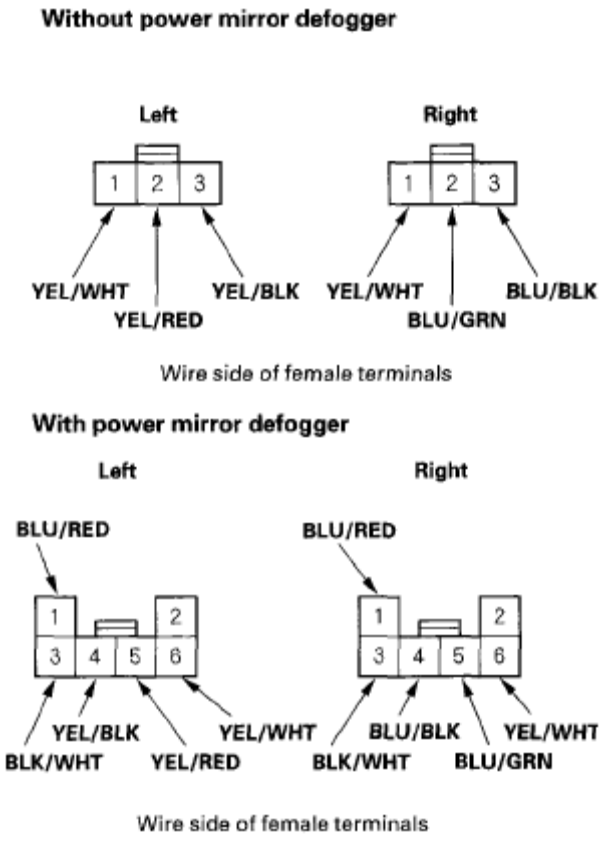



**Fig. 18: Inserting New Actuator Terminals Into Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Apply tape to seal the intersection of the wire harness and the gasket.
14. Reassemble in the reverse order of disassembly. Be careful not to break the mirror when reinstalling it to the actuator.
15. Reinstall the mirror assembly on the door.
16. Operate the power mirror to ensure smooth operation.

**2-DOOR**

1. Remove the mirror holder (see **MIRROR HOLDER REPLACEMENT** ).

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2. Remove the power mirror (see **POWER MIRROR REPLACEMENT** ).
3. Disconnect the 8P connector from the power mirror.
4. Remove the gasket (A).

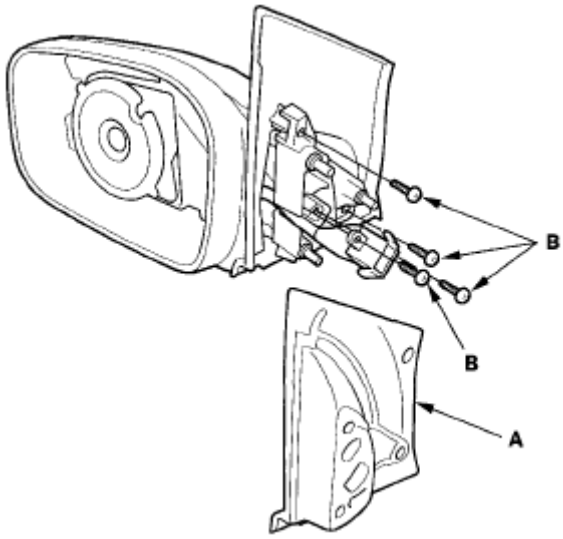



**Fig. 19: Removing Gasket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the T10 TORX screws (B).
6. Remove the T10 TORX screws (A) and the mirror actuator (B).

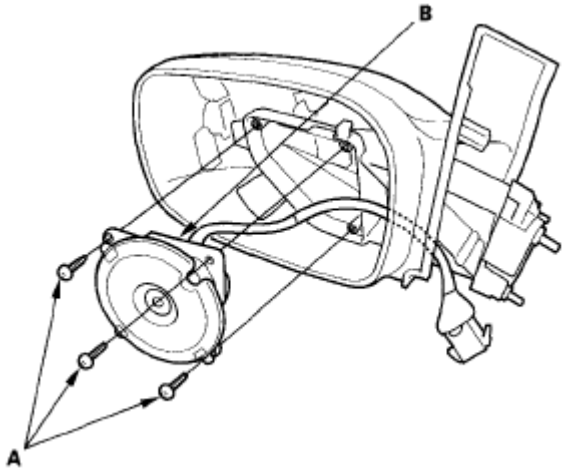



**Fig. 20: Removing Mirror Actuator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Install the power mirror actuator in the reverse order of removal.

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**2006-08 ACCESSORIES & EQUIPMENT**

**Power Moonroof - Civic**

## COMPONENT LOCATION INDEX

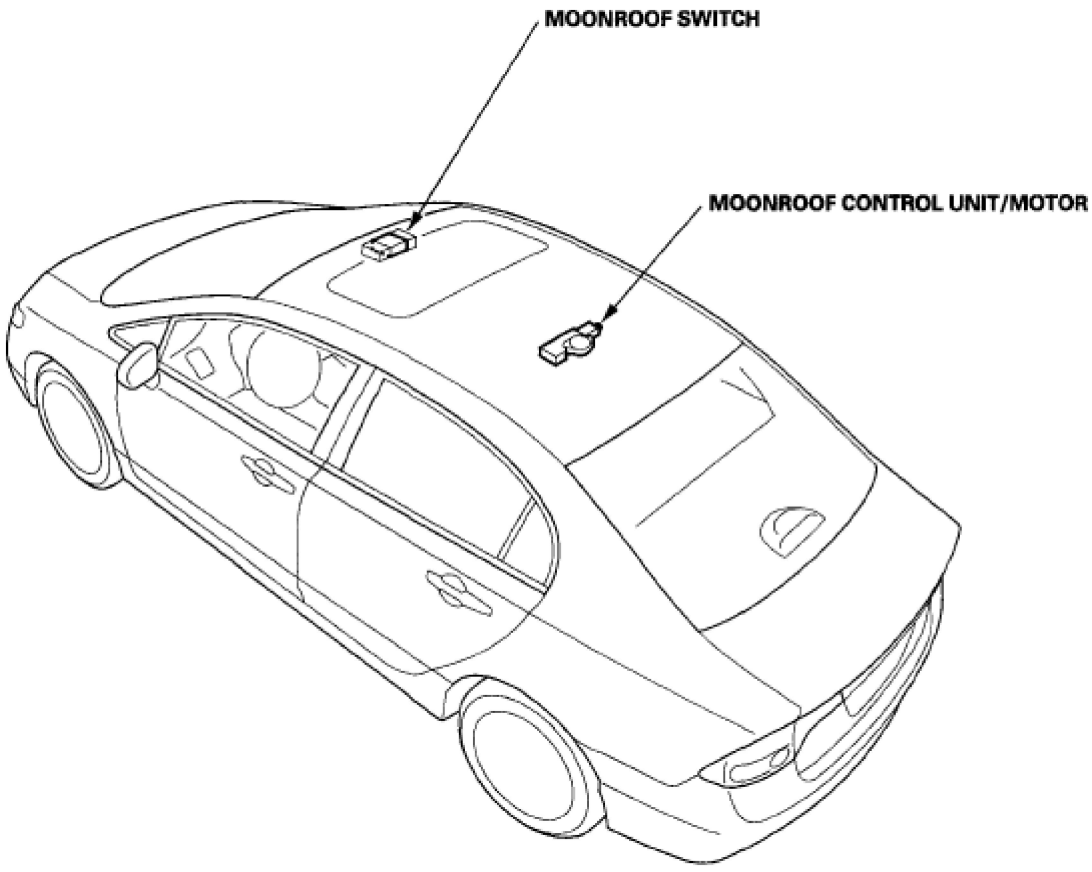



**Fig. 1: Locating Power Moonroof Components**

## RESETTING THE MOONROOF CONTROL UNIT

Resetting the moonroof is required when any of the following have occurred:

- The moonroof was moved manually while the battery was dead or disconnected.
- The moonroof motor was replaced with a new one.
- Any of components related to the moonroof were replaced.
  - -Wind deflector
  - -Moonroof glass

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-Moonroof seal
-Moonroof glass bracket
-Moonroof cables, etc.

To reset the moonroof control unit, do these steps:

1. Close the driver's door, and keep it closed until the procedure is complete.
2. Turn the ignition switch OFF.
3. Press and hold the tilt switch, and turn the ignition switch ON (II).
4. Release the tilt switch, and turn the ignition switch OFF.
5. Repeat steps 3 and 4 four times.
6. Press and hold the moonroof open switch for 3 additional seconds after the moonroof is fully opened.
7. Press and hold the moonroof close switch for 3 additional seconds after the moonroof is fully closed (tilted).
8. Confirm that the moonroof control unit is reset by using the moonroof AUTO OPEN and AUTO CLOSE function.

## CIRCUIT DIAGRAM

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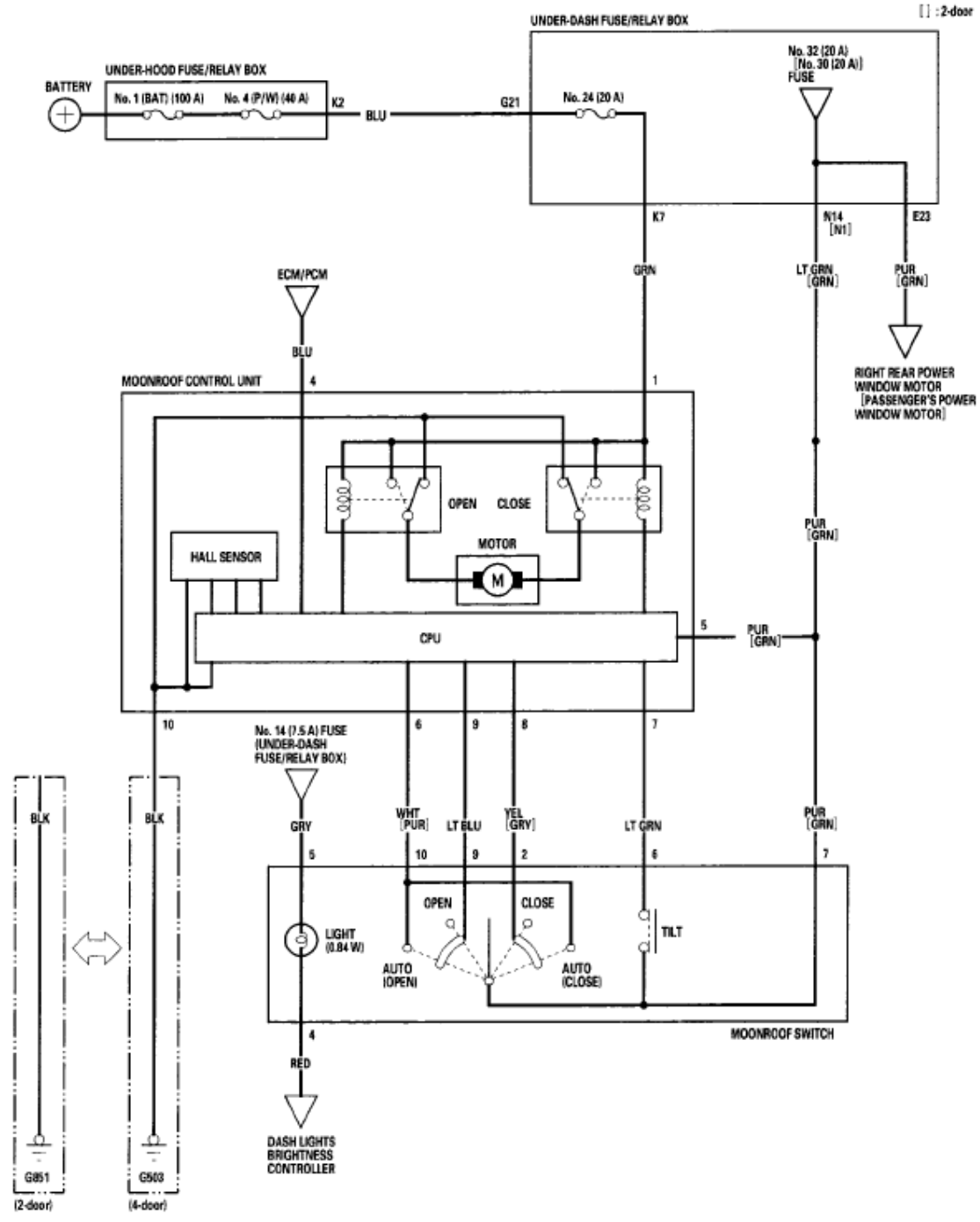



**Fig. 2: Power Moonroof Circuit Diagram (06-07' Models)**

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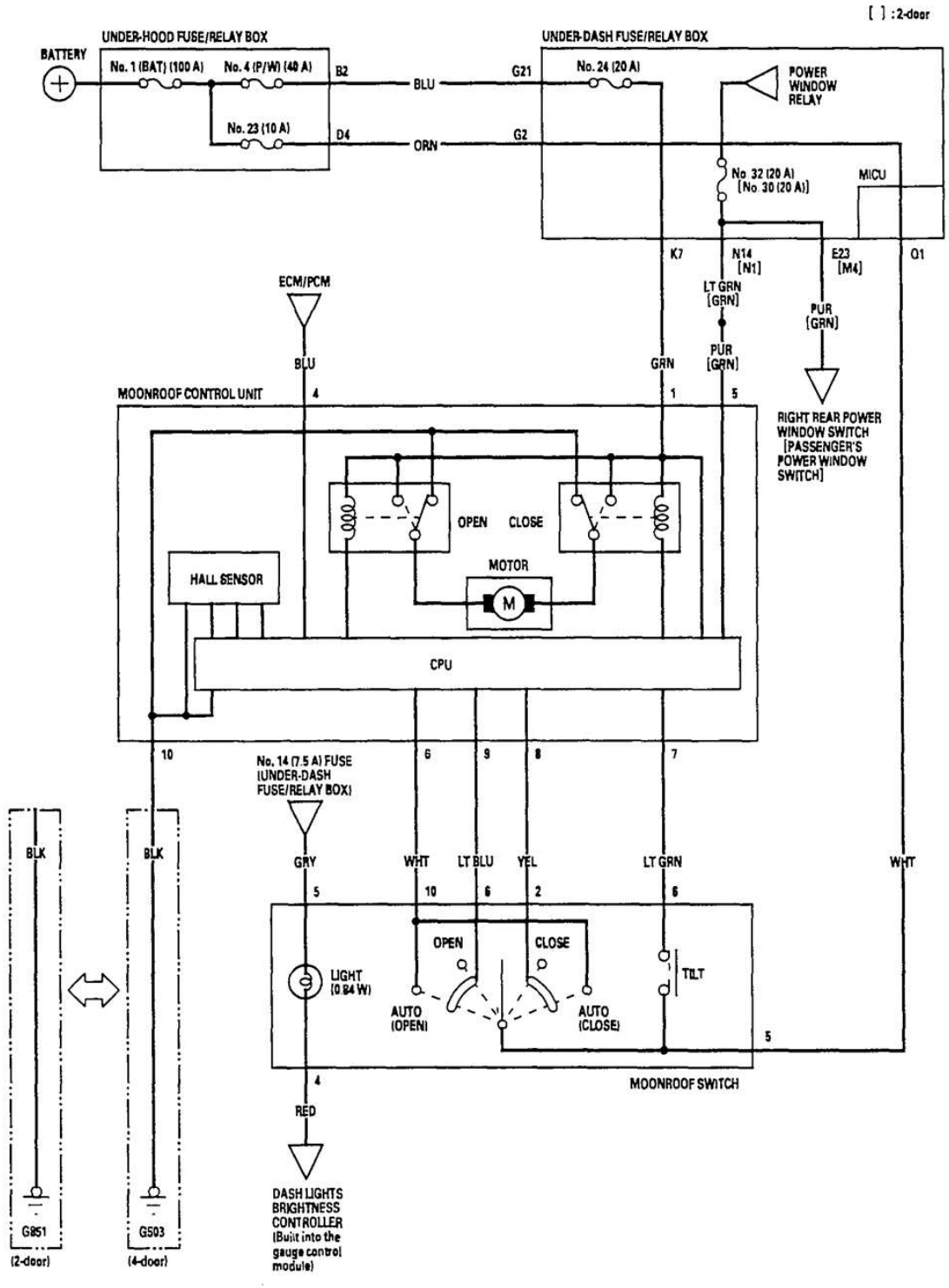



**Fig. 3: Power Moonroof Circuit Diagram (08' Model)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## MOONROOF CONTROL UNIT INPUT TEST

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**NOTE: If the moonroof works OK manually, but will not work in AUTO, or reverses frequently (obstacle detection), do the moonroof calibration (see RESETTING THE MOONROOF CONTROL UNIT ) before proceeding with the input test.**

1. Turn the ignition switch OFF.
2. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION** ).
3. Disconnect the 10P connector (A) from the moonroof control unit (B).

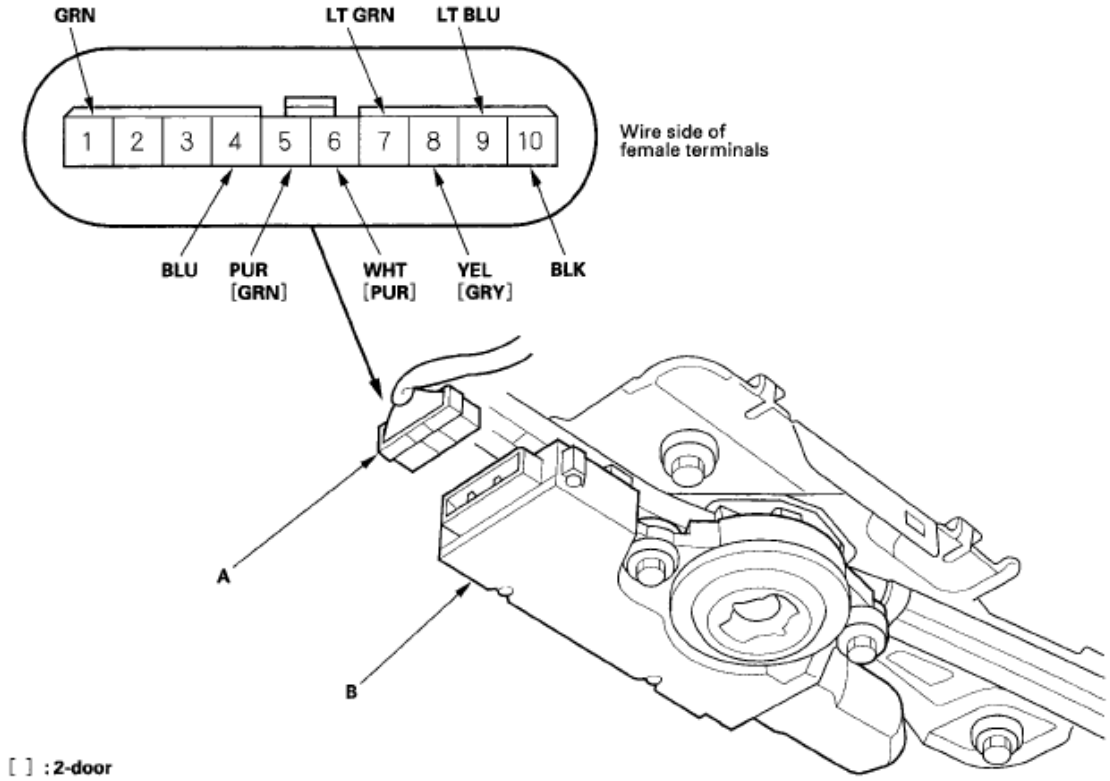



**Fig. 4: Disconnecting 10P Connector From Moonroof Control Unit**

4. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, go to step 5.
5. Reconnect the connector to the control unit, and make these input tests at the connector.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 6.

**MOONROOF CONTROL UNIT INPUT TEST (1 OF 2)**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 1 | GRN | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 24 (20 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 5 | PUR [GRN] | Ignition switch ON (ID | Check for voltage to ground: There should be battery voltage. | • Blown No. 32 (20 A) [No.30 (20 A)] fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 10 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G503) [G851]<br>• An open in the wire |
| 6 | WHT [PUR] | Moonroof switch in AUTO OPEN or AUTO CLOSE position | Check for voltage to ground at the No. 5 and No. 6 terminals: There should be battery voltage. | • Faulty moonroof switch<br>• An open in the wire |
| | | Moonroof | Check for voltage to ground at the | • Faulty moonroof |

| | | | | |
|---|---|---|---|---|
| 7 | LT GRN | switch in TILT position | No. 5 and No. 7 terminals: There should be battery voltage. | switch<br>• An open in the wire |
| 8 | YEL [GRY] | Moonroof switch in CLOSE position | Check for voltage to ground at the No. 5 and No. 8 terminals: There should be battery voltage. | • Faulty moonroof switch<br>• An open in the wire |
| 9 | LT BLU | Moonroof switch in OPEN position | Check for voltage to ground at the No. 5 and No. 9 terminals: There should be battery voltage. | • Faulty moonroof switch<br>• An open in the wire |
| [ ] :2-door | | | | |

- Check the ECM/PCM DTCs. If there is no DTC, jump the SCS line with the HDS, then disconnect the ECM/PCM connector A (44P), and the moonroof control unit/motor 10P connector.
- Make these input tests at the connector.
  - If any test indicates a problem, find and correct the cause, then recheck the system.
  - If all the input tests prove OK, the control unit must be faulty; replace the moonroof control unit/motor.

**MOONROOF CONTROL UNIT INPUT TEST (2 OF 2)**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| | | | Check for continuity between the No. 4 terminal | An open in |

| | | | | |
|---|---|---|---|---|
| 4 | BLU | Under all conditions | and ECM/PCM connector A (44P) No. 29 terminal: There should be continuity. | the wire |
| | | | Check for continuity between the No. 4 terminal and body ground: There should be no continuity. | A short to ground in the wire |

## MOONROOF SWITCH TEST/REPLACEMENT

**06-07' MODELS**

1. Remove the front individual map lights (see **FRONT INDIVIDUAL MAP LIGHT TEST/REPLACEMENT** ).
2. Disconnect the moonroof switch 10P connector (A) and map light switch 3P connector (B).

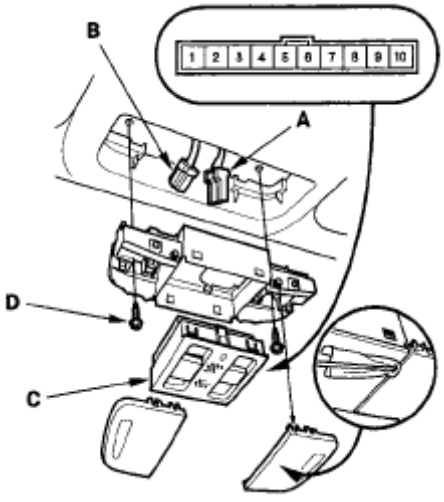



**Fig. 5: Disconnecting Moonroof Switch 10P Connector And Map Light Switch 3P Connector**

3. Remove the moonroof switch (C).
4. Check for continuity between the terminals in each switch position according to **Fig. 6** .

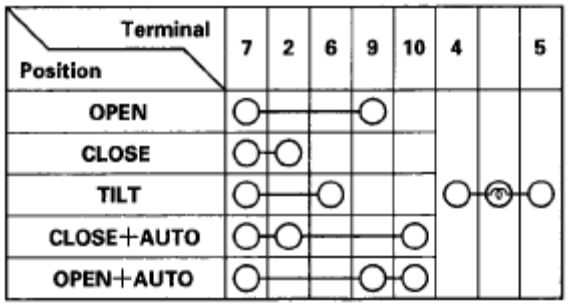



**Fig. 6: Identifying Moonroof Switch Continuity Table**

5. If the continuity check is not as specified, replace the illumination bulb (D) or the switch.
6. Install the switch and light in the reverse order of removal.

**08' MODEL**

1. Remove the front individual map lights (see **FRONT INDIVIDUAL MAP LIGHT TEST/REPLACEMENT** ).
2. Disconnect the moonroof switch 10P connector (A) and map light switch 3P connector (B).

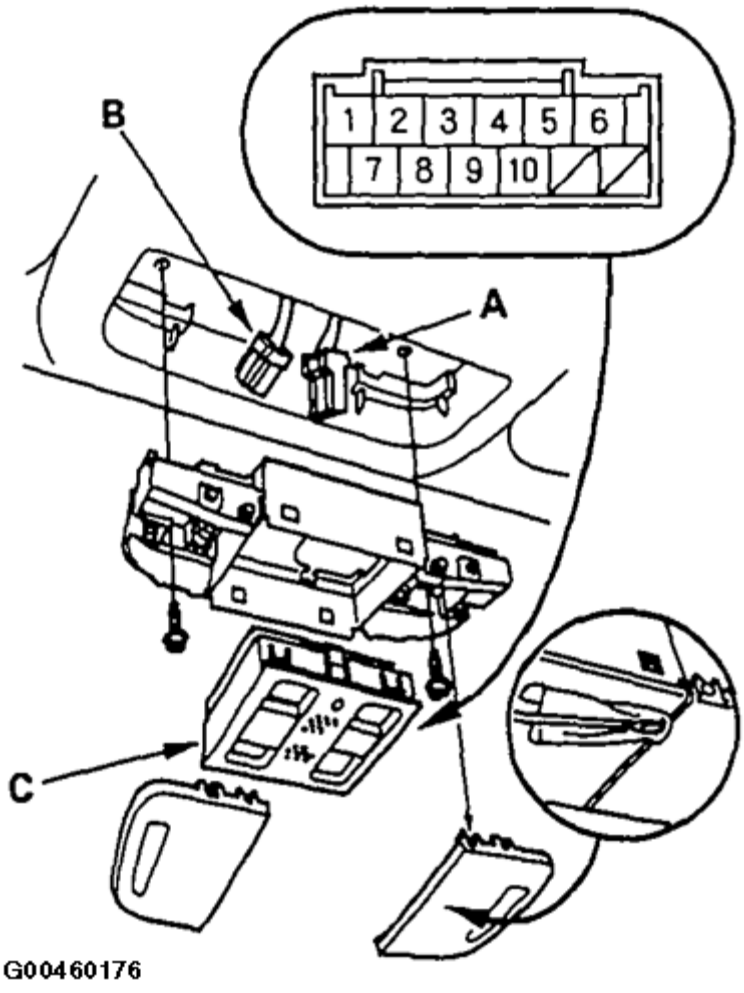



**Fig. 7: Identifying Moonroof 12P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the moonroof switch (C).
4. Check for continuity between the terminals in each switch position according to **Fig. 6** .

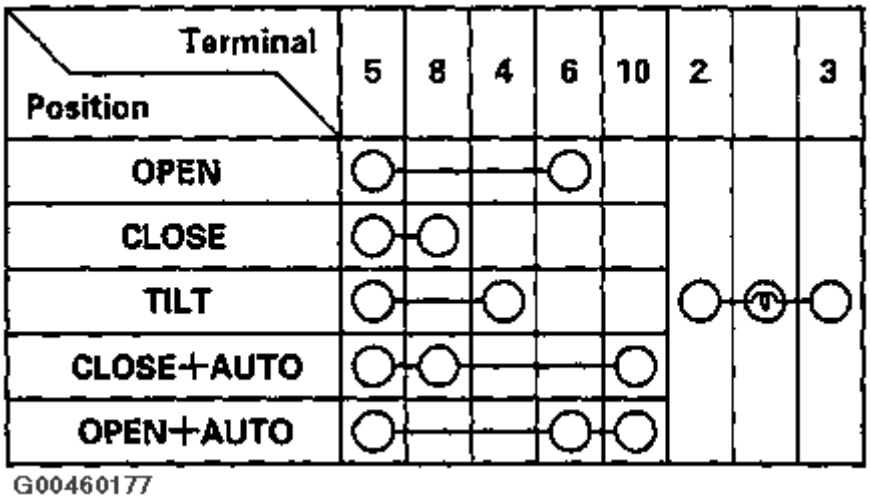



**Fig. 8: Identifying Moonroof Switch Continuity Table**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. If the continuity check is not as specified, replace the illumination bulb (D) or the switch.
6. Install the switch and light in the reverse order of removal.

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**2006-08 STEERING**

**Hydraulic Power Steering Components - Civic (All Except Hybrid)**

## COMPONENT LOCATION INDEX

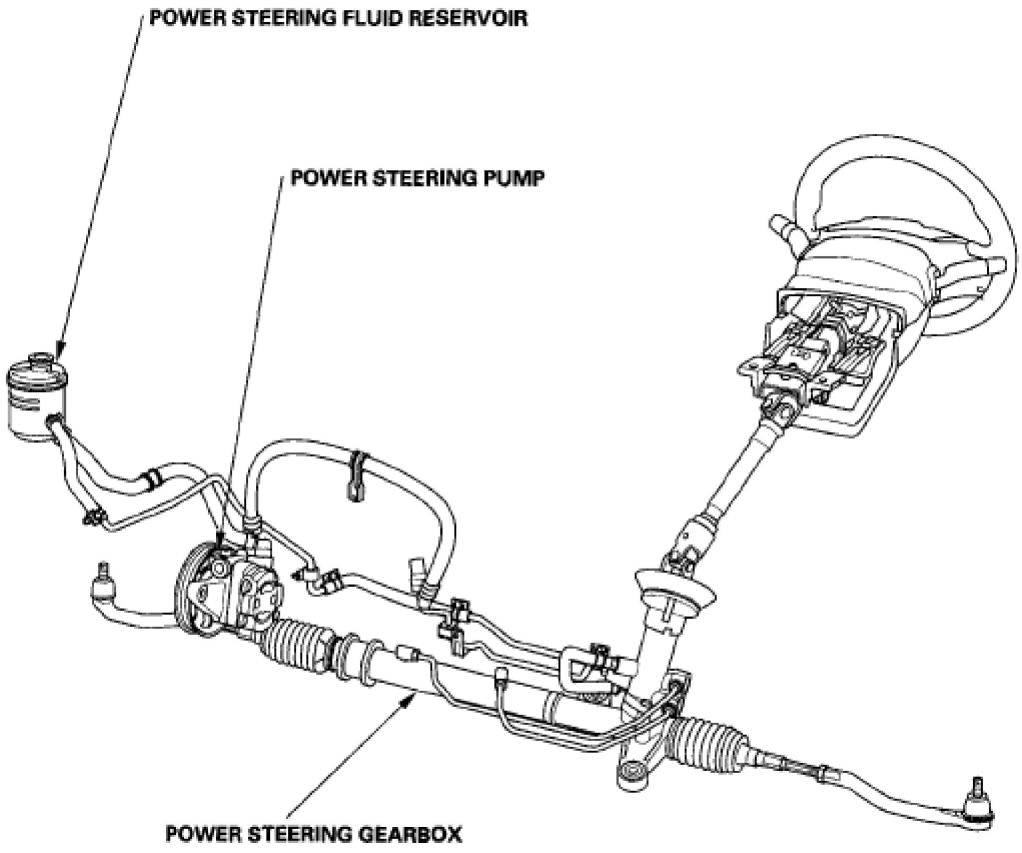



**Fig. 1: Identifying Hydraulic Power Steering Components Location**

## SYMPTOM TROUBLESHOOTING INDEX

Find the symptom in the chart below, and do the related procedures in the order listed until you find the cause.

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Procedure(s) | Also check for |
|---|---|---|
| | | • Modified |

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| | | |
|---|---|---|
| Hard steering | Troubleshoot the system (see **Symptom Troubleshooting** ). | suspension<br>• Damaged suspension<br>• Tire sizes, tire varieties, and air pressure |
| Assist (excessively light steering at high speed) | Check the rack guide adjustment (see **RACK GUIDE ADJUSTMENT** ). | Front wheel alignment (see **WHEEL ALIGNMENT** ) |
| Shock or vibration when the steering wheel is turned to full lock | 1. Check the rack guide adjustment (see **RACK GUIDE ADJUSTMENT** ).<br>2. Check the drive belt for slippage (see **DRIVE BELT INSPECTION** ).<br>3. Check the power steering pump fluid pressure with T/N 07406-0010001 (see **PUMP PRESSURE TEST WITH T/N 07406-0010001** ) or T/N 07406-001000A (see **PUMP PRESSURE TEST WITH T/N 07406-001000A** ).<br>4. Overhaul the steering gearbox (see step 2 ). | |
| Steering wheel will not return smoothly | 1. Check cylinder lines for deformation.<br>2. Check the ball joints for binding.<br>3. Check wheel alignment (see **WHEEL ALIGNMENT** ).<br>4. Overhaul the steering gearbox (see step 2 ). | |
| | 1. Check the rack guide adjustment | |

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| | | |
|---|---|---|
| Uneven or rough steering | (see **RACK GUIDE ADJUSTMENT** ).<br>2. Check the drive belt (see **DRIVE BELT INSPECTION** ).<br>3. Check for low or erratic engine idle speed (see **IDLE SPEED INSPECTION** ).<br>4. Check for air in the power steering system due to air entering inlet side of pump.<br>5. Check for low fluid level in the power steering reservoir due to possible leaks in system (see **FLUID REPLACEMENT** ).<br>6. Overhaul the steering gearbox (see step 2 ). | |
| Steering wheel kicks back during wide turns | 1. Check the drive belt (see **DRIVE BELT INSPECTION** ).<br>2. Check the power steering pump fluid pressure with T/N 07406-0010001 (see **PUMP PRESSURE TEST WITH T/N 07406-0010001** ) or T/N 07406-001000A (see **PUMP PRESSURE TEST WITH T/N 07406-001000A** ). | |
| | 1. Check when the noise occurs:<br>• If the noise is heard up to 2-3 minutes after starting the engine in cold weather, this is normal.<br>• If the noise is heard when the wheel is turned with the vehicle stopped, this is normal | |

| | | |
|---|---|---|
| Humming noise from the power steering system | due to the fluid pulsation.<br>2. Check for the high-pressure hose touching the subframe or body.<br>3. Check for automatic transmission converter noise (A/T).<br>4. Check for air bubbles in the power steering fluid, leak on inlet side of pump.<br>5. Check for particle contamination of fluid and restricted filter in the reservoir. | Pump pressure |
| Power steering rack rattle or chattering | 1. Check for loose steering components (tie-rod and ball joints). Tighten or replace as necessary.<br>2. Check the steering column shaft for wobbling. If the steering column wobbles, replace the steering column assembly (see **STEERING COLUMN REMOVAL AND INSTALLATION** ).<br>3. Check the rack guide adjustment (see **RACK GUIDE ADJUSTMENT** ).<br>4. Check the power steering pump pulley:<br>• If the pulley is loose, tighten it (see step 46 ).<br>• If the pump shaft is loose, replace the pump (see **PUMP REPLACEMENT** ). | |
| | • Check the fluid level. If low, fill the reservoir to the proper level and | |

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| | | |
|---|---|---|
| Hissing from the power steering system/foaming fluid | check for leaks (see **FLUID LEAKAGE INSPECTION** ).<br>• Check the reservoir for leaks.<br>• Check for crushed inlet hose or loose hose clamp allowing air into the suction side of the system (see **FLUID LEAKAGE INSPECTION** ).<br>• Check the power steering pump shaft oil seal for leaks. | Air in the P/S fluid |
| Noise from the power steering pump | • Compare the pump noise at normal operating temperature to another like vehicle (pump noise for 2-3 minutes after starting the engine in cold weather is normal).<br>• Remove and inspect the pump for wear and damage (see **PUMP REPLACEMENT** ). | • P/S pump pressure<br>• Air in the P/S fluid |
| Squeaking from the power steering pump | Check the drive belt (see **DRIVE BELT INSPECTION** ). | |
| Fluid leaks from the steering gearbox | • Fluid leaks from the top of the valve body unit. Overhaul the valve body unit (see step 19 on page 17-51).<br>• Fluid leaks from the driver's side boot. Replace the valve oil seal on the pinion shaft. Replace the cylinder end seal on the gearbox side.<br>• Fluid leaks from the passenger's side boot. Replace the cylinder end seal on the cylinder side. | |

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| | | |
|---|---|---|
| | • Fluid leaks from pinion shaft near the lower steering joint bolt. Overhaul the valve body unit (see step 19 on page 17-51).<br>• Fluid leaks from the steering damping valve covers on the valve body unit. Replace the valve housing. | |
| Fluid leaks from the power steering line | • Fluid leaks from the cylinder line connections (flare nuts). Tighten the connection and retest (see **POWER STEERING HOSE, LINE, AND PRESSURE SWITCH REPLACEMENT** ).<br>• Fluid leaks from a damaged cylinder lines. Replace the cylinder line (see **POWER STEERING HOSE, LINE, AND PRESSURE SWITCH REPLACEMENT** ).<br>• Fluid leaks from the pump outlet hose or return line fitting on the valve body unit (flare nuts). Tighten the fitting and retest. If it still leaks, replace the hose, the line, or valve body unit as necessary. | |
| Fluid leaks from the power steering pump | • Fluid leaks from the front oil seal. Replace the front oil seal.<br>• Fluid leaks from the power steering pump housing. Replace the leaking O-rings or seals (see **FLUID LEAKAGE INSPECTION** ), and if necessary replace the power steering pump (see **PUMP REPLACEMENT** ). | |

| | | |
|---|---|---|
| Fluid leaks from the power steering reservoir | • Fluid leaks from around the reservoir cap because fluid level is too high. Drain the reservoir to the proper level. If the fluid is aerated check for an air leak on the inlet side of pump.<br>• Fluid leaks from reservoir. Check for reservoir for cracks and replace as necessary. | |
| Fluid leaks from the power steering pump outlet hose (high-pressure) | • Check the fitting for loose bolts. If the bolts are tight, replace the fitting O-ring.<br>• Fluid leaks at the swagged joint. Replace the pump outlet hose. | |
| Fluid leaks from the power steering pump inlet hose (low-pressure) | Check the hose for damage, deterioration, or improper assembly. Replace or repair as necessary. | |

## SYMPTOM TROUBLESHOOTING

### HARD STEERING

1. Check the power assist (see **STEERING WHEEL ROTATIONAL PLAY CHECK** ).

   *Is the initial turning load more than 34 N (3.5 kgf, 7.7 lbf)?*

   **YES** -Go to step 2.

   **NO** -Power assist is OK.

2. Connect the P/S joint adapter (pump), P/S joint adapter (hose), and P/S pressure gauge T/N 07406-0010001 (see **PUMP PRESSURE TEST WITH T/N 07406-0010001** ), or T/N 07406-001000A (see **PUMP PRESSURE TEST WITH T/N 07406-001000A** ) to the pump.

3. Measure steady-state fluid pressure from the pump at idle.

   *Is the pressure 1,470 kPa (15 kgf/cm$^2$ , 213 psi) or less?*

   **YES** -Go to step 4.

   **NO** -Go to step 8.

4. Measure the pump relief pressure at idle.

   *Is the pressure 7,850-8,550 kPa (80-87 kgf/cm$^2$ , 1,140-1,240 psi) or more?*

   **YES** -Go to step 5.

   **NO** -Go to step 9.

5. With a spring scale, measure the power assist in both directions, to the left and to the right.

   *Are the two measurements within 5.0 N (0.51 kgf, 1.12 lbf) of each other?*

   **YES** -Go to step 6.

   **NO** -Go to step 11.

6. Measure the fluid pressure with both pressure gauge valves open (if so equipped), while turning the steering wheel fully to the left and fully to the right.

   *Is the pressure 7,850-8,550 kPa (80-87 kgf/cm$^2$ , 1,140-1,240 psi) or more?*

   **YES** -Go to step 7.

   **NO** -Faulty steering gearbox.

7. Adjust the rack guide (see **RACK GUIDE ADJUSTMENT** ), and retest.

   *Is the steering OK?*

**YES** -Repair is completed.

**NO** -Faulty steering gearbox.

8. Check the outlet and return hoses and lines between the pump and the steering gearbox for clogging and deformation.

   *Are the lines clogged or deformed?*

   **YES** -Repair or replace the lines.

   **NO** -Faulty valve body unit.

9. Disassemble the pump (see **PUMP OVERHAUL** ).
10. Check the pressure control valve for smooth movement and leaks (see step 16 ).

    *Is the pressure control valve OK?*

    **YES** -Faulty pump assembly.

    **NO** -Faulty pressure control valve.

11. Check the cylinder lines for deformation (see **POWER STEERING HOSE, LINE, AND PRESSURE SWITCH REPLACEMENT** ).

    *Are any of the lines deformed?*

    **YES** -Replace the deformed line.

    **NO** -Go to step 12.

12. Check for a bent rack shaft or misadjusted rack guide (too tight).

    *Is the rack shaft bent or the rack guide adjusted too tight?*

    **YES** -Replace the rack shaft, or readjust the rack guide.

    **NO** -Faulty valve body unit.

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## PUMP PRESSURE TEST WITH T/N 07406-0010001

### Special Tools Required

- P/S joint adapter (pump) 07RAK-S040111
- P/S joint adapter (hose) 07RAK-S040122
- P/S pressure gauge 07406-0010001

Check the fluid pressure as follows to determine whether the trouble is in the pump or the steering gearbox.

1. Check the power steering fluid level (see **FLUID REPLACEMENT** ).
2. Remove the cowl cover and under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
3. Remove the pump outlet hose clamp (A) from the intake manifold.

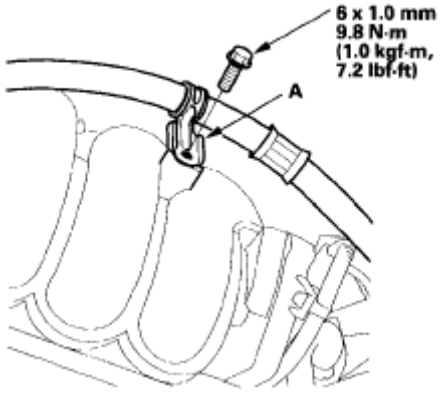



**Fig. 2: Identifying Pump Outlet Hose Clamp (With Torque Specifications)**

4. Disconnect the pump outlet hose, then install the P/S joint adapter (pump) on the pump (A). Take care so as not to spill the power steering fluid on the frame and other parts.

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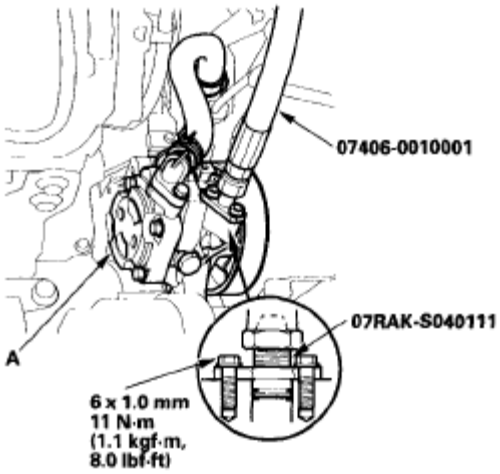



**Fig. 3: Identifying P/S Joint Adapter (Pump) On Pump (With Torque Specifications)**

5. Install the P/S pressure gauge to the P/S joint adapter (pump).
6. Connect the P/S joint adapter (hose) to the P/S pressure gauge.
7. Connect the pump outlet hose (A) to the P/S joint adapter (hose).

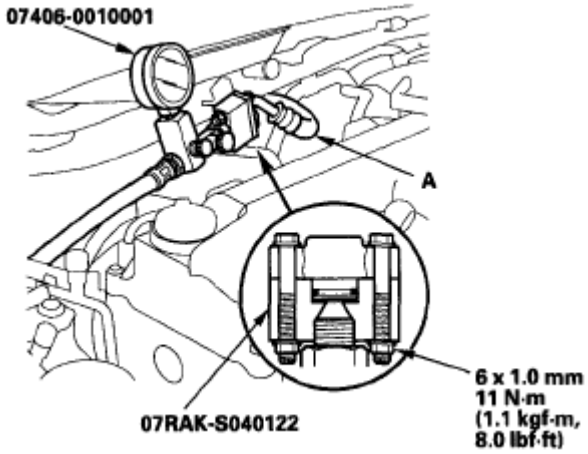



**Fig. 4: Identifying Pump Outlet Hose To P/S Joint Adapter (Hose) (With Torque Specifications)**

8. Fully open the shut-off valve (A).

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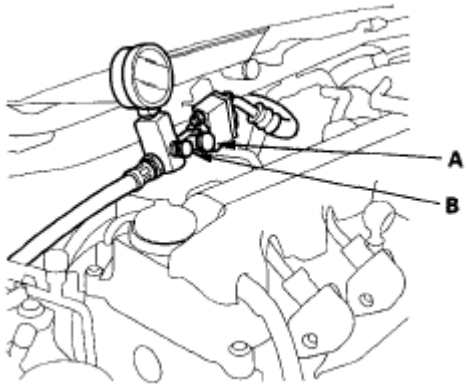



**Fig. 5: Identifying Pressure Control Valve**

9. Fully open the pressure control valve (B).
10. Start the engine, and let it idle.
11. Turn the steering wheel from lock-to-lock several times to warm the fluid to operating temperature at 158°F (70°C).
12. Measure steady-state fluid pressure while the engine is idling. If the pump is in good condition, the gauge should be no more than 1,470 kPa (15 kgf/cm$^2$ , 213 psi). If it reads higher, check for:
    - Clogged or deformed pump outlet or return line between the pump and the steering gearbox.
    - Clogged valve body unit.
13. Raise the engine speed to 3,000 rpm, and measure the fluid pressure. If the pump is in good condition, the gauge should read at least 1,470 kPa (15 kgf/cm$^2$ , 213 psi). If it reads higher, repair or replace the pump.
14. Lower the engine speed, and let it idle. Close the shut-off valve, then close the pressure control valve gradually until the pressure gauge needle is stable. Read the pressure.

**NOTE: Do not keep the shut-off valve closed more than 5 seconds or the pump could be damaged by overheating.**

15. Immediately open the shut-off valve fully.

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If the pump is in good condition, the gauge should read at least 7,850-8,550 kPa (80-87 kgf/cm$^2$ , 1,140-1,240 psi). A low reading means pump output is too low for full assist. Repair or replace the pump.

16. Reinstall all removed parts.

## PUMP PRESSURE TEST WITH T/N 07406-001000A

### Special Tools Required

- P/S joint adapter (pump) 07RAK-S040111
- P/S joint adapter (hose) 07RAK-S040122
- P/S pressure gauge 07406-001000A

Check the fluid pressure as follows to determine whether the trouble is in the pump or the steering gearbox.

1. Check the power steering fluid level (see **FLUID REPLACEMENT** ).
2. Remove the cowl cover and under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
3. Remove the pump outlet hose clamp (A) from the intake manifold.

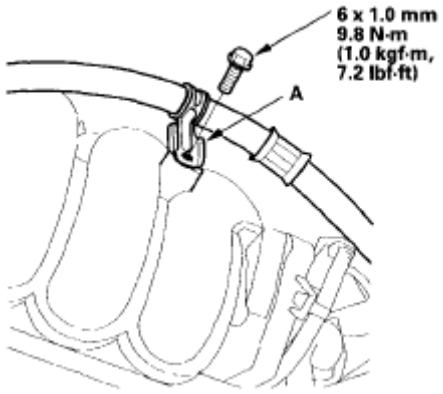



**Fig. 6: Identifying Pump Outlet Hose Clamp (With Torque Specifications)**

4. Disconnect the pump outlet hose, then install the P/S joint adapter (pump) on the pump (A). Take care so as not to spill the power steering fluid on the frame and other parts.

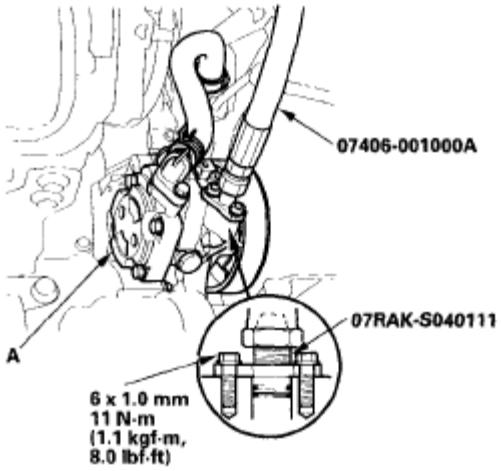



**Fig. 7: Identifying P/S Joint Adapter (Pump) On Pump (With Torque Specifications)**

5. Install the P/S pressure gauge to the P/S joint adapter (pump).
6. Connect the P/S joint adapter (hose) to the P/S pressure gauge.
7. Connect the pump outlet hose (A) to the P/S joint adapter (hose).

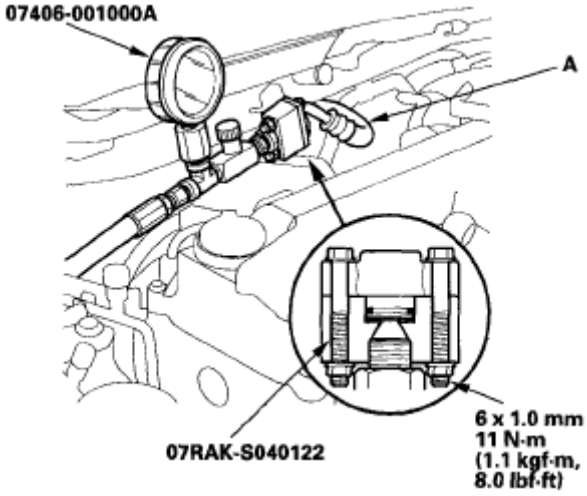



**Fig. 8: Identifying P/S Pressure Gauge To P/S Joint Adapter (Pump) (With Torque Specifications)**

8. Open the shut-off valve (A) fully.

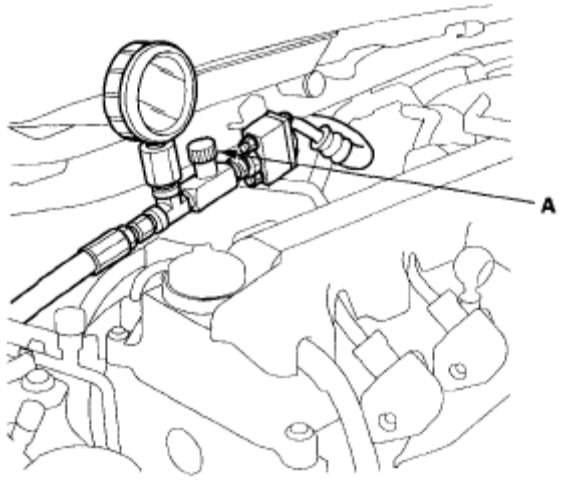



**Fig. 9: Identifying Shut-Off Valve - P/S Pressure Gauge**

9. Start the engine, and let it idle.
10. Turn the steering wheel from lock-to-lock several times to warm the fluid to operating temperature at 158°F (70°C).
11. Measure steady-state fluid pressure while the engine is idling. If the pump is in good condition, the gauge should be no more than 1,470 kPa (15 kgf/cm$^2$ , 213 psi). If it reads higher, check for:
    - Clogged or deformed pump outlet or return line between the pump and the steering gearbox.
    - Clogged valve body unit.
12. Raise the engine speed to 3,000 rpm, and measure the fluid pressure. If the pump is in good condition, the gauge should read at least 1,470 kPa (15 kgf/cm$^2$ , 213 psi). If it reads higher, repair or replace the pump.
13. Lower the engine speed, and let it idle. Close the shut-off valve gradually until the pressure gauge needle is stable. Read the pressure.

**NOTE: Do not keep the shut-off valve closed more than 5 seconds or the pump could be damaged by overheating.**

14. Immediately open the shut-off valve fully. If the pump is in good condition, the gauge should read at least 7,850-8,550 kPa (80-87 kgf/cm$^2$ , 1,140-1,240 psi).

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A low reading means pump output is too low for full assist. Repair or replace the pump.

15. Reinstall all removed parts.

## FLUID LEAKAGE INSPECTION

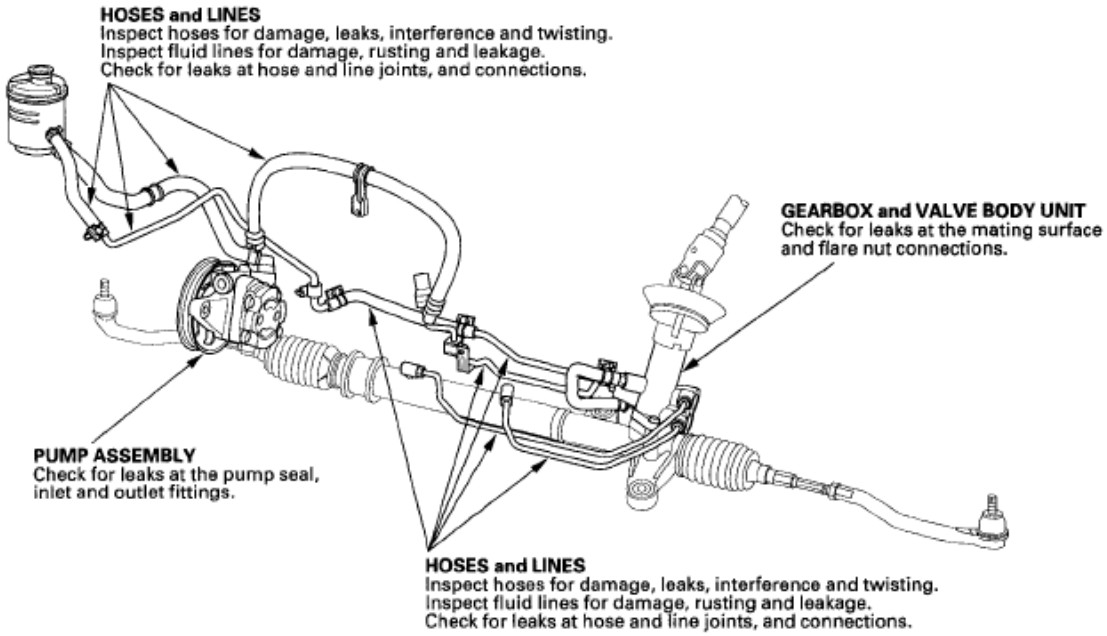



**Fig. 10: Identifying Fluid Leakage Components Location**

## FLUID REPLACEMENT

Check the reservoir (A) at regular intervals, and add the recommended fluid as necessary. Always use Honda Power Steering Fluid. Use of any other type of power steering fluid or automatic transmission fluid can cause increased wear and poor steering in cold weather.

**NOTE: If the fluid is contaminated, the screen in the reservoir may be partially blocked. Replace the reservoir if necessary.**

**System capacity:**
**0.8 L (0.85 US. qt) at disassembly**
**Reservoir capacity:**
**0.26 L (0.27 US. qt)**

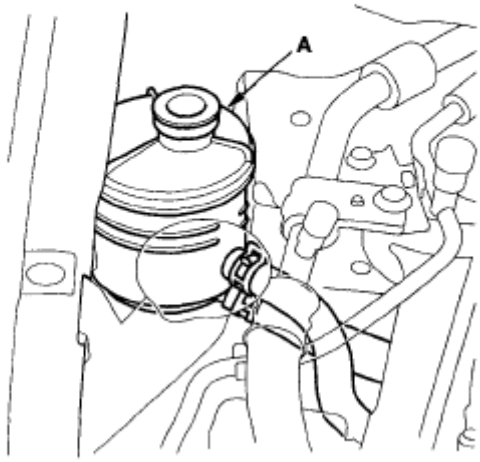



**Fig. 11: Identifying Fluid Reservoir**

1. Remove the reservoir from its holder. Raise the reservoir, then disconnect the return hose (A) to drain the reservoir. Take care not to spill the fluid on the body and parts. Wipe off any spilled fluid at once.

**NOTE: Inspect the reservoir screen for any debris. If the reservoir screen is clogged, replace the reservoir.**

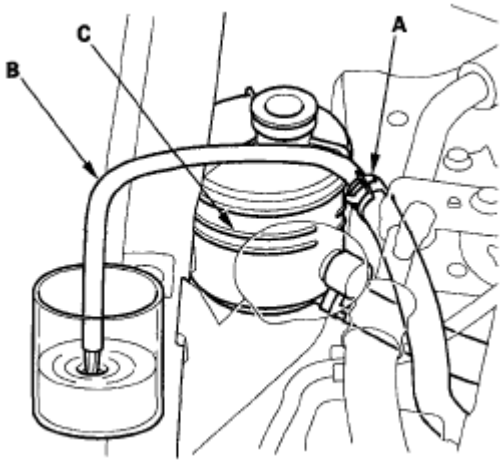



**Fig. 12: Identifying Reservoir Tank Specified Level - Upper Level Line**

2. Connect a hose (B) of suitable diameter to the disconnected return hose, and

put the hose end in a suitable container.

3. Start the engine, let it run at idle, and turn the steering wheel from lock-to-lock several times. When fluid stops running out of the hose, shut off the engine. Discard the fluid.
4. Reinstall the return hose on the reservoir.
5. Fill the reservoir to the upper level line (C).
6. Start the engine and run it at fast idle, then turn the steering from lock-to-lock several times to bleed air from the system.
7. Recheck the fluid level and add some if necessary. Do not fill the reservoir beyond the upper level line.
8. If the fluid is contaminated, dark, or discolored, repeat the procedure as necessary.

## POWER STEERING HOSE, LINE, AND PRESSURE SWITCH REPLACEMENT

Note these items during installation:

- Connect each hose to the corresponding line securely until it contacts the stop on the line. Install the clamp or adjustable clamp at the specified distance from the hose end as shown.
- Check all clamps for deterioration or deformation; replace the clamps with new ones if necessary.
- Add the recommended power steering fluid to the specified level on the reservoir and check for leaks.

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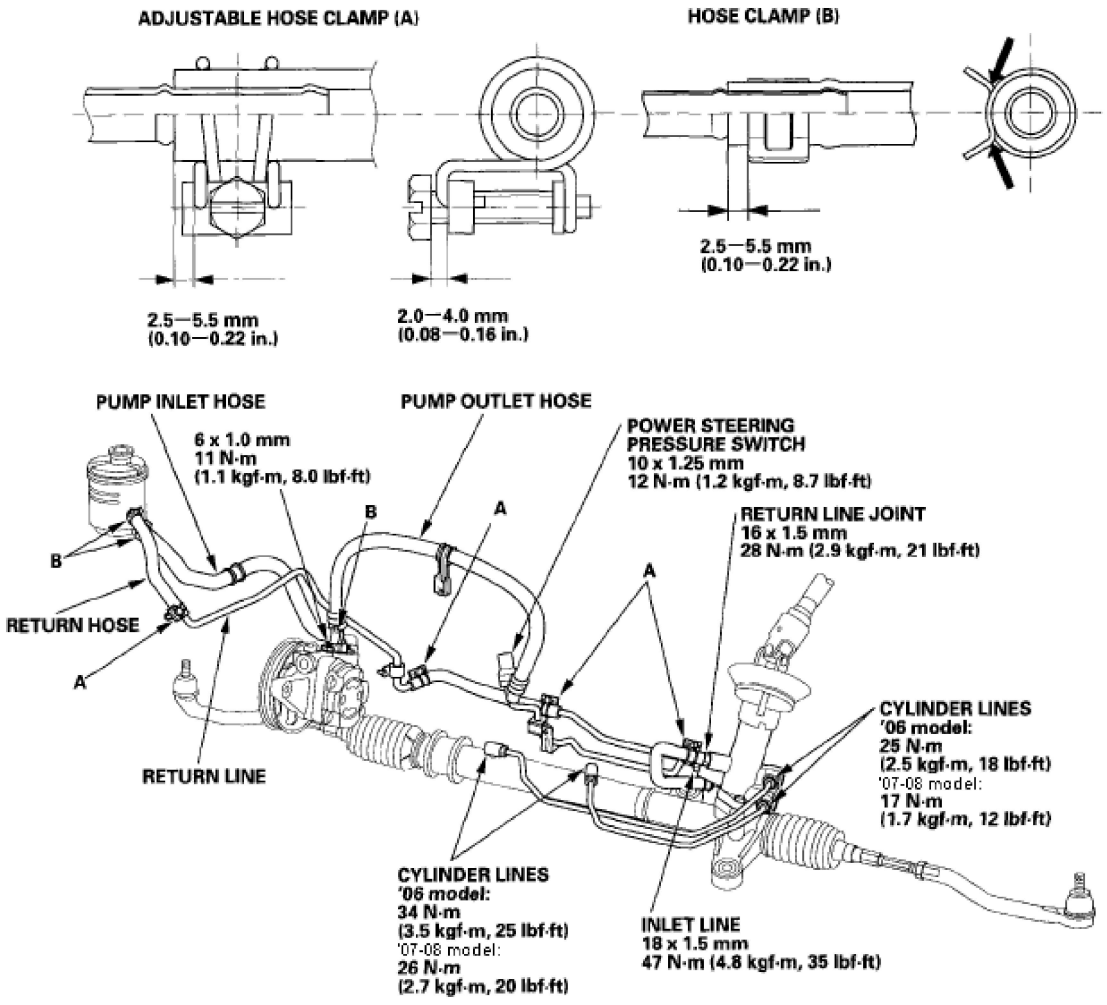



**Fig. 13: Identifying Specified Distance From Hose (With Torque Specifications)**

## PUMP REPLACEMENT

1. Place a suitable container under the vehicle.
2. Drain the power steering fluid from the reservoir (see **FLUID REPLACEMENT** ).
3. Remove the cowl cover and under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
4. Remove the air cleaner (see **THROTTLE BODY CLEANING** ).
5. Remove the front splash shield, 2-door (see **FRONT SPLASH SHIELD REPLACEMENT** ), 4-door (see **4-DOOR** ).

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6. M/T model: Remove the shift cable bracket (A).

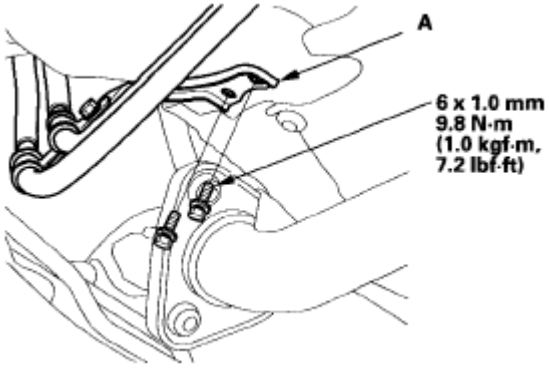



**Fig. 14: Identifying Shift Cable Bracket (With Torque Specifications)**

7. A/T model: Disconnect the shift cable from the control lever (see **SHIFT CABLE REPLACEMENT** ).
8. Remove the upper torque rod mounting bolts (A) from the body.

**NOTE: During installation, install new mounting bolts.**

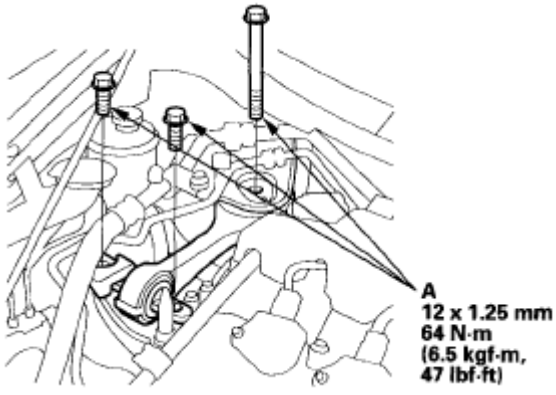



**Fig. 15: Identifying Upper Torque Rod Mounting Bolts (With Torque Specifications)**

9. Remove the drive belt (A) from the pump pulley (see **DRIVE BELT INSPECTION** ).

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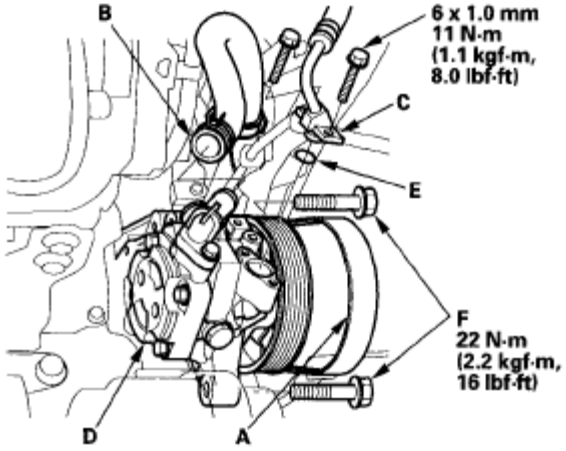



**Fig. 16: Identifying Pump Outlet Hose, O-Ring And Pump Mounting Bolts (With Torque Specifications)**

10. Cover the parts around the power steering pump with several shop towels to protect them from spilled power steering fluid.
11. Disconnect the pump inlet hose (B) and pump outlet hose (C) from the pump (D), and plug them. Take care not to spill the fluid on the body or on any parts. Wipe off any spilled fluid at once. Do not turn the steering wheel with the pump removed.
12. Remove the pump outlet hose O-ring (E), and discard it.
13. Remove the pump mounting bolts (F).
14. Cover the opening of the pump with a piece of tape to prevent foreign material from entering the pump.
15. Move the power steering pump toward the driver's side, then raise it.

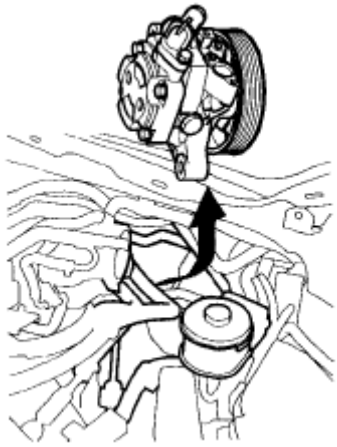


**Fig. 17: Identifying Power Steering Pump**

16. Connect the pump inlet hose and pump outlet hose onto the new pump with new a O-ring.
17. Loosely install the pump in the pump bracket with the mounting bolts, then tighten the pump fittings securely.
18. Tighten the pump mounting bolts to the specified torque.
19. Install the drive belt (A).

    Note these items during belt installation:

    - Make sure that the belt is properly positioned on the pulleys (B).
    - Do not get power steering fluid or grease on any parts around the power steering pump, drive belt, or pulley faces. Clean off any fluid or grease before installation.

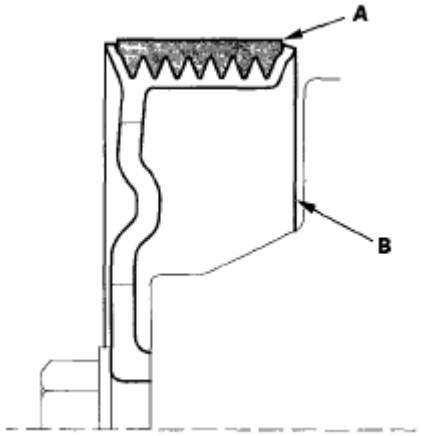



**Fig. 18: Identifying Drive Belt**

20. Reinstall all removed parts.
21. Fill the reservoir to the upper level line (see **FLUID REPLACEMENT** ).

## PUMP OVERHAUL

### EXPLODED VIEW

Replace the pump as an assembly if the parts indicated with an asterisk (*) are worn or damaged.

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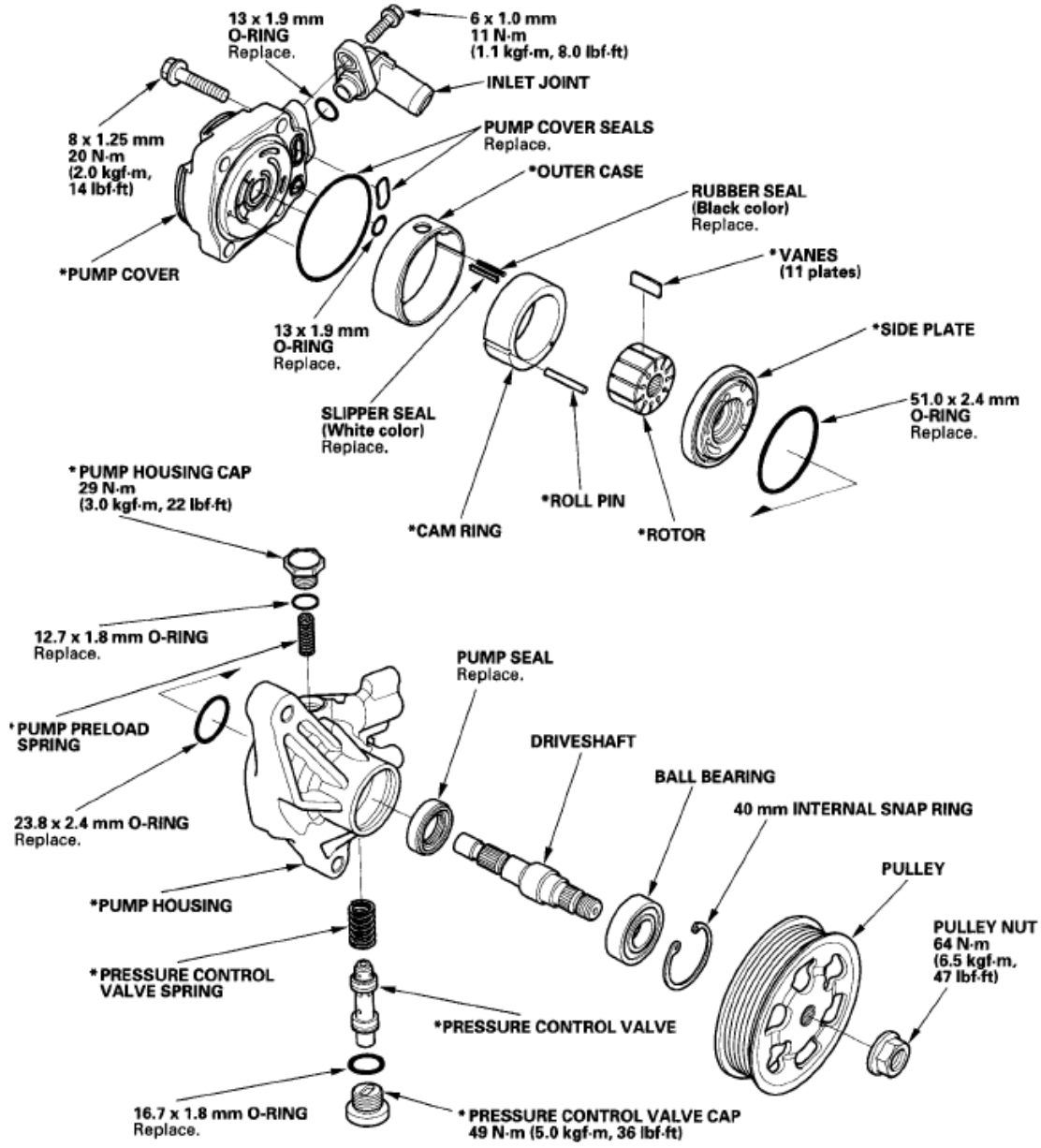



**Fig. 19: Exploded View Of Power Steering Pump (With Torque Specifications)**

## Special Tools Required

- Attachment, 32 x 35 mm 07746-0010100
- Driver 07749-0010000
- Pulley holder 07ZAB-S5A0100

**Disassembly**

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**NOTE: Refer to the Fig. 19 as needed during the following procedure.**

1. Drain the fluid from the pump (see **FLUID REPLACEMENT** ).
2. Remove the power steering pump (see **PUMP REPLACEMENT** ).
3. Hold the steering pump (A) in a vise with soft jaws (B), hold the pulley (C) with the pulley holder (D), and remove the pulley nut (E) and pulley. Be careful not to damage the pump housing with the jaws of the vise.

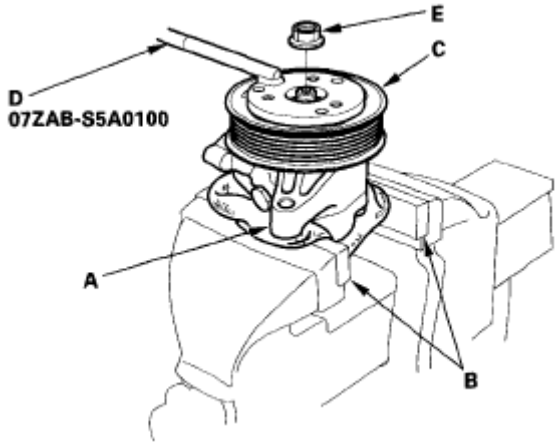



**Fig. 20: Identifying Steering Pump In Vise**

4. Remove the inlet joint and O-ring.
5. Remove the pressure control valve cap, O-ring, valve spring, and pressure control valve.
6. Remove the pump housing cap, O-ring, and pump preload spring.
7. Remove the pump cover, O-ring, and pump cover seals.
8. Pull out the roll pin.
9. Remove the outer case, cam ring, rotor, vanes, and side plate.
10. Remove the rubber seal and slipper seal from the outer case.
11. Remove the O-rings from the bottom of the housing.
12. Remove the 40 mm internal snap ring, then remove the driveshaft by tapping the shaft end with a plastic hammer.
13. Remove the seal from the pump housing.

## Inspection

14. Check the pressure control valve for wear, burrs, and other damage to the edges of the grooves in the valve.

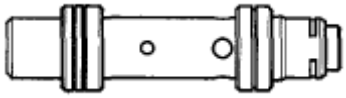


**Fig. 21: Identifying Pressure Control Valve**

15. Inspect the bore of the pressure control valve on the pump housing for scratches and wear.
16. Slip the pressure control valve back in the pump housing, and check that it moves in and out smoothly. If OK, go to step 17; if not, replace the pump as an assembly. The pressure control valve is not available separately.

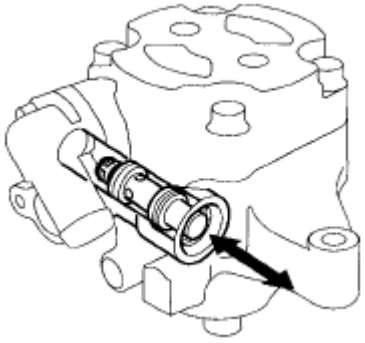


**Fig. 22: Identifying Pressure Control Valve On Pump Housing**

17. Attach a hose (A) to the end of the pressure control valve (B) as shown. Then submerge the pressure control valve in a container of power steering fluid or solvent (C), and blow in the hose.
    - If air bubbles leak through the valve at less than 98 kPa (1.0 $kgf/cm^2$, 14.2 psi), replace the pump as an assembly. The pressure control valve is not available separately.
    - If the pressure control valve is OK, set it aside for reassembly later.

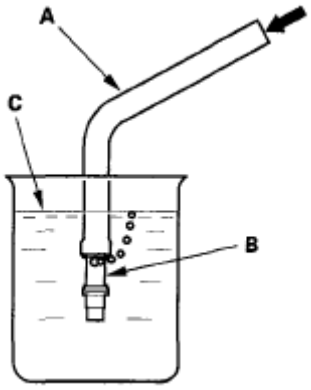



**Fig. 23: Checking Pressure Control Valve**

18. Inspect the ball bearing by rotating the outer race slowly. If you feel any play (axial or radial) or roughness, remove the faulty ball bearing (A), and install a new one (B).

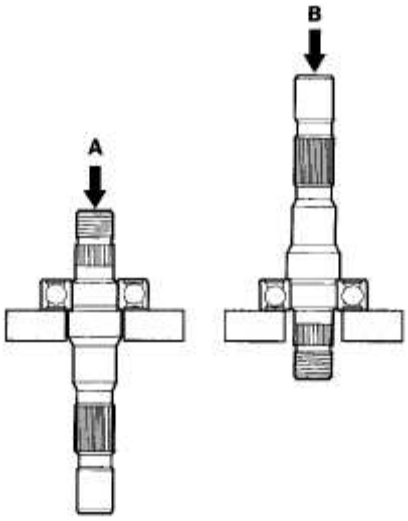



**Fig. 24: Locating Ball Bearing**

19. Inspect each part shown with an asterisk in the Exploded View; if any of them are worn or damaged, replace the pump as an assembly.

**Reassembly**

20. Install the new pump seal (A) (with its grooved side facing in) into the pump housing (B) by hand, then drive it in using the driver and the attachment until the seal is fully seated in the pump housing. Do not apply more than 1,370 N

(140 kgf, 308 lbf) of pressure.

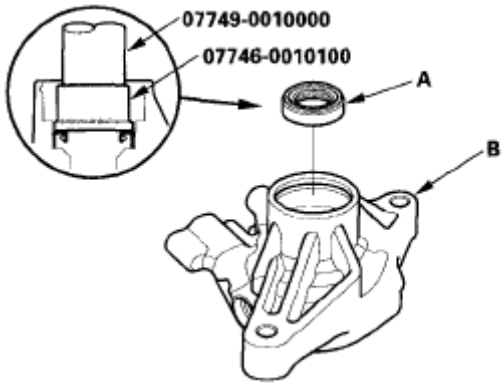



**Fig. 25: Identifying Pump Seal On Pump Housing**

21. Position the pump driveshaft (A) in the pump housing, then press it in with the appropriate size socket wrench (B) as shown.

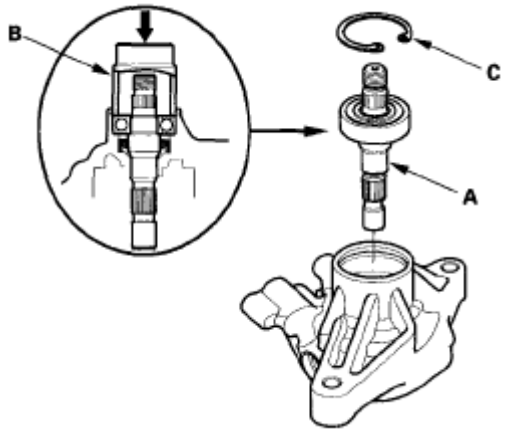



**Fig. 26: Identifying Pump Driveshaft Position In Pump Housing**

22. Install the 40 mm internal snap ring (C) with its radiused edge facing out.
23. Coat the new 23.8 mm O-ring (A) with power steering fluid, then position it on the bottom (B) of the pump housing.

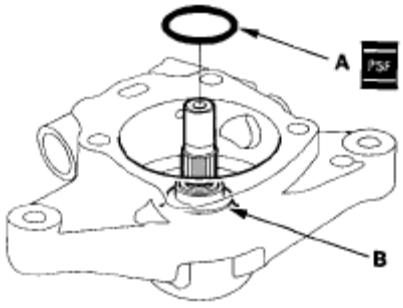



**Fig. 27: Identifying O-Ring**

24. Coat the new cover seals (A) and new 13.0 mm O-ring (B) with power steering fluid, then position them into the grooves on the cover (C).

**NOTE: Be careful not to install the inlet joint O-ring because they are same size.**

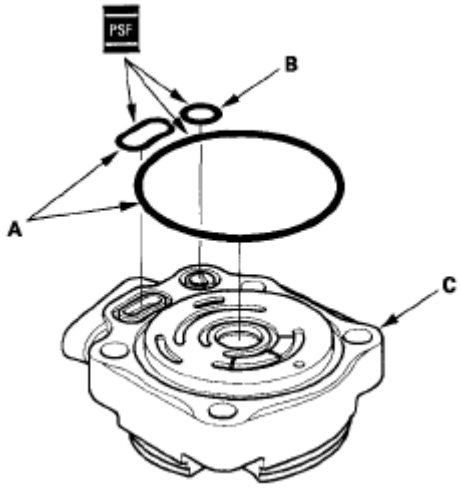



**Fig. 28: Identifying O-Ring Position Into Grooves On Cover**

25. Install the outer case (A) by aligning the slot (B) inside the outer case with the cover roll pin hole (C). Be sure that the tapered side (D) of outer case is facing up.

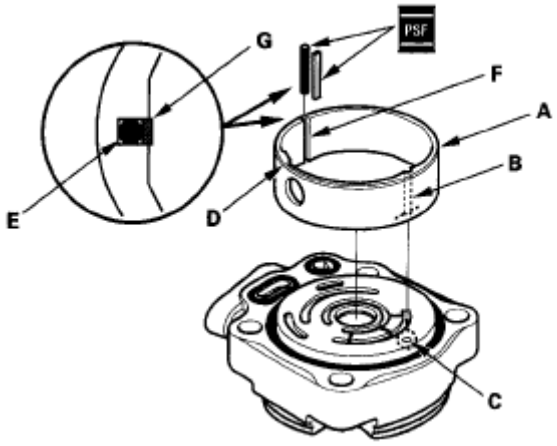



**Fig. 29: Identifying Area Applying Rubber Seal**

26. Apply power steering fluid to the rubber seal (E) (black), and install it in the slot (F) of the outer case.
27. Apply power steering fluid to the slipper seal (G) (white), and install it on top of the rubber seal you just installed.
28. Install the cam ring (A) by aligning the slot (B) with the slot (C) in the outer case.

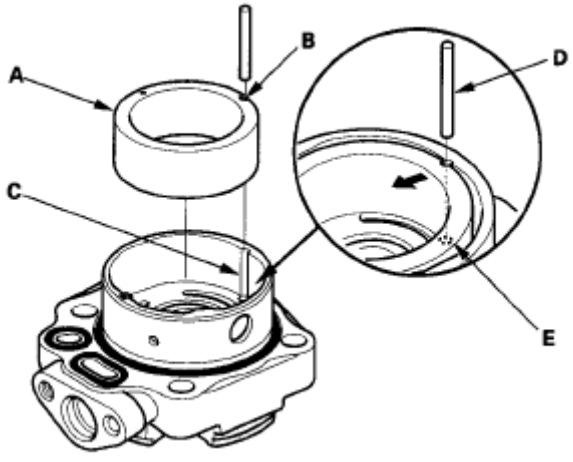



**Fig. 30: Locating Slot In Outer Case**

29. Insert the roll pin (D) into the slots between the cam ring and outer case, then push the roll pin into the set hole (E).
30. Install the rotor (A) in the cam ring (B).

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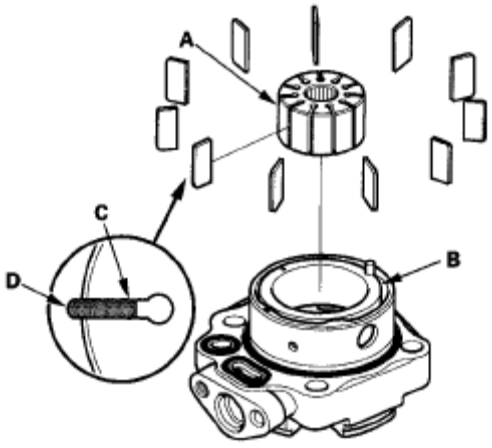



**Fig. 31: Identifying Rotor And Cam Ring**

31. Set the 11 vanes (C) in the grooves in the rotor. Make sure that the round ends (D) of the vanes are in contact with the sliding surface of the cam ring.
32. Place the side plate (A) on the cam ring, and align the roll pin set hole (B) with the roll pin (C).

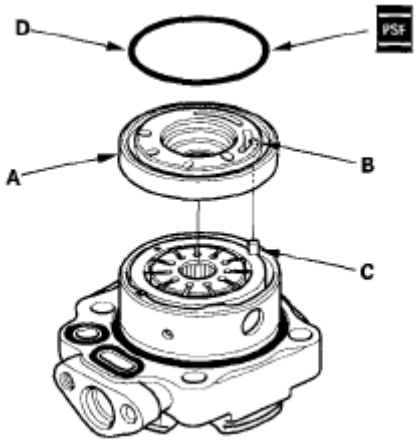



**Fig. 32: Identifying Align Roll Pin Set Hole With Roll Pin**

33. Coat the new O-ring (D) with power steering fluid, then position it into the groove on the side plate.
34. Install the pump housing (A) over the cover assembly (B).

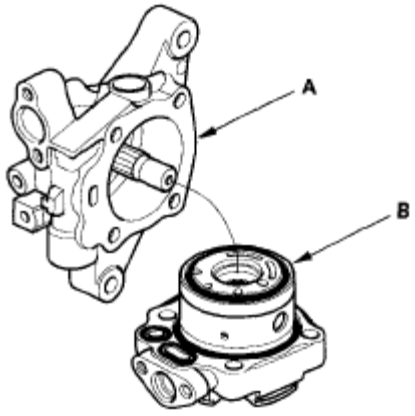



**Fig. 33: Identifying Pump Housing And Cover Assembly**

35. Align the bolt holes in the cover (A) with the threaded holes in the pump housing. Install the flange bolts loosely first, then torque the flange bolts in a criss-cross pattern in two or more steps.

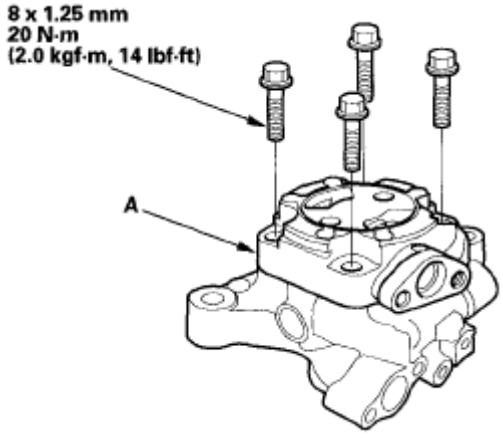



**Fig. 34: Identifying Align Bolt Holes In Cover (With Torque Specifications)**

36. Push in the cam ring (A) from the pump housing cap hole (B) with a flat-tip screwdriver to make sure the cam ring is fully seated against the outer case.

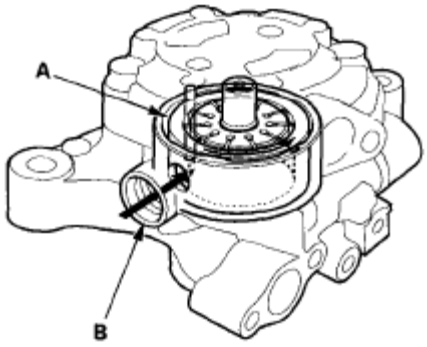



**Fig. 35: Locating Push Cam Ring From Pump Housing Cap Hole**

37. Install the pump preload spring (A) in the pump housing.

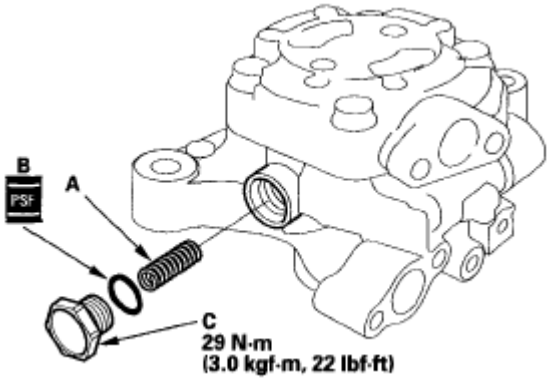



**Fig. 36: Identifying Pump Preload Spring (With Torque Specifications)**

38. Coat the new 12.7 mm O-ring (B) with power steering fluid, and install it on the pump housing cap (C).
39. Install the pump housing cap on the pump housing, and tighten it to the specified torque.
40. Install the pressure control valve spring (A) in the pump housing.

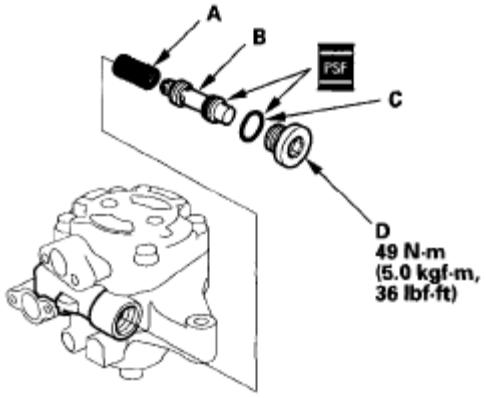



**Fig. 37: Identifying Pressure Control Valve Spring (With Torque Specifications)**

41. Coat the pressure control valve (B) with power steering fluid, and install it in the pump housing.
42. Coat the new 16.7 mm O-ring (C) with power steering fluid, and install it on the pressure control valve cap (D).
43. Install the pressure control valve cap on the pump housing, and tighten it to the specified torque.
44. Coat the new O-ring (A) with power steering fluid, and install it on the inlet joint (B).

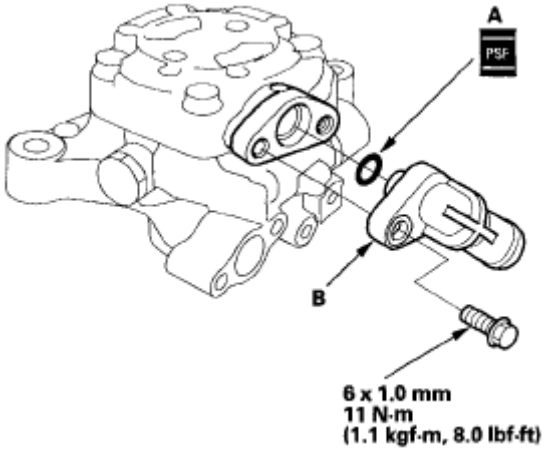



**Fig. 38: Identifying Power Steering Fluid O-Ring (With Torque Specifications)**

45. Install the inlet joint on the pump housing.

46. Install the pulley (A), then loosely install the pulley nut (B). Hold the steering pump in a vise with soft jaws (C). Be careful not to damage the pump housing with the jaws of the vise.

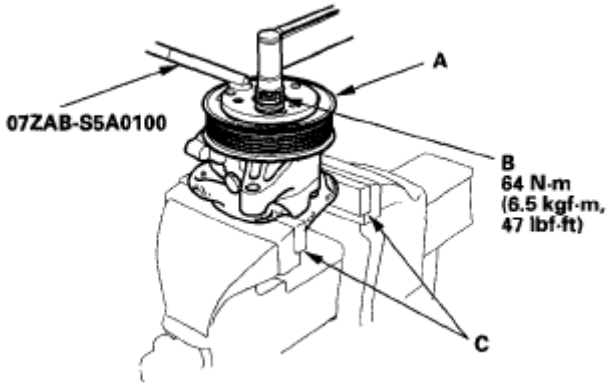



**Fig. 39: Identifying Steering Pump In Vise (With Torque Specifications)**

47. Hold the pulley with the pulley holder, and tighten the pulley nut to the specified torque.
48. Check that the pump turns smoothly by turning the pulley. If it is hard to turn, loosen the four flange bolts on the cover, then retighten them as in step 35, and check the pump again.

## STEERING GEARBOX REMOVAL

### Special Tools Required

- 1.8 Support eyelet 07AAK-SNAA400
- 1.8 Support bolt 07AAK-SNAA500
- Ball joint remover, 28 mm 07MAC-SLOA202
- Front subframe adaptor VSB02C000016 *
- 2006 Civic engine hanger VSB02C000025 *
- Engine support hanger, A and Reds AAR-T-12566 *

  Available through the American Honda Tool and Equipment program, 1-888-424-6857.

### Note these items during removal:

- Using solvent and a brush, wash any oil and dirt off the valve body unit, it's lines, and the end of the steering gearbox. Blow dry with compressed air.
- Be sure to remove the steering wheel before disconnecting the steering joint. Damage to the cable reel can occur.

1. Drain the power steering fluid (see **FLUID REPLACEMENT** ).
2. Make sure you have the anti-theft code for the audio or navigation system, then write down the audio presets.
3. Make sure the ignition switch is in LOCK (0), then disconnect the negative cable from the battery.
4. Remove the steering wheel (see **STEERING WHEEL REMOVAL** ).
5. Remove the driver's dashboard undercover (see **DRIVER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
6. Remove the steering joint cover (A).

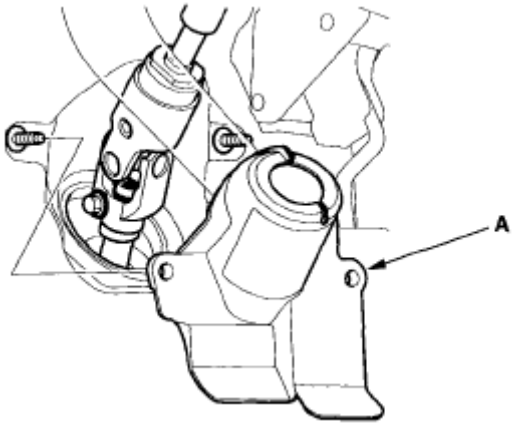



**Fig. 40: Identifying Steering Joint Cover**

7. Hold the lower slide shaft (A) on the column with a piece of wire (B) between the joint yoke (C) of the lower slide shaft and joint yoke (D) of the upper shaft to prevent the slider shaft from pulling out.

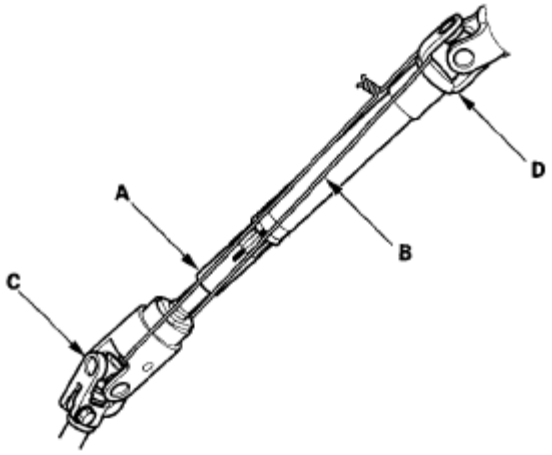



**Fig. 41: Identifying Lower Slide Shaft With Wire Between Joint Yokes**

8. Release the lock lever, and adjust the steering column to the full telescopic out position, then tighten the lock lever.
9. Remove the steering joint bolt (A), and disconnect the steering joint by moving the steering joint (B) toward the column..

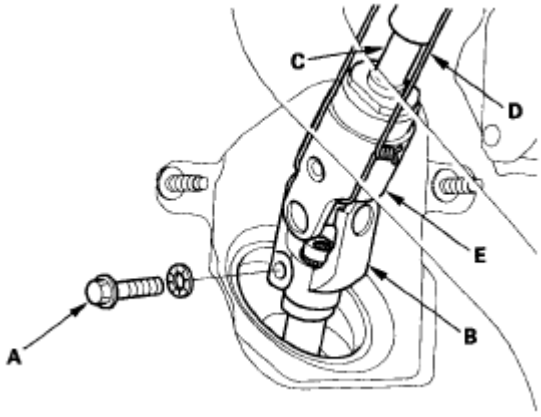



**Fig. 42: Identifying Steering Joint Bolt**

10. Remove the center guide (A) (if equipped), and discard it. The center guide is for factory assembly only.

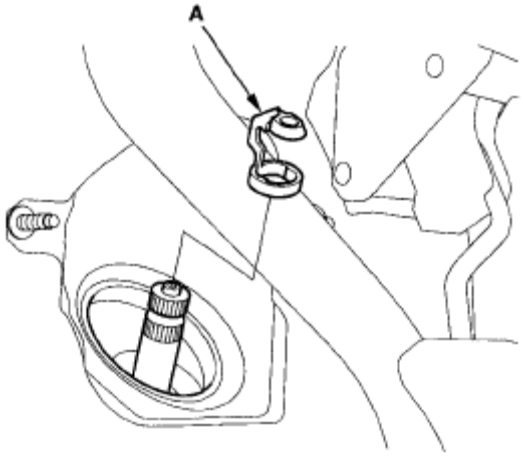



**Fig. 43: Identifying Center Guide**

11. Remove the cowl cover and under-cowl panel (see **FRONT GRILLE COVER REPLACEMENT** ).
12. Remove the air cleaner housing (see **THROTTLE BODY CLEANING** ).
13. Remove the air cleaner housing mounting bracket (A), and install support eyelet (B) behind the breather pipe (C) and down to the threaded hole (D) on the cylinder head.

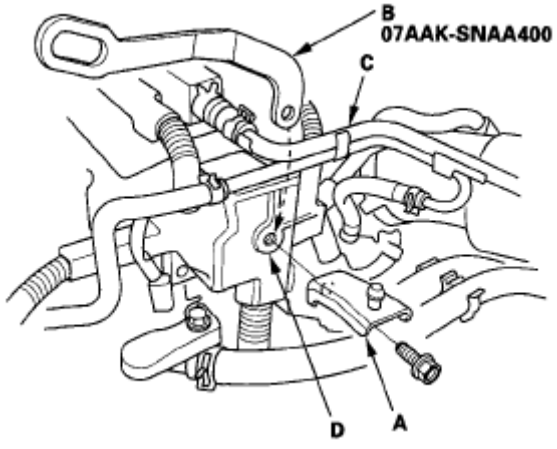



**Fig. 44: Identifying Mounting Bracket And Support Eyelet**

14. Attach the support eyelet (A) to the cylinder head with the support bolt (B). Tighten the bolt by hand.

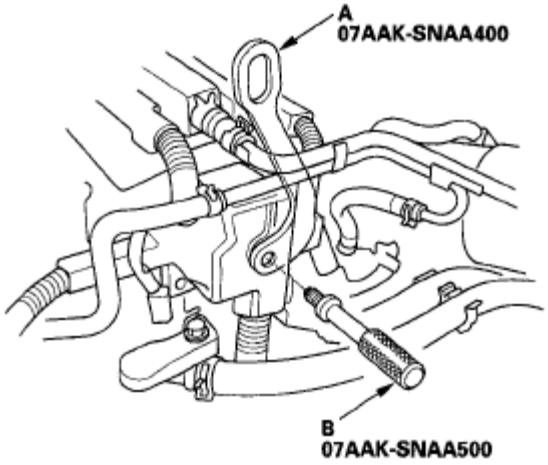



**Fig. 45: Identifying Support Eyelet And Support Bolt**

15. Install the front leg assembly (A), hook (B), and wing nut (C) from an A and Reds engine support hanger (AAR-T-12566) onto the engine hanger. Carefully position the engine hanger on the vehicle, and attach the hook to the slotted hole in the support eyelet (D). Tighten the wing nut by hand to lift and support the engineltransmission assembly.

**NOTE: Use care when working around the windshield.**

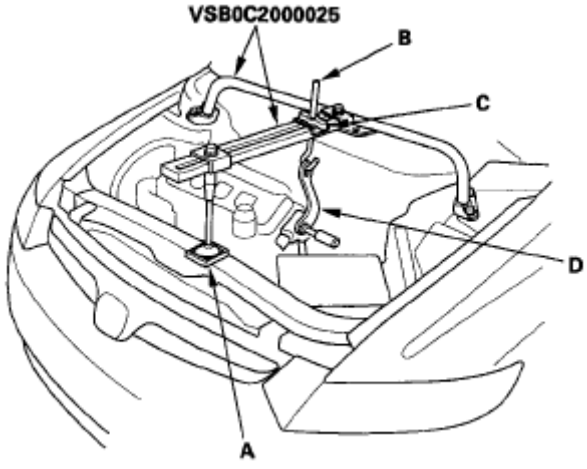



**Fig. 46: Identifying Special Tool**

16. Remove the pump outlet hose clamp (A) from the intake manifold.

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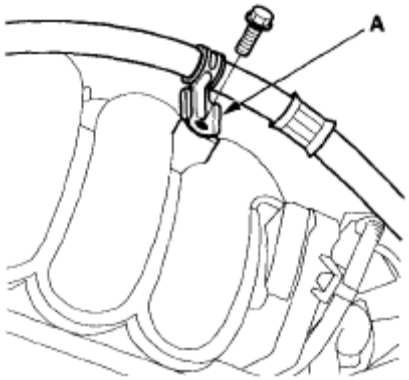



**Fig. 47: Identifying Steering Joint Cover**

17. Raise the front of vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
18. Remove the front wheels.
19. Remove the cotter pin (A) from the 12 mm nut (B), and loosen the nut.

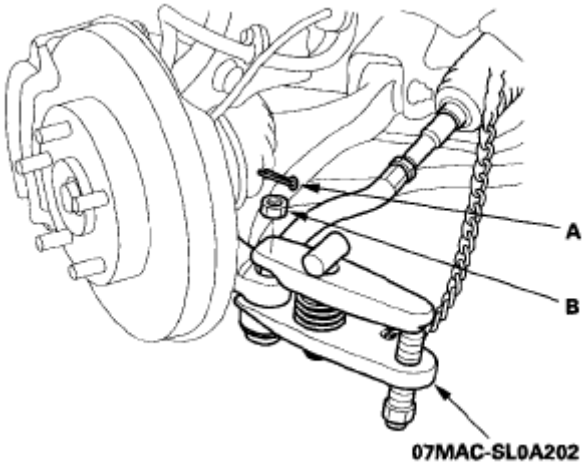



**Fig. 48: Identifying Tie-Rod Cotter Pin And Nut**

20. Separate the tie-rod ball joint and knuckle using the ball joint remover (see **BALL JOINT REMOVAL** ).
21. Remove the inlet line clamp bolt (A).

    Open the return line holder (B), and remove the return line clamp bolt (C).

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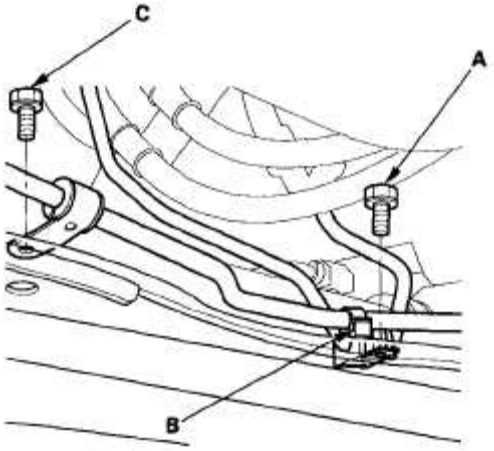



**Fig. 49: Identifying Inlet Line Clamp Bolt And Return Line Clamp Bolt**

22. Loosen the adjustable hose clamp (A), and disconnect the return hose (B).

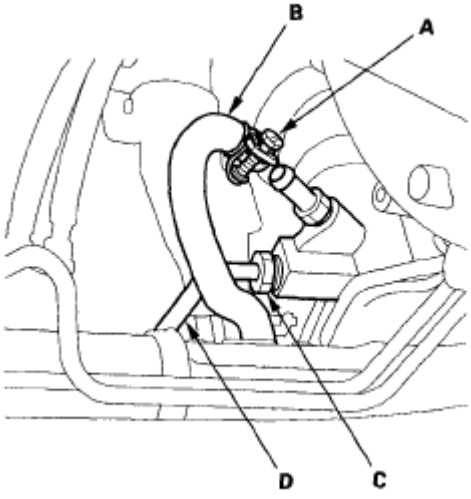



**Fig. 50: Identifying Adjustable Hose Clamp**

23. Loosen the 18 mm flare nut (C), and disconnect the inlet line (0).
24. Remove the front splash shield, 2-door (see **FRONT SPLASH SHIELD REPLACEMENT** ), 4-door (see **4-DOOR** ).
25. Remove the lower ball joint mounting bolt (A) and flange nuts (B) from the lower arm.

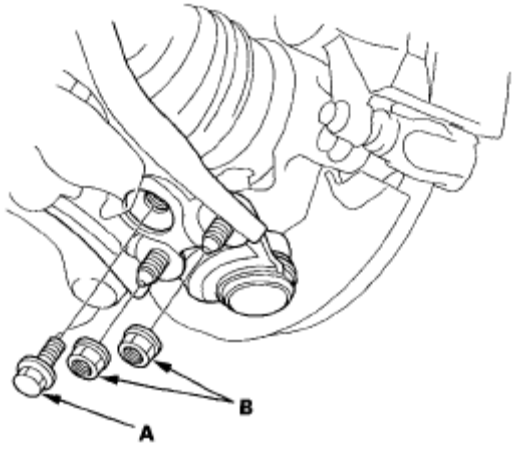



**Fig. 51: Identifying Lower Ball Joint Mounting Bolt And Flange Nuts**

26. Disconnect the lower arm from the lower ball housing.
27. Note the reference marks (A) on both sides of the subframe that line up with the body (B).

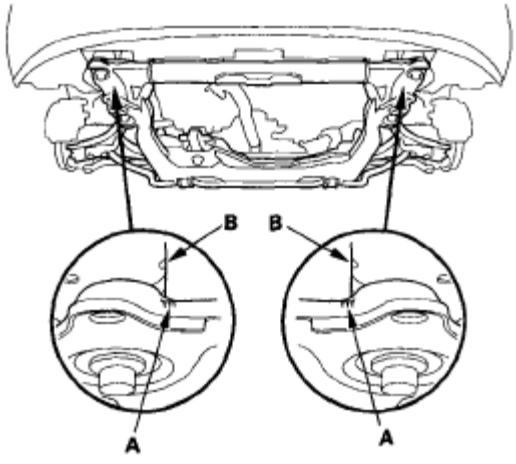



**Fig. 52: Identifying Mark On Lower Arm**

28. Attach the front subframe adaptor (A) to the front subframe (B) and the transmission jack (model number LSL-W9371) or the powertrain lift (model number OTC-1585), then tighten the front subframe adaptor screw.

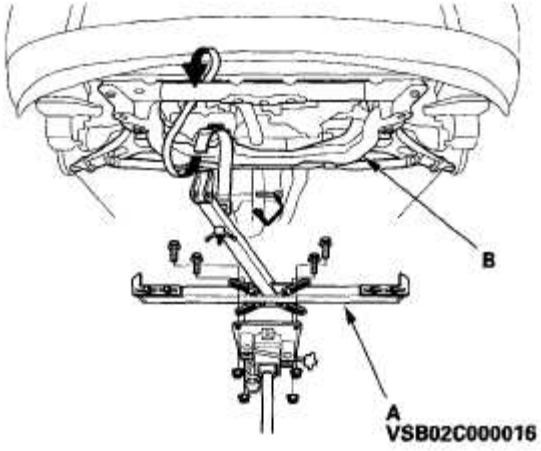



**Fig. 53: Locating Jack**

29. Make sure the front subframe is securely supported by the jack with the front subframe adaptor.
30. Remove the front subframe middle mount bolt (A) from the left side.

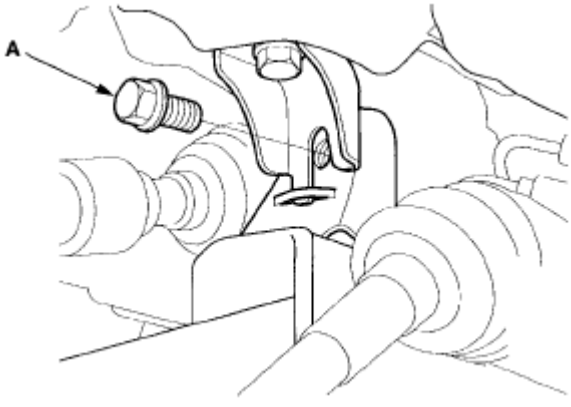



**Fig. 54: Locating Front Subframe Middle Mount Bolt - Left Side**

31. Remove the front subframe middle mount bolt (A) from the right side.

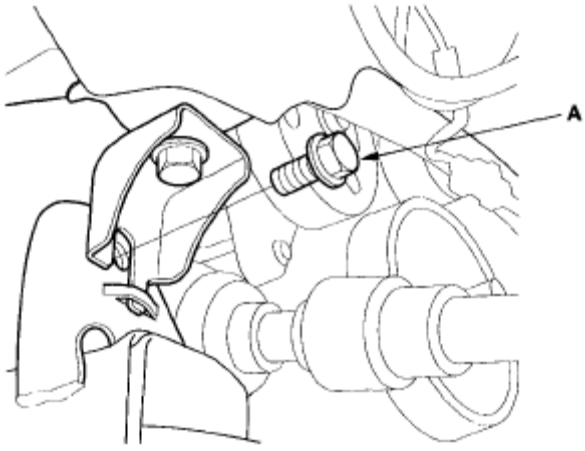



**Fig. 55: Locating Front Subframe Middle Mount Bolt - Right Side**

32. Remove the two 12 mm flange bolts (A) from the lower torque rod bracket.

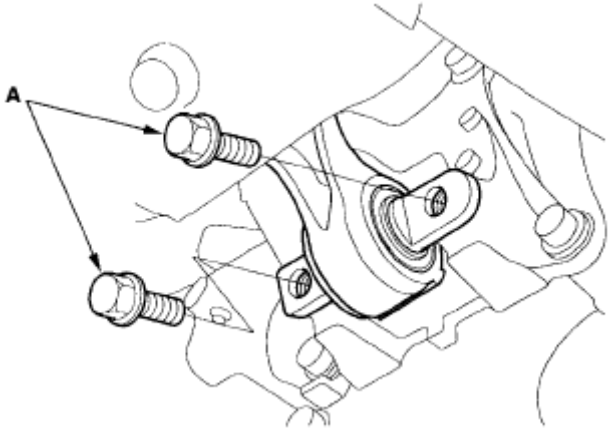



**Fig. 56: Identifying Lower Torque Rod Bracket Flange Bolts**

33. Remove the front subframe front mounting bolts (A) from the right and left sides of the vehicle and discard them.

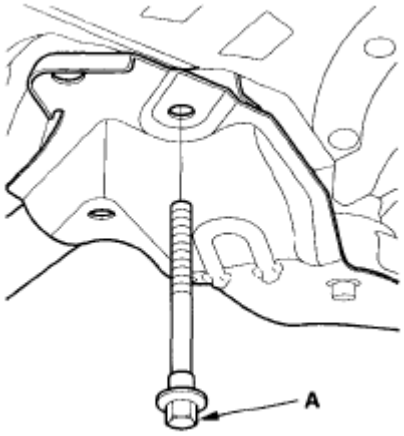



**Fig. 57: Identifying Front Subframe Front Mounting Bolts**

34. Remove the front subframe rear mounting bolts (A) from the right and left sides of the vehicle and discard them.

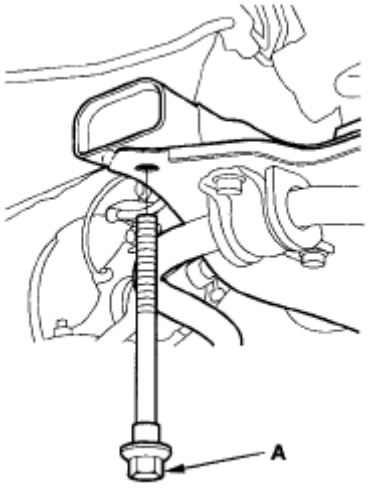



**Fig. 58: Identifying Front Subframe Rear Mounting Bolts**

35. Lower the front subframe and steering gearbox as an assembly by lowering the jack slowly.
36. Remove the pinion shaft grommet (A) from the top of the valve body unit.

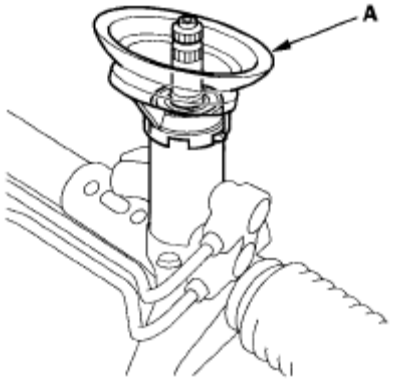



**Fig. 59: Identifying Pinion Shaft Grommet**

37. Remove the two 10 mm bolts from the right side of the steering gearbox, then remove the gearbox mounting bracket (A) and mounting cushion (B).

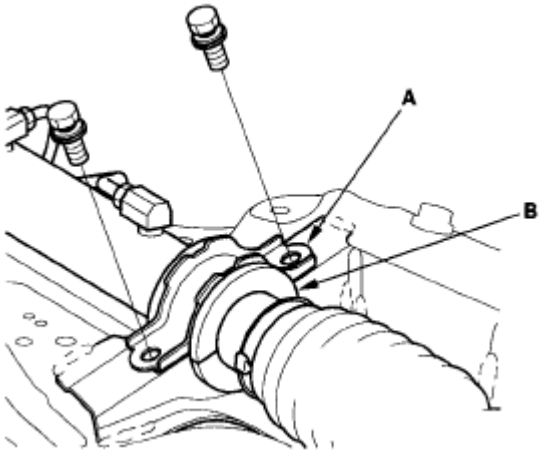



**Fig. 60: Identifying Gearbox Mounting Bracket And Mounting Cushion**

38. Remove the four 10 mm flange bolts from the left side of the steering gearbox, then remove the stiffener plates (A).

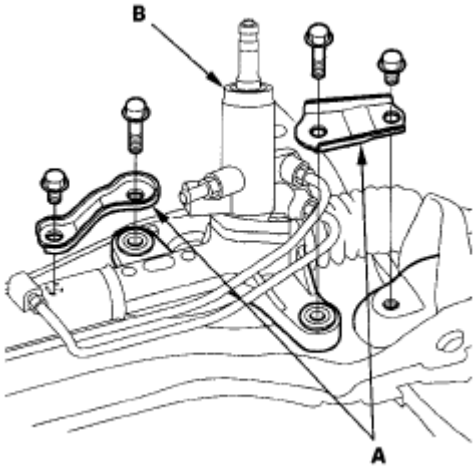



**Fig. 61: Identifying Stiffener Plates**

39. Remove the steering gearbox (B) from the front subframe.

## STEERING GEARBOX OVERHAUL

### EXPLODED VIEW

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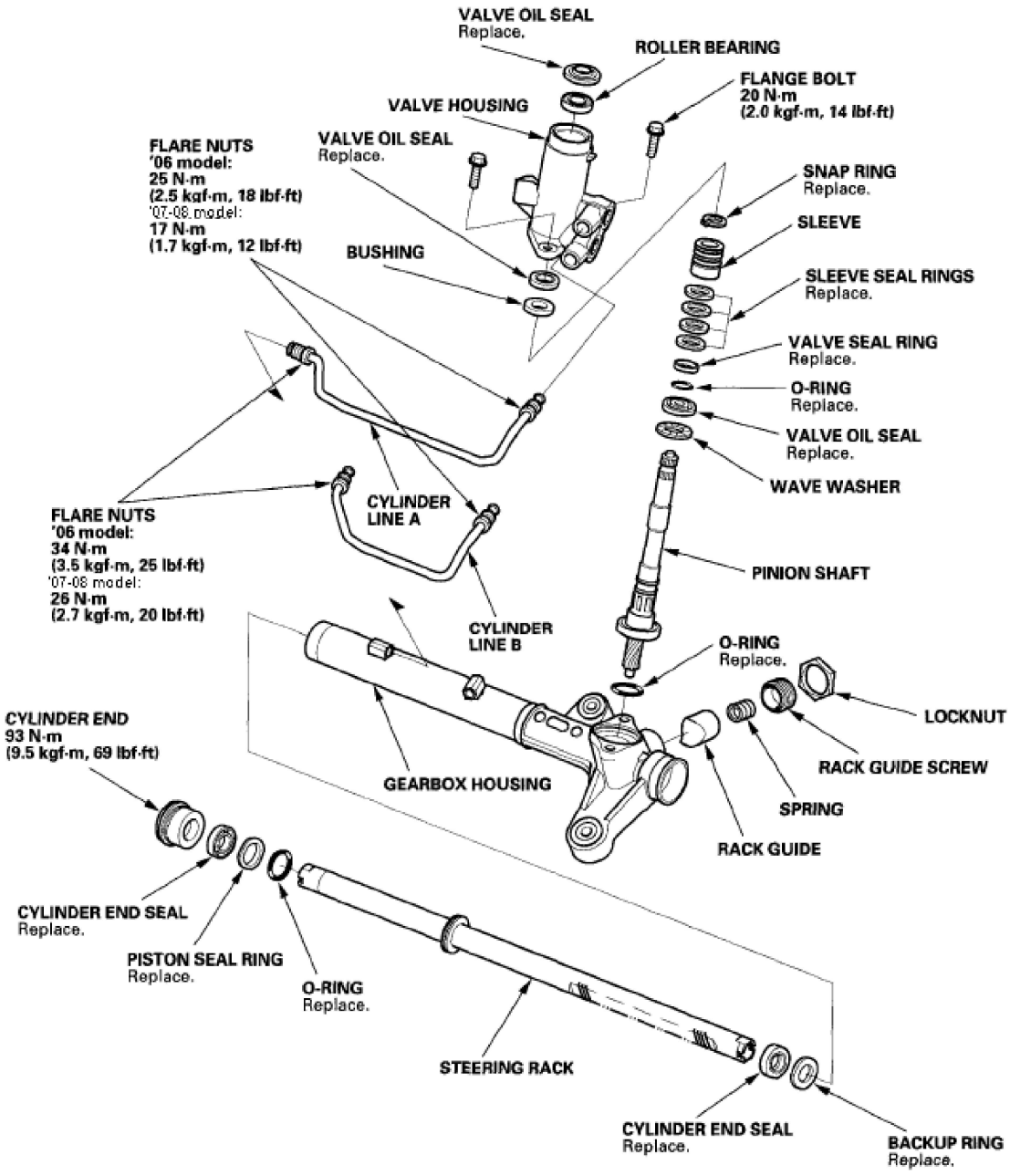



**Fig. 62: Exploded View Of Steering Gearbox (With Torque Specifications)**

## Special Tools Required

- Cylinder end seal remover attachment 07NAD-SR3020A
- Valve seal ring sizing tool 07NAG-SR3090A
- Sleeve seal ring guide 07YAG-S2X0100
- Sleeve seal ring sizing tool, 36 mm 07ZAG-S5A0100

- Attachment, 32 x 35 mm 07746-0010100
- Attachment, 42 x 47 mm 07746-0010300
- Driver 07749-0010000
- Piston seal ring guide 07HAG-SF10100
- Piston seal ring sizing tool 07HAG-SF1020A or 07HAG-SF10200
- Cylinder end seal slider 07ZAG-S5A0300
- Pincers Oetiker 1098 or equivalent, commercially available

**NOTE: Refer to the Fig. 62 as needed during this procedure.**

**Removal**

1. Remove the steering gearbox (see **STEERING GEARBOX OVERHAUL** ).

**Disassembly**

2. Remove the boot bands (A) and tie-rod clips (B). Pull the boot away from the ends of the steering gearbox.

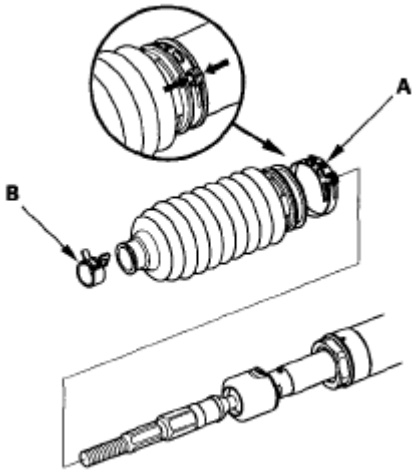



**Fig. 63: Identifying Boot Bands And Tie-Rod Clips**

3. Unbend the lock washers (A).

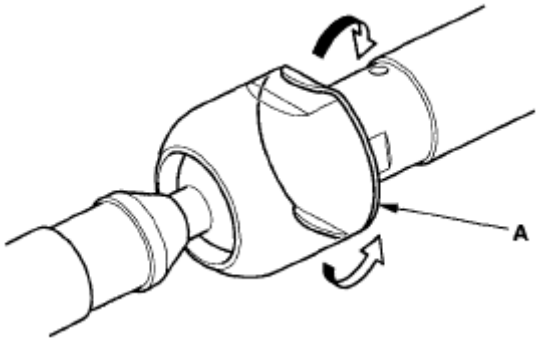



**Fig. 64: Identifying Lock Washers**

4. Hold the flat surface sections (A) of the steering rack with a wrench (B), and unscrew both rack ends (C) with a wrench (D). Be careful not to damage the rack surface with the wrench.

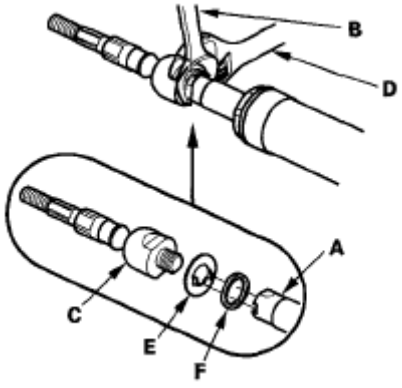



**Fig. 65: Identifying Lock Washer And Rubber Stop**

5. Remove the lock washer (E) and rubber stop (F).
6. Loosen the locknut (A), then remove the rack guide screw (B).

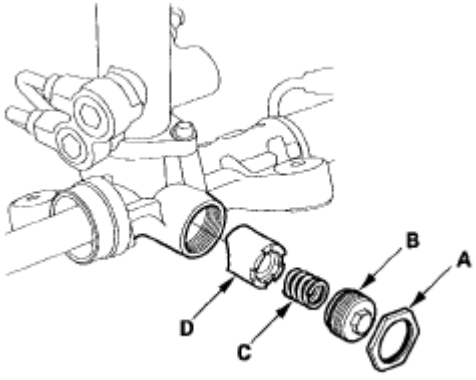


**Fig. 66: Identifying Locknut, Rack Guide Screw, Spring And Rack Guide**

7. Remove the spring (C) and the rack guide (D) from the gearbox housing.
8. Remove the cylinder line A and B from the steering gearbox.

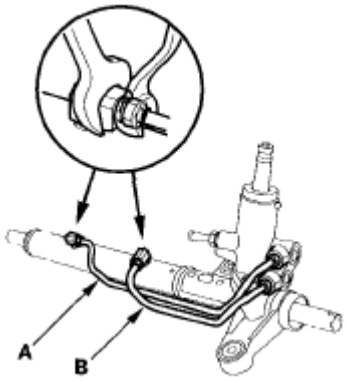



**Fig. 67: Identifying Cylinder Line A And B**

9. Drain the fluid from the cylinder fittings by slowly moving the steering rack back and forth.
10. Remove the two flange bolts, then remove the valve body unit (A) from the steering gearbox (B). Remove the O-ring (C), and discard it.

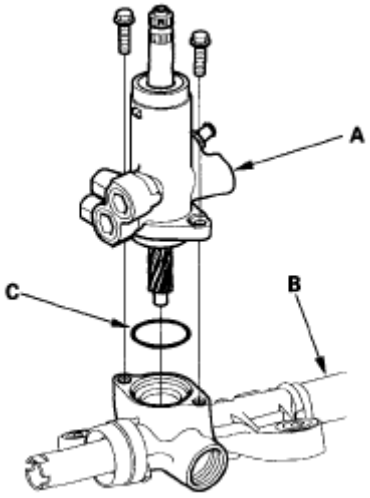



**Fig. 68: Identifying Valve Body Unit Components**

11. Drill a 3 mm (0.12 in.) diameter hole about 2.5-3.0 mm (0.10-0.12 in.) in depth in the staked point (A) on the cylinder. Do not allow metal shavings to enter

the cylinder side on the gearbox housing. After removing the cylinder end (B), remove any burrs at the staked point.

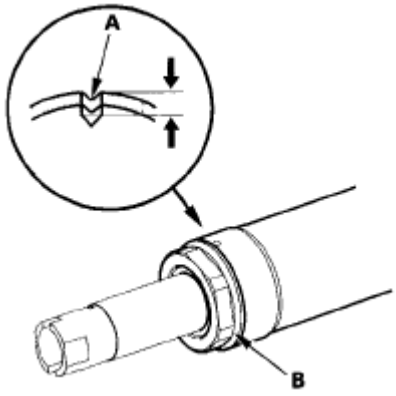



**Fig. 69: Identifying Depth In Staked Point On Cylinder**

12. Hold the gearbox housing using a C-clamp (commercially available) (A) and the wooden blocks (B) as shown. Do not clamp the cylinder part of the gearbox housing in the vise. Then remove the cylinder end (C).

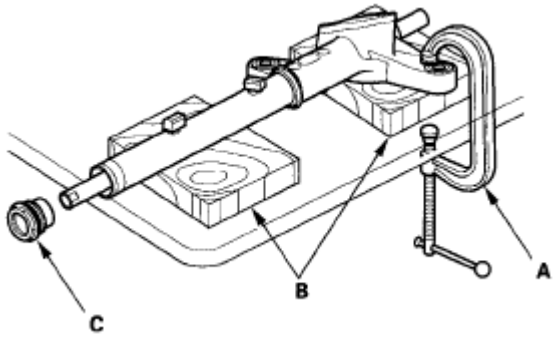



**Fig. 70: Identifying Gearbox Housing**

13. Install a commercially available bearing separator (A) in the gearbox housing as shown.

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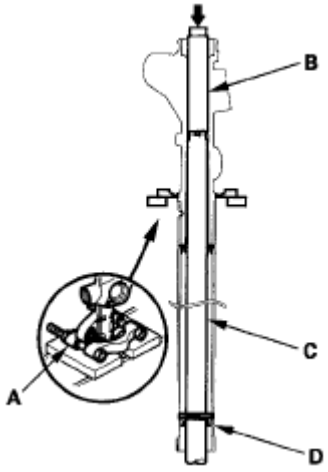



**Fig. 71: Identifying Gearbox Housing**

14. Place an appropriate size deep socket wrench (B) on the steering rack (C).
15. Set the steering gearbox in a press so the gearbox housing side points upward, then press the cylinder end seal (D) and steering rack out of the steering gearbox. Hold the steering rack to keep it from falling when pressed clear. Be careful not to damage the inner surface of the cylinder side on the gearbox housing with the tool.
16. Install the seal remover on a 24 "long 3/8" drive extension (A). Insert the tools in the gearbox housing. Make sure the seal remover is securely positioned on the backup ring edges. Be careful not to damage the inner surface of the cylinder with the seal remover.

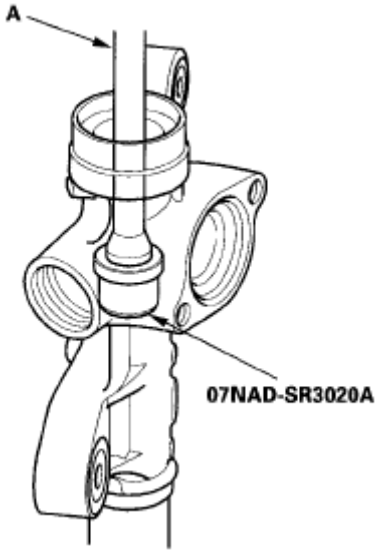


**Fig. 72: Inserting Tools In Gearbox Housing**

17. Place the steering gearbox in a press, then remove the cylinder end seal (A) and backup ring (B) from the steering gearbox by pressing on the 24 "long, 3/8" drive extension.

    Note these items when pressing the cylinder end seal:

    - Keep the tool straight to avoid damaging the cylinder wall. Check the tool angle, and correct it if necessary, when removing the cylinder end seal.
    - Use a press to remove the cylinder end seal. Do not try to remove the seal by striking the tool; striking the tool would break the backup ring, and the cylinder end seal would remain in the steering gearbox.

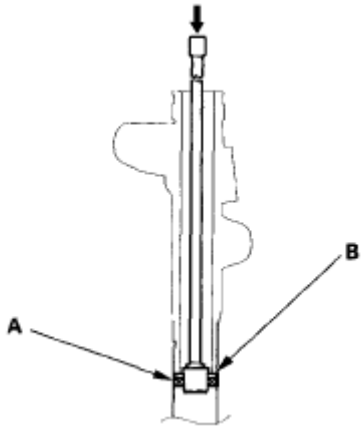



**Fig. 73: Identifying Cylinder Seal And Backup Ring**

18. Carefully pry the piston seal ring (A) and O-ring (B) off the rack piston. Be careful not to damage the inside of the seal ring groove and piston edges when removing the seal ring.

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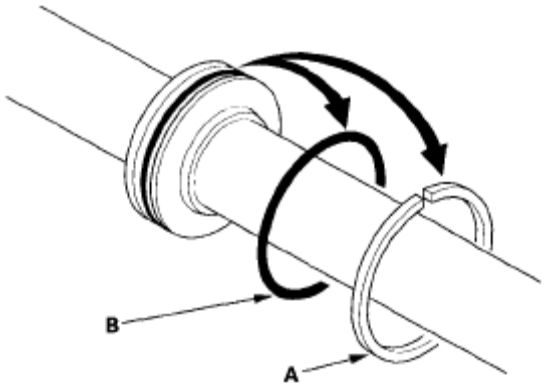



**Fig. 74: Locating Piston Seal Ring And O-Ring**

19. Before removing the valve housing (A), apply vinyl tape (B) to the splines on the pinion shaft.

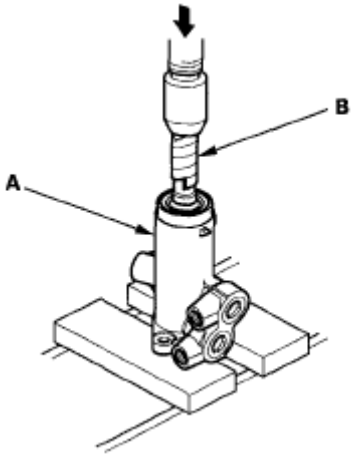



**Fig. 75: Identifying Vinyl Of Splines On Pinion Shaft**

20. Separate the valve housing from the pinion shaft/valve using a press.
21. Loosen the 16 mm flange nut (A), and remove the return line joint (B).

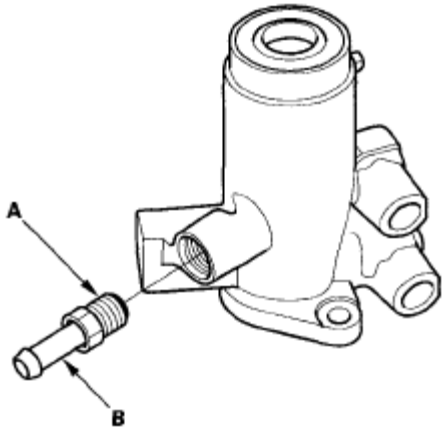



**Fig. 76: Identifying Flange Nut And Return Line Joint**

22. With your finger, check the inner wall of the valve housing where the seal ring slides. If there is a step in the wall, the housing is worn. Replace it.

**NOTE: There may be sliding marks from the seal ring on the wall of the valve housing. Replace the valve housing only if the wall is stepped.**

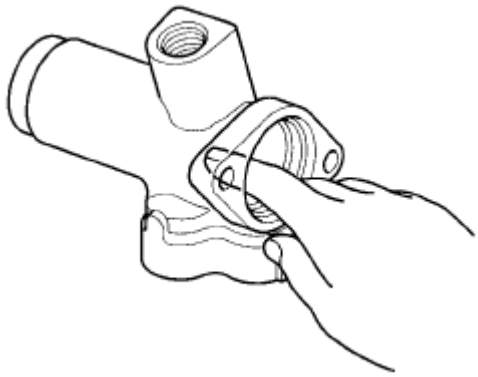


**Fig. 77: Identifying Inner Wall Of Valve Housing With Your Finger**

23. Check for wear, burrs, and other damage to the edges of the grooves in the sleeve.

**NOTE: The pinion shaft and sleeve are a precision matched set. If either the pinion shaft or sleeve must be replaced, replace both parts as a set.**

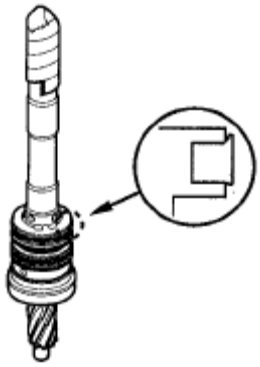


**Fig. 78: Identifying Pinion Shaft And Sleeve**

24. Remove the snap ring (A) and sleeve (B) from the pinion shaft.

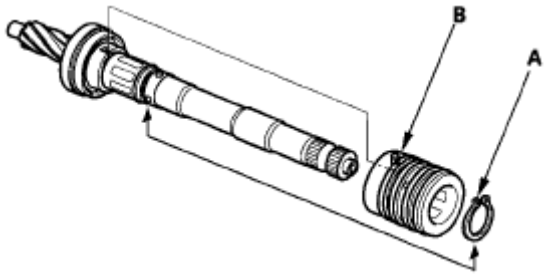



**Fig. 79: Identifying Snap Ring And Sleeve**

25. Using a cutter or an equivalent tool, cut and remove the four seal rings from the sleeve. Be careful not to damage the edges of the sleeve grooves and outer surface when removing the seal rings.

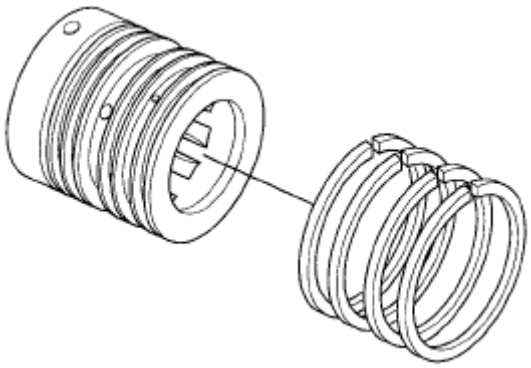


**Fig. 80: Identifying Seal Rings**

26. Using a cutter or an equivalent tool, cut the valve seal ring (A) and O-ring (B)

at the cutting groove position (C) in the pinion shaft. Remove the valve seal ring and O-ring. Be careful not to damage the edges of the pinion shaft groove and outer surface when removing the valve seal ring and O-ring.

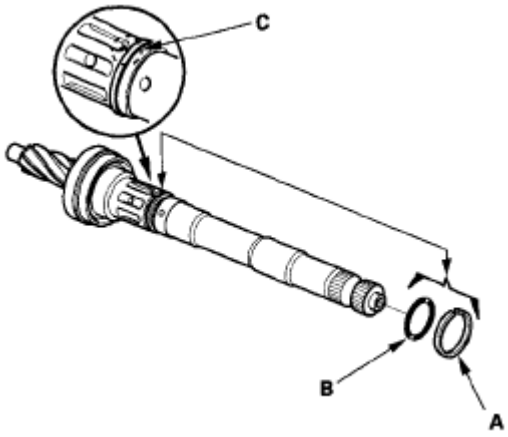



**Fig. 81: Identifying Valve Seal Ring And O-Ring**

27. Remove the valve oil seal (A) and wave washer (B) from the pinion shaft.

    Note these items during disassembly:

    - Inspect the ball bearing (C) by rotating the outer race slowly. If there is any excessive play or wear, replace the pinion shaft and sleeve as an assembly.
    - The pinion shaft and sleeve are a precise fit; do not intermix old and new pinion shafts and sleeves.

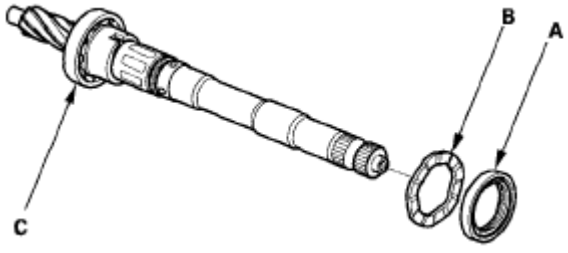



**Fig. 82: Identifying Valve Oil Seal And Wave Washer**

28. Remove the valve oil seal (A) and roller bearing (B) from the valve housing using a flat-tipped screw driver.

**NOTE: Be careful not to damage the inner wall of the valve housing when removing by the flat-tipped screw driver.**

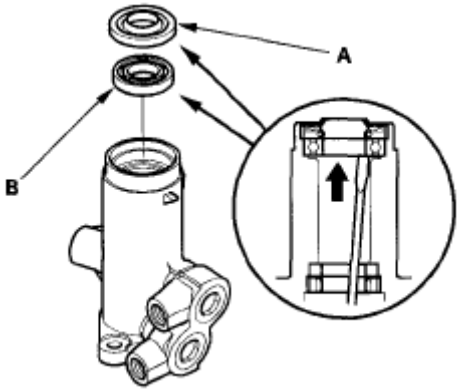



**Fig. 83: Identifying Valve Oil Seal And Roller Bearing From Valve Housing**

29. Remove the valve oil seal (A) and bushing (B) out of the valve housing using a hydraulic press and an appropriate size socket wrench.

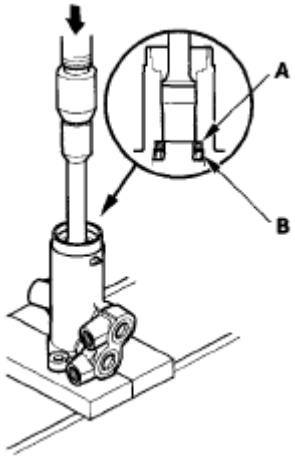



**Fig. 84: Identifying Valve Oil Seal And Bushing Out Of Valve Housing**

30. Clean the disassembled parts with solvent, and dry them with compressed air. Do not dip rubber parts in the solvent.

**Reassembly**

31. Apply vinyl tape (A) to the stepped portion of the pinion shaft, and coat the

surface of the vinyl tape with power steering fluid.

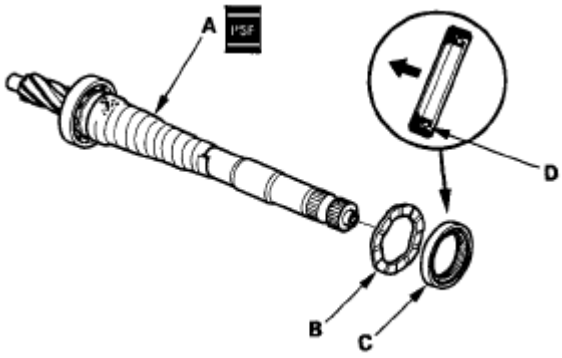



**Fig. 85: Identifying Area Applying Vinyl Tape To Pinion Shaft**

32. Install the wave washer (B).
33. Coat the inside surface of the new valve oil seal (C) with power steering fluid, and install the seal with its grooved side facing opposite the bearing, then slide it over the pinion shaft, being careful not to damage its sealing lip (D).
34. Apply vinyl tape (A) to the splines and stepped portion of the shaft, and coat the surface of the vinyl tape with power steering fluid.

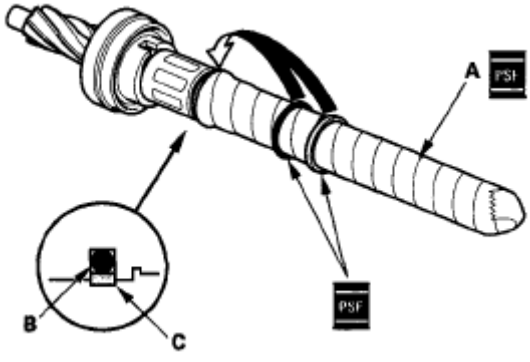



**Fig. 86: Identifying Area Applying Vinyl Tape To Splines**

35. Fit the new O-ring (B) in the groove of the pinion shaft. Then slide the new valve seal ring (C) over the shaft and in the groove on the pinion shaft.
36. Remove the tape, and apply power steering fluid to the surface of the valve seal ring (A).

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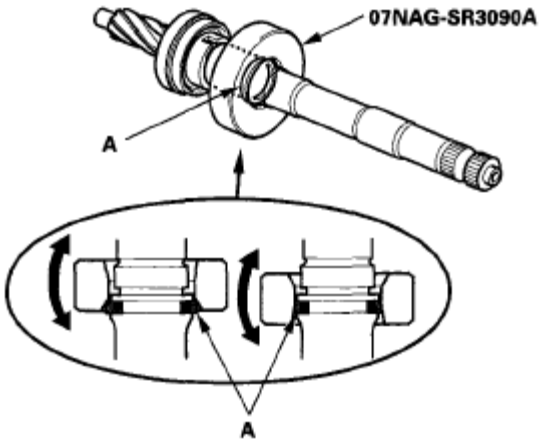



**Fig. 87: Identifying Area Applying Power Steering Fluid To Surface Of Valve Seal Ring**

37. Apply power steering fluid to the inside of the valve seal ring sizing tool. Set the larger diameter end of the sizing tool over the valve seal ring, and move the sizing tool up and down several times to make the valve seal ring fit in the pinion shaft groove.
38. Remove the sizing tool, turn it over, slide the smaller diameter end over the valve seal ring. Move it up and down several times to make the valve seal ring fit snugly in the pinion shaft groove.
39. Apply power steering fluid to the surface of the sleeve seal ring guide. Slip two new seal rings (A) over the ring guide from the smaller diameter end, and expand them. Install only two rings at a time from each end of the pinion shaft sleeve (B).

    Note these items when installing the seal ring:

    - Do not over-expand the seal ring. Install the resin seal rings with care so as not to damage them. After installation, make sure you contract the seal rings using the sizing tool.
    - There are two types of sleeve seal rings; black and brown. Do not mix the different types of rings as they are not compatible.

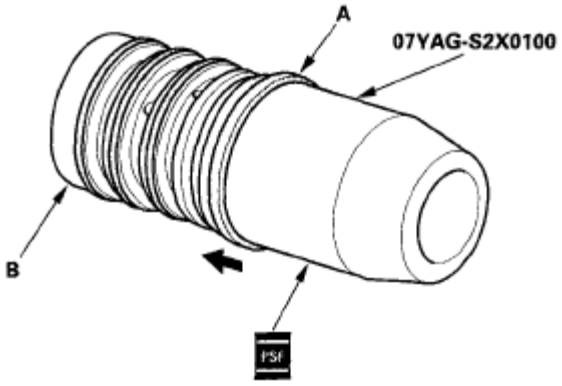



**Fig. 88: Identifying Area Applying Power Steering Fluid To Surface Of Sleeve Seal Ring Guide**

40. Align the ring guide with each groove in the sleeve, and slide a sleeve seal ring into each groove. After installation, compress the seal rings with your fingers temporarily.
41. Apply power steering fluid to the seal rings on the sleeve, and to the entire inside surface of the sleeve seal ring sizing tool, then slowly insert the sleeve into the sizing tool.

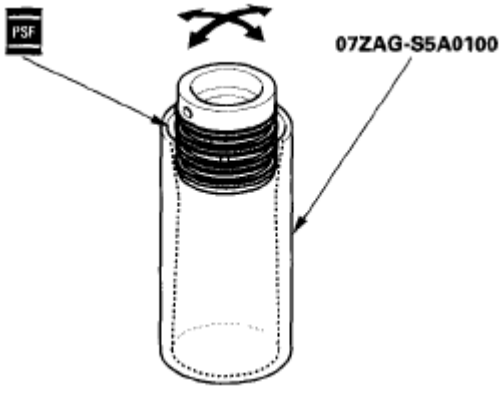



**Fig. 89: Identifying Area Applying Power Steering Fluid On Sleeve**

42. Move the sleeve back and forth several times to make the seal rings snugly fit in the sleeve. Make sure the seal rings are not twisted.
43. Apply power steering fluid to the surface of the pinion shaft (A). Slide the sleeve (B) onto the pinion shaft by aligning the locating pin (C) on the inside of the sleeve with the cutout (D) in the shaft. Then install the new snap ring (E) securely in the pinion shaft groove. Be careful not to damage the valve seal

ring when inserting the sleeve.

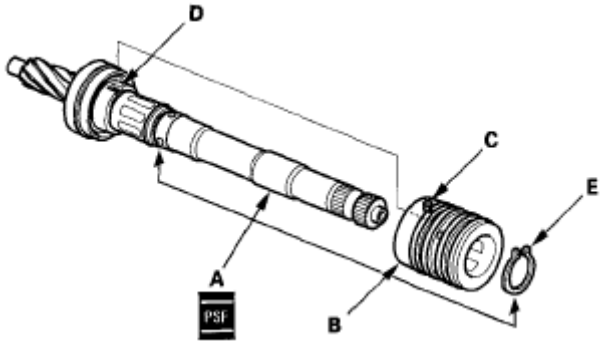



**Fig. 90: Identifying Area Applying Power Steering Fluid To Surface Of Pinion Shaft**

44. Apply power steering fluid to the seal ring lip of the new valve oil seal (A), then install the seal and bushing (B) in the valve housing (C) using a hydraulic press, driver, and attachment. Install the seal with its grooved side facing the tool.

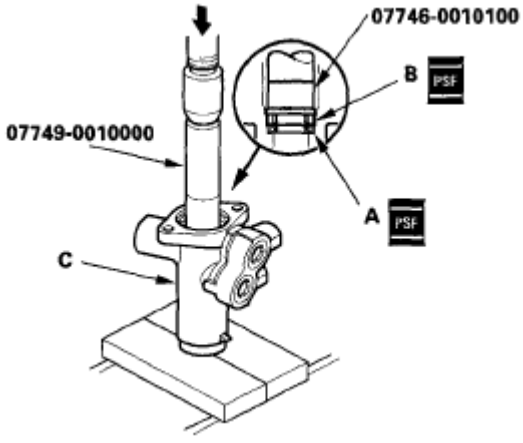



**Fig. 91: Identifying Area Applying Power Steering Fluid To Seal Ring Lip**

45. Press the roller bearing (A) into the valve housing (B) with a hydraulic press, driver, and attachment.

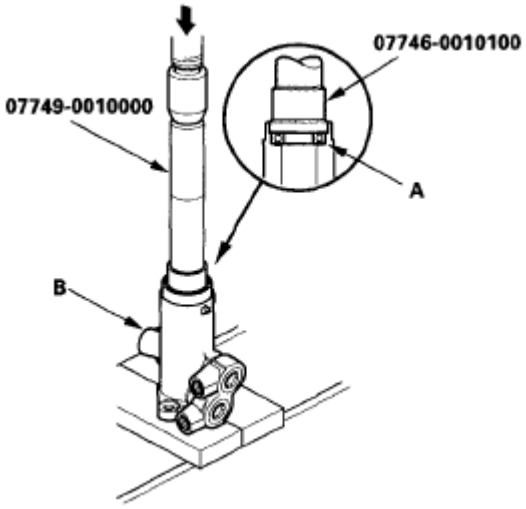



**Fig. 92: Identifying Roller Bearing Into Valve Housing**

46. Apply power steering fluid to the seal ring lip of the new valve oil seal (A), then install the seal in the valve housing (B) using a hydraulic press, driver, and attachment. Install the seal with its grooved side facing the tool.

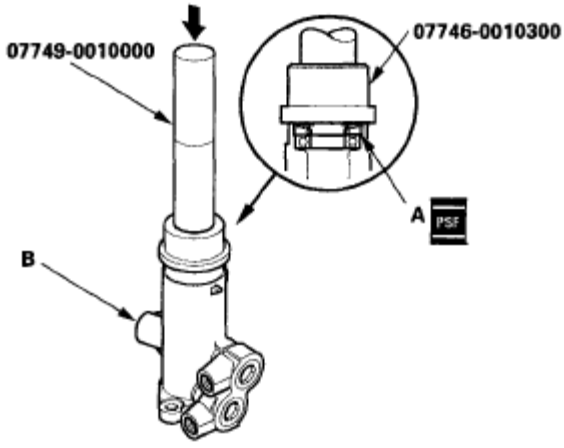



**Fig. 93: Identifying Area Applying Power Steering Fluid To Seal Ring Lip**

47. Apply vinyl tape (A) to the pinion shaft, then coat the vinyl tape with power steering fluid.

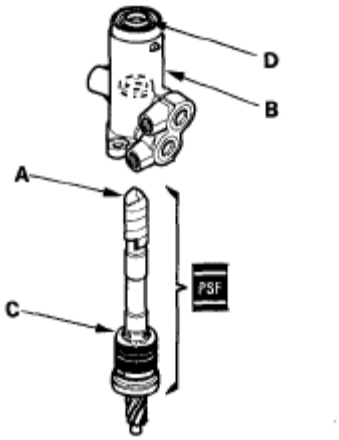



**Fig. 94: Identifying Area Applying Vinyl Tape To Pinion Shaft**

48. Insert the pinion shaft into the valve housing (B). Be careful not to damage the valve seal rings (C) and valve oil seal sealing lip (D).
49. Remove the vinyl tape from the pinion shaft, then remove any residue from the tape adhesive.
50. Press the pinion shaft/sleeve into the valve housing with a hydraulic press. Check that the pinion shaft/sleeve turns smoothly by hand after installing it.

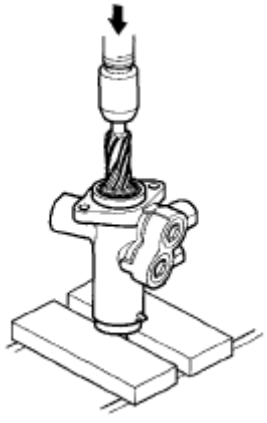


**Fig. 95: Identifying Pinion Shaft/Sleeve Into Valve Housing**

51. Coat the piston seal ring guide with power steering fluid, then slide it onto the rack, big end first.
52. Position the new O-ring (A) and new piston seal ring (B) on the piston seal ring guide, then slide them down toward the big end of the tool.

Note these items during reassembly:

- Do not over expand the resin seal rings. Install the resin seal rings with care so as not to damage them. After installation, make sure you contract the seal ring using the sizing tool.
- Replace piston's O-ring and seal ring as a set.

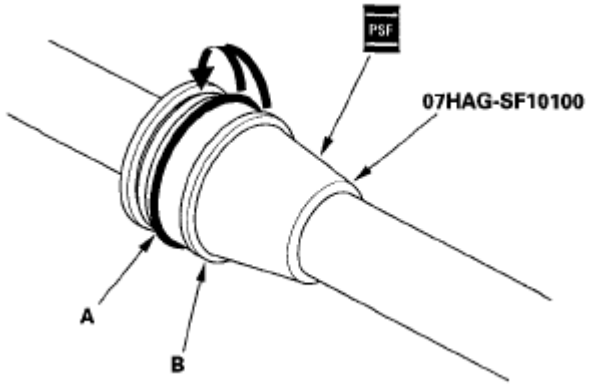



**Fig. 96: Identifying O-Ring And Piston Seal Ring**

53. Pull the O-ring off into the piston groove, then pull the piston seal ring off into the piston groove on top of the O-ring.
54. Coat the piston seal ring (A) and the inside of the piston seal ring sizing tool with power steering fluid, then carefully slide the tool onto the rack and over the piston seal ring.

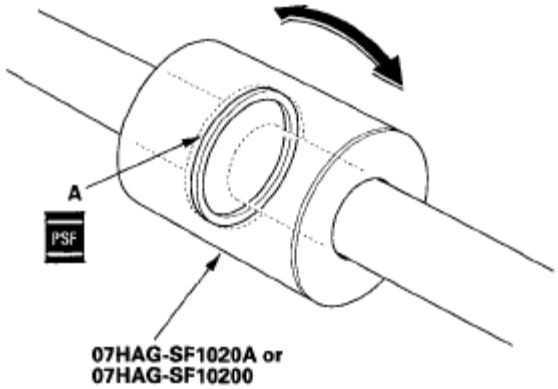



**Fig. 97: Identifying Piston Seal Ring**

55. Move the sizing tool back and forth several times to make the piston seal ring

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fit snugly in the piston.

56. Coat the sliding surface of the cylinder end seal slider (A) and new cylinder end seal (B) with power steering fluid. Place the seal on the seal slider with its grooved side (C) facing opposite the seal slider.

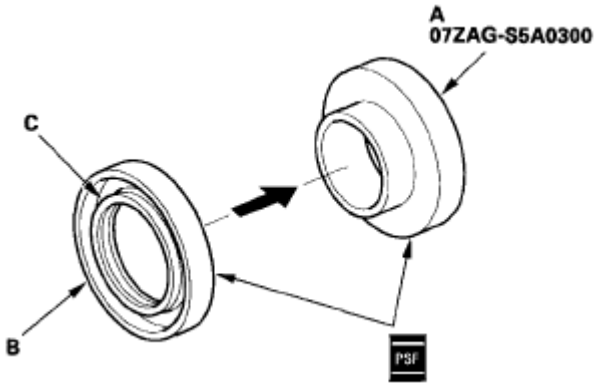



**Fig. 98: Identifying Seal On Seal Slider With Grooved Side**

57. Coat the surface of the steering rack (A) with power steering fluid.

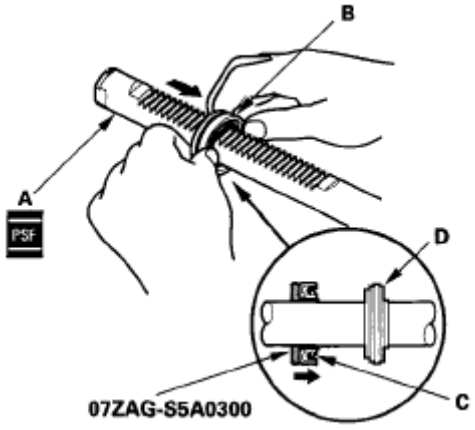



**Fig. 99: Identifying Cylinder Seal Onto Steering Rack With Grooved Side**

58. Install the cylinder end seal (B) onto the steering rack with its grooved side (C) toward the piston (D).
59. Separate the cylinder end seal from the cylinder end seal slider, then remove the seal slider.
60. Install the new backup ring (A) on the steering rack, then place the backup ring and cylinder end seal (B) against the piston (C).

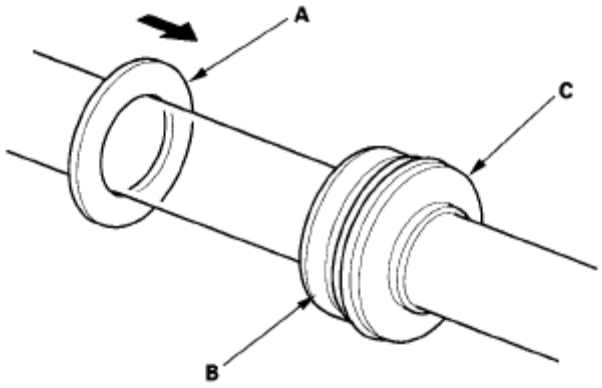



**Fig. 100: Identifying Backup Ring And Cylinder End Seal**

61. Apply steering grease to the steering rack teeth, then insert the steering rack into the gearbox housing. Be careful not to damage the inner surface of the cylinder wall with the rack edges.

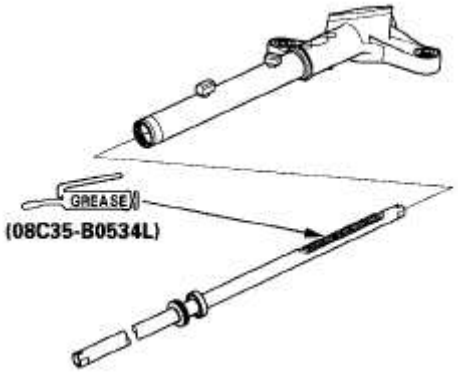



**Fig. 101: Identifying Area Applying Steering Grease To Steering Rack Teeth**

62. Insert an appropriate size deep socket wrench (A) onto the steering rack as shown.

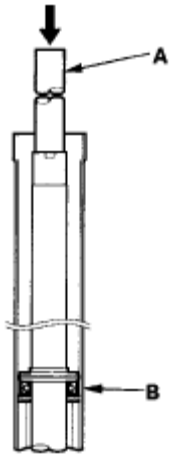



**Fig. 102: Identifying Socket Wrench Onto Steering Rack**

63. Install the cylinder end seal (B) into the bottom of the cylinder by pressing on the tool with a press. Do not push on the tool with excessive force as it may damage the cylinder end seal.
64. Remove the tool, and center the steering rack.
65. Coat the sliding surface of the cylinder end seal slider (A) and new cylinder end seal (B) with power steering fluid. Place the seal on the seal slider with its grooved side (C) facing opposite the seal slider.

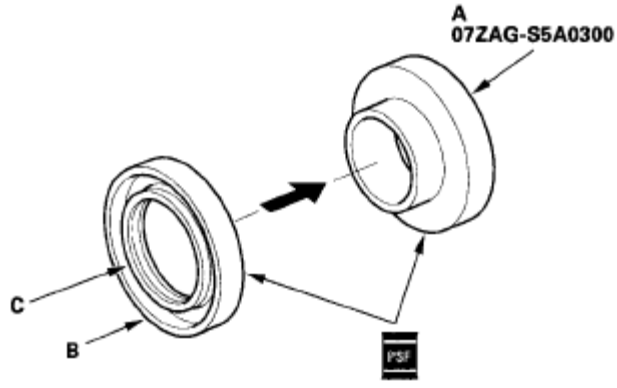



**Fig. 103: Identifying Seal On Seal Slider With Grooved Side**

66. Coat the inside surface of the cylinder end seal slider and steering rack with power steering fluid, then install the cylinder end seal (A) onto the steering rack with its grooved side toward the cylinder.

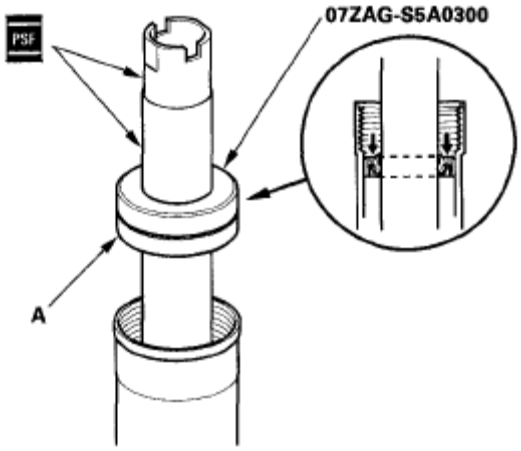



**Fig. 104: Identifying Cylinder End Seal Slider And Steering Rack**

67. Separate the cylinder end seal from the cylinder end seal slider, then remove the seal slider.
68. Push in the cylinder end seal with your finger. Be careful not to damage the face of the seal with the threads and burrs at the staked position of the cylinder housing.
69. Hold the gearbox housing using a C-clamp (commercially available) (A) and wooden blocks (B). Do not clamp the cylinder part of the gearbox housing in the vise.

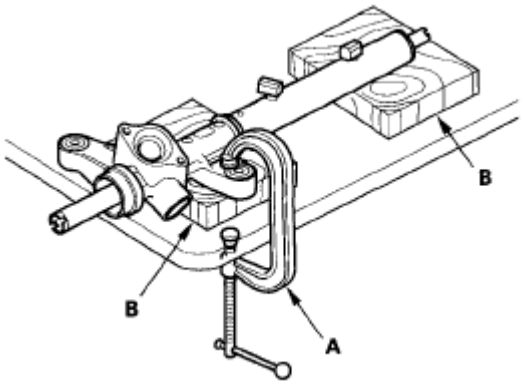



**Fig. 105: Identifying Gearbox Housing Using C-Clamp (Commercially Available)**

70. Coat the inside surface of the cylinder end (A) with power steering fluid, then install the cylinder end by screwing it into the cylinder (B). Tighten the cylinder end to the specified torque.

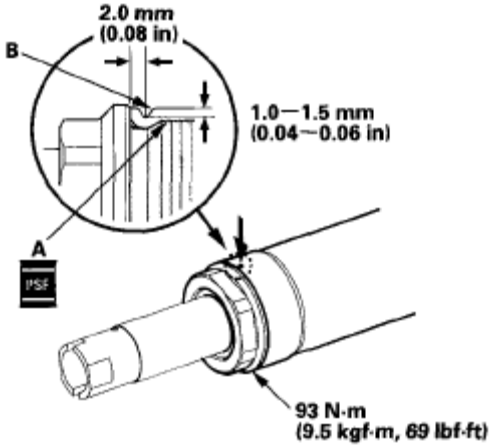



**Fig. 106: Identifying Cylinder Screw (With Torque Specifications)**

71. Stake the point of the cylinder shown (opposite from where the stake was removed during disassembly).
72. Install the return line joint (A), and tighten the 16 mm flare nut (B).

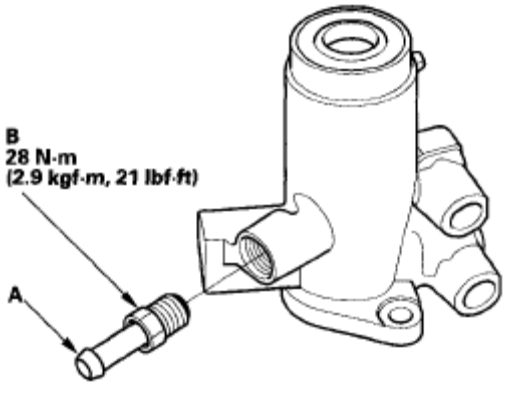



**Fig. 107: Identifying Return Line Joint And Flare Nut (With Torque Specifications)**

73. Coat the new O-ring (A) with steering grease, and carefully fit it on the valve housing.

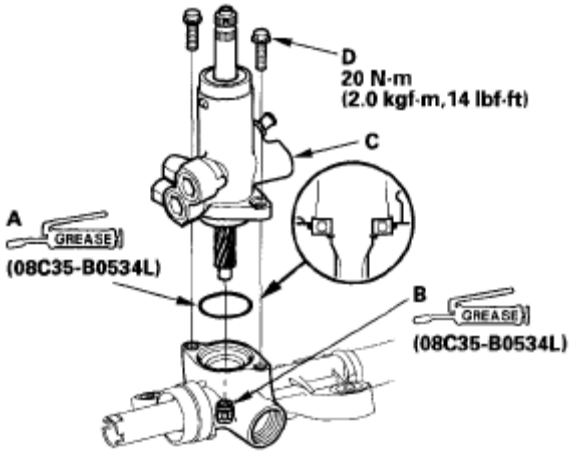



**Fig. 108: Identifying Area Applying Steering Grease (With Torque Specifications)**

74. Apply steering grease to the needle bearing (B) in the gearbox housing, then install the valve body unit (C) by engaging the gears. Note the valve body unit installation position (direction of the line connections).
75. Tighten the flange bolts (D) to the specified torque.
76. Install the cylinder lines.

    Note these items during reassembly:

    - Thoroughly clean the joints of the cylinder lines. The joints must be free of foreign material.
    - Install the cylinder lines by tightening the flare nuts by hand first, then tighten the flare nuts to the specified torque.

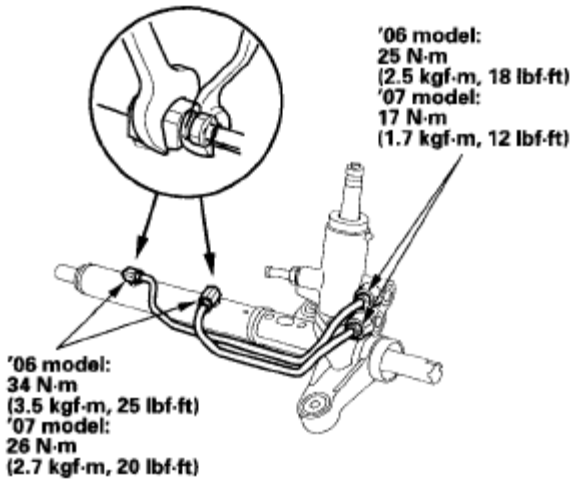



**Fig. 109: Identifying Flange Bolts (With Torque Specifications)**

77. Apply steering grease to the sliding surface of the rack guide (A), and install it onto the gearbox housing.

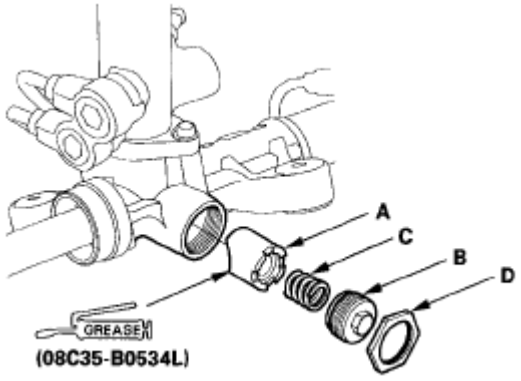



**Fig. 110: Identifying Gearbox Housing Components**

78. Remove the old sealant from the rack guide screw (B), then apply new sealant (Three Bond 1215 or Loctite 5699) to the middle of the threads. Install the spring (C), rack guide screw and locknut (D).
79. Adjust the rack guide screw (see **RACK GUIDE ADJUSTMENT** ). After adjusting, check that the rack moves smoothly by sliding it right and left.
80. Install a new rubber stop (A) and a new lock washer (B). Align the lock washer tabs (C) with the slots (D) on the rack end (E) while holding the lock washer in place. Repeat this step for the other side of the rack.

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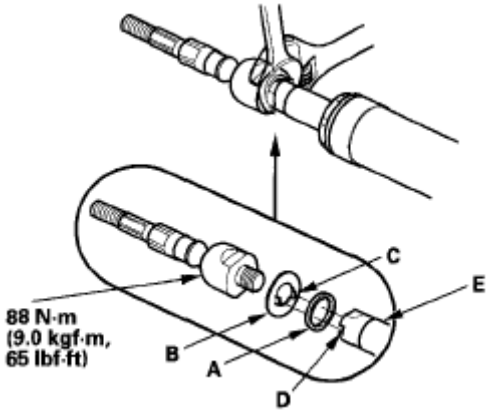



**Fig. 111: Identifying Rubber Stop, Lock Washer With Slots (With Torque Specifications)**

81. Hold the flat surface sections of the steering rack with a wrench, and tighten both rack ends. Be careful not to damages the rack surface with the wrench.
82. Bend the lock washer (A) back against the flat spots on the rack end joint housing.

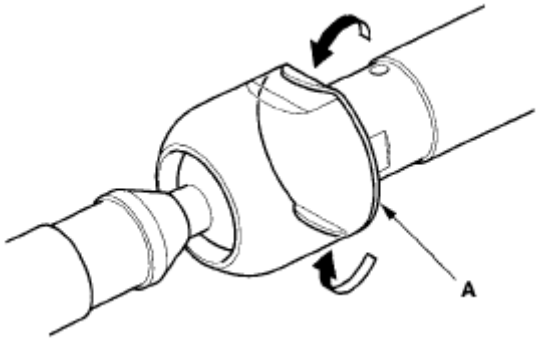



**Fig. 112: Locating Lock Washer**

83. Apply multipurpose grease to the circumference of the rack end joint housing (A).

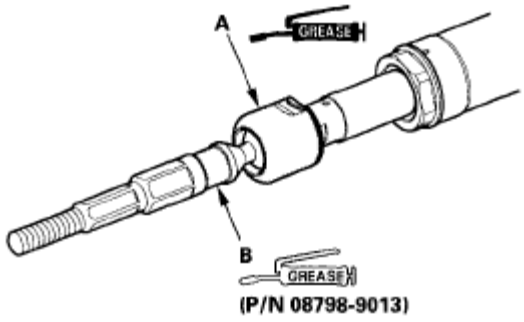



**Fig. 113: Identifying Area Applying Grease**

84. Apply a light coat of silicone grease (P/N 08798-9013) to the boot grooves (B) on the rack end.
85. Center the steering rack within its stroke.
86. Clean off the any grease or contamination from the boot installation grooves (A) around on the gearbox housing. Install the boots (B) on the rack ends with the tie-rod clips (C), and fit the boot end in the installation grooves in the housing properly.

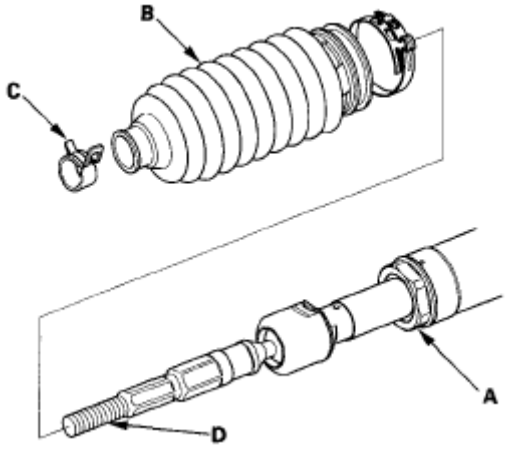



**Fig. 114: Identifying Boots Tie-Rod Clips**

87. After installing the boots, wipe the grease off the threaded section (D) of the rack end.
88. Install the new boot bands by aligning the tabs (A) with the holes (B) of the band.

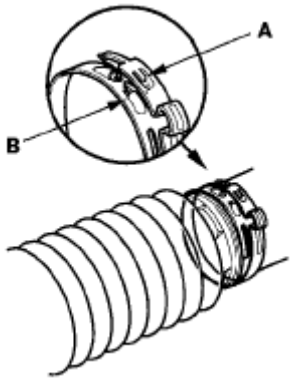



**Fig. 115: Aligning Tabs With Holes Of Band**

89. Close the ear portion (A) of the band (B) with commercially available pincers, Oetiker 1098 or equivalent (C).

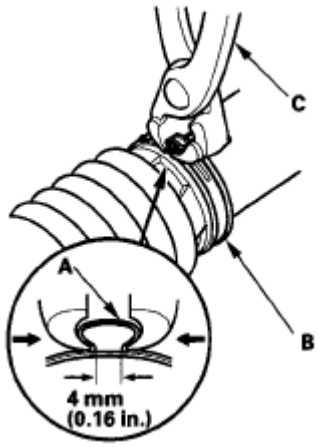



**Fig. 116: Identifying Twisted Band**

90. Slide the rack right and left to be certain that the boots are not deformed or twisted.
91. Reinstall the steering gearbox (see **STEERING GEARBOX INSTALLATION** ).
92. Adjust the rack guide screw (see **RACK GUIDE ADJUSTMENT** ). After adjusting, check that the rack moves smoothly by sliding it right and left.

## STEERING GEARBOX INSTALLATION

1. Place the gearbox in position on the front subframe.

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2. Loosely install the stiffener plates (A) and gearbox mounting bolts on the leftside of the steering gearbox.

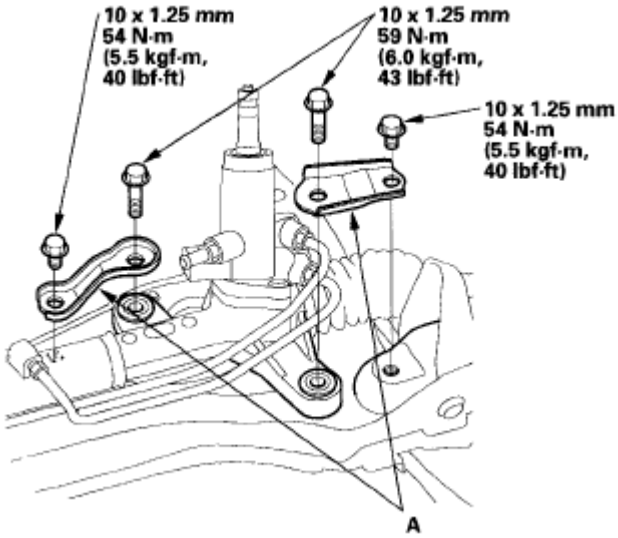



**Fig. 117: Identifying Stiffener Plates And Gearbox Mounting Bolts (With Torque Specifications)**

3. Position the cutout (A) on the mounting cushion (B) as shown, and install it on the right side of the steering gearbox securely.

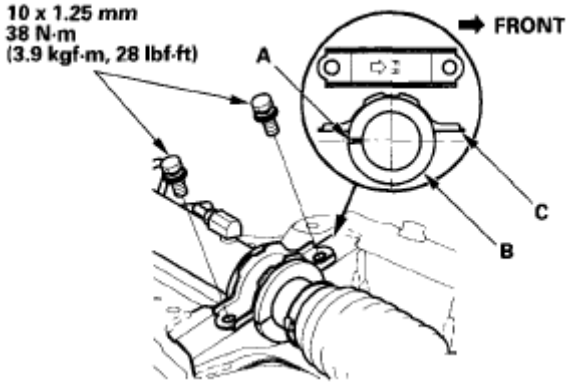



**Fig. 118: Identifying Cutout On Mounting Cushion (With Torque Specifications)**

4. Install the gearbox mounting bracket (C) over the mounting cushion, and loosely install the two 10 mm bolts.
5. Tighten the 10 mm bolts on the both sides of the steering gearbox to specified

torque alternately in two or more steps.

6. Install the pinion shaft grommet (A). Align the slot in the pinion shaft grommet with the lug portion (B) on the valve housing. The grommet must not have a gap at the mating surface of the grommet and valve housing.

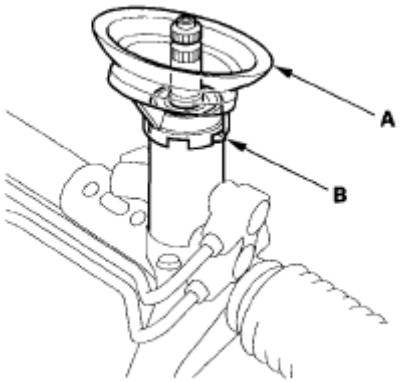



**Fig. 119: Identifying Slot In Pinion Shaft Grommet With Lug Portion**

7. Carefully raise the front subframe with the front subframe adaptor and the transmission jack or the powertrain lift until the subframe is in position, then loosely install new subframe mounting bolts.

**NOTE: Be sure that the pinion shaft grommet is in place securely. Make sure the pinion shaft grommet is not turned up. Incorrect installation can cause leakage of water, mud, and noise.**

8. Align the front subframe reference marks (A) to the body (B), as noted during removal.

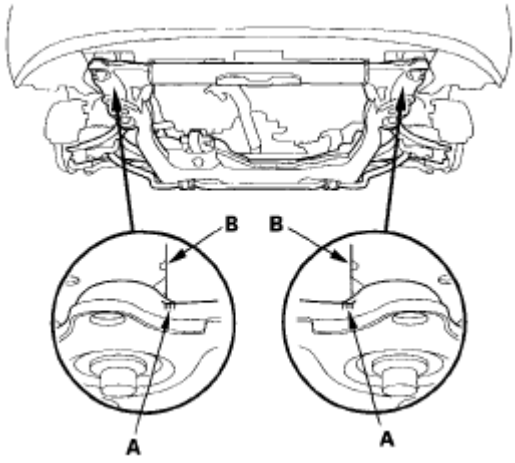



**Fig. 120: Identifying Marks To Body**

9. Tighten the new front subframe rear mounting bolts (A) to the specified torque.

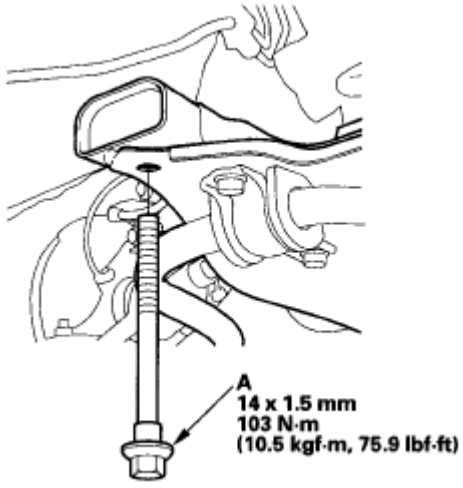



**Fig. 121: Identifying Front Subframe Rear Mounting Bolts (With Torque Specifications)**

10. Tighten the new front subframe front mounting bolts (A) to the specified torque.

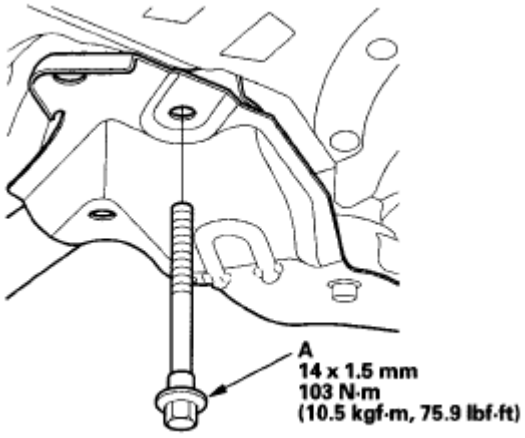



**Fig. 122: Identifying Front Subframe Front Mounting Bolts (With Torque Specifications)**

11. Install the new lower torque rod bracket bolts (A), and tighten to the specified torque.

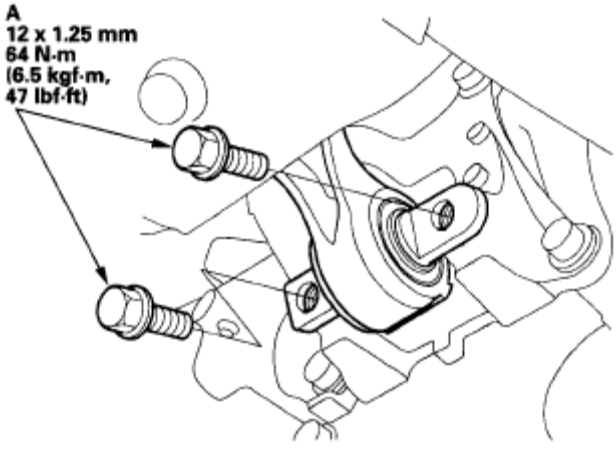



**Fig. 123: Identifying Lower Torque Rod Bracket Bolts (With Torque Specifications)**

12. Install the new front subframe middle mount bolt (A) on the left side, and tighten it to the specified torque.

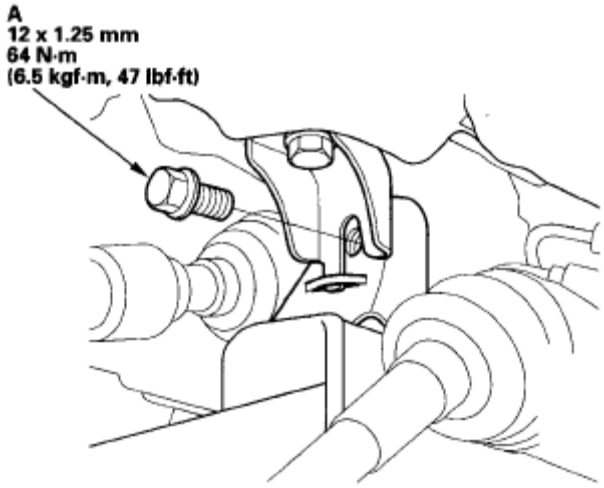



**Fig. 124: Identifying Front Subframe Middle Mount Bolt On Left Side - Specified Torque**

13. Install the new front subframe middle mount bolt (A) on the right side, and tighten it to the specified torque.

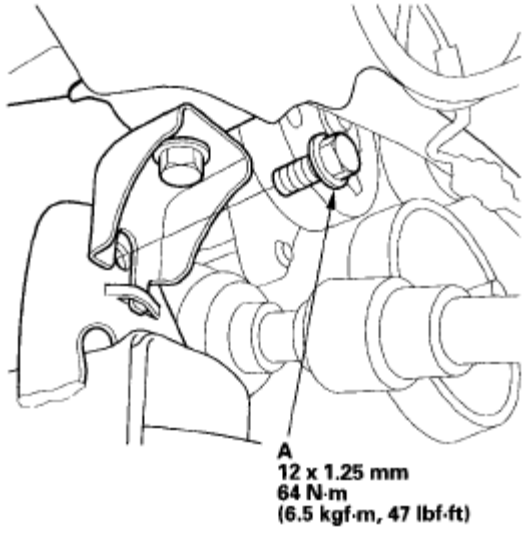



**Fig. 125: Identifying Front Subframe Middle Mount Bolt On Right Side (With Torque Specifications)**

14. Lower the transmission jack supporting the front subframe.
15. Connect the lower arm (A) to the lower ball joint (B).

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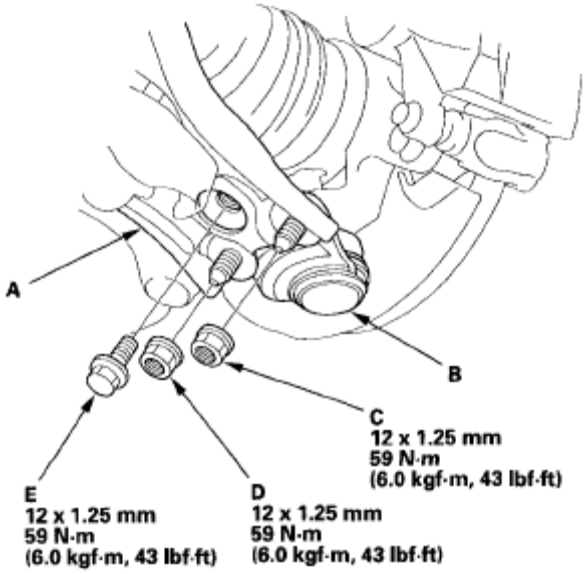



**Fig. 126: Identifying Lower Arm To Lower Ball Joint (With Torque Specifications)**

16. Install a new flange bolt and the new flange nuts. After lightly tightening all three fasteners, tighten them to the specified torque in the following order; the flange nut on the front (C), the flange nut on the rear (D), then the flange bolt (E).
17. Connect the inlet line (A), and loosely install the 18 mm flare nut (B). Do not tighten the flare nut to the specified torque yet.

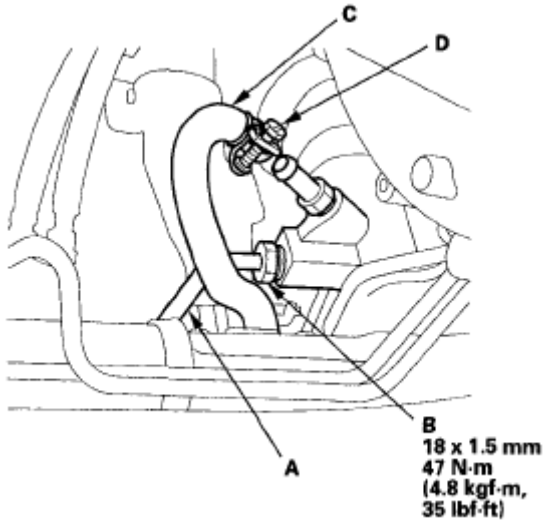



**Fig. 127: Identifying Flare Nut (With Torque Specifications)**

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18. Connect the return hose (C) securely, and tighten the adjustable hose clamp (D) (see **POWER STEERING HOSE, LINE, AND PRESSURE SWITCH REPLACEMENT** ).
19. Install the inlet line clamp bolt (A). Install the return line holder (B), and the return line clamp bolt (C) on the front subframe.

**NOTE: Make sure that there is no interference between the inlet line, the return line, and any other parts.**

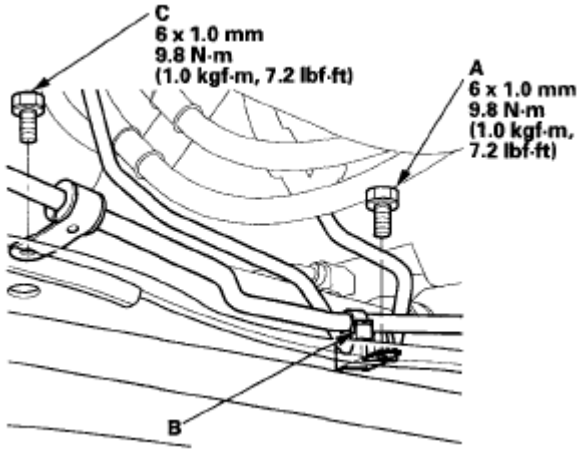



**Fig. 128: Identifying Return Line Clamp Bolt (With Torque Specifications)**

20. Retighten the inlet line 18 mm flare nut to the specified torque value.
21. Install the front splash shield, 2-door (see **FRONT SPLASH SHIELD REPLACEMENT** ), 4-door (see **4-DOOR** ).
22. Wipe off any grease contamination from the ball joint tapered section and threads. Reconnect the tie-rod ends (A) to the steering knuckles. Install the 12 mm nut (B), and tighten it.

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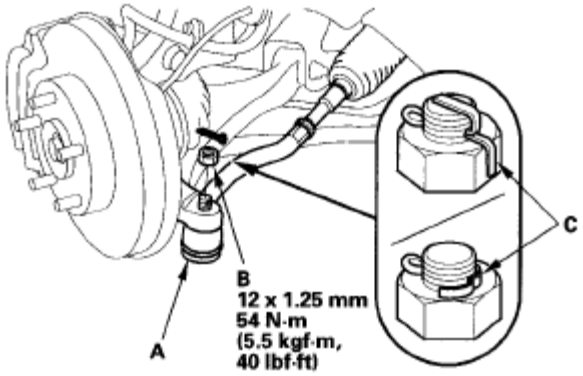



**Fig. 129: Identifying Tie-Rod Cotter Pin (With Torque Specifications)**

23. Install the new cotter pin (C), and bend it as shown.
24. Install the pump outlet hose clamp (A).

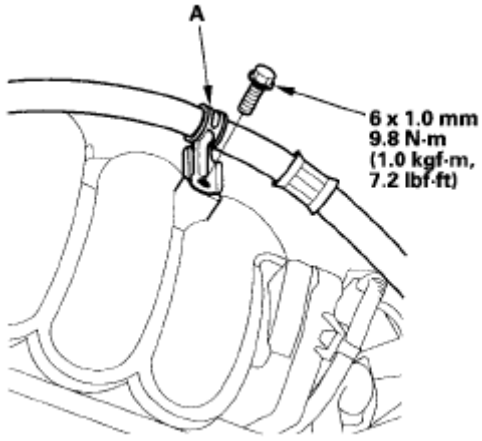



**Fig. 130: Identifying Pump Outlet Hose Clamp (With Torque Specifications)**

25. Remove the engine hanger, support bolt, and support hanger from the vehicle.
26. Center the steering rack within its stroke in the steering joint connection.
27. With the rack in the straight ahead driving position, cut the wire (A) and slip the lower end of the steering joint onto the pinion shaft (B) in the range shown.

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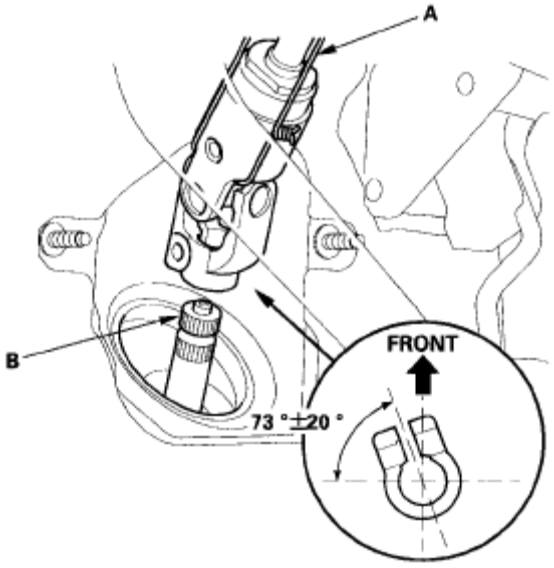



**Fig. 131: Identifying Steering Joint Onto Pinion Shaft**

28. Align the bolt hole (A) on the steering joint with the groove (B) around the pinion shaft, and loosely install the joint bolt (C). Be sure that the joint bolt is securely in the groove in the pinion shaft. Pull on the steering joint to make sure that the steering joint is fully seated. Tighten the steering joint bolt to the specified torque.

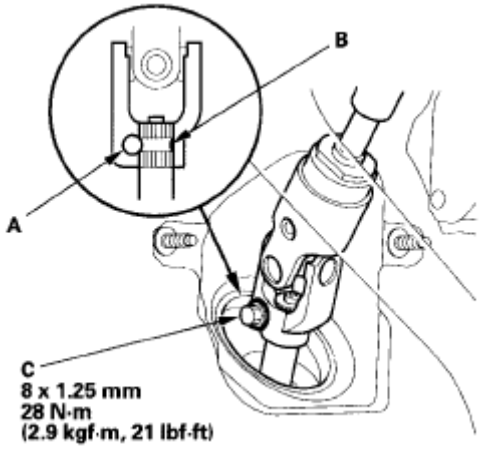



**Fig. 132: Aligning Bolt Hole On Steering Joint (With Torque Specifications)**

29. Install the steering joint cover (A).

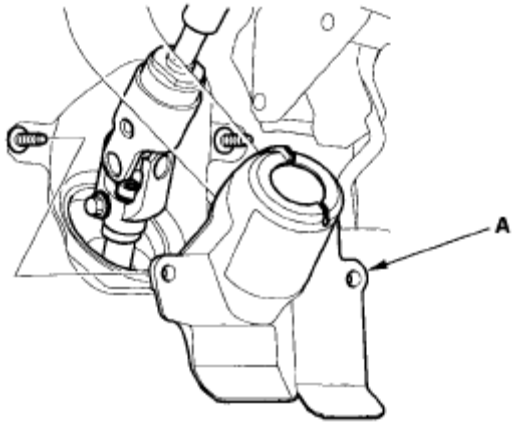



**Fig. 133: Identifying Steering Joint Cover**

30. Install the driver's dashboard undercover (see **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
31. Install the front wheel, then set the front wheels in the straight ahead position.
32. Install the steering wheel (see **STEERING WHEEL INSTALLATION** ).
33. Install the air cleaner housing mounting bracket (A) on the cylinder head.

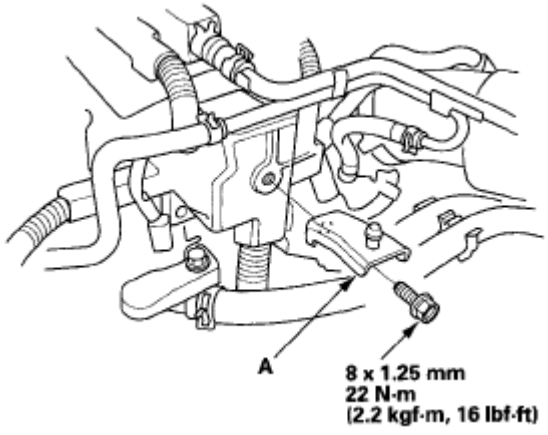



**Fig. 134: Identifying Air Cleaner Housing Mounting Bracket (With Torque Specifications)**

34. Install the air cleaner housing (see **THROTTLE BODY CLEANING** ).
35. Install the under-cowl panel and cowl cover (see **FRONT GRILLE COVER REPLACEMENT** ).
36. Reconnect the negative cable to the battery and do these items:

- Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
- Enter the anti-theft code for the audio or navigation system, then enter the audio presets.
- Set the clock.
- Make sure the horn and turn signal switch work properly.
- Make sure the steering wheel switches work properly.
- Make sure the steering wheel is centered.

37. Fill the system with power steering fluid, and bleed air from the system (see **FLUID REPLACEMENT** ).
38. After installation, do the following checks:
    - Start the engine, and let it idle. Turn the steering wheel from lock-to-lock several times to warm up to the fluid. Check the steering gearbox for leaks (see **FLUID LEAKAGE INSPECTION** ).
    - Check the steering wheel spoke angle.

      IF steering spoke angles to the right and left are not equal (steering wheel and rack are not centered), correct the engagement of the joint/pinion shaft serrations, then adjust the front toe by turning the tie-rod ends, if necessary.

    - Check the front toe inspection (see **FRONT TOE INSPECTION/ADJUSTMENT** ).

## GEARBOX MOUNT CUSHION REPLACEMENT

1. Remove the steering gearbox (see **STEERING GEARBOX OVERHAUL** ).
2. Position the 34 mm socket wrench (A) on the flange part of the gearbox housing with a washer (B), 10 x 105 mm flange bolt (C) and the 10 mm nut (D) as shown.

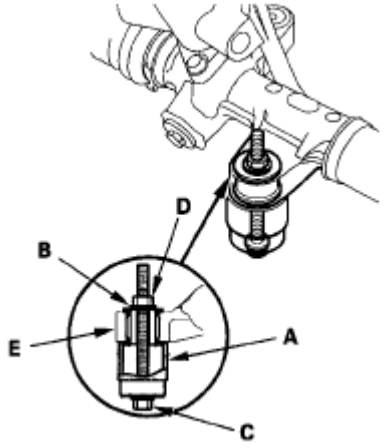



**Fig. 135: Identifying Gearbox Flange Bolt And Nut**

3. Hold the 10 mm nut with a wrench, and tighten the 10 x 105 mm flange bolt with another wrench. Remove the gearbox mount cushion (E).
4. Apply a mild soap and water solution to the new gearbox mount cushion surface (A), then place the mount cushion on the gearbox mounting cushion hole.

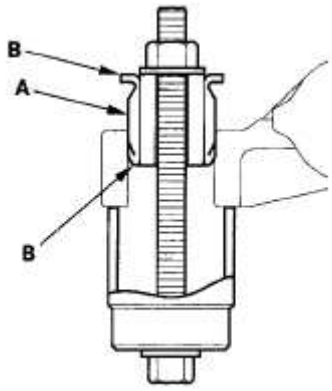



**Fig. 136: Identifying Gearbox Housing, Washer, Flange Bolt And Nut**

5. Position the 34 mm socket wrench on the flange part of the gearbox housing with a washer, flange bolt, and the nut as shown.
6. Install the gearbox mount cushion by tightening the nut until the mount cushion edges (B) properly fit on the gearbox flange surface.
7. Install the steering gearbox (see **STEERING GEARBOX INSTALLATION** ).

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8. Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

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**2006-08 ACCESSORIES & EQUIPMENT**

**Power Windows - Civic (All Except Hybrid)**

# COMPONENT LOCATION INDEX

## 4-door

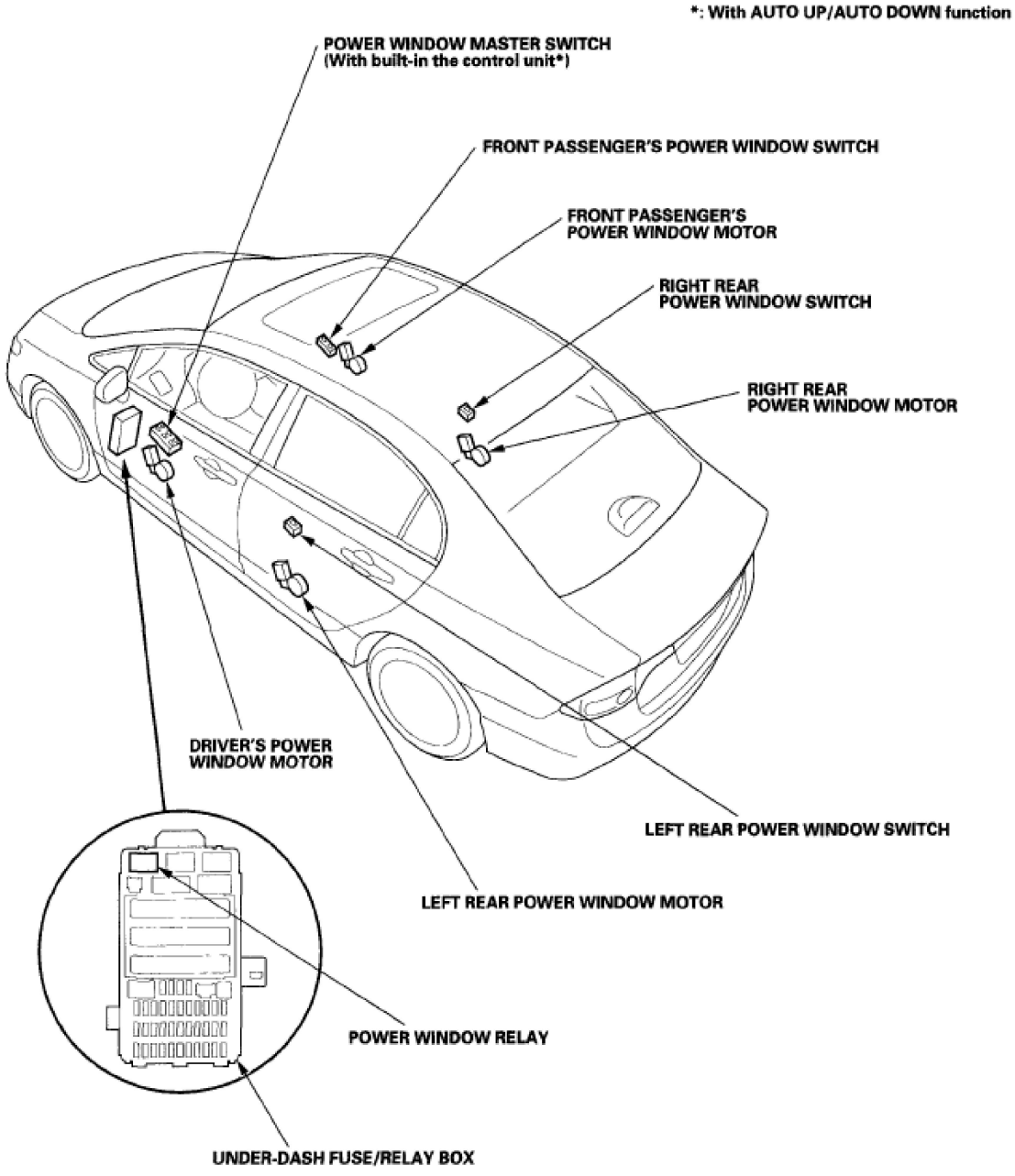
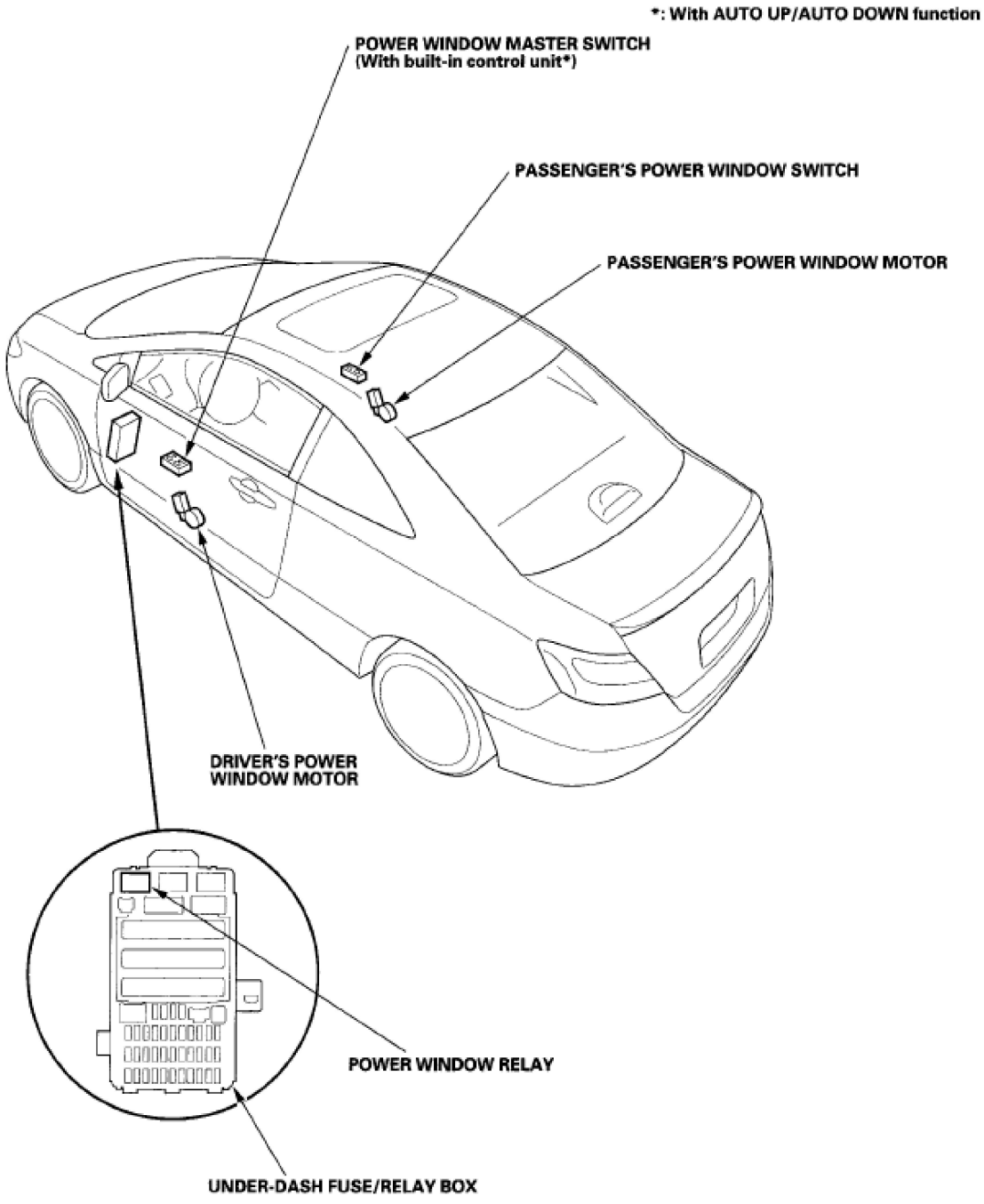



**Fig. 1: Locating Power Windows Components (4-Door)**

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# 2-door




## Fig. 2: Locating Power Windows Components (2-Door)

## SYSTEM DESCRIPTION

### AUTO REVERSE OPERATION (EXCEPT DX AND DX-G MODELS)

The system is composed of the power window master switch and the driver's power window motor.

The driver's power window motor incorporates a pulser which generates pulses during the motor's operation and sends the pulses to the driver's power window control unit. As soon as the power window control unit detects no pulses from the pulser, the driver's power window control unit makes the power window motor stop and reverse. If the window is more than halfway closed, it will reverse to half open position. If the window is less than halfway closed, it will stop and reverse about 2 inches. This is to prevent pinching an obstacle during auto-up operation. The auto reverse operation is not active when the switch is held in the up position.

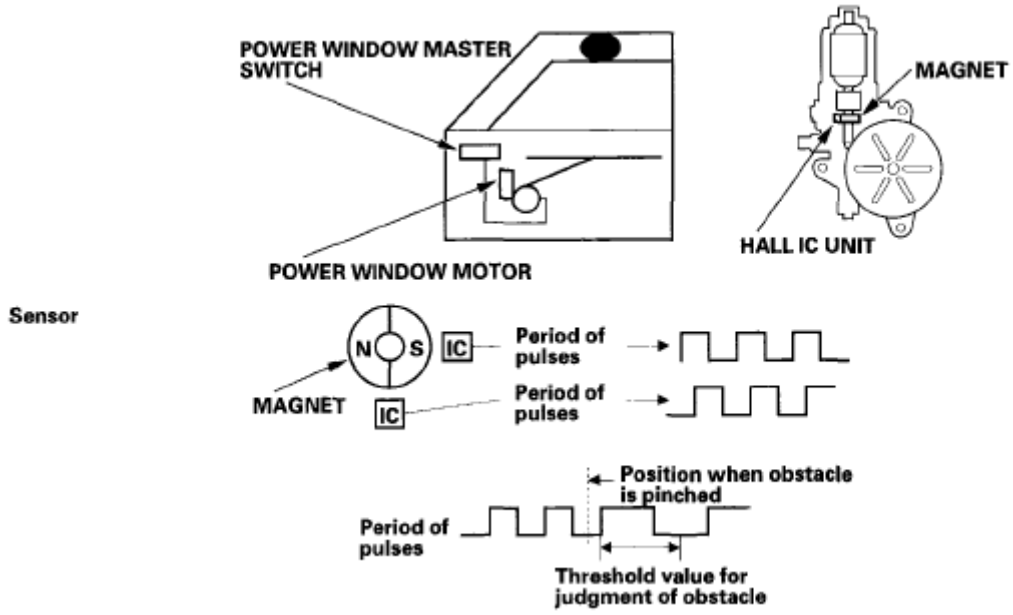



**Fig. 3: Auto Reverse Operation System Description (Except DX And DX-G Models)**

## CIRCUIT DIAGRAM

### 4-door (With AUTO UP/AUTO DOWN Function)

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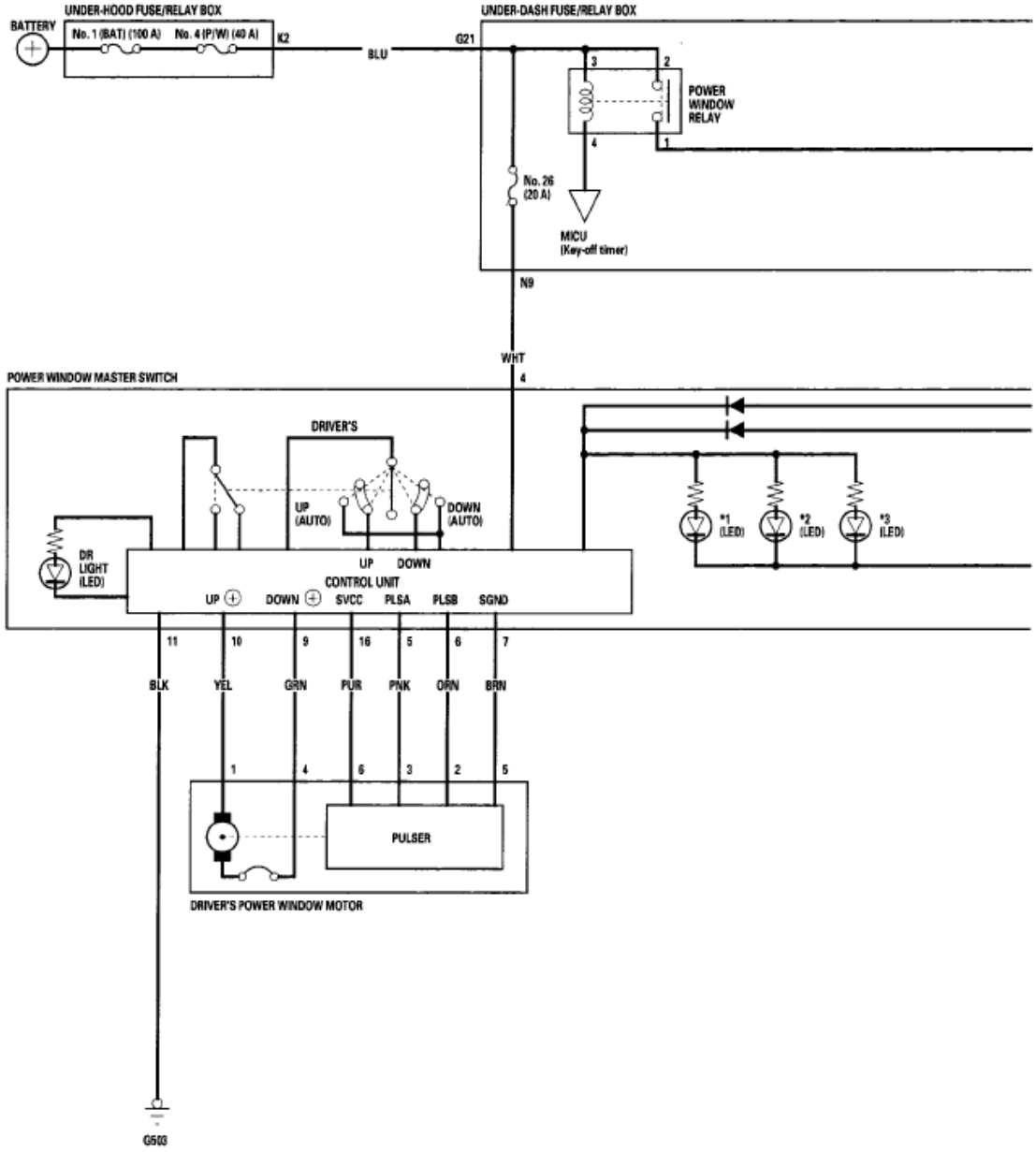
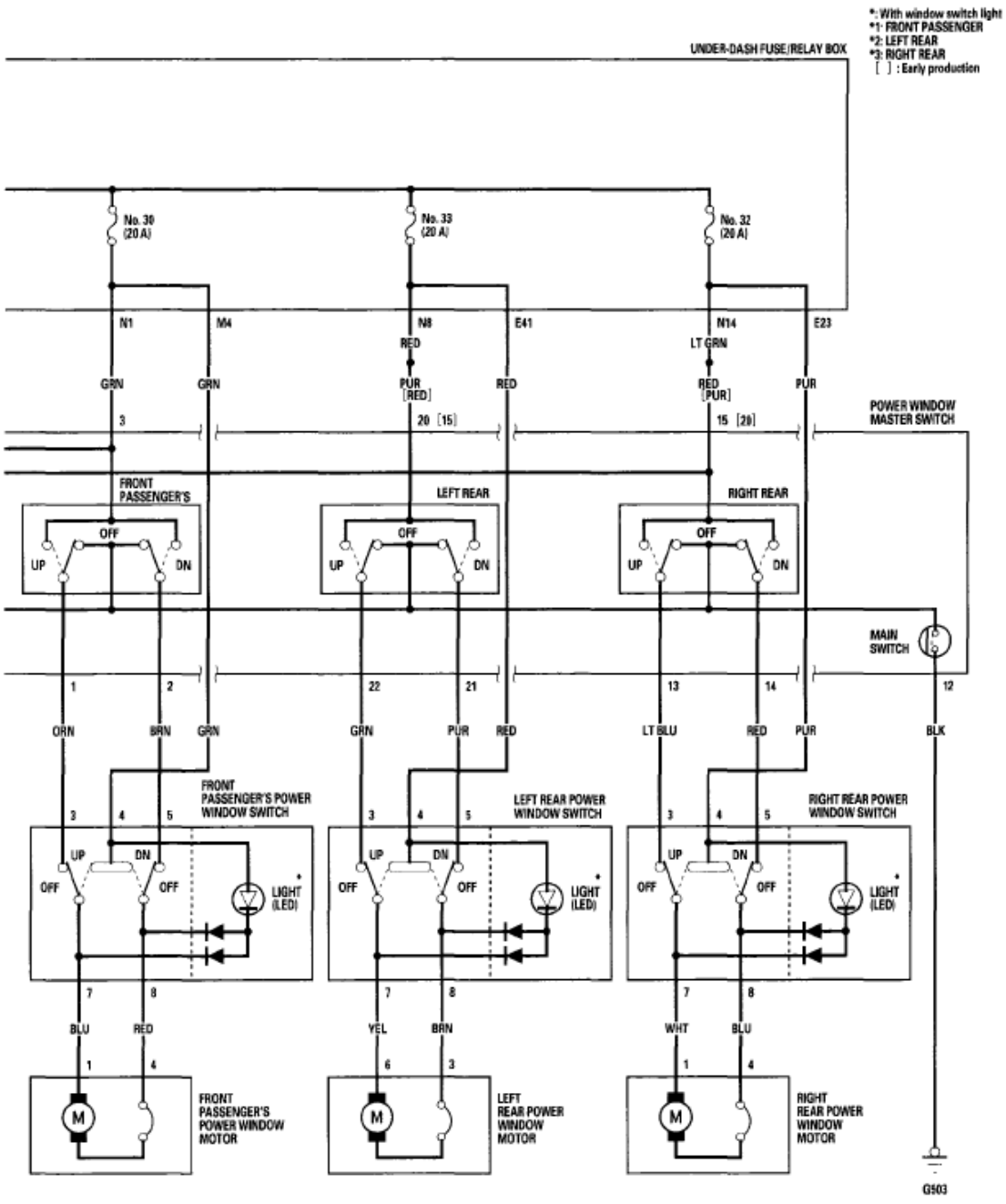



**Fig. 4: Power Windows Circuit Diagram - 4-Door (With AUTO UP /AUTO DOWN Function) (1 Of 2)**

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## Fig. 5: Power Windows Circuit Diagram - 4-Door (With AUTO UP /AUTO DOWN Function) (2 Of 2)

## 4-door (Without AUTO UP/AUTO DOWN Function)

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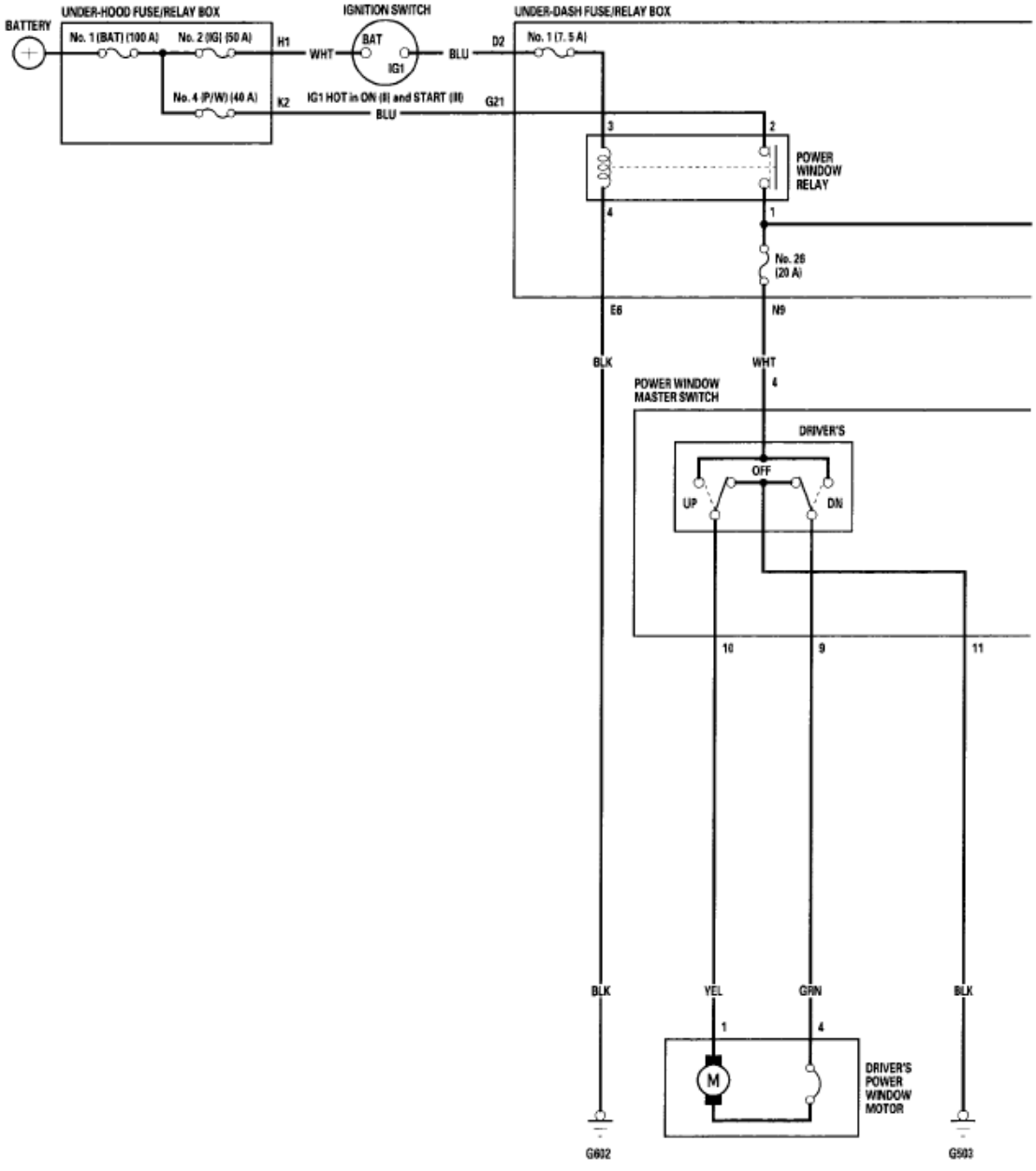



**Fig. 6: Power Windows Circuit Diagram - 4-Door (Without AUTO UP /AUTO DOWN Function) (1 Of 2)**

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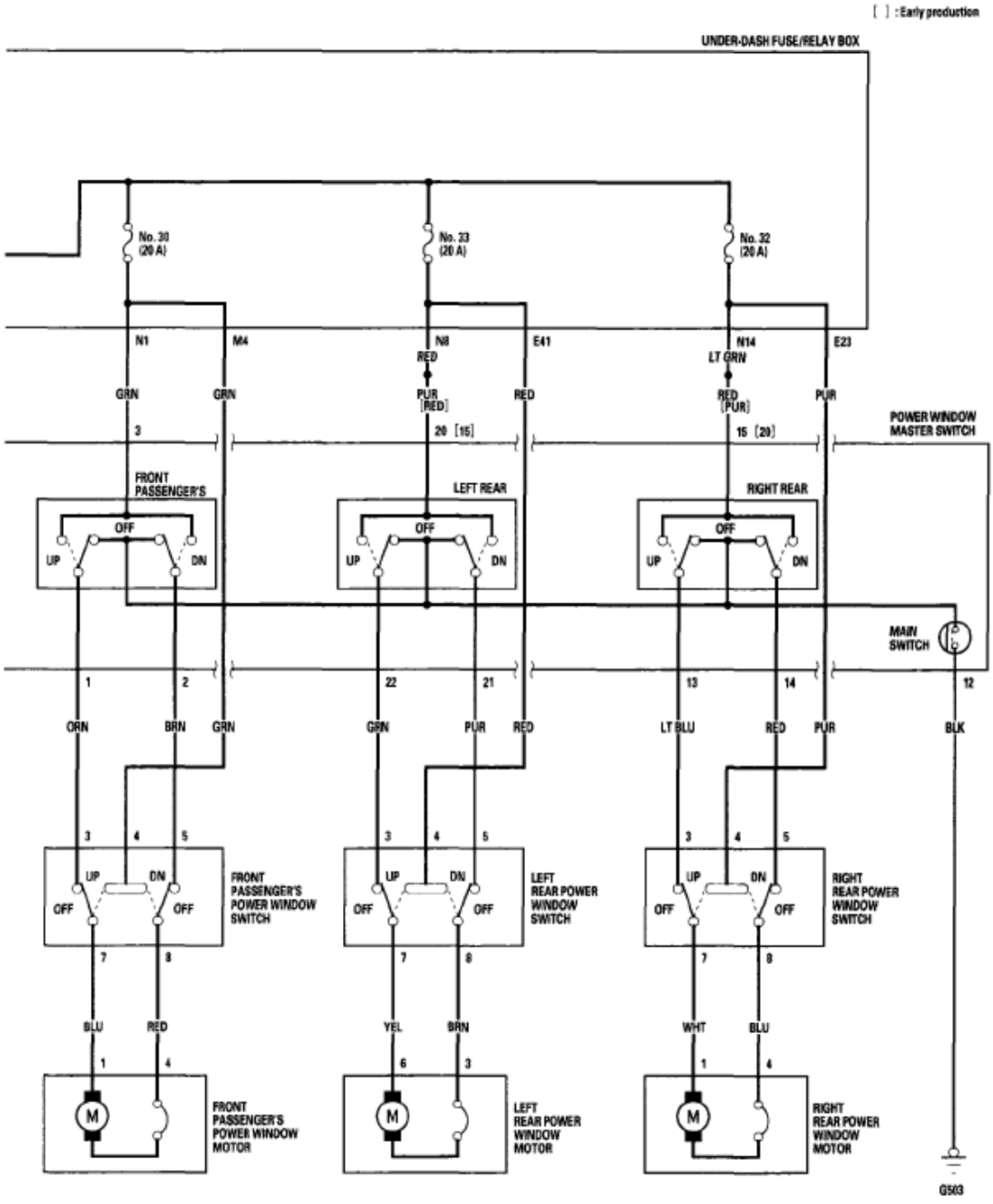
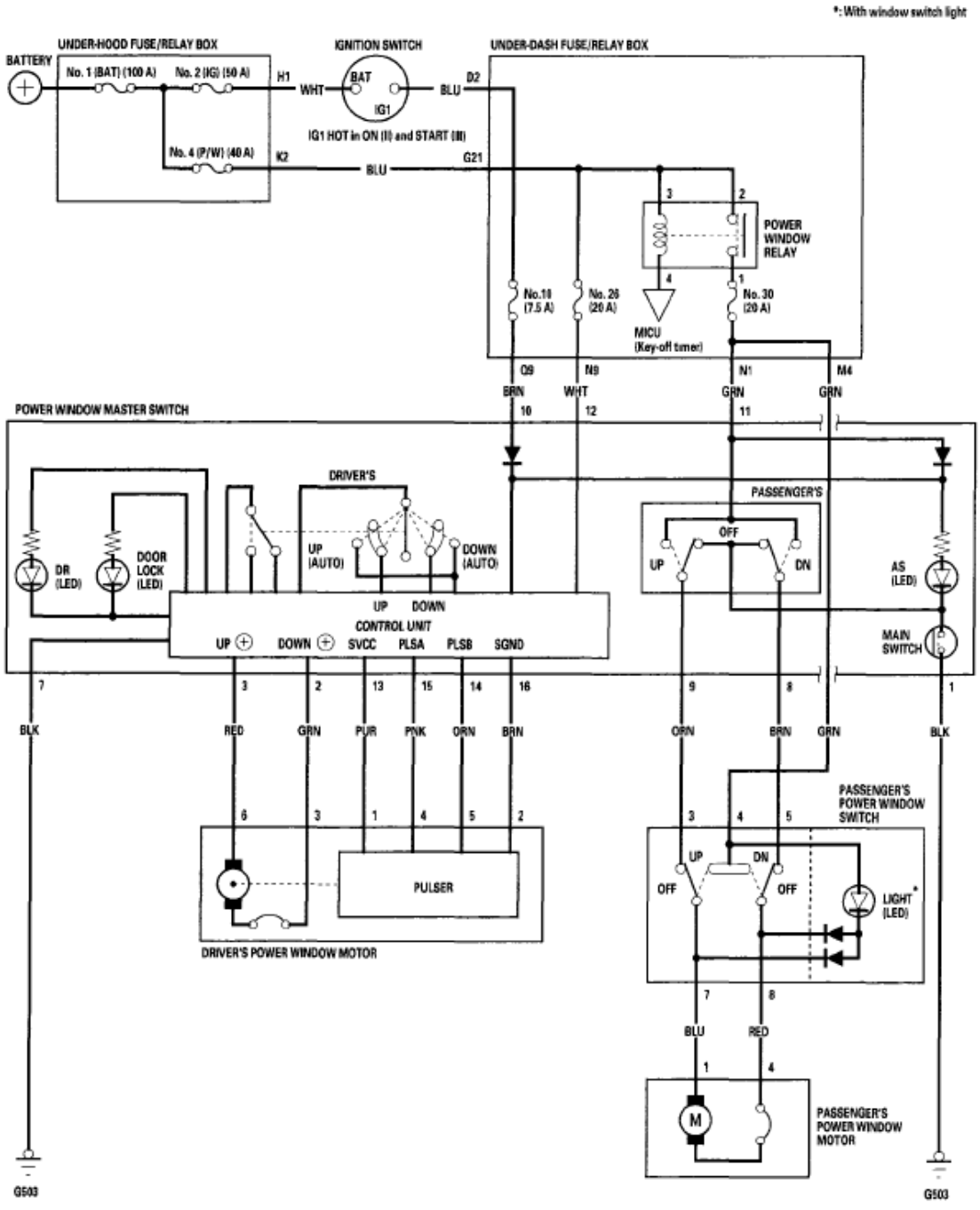



**Fig. 7: Power Windows Circuit Diagram - 4-Door (Without AUTO UP /AUTO DOWN Function) (2 Of 2)**

## 2-door (With AUTO UP/AUTO DOWN Function)

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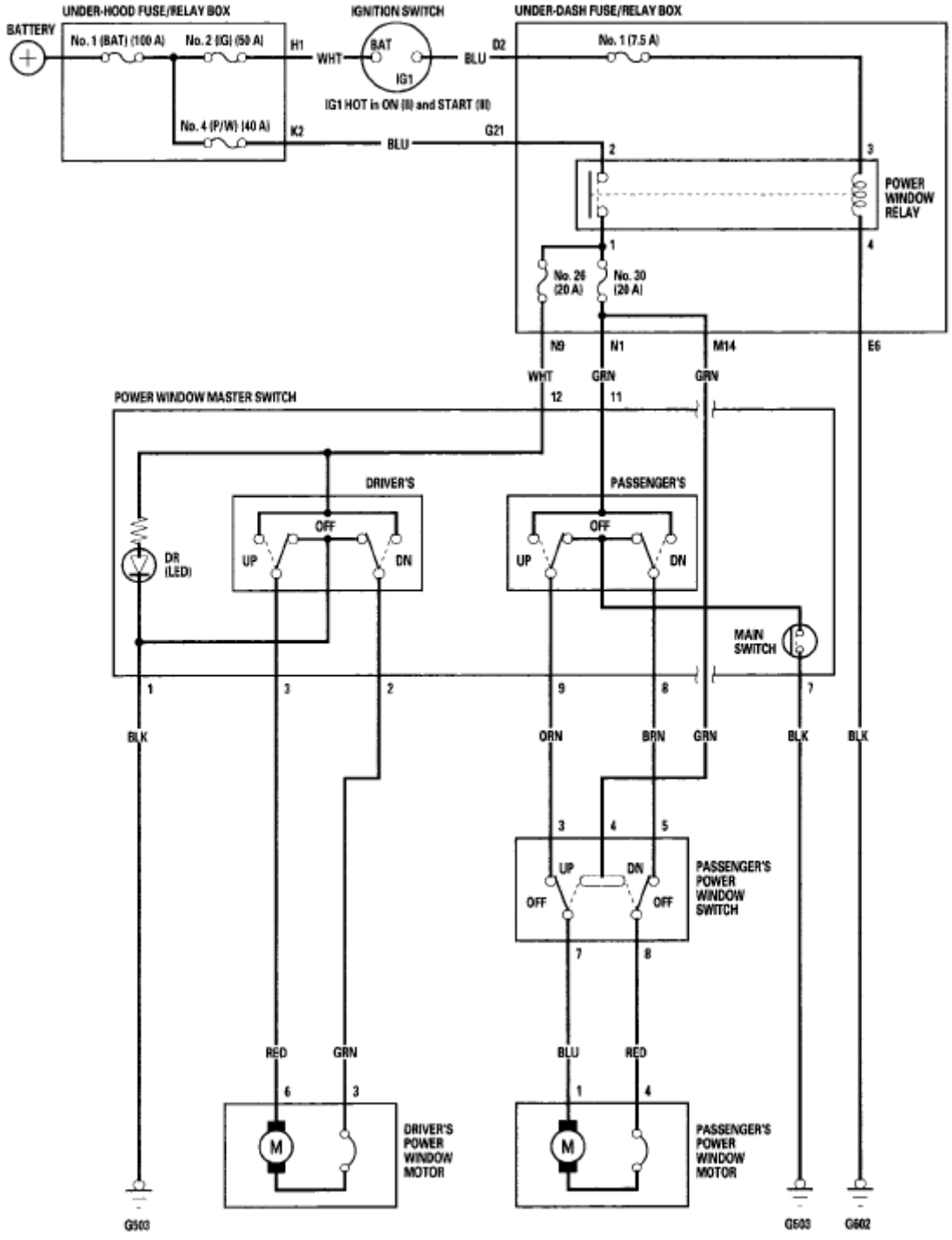



## Fig. 8: Power Windows Circuit Diagram - 2-Door (With AUTO UP /AUTO DOWN Function)

## 2-door (Without AUTO UP/AUTO DOWN Function)

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## Fig. 9: Power Windows Circuit Diagram - 2-Door (Without AUTO UP /AUTO DOWN Function)

## MASTER SWITCH INPUT TEST

### 4-DOOR WITH AUTO UP/AUTO DOWN FUNCTION

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**NOTE: The power window control unit is built into the power window master switch, and it only controls the driver's window operations.**

1. Remove the master switch (A) (see **MASTER SWITCH TEST/REPLACEMENT** ).

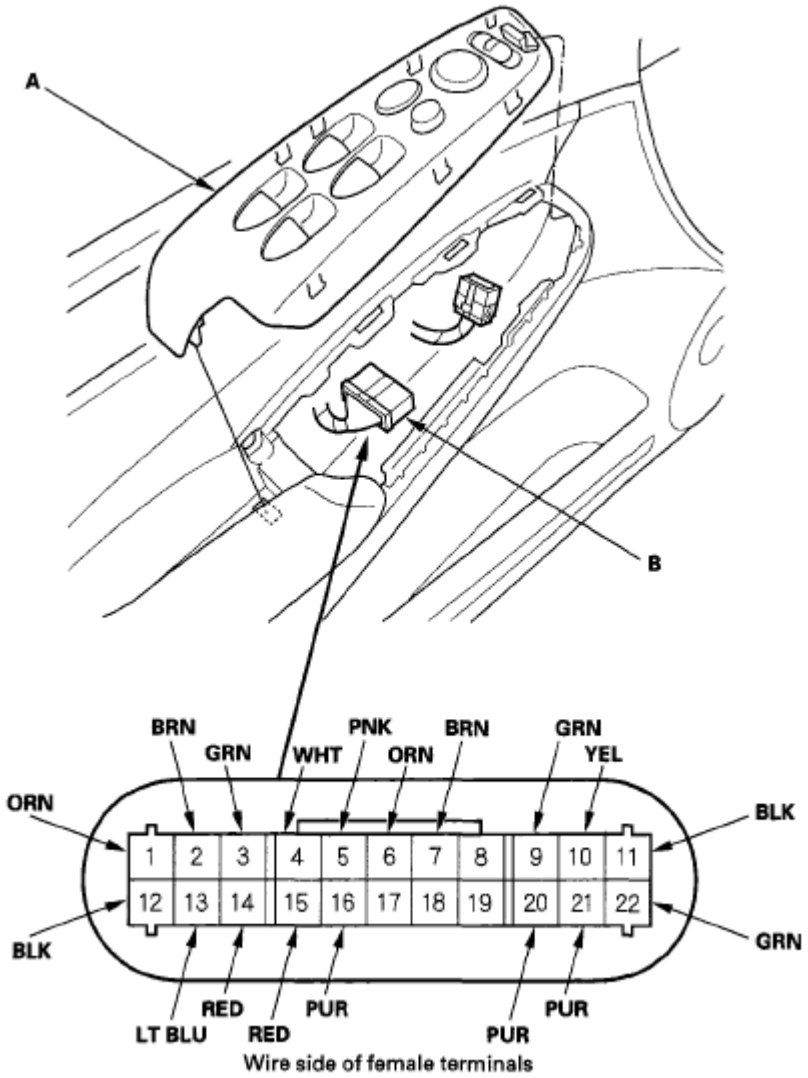



**Fig. 10: Removing Master Switch**

2. Disconnect the 22P connector (B) from the master switch.
3. Inspect the connector and socket terminals to be sure they are all making good contact.

- If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
- If the terminals look OK, make the following input tests at the connector.
  - If a test indicates a problem, find and correct the cause, then recheck the system.
  - If all the input tests prove OK, the power window master switch must be faulty; replace it.

4. With the master switch still disconnected, make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 5.

**MASTER SWITCH INPUT TEST (DISCONNECTED)**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 9 | GRN | Connect the No. 4 and the No. 9 terminals and No. 10 and No. 11 terminals momentarily with jumper wires | Check driver's power window motor operation: The window should go down. | • Faulty driver's power window motor<br>• An open in the wire |
| 10 | YEL | Connect the No. 4 and the No. 10 terminals and No. 9 and No. 11 terminals momentarily with jumper wires | Check driver's power window motor operation: The window should go up. | |
| 1 | ORN | Connect the No. 3 and the No. 2 terminals and No. 1 and No. 12 terminals momentarily with jumper wires | Check front passenger's power window motor operation: The window should go down. | • Faulty front passenger's power window motor<br>• Faulty front passenger's |
| | | | Check front | |

| | | | | |
|---|---|---|---|---|
| 2 | BRN | Connect the No. 3 and the No. 1 terminals and No. 2 and No. 12 terminals momentarily with jumper wires | passenger's power window motor operation: The window should go down. | power window switch<br>• An open in the wire |
| 13 | LT BLU | Connect the No. 20 and the No. 14 terminals and No. 13 and No. 12 terminals momentarily with jumper wires | Check front passenger's power window motor operation: The window should go down. | • Faulty right rear power window motor<br>• Faulty right rear power window switch<br>• An open in the wire |
| 14 | RED | Connect the No. 20 and the No. 13 terminals and No. 14 and No. 12 terminals momentarily with jumper wires | Check right rear power window motor operation: The window should go down. | |
| 21 | PUR | Connect the No. 15 and the No. 21 terminals and No. 22 and No. 12 terminals momentarily with jumper wires | Check left rear power window motor operation: The window should go down. | • Faulty left rear power window motor<br>• Faulty left rear power window switch<br>• An open in the wire |
| 22 | GRN | Connect the No. 15 and the No. 22 terminals and No. 21 and No. 12 terminals momentarily with jumper wires | Check left rear power window motor operation: The window should go down. | |

5. Reconnect the 22P connector to the power window master switch. Turn the ignition switch ON (II), and make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the control unit must be faulty; replace the power window master switch.

## MASTER SWITCH INPUT TEST (RECONNECTED)

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 3 | GRN | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Blown No. 30 (20 A) fuse in the under-dash fuse/relay box<br>• Faulty power window relay<br>• Faulty MICU<br>• An open in the wire |
| 4 | WHT | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 26 (20 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| 15 [20] | RED | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Blown No. 32 (20 A) fuse in the under-dash fuse/relay box<br>• Faulty power window relay<br>• Faulty MICU<br>• An open in the wire |
| | | | | • Blown No. 33 (20 A) fuse in the under- |

| | | | | |
|---|---|---|---|---|
| 20 [15] | PUR | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | dash fuse/relay box<br>• Faulty power window relay<br>• Faulty MICU<br>• An open in the wire |
| 7 | BRN | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G503)<br>• An open in the wire |
| 11 | BLK | Ignition switch ON (II), and driver's window moving up and down | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G503)<br>• An open in the wire |
| 12 | BLK | Ignition switch ON (II), main switch ON, and a passenger's window moving up and down | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G503)<br>• An open in the wire |
| 16 | PUR | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Faulty power window master switch<br>• Short to ground in the wire |
| 5 | PNK | Ignition switch ON (II), and driver's power window switch | Check for voltage between the No. 5 and No. 7 terminals: There should be 0 V-about 5 V -0 V-about 5 V repeatedly (a digital | • Faulty power window master switch |

| | | | | |
|---|---|---|---|---|
| | | moving up or down | voltmeter should reads about 2.5 V while the window moves). | • Faulty driver's power window motor<br>• An open in the wire<br>• Short to ground in the wire |
| 6 | ORN | Ignition switch ON (II), and driver's power window switch moving up or down | Check for voltage between the No. 6 and No. 7 terminals: There should be 0 V-about 5 V -0 V- about 5 V repeatedly (a digital voltmeter should reads about 2.5 V while the window moves). | |
| [ ] : early production | | | | |

6. Reset the power window control unit (see **RESETTING THE POWER WINDOW CONTROL UNIT** ).

**2-DOOR WITH AUTO UP/AUTO DOWN FUNCTION**

**NOTE: The power window control unit is built into the power window master switch, and it only controls the driver's window operations.**

1. Remove the door panel (see **DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 16P connector (A) from the master switch (B).

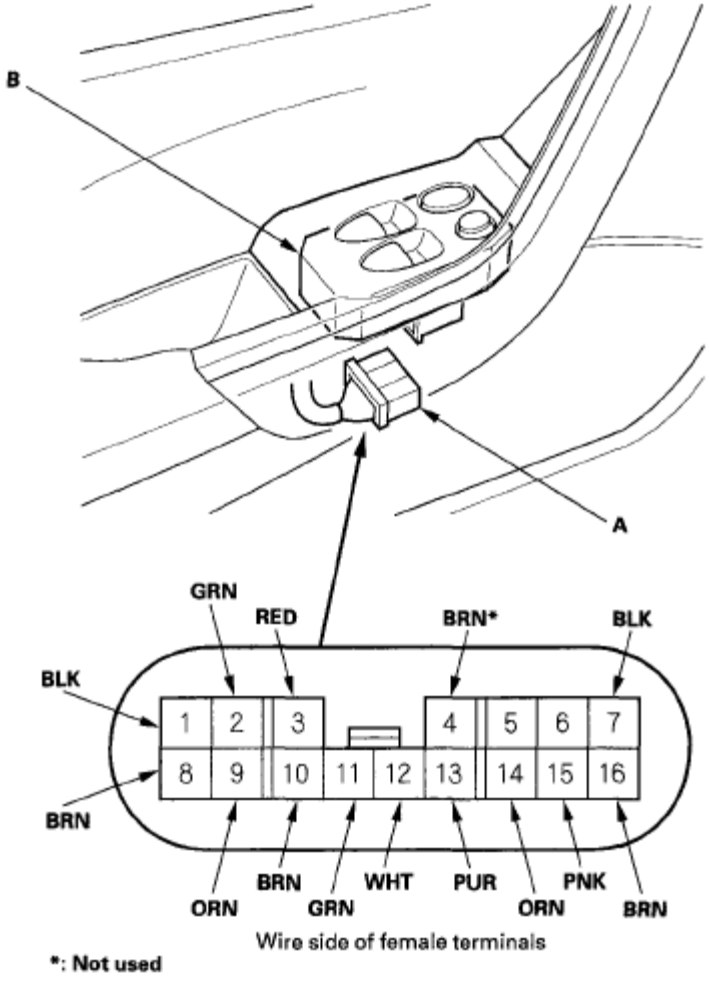



**Fig. 11: Disconnecting 16P Connector**

3. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, make the following input tests at the connector.
     - If a test indicates a problem, find and correct the cause, then recheck the system.
     - If all the input tests prove OK, the power window master switch must be faulty; replace it.
4. With the master switch still disconnected, make these input tests at the connector.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 5.

**MASTER SWITCH INPUT TEST (DISCONNECTED)**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 2 | GRN | Connect the No. 12 and the No. 2 terminals and No. 3 and No. 7 terminals momentarily with jumper wires. | Check driver's window motor operation: The window should go down. | • Faulty driver's power window motor<br>• An open in the wire |
| 3 | YEL | Connect the No. 12 and the No. 3 terminals and No. 2 and No. 7 terminals momentarily with jumper wires. | Check driver's window motor operation: The window should go up. | |
| 8 | BRN | Connect the No. 12 and the No. 8 terminals and No. 9 and No. 1 terminals momentarily with jumper wires. | Check passenger's window motor operation: The window should go down. | • Faulty passenger's power window motor<br>• Faulty passenger's power window switch<br>• An open in the wire |
| 9 | ORN | Connect the No. 12 and the No. 9 terminals and No. 8 and No. 1 terminals momentarily with jumper wires. | Check passenger's window motor operation: The window should go down. | |

5. Reconnect the 16P connector to the power window master switch. Turn the ignition switch ON (II), and make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the control unit must be faulty; replace the

power window master switch.

**MASTER SWITCH INPUT TEST (RECONNECTED)**

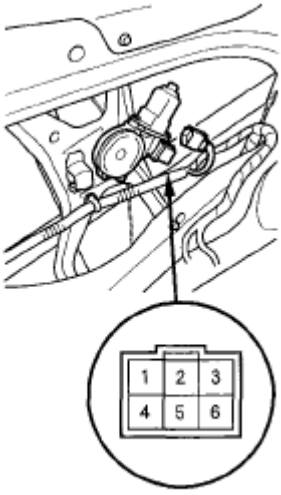
| Cavity | Wire | Test condition | Test: Desired result | Possible cause H result is not obtained |
|---|---|---|---|---|
| 10 | BRN | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Blown No. 10 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 11 | GRN | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Blown No. 30 (20 A) fuse in the under-dash fuse/relay box<br>• Faulty power window relay<br>• Faulty MICU<br>• An open in the wire |
| 12 | WHT | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 26 (20 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| 1 | BLK | Ignition switch ON (II), main switch ON, and | Check for voltage to ground: There should be | • Poor ground (G503) |

| | | | | |
|---|---|---|---|---|
| | | passenger's window moving, up and down | less than 0.5 V. | • An open in the wire |
| 7 | BLK | Ignition switch ON (II), and driver's window moving up and down | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G503)<br>• An open in the wire |
| 16 | BRN | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G503)<br>• An open in the wire |
| 13 | PUR | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Faulty power window master switch<br>• Short to ground in the wire |
| 14 | ORN | Ignition switch ON (II), and driver's power window switch moving up or down | Check for voltage between the No. 14 and No. 16 terminals: There should be 0 V-about 5 V -0 V-about 5 V repeatedly (a digital voltmeter should reads about 2.5 V while the window moves). | • Faulty power window master switch<br>• Faulty driver's power window motor<br>• An open in the wire<br>• Short to ground in the wire |
| 15 | PNK | Ignition switch ON (II), and driver's power window switch moving up or down | Check for voltage between the No. 15 and No. 16 terminals: There should be 0 V-about 5 V -0 V-about 5 V repeatedly (a digital voltmeter should reads about 2.5 V while the window moves). | |

6. Reset the power window control unit (see **RESETTING THE POWER WINDOW CONTROL UNIT** ).

## DRIVER'S POWER WINDOW MOTOR TEST

1. Remove the door panel.
   - 4-door (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
   - 2-door (see **DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 6P connector from the driver's power window motor.




Terminal side of male terminals

**Fig. 12: Disconnecting 6P Connector**

### Motor Test

3. Test the motor in each direction by connecting battery power and ground according to **Fig. 13** . When the motor stops running, disconnect one lead immediately.

| Direction \ Terminal | 1 [6] | 4 [3] |
|---|---|---|
| UP | ⊕ | ⊖ |
| DOWN | ⊖ | ⊕ |

[ ] : 2-door

**Fig. 13: Testing Motor In Each Direction Table**

4. If the motor does not run or fails to run smoothly, replace it.

**Pulser Test (With AUTO UP/AUTO DOWN)**

5. Reconnect the 6P connector to the driver's power window motor.
6. Turn the ignition switch ON (II).
7. Check for voltage between the terminals.
   - There should be battery voltage between the No. 6 [No. 1] (+) and No. 5 [No. 2] (-) terminals.

     [ ] : 2-door

   - Connect an analog voltmeter between the No. 3 [No. 4] (+) and No. 5 [No. 2] (-) terminals, and run the window motor down or up. The voltmeter needle should move back and forth alternately (a digital voltmeter reads about 2.5 V).

     [ ] : 2-door

   - Connect an analog voltmeter between the No. 2 [No. 5] (+) and No. 5 [No. 2] (-) terminals, and run the power window motor down or up. The voltmeter needle should move back and forth alternately (a digital voltmeter reads about 2.5 V).

     [ ] : 2-door

8. If the voltage is not as specified, do the power window switch input test:
   - 4-door: terminals No. 5, 6,7, and 16 (see **4-DOOR WITH AUTO UP/AUTO DOWN FUNCTION** ).
   - 2-door: terminals No. 13,14,15, and 16 (see **2-DOOR WITH AUTO UP/AUTO DOWN FUNCTION** ).
9. If the switch is OK, replace the power window motor.
10. Reset the power window control unit (see **RESETTING THE POWER WINDOW CONTROL UNIT** ).

## PASSENGER'S POWER WINDOW MOTOR TEST

1. Remove the door panel.
   - 4-door (see **FRONT DOOR PANEL REMOVAL/INSTALLATION** ).
   - 2-door (see **DOOR PANEL REMOVAL/INSTALLATION** ).
2. Disconnect the 6P connector from the power window motor.

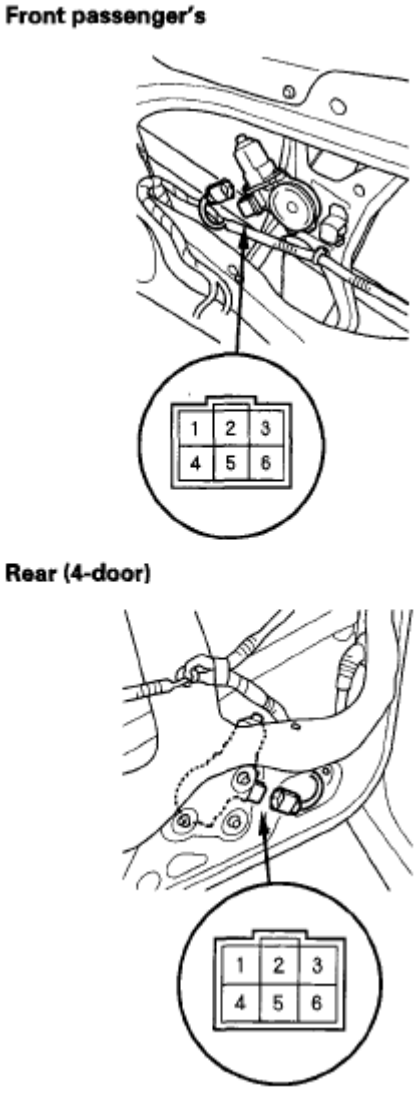



**Fig. 14: Disconnecting 6P Connector**

3. Test the motor by connecting battery power and ground according to **Fig. 15** . When the motor stops running, disconnect one lead immediately.

| Terminal / Direction | 1 [6] | 4 [3] |
|---|---|---|
| UP | ⊕ | ⊖ |
| DOWN | ⊖ | ⊕ |

[ ] : Left rear power window motor

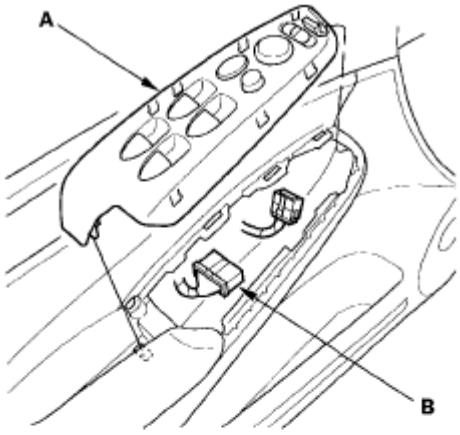
**Fig. 15: Testing Motor Connecting Battery Power And Ground Table**

4. If the motor does not run or fails to run smoothly, replace it.

## MASTER SWITCH TEST/REPLACEMENT

### 4-DOOR

1. Carefully pry out the master switch (A).



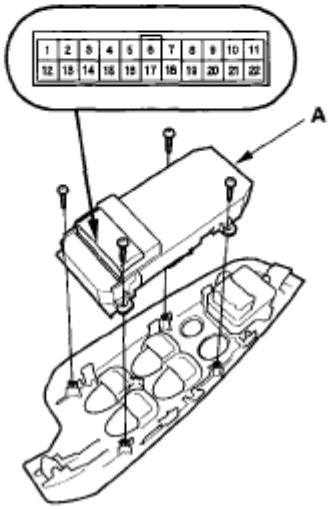



**Fig. 16: Prying Master Switch**

2. Disconnect the 22P connector (B) from the power window master switch.
3. Check for continuity between the terminals in each switch position according to **Fig. 17**, **Fig. 18**, **Fig. 19** and **Fig. 20** .

### Driver's Switch (With AUTO UP/AUTO DOWN)

The driver's switch is combined with the control unit, so you cannot isolate the switch to test it. Instead, run the master switch input test procedures (see **4-DOOR WITH AUTO UP/AUTO DOWN FUNCTION** ). If the tests are normal, the driver's switch must be faulty. Replace the switch.

### Driver's Switch (Without AUTO UP/AUTO DOWN)

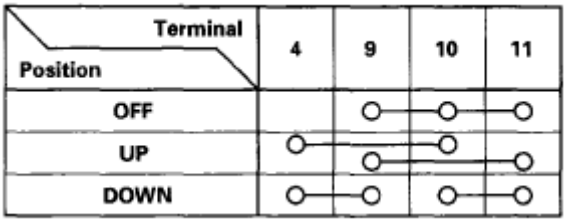



**Fig. 17: Drives's Switch (Without AUTO UP/AUTO DOWN) Continuity Table**

### Front Passenger's Switch

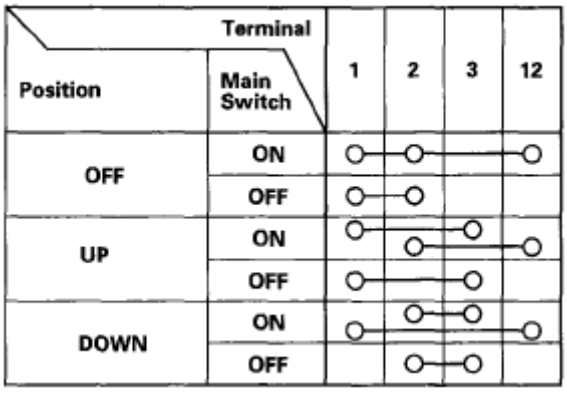



**Fig. 18: Front Passenger's Switch Terminals Continuity Table**

### Left Rear Switch

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| Position | Terminal / Main Switch | 20 [15] | 21 | 22 | 12 |
|---|---|---|---|---|---|
| OFF | ON | | ○—○ | ○—○ | ○ |
| | OFF | | ○—○ | | |
| UP | ON | ○ | ○ | ○ | ○ |
| | OFF | ○ | | ○ | |
| DOWN | ON | ○ | ○ | ○ | ○ |
| | OFF | ○ | ○ | | |

[ ] : early production

**Fig. 19: Left Rear Switch Continuity Table**

## Right Rear Switch

| Position | Terminal / Main Switch | 13 | 14 | 15 [20] | 12 |
|---|---|---|---|---|---|
| OFF | ON | ○ | ○ | ○ | ○ |
| | OFF | ○ | ○ | | |
| UP | ON | ○ | ○ | ○ | ○ |
| | OFF | ○ | | ○ | |
| DOWN | ON | ○ | ○ | ○ | ○ |
| | OFF | | ○ | ○ | |

[ ] : early production

**Fig. 20: Right Rear Switch Continuity Table**

4. If the continuity is not as specified, remove the screws and replace the switch.
5. Install the switch in the reverse order of removal.

**2-DOOR**

1. Remove the power window master switch, and disconnect the 16P connector from the switch (see **DOOR PANEL REMOVAL/INSTALLATION** ).

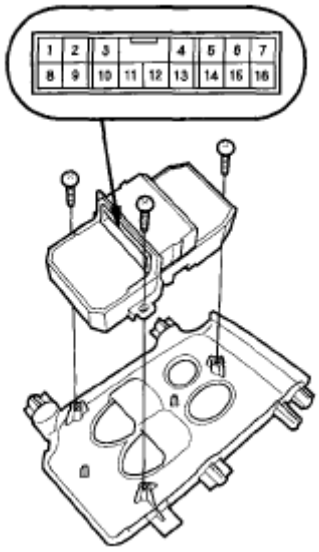



**Fig. 21: Disconnecting 16P Connector**

2. Check for continuity between the terminals in each switch position according to **Fig. 22** and **Fig. 23** .

**Driver's Switch (With AUTO UP/AUTO DOWN)**

The driver's switch is combined with the control unit, so you cannot isolate the switch to test it. Instead, run the master switch input test procedures (see **2-DOOR WITH AUTO UP/AUTO DOWN FUNCTION** ). If the tests are normal, the driver's switch must be faulty.

**Driver's Switch (Without AUTO UP/AUTO DOWN)**

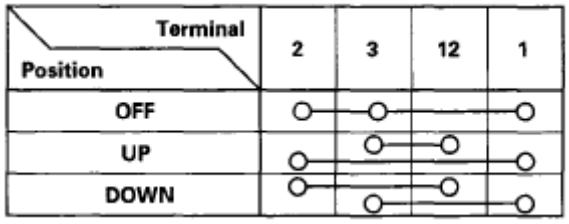



**Fig. 22: Driver's Switch (Without AUTO UP/AUTO DOWN) Continuity Table**

**Passenger's Switch**

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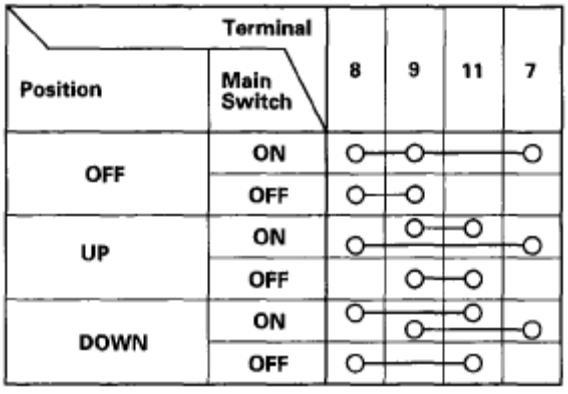



**Fig. 23: Passenger Switch Continuity Table**

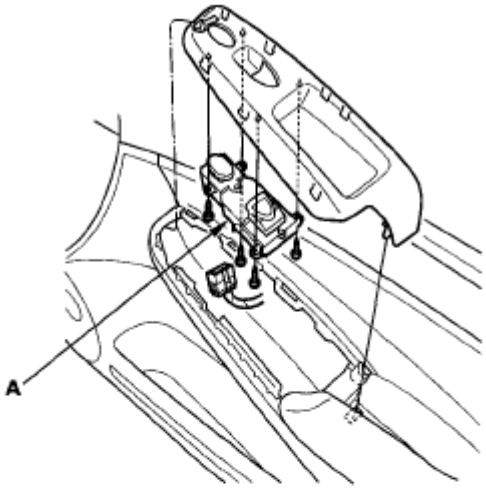
3. If the continuity is not as specified, remove the screws and replace the switch.
4. Install the switch in the reverse order of removal.

## PASSENGER'S POWER WINDOW SWITCH TEST/REPLACEMENT

1. 4-door: Remove the passenger's switch (A).

   2-door: Remove the passenger's switch (see **DOOR PANEL REMOVAL/INSTALLATION** ).

Front passenger's




Rear

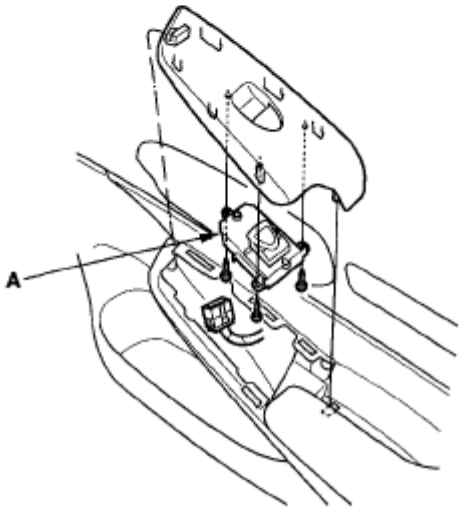



**Fig. 24: Removing Passenger's Switch**

**NOTE: 4-door front passenger's door shown.**

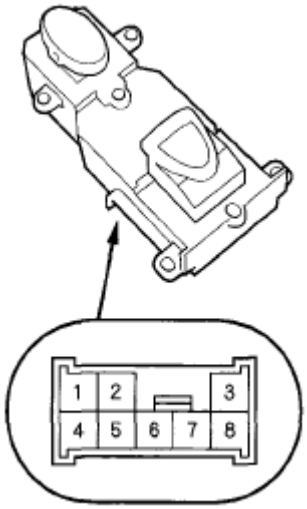



**Fig. 25: Identifying 4-Door Front Passenger Door Connector**

2. Check for continuity between the terminals in each switch position according to **Fig. 26** .

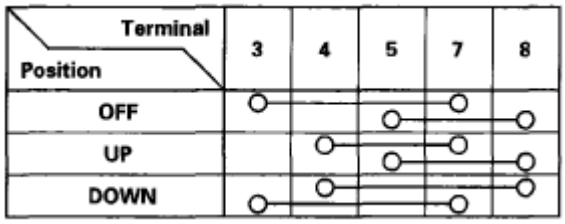



**Fig. 26: Checking Continuity Between Passenger's Power Window Switch Table**

3. Connect battery power to the No. 4 terminal and ground the No. 7 (or No. 8) terminal. The switch light should come on.
4. If the continuity or switch light tests is not as specified, remove the screws and replace the switch.
5. Install the switch in the reverse order of removal.

## RESETTING THE POWER WINDOW CONTROL UNIT

### WITH AUTO UP/AUTO DOWN FUNCTION

Resetting the driver's power window is required when any of the following have occurred:

- Power window regulator replacement or repair
- Power window motor replacement or repair
- Driver's door glass replacement or repair
- Window run channel replacement or repair
- Power is removed from the power window control unit while the power window timer is ON.

1. Turn the ignition switch ON (II).
2. Move the driver's window all the way down by using the driver's window DOWN switch.
3. Open the driver's door.

**NOTE: Steps 4 - 7 must be done within 5 seconds of each other.**

4. Turn the ignition switch OFF.
5. Push and hold the driver's window DOWN switch.
6. Turn the ignition switch ON (II).
7. Release the driver's window DOWN switch.
8. Repeat step 4 - 7 three more times.
9. Wait 1 second.
10. Check if the AUTO UP and AUTO DOWN functions still work. If they do, the auto function has not been cleared; go back to step 1. If they do not, go to step 11.
11. Move the driver's window all the way down by using the driver's window DOWN switch.
12. Pull up and hold the driver's window UP switch until the window reaches the fully closed position, then continue to hold the switch for 1 second.
13. Confirm that the power window control unit is reset by using the driver's window AUTO UP and AUTO DOWN functions.

    If the window still does not work in AUTO, repeat the procedure several times, paying close attention to the 5 second time limit between steps. If it still does

not work, refer to **MASTER SWITCH INPUT TEST** :

- 4-door (see **4-DOOR WITH AUTO UP/AUTO DOWN FUNCTION** )
- 2-door (see **2-DOOR WITH AUTO UP/AUTO DOWN FUNCTION** )

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## 2006-08 SUSPENSION

## Rear Suspension - Civic (All Except Hybrid)

# KNUCKLE/HUB BEARING UNIT REPLACEMENT

### EXPLODED VIEW-DISC BRAKE TYPE

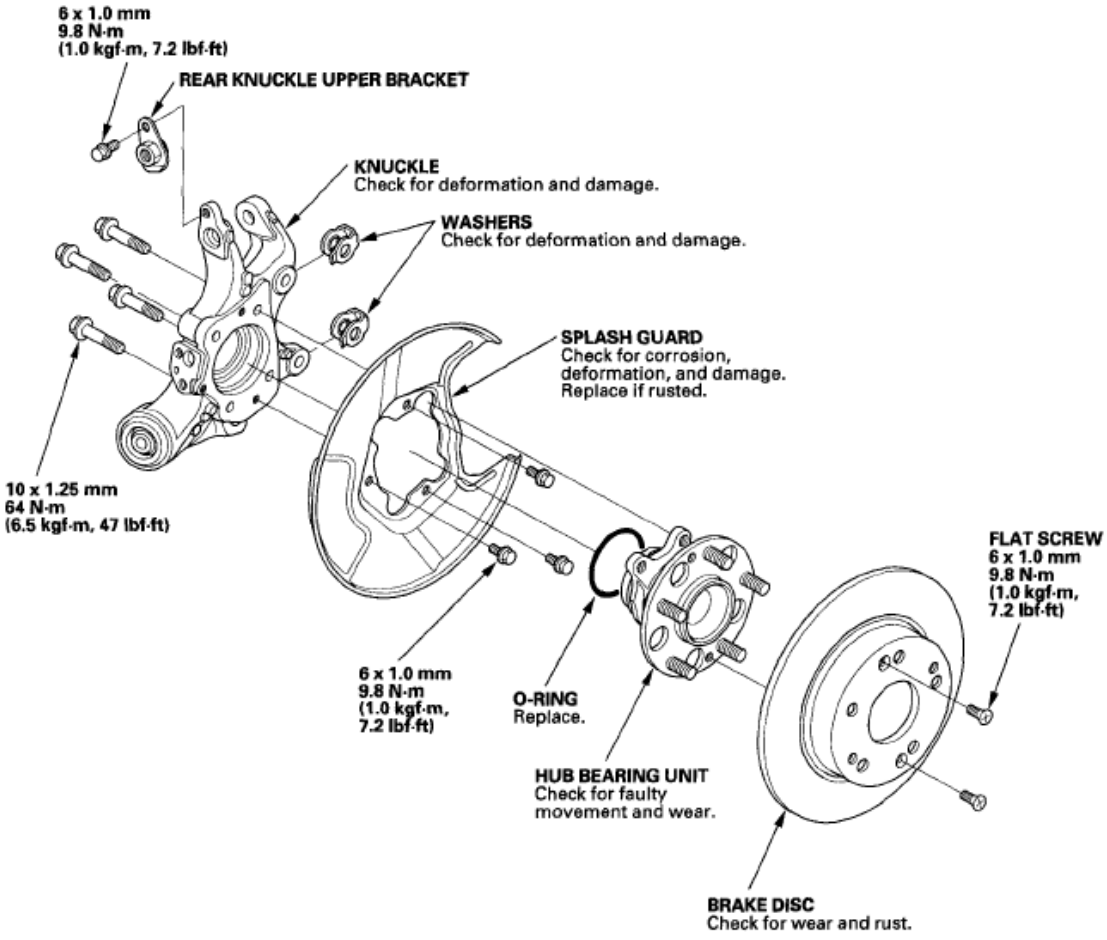
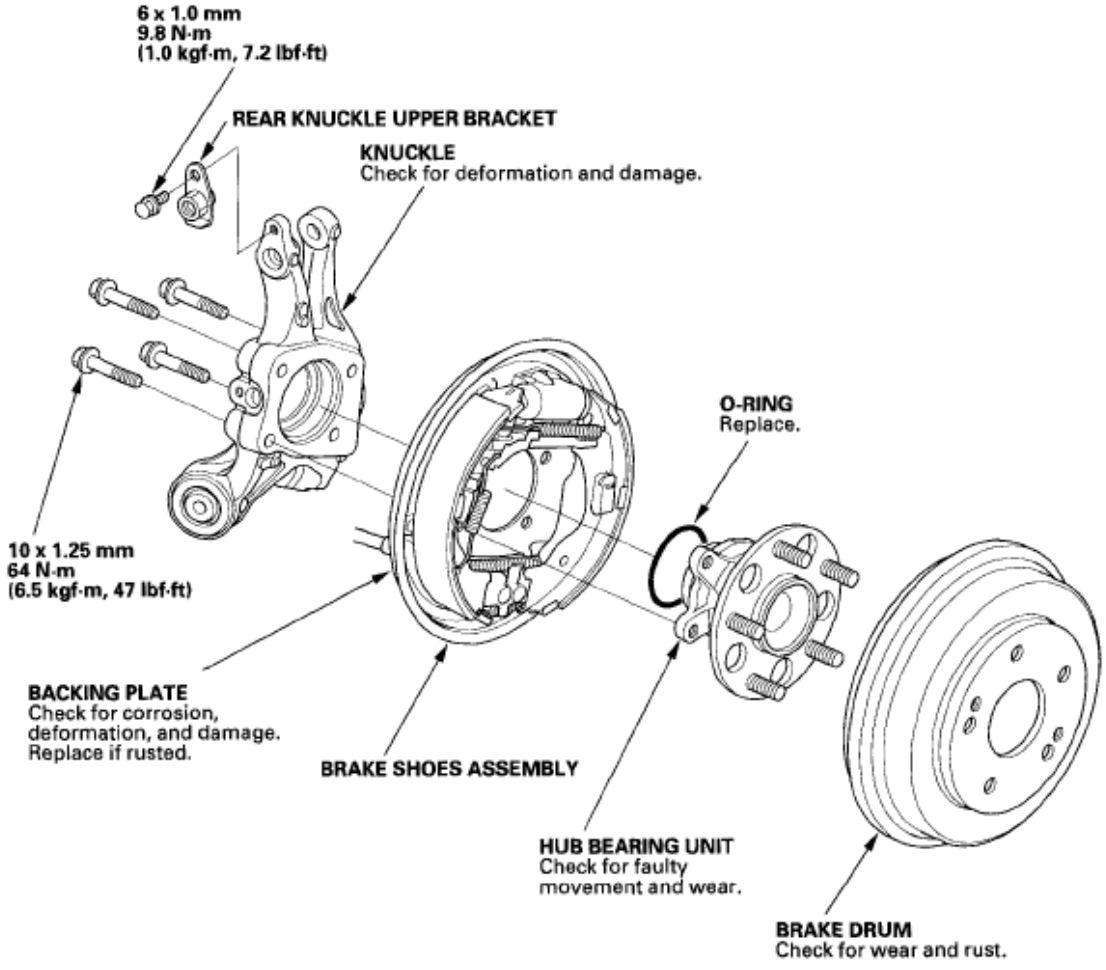



**Fig. 1: Exploded View Of Disc Brake Type (With Torque Specifications)**

### EXPLODED VIEW-DRUM BRAKE TYPE

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## Fig. 2: Exploded View Of Drum Brake Type (With Torque Specifications)

**HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the wheel nuts (A) and the rear wheel.

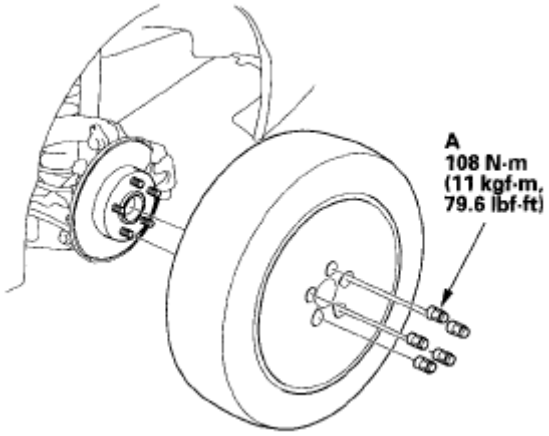



**Fig. 3: Identifying Wheel Nuts And Rear Wheel (With Torque Specifications)**

3. Remove the brake hose bracket mounting bolt (A) from the knuckle.

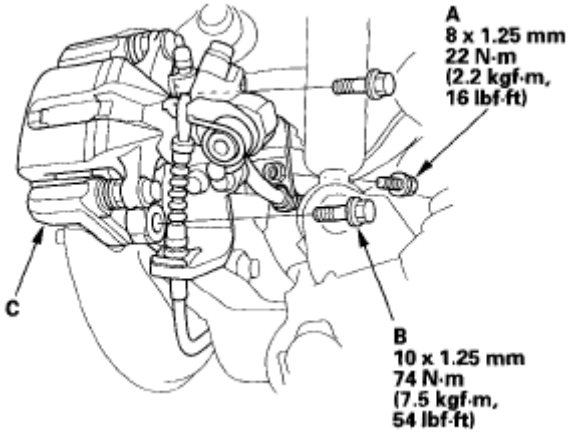



**Fig. 4: Identifying Brake Hose Bracket Mounting Bolt From Knuckle (With Torque Specifications)**

4. Remove the brake caliper bracket mounting bolts (B), and remove the caliper assembly (C) from the knuckle. To prevent damage to the caliper assembly or brake hose, use a short piece of wire to hang the caliper assembly from the undercarriage. Do not twist the brake hose excessively.
5. Remove the two washers (A).

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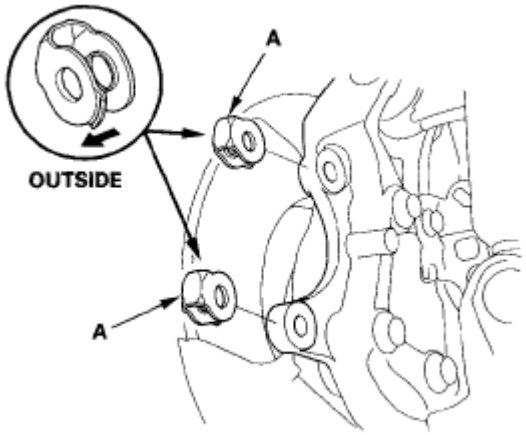



**Fig. 5: Identifying Two Washers**

6. Remove the 6 mm brake disc retaining screws (A).

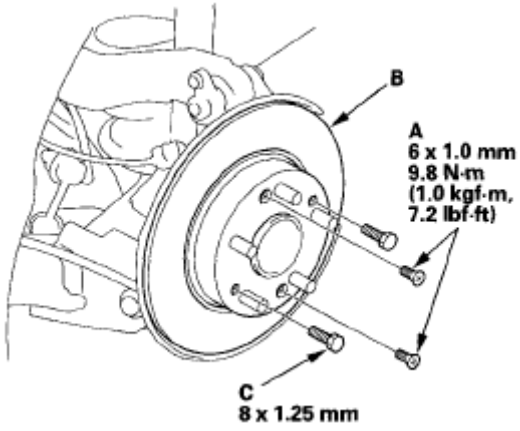



**Fig. 6: Identifying Brake Disc Retaining Screws (With Torque Specifications)**

7. Remove the brake disc (B) from the hub bearing unit.

**NOTE: If the brake disc has clung to the hub bearing unit. Screw two 8 x 1.25 mm bolts (C) into the brake disc to push it away from the hub bearing unit. Turn each bolt 90 degrees at a time to prevent cocking the brake disc.**

8. Remove the hub bearing unit (A) and the O-ring (B).

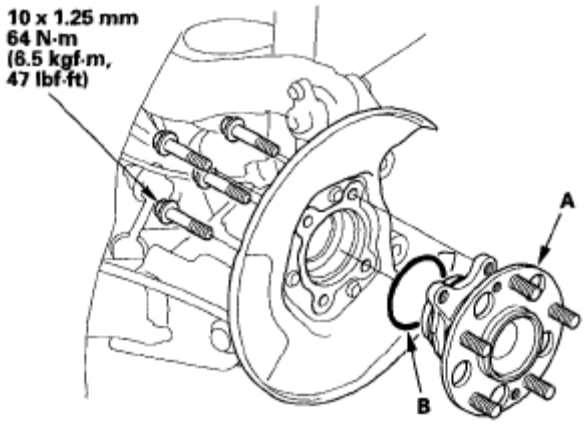



**Fig. 7: Identifying Hub Bearing Unit And O-Ring (With Torque Specifications)**

9. Check the hub bearing unit for damage and cracks.
10. Install the hub bearing unit in the reverse order of removal, and note these items:
    - Use a new O-ring during reassembly.
    - Tighten all mounting hardware to the specified torque values.
    - Before installing the brake disc, Clean the matching surface of the hub bearing unit and inside of the brake disc.
    - Before installing the wheel, clean the mating surface of the brake disc and the inside of the wheel.
    - Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

**HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the wheel nuts (A) and the rear wheel.

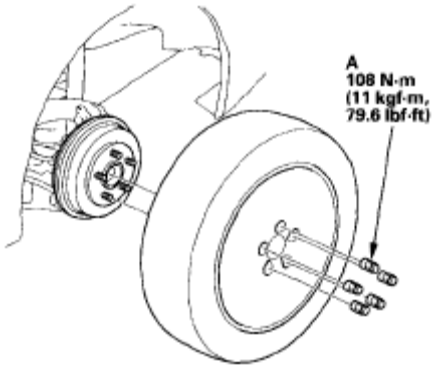



**Fig. 8: Identifying Wheel Nuts And Rear Wheel (With Torque Specifications)**

3. Release the parking brake, and remove the brake drum (A) from the hub bearing unit.

**NOTE:**

- **If necessary, turn the adjuster bolt (B) with a flat-tip screwdriver until the shoes become loose.**
- **If the brake drum has clung to the hub bearing unit. Screw two 8 x 1.25 mm bolts (C) into the brake drum to push it away from the hub bearing unit. Turn each bolt 90 degrees at a time to prevent cocking the brake drum.**
- **After installation, press the brake pedal several times to make sure the brakes work and self adjust the brake shoes.**

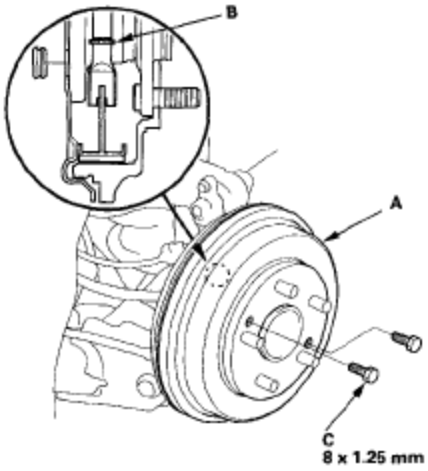



**Fig. 9: Identifying Brake Drum And Adjuster Bolt**

4. Remove the hub bearing unit (A) and the O-ring (B).

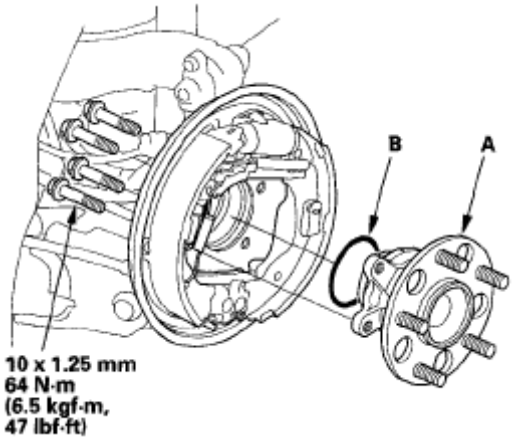



**Fig. 10: Identifying Hub Bearing Unit And O-Ring (With Torque Specifications)**

5. Check the hub bearing unit for damage and cracks.
6. Install the hub bearing unit in the reverse order of removal, and note these items:
   - Use a new O-ring during reassembly.
   - Tighten all mounting hardware to the specified torque values.
   - Before installing the brake drum, clean the matching surface of the hub bearing unit and inside of the brake drum.

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- Before installing the wheel, clean the mating surface of the brake drum and the inside of the wheel.
- Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

**KNUCKLE REPLACEMENT-DISC BRAKE TYPE**

1. Remove the hub bearing unit.
2. Remove the splash guard (A).

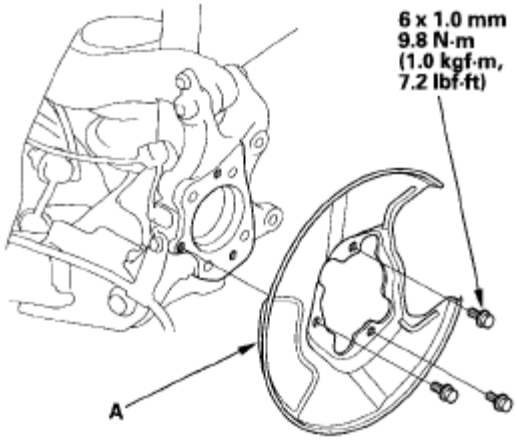



**Fig. 11: Identifying Splash Guard (With Torque Specifications)**

3. Remove the wheel sensor (A), and the brake hose mounting bracket (B) from the knuckle (C). Do not disconnect the wheel sensor connector.

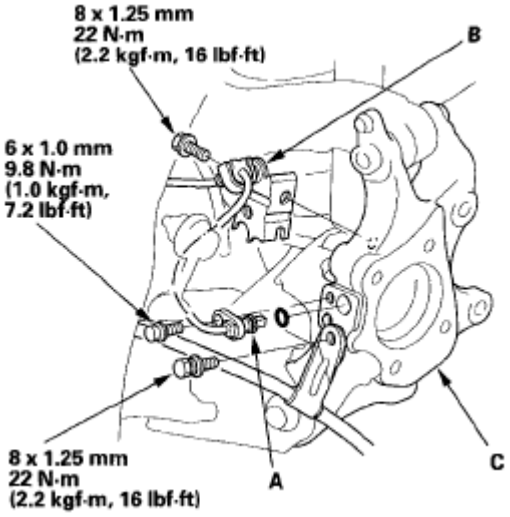


**Fig. 12: Identifying Wheel Sensor And Brake Hose Mounting Bracket From Knuckle (With Torque Specifications)**

4. Place a floor jack under the trailing arm to support it.

**NOTE: Do not place the jack against the plate section of the lower arm. Be careful not to damage any suspension components.**

5. Remove the upper arm mounting bolt (A), and disconnect the upper arm (B) from the knuckle.

**NOTE: Use the new upper arm mounting bolt during reassembly.**

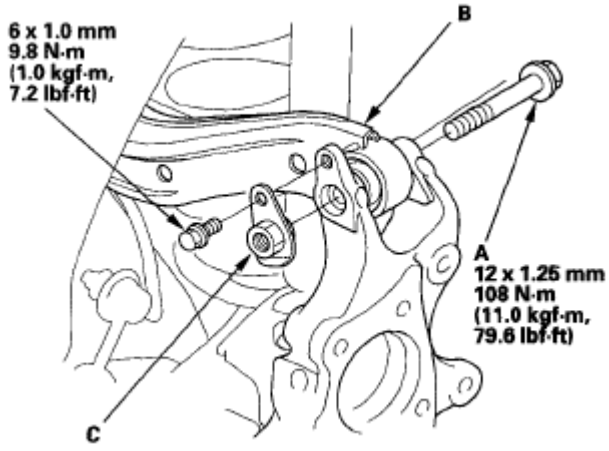



**Fig. 13: Identifying Mounting Bolt (With Torque Specifications)**

6. Remove the rear knuckle upper bracket (C).
7. Mark the cam positions of the adjusting bolt (A) and the adjusting cam (B), then remove the self-locking nut (C), the adjusting cam, and the adjusting bolt. Discard the self-locking nut.

**NOTE: Use a new self-locking nut during reassembly.**

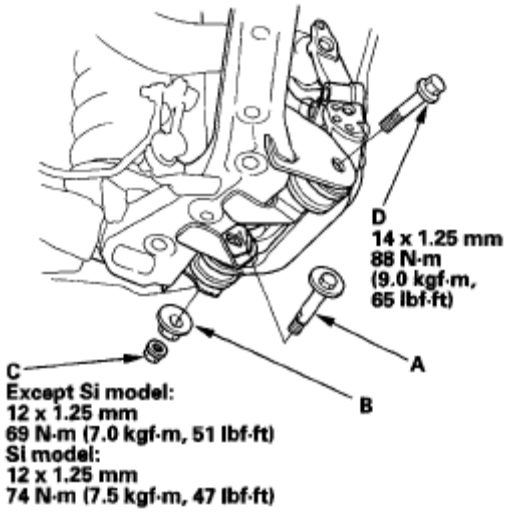



**Fig. 14: Identifying Adjusting Bolt, Cam And Self Locking Nut (With Torque Specifications)**

8. Remove the flange bolt (D) and remove the knuckle.

**NOTE: Use a new flange bolt during reassembly.**

9. Install the knuckle in the reverse order of removal, and note these items:
   - First install all the suspension components, and lightly tighten the bolts and nuts, then place a floor jack under the lower arm, and raise the suspension to load it with the vehicle's weight before fully tightening the bolts and nuts to the specified torque values.
   - Align the cam positions of the adjusting bolt and the adjusting cam with the marked positions when tightening.
   - Before installing the brake disc, clean the mating surface of the hub bearing unit and the inside of the brake disc.
   - Before installing the wheel, clean the mating surface of the brake disc and the inside of the wheel.
   - Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

**KNUCKLE REPLACEMENT-DRUM BRAKE TYPE**

1. Remove the hub bearing unit.

2. Disconnect the brake line (A) from the wheel cylinder (B). Remove the rear brake assembly (C) from the knuckle.

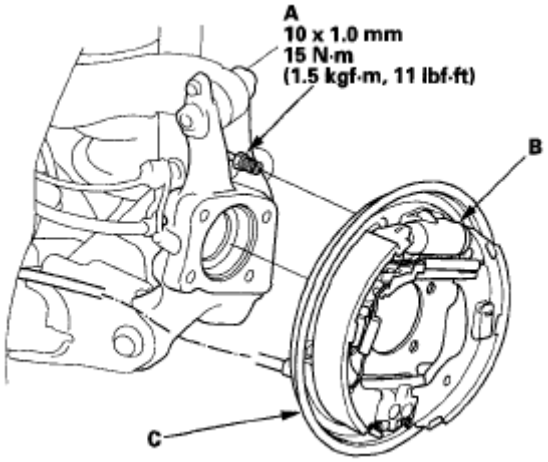



**Fig. 15: Identifying Rear Brake Assembly From Knuckle (With Torque Specifications)**

3. Remove the wheel sensor (A), and the brake hose mounting bracket (B) from the knuckle (C). Do not disconnect the wheel sensor connector.

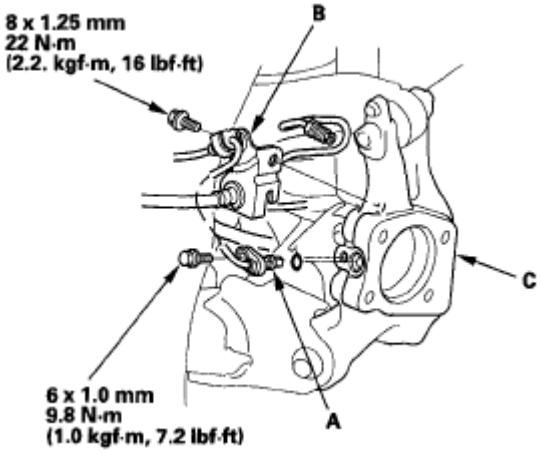



**Fig. 16: Identifying Wheel Sensor, Brake Hose Mounting Bracket From Knuckle (With Torque Specifications)**

4. Place a floor jack under the trailing arm to support it.

**NOTE: Do not place the jack against the plate section of the**

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**lower arm. Be careful not to damage any suspension components.**

5. Remove the upper arm mounting bolt (A), and disconnect the upper arm (B) from the knuckle.

**NOTE: Use a new upper arm mounting bolt during reassembly.**

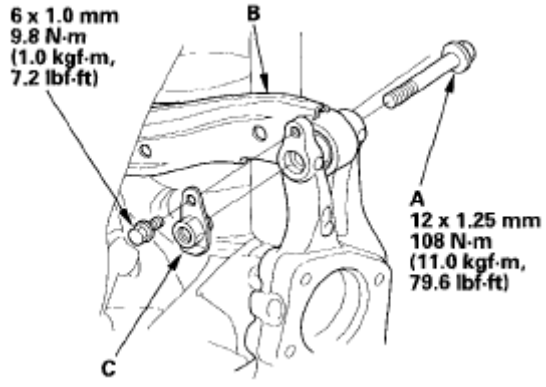



**Fig. 17: Identifying Upper Arm Mounting Bolt (With Torque Specifications)**

6. Remove the rear knuckle upper bracket (C).
7. Mark the cam positions of the adjusting bolt (A) and the adjusting cam (B), then remove the self-locking nut (C), the adjusting cam, and the adjusting bolt. Discard the self-locking nut.

**NOTE: Use a new self-locking nut during reassembly.**

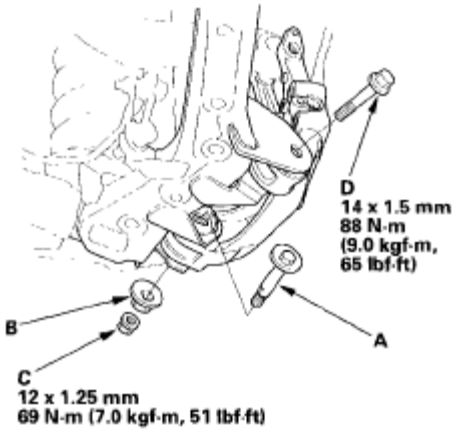



**Fig. 18: Identifying Adjusting Bolt, Cam And Self Locking Nut (With Torque Specifications)**

8. Remove the flange bolt (D) and remove the knuckle.

**NOTE: Use a new flange bolt during reassembly.**

9. Install the knuckle in the reverse order of removal, and note these items:
   - First install all the suspension components, and lightly tighten the bolts and nuts, then place a floor jack under the lower arm, and raise the suspension to load it with the vehicle's weight before fully tightening the bolts and nuts to the specified torque values.
   - Align the cam positions of the adjusting bolt and the adjusting cam with the marked positions when tightening.
   - Before installing the brake drum, clean the mating surface of the hub bearing unit and the inside of the brake drum.
   - Before installing the wheel, clean the mating surface of the brake drum and the inside of the wheel.
   - Fill the master cylinder reservoir to the MAX (upper) level line, and bleed the brake system (see **BRAKE SYSTEM BLEEDING** ). Check for a leak at the brake line to the wheel cylinder, and retighten it if necessary.
   - Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

## UPPER ARM REMOVAL/INSTALLATION

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1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheel.
3. Position a floorjack at the connecting point of the trailing arm (A) and the knuckle (B).

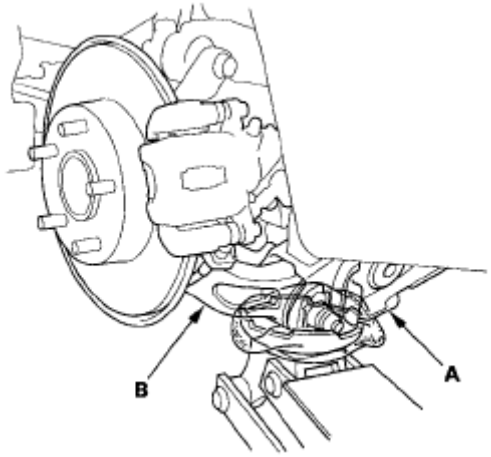



**Fig. 19: Identifying Trailing Arm And Knuckle**

4. Remove the flange bolts (A) from the vehicle.

**NOTE: Use the new flange bolts during reassembly.**

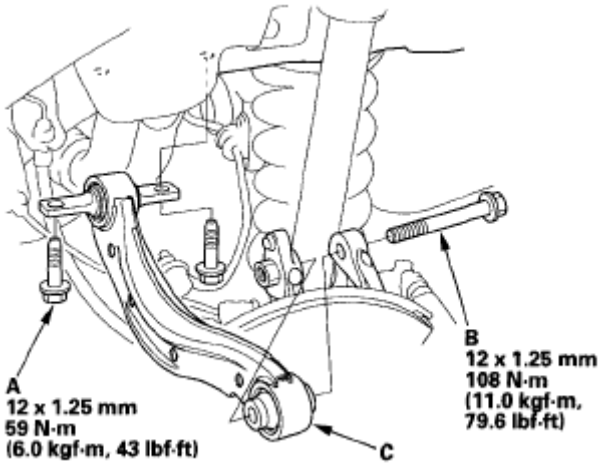



**Fig. 20: Identifying Flange Bolts From Vehicle (With Torque Specifications)**

5. Remove the flange bolt (B) from the knuckle, and remove the upper arm (C).

**NOTE: Use the new flange bolt during reassembly.**

6. Install the upper arm in the reverse order of removal, and note these items:
   - Tighten all mounting hardware to the specified torque values.
   - First install all the components, and lightly tighten the bolts, then raise the suspension to load it with the vehicle's weight before fully tightening to the specified torque values.
   - Before installing the wheel, clean the mating surface of the brake disc or the brake drum and the inside of the wheel.
   - Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

## TRAILING ARM REMOVAL/INSTALLATION

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheel.
3. Remove the rear under cover (see **MIDDLE FLOOR UNDERCOVER REPLACEMENT** ).
4. Remove the parking brake cable (A) from the trailing arm (B).

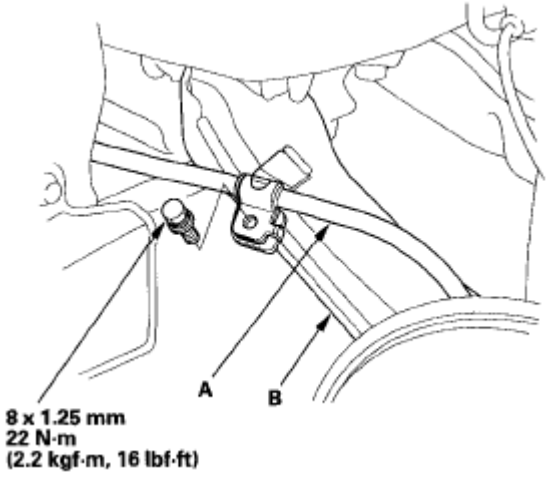



**Fig. 21: Identifying Parking Brake Cable From Trailing Arm (With**

**Torque Specifications)**

5. Position a floor jack at the connecting point of the trailing arm.

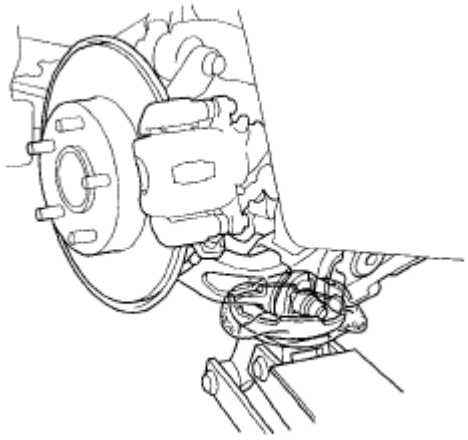


**Fig. 22: Identifying Trailing Arm**

6. Remove the knuckle, disc type (see **KNUCKLE REPLACEMENT-DISC BRAKE TYPE** ), drum type (see **KNUCKLE REPLACEMENT-DRUM BRAKE TYPE** ).
7. Remove the stabilizer link from the trailing arm (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
8. Remove the spring (see **SPRING REPLACEMENT** ).
9. Remove the trailing arm rear mounting bolt (A).

**NOTE: Use a new mounting bolt during reassembly.**

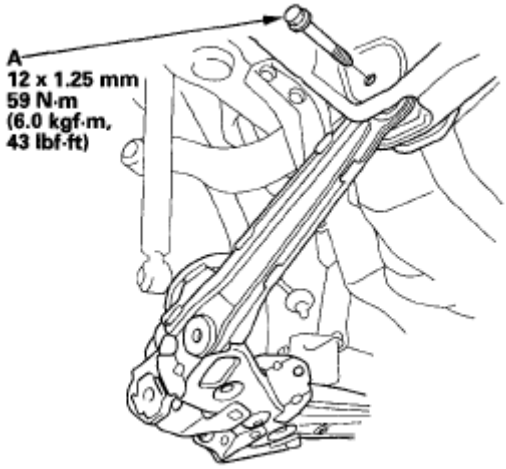



**Fig. 23: Identifying Trailing Arm Rear Mounting Bolt (With Torque Specifications)**

10. Lower the jack, and remove the trailing arm.
11. Install the trailing arm in the reverse order of removal, and note these items:
    - Tighten all mounting hardware to the specified torque values.
    - First install all the components, and lightly tighten the bolts, then raise the suspension to load it with the vehicle's weight before fully tightening to the specified torque values.
    - Check the brake hose for interference and twisting.
    - Before installing the wheel, clean the mating surface of the brake disc or the brake drum and the inside of the wheel.
    - Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

## STABILIZER LINK REMOVAL/INSTALLATION

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheel.
3. Remove the self-locking nut (A) and the flange nut (B) while holding the respective joint pin (C) with a hex wrench (D), then remove the stabilizer link (E).

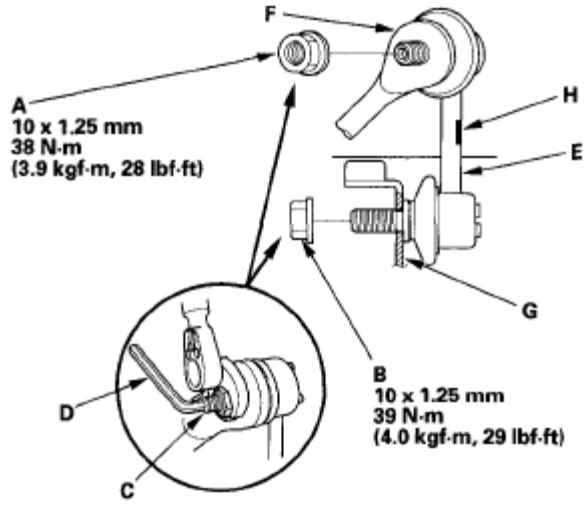



**Fig. 24: Identifying Self-Locking Nut And Flange Nut (With Torque Specifications)**

4. Install the stabilizer link on the stabilizer bar (F) and trailing arm (G) with the joint pins set at the center of their range of movement.

**NOTE: The stabilizer link has a paint mark (H). Align the paint mark on the stabilizer link facing rearward.**

5. Install a new self-locking nut and a new flange nut, and lightly tighten them.
6. Place a floor jack under the trailing arm, and raise the suspension to load it with the vehicle's weight.
7. Tighten the self-locking nut and flange nut to the specified torque values while holding the respective joint pins with a hex wrench.
8. Reinstall all removed parts and test-drive the vehicle.
9. After 5 minutes of driving, torque the self-locking nut again to the specified torque value.

## STABILIZER BAR REPLACEMENT

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheels.
3. Disconnect both stabilizer links from the stabilizer bar (see **STABILIZER**

**LINK REMOVAL/INSTALLATION** ).

4. Remove the flange bolts (A) and the bushing holders (B), then remove the bushings (C) and the stabilizer bar (D).

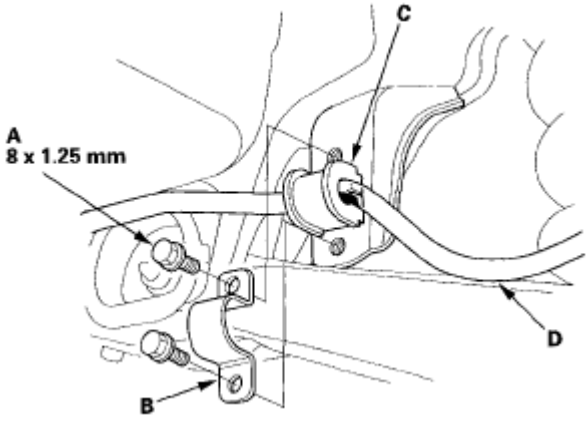



**Fig. 25: Identifying Flange Bolts And Bushing Holders**

5. Remove the flange bolts (A) and the stabilizer bar bracket (B) if necessary.

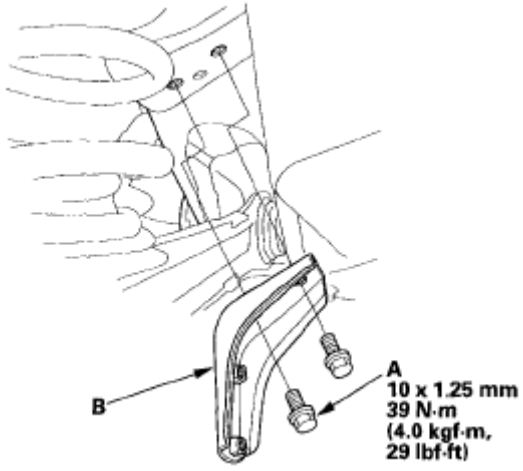



**Fig. 26: Identifying Flange Bolts And Stabilizer Bar Bracket (With Torque Specifications)**

6. Install the stabilizer bar in the reverse order of removal, and note these items:
   - Note the right and left direction of the stabilizer bar.
   - Align the paint marks (A) on the stabilizer bar with the sides of the bushings.

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- Refer to stabilizer link removal/installation to connect the stabilizer bar to the links (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
- Before installing the wheel, clean the mating surfaces on the brake disc or the brake drum and inside of the wheel.
- Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

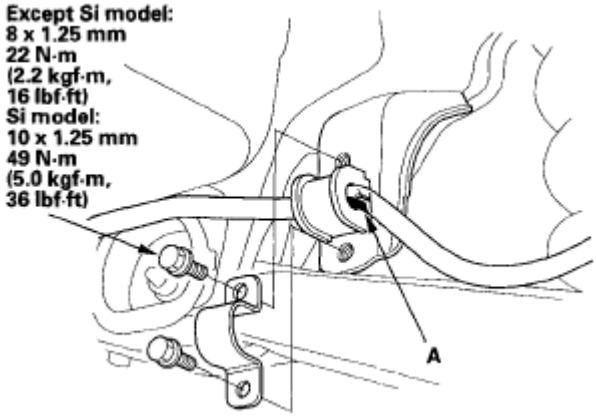


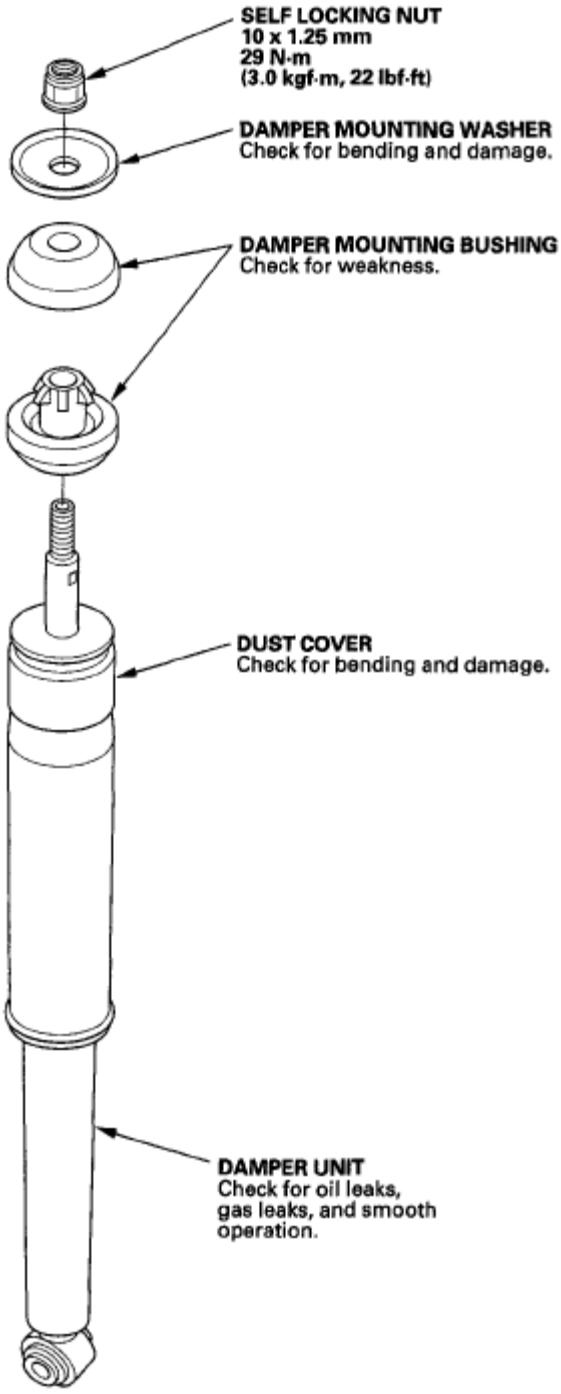

**Fig. 27: Identifying Paint Marks (With Torque Specifications)**

## DAMPER REPLACEMENT

### EXPLODED VIEW

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## Fig. 28: Exploded View Of Damper Components (With Torque Specifications)

**REMOVAL**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).

2. Remove the rear wheel.
3. Position a floor jack at the connecting point of the trailing arm (A) and the knuckle (B). Raise the floor jack until the suspension begins to compress.

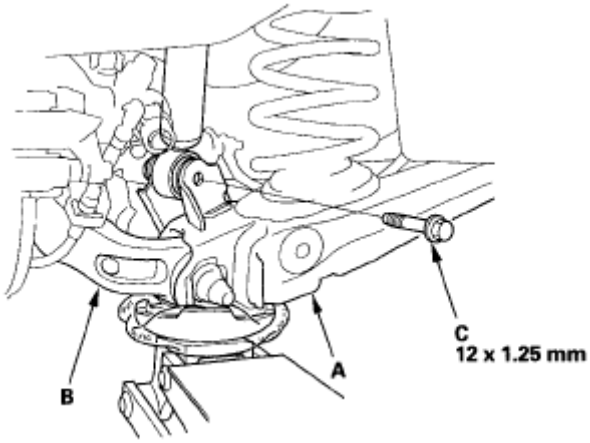



**Fig. 29: Identifying Flange Bolt**

4. Remove the flange bolt (C) from the bottom of the damper.
5. Remove the trunk side trim panel, 2-door (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA** ), 4-door (see **4-DOOR** ).
6. Remove the self-locking nut (A) while holding the damper shaft (B) with a hex wrench (C).

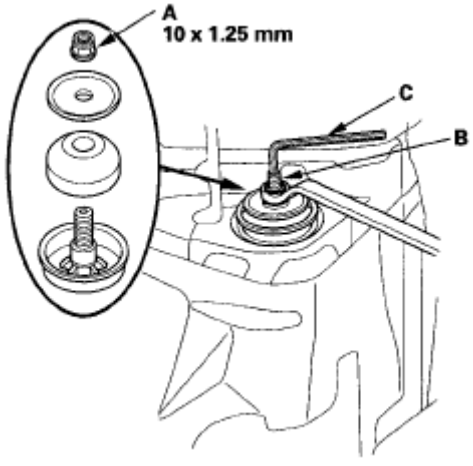



**Fig. 30: Identifying Self-Locking Nut**

7. Compress the damper unit (A) by hand, and remove it from the vehicle.

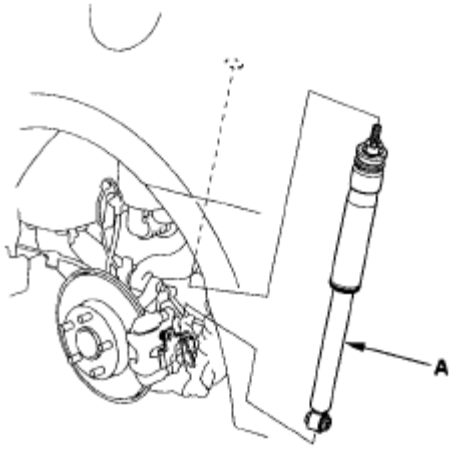



**Fig. 31: Identifying Compress Damper Unit By Hand**

**INSPECTION**

1. Push on the damper as shown.

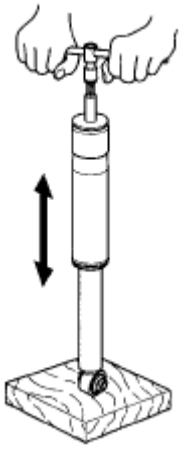


**Fig. 32: Pushing On Damper**

2. Compress the damper assembly by hand, and check for smooth operation through a full stroke, both compression and extension. The damper should extend smoothly and constantly when compression is released. If it does not, the gas is leaking and the damper should be replaced.
3. Check for oil leaks, abnormal noises, or binding during these tests.

**INSTALLATION**

1. Install the damper mounting bushing (A) onto the damper unit. Position the

damper assembly (B) between the body and trailing arm. Be careful not to damage the body.

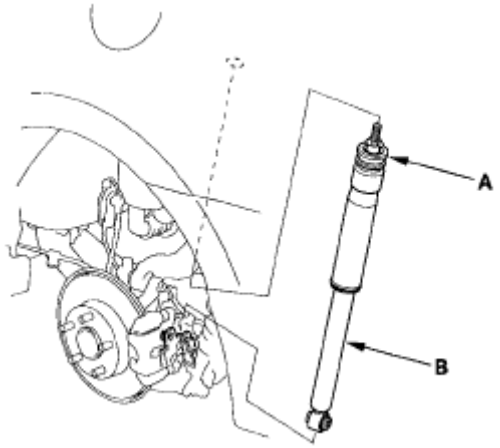



**Fig. 33: Identifying Damper Mounting Bushing Onto Damper Unit**

2. Position a jack under the trailing arm to support the suspension, then install a new damper mounting bolt (A).

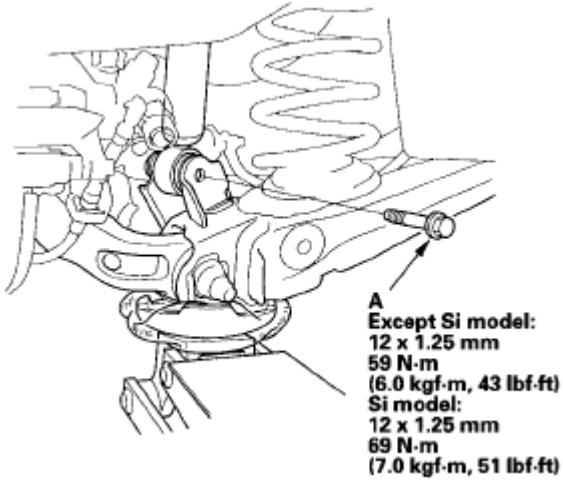



**Fig. 34: Identifying Damper Mounting Bolt (With Torque Specifications)**

3. Loosely tighten the damper mounting bolt.
4. Raise the rear suspension with the jack until the vehicle just lifts off the safety stands, then tighten the damper mounting bolt to the specified torque value.
5. Install the damper mounting bushing (A), the damper mounting washer (B), and a new self-locking nut (C) on the damper shaft.

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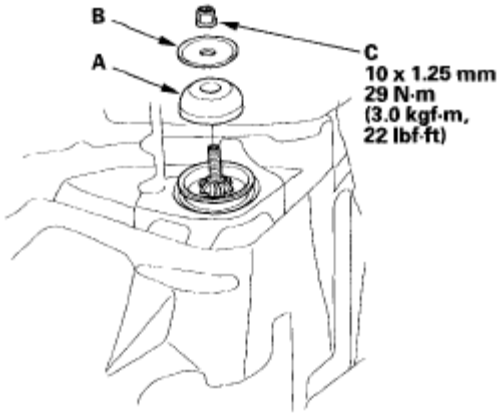



**Fig. 35: Identifying Damper Mounting Bushing (With Torque Specifications)**

6. Tighten the self-locking nut to the specified torque value while holding the damper shaft (A) with a hex wrench (B).

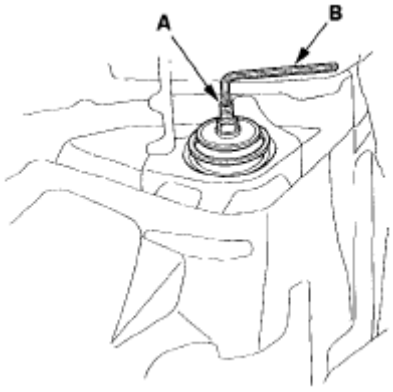



**Fig. 36: Tightening Self-Locking Nut (With Torque Specifications)**

7. Install the trunk side trim panel, 2-door (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA** ), 4-door (see **4-DOOR** ).
8. Install the rear wheel.

**NOTE: Before installing the wheel, clean the mating surface of the brake disc or brake drum and the inside of the wheel.**

9. Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

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# SPRING REPLACEMENT

**EXPLODED VIEW**

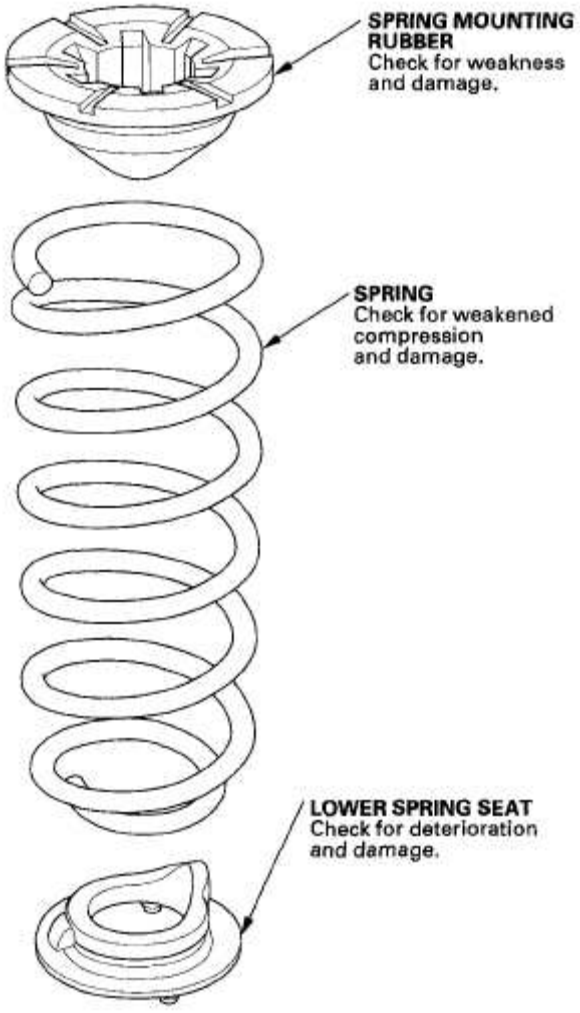



**Fig. 37: Exploded View Of Spring Replacement**

**REMOVAL**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Remove the rear wheel.
3. Remove the wheel sensor (A) from the knuckle (B). Do not disconnect the wheel sensor connector.

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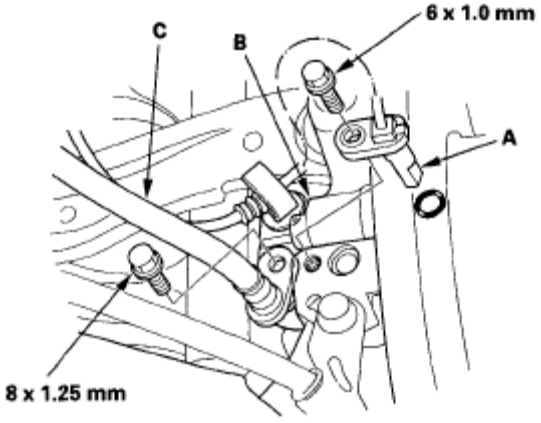



**Fig. 38: Identifying Wheel Sensor And O-Ring**

4. Remove the brake hose (C).
5. Position a floor jack at the connecting point of the trailing arm and the knuckle.
6. Remove the flange bolt (A) that connects the trailing arm (B) and the damper (C).

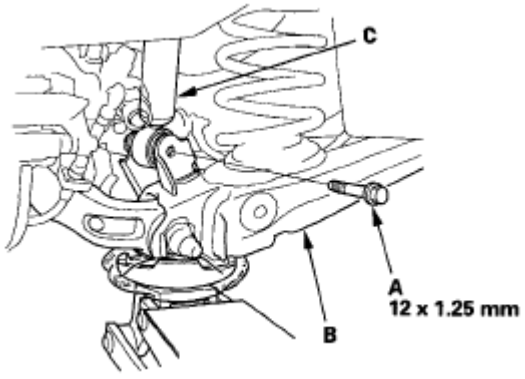



**Fig. 39: Identifying Flange Bolt**

7. Remove the stabilizer link from the trailing arm (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
8. Remove the flange bolt (A) that connects the knuckle (B) and the upper arm (C).

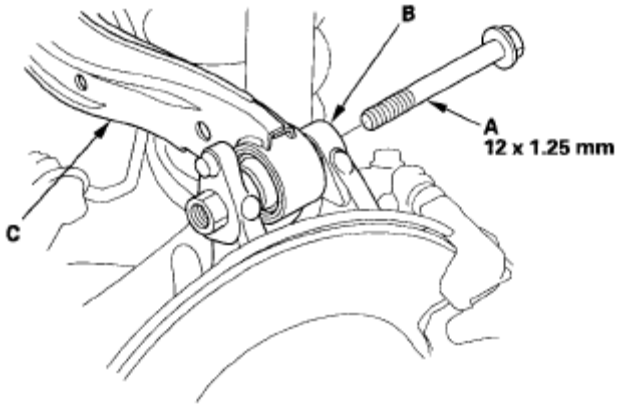



**Fig. 40: Identifying Flange Bolt**

9. Remove the trailing arm front mounting bolts (A).

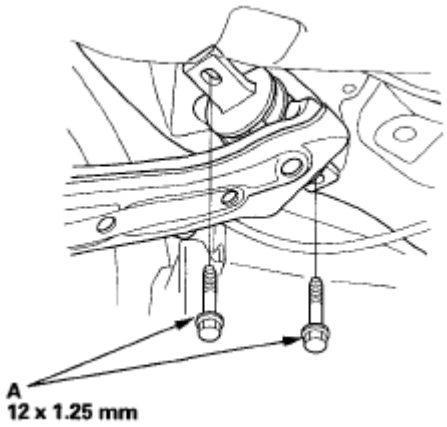



**Fig. 41: Identifying Trailing Arm Front Mounting Bolts**

10. Lower the floor jack gradually.
11. Remove the spring mounting rubber (A), the spring (B) and the lower spring seat (C).

**NOTE: If the clip is installed inside the spring mounting rubber, discard it.**

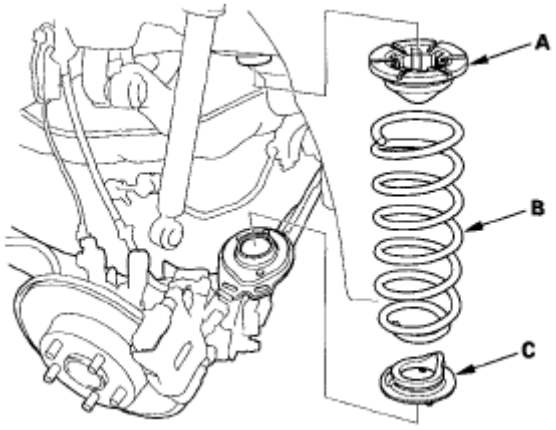



**Fig. 42: Identifying Spring Mounting Rubber**

**INSTALLATION**

1. Install the spring mounting rubber (A), the spring (B) and the lower spring seat (C).

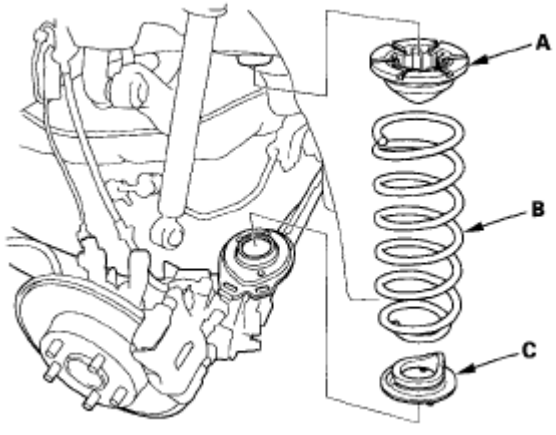



**Fig. 43: Identifying Spring Mounting Rubber**

2. Align the bottom of the spring (A) and the lower spring seat (B) with the trailing arm (C) as shown.

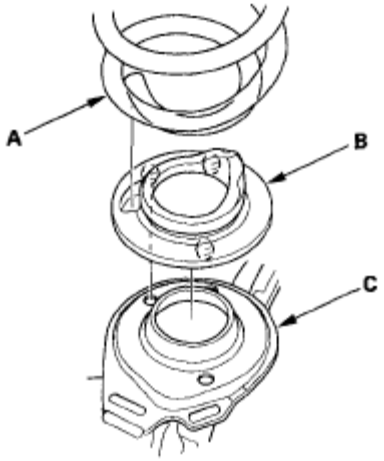



**Fig. 44: Aligning Bottom Of Spring**

3. Loosely install the new trailing arm front mounting bolts (A).

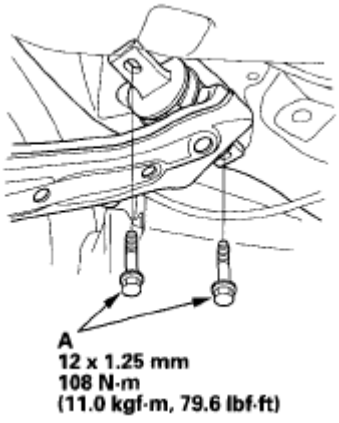



**Fig. 45: Identifying Trailing Arm Front Mounting Bolts (With Torque Specifications)**

4. Loosely install a new flange bolt (A) on the knuckle (B) and the upper arm (C).

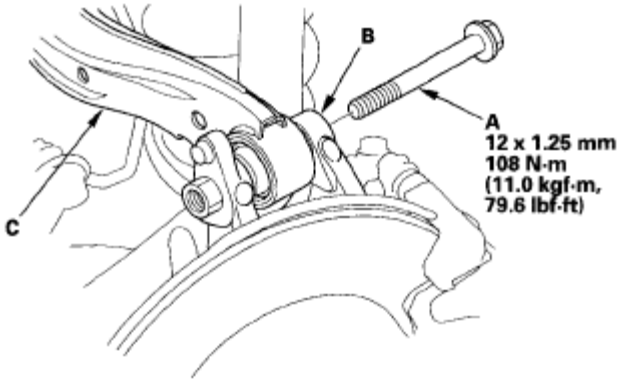



**Fig. 46: Identifying Flange Bolt (With Torque Specifications)**

5. Slowly raise the jack until you can align the bolt hole with the holes in the trailing arm (A) and the damper (B), and install a new flange bolt (C).

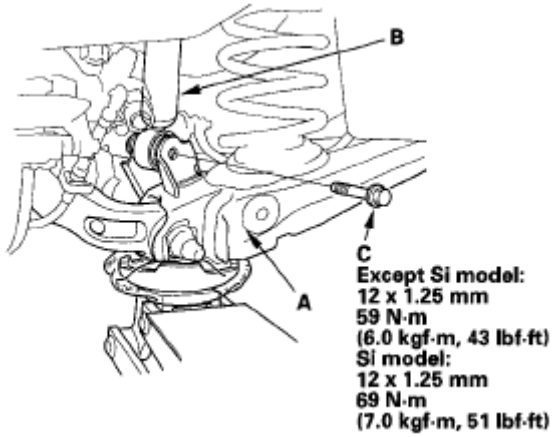



**Fig. 47: Identifying Flange Bolt (With Torque Specifications)**

6. Install the stabilizer link on the trailing arm with a new self-locking nut, and lightly tighten both nuts.
7. Raise the rear suspension with a floor jack to load the vehicle weight.
8. Tighten all mounting hardware to the specified torque values. For stabilizer link torque specifications (see **STABILIZER LINK REMOVAL/INSTALLATION** ).
9. Install the wheel sensor (A) and the brake hose (B).

**NOTE: Apply multipurpose grease to the mating surfaces on the knuckle and the O-ring (C).**

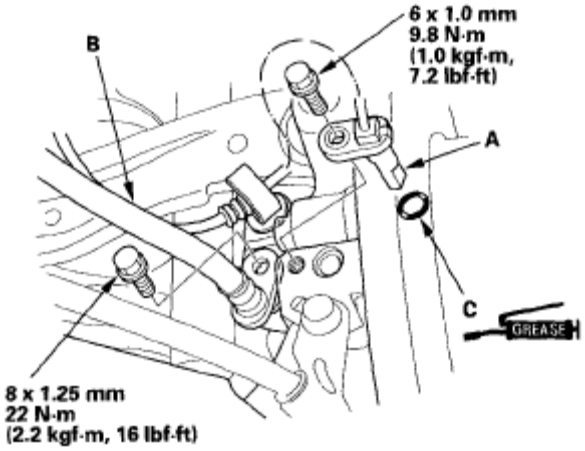



**Fig. 48: Identifying Wheel Sensor And Brake Hose (With Torque Specifications)**

10. Install the rear wheel.

**NOTE: Before installing the wheel, clean the mating surface of the brake disc or the brake drum and inside of the wheel.**

11. Check the wheel alignment, and adjust it if necessary (see **WHEEL ALIGNMENT** ).

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# 2006-2008 ELECTRICAL

## Relay and Control Unit Locations - Civic Hybrid

## ENGINE COMPARTMENT

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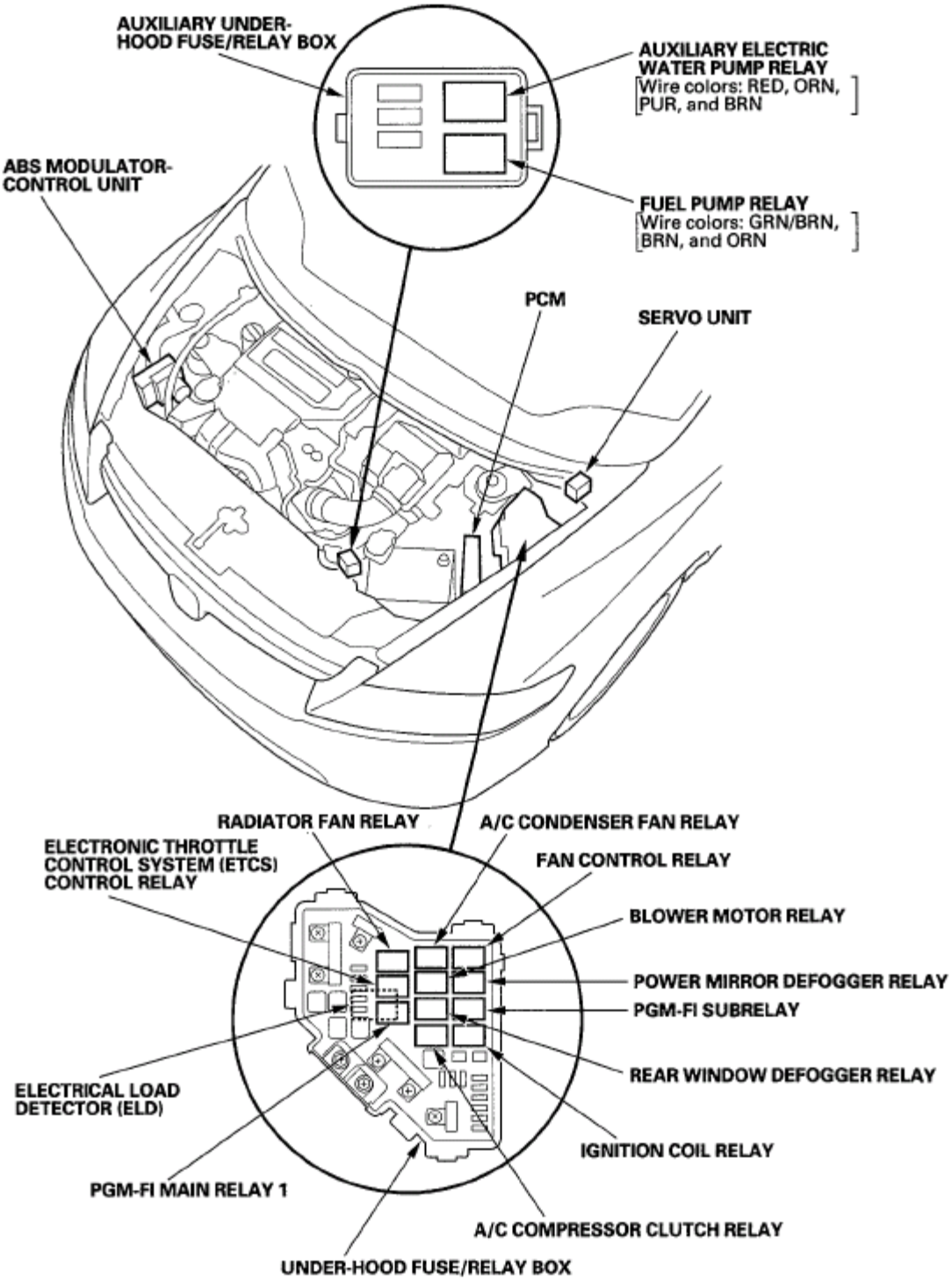



**Fig. 1: Identifying Relay And Control Unit Locations - Engine Compartment**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DASHBOARD

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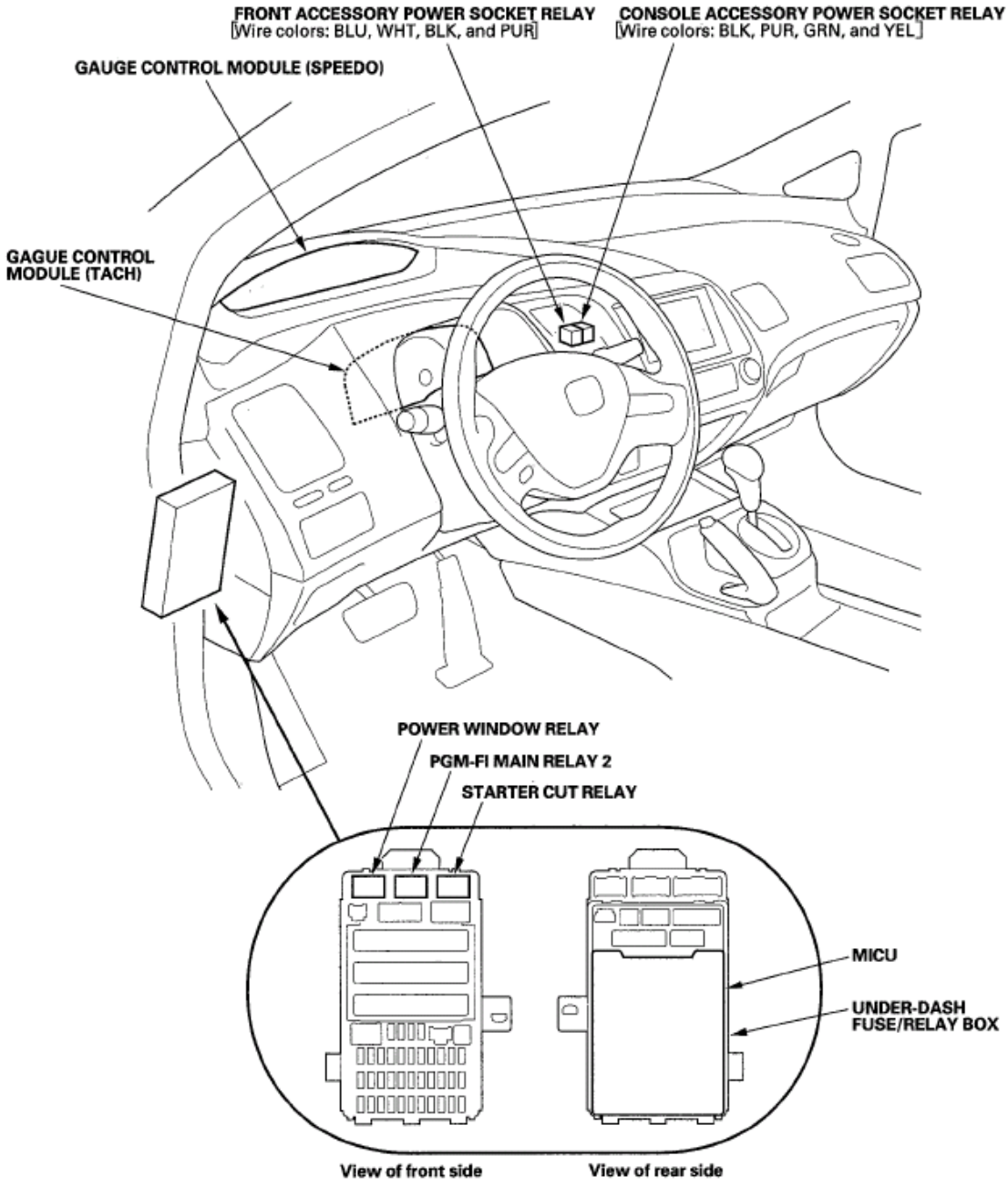



**Fig. 2: Identifying Relay And Control Unit Locations - Dashboard (1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

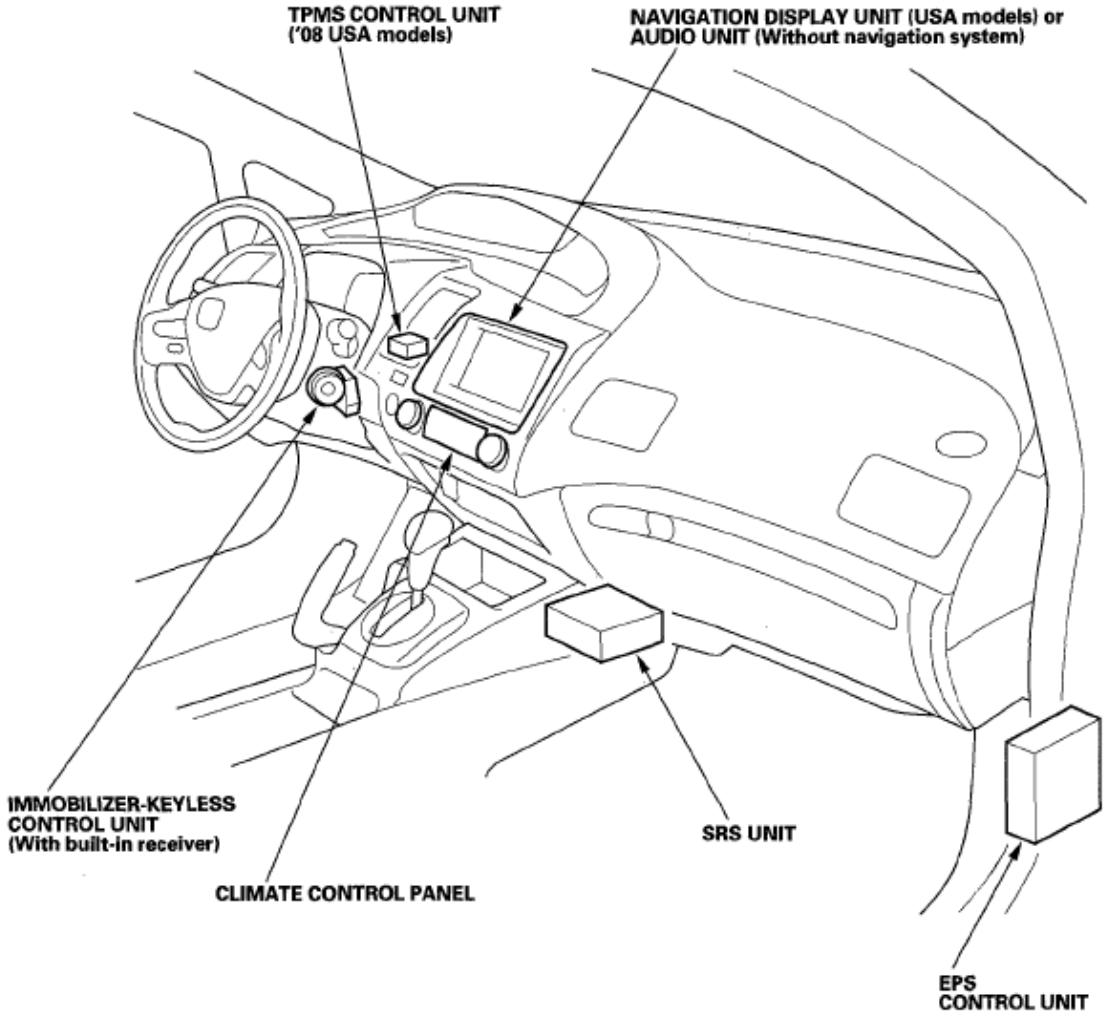



**Fig. 3: Identifying Relay And Control Unit Locations - Dashboard (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## REAR

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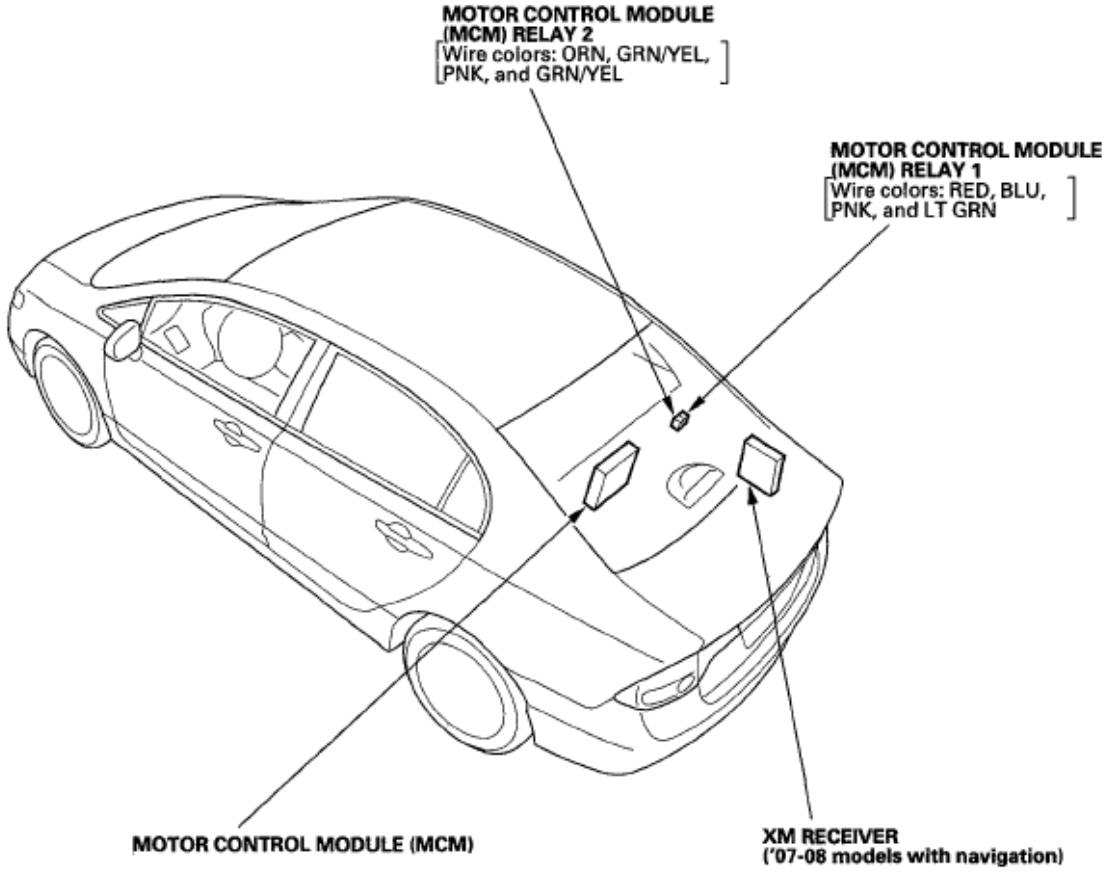



**Fig. 4: Identifying Relay And Control Unit Locations - Rear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DOOR

### DRIVER'S DOOR

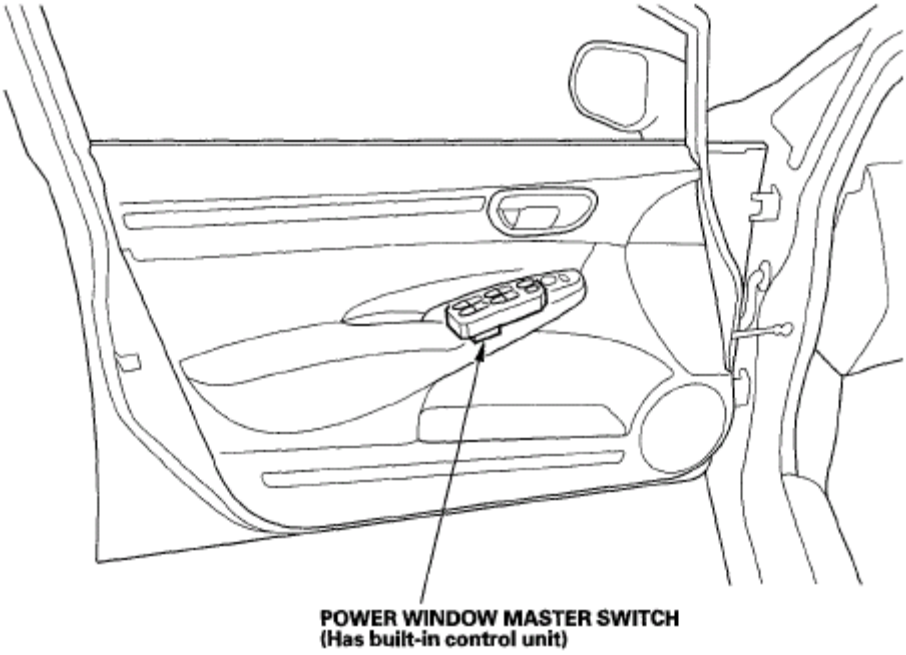



**Fig. 5: Identifying Relay And Control Unit Locations - Driver Door**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SEAT

### FRONT PASSENGER'S SEAT



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**Fig. 6: Identifying Relay And Control Unit Locations - Front Passenger Seat**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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# 2006-08 ELECTRICAL

## Relays - Civic GX

## POWER RELAY TEST

**NOTE: Refer to the RELAYS (EXCEPT HYBRID) article for additional information that is not shown in this article.**

Use this chart to identify the type of relay, then do the test listed for it.

## RELAY IDENTIFICATION CHART

| Relay | Test |
|---|---|
| A/C compressor clutch relay | Normally-open type |
| A/C condenser fan relay | |
| Blower motor relay | |
| ETCS control relay | |
| Front accessory power socket relay | |
| Fuel shut-off solenoid valve relay | |
| Ignition coil relay | |
| Injector control module relay | |
| PGM-FI main relay 1 (FI MAIN) | |
| PGM-FI subrelay | |
| Power window relay | |
| Radiator fan relay | |
| Rear window defogger relay | |
| Starter cut relay | |
| Fan control relay | Five-terminal type |
| Starter control relay | |

### NORMALLY-OPEN TYPE

Check for continuity between the terminals

- There should be continuity between the No. 1 and No. 2 terminals when battery

positive terminal is connected to the No. 4 terminal, and battery negative terminal is connected to the No. 3 terminal.

- There should be no continuity between the No. 1 and No. 2 terminals when power is disconnected.

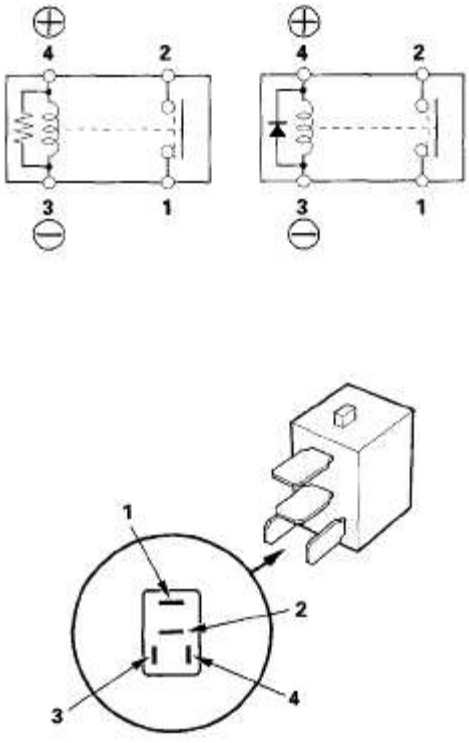



**Fig. 1: Checking Continuity Between Terminals For Normally-Open Type**

**FIVE-TERMINAL TYPE**

Check for continuity between the terminals.

- There should be continuity between the No. 1 and No. 2 terminals when battery positive terminal is connected to the No. 5 terminal, and battery negative terminal is connected to the No. 3 terminal.
- There should be continuity between the No. 1 and No. 4 terminals when power is disconnected.

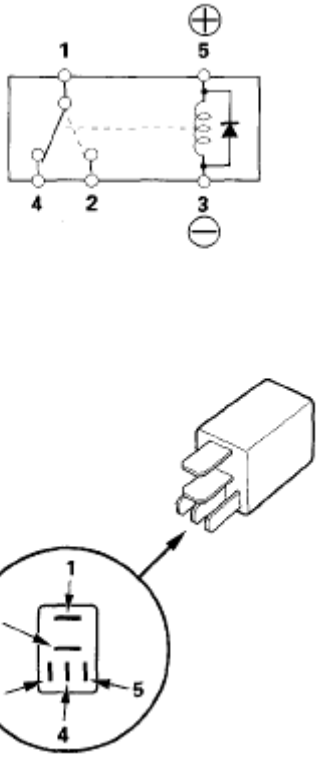



**Fig. 2: Checking Continuity Between Terminals For Five-Terminal Type**

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**2006-08 ELECTRICAL**

**Relays - Civic (Except Hybrid)**

## POWER RELAY TEST

**NOTE: Refer to the RELAYS (GX) article for additional information for the GX model.**

Use this chart to identify the type of relay, then do the test listed for it.

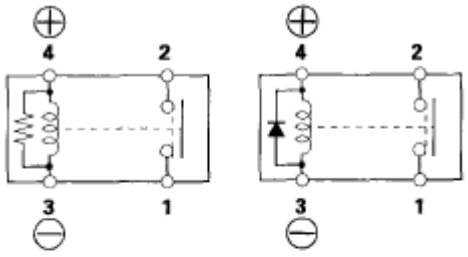
## RELAY TYPES REFERENCE

| Relay | Test |
|---|---|
| A/C compressor clutch relay | Normally-open type |
| A/C condenser fan relay | |
| Blower motor relay | |
| ETCS control relay | |
| Front accessory power socket relay | |
| Ignition coil relay | |
| PGM-FI main relay 1 (Fl MAIN) | |
| PGM-FI main relay 2 (FUEL PUMP) | |
| PGM-FI subrelay | |
| Power window relay | |
| Radiator fan relay | |
| Rear accessory power socket relay | |
| Rear window defogger relay | |
| Seat Heater (HIGH) | |
| Starter cut relay | |
| Fan control relay | Five-terminal type |
| Power mirror defogger relay | |
| Seat Heater (LOW) | |

### NORMALLY-OPEN TYPE

Check for continuity between the terminals.

- There should be continuity between the No. 1 and No. 2 terminals when battery positive terminal is connected to the No. 4 terminal, and battery negative terminal is connected to the No. 3 terminal.
- There should be continuity between the No. 1 and No. 2 terminals when power is disconnected.



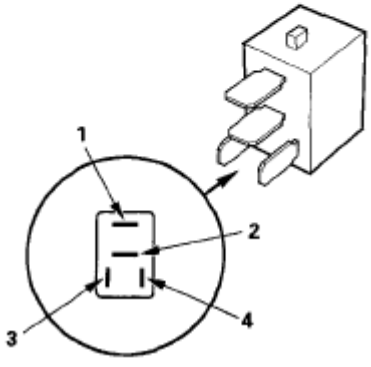




**Fig. 1: Power Relay Test - Normally-Open Type**

**FIVE-TERMINAL TYPE**

Check for continuity between the terminals.

- There should be continuity between the No. 1 and No. 2 terminals when battery positive terminal is connected to the No. 5 terminal, and battery negative terminal is connected to the No. 3 terminal.
- There should be continuity between the No. 1 and No. 4 terminals when power is disconnected.

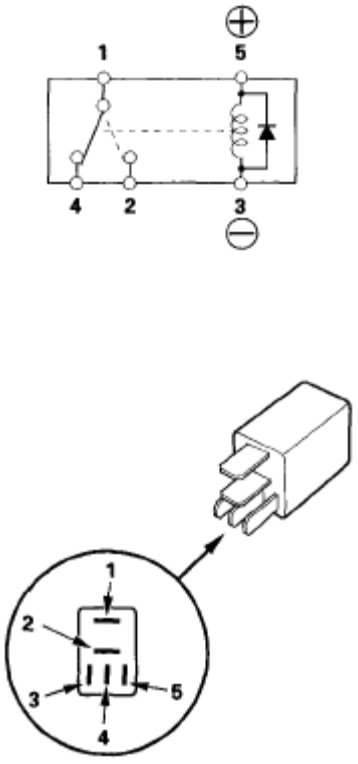



**Fig. 2: Power Relay Test - Five-Terminal Type**

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# GENERAL INFORMATION

## Service Reminder Indicators - Honda

## SERVICE INTERVAL REMINDER

**NOTE: This article is only to be used for resetting maintenance reminder lights (when applicable). Some models (not all) may be equipped with one or more resettable maintenance reminder lights indicating maintenance is required. Once required maintenance services are performed, resetting of lights may be required. Information is provided to reset these lights where applicable.**

**NOTE: Most vehicles are equipped with a Malfunction Indicator Light (MIL) or check engine light. If light comes on and remains on while driving, the vehicle requires some type of repair. See appropriate service and repair information. After repairing fault(s) and clearing fault code(s), the Malfunction Indicator Light (MIL) or check engine light should go out. Some models may use a dual-function indicator light, which is also used to indicate emission component service is due. After performing required service, reset indicator light.**

**1982-85 ACCORD**

Oil, filter and service interval indicator flags/lights activate every 7500 miles. To reset indicators, insert ignition key into appropriate slot below glowing indicator flags/lights at lower right corner of instrument cluster. Push key in until reminder window changes from Red to Green.

## MAINTENANCE REQUIRED REMINDER LIGHT/ENGINE OIL LIFE INDICATOR

**1991-97 ACCORD**

1. At each 7500 mile service interval, the MAINTENANCE REQUIRED light will change from Green to Yellow. If service is not performed (and light is not

reset), the MAINTENANCE REQUIRED light will change from Yellow to Red.

2. When service has been completed, reset MAINTENANCE REQUIRED reminder light. To reset reminder light, turn ignition off. Insert ignition key in slot provided to the right of tachometer (or beside the indicator). See **Fig. 1**.

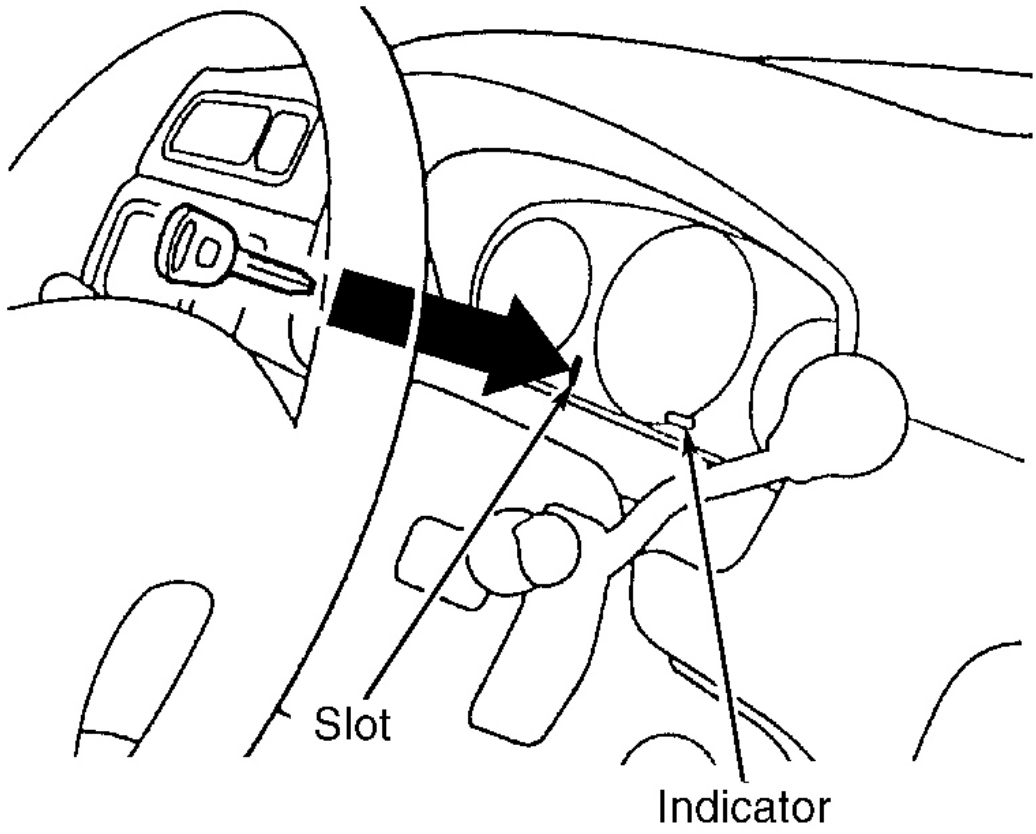



**Fig. 1: Maintenance Reminder Light Reset**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**1996-2000 CIVIC**

1. At each 7500 mile service interval, the MAINTENANCE REQUIRED light will change from Green to Yellow. If service is not performed (and light is not

reset), the MAINTENANCE REQUIRED light will change from Yellow to Red.

2. When service has been completed, reset MAINTENANCE REQUIRED reminder light. To reset reminder light, turn ignition off. Insert ignition key in slot provided to the right of tachometer (or beside the indicator). See **Fig. 2**.

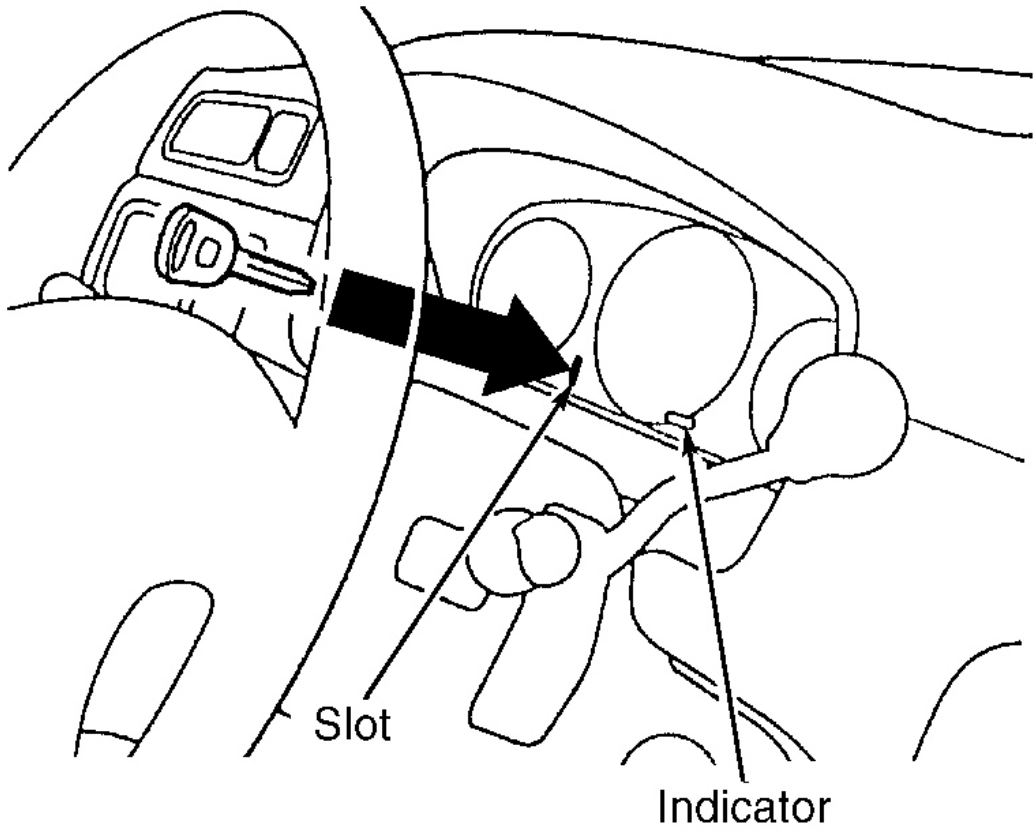



**Fig. 2: Maintenance Reminder Light Reset**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**1996-97 ODYSSEY**

1. At each 7500 mile service interval, the MAINTENANCE REQUIRED light will change from Green to Yellow. If service is not performed (and light is not

reset), the MAINTENANCE REQUIRED light will change from Yellow to Red.

2. When service has been completed, reset MAINTENANCE REQUIRED reminder light. To reset reminder light, turn ignition off. Insert ignition key in slot provided to the right of tachometer (or beside the indicator). See **Fig. 3**.

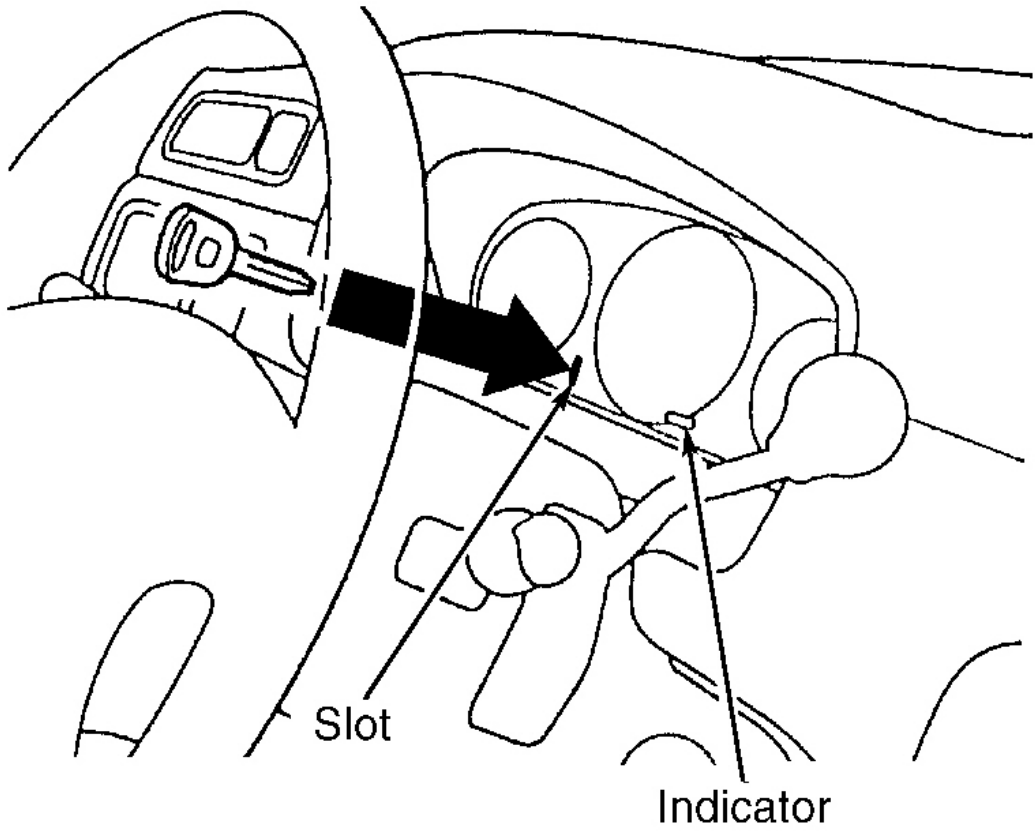



**Fig. 3: Maintenance Reminder Light Reset**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**1998-2002 ACCORD**

1. When distance driven since maintenance required indicator was reset is less than 6000 miles, the MAINT REQ'D reminder light will illuminate for 2

seconds and then go out when ignition switch is turned to ON (II) position. When mileage is 6000-7500 miles, MAINT REQ'D indicator light will illuminate for 2 seconds and then blink for 10 seconds when ignition switch is turned to ON (II) position. When mileage exceeds 7500 miles, MAINT REQ'D light illuminates and stays on while ignition switch is in ON (II) position.

2. To reset MAINT REQ'D indicator light, turn ignition switch to OFF position. Push and hold the SELECT/RESET button and turn ignition switch to ON (II) position. Continue to hold button for more than 10 seconds or until MAINT REQ'D light goes out.

**1998-2001 CR-V**

1. At each 7500 mile service interval, the MAINTENANCE REQUIRED light will change from Green to Yellow. If service is not performed (and light is not reset), the MAINTENANCE REQUIRED light will change from Yellow to Red.
2. When service has been completed, reset MAINTENANCE REQUIRED reminder light. To reset reminder light, turn ignition off. Insert ignition key in slot provided to the right of tachometer (or beside the indicator). See **Fig. 4**.

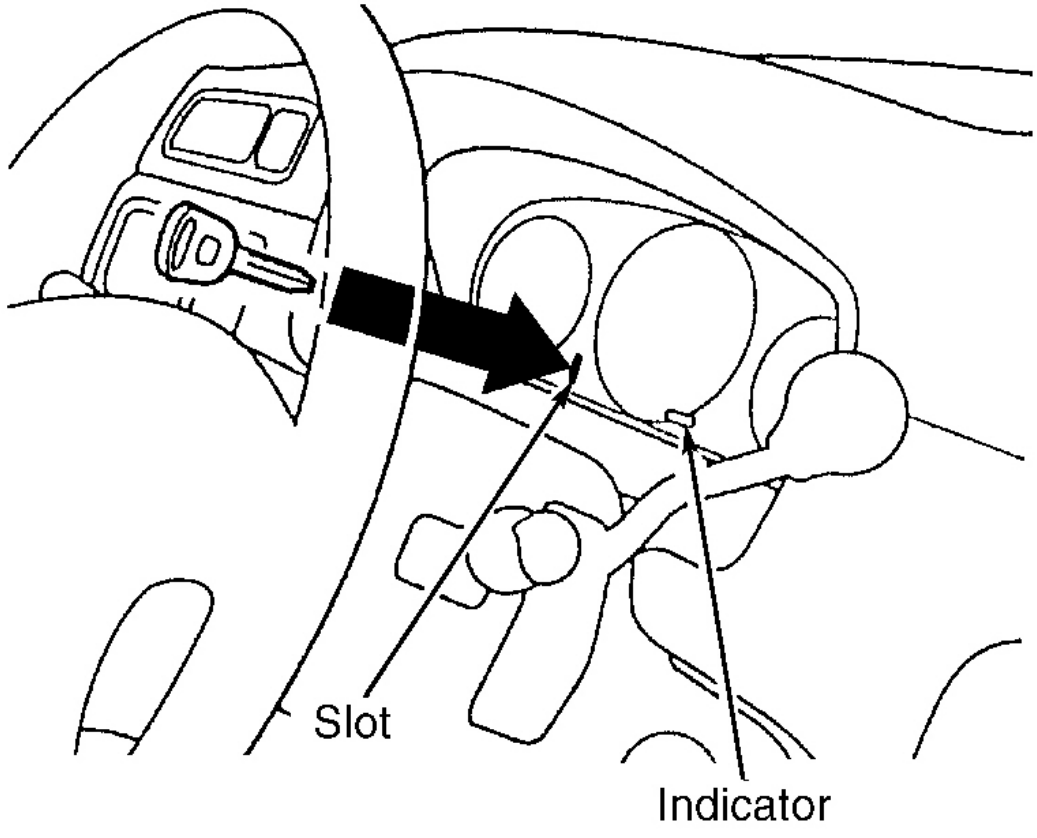



**Fig. 4: Maintenance Reminder Light Reset**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**1998-2003 ODYSSEY**

1. For the first 6000 miles after maintenance required indicator is reset, the MAINT REQ'D reminder light illuminates when the ignition is turned on, then will go out after 2 seconds. Between 6000-7500 miles, the MAINT REQ'D reminder light will light for 2 seconds, then will flash for 10 seconds, and will then go out. After exceeding 7500 miles without having scheduled maintenance performed, MAINT REQ'D reminder light will remain on until it is reset.
2. To reset the MAINT REQ'D reminder light, turn ignition switch to OFF

position. Press and hold the SELECT/RESET button. The SELECT/RESET button is in lower right of instrument cluster between speedometer and fuel gauge. While still holding button, turn ignition switch to ON position with engine off. Hold button for about 10 seconds until indicator resets.

**1998-2001 PRELUDE**

1. At each 7500 mile service interval, the MAINTENANCE REQUIRED light will change from Green to Yellow. If service is not performed (and light is not reset), the MAINTENANCE REQUIRED light will change from Yellow to Red.
2. When service has been completed, reset MAINTENANCE REQUIRED reminder light. To reset reminder light, turn ignition off. Insert ignition key in slot provided to the right of tachometer (or beside the indicator). See **Fig. 5**.

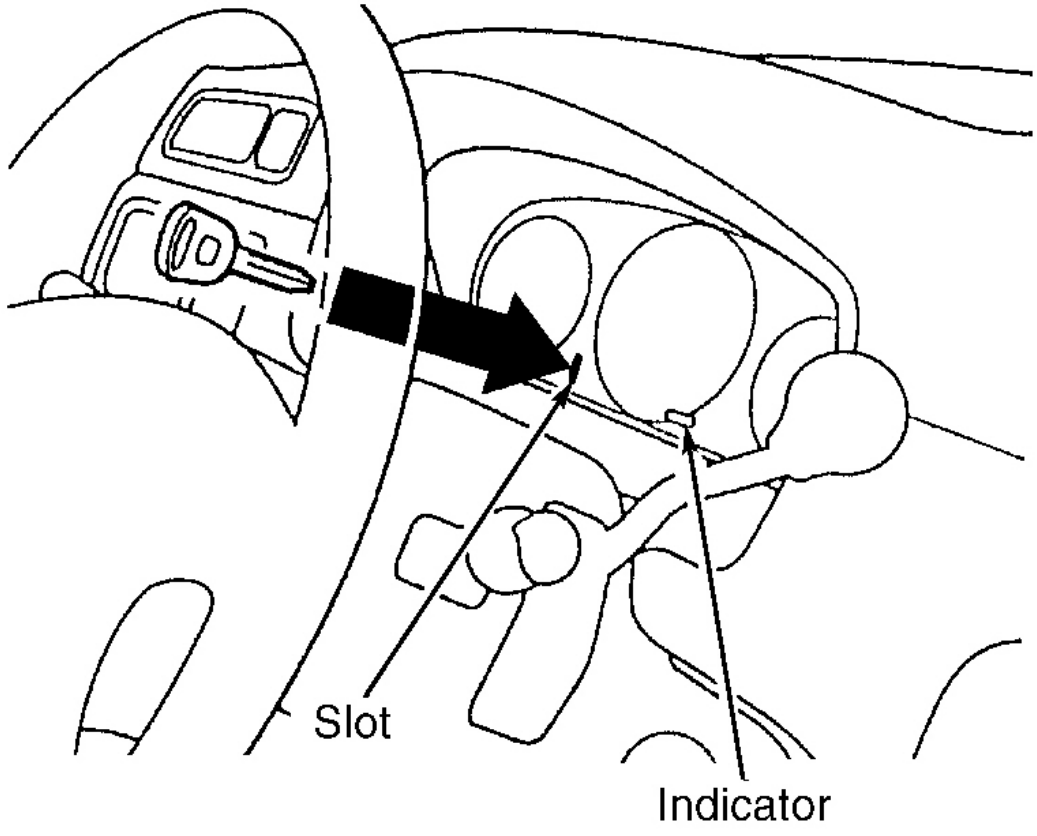



**Fig. 5: Maintenance Reminder Light Reset**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**2000-05 INSIGHT**

1. When distance driven since maintenance required indicator was reset is 6000 miles, the MAINT REQ'D reminder light will start to blink. After exceeding 7500 miles without having scheduled maintenance performed and MAINT REQ'D reminder light reset, light will remain on until it is reset.
2. To reset the light, turn ignition switch to OFF position. Press and hold TRIP button, located on lower right side of instrument cluster. While still holding TRIP button, turn ignition switch to ON position with engine off. Hold button for about 10 seconds until indicator resets.

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**2000-05 S2000**

1. For the first 8000 miles after maintenance required indicator is reset, the MAINT REQ'D reminder light illuminates when the ignition is turned on, then will go out after 2 seconds. Between 8000-10,000 miles, the MAINT REQ'D reminder light will light for 2 seconds, then will flash for 10 seconds, and will then go out. After exceeding 10,000 miles without having scheduled maintenance performed, MAINT REQ'D reminder light will remain on until it is reset.
2. To reset the MAINT REQ'D reminder light, turn ignition switch to OFF position. Press and hold the trip meter reset button while turning ignition switch to ON position, with engine off. Hold button until indicator resets (indicator light goes out).

**2001-05 CIVIC**

1. For the first 8000 miles after maintenance required indicator is reset, the MAINT REQ'D indicator light illuminates when the ignition is turned on, then will go out after 2 seconds. When mileage is 8000-10,000 miles, the MAINT REQ'D reminder light will illuminate for 2 seconds, then blink for 10 seconds, and then go out. When mileage exceeds 10,000 miles, MAINT REQ'D indicator light illuminates and stays on while ignition switch is in ON (II) position.
2. To reset the MAINT REQ'D indicator light, turn ignition switch to OFF position. Press and hold the SELECT/RESET button. While still holding button, turn ignition switch to ON position, with engine off. Hold SELECT/RESET button for about 10 seconds until indicator resets.
3. If MAINT REQ'D reminder light does not reset, ensure headlights, parking lights, or both are turned off when resetting reminder light. The MAINT REQ'D indicator can not be reset if any of these lights are on. If vehicle is equipped with daytime running lights and lights come on when ignition switch is turned to ON (II) position, daytime running lights must be disabled before indicator light can be reset.

**2002-05 CR-V**

1. For the first 8000 miles after maintenance required indicator is reset, the

MAINT REQ'D reminder light illuminates when the ignition is turned on, then will go out after 2 seconds. When mileage is 8000-10,000 miles, the MAINT REQ'D reminder light will illuminate for 2 seconds, then blink for 10 seconds, and will then go out. When mileage exceeds 10,000 miles, MAINT REQ'D light illuminates and stays on while ignition switch is in ON (II) position.

2. To reset the light, turn ignition switch to OFF position. Press and hold the SELECT/RESET button. While still holding button, turn ignition switch to ON position, with engine off. Hold SELECT/RESET button for about 10 seconds until indicator resets.

**2003-05 ACCORD (4-CYLINDER)**

1. When distance driven since maintenance required indicator was reset is less than 8000 miles, the MAINT REQ'D reminder light will illuminate for 2 seconds and then go out when ignition switch is turned to ON (II) position. When mileage is 8000-10,000 miles, MAINT REQ'D indicator light will illuminate for 2 seconds and then blink for 10 seconds when ignition switch is turned to ON (II) position. When mileage exceeds 10,000 miles, MAINT REQ'D light illuminates and stays on while ignition switch is in ON (II) position.
2. To reset MAINT REQ'D indicator light, turn ignition switch to OFF position. Push and hold the SELECT/RESET button and turn ignition switch to ON (II) position. Continue to hold button for more than 10 seconds or until MAINT REQ'D light goes out.

**2003-05 ACCORD (V6)**

1. When distance driven since maintenance required indicator was reset is less than 6000 miles, the MAINT REQ'D reminder light will illuminate for 2 seconds and then go out when ignition switch is turned to ON (II) position. When mileage is 6000-7500 miles, MAINT REQ'D indicator light will illuminate for 2 seconds and then blink for 10 seconds when ignition switch is turned to ON (II) position. When mileage exceeds 7500 miles, MAINT REQ'D light illuminates and stays on while ignition switch is in ON (II) position.
2. To reset MAINT REQ'D indicator light, turn ignition switch to OFF position. Push and hold the SELECT/RESET button and turn ignition switch to ON (II)

position. Continue to hold button for more than 10 seconds or until MAINT REQ'D light goes out.

**2003-05 ELEMENT**

1. For the first 8000 miles after maintenance required indicator is reset, the MAINT REQ'D indicator light illuminates when the ignition is turned on, then will go out after 2 seconds. When mileage is 8000-10,000 miles, the MAINT REQ'D reminder light will illuminate for 2 seconds, then blink for 10 seconds, and then go out. When mileage exceeds 10,000 miles, MAINT REQ'D indicator light illuminates and stays on while ignition switch is in ON (II) position.
2. To reset the MAINT REQ'D indicator light, turn ignition switch to OFF position. Press and hold the SELECT/RESET button. While still holding button, turn ignition switch to ON position, with engine off. Hold SELECT/RESET button for about 10 seconds until indicator resets.
3. If MAINT REQ'D reminder light does not reset, ensure headlights, parking lights, or both are turned off when resetting reminder light. The MAINT REQ'D indicator can not be reset if any of these lights are on. If vehicle is equipped with daytime running lights and lights come on when ignition switch is turned to ON (II) position, daytime running lights must be disabled before indicator light can be reset.

**2003 PILOT**

1. For the first 6000 miles after maintenance required indicator is reset, the MAINT REQ'D reminder light illuminates when the ignition is turned on, then will go out after 2 seconds. When mileage is 6000-7500 miles, the MAINT REQ'D reminder light will illuminate for 2 seconds, then blink for 10 seconds, and will then go out. When mileage exceeds 7500 miles, MAINT REQ'D light illuminates and stays on while ignition switch is in ON (II) position.
2. To reset the light, turn ignition switch to OFF position. Press and hold the SELECT/RESET button. While still holding button, turn ignition switch to ON position, with engine off. Hold SELECT/RESET button for about 10 seconds until indicator resets.

**2004 ODYSSEY**

1. For the first 5900-6100 miles after maintenance required indicator is reset, the MAINT REQ'D reminder light illuminates when the ignition is turned on, then will go out after 2 seconds. Between 5900-6100 miles, the MAINT REQ'D reminder light will light for 2 seconds, then will flash for 10 seconds, and will then go out. After exceeding 7400-7600 miles without having scheduled maintenance performed, MAINT REQ'D reminder light will remain on until it is reset.
2. To reset the MAINT REQ'D reminder light, turn ignition switch to OFF position. Press and hold the SELECT and RESET button at the same time. While still holding buttons, turn ignition switch to ON position with engine off. Hold button for about 10 seconds until indicator resets.

**2004 PILOT**

1. For the first 5900-6100 miles after maintenance required indicator is reset, the MAINT REQ'D reminder light illuminates when the ignition is turned on, then will go out after 2 seconds. When mileage is 5900-6100 miles, the MAINT REQ'D reminder light will illuminate for 2 seconds, then blink for 10 seconds, and will then go out. When mileage exceeds 7400-7600 miles, MAINT REQ'D light illuminates and stays on while ignition switch is in ON (II) position.
2. To reset the light, turn ignition switch to OFF position. Press and hold the SELECT/RESET button. While still holding button, turn ignition switch to ON (II) position, with engine off. Hold SELECT/RESET button for about 10 seconds until indicator resets.

**2005 ACCORD (HYBRID)**

1. If travel distance is 0-6000 miles after last reset. Indicator comes on for 2 seconds each time you turn ignition switch to ON (II) position.
2. If travel distance is 6000-7500 miles. Each time you turn ignition switch to ON (II) position, indicator comes on for 2 seconds and flashes for 10 seconds.
3. If travel distance is over 7500 miles and ignition switch is ON (II) position. Turn OFF engine. Press and hold SELECT/RESET knob in instrument panel and turn ignition switch ON (II). Hold knob for about 10 seconds until indicator resets.

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**2005-05 PILOT**

1. For the first 6000 miles after maintenance required indicator is reset, the MAINT REQ'D reminder light illuminates when the ignition is turned on, then will go out after 2 seconds. When mileage is 6000-7500 miles, the MAINT REQ'D reminder light will illuminate for 2 seconds, then blink for 10 seconds, and will then go out. When mileage exceeds 7500 miles, MAINT REQ'D light illuminates and stays on while ignition switch is in ON (II) position.
2. To reset the light, turn ignition switch to OFF position. Press and hold the SELECT/RESET button. While still holding button, turn ignition switch to ON position, with engine off. Hold SELECT/RESET button for about 10 seconds until indicator resets.

## ENGINE OIL LIFE INDICATOR

**2005-08 ODYSSEY**

**LX, EX & EX-L Models**

1. Turn ignition switch to ON (II). Press SELECT/RESET knob until engine oil life indicator is displayed.
2. Press SELECT/RESET knob for 10 seconds. Engine oil life indicator and the maintenance item code(s) will blink. Press SELECT/RESET knob for more than 5 seconds. Maintenance items code(s) will disappear and engine oil life indicator will reset to "100."

**Touring Model**

1. Turn ignition switch to ON (II). Press SELECT/RESET button on steering wheel until engine oil life is displayed.
2. Press SELECT/RESET knob in instrument panel for 10 seconds. Display will change to "CUSTOM SETUP" mode. Press SELECT/RESET button on steering wheel. Maintenance item code(s) will disappear and engine oil life will reset to "100."
3. To cancel resetting press INFO button on steering wheel. Press SELECT/RESET button. This cancels resetting procedure and normal display mode returns. Select "RESET" button and press SELECT/RESET button multi-

information will.

**2006-08 ACCORD**

1. Turn ignition switch to ON (II). Press SELECT/RESET knob until engine oil life indicator is displayed.
2. Press SELECT/RESET knob for 10 seconds. Engine oil life indicator and the maintenance item code(s) will blink. Press SELECT/RESET knob for more than 5 seconds. Maintenance items code(s) will disappear and engine oil life indicator will reset to "100."

**2006-08 CIVIC**

1. Turn ignition switch to ON (II). Press SELECT/RESET knob until engine oil life indicator is displayed.
2. Press SELECT/RESET knob for 10 seconds. Engine oil life indicator and the maintenance item code(s) will blink. Press SELECT/RESET knob for more than 5 seconds. Maintenance items code(s) will disappear and engine oil life indicator will reset to "100."

**2006-08 CR-V**

1. Turn ignition switch to ON (II). Press SELECT/RESET knob until engine oil life indicator is displayed.
2. Press SELECT/RESET knob repeatedly until engine oil life is displayed.
3. Press the SELECT/RESET knob for about 10 seconds. The information display shows the reset mode initial display as shown.
4. Select the "OIL LIFE" indicator by turning the SELECT/RESET knob. The display begins to blink. Push the same knob to enter this setting.
5. The engine oil life and maintenance item code(s) will begin blink. Push the SELECT/RESET knob to reset.
6. The maintenance item code(s) will disappear, and engine oil life will reset to "100".

**2006-08 ELEMENT**

1. Turn ignition switch to ON (II). Press SELECT/RESET knob until engine oil

life indicator is displayed.

2. Press SELECT/RESET knob for 10 seconds. Engine oil life indicator and the maintenance item code(s) will blink. Press SELECT/RESET knob for more than 5 seconds. Maintenance items code(s) will disappear and engine oil life indicator will reset to "100."

**2006-08 PILOT**

1. Turn ignition switch to ON (II). Press SELECT/RESET knob until engine oil life indicator is displayed.
2. Press SELECT/RESET knob for 10 seconds. Engine oil life indicator and the maintenance item code(s) will blink. Press SELECT/RESET knob for more than 5 seconds. Maintenance items code(s) will disappear and engine oil life indicator will reset to "100."

**2006-08 S2000**

1. Turn ignition switch to ON (II). Press TRIP button until engine oil life indicator is displayed.
2. Press TRIP knob for 10 seconds. Engine oil life indicator and the maintenance item code(s) will blink. Press TRIP knob for more than 5 seconds. Maintenance items code(s) will disappear and engine oil life indicator will reset to "100."

**2007-08 RIDGELINE**

1. Turn ignition switch to ON (II) position.
2. Press SELECT button repeatedly until engine oil life display or service message is displayed.
3. Press the RESET button for about 10 seconds. A "MAINT RESET" message will appear.
4. Select appropriate answer - "MAINT RESET >N" (NO) or "MAINT RESET >Y" (YES) by pressing the select button. ">N" or ">Y" is displayed on the outside temperature display.
5. Select the "MAINT RESET >Y" (YES), and press and hold RESET button again to reset engine oil life to "100".

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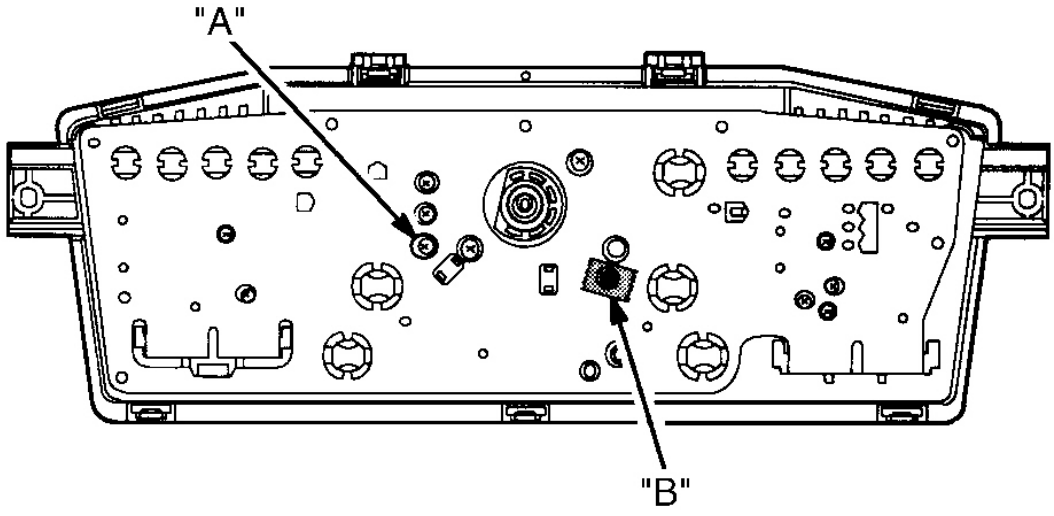
## OXYGEN SENSOR WARNING LIGHT

**1994-95 PASSPORT (DX MODEL)**

1. Heated Oxygen Sensor (HO2S) must be replaced every 90,000 miles. When odometer reaches 90,000 miles, O2S indicator light on dash will illuminate, and then every subsequent 90,000 miles. After servicing, turn off or reset warning light.

   **NOTE: Reset procedure is for first 90,000 mile reset. At every subsequent 90,000 mile reset, move screw back to previous hole.**

2. To reset warning light, remove instrument cluster. Remove masking tape from hole "B". See **Fig. 6** or **Fig. 7** . Remove screw from hole "A" and insert into hole "B". Apply new masking tape to hole "A".




G00293479

**Fig. 6: Identifying Oxygen Sensor Warning Light Reset Holes (2.6L)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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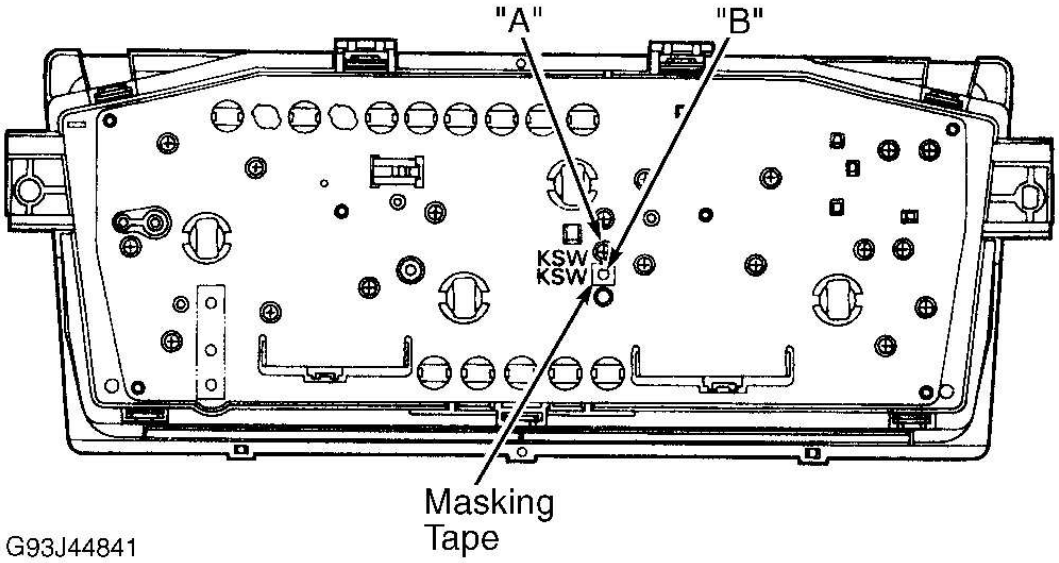



**Fig. 7: Identifying Oxygen Sensor Warning Light Reset Holes (3.2L)**
**Courtesy of ISUZU MOTOR CO.**

## TIRE PRESSURE MONITOR SYSTEM

**2005-08 ODYSSEY**

**NOTE: If a flat tire is replaced with the spare tire, and the flat tire is stored in the cargo area, the low pressure indicator will stay on but the appropriate tire indicator will go off. This prevents the customer from thinking there is a problem with the spare tire. When the flat tire is taken out of the vehicle for repair, the TPMS indicator will come on because the system is no longer receiving the signal from the tire's transmitter.**

**NOTE: When a tire pressure sensor is replaced or tires are rotated, the sensor ID must be memorized by the TPMS control unit. See TIRE PRESSURE SENSOR REGISTRATION in appropriate manufacturer service information.**

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**NOTE: On models equipped with PAX tire systems, if a tire is repaired or replaced, the warning indicator (and the mileage counter that supports it) must be reset, no matter how far the vehicle was driven in the run flat mode.**

1. To put the gauge control module into the self-diagnostic mode, perform the following:
   - Turn the headlight switch to ON.
   - Press and hold the SELECT/RESET (Instrument panel brightness) knob.
   - Turn the ignition switch to ON (II).
   - Within 5 seconds, turn the headlights to AUTO, then to ON, and then to AUTO again.
   - Within 5 seconds, release the SELECT/RESET knob, then push and release the knob three times.
2. Once the gauge control module is in the self-diagnostic mode, press and hold the INFO button on the steering wheel for 5 seconds to get to the CUSTOMIZE MENU.
3. Use the INFO button to scroll through to the PAX RESET screen, then press the SEL/RESET button on the steering wheel.
4. Use the INFO button to scroll to the appropriate wheel, and then press the SEL/RESET button on the steering wheel to reset the PAX warning system display. The screen should read "PAX RESET COMPLETED". Repeat this step for each wheel that needs to be reset.
5. Use the INFO button to scroll through to EXIT, then press the SEL/RESET button.
6. Turn the ignition switch to OFF to exit the self-diagnostic mode.

**2005-08 PILOT & RIDGELINE**

**NOTE: If a flat tire is replaced with the spare tire, and the flat tire is stored in the cargo area, the low pressure indicator will stay on but the appropriate tire indicator will go off. This prevents the customer from thinking there is a problem with the spare tire. When the flat tire is taken out of the vehicle**

**for repair, the TPMS indicator will come on because the system is no longer receiving the signal from the tire's transmitter.**

**NOTE: When a tire pressure sensor is replaced or tires are rotated, the sensor ID must be memorized by the TPMS control unit. See TIRE PRESSURE SENSOR REGISTRATION in appropriate manufacturer service information.**

**NOTE: On models equipped with PAX tire systems, if a tire is repaired or replaced, the warning indicator (and the mileage counter that supports it) must be reset, no matter how far the vehicle was driven in the run flat mode. See appropriate manufacturer service information.**

**2007-08 CR-V**

**NOTE: If a flat tire is replaced with the spare tire, and the flat tire is stored in the cargo area, the low pressure indicator will stay on but the appropriate tire indicator will go off. This prevents the customer from thinking there is a problem with the spare tire. When the flat tire is taken out of the vehicle for repair, the TPMS indicator will come on because the system is no longer receiving the signal from the tire's transmitter.**

**NOTE: When a tire pressure sensor is replaced or tires are rotated, the sensor ID must be memorized by the TPMS control unit. See TIRE PRESSURE SENSOR REGISTRATION in appropriate manufacturer service information.**

**2007-08 ELEMENT**

**NOTE: If a flat tire is replaced with the spare tire, and the flat tire is stored in the cargo area, the low pressure indicator will stay on but the appropriate tire indicator will go off. This**

**prevents the customer from thinking there is a problem with the spare tire. When the flat tire is taken out of the vehicle for repair, the TPMS indicator will come on because the system is no longer receiving the signal from the tire's transmitter.**

**NOTE: When a tire pressure sensor is replaced or tires are rotated, the sensor ID must be memorized by the TPMS control unit. See TIRE PRESSURE SENSOR REGISTRATION in appropriate manufacturer service information.**

**2007-08 FIT**

**NOTE: If a flat tire is replaced with the spare tire, and the flat tire is stored in the cargo area, the low pressure indicator will stay on but the appropriate tire indicator will go off. This prevents the customer from thinking there is a problem with the spare tire. When the flat tire is taken out of the vehicle for repair, the TPMS indicator will come on because the system is no longer receiving the signal from the tire's transmitter.**

**NOTE: When a tire pressure sensor is replaced or tires are rotated, the sensor ID must be memorized by the TPMS control unit. See TIRE PRESSURE SENSOR REGISTRATION in appropriate manufacturer service information.**

**2007-08 S2000**

**NOTE: If a flat tire is replaced with the spare tire, and the flat tire is stored in the cargo area, the low pressure indicator will stay on but the appropriate tire indicator will go off. This prevents the customer from thinking there is a problem with the spare tire. When the flat tire is taken out of the vehicle for repair, the TPMS indicator will come on because the system is no longer receiving the signal from the tire's**

**transmitter.**

**NOTE: When a tire pressure sensor is replaced or tires are rotated, the sensor ID must be memorized by the TPMS control unit. See TIRE PRESSURE SENSOR REGISTRATION in appropriate manufacturer service information.**

**2008 ACCORD**

**NOTE: If a flat tire is replaced with the spare tire, and the flat tire is stored in the cargo area, the low pressure indicator will stay on but the appropriate tire indicator will go off. This prevents the customer from thinking there is a problem with the spare tire. When the flat tire is taken out of the vehicle for repair, the TPMS indicator will come on because the system is no longer receiving the signal from the tire's transmitter.**

**NOTE: When a tire pressure sensor is replaced or tires are rotated, the sensor ID must be memorized by the TPMS control unit. See TIRE PRESSURE SENSOR REGISTRATION in appropriate manufacturer service information.**

**2008 CIVIC**

**NOTE: If a flat tire is replaced with the spare tire, and the flat tire is stored in the cargo area, the low pressure indicator will stay on but the appropriate tire indicator will go off. This prevents the customer from thinking there is a problem with the spare tire. When the flat tire is taken out of the vehicle for repair, the TPMS indicator will come on because the system is no longer receiving the signal from the tire's transmitter.**

**NOTE: When a tire pressure sensor is replaced or tires are rotated, the sensor ID must be memorized by the TPMS control unit.**

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**See TIRE PRESSURE SENSOR REGISTRATION in appropriate manufacturer service information.**

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# 2006-08 ACCESSORIES AND EQUIPMENT

## Reminder Systems - Civic GX

## COMPONENT LOCATION INDEX

**NOTE: Refer to the REMINDER SYSTEMS (EXCEPT HYBRID) article for additional information that is not shown in this article.**

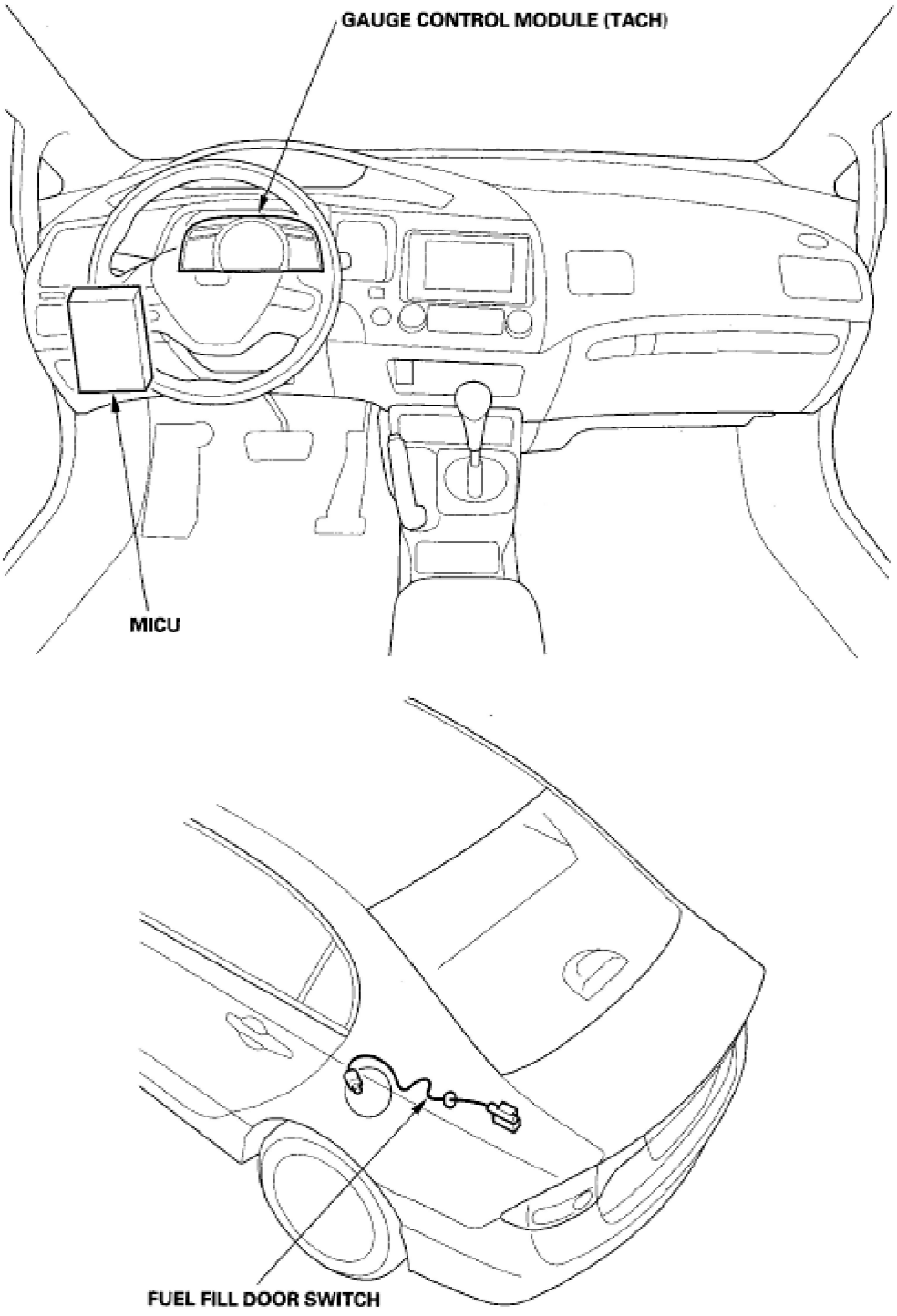
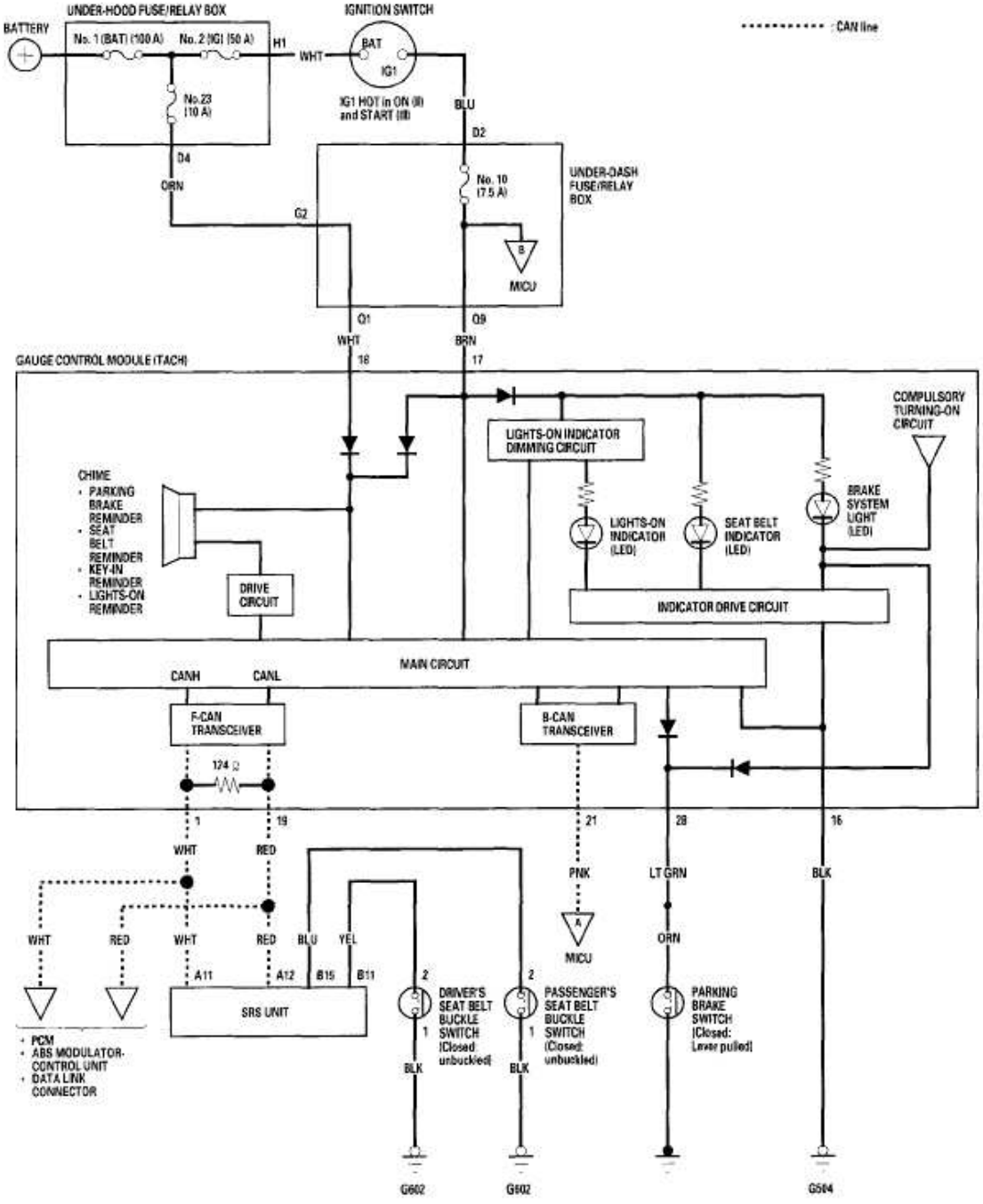



**Fig. 1: Identifying Body Electrical Components Location**

## CIRCUIT DIAGRAM

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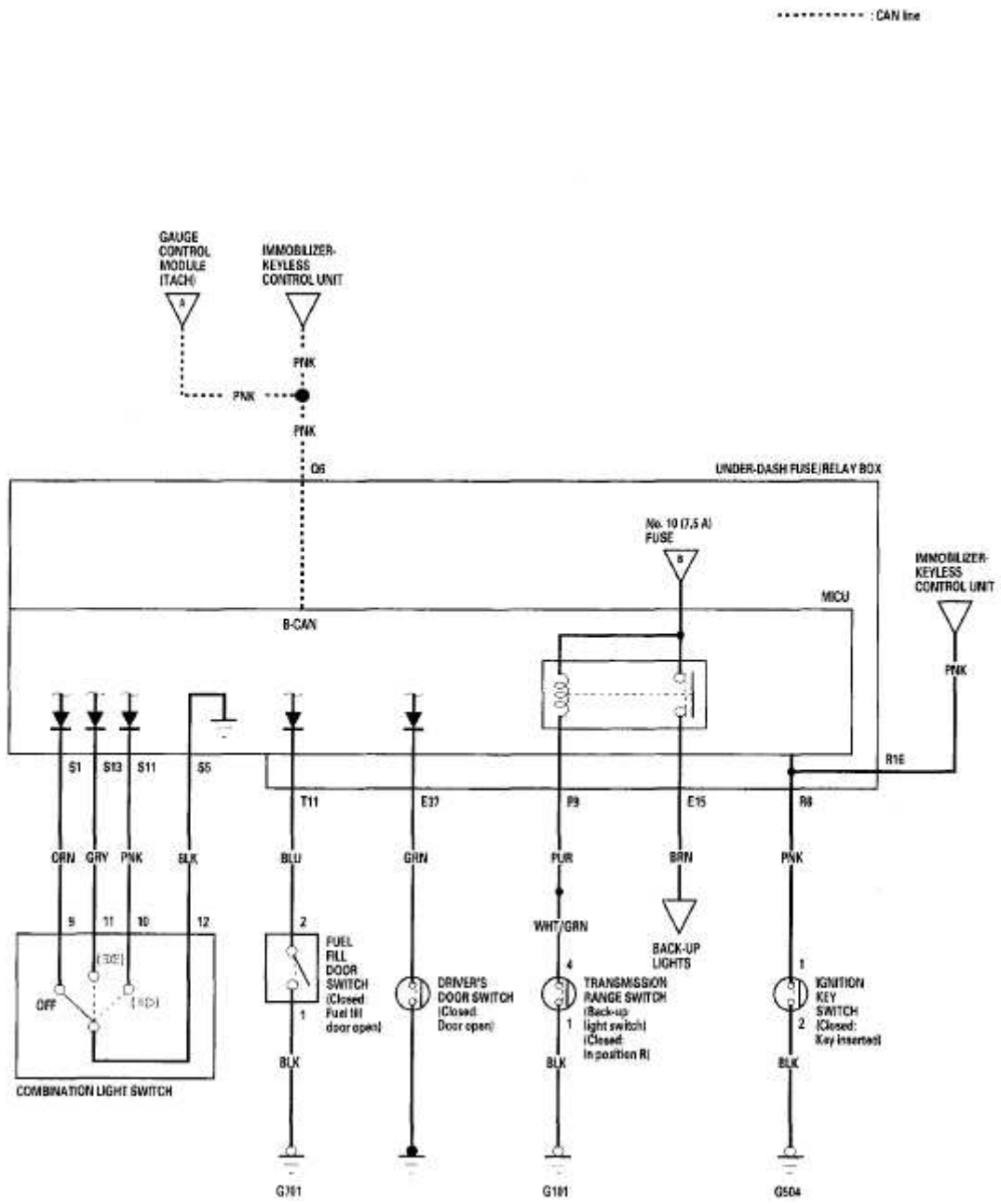





## Fig. 2: Body Electrical Circuit Diagram (1 Of 2)

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## Fig. 3: Body Electrical Circuit Diagram (2 Of 2)

## MICU INPUT TEST

1. Before troubleshooting the multiplex control system, troubleshoot the B-CAN System Diagnosis Test Mode A, refer to the **TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A** .
2. Check the No. 10 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is

blown, replace it and go to step 3.

3. Disconnect the driver's under-dash fuse/relay box connectors E, F, R, S, and T.

**NOTE: All connector views are wire side of female terminals.**

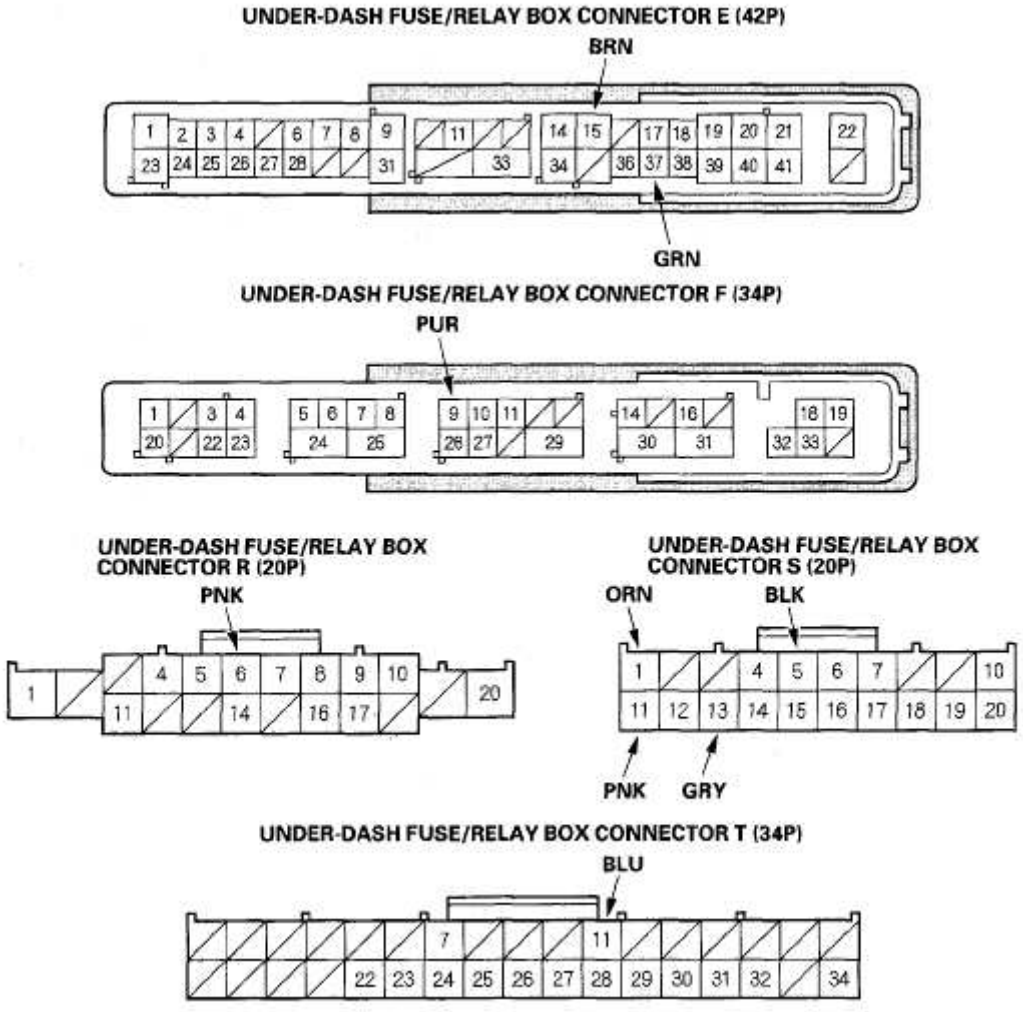



**Fig. 4: Identifying Under-Dash Fuse/Relay Box Connectors**

4. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary and recheck the system.
   - If the terminals look OK, go to step 5.
5. With the connectors still disconnected, make the input test at the connector.

- If a test indicates a problem, find and correct the cause, then recheck the system.
- If the input test proves OK, go to step 6.

**DIAGNOSTIC CHART**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E15 | BRN | Under all conditions | Connect battery power to the E15 terminal: The back-up lights should come on. | • Poor ground (G701)<br>• Blown bulb<br>• An open in the wire |

6. Reconnect the connector to the under-dash fuse/relay box, and make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the MICU must be faulty; replace the under-dash fuse/relay box.

**DIAGNOSTIC CHART**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E37 | GRN | Driver's door open | Check for voltage to ground: There should be less than 0.5 V. | • Faulty driver's door switch<br>• An open in the wire |
| | | Driver's door closed | Check for voltage to ground: There should be 5 V or more. | • Faulty driver's door switch<br>• Short to ground in the |

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| | | | | |
|---|---|---|---|---|
| | | | | wire |
| F9 | PUR | Transmission range switch in R | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G101)<br>• Faulty transmission range switch<br>• An open in the wire |
| | | Transmission range switch in any other position than R | Check for voltage to ground: There should be 5 V or more. | • Faulty transmission range switch<br>• Short to ground in the wire |
| R6 | PNK | Ignition key inserted into the ignition switch | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G504)<br>• Faulty ignition key switch<br>• An open in the wire |
| | | Ignition switch OFF and ignition key removed from the ignition switch | Check for voltage to ground: There should be 5 V or more. | • Faulty ignition key switch<br>• Short to ground in the wire |
| S1 . S5 | ORN | Combination light switch OFF | Check for voltage between S1 and S5 terminals: There should be less than 0.5 V. | • Faulty combination light switch<br>• An open in the wire |
| | | | Check for voltage | • Faulty combination |

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| | | | | |
|---|---|---|---|---|
| | | Combination light switch in any other position than OFF | between S1 and S5 terminals: There should be 5 V or more. | light switch<br>• Short to ground in the wire |
| S11 . S5 | PNK | Combination light switch (Headlight position) ON | Check for voltage between S11 and S5 terminals: There should be less than 0.5 V. | • Faulty combination light switch<br>• An open in the wire |
| | | Combination light switch OFF | Check for voltage between S11 and S5 terminals: There should be 5 V or more. | • Faulty combination light switch<br>• Short to ground in the wire |
| S13 . S5 | GRY | Combination light switch (SMALL position) ON | Check for voltage between S13 and S5 terminals: There should be less than 0.5 V. | • Faulty combination light switch<br>• An open in the wire |
| | | Combination light switch OFF | Check for voltage between S13 and S5 terminals: There should be 5 V or more. | • Faulty combination light switch<br>• Short to ground in the wire |
| T11 | BLU | Fuel fill door open | Check for voltage to ground: There should be less than 0.5 V. | • Faulty fuel fill door switch<br>• An open in the wire |
| | | | Check for voltage to ground: There | • Faulty fuel fill door switch |

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| | | | | |
|---|---|---|---|---|
| | | Fuel fill door closed | should be 5 V or more. | • Short to ground in the wire |

## FUEL FILL DOOR SWITCH TEST

1. Remove the trunk left side trim panel, refer to the **TRIM REMOVAL/INSTALLATION - TRUNK AREA** .
2. Disconnect the 2P connector (A) from the fuel fill door switch (B).

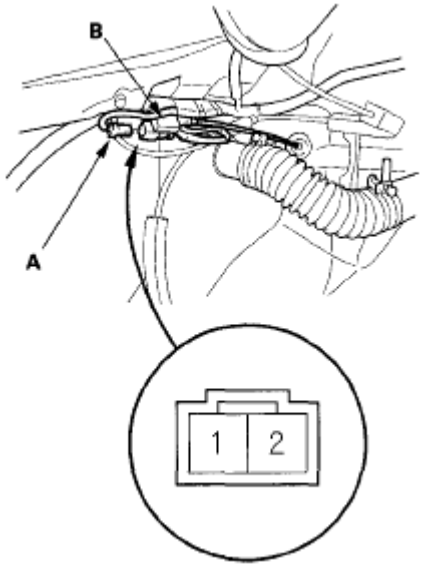



**Fig. 5: Identifying 2P Connector And Fuel Fill Door Switch**

3. Check for continuity between the terminals.
   - There should be continuity between the No. 1 and No. 2 terminals with the fuel fill door in the open.
4. If the continuity is not as specified, replace the fuel fill door switch.

## FUEL FILL DOOR SWITCH REPLACEMENT

**NOTE:**
- **Put on gloves to protect your hands.**
- **Take care not to scratch the body and related parts.**

1. Remove the these items:

- Fuel pipe protector, refer to the **FUEL PIPE PROTECTOR REPLACEMENT**
- Trunk side trim panel, left side (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA** )

2. From the trunk compartment, disconnect the fuel fill door switch connector (A), and detach the harness clip (B).

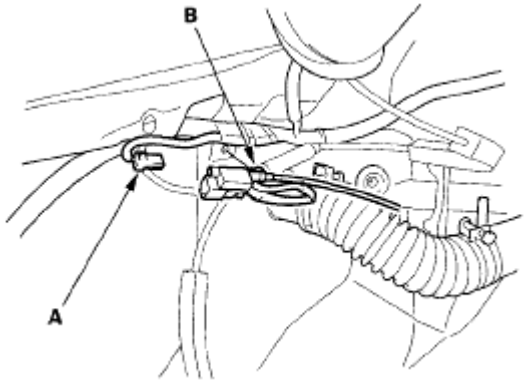



**Fig. 6: Identifying Fuel Fill Door Switch Connector**

3. Open the fuel fill door, and from the wheel arch, remove the fuel fill door switch (A) by turning it 90° from the fuel receptacle adapter (B).

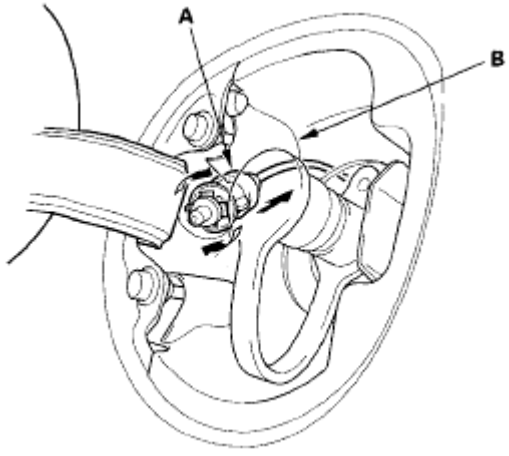



**Fig. 7: Identifying Fuel Fill Door Switch And Fuel Receptacle Adapter**

4. From the wheel arch, detach the clips, and remove the grommet (A), then pull the fuel fill door switch cable (B) out through the hole in the body. Take care not to kink the cable.

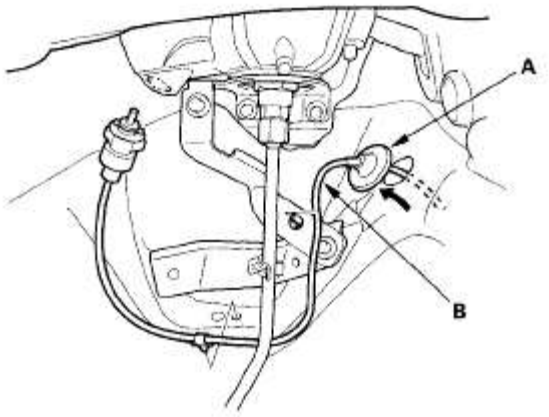



**Fig. 8: Identifying Door Switch Cable And Grommet**

5. Install the switch cable in the reverse order of removal, and note these items:
   - Check for damages or stress-whitened clips, and replace them with new ones.
   - Align the marks (A) on the sensor cable (B) with the cable clips (C) and grommet (D) as shown.
   - Make sure the grommet is installed to the body properly.
   - Make sure the fuel fill door switch connector is plugged in properly.

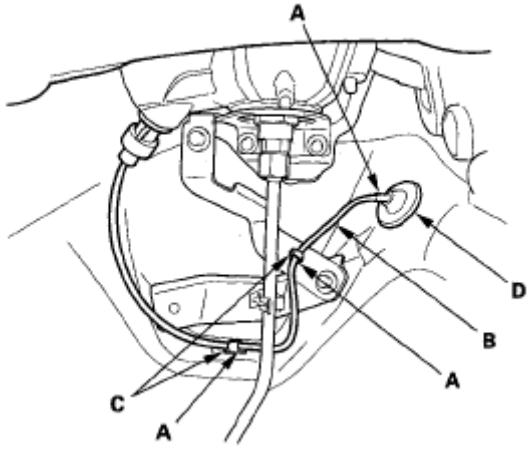



**Fig. 9: Identifying Sensor Cable With Cable Clips**

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# 2006-08 ACCESSORIES AND EQUIPMENT

## Reminder Systems - Civic (Except Hybrid)

## COMPONENT LOCATION INDEX

**NOTE: Refer to the REMINDER SYSTEMS (GX) (SUPPLEMENT) article for additional information for the GX model.**

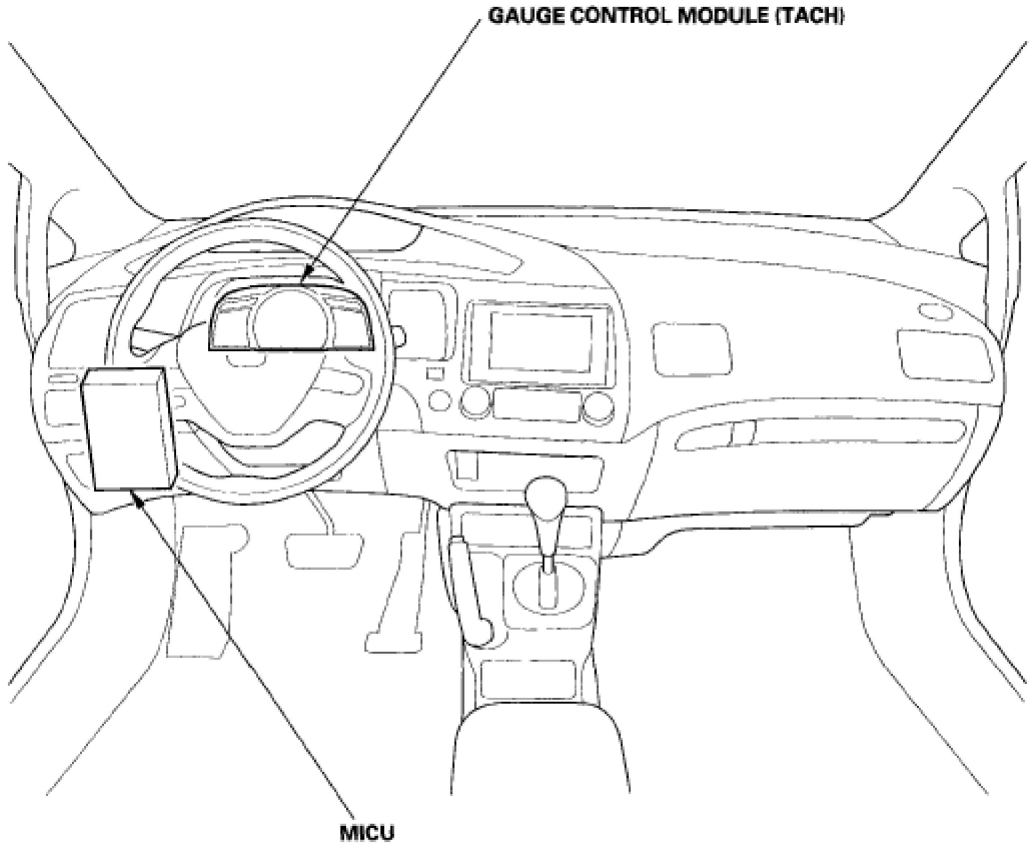



**Fig. 1: Identifying Reminder Systems Component Location**

## CIRCUIT DIAGRAM

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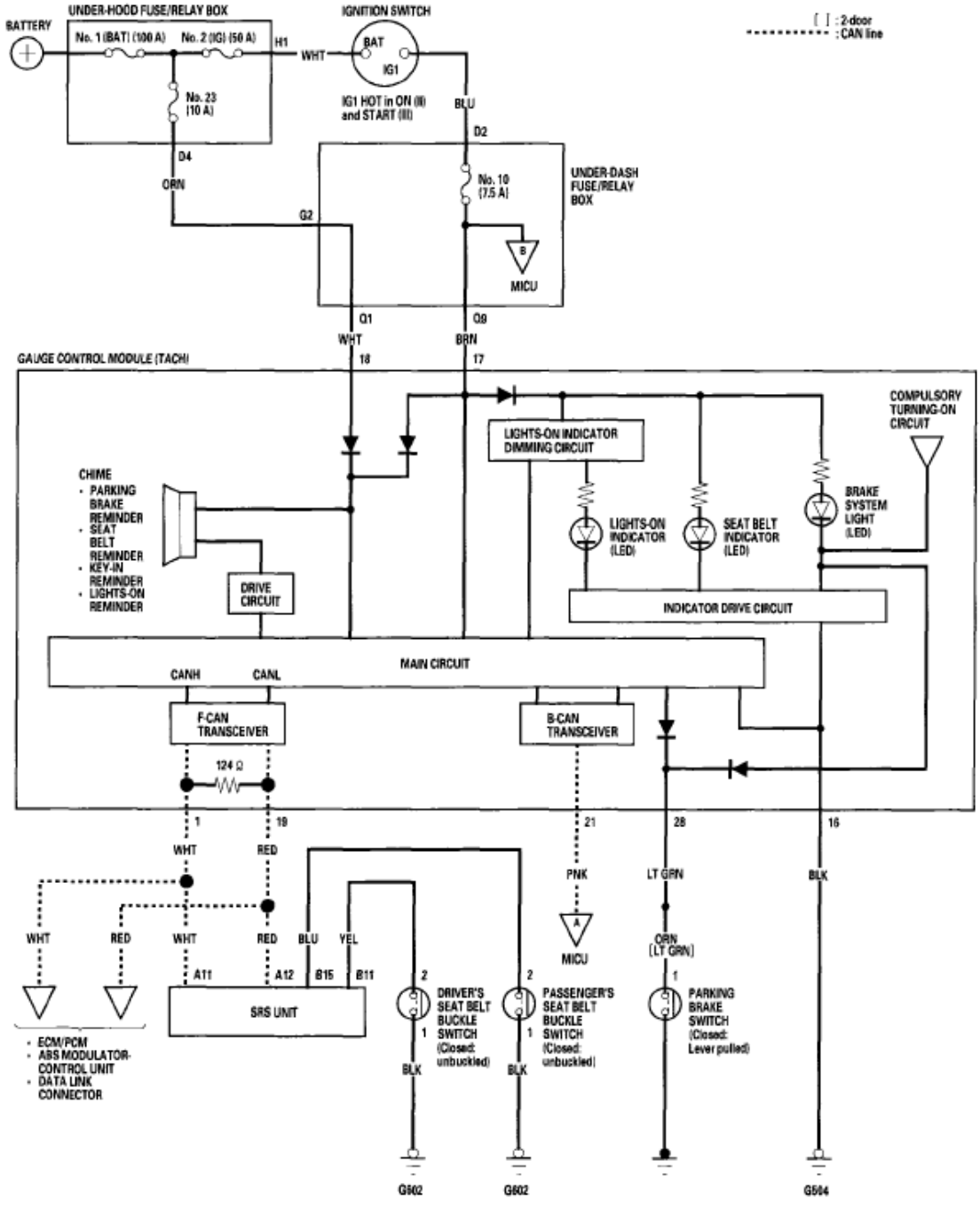
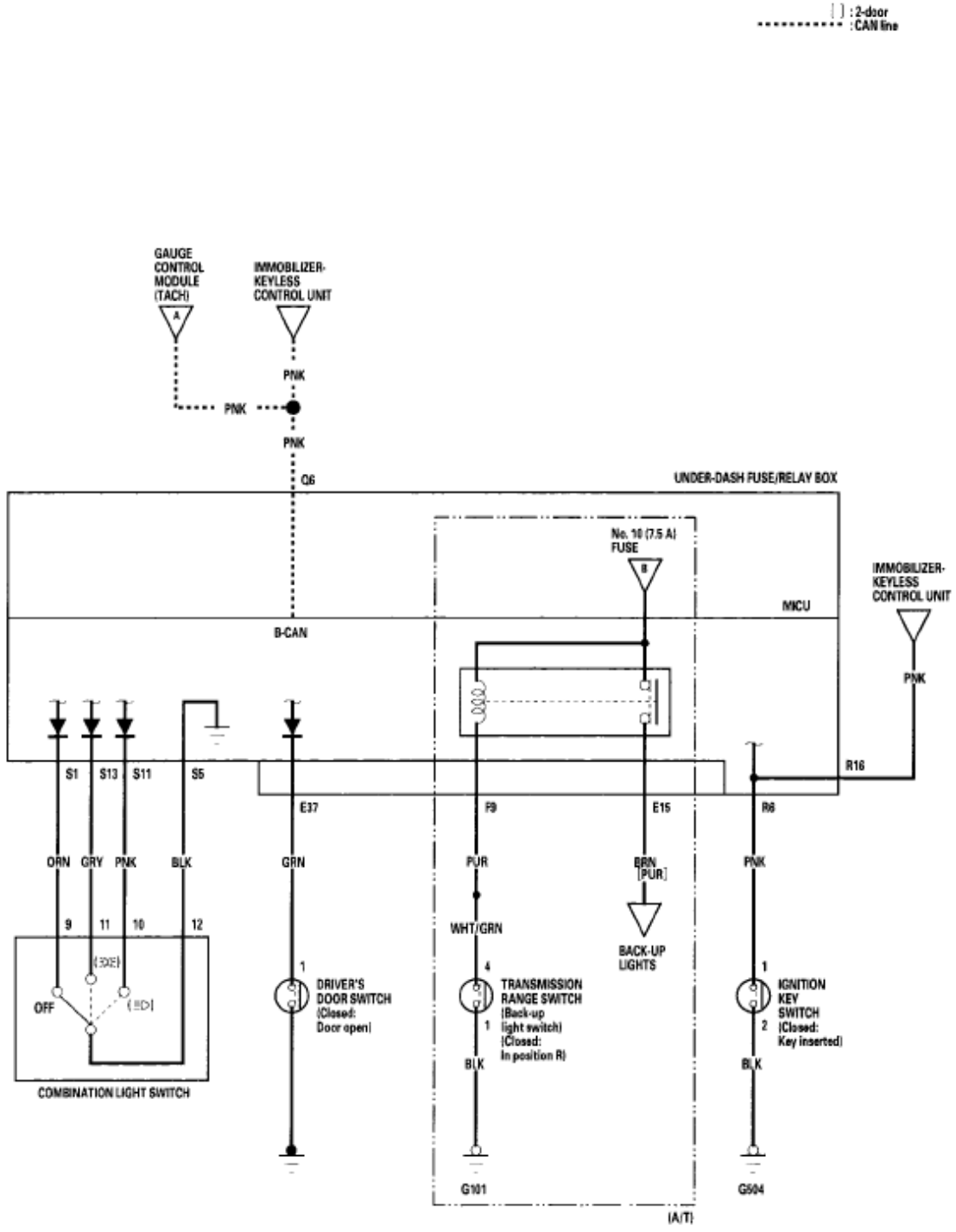



**Fig. 2: Reminder Systems - Circuit Diagram (1 Of 2)**

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## Fig. 3: Reminder Systems - Circuit Diagram (2 Of 2)

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# 2008 ACCESSORIES & EQUIPMENT

## Seat Heaters - Civic (Except GX & Hybrid)

## COMPONENT LOCATION INDEX

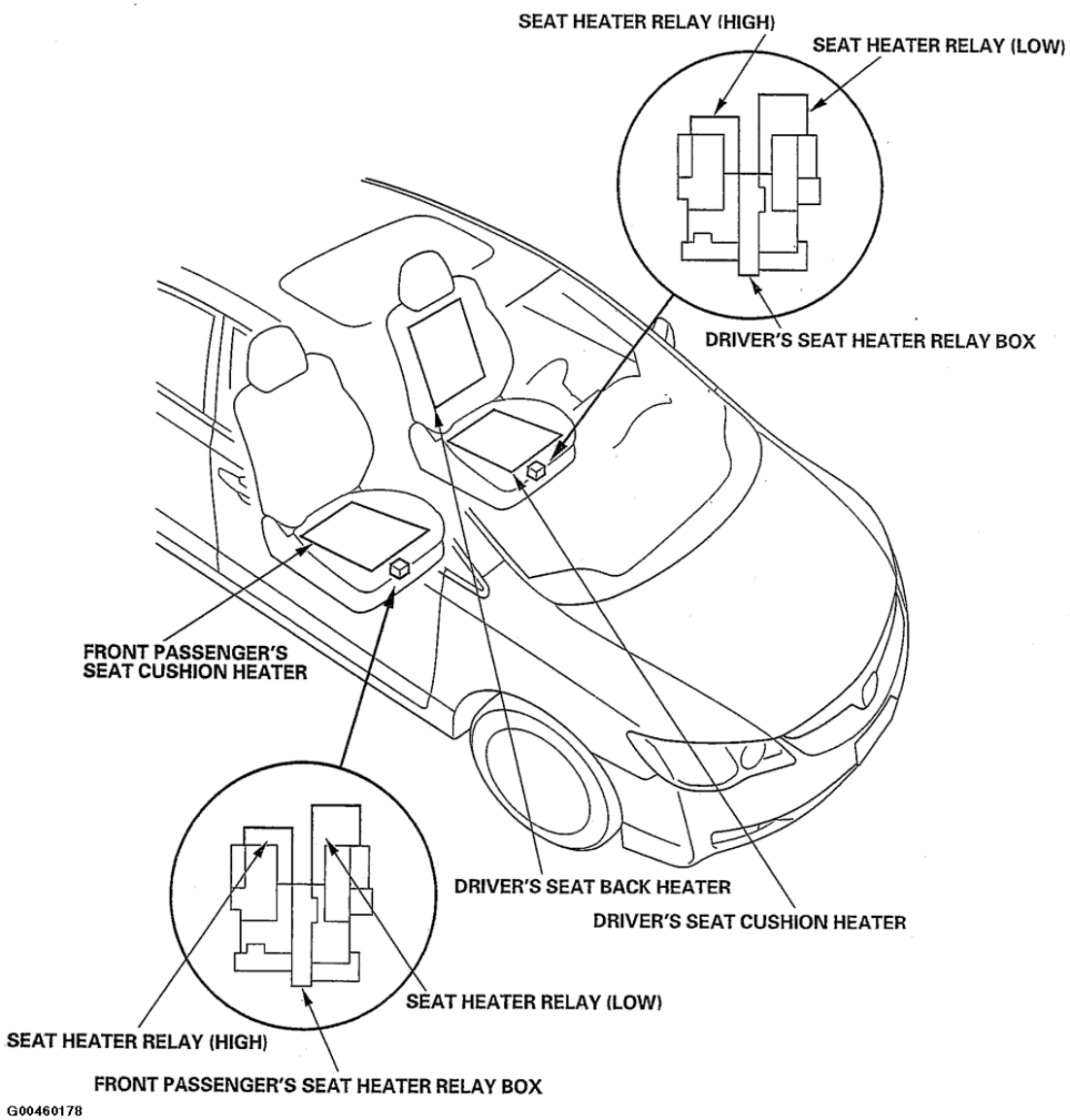



**Fig. 1: Identifying Seat Heater System Component Locations (1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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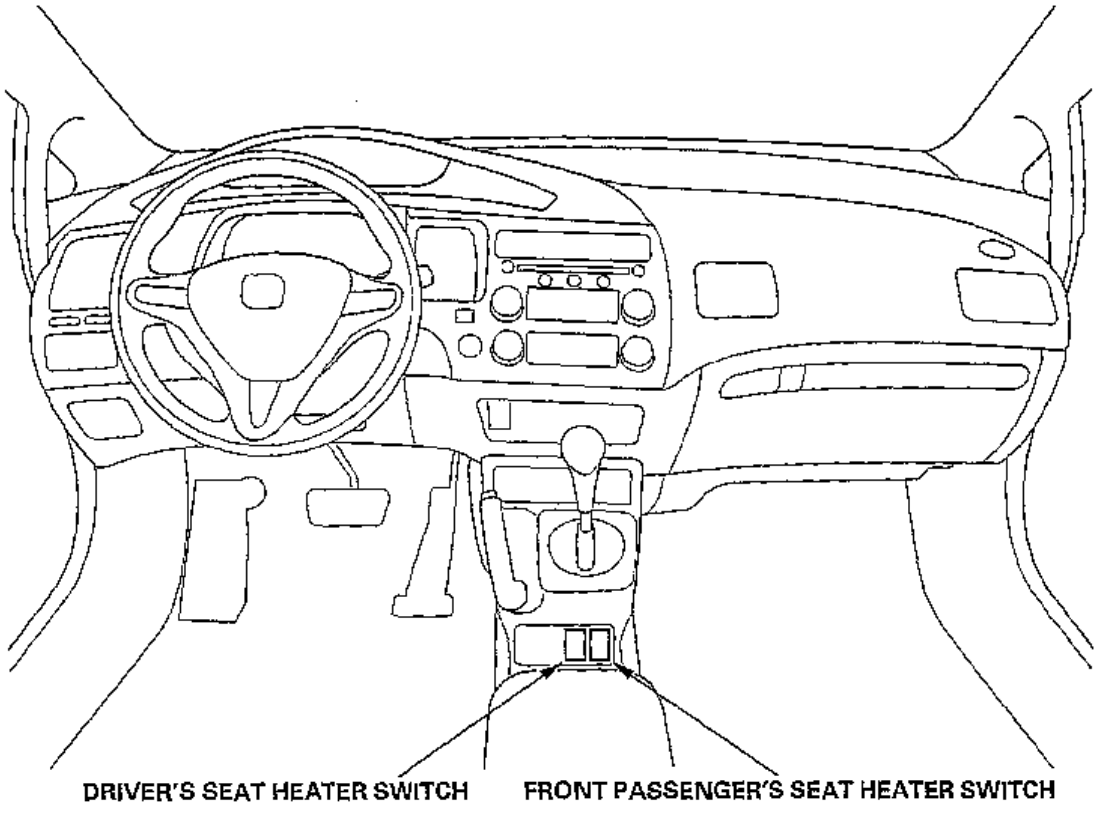



**Fig. 2: Identifying Seat Heater System Component Locations (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CIRCUIT DIAGRAM

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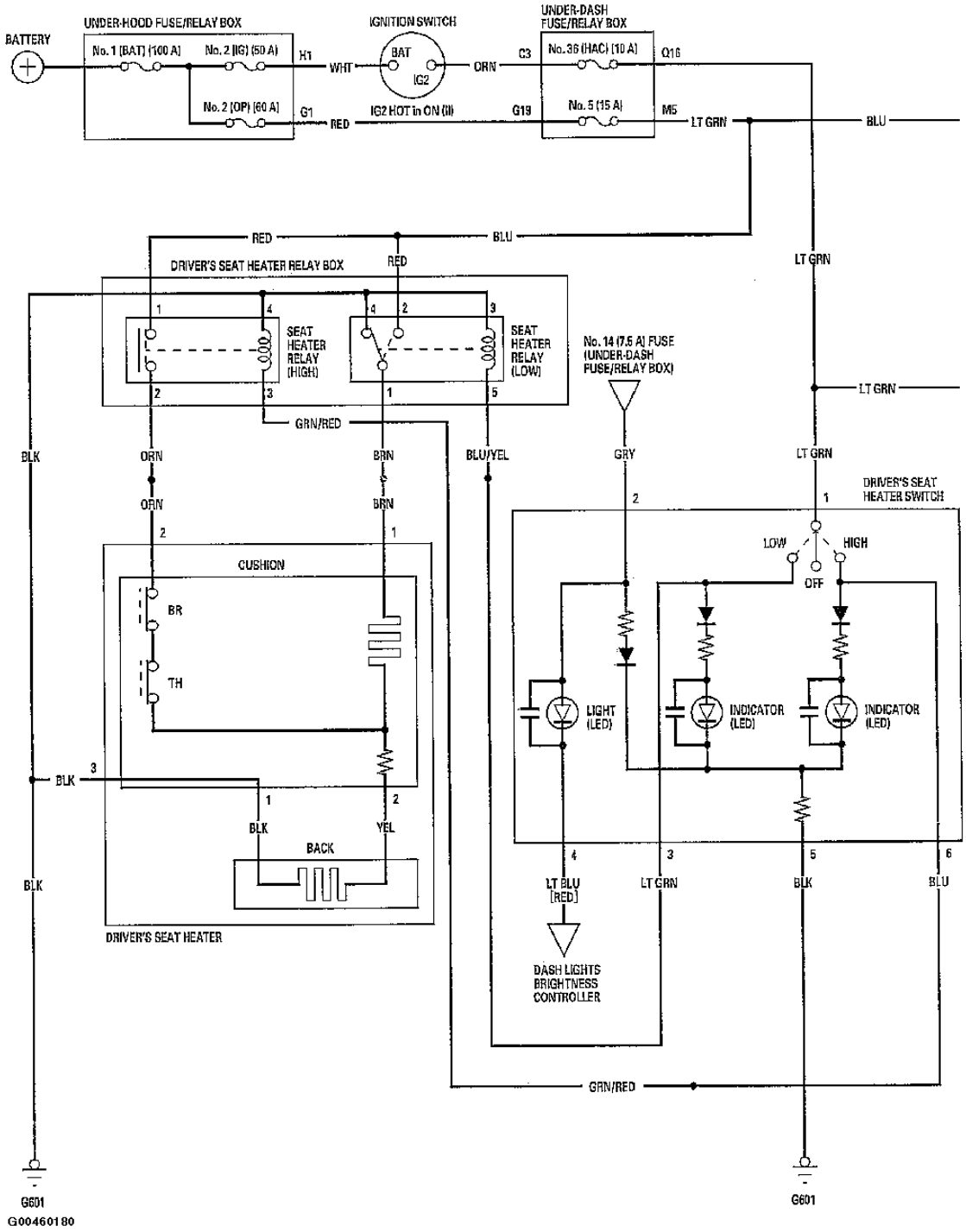



**Fig. 3: Seat Heaters Circuit Diagram (1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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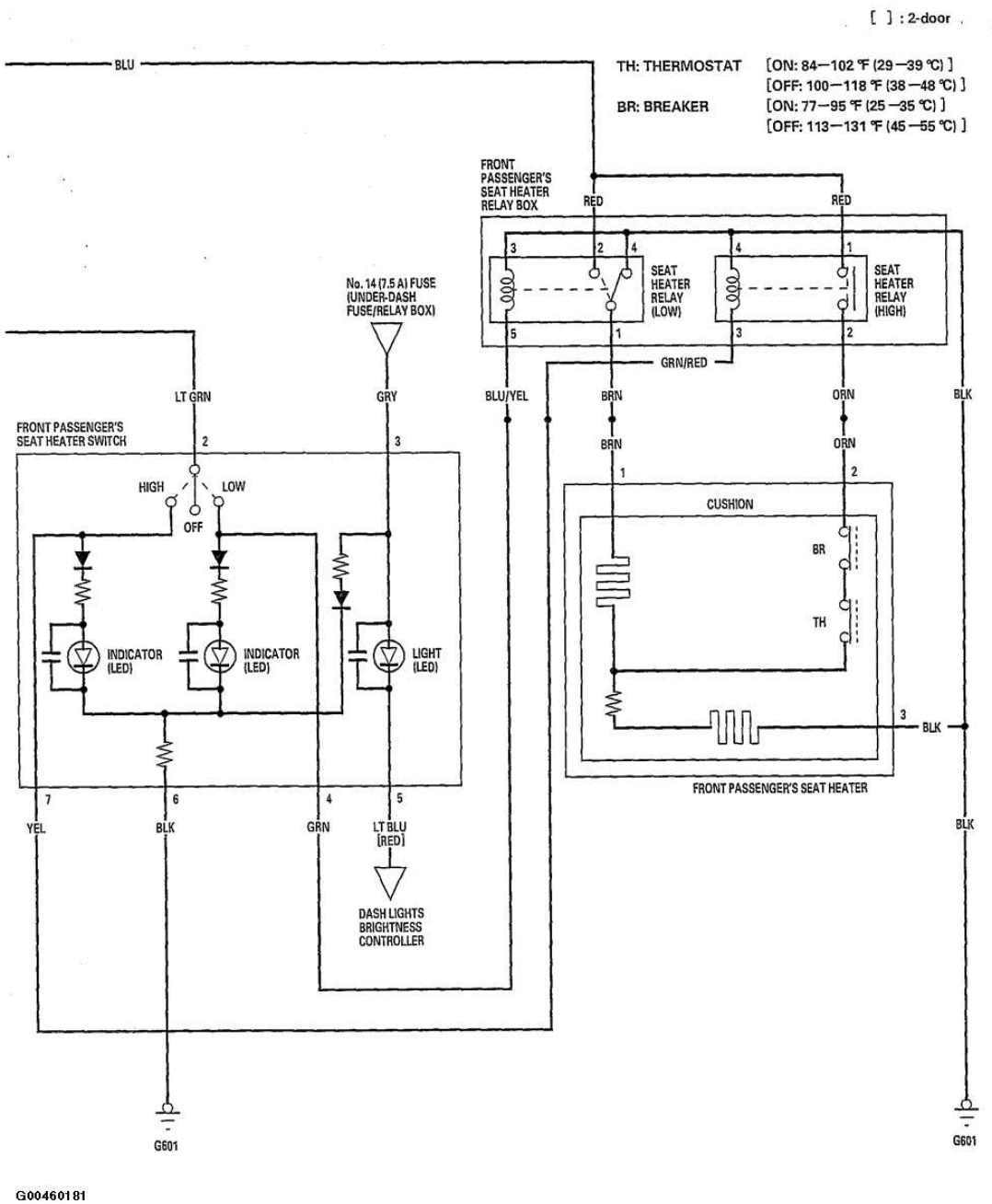



**Fig. 4: Seat Heaters Circuit Diagram (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SWITCH TEST/REPLACEMENT

1. Remove the center console front panel (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).

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2. Disconnect the 6P or 7P connector from the seat heater switch (A), then remove the switch.

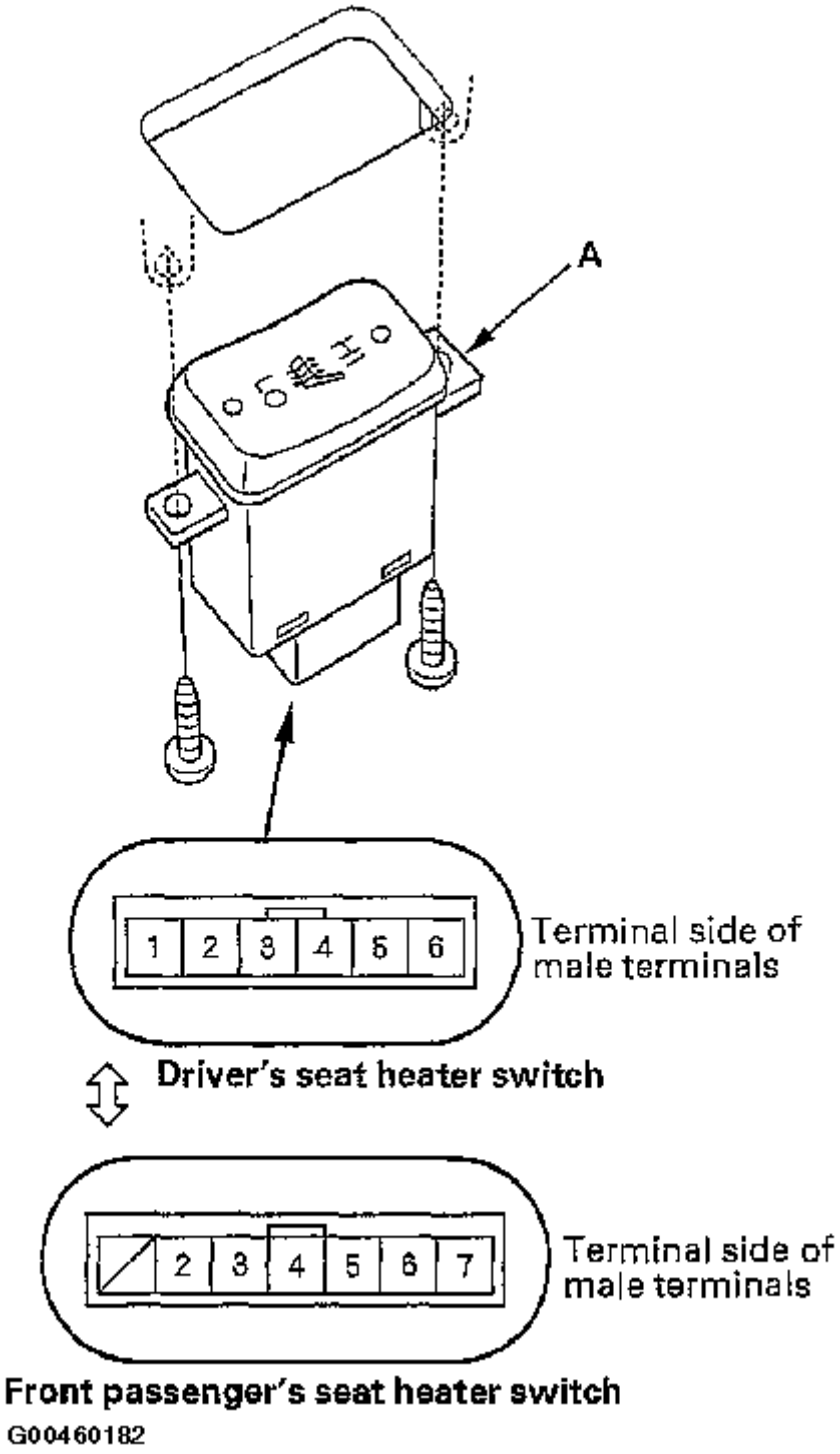



**Fig. 5: Identifying Seat Heater Switch Connector**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between the terminals in each switch position according to the table.

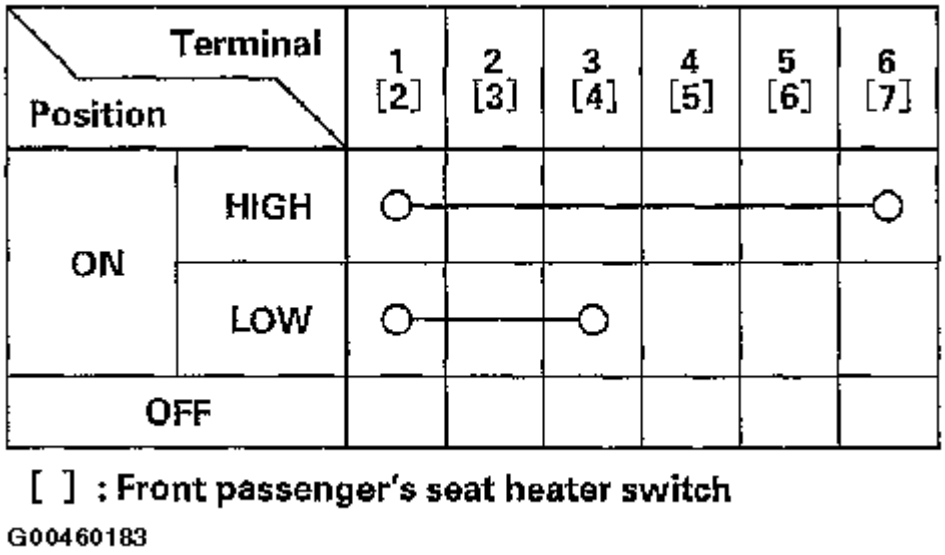



**Fig. 6: Seat Heater Switch Continuity Chart**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the continuity check is not as specified, replace the switch.

## SEAT HEATER TEST

### DRIVER'S SEAT

1. Remove the driver's seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
2. Disconnect the 3P connector (A) and 2P connector (B) from the seat heater.

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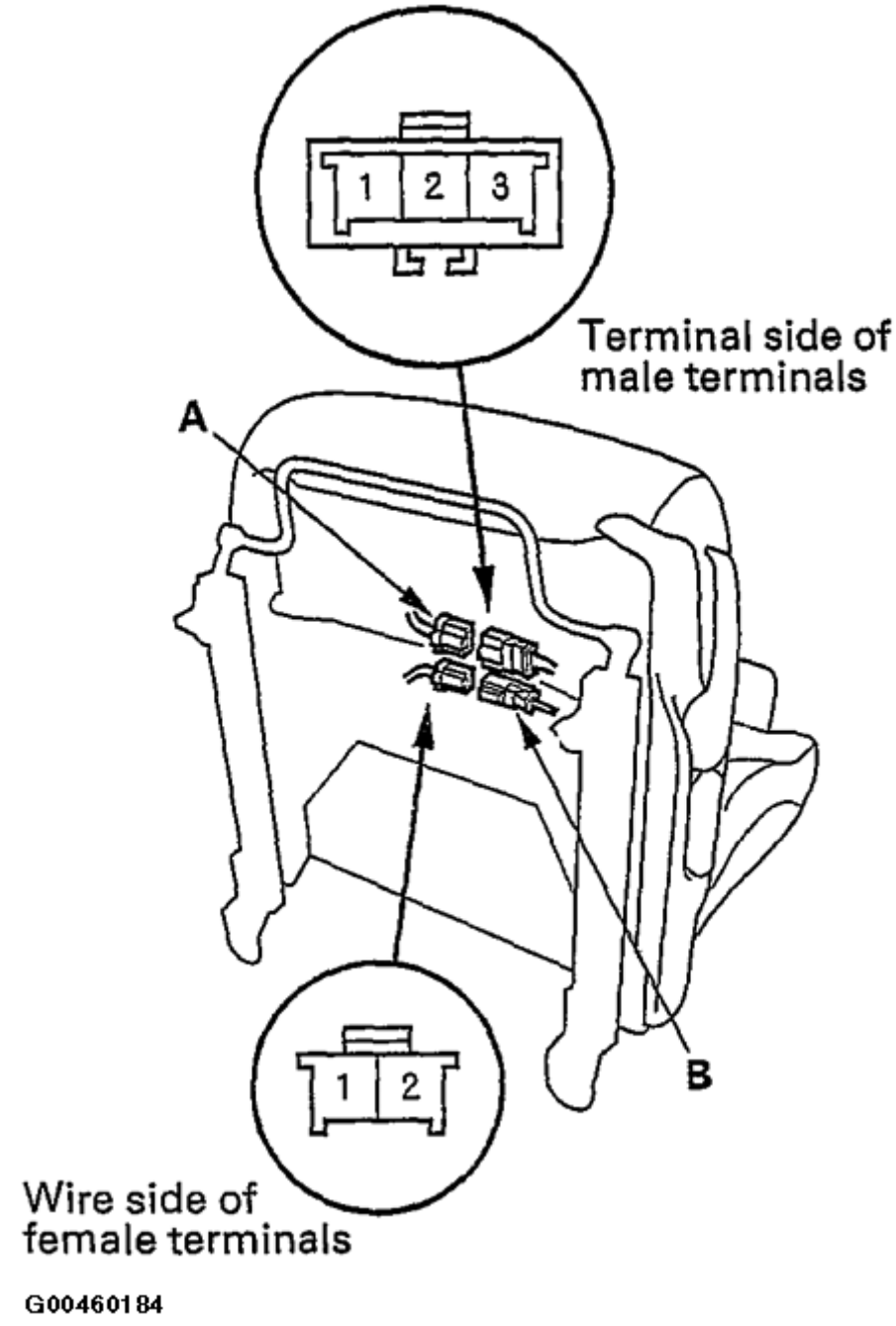



**Fig. 7: Identifying Seat Heater Connectors (Driver's Seat)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between the No. 1 and No. 2 terminals of the seat-back heater 2P connector. There should be continuity.
4. Reconnect the 2P connector.

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5. Check for continuity between the 3P connector (male terminals) No. 1 terminals and the 2P connector (female terminals) No. 2 terminal, and the 3P connector (male terminals) No. 2 and No. 3 terminals. There should be continuity.
6. If the continuity check is not as specified, replace the appropriate seat heater.

**FRONT PASSENGER'S SEAT**

1. Remove the passenger's seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
2. Disconnect the 3P connector (A) from the seat heater.

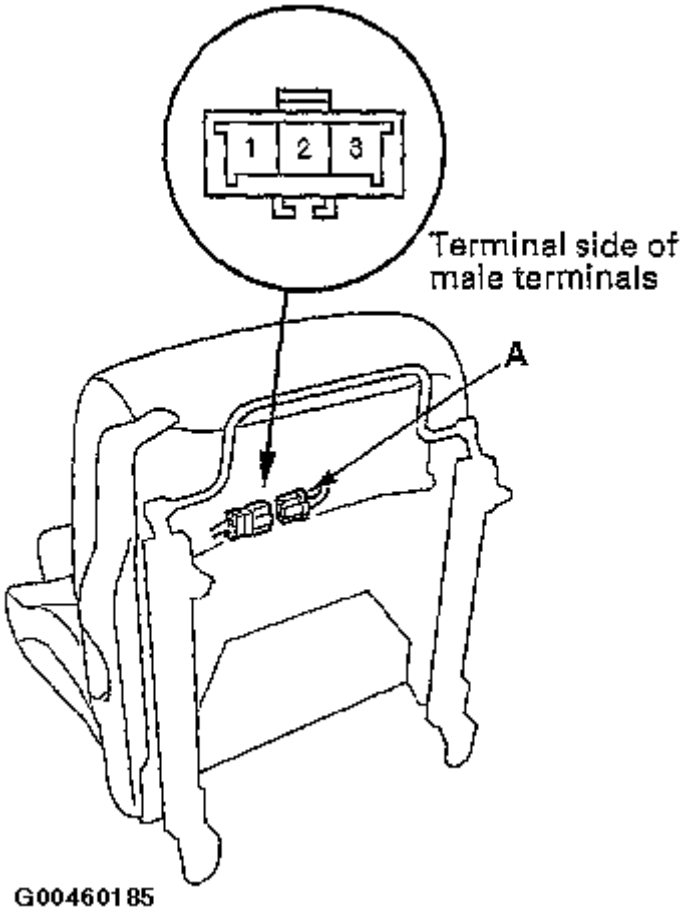



**Fig. 8: Identifying Seat Heater Connectors (Passenger's Seat)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between the 3P connector (male terminals) No. 1 and No. 2 terminals. There should be continuity.
4. If the continuity is not as specified, replace the seat heater.

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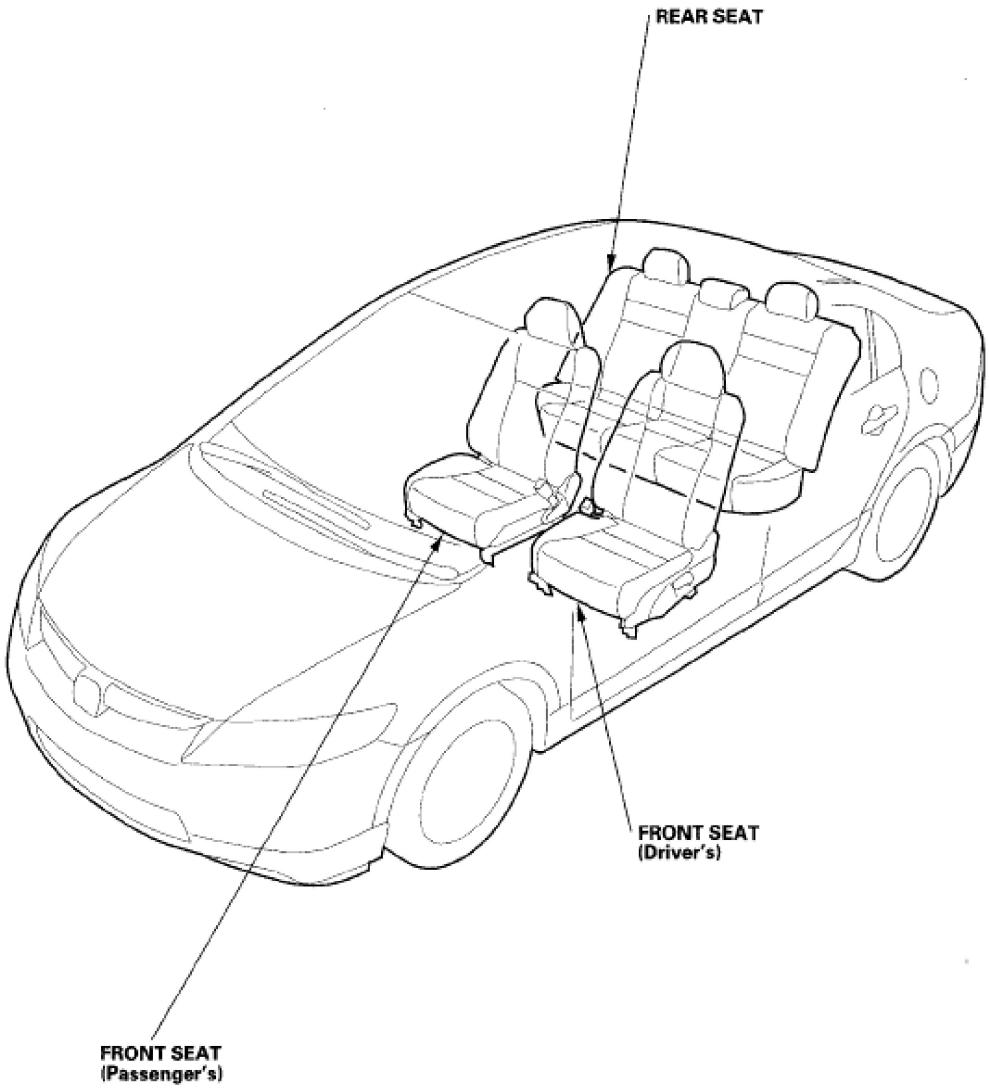


# 2006-08 ACCESSORIES AND EQUIPMENT

## Seats - Civic GX

## COMPONENT LOCATION INDEX

**NOTE: Refer to the SEATS (EXCEPT HYBRID) article for additional information that is not shown in this article.**



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## Fig. 1: Identifying Seats Component Location

## REAR SEAT REMOVAL/INSTALLATION

**NOTE: Take care not to scratch the body or tear the seat covers.**

1. Remove the bolt between the seat-back (A) and the seat cushion (B).

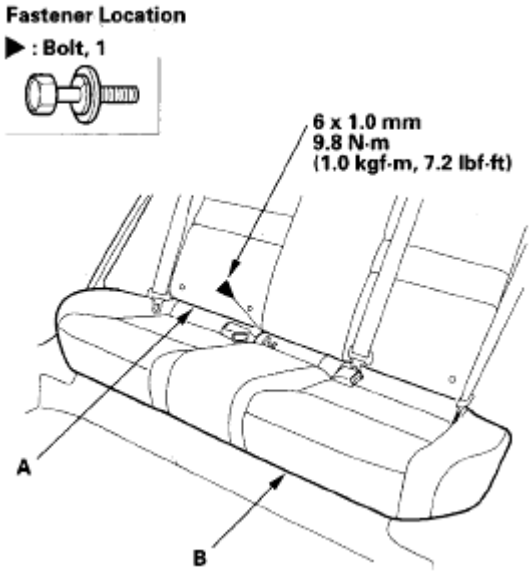



**Fig. 2: Identifying Bolt Between Seat-Back And Seat Cushion**

2. Pull each front edge of the seat cushion (A) up to release the hooks (B), then pull back the seat cushion, and remove it.

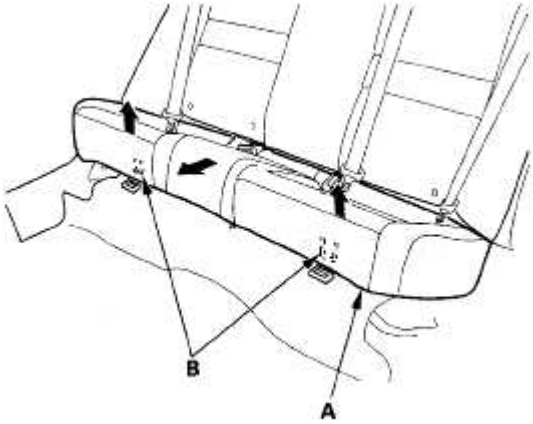



**Fig. 3: Pulling Front Edge Of Seat Cushion To Release Hooks**

3. Remove all of the head restraints.
4. Release the center seat belt (A) from the center belt guide (B).

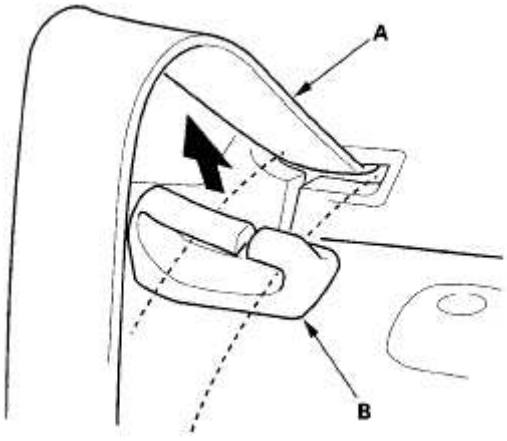



**Fig. 4: Releasing Center Seat Belt From Center Belt Guide**

5. Remove the bolts (A, B) securing the seat-back (C).

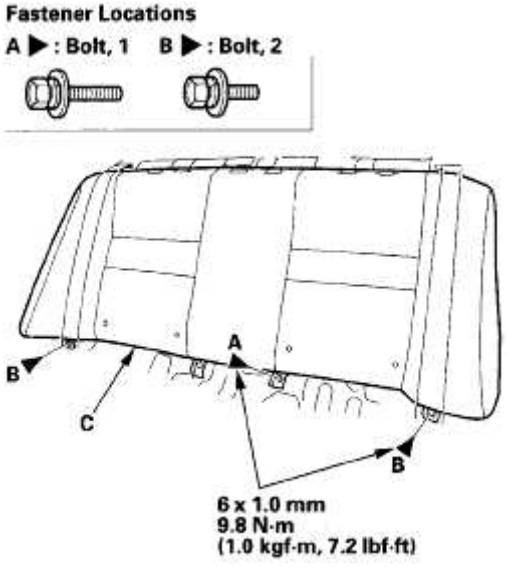



**Fig. 5: Identifying Bolts Securing Seat-Back**

6. Lift the seat-back (A) up to release the wire loops with collars (B) from the hooks (C) on the body, then remove the seat-back.

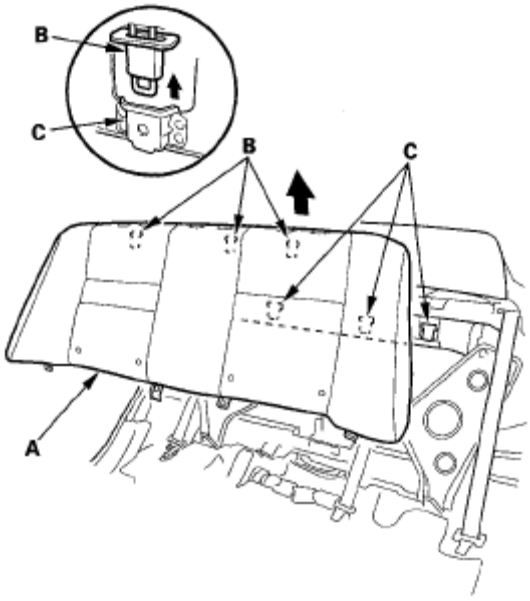



**Fig. 6: Lifting Seat-Back Up To Release Wire Loops With Collars From Hooks On Body**

7. Install the seat in the reverse order of removal, and note these items:
   - Guide the belts over the front of the seat-back as you install it.
   - Before attaching the rear seat-back and cushion, make sure there are no twists or kinks in the seat belts.
   - When installing the seat cushion, slip the seat belt buckles through the slits in the seat cushion.

## REAR SEAT-BACK COVER REPLACEMENT

**NOTE:**
- **Put on gloves to protect your hands.**
- **Take care not to tear the seams or damage the seat covers.**

1. Remove the seat-back (see **REAR SEAT REMOVAL/INSTALLATION** ).
2. Remove the screw, then remove the center belt guide (A).

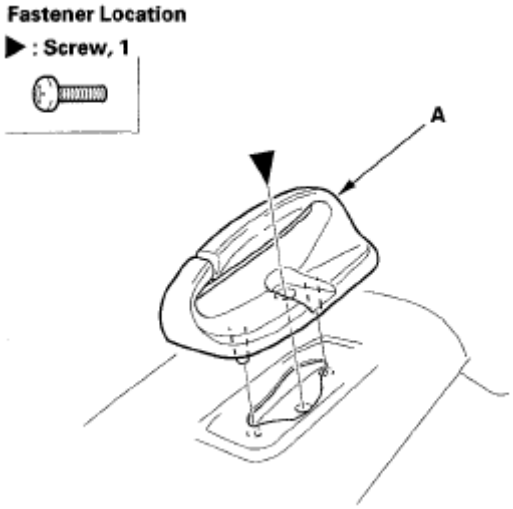



**Fig. 7: Identifying Center Belt Guide**

3. From the back of the seat-back, pass four retainers (A) through the slots in the seat-back pad, and release all the clips (B), and fold back the seat-back cover (C).

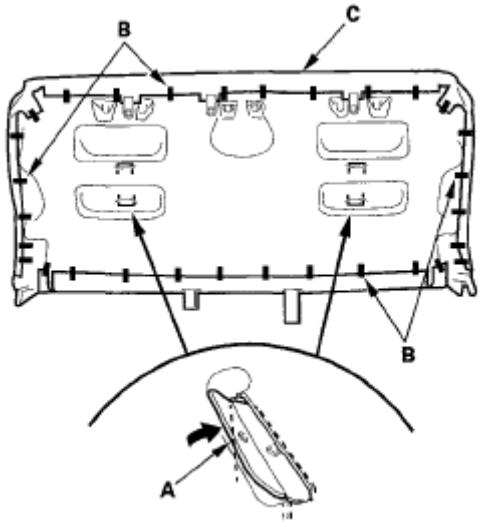



**Fig. 8: Identifying Clips, And Fold Back Seat-Back Cover**

4. Pull out the head restraint guides (A) while pinching the end of the guides, and remove them.

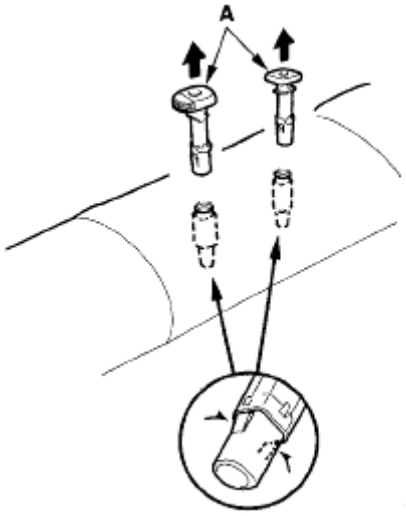



**Fig. 9: Pulling Out Head Restraint Guides And Pinching End Of Guides**

5. Pull back the edge of the seat-back cover (A) all the way around, release the clips (B), and release the hooks (C) of the horizontal wires (D) from the vertical wires (E) on the pad, then remove the seat-back cover.

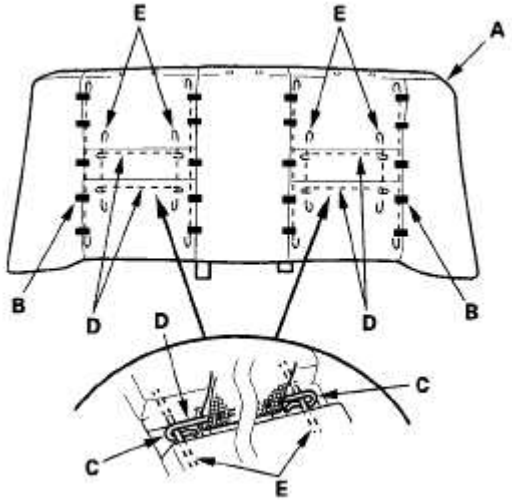



**Fig. 10: Identifying Back Edge Of Seat-Back Cover**

6. Install the cover in the reverse order of removal, and note these items:
   - To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips.
   - Replace any clips (A) you removed with new ones. Install them with commercially available upholstery ring pliers (B).

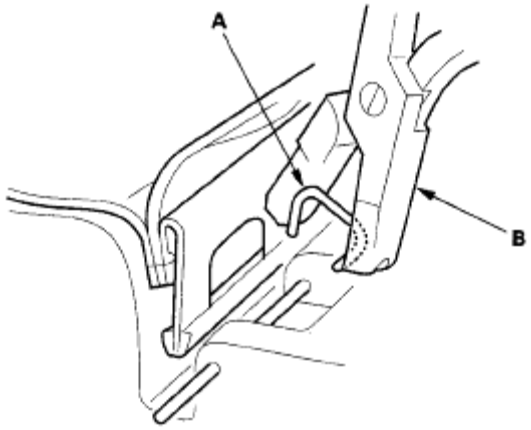



**Fig. 11: Identifying Ring Pliers And Clips**

## REAR SEAT CUSHION COVER REPLACEMENT

**NOTE:**

- **Put on gloves to protect your hands.**
- **Take care not to tear the seams or damage the seat covers.**

1. Remove the seat cushion (see **REAR SEAT REMOVAL/INSTALLATION** ).
2. From the back of the seat-back, pass both lower retainers (A) through the slots in the seat cushion pad, and release all the clips (B), and fold back the seat cushion cover.

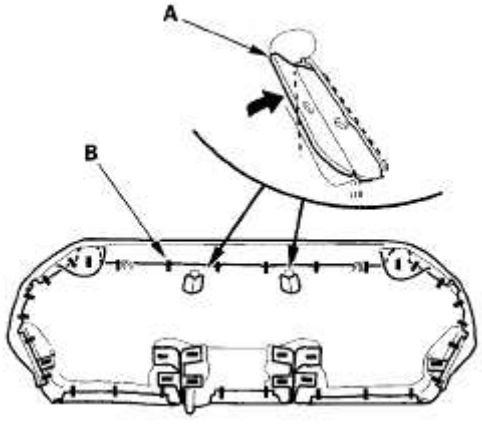



**Fig. 12: Removing Seat Cushion**

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3. Pull back the edge of the seat cushion cover all the way around, and release the clips (A), from the seat cushion cover (B) through the hole in the seat cushion pad, then remove the seat cushion cover.

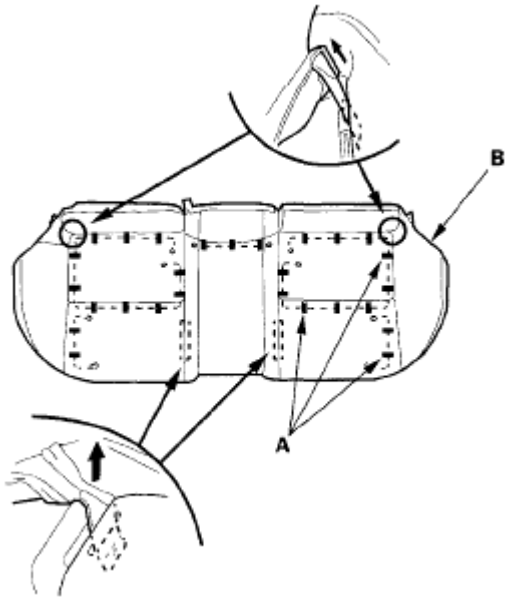
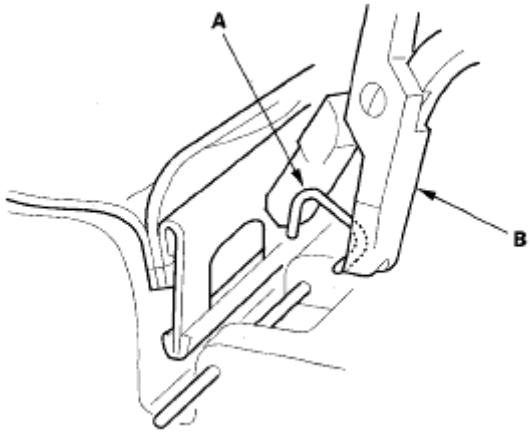



**Fig. 13: Pulling Back Edge Of Seat Cushion Cover**

4. Install the cover in the reverse order of removal, and note these items:
   - To prevent wrinkles when installing a seat cushion cover, make sure the material is stretched evenly over the pad before securing the clips.
   - Replace any clips (A) you removed with new ones. Install them with commercially available upholstery ring pliers (B).



## Fig. 14: Identifying Ring Pliers And Clips

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**2006-08 ACCESSORIES & EQUIPMENT**

**Seats - Civic (Except Hybrid)**

## COMPONENT LOCATION INDEX

**NOTE: Refer to the SEATS (GX) (SUPPLEMENT) article for additional information for the GX model.**

## 2-door

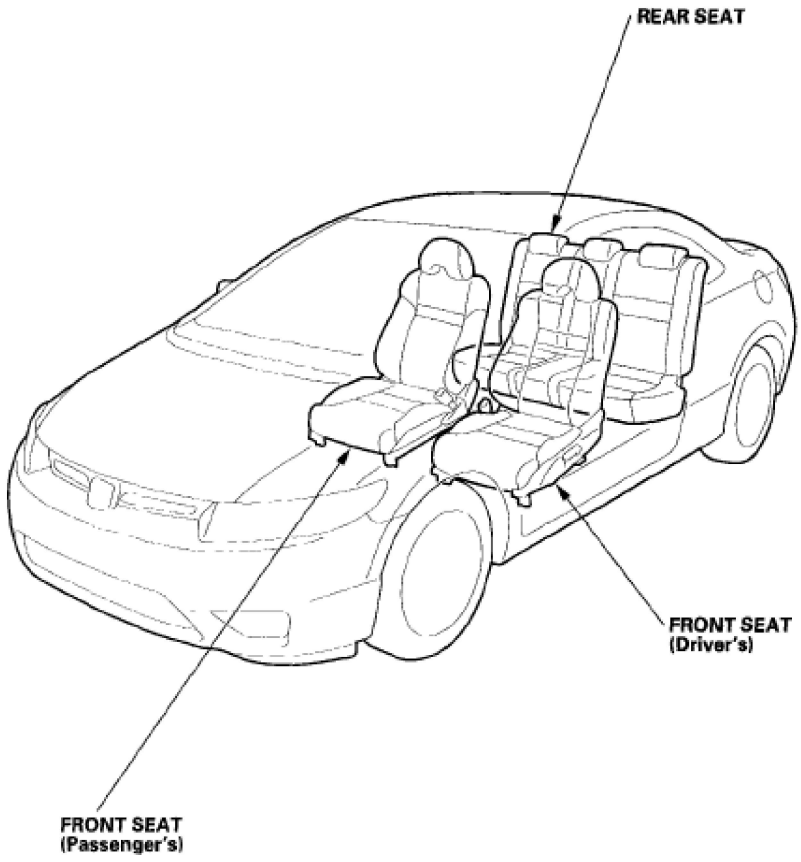



**Fig. 1: Locating Seats Component (2-Door)**

## 4-door

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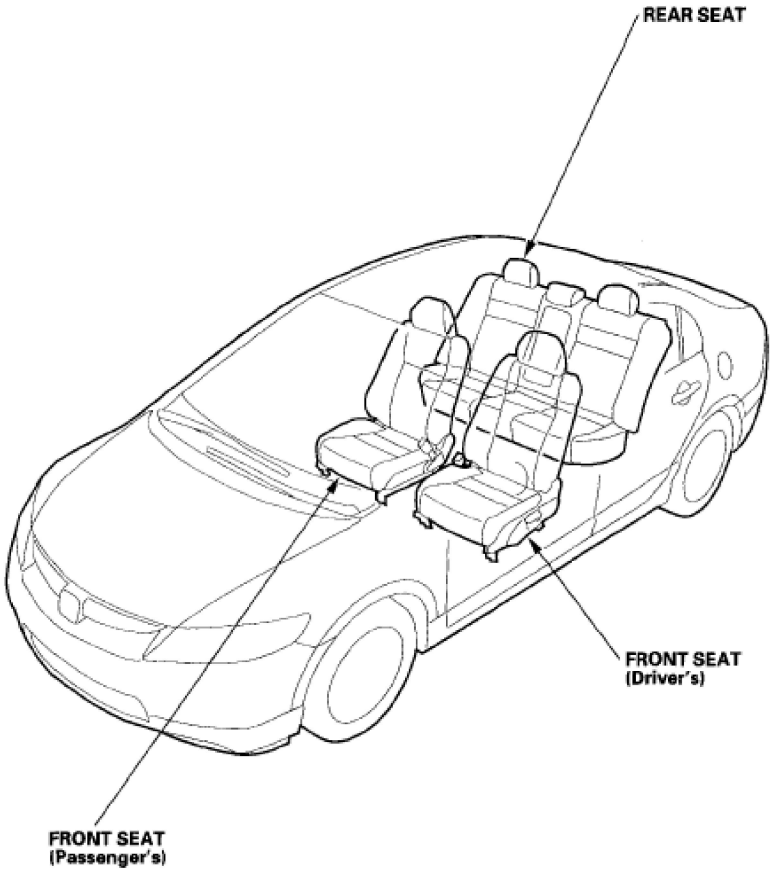



**Fig. 2: Locating Seats Component (4-Door)**

## FRONT SEAT ACTIVE HEADREST INSPECTION

**NOTE: If the vehicle has been in a collision, always inspect the active headrests, even if they appear reusable, by doing the following procedure.**

**RESETTING HEAD RESTRAINT POSITION.**

1. Push the head restraint (A) forward fully from the locked position to return the inside inertia lock (B).

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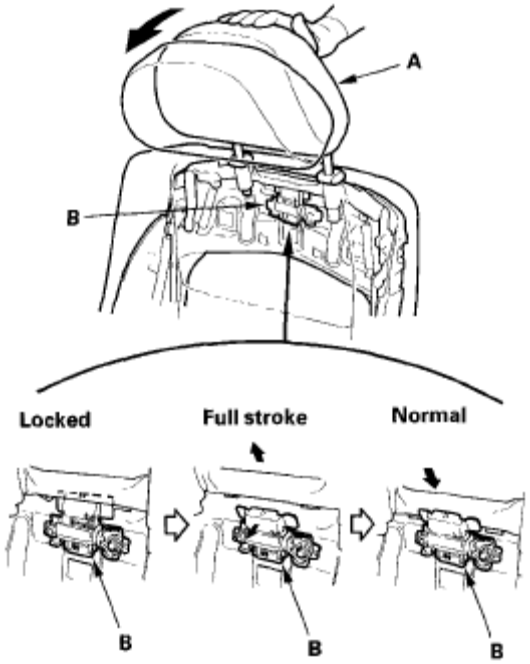



**Fig. 3: Pushing Head Restraints Forward Fully From Locked Position To Return Inside Inertia Lock**

2. Slowly raise the head restraint into the normal position.

**Inspection**

3. Fold the seat-back forward, then recline the seat-back to the first lock position, and adjust the head restraint to the highest position.
4. Apply masking tape on the top of the head restraint.
5. Make marks (A) on both sides at 250 mm (9.84 in.) upward from the roots of the head restraint frame (B) along the back of the head restraint (C) surface. Make a center of these points as a datum point (D).

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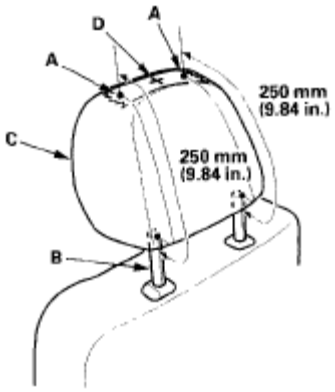



**Fig. 4: Making Center Of Points As Datum Point (With Specifications)**

6. Push the head restraint (A) forward, and check: With a scale, measure the level amount of the head restraint movement. The head restraint should move more than 50 mm (2.0 in.) without resistance. If it is less than 50 mm (2.0 in.), or the head restraint doesn't move smoothly, replace the seat-back frame assembly:
   - 2-door passenger's seat (see **PASSENGER'S SEAT - 2-DOOR** )
   - 4-door passenger's seat (see **PASSENGER'S SEAT - 4-DOOR** )
   - Driver's seat (see **DRIVER'S SEAT** )

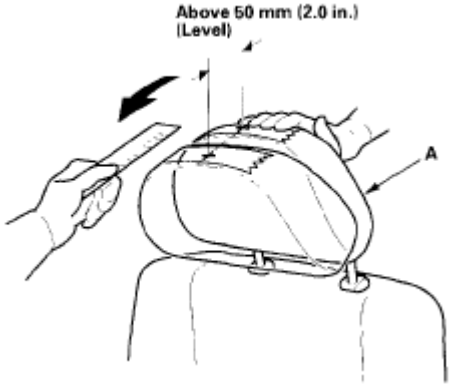



**Fig. 5: Pushing Head Restraint Forward (With Specifications)**

## FRONT SEAT REMOVAL/INSTALLATION

### Special Tools Required

KTC trim tool set SOJATP2014 *

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* Available through the American Honda Tool and Equipment Program; call 888-424-6857

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**NOTE:**

- **Put on gloves to protect your hands.**
- **When prying with a flat-tip screwdriver, wrap it with protective tape to prevent damage.**
- **Take care not to scratch the body or tear the seat covers.**
- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**

1. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets.
2. Disconnect the negative cable from the battery, and wait at lease 3 minutes before beginning work.
3. Tilt the steering wheel all the way up, and telescope it all the way in.
4. 2-door passenger's seat: Carefully insert the tip of a small screwdriver (A) through the hole in the back of the front seat belt lower anchor cover (B) and into the hole in the front seat belt lower anchor (C). Unlock the lower anchor by pushing in on the screwdriver. Remove the screwdriver, and then detach the front seat belt anchor plate (D) and anchor cover from the lower anchor.

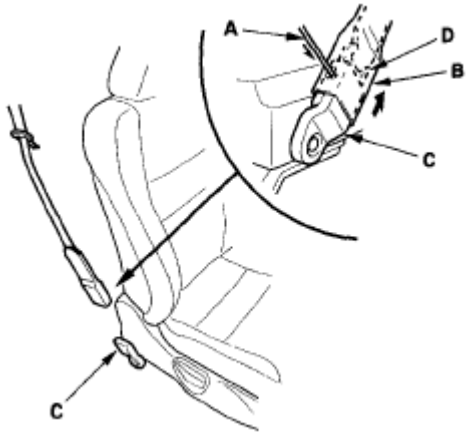



**Fig. 6: Detaching Front Seat Anchor Plate And Anchor Cover From Lower Anchor**

5. Except 2-door passenger's seat: Slide the front seat forward fully, carefully pry up on the bottom edge of the anchor cover (A) to release the hooks, and remove the cover.

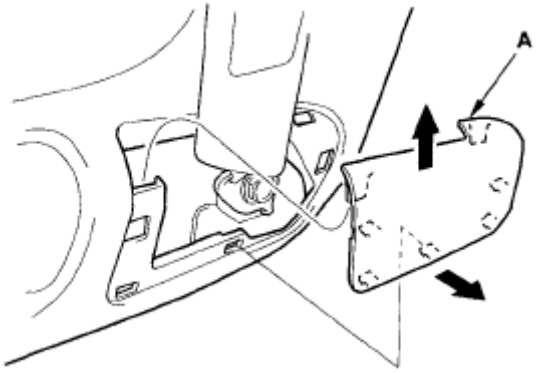



**Fig. 7: Prying Up On Bottom Edge Of Anchor Cover To Release Hooks**

6. Except 2-door passenger's seat: Remove the lower anchor bolt (A).

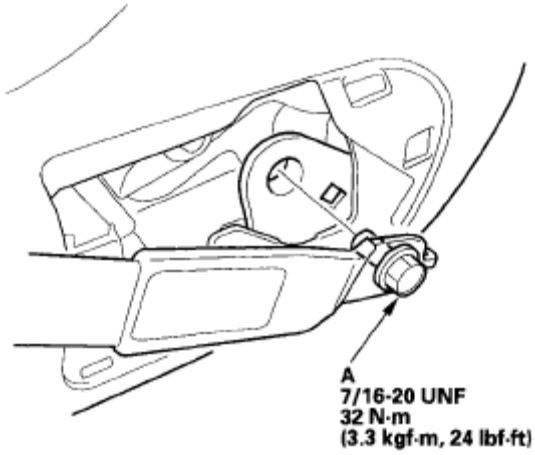



**Fig. 8: Removing Lower Anchor Bolt (With Specifications)**

7. Remove the seat track outer end covers (A) and seat track center end covers (B) from the back of both seat tracks.

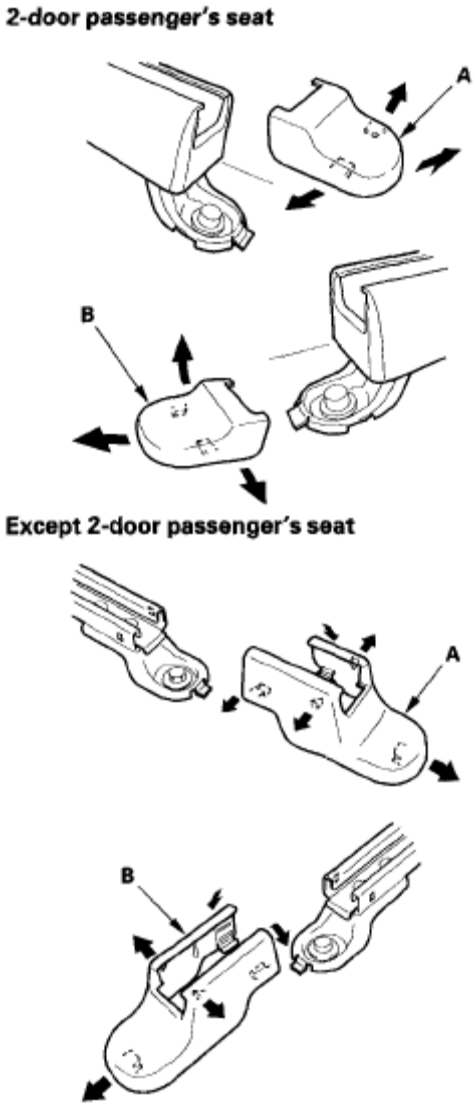



**Fig. 9: Removing Seat Track Outer End Covers And Seat Track Center End Covers**

8. Remove the bolts.

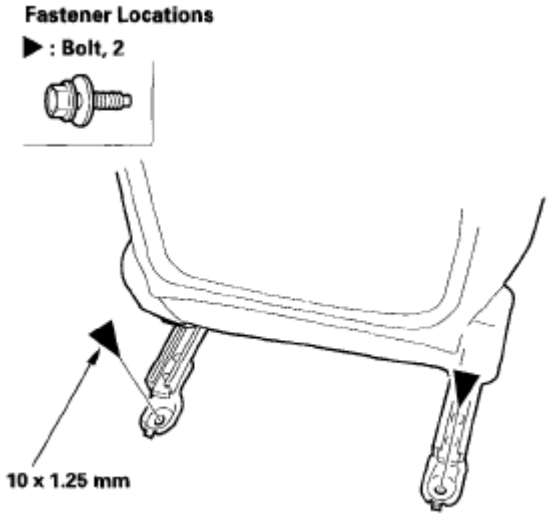



**Fig. 10: Removing Seat Tracker Bolts**

9. Slide the front seat rearward fully, and remove the bolts.

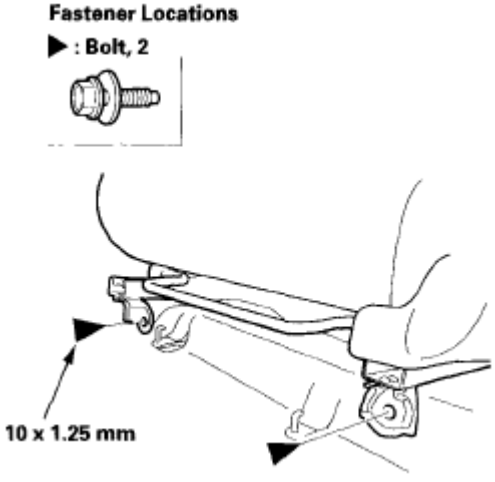
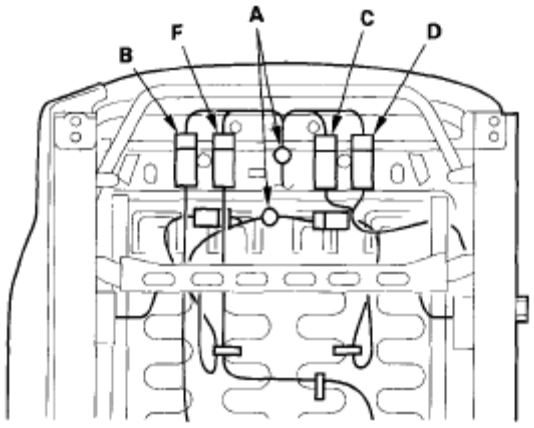


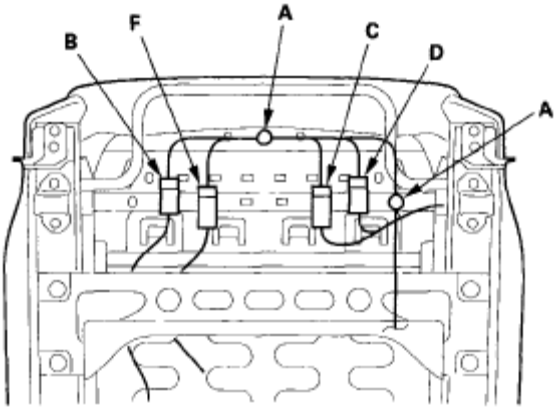

**Fig. 11: Removing Seat Tracker Bolts Sliding Front Seat Rearward Fully**

10. Lift up the front seat, then detach the harness clips (A), and disconnect the side airbag connector (B), the seat belt switch connector (C), the seat belt buckle tensioner connector (D), and the seat position sensor connector (E) on the driver's seat. On passenger's seat, disconnect the ODS subharness connector (F).

2-door passenger's seat




4-door passenger's seat




Driver's seat

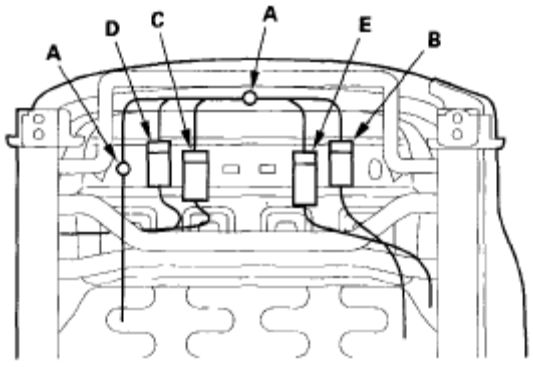



**Fig. 12: Detaching Harness Clips And Connectors**

11. With the help of an assistant, carefully remove the front seat through the front door opening.

12. Install the seat in the reverse order of removal, and note these items:
    - Apply medium strength type liquid thread lock to the seat mounting bolts before reinstallation.
    - Tighten the seat mounting bolts to the specified torque in the sequence shown. Slide the seat all the way back and tighten (1) and (2), then slide it forward and tighten (3) and (4). The driver's seat is shown; the passenger's seat is similar.
    - Tighten the bolts by hand first, then tighten them to specification with a torque wrench.
    - Make sure each connector is plugged in properly.
    - Reconnect the negative cable to the battery.
    - Enter the anti-theft code for the audio or the navigation system, then enter the audio presets.
    - Set the clock.
    - Check for any DTCs that may have been set during repairs, and clear them.

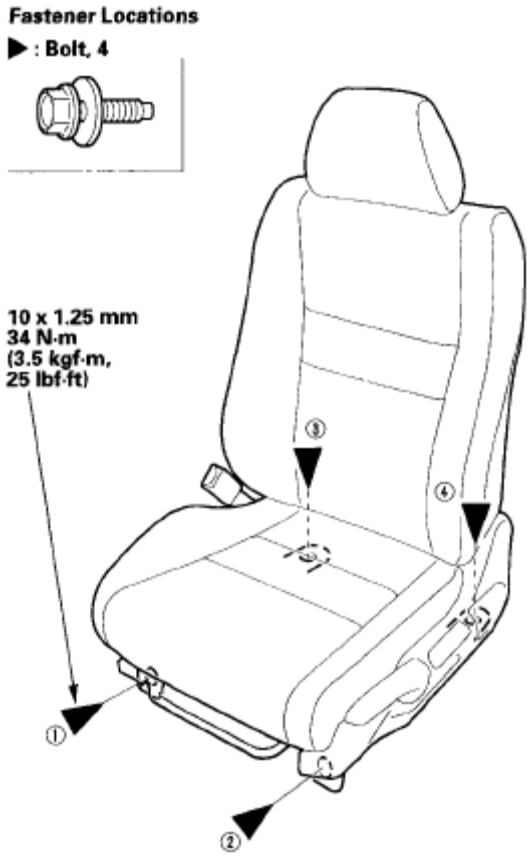



**Fig. 13: Tightening Seat Mounting Bolts In Sequence (With Specifications)**

## FRONT SEAT FRAME REPLACEMENT

**PASSENGER'S SEAT - 2-DOOR**

Calibrate the ODS unit after any of the these actions (see **ODS UNIT CALIBRATION** ):

- Front passenger's seat replacement (including any seat components)
- Replacement of the seat weight sensors
- After a vehicle collision

**NOTE:**

- **Put on gloves to protect your hands.**
- **Apply oil to the pivot portions of the slide locks.**
- **Apply multipurpose grease to the sliding portions of the**

**seat tracks.**

- **Make sure the ODS unit connectors are plugged in properly.**
- **Make sure the ODS wires are routed properly so they are not pinched and do not interfere with other parts.**
- **If the side airbag has deployed, replace the seat frame and related parts with new ones (see COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT ).**

1. Remove the front seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
2. Slide the front seat frame rearward fully, detach the clips, then remove the front rail covers (A) from the front of both seat tracks.

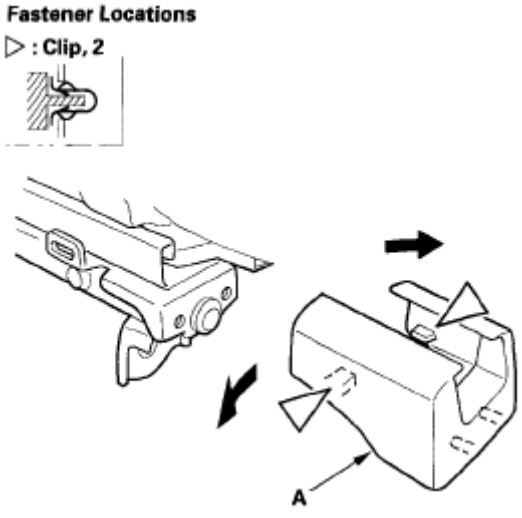



**Fig. 14: Removing Front Rail Covers From Front Of Seat Tracks**

3. Slide the front seat frame forward fully, detach the clips, then remove the left rear rail cover (A) and the right rear rail cover (B) from the back of both seat tracks.

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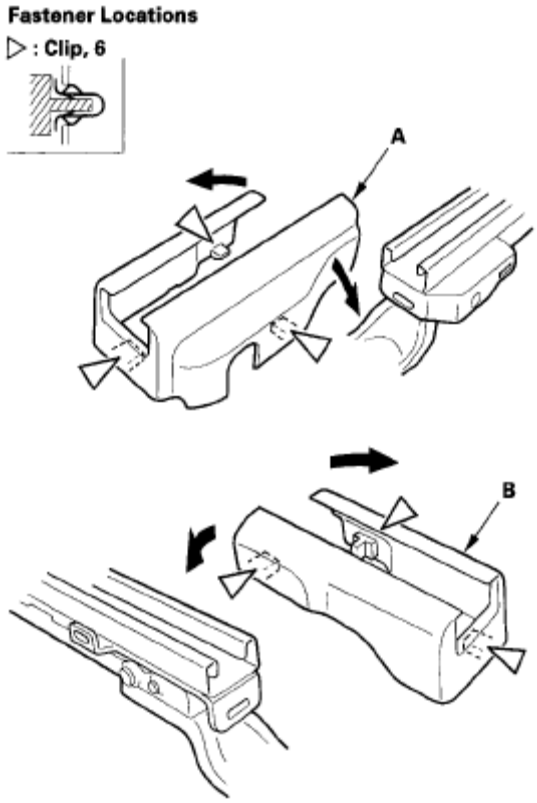



**Fig. 15: Removing Left And Right Rear Rail Cover**

4. Remove these items:
   - Front seat-back cover (see **FRONT SEAT-BACK COVER REPLACEMENT** )
   - Front seat cushion cover (see **FRONT SEAT CUSHION COVER REPLACEMENT** )
   - Seat weight sensor, both sides:
     - 2-door (see **SEAT-BACK - SPLIT FOLD DOWN - 2-DOOR** )
     - 4-door (see **SEAT-BACK - FOLD DOWN - 4-DOOR** )
   - ODS unit (see **ODS UNIT REPLACEMENT** )
5. Remove the clips, then remove the recline inner covers (A), and the side airbag module holder (B) from the seat frame (C).

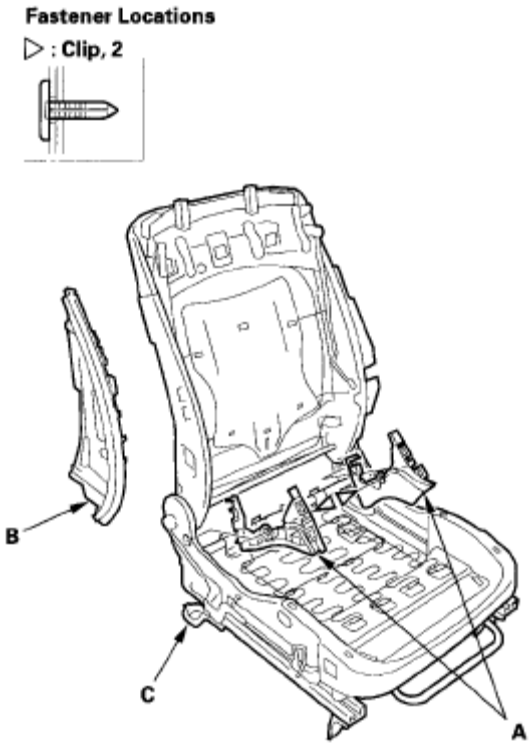



**Fig. 16: Removing Recline Inner Covers And Side Airbag Module Holder**

6. Install the new seat frame in the reverse order of removal, and note these items:
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

**PASSENGER'S SEAT - 4-DOOR**

Calibrate the ODS unit after any of the these actions (see **ODS UNIT CALIBRATION** ):

- Front passenger's seat replacement (including any seat components)
- Replacement of the seat weight sensors
- After a vehicle collision

**NOTE:**

- **Put on gloves to protect your hands.**
- **Apply oil to the pivot portions of the slide locks.**
- **Apply multipurpose grease to the sliding portions of the**

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**seat tracks.**

- **If the side airbag has deployed, replace the seat frame and related parts with new ones (see COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT ).**

1. Remove the front seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
2. Remove these items:
   - Front seat-back cover (see **FRONT SEAT-BACK COVER REPLACEMENT** )
   - Front seat cushion cover (see **FRONT SEAT CUSHION COVER REPLACEMENT** )
   - ODS unit (see **ODS UNIT REPLACEMENT** )
3. Remove the clips, then remove the recline inner covers (A) from the seat frame (B), with side airbag remove the module holder (C).

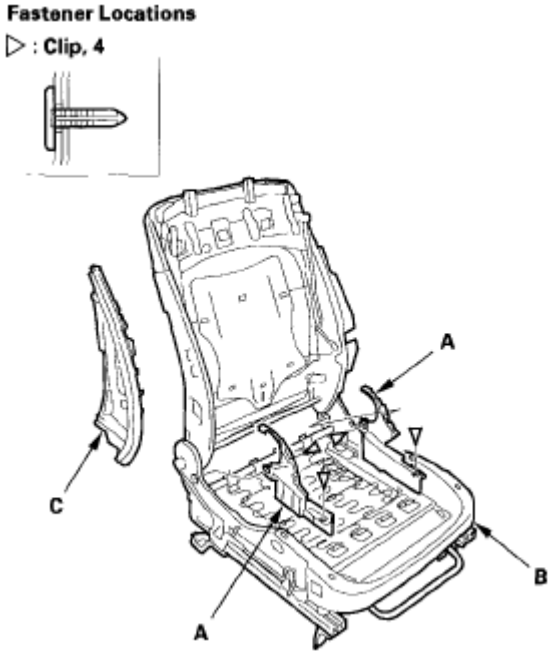



**Fig. 17: Removing Recline Inner Covers From Seat Frame**

4. Remove the bolts, and release the seat cushion springs (A) from the hooks (B), then remove the seat cushion frame (C).

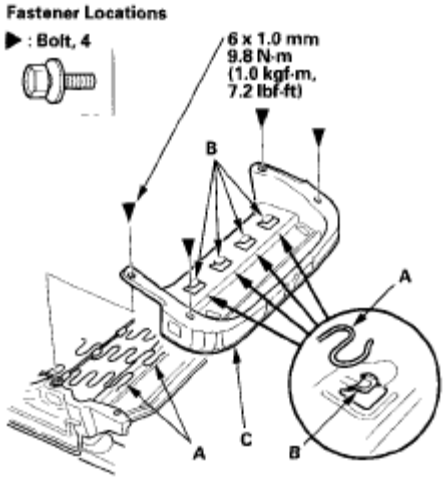



**Fig. 18: Releasing Seat Cushion Springs (With Specifications)**

5. Remove the seat weight sensors:
   - 2-door (see **2-DOOR** )
   - 4-door (see **4-DOOR** )
6. If necessary, remove the bushing (A, B) from the seat cushion frame (C).

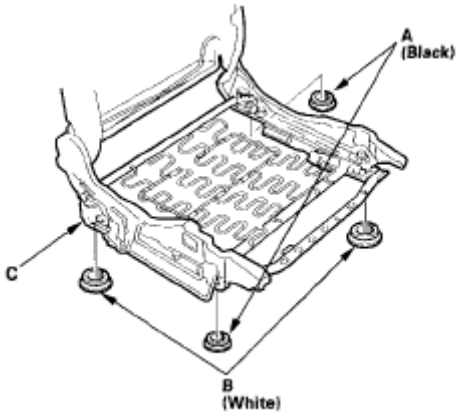



**Fig. 19: Removing Bushing From Seat Cushion Frame**

7. Install the new seat frame in the reverse order of removal, and note these items:
   - Make sure the ODS unit connector is plugged in properly.
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

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**DRIVER'S SEAT**

Check the operation of the driver's seat position sensor after any of these actions (see **DRIVER'S SEAT POSITION SENSOR OPERATION CHECK** ):

- Driver's seat position sensor replacement
- Cover plate (front side of driver's seat slide rail) replacement

**NOTE:**

- **Put on gloves to protect your hands.**
- **Apply oil to the pivot portions of the slide lock.**
- **Apply multipurpose grease to the sliding portions and pivot portions of the seat tracks.**
- **If the side airbag has deployed, replace the seat frame and related parts with new ones (see COMPONENT REPLACEMENT/INSPECTION AFTER DEPLOYMENT ).**

1. Remove the front seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
2. Remove these items:
   - Front seat back cover/pad:
     - 2-door (see **FRONT SEAT-BACK COVER REPLACEMENT** )
     - 4-door (see **FRONT SEAT-BACK COVER REPLACEMENT** )
   - Front seat cushion cover/pad:
     - 2-door (see **FRONT SEAT CUSHION COVER REPLACEMENT** )
     - 4-door (see **FRONT SEAT CUSHION COVER REPLACEMENT** )
   - Seat position sensor (see **DRIVER'S SEAT POSITION SENSOR REPLACEMENT** )
3. Remove the clips, then remove the recline inner covers (A), outer upper rail cover (B), inner upper rail cover (C) and the module holder (D) from the seat frame (E).

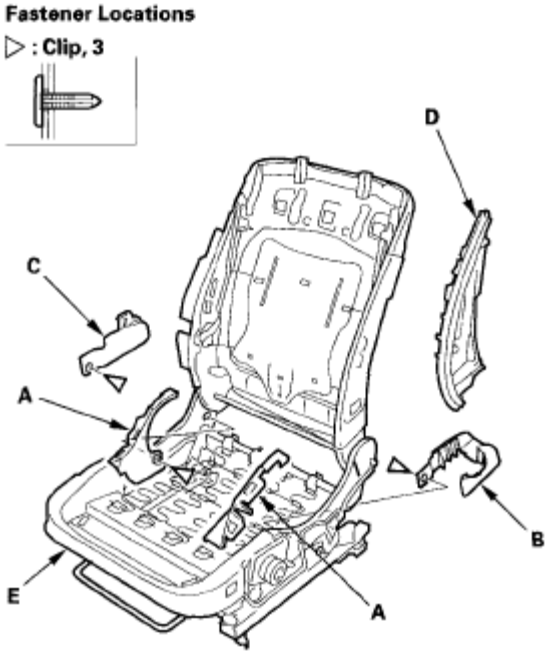



**Fig. 20: Removing Clips, Recline Inner Covers, Outer Upper Rail Cover, Inner Upper Rail Cover And Module Holder**

4. Install the new seat frame in the reverse order of removal, and note these items:
   - Make sure seat position sensor connector is plugged in properly.
   - Check if the clips are damaged or stress-whitened, and if necessary, replace them with new ones.
   - Push the clips into place securely.

## FRONT SEAT-BACK COVER REPLACEMENT

**2-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

- Check the operation of the driver's seat position sensor after any of these actions (see **DRIVER'S SEAT POSITION SENSOR OPERATION CHECK** ):

- Driver's seat position sensor replacement
- Cover plate (front side of driver's seat slide rail) replacement

- Calibrate the ODS unit after any of the these actions (see **ODS UNIT CALIBRATION** ):
  - Front passenger's seat replacement (including any seat components)
  - Replacement of the seat weight sensors
  - After a vehicle collision

**NOTE:**

- **Take care not to tear the seams of damage the seat covers.**
- **On the passenger's seat, do not touch the ODS sensor in the seat-back pad, and keep it away from oil. Oil can corrode the sensor causing it to fail.**
- **Put on gloves to protect your hands.**

1. Remove the front seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
2. Remove the head restraint.
3. From under the seat cushion, disconnect and detach the side airbag connector (A).

**Passenger's seat A**

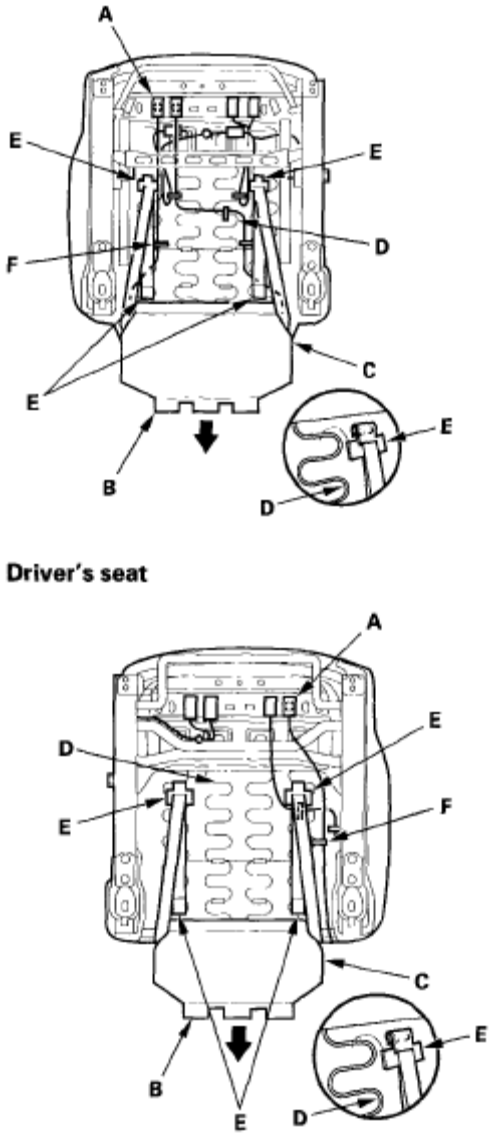



**Fig. 21: Disconnecting And Detaching Side Airbag Connector**

4. Release the hook (B) and seat cushion cover (C) from the seat cushion frame spring (D), then pull the cover back and release the hooks (E). Remove the wire ties (F).
5. Detach the clips and hooks (A) by pulling the bottom of the back cover (B) back, then gently pull down the cover to release the hooks (C) from the seat frame, and remove the panel.

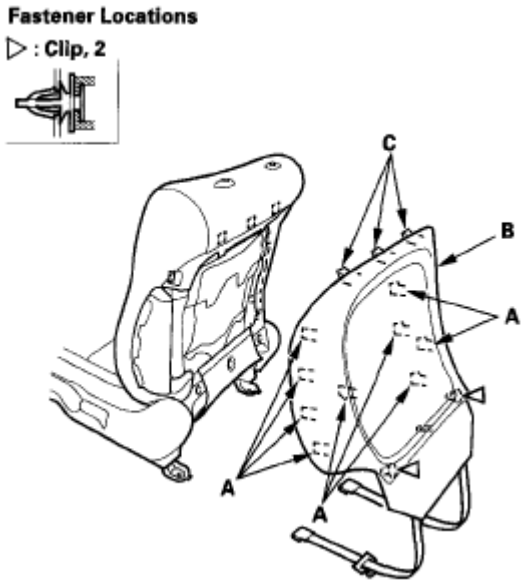



**Fig. 22: Detaching Clips And Hooks By Pulling Bottom Of Back Cover**

6. Release the hook strips (A), then loosen the seat-back cover (B). Pull the side airbag harness (C) with harness guides (D) out through holes in the seat cushion cover (E). Passenger's seat is shown; driver's seat is similar.

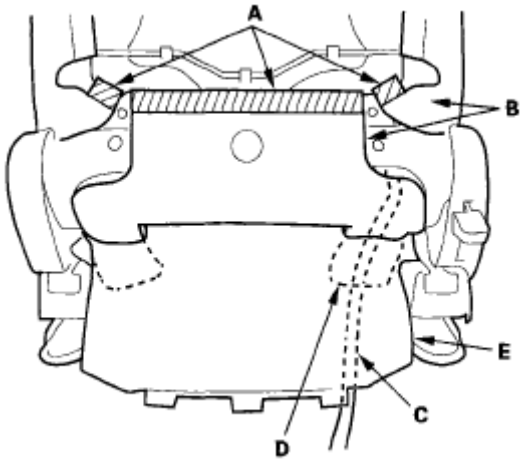



**Fig. 23: Releasing Hook Strips And Loosening Seat-Back Cover**

7. Detach the harness clip (A), and pull the side airbag harness (B) out through the harness hole (C) in the seat-back cover and seat frame. Passenger's seat is shown; driver's seat is similar.

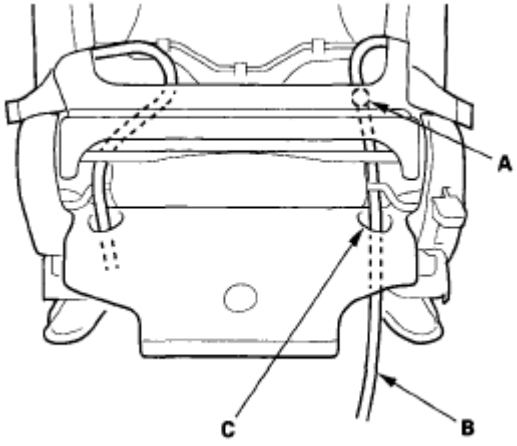



**Fig. 24: Detaching Harness Clip And Pulling Side Airbag Harness Out Through Harness Hole In Seat-Back Cover And Seat Frame**

8. Remove the side airbag (see **SIDE AIRBAG REPLACEMENT** ).
9. Release the hook strips (A), then loosen the seat-back cover (B). Driver's seat is shown; passenger's seat is similar.

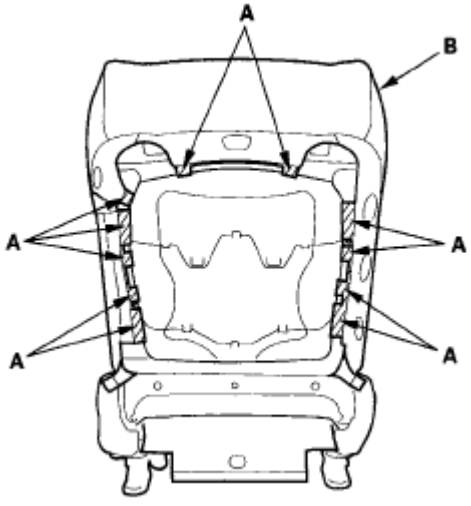



**Fig. 25: Releasing Hook Strips And Loosening Seat-Back Cover**

10. Turn over the reinforcing cloth (A), then release the hooks (B) from the side airbag module holder (C). Passenger's seat is shown; driver's seat is similar.

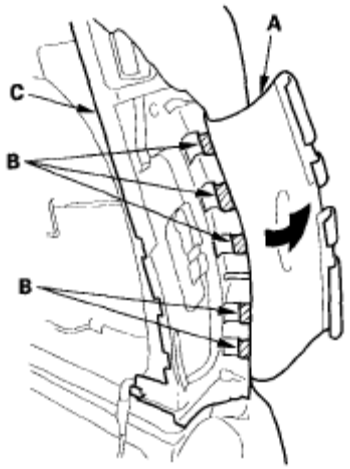



**Fig. 26: Releasing Hooks From Side Airbag Module Holder**

11. Passenger's seat: Disconnect the ODS sensor connectors (A) and ODS subharness connector (B) from the ODS unit (C), and pull them out through the hole in the seat frame. Pull the ODS subharness (D) out through the harness hole (E) in the seat-back cover (F). Detach the harness clips (G) and remove the wire tie (H).

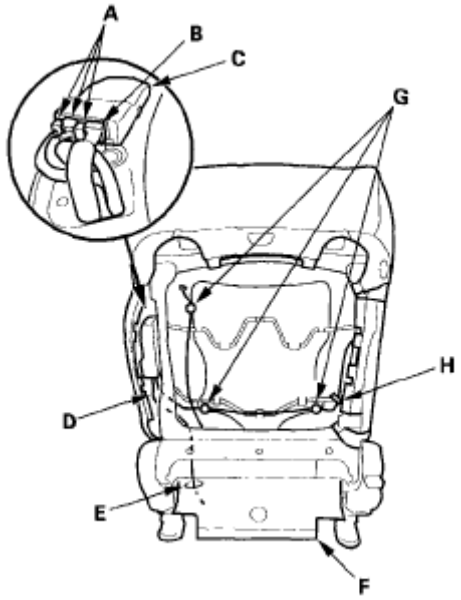



**Fig. 27: Disconnecting ODS Sensor Connector And ODS Subharness Connector From ODS Unit**

12. Pinch the tabs on the ends of the head restraint guides (A), and remove them

from the seat-back.

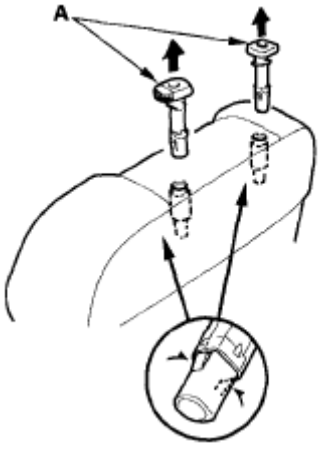



**Fig. 28: Pinching Tabs On Ends Of Head Restraint Guides**

13. Remove the seat-back cover/pad (A) from the seat (B).

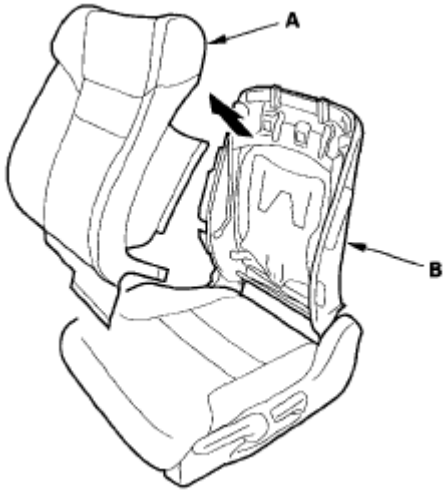



**Fig. 29: Removing Seat-Back Cover/Pad From Seat**

14. Pull back the edge of the seat-back cover all the way around, and release the clips (A), then remove the seat-back cover.

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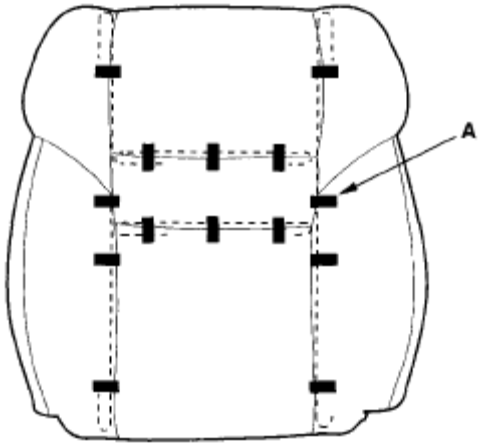



**Fig. 30: Releasing Clips**

15. Install the cover in the reverse order of removal, and note these items:
    - Reinitialize the ODS unit (see **ODS UNIT INITIALIZATION** ).
    - To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips, hooks, and hook strips.
    - Replace any clips you removed with new ones (A). Install them with commercially available upholstery ring pliers (B).
    - Before installing the side airbag (C), make sure the reinforcing cloth (D) is fixed on the seat-back frame (E) securely.
    - Make sure the side airbag harness and ODS subharness (passenger's seat) are routed properly.

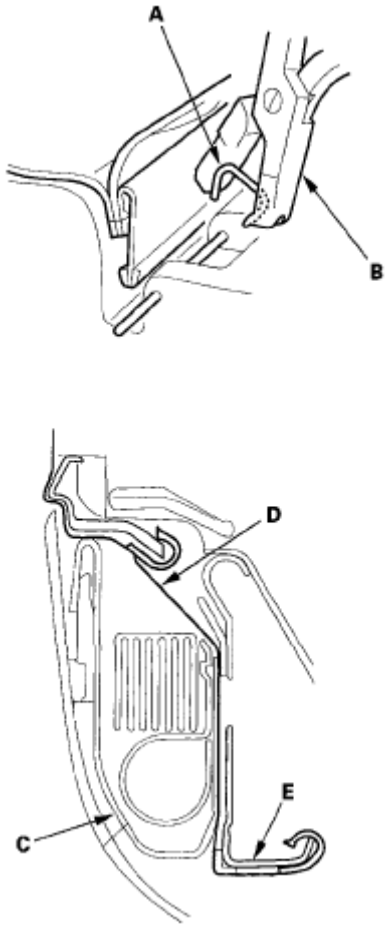



**Fig. 31: Installing Front Seat-Back Cover (2-Door)**

**4-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

- Check the operation of the driver's seat position sensor after any of these actions (see **DRIVER'S SEAT POSITION SENSOR OPERATION CHECK** ):
  - Driver's seat position sensor replacement
  - Cover plate (front side of driver's seat slide rail) replacement
- Calibrate the ODS unit after any of the these actions (see **ODS UNIT CALIBRATION** ):

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- Front passenger's seat replacement (including any seat components)
- Replacement of the seat weight sensors
- After a vehicle collision

**NOTE:**

- **Take care not to tear the seams or damage the seat covers.**
- **On the passenger's seat, do not touch the ODS sensor in the seat-back pad, and keep it away from oil. Oil can corrode the sensor caution it to fail.**
- **Put on gloves to protect your hands.**

1. Remove the front seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
2. Remove the head restraint.
3. From under the seat cushion, detach the side airbag connector clip (A).

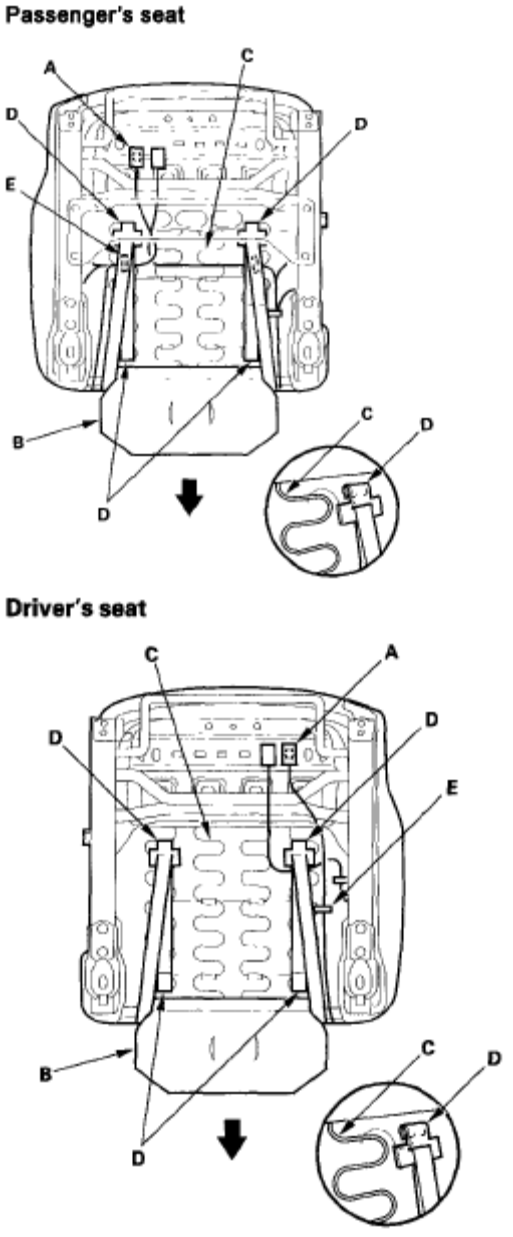



**Fig. 32: Detaching Side Airbag Connector Clip**

4. Release the slit in the seat cushion cover (B) from the seat cushion frame spring (C), then pull the cover back. Release the hooks (D) and remove the wire ties (E).
5. Detach the clips and hooks (A) by pulling the bottom of the back cover (B) back, then gently pull down the cover to release the hooks (C) from the seat frame, and remove the panel.

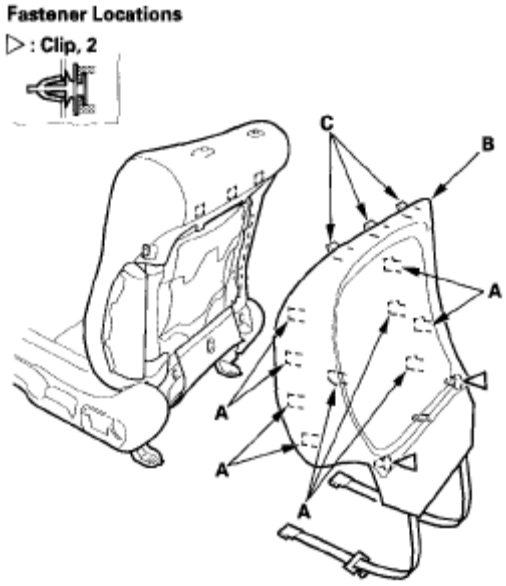



**Fig. 33: Detaching Clips And Hooks Pulling Bottom Of Back Cover Back**

6. Pull the side airbag harness (A) out through the loop (B), and release the hook (C), then pull the seat-back cover (D) back.

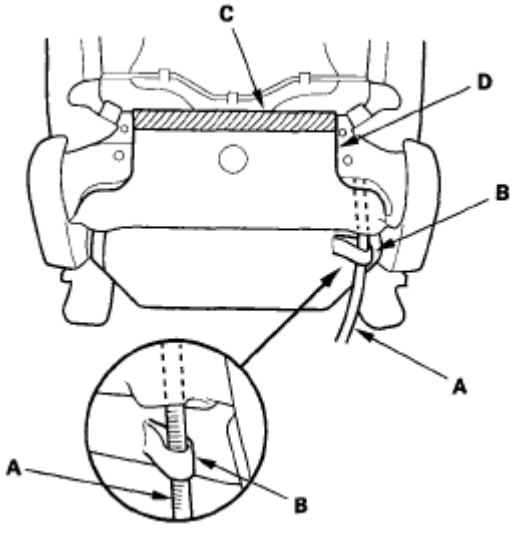



**Fig. 34: Pulling Side Airbag Harness Out Through Loop**

7. Detach the harness clip (A), and pull the side airbag harness (B) out through the harness hole (C) in the seat-back cover and seat frame. Passenger's seat is shown; driver's seat is similar.

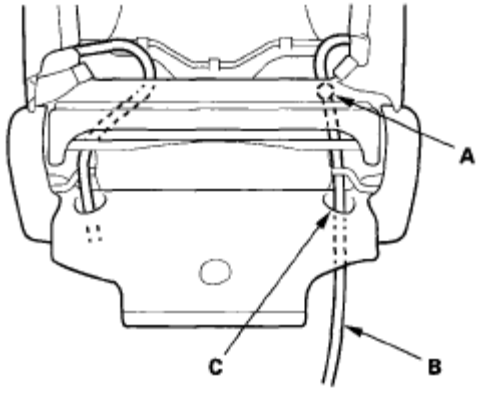



**Fig. 35: Detaching Harness Clip And Pulling Side Airbag Harness Out Through Harness Hole In Seat-Back Cover And Seat Frame**

8. Remove the side airbag (see **SIDE AIRBAG REPLACEMENT** ).
9. Release the hook strips (A), then loosen the seat-back cover (B). Driver's seat is shown; passenger's seat is similar.

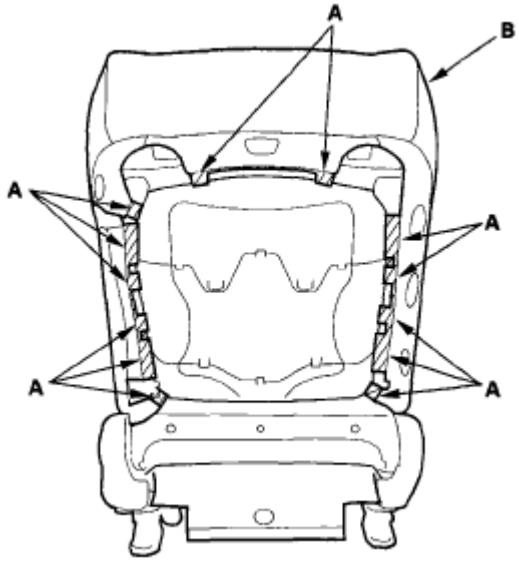



**Fig. 36: Releasing Hook Strips**

10. Turn over the reinforcing cloth (A), then release the hooks (B) from the module holder (C).

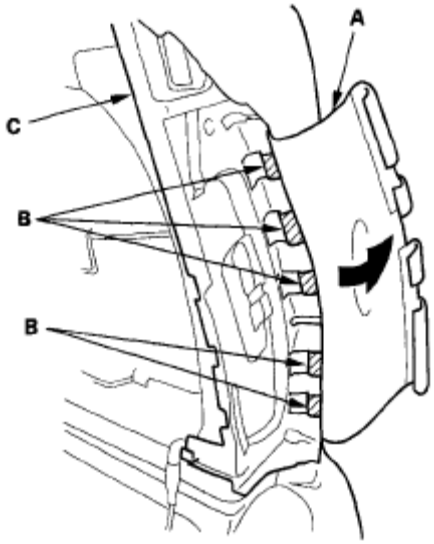



**Fig. 37: Releasing Hooks From Module Holder**

11. Passenger's seat: Disconnect the ODS sensor connectors (A) and ODS subharness connector (B) from the ODS unit (C), and pull them in through the hole in the seat frame. Pull the ODS subharness (D) out through the harness hole (E) in the seat-back cover (F). Detach the harness clips (G), and remove the wire tie (H).

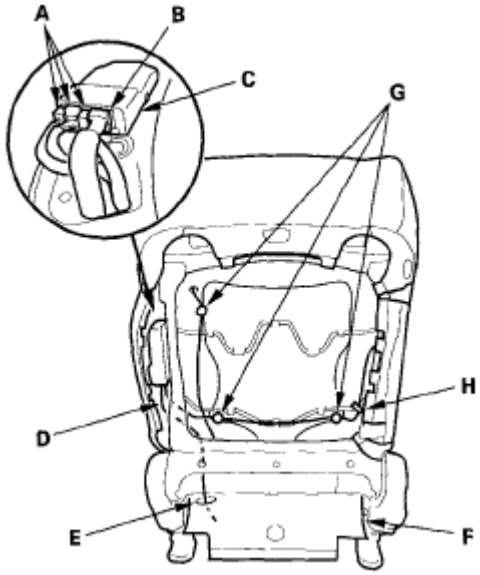



**Fig. 38: Disconnecting ODS Sensor Connectors And ODS Subharness Connector From ODS Unit**

12. Pinch the tabs on the ends of the head restraint guides (A), and remove them from the seat-back.

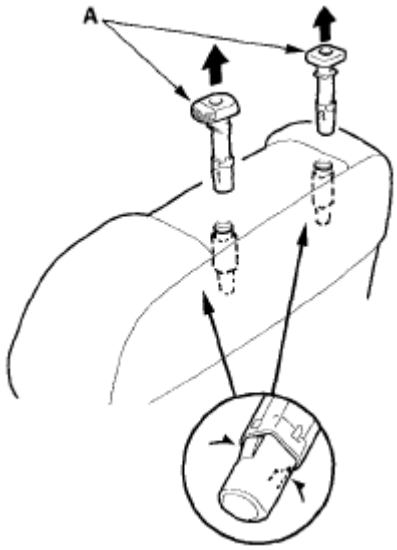



**Fig. 39: Pinching Tabs On Ends Of Head Restraint Guides**

13. Remove the seat-back cover/pad (A) from the seat (B).

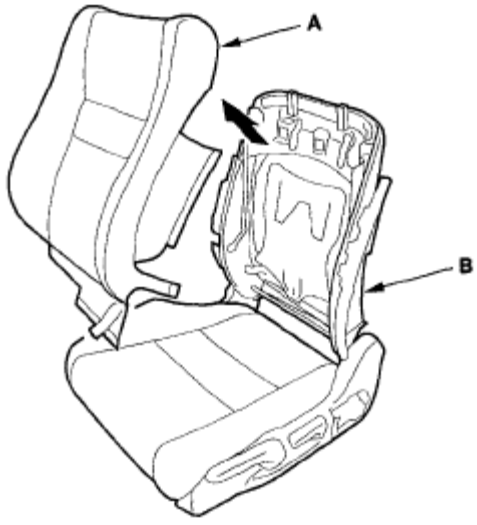



**Fig. 40: Removing Seat-Back Cover/Pad From Seat**

14. Except Si model: Pull back the edge of the seat-back cover all the way around, and release the clips (A), then remove the seat-back cover.

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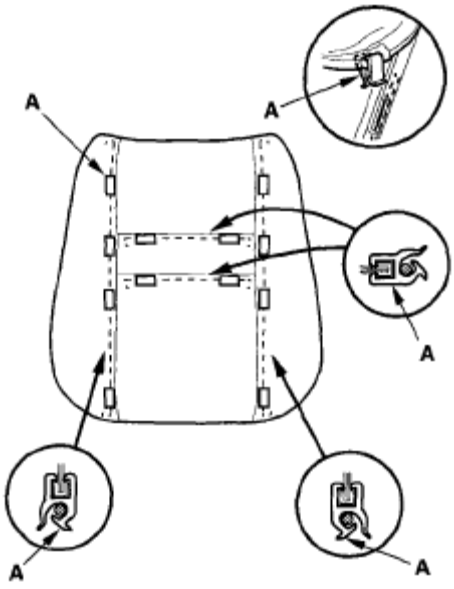



**Fig. 41: Removing Seat-Back Cover**

15. Except Si model: Install the cover in the reverse order of removal, and note these items:
    - Reinitialize the ODS unit (see **ODS UNIT INITIALIZATION** ).
    - To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips, hooks, and hook strips.
    - Replace any clips (A) you removed with new ones.
    - Before installing the side airbag (B), make sure the reinforcing cloth (C) is fixed on the seat-back frame (D) securely.
    - Make sure the side airbag harness and ODS subharness (passenger's seat) are routed properly.

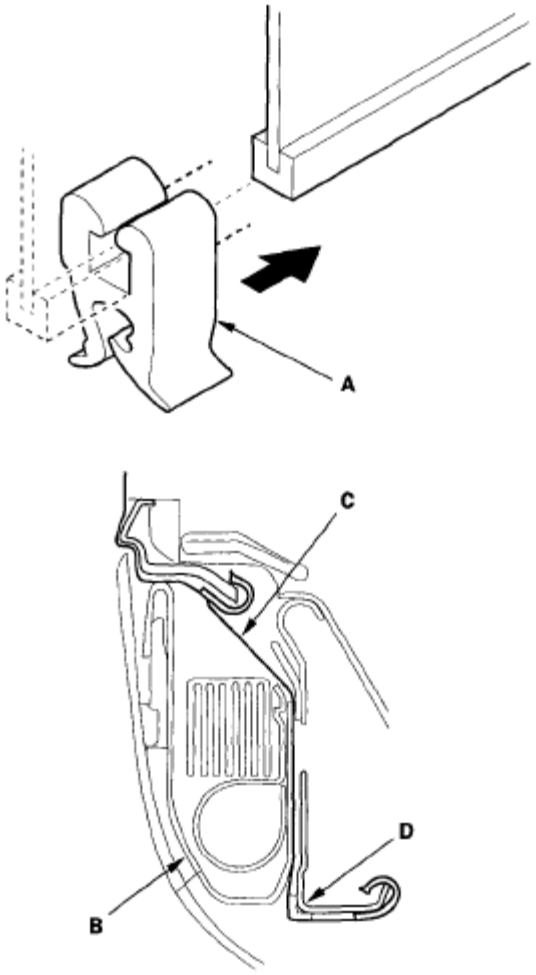



**Fig. 42: Installing Cover (Except Si Model)**

16. Si model: Pull back the edge of the seat-back cover all the way around, and release the clips (A), then remove the seat-back cover.

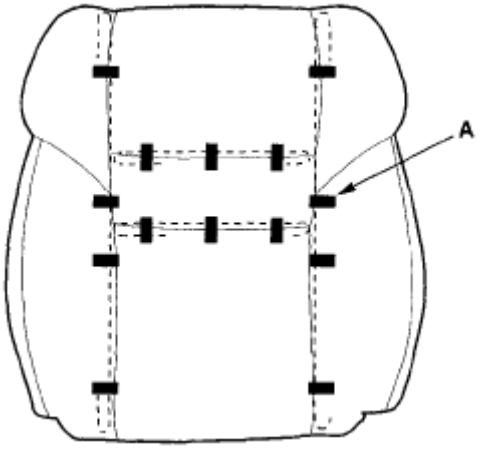
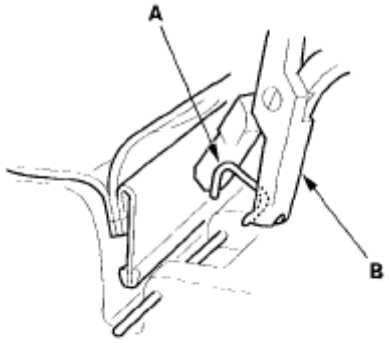


**Fig. 43: Removing Seat-Back Cover (Si Model)**

17. Si model: Install the cover in the reverse order of removal, and note these items:
    - Reinitialize the ODS unit (see **ODS UNIT INITIALIZATION** ).
    - To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips, hooks, and hook strips.
    - Replace any clips you removed with new ones (A). Install them with commercially available upholstery ring pliers (B).
    - Before installing the side airbag (C), make sure the reinforcing cloth (D) is fixed on the seat-back frame (E) securely.
    - Make sure the side airbag harness and ODS subharness (passenger's seat) are routed properly.



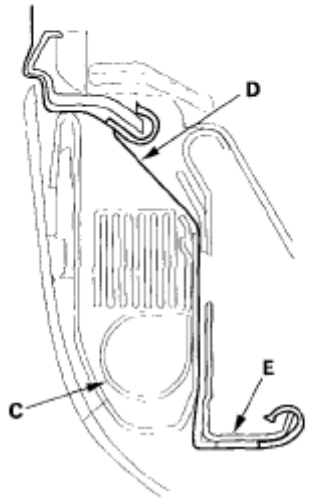



**Fig. 44: Installing Front Seat-Back Cover (Si Model)**

## FRONT SEAT CUSHION COVER REPLACEMENT

### Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**2-DOOR**

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

- Check the operation of the driver's seat position sensor after any of these actions (see **DRIVER'S SEAT POSITION SENSOR OPERATION CHECK** ):
  - Driver's seat position sensor replacement
  - Cover plate (front side of driver's seat slide rail) replacement
- Calibrate the ODS unit after any of the these actions (see **ODS UNIT CALIBRATION** ):
  - Front passenger's seat replacement (including any seat components)
  - Replacement of the seat weight sensors
  - After a vehicle collision

**NOTE:**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to tear the seams of damage the seat covers.**
- **Put on gloves to protect your hands.**

1. Remove the front seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).

2. Remove the front seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).
3. Passenger's seat: Remove the screws, then remove the rear seat access knob (A).

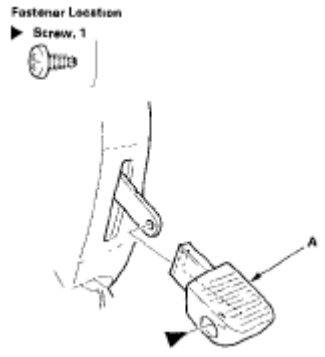



**Fig. 45: Removing Rear Seat Access Knob**

4. Pull back the cap (A) to release the hooks (B), and remove the screws, then remove the height handle (C).

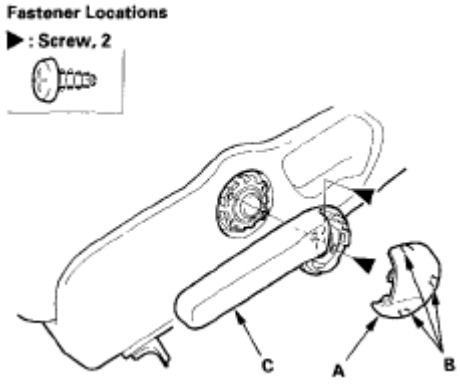



**Fig. 46: Removing Height Handle**

5. Remove the recline outer cover (A).
   - 1 Remove the recline knob (B) and screw (C).
   - 2 Gently pull out the cover, then detach the clips (D), and release the hooks (E).
   - 3 Release the rear seat access lever (F).

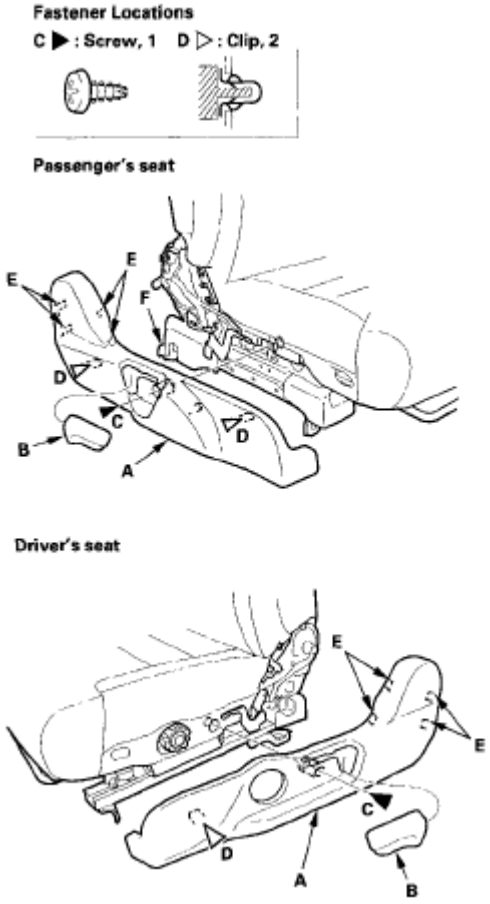



**Fig. 47: Removing Recline Outer Cover**

6. Gently pull out the center cover (A), then detach the clips, and release the hooks (B). Driver's seat is shown; passenger's seat is similar.

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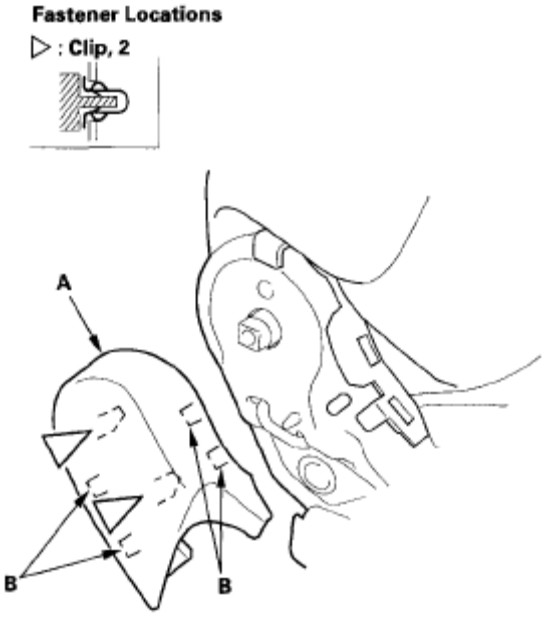



**Fig. 48: Pulling Out Center Cover And Detaching Clips Releasing Hooks**

7. From under the seat cushion, disconnect and detach the connectors:
   - Passenger's seat:
     - Seat weight sensor connectors (A)
     - Side airbag connector (B)
     - ODS subharness connector (C)
   - Driver's seat:
     - Side airbag connector (B)

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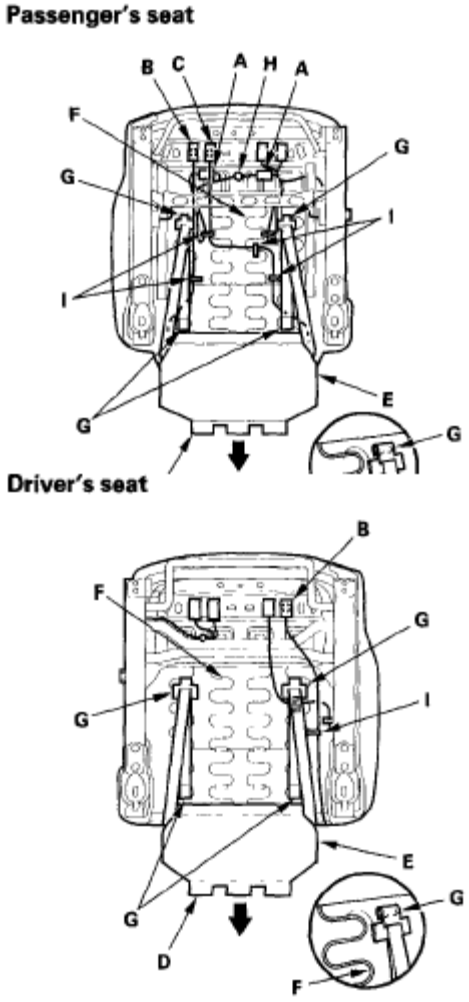



**Fig. 49: Disconnecting And Detaching Connectors**

8. Release the hook (D) and seat cushion cover (E) from the seat cushion frame spring (F), then pull the cover back and release the hooks (G). Detach the harness clip (H), and remove the wire ties (I).
9. Pull the side airbag harness (A), ODS subharness (B) (passenger's seat), and harness guides (C) out through the holes (D) in the seat cushion cover.

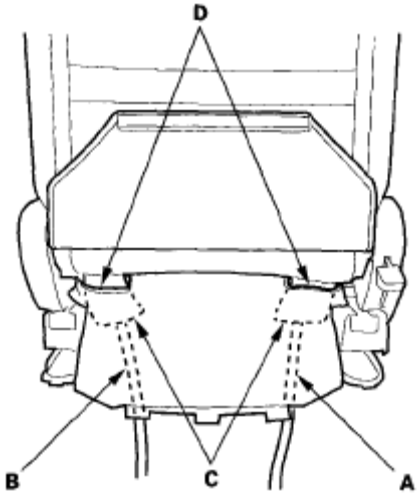



**Fig. 50: Pulling Side Airbag Harness, ODS Subharness (Passenger's Seat) And Harness Guides**

10. Release the hook strips (A, B) from the seat frame (C).

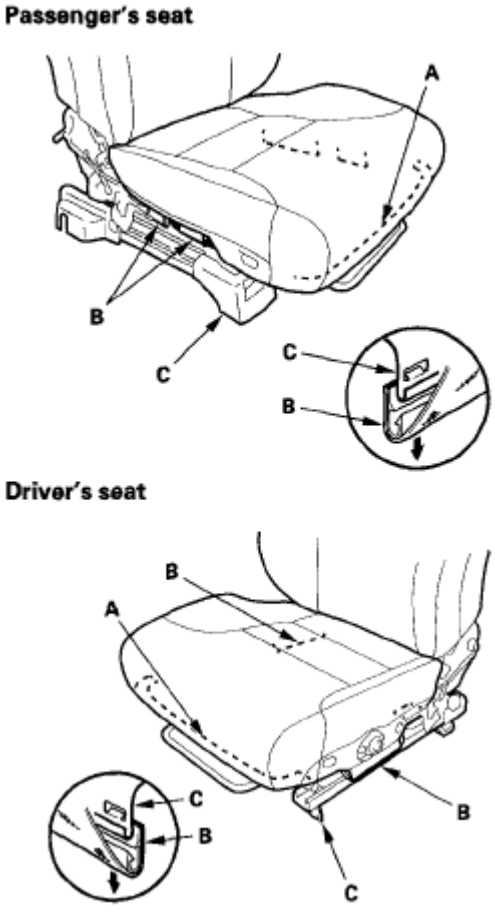


**Fig. 51: Releasing Hook Strips From Seat Frame**

11. Release the hook (A) from under the seat cushion.

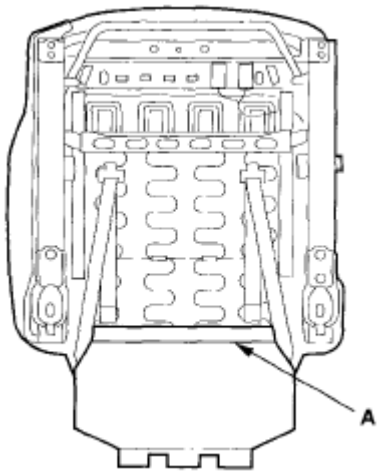



**Fig. 52: Releasing Hook From Under Seat Cushion**

12. Remove the seat cushion cover/pad (A) from the seat frame (B).

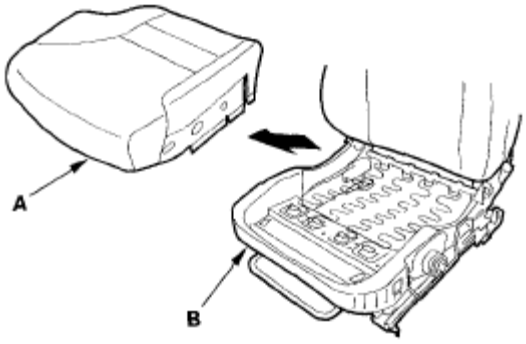



**Fig. 53: Removing Seat Cushion Cover/Pad From Seat Frame**

13. Release the clips (A) from under the seat cushion (B).

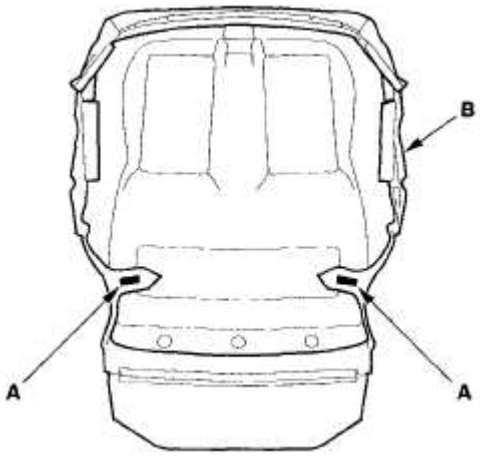



**Fig. 54: Releasing Clips From Under Seat Cushion**

14. Pull back the edge of the seat cushion coverall the way around, and release the clips (A), then remove the seat cushion cover.

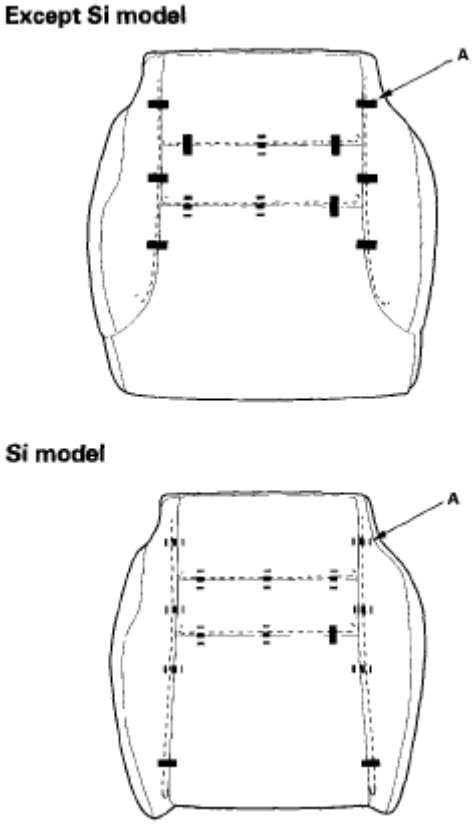



**Fig. 55: Removing Seat Cushion Cover**

15. Install the cover in the reverse order of removal, and note these items:

- To prevent wrinkles when installing a seat cushion cover, make sure the material is stretched evenly over the pad before securing the clips and hook strips.
- Replace any clips you removed with new ones (A). Install them with commercially available upholstery ring pliers (B).

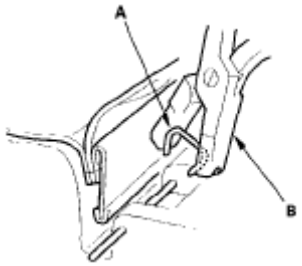



**Fig. 56: Installing Front Seat Cushion Cover (2-Door)**

## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

#### 4-DOOR

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

- Check the operation of the driver's seat position sensor after any of these actions (see **DRIVER'S SEAT POSITION SENSOR OPERATION CHECK** ):
  - Driver's seat position sensor replacement
  - Cover plate (front side of driver's seat slide rail) replacement
- Calibrate the ODS unit after any of the these actions (see **ODS UNIT CALIBRATION** ):
  - Front passenger's seat replacement (including any seat components)

- Replacement of the seat weight sensors
- After a vehicle collision

**NOTE:**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to tear the seams of damage the seat covers.**
- **Put on gloves to protect your hands.**

1. Remove the front seat (see **FRONT SEAT REMOVAL/INSTALLATION** ).
2. Remove the front seat belt buckle (see **FRONT SEAT BELT BUCKLE** ).
3. Pull back the cap (A) to release the hooks (B), and remove the screws, then remove the height adjuster handle (C).

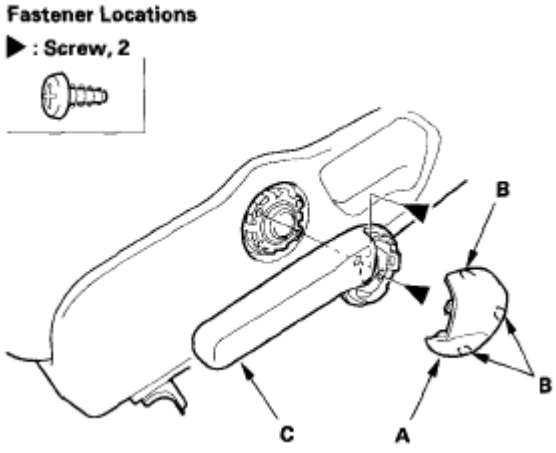



**Fig. 57: Removing Height Adjuster Handle**

4. Remove the recline cover (A).
   - 1 Remove the recline knob (B) and screw (C).
   - 2 Gently pull out the cover, then detach the clip (D), and release the hooks (E).

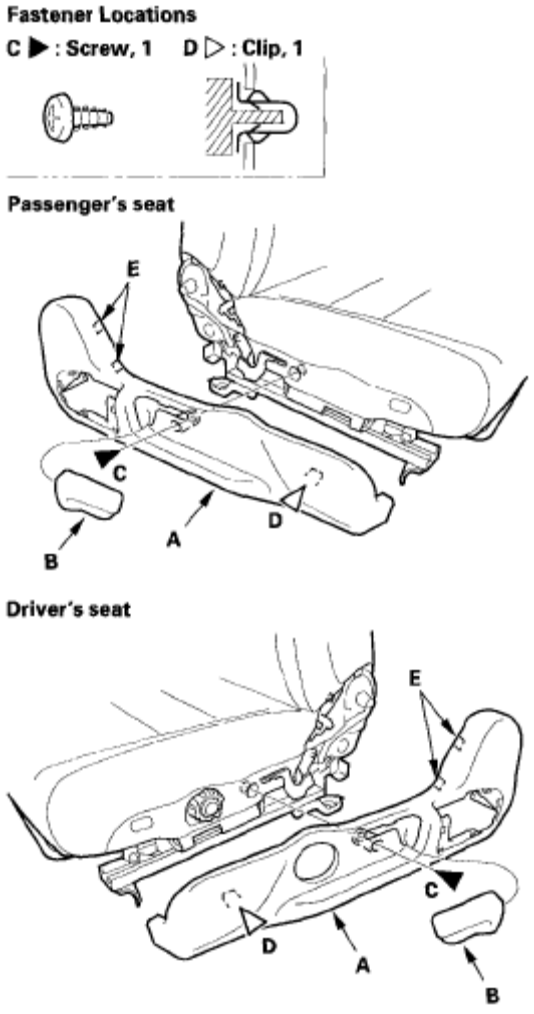



**Fig. 58: Removing Recline Cover**

5. Gently pull out the center cover (A), then detach the clip, and release the hooks (B). Driver's seat is shown; passenger's seat is similar.

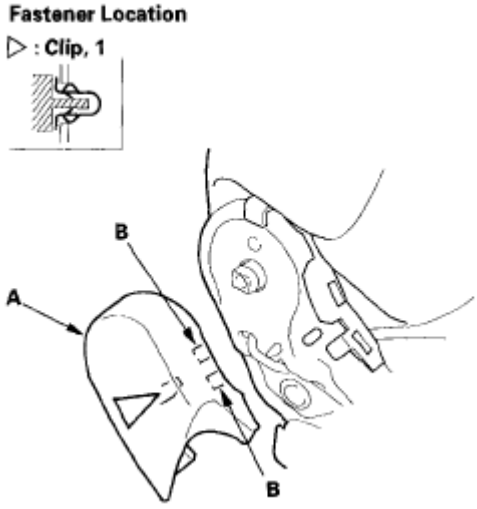



**Fig. 59: Releasing Hooks Pulling Center Cover**

6. From under the seat cushion, detach the side airbag connector clip (A).

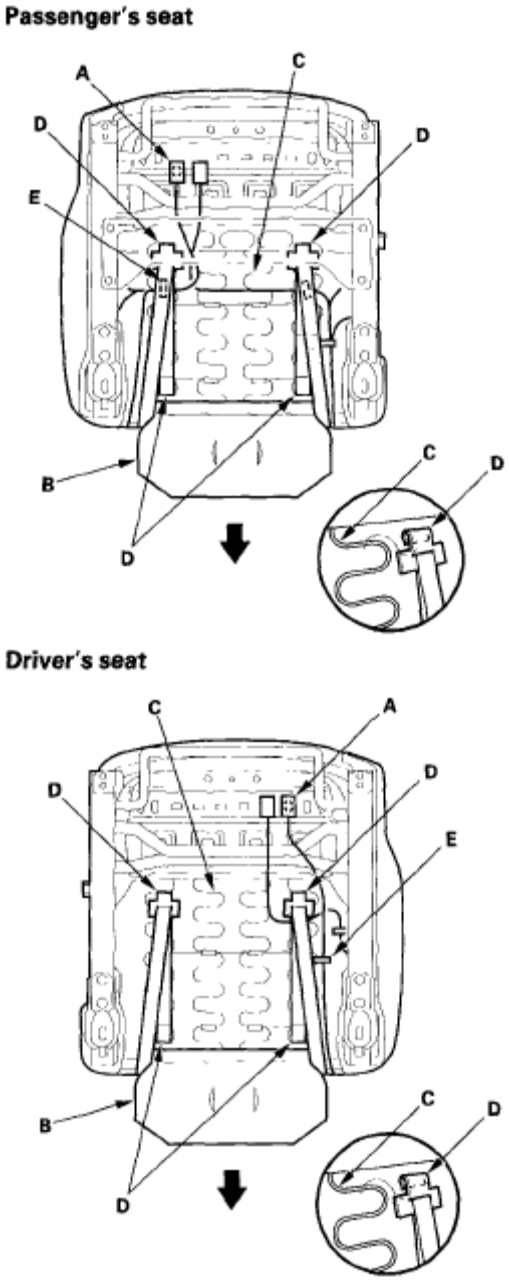



**Fig. 60: Detaching Side Airbag Connector Clip**

7. Release slits in the seat cushion cover (B) from the seat cushion frame spring (C), then pull the cover back. Release the hooks (D) and remove the wire ties (E).
8. Pull the side airbag harness (A) out through the loop (B).

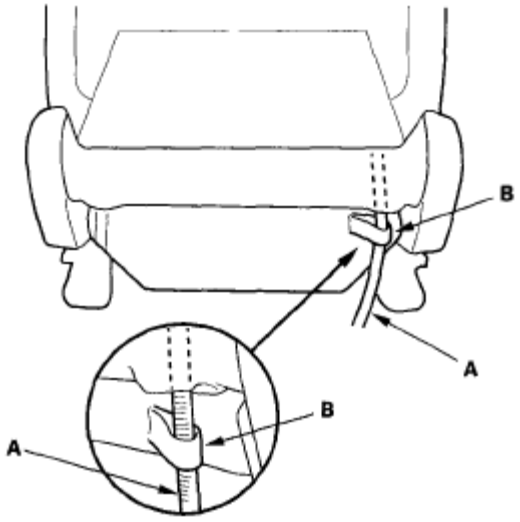
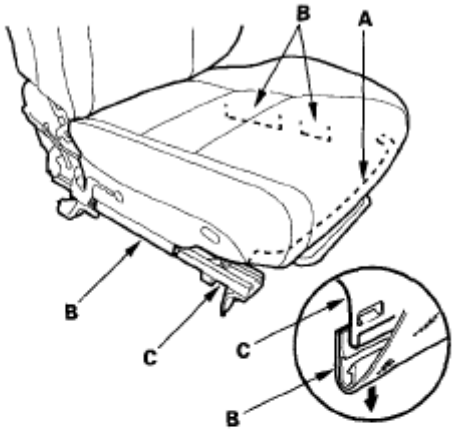



**Fig. 61: Pulling Side Airbag Harness Out Through Loop**

9. Release the hook strips (A, B) from the seat frame (C).

**Passenger' seat**




**Driver's seat**

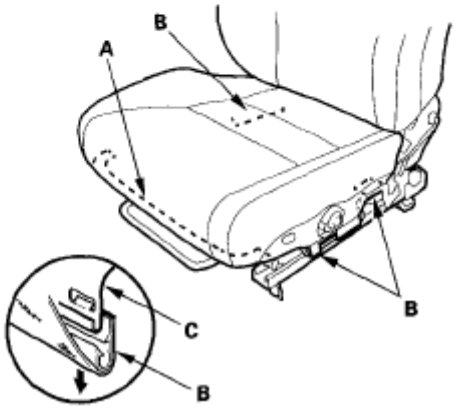


**Fig. 62: Releasing Hook Strips From Seat Frame**

10. Release the hook (A) from under the seat cushion.

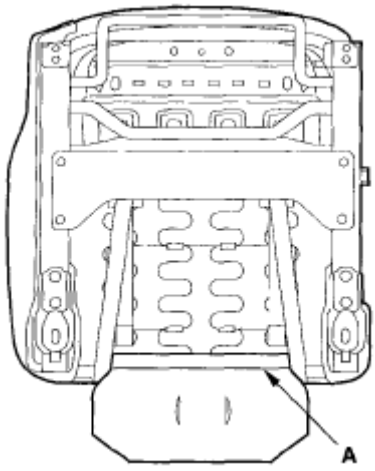



**Fig. 63: Releasing Hook From Under Seat Cushion**

11. Remove the seat cushion cover/pad (A) from the seat frame (B).

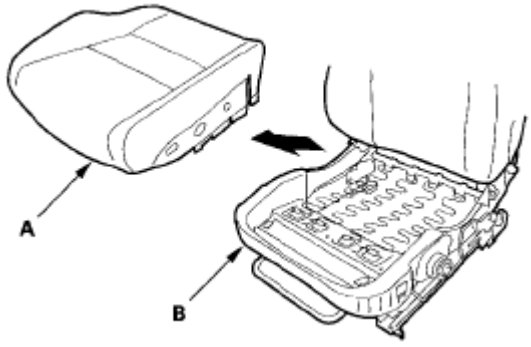



**Fig. 64: Removing Seat Cushion Cover/Pad From Seat Frame**

12. Except Si model: Release the hooks (A) from under the seat cushion (B).

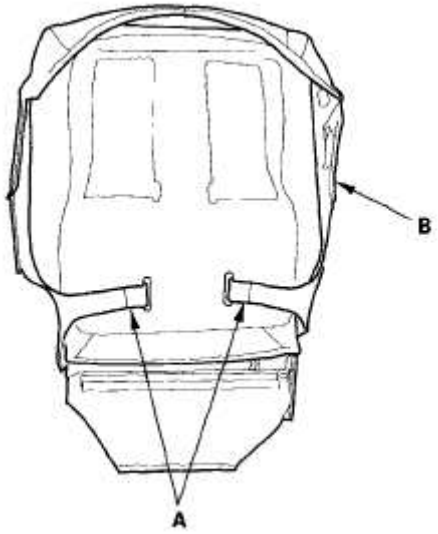



**Fig. 65: Releasing Hooks From Under Seat Cushion (Except Si Model)**

13. Except Si model: Pull back the edge of the seat-back cover all the way around, and release the clips (A), then remove the seat-back cover.

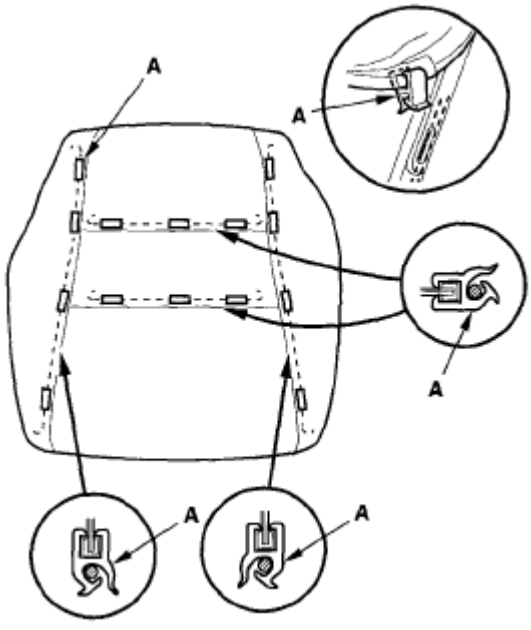



**Fig. 66: Removing Seat-Back Cover (Except Si Model)**

14. Except Si model: Install the cover in the reverse order of removal, and note these items:
    - To prevent wrinkles when installing a seat-back cover, make sure the

material is stretched evenly over the pad before securing the clips, hooks, and hook strips.

- Replace any clips (A) you removed with new ones.

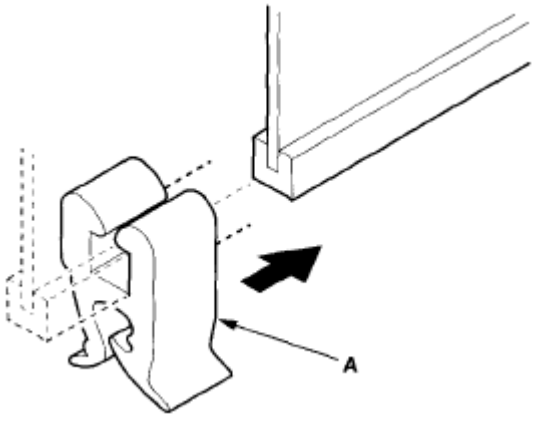



**Fig. 67: Installing Cover (Except Si Model)**

15. Si model: Release the clips (A) from under the seat cushion (B).

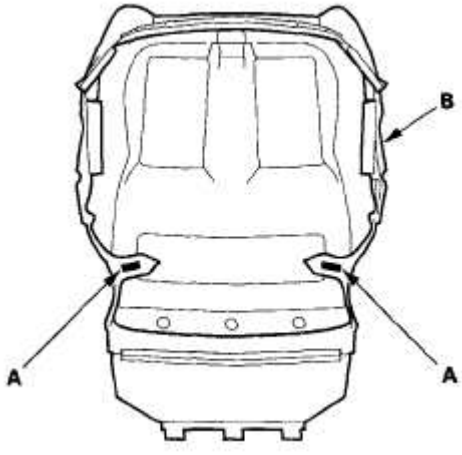



**Fig. 68: Releasing Clips From Under Seat Cushion (Si Model)**

16. Si model: Pull back the edge of the seat cushion cover all the way around, and release the clips (A), then remove the seat cushion cover.

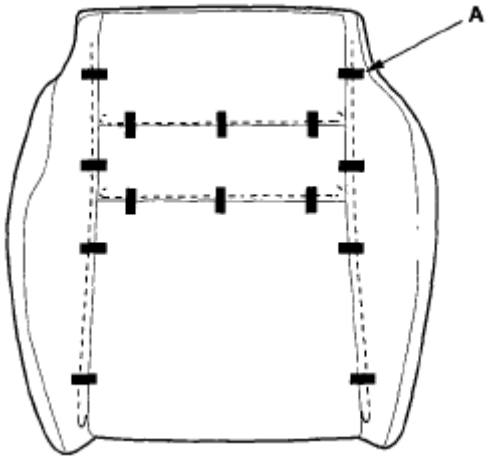



**Fig. 69: Removing Seat Cushion Cover (Si Model)**

17. Si model: Install the cover in the reverse order of removal, and note these items:
    - To prevent wrinkles when installing a seat cushion cover, make sure the material is stretched evenly over the pad before securing the clips and hook strips.
    - Replace any clips (A) you removed with new ones. Install them with commercially available upholstery ring pliers (B).

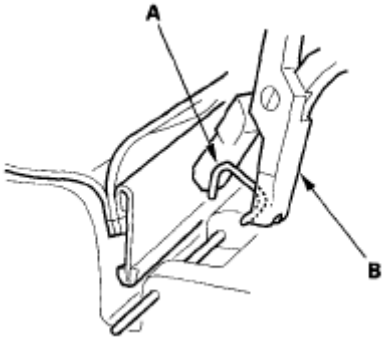



**Fig. 70: Installing Front Seat Cushion Cover (Si Model)**

## REAR SEAT REMOVAL/INSTALLATION

**SEAT-BACK - FOLD DOWN**

**NOTE: Take care not to scratch the body or tear the seat covers.**

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1. Remove the seat-back (A).
   - 1 Fold the seat-back forward.
   - 2 Pull the rear center seat belt (B) out through the slit (C) in the seat belt guide (D).
   - 3 Release the velcro fasteners (E), and pull back the seat-back cover (F), then remove the bolts.
   - 4 Release the hooks (G) of the pivot brackets (H).

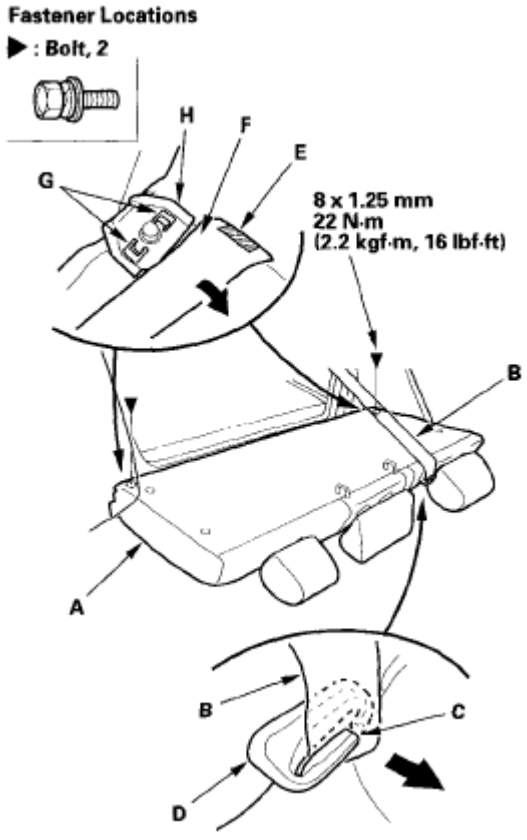



**Fig. 71: Removing Seat-Back (With Specifications)**

2. 2-door: Remove the rear side trim panel (see **2-DOOR** ).
3. Remove the bolt, then remove the pivot bracket (A).

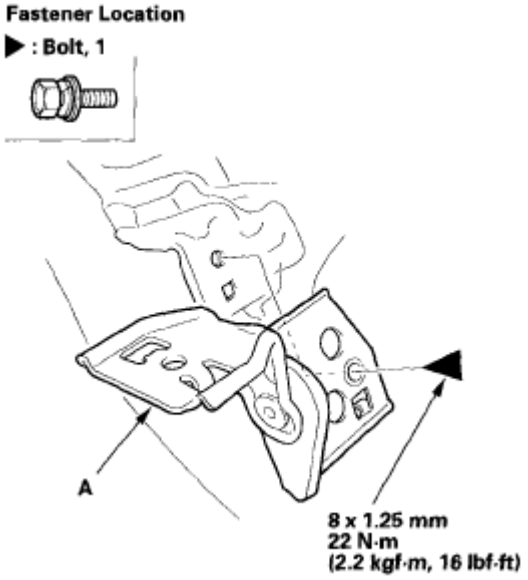



**Fig. 72: Removing Pivot Bracket (With Specifications)**

4. Install the seat-back in the reverse order of removal, and note these items:

- Guide the belt over the front of the seat-back as you install the seat-back.
- Before attaching the rear seat-back, make sure there are no twists or kinks in the rear center seat belt.

**SEAT-BACK - SPLIT FOLD DOWN**

**NOTE: Take care not to scratch the body or tear the seat covers.**

1. Remove the right seat-back (A).
   - 1 Fold the right seat-back forward.
   - 2 Release the velcro fasteners (B), and pull back the seat-back cover (C), then remove the bolts.
   - 3 Release the hooks (D) of the pivot bracket (E).

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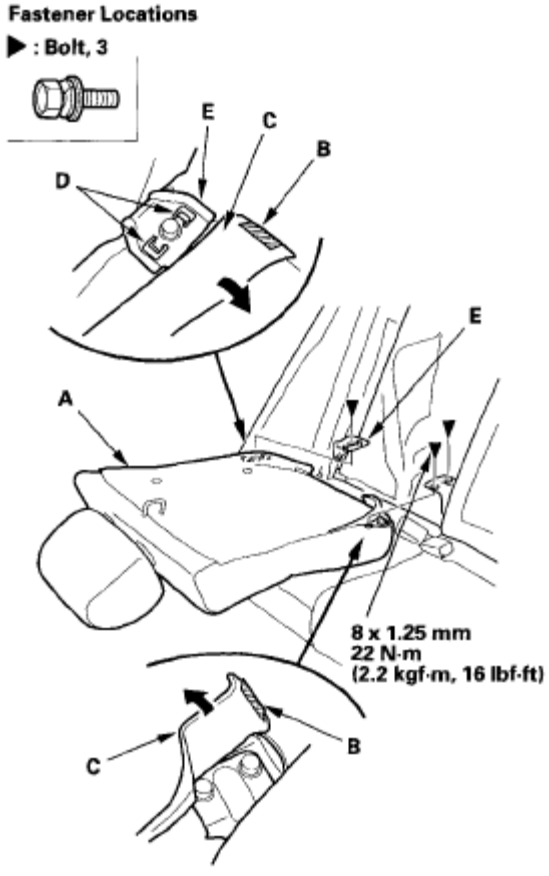



**Fig. 73: Removing Right Seat-Back (With Specifications)**

2. Remove the bolt, then remove the center pivot bracket (A).

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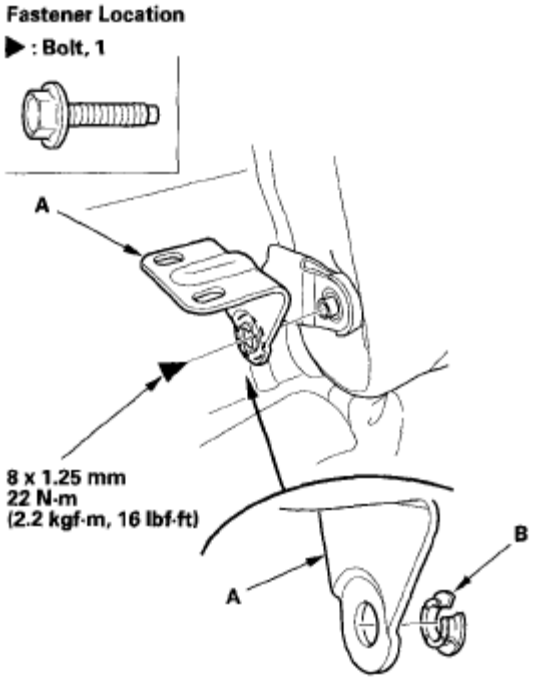



**Fig. 74: Removing Center Pivot Bracket (With Specifications)**

3. If necessary, remove the bushing (B).
4. Remove the left seat-back (A).
   - 1 Fold the left seat-back forward.
   - 2 Pull the rear center seat belt (B) out through the slit (C) in the seat belt guide (D).
   - 3 Release the velcro fastener (E), and pull back the seat-back cover (F), then remove the bolt.
   - 4 Release the hooks (G) of the pivot bracket (H).

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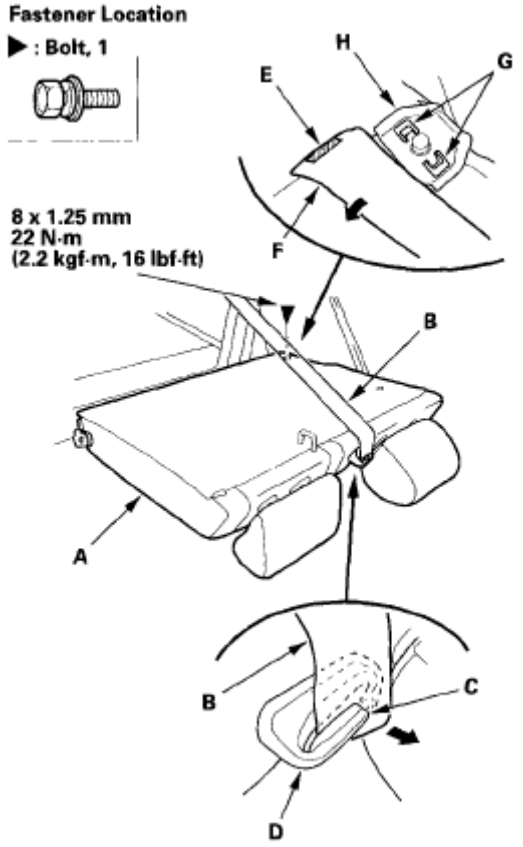



**Fig. 75: Removing Left Seat-Back (With Specifications)**

5. Extend the rear center seat belt (A) to remove the left seat-back (B), then release the pivot shaft (C) from the center pivot bracket (D).

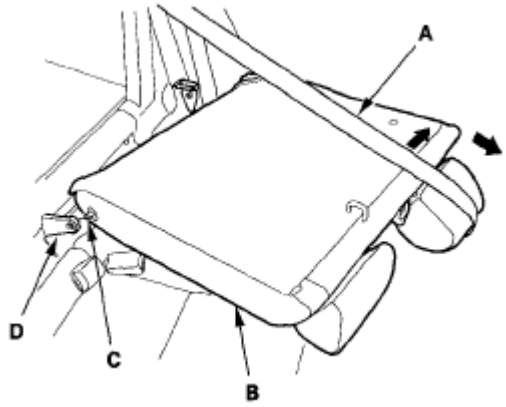



**Fig. 76: Removing Left Seat-Back Extending Rear Center Seat Belt**

6. If necessary, remove the bushing (A), from the center pivot bracket (B).

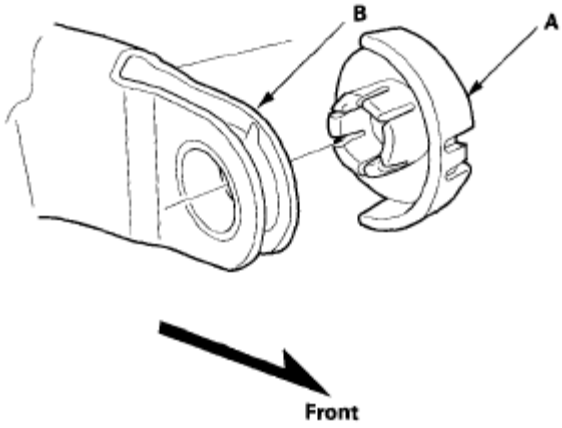



**Fig. 77: Removing Bushing From Center Pivot Bracket**

7. 2-door: Remove the rear side trim panel (see **2-DOOR** ).
8. Remove the bolt, then remove the pivot bracket (A).

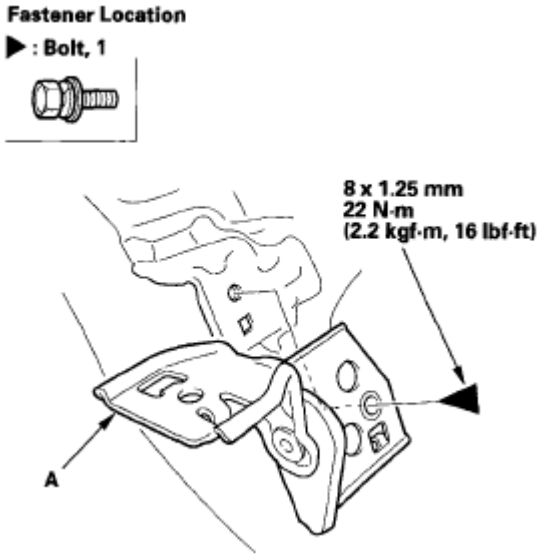



**Fig. 78: Removing Pivot Bracket (With Specifications)**

9. Install the seat-back in the reverse order of removal, and note these items:

- Guide the belt over the front of the seat-back as you install the seat-back.
- Before attaching the rear seat-back, make sure there are no twists or kinks in the rear center seat belt.

**SEAT CUSHION**

**NOTE: Take care not to scratch the body or tear the seat covers.**

1. Remove the bolt between the seat-back (A) and the seat cushion (B).

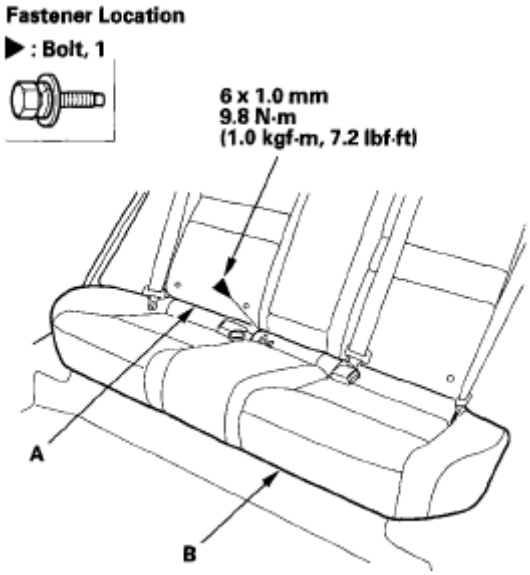



**Fig. 79: Removing Bolt Betwen Seat-Back And Seat Cushion (With Specifications)**

2. Pull each front edge of the seat cushion (A) up to release the hooks (B), then pull back the seat cushion, and remove it.

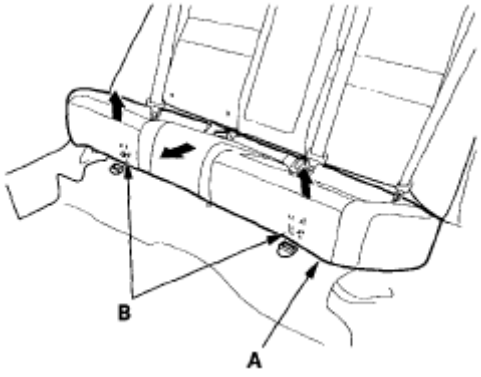



**Fig. 80: Removing Seat Cushion**

3. Install the seat cushion in the reverse order of removal, and note these items:

- Before attaching the seat cushion, make sure there are no twists or kinks in the

seat belts.

- When installing the seat cushion, slip the seat belt buckles through the slits in the seat cushion.

**SEAT SIDE BOLSTER - 4-DOOR**

**NOTE: Take care not to scratch the body or tear the seat covers.**

1. Remove the seat cushion.
2. Remove the bolt.

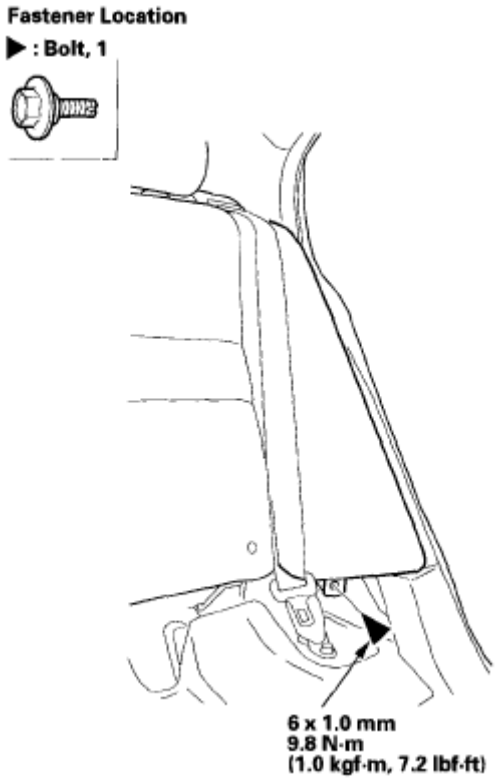



**Fig. 81: Removing Seat Side Bolster Bolt - 4-Door (With Specifications)**

3. Fold the seat-back forward.
4. Lift the seat side bolster (A) up to release the hook (B), then remove the seat side bolster.

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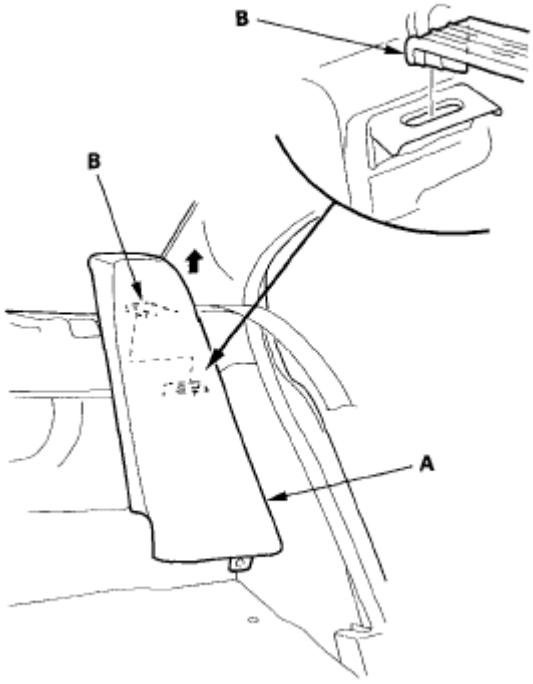



**Fig. 82: Removing Seat Side Bolster**

5. Install the seat in the reverse order of removal, and note these items:

- Guide the belts over the front of the seat side bolster as you install the bolster.
- Before attaching the seat side bolster, make sure there are no twists or kinks in the seat belts.

## REAR SEAT-BACK LATCH REPLACEMENT

### FOLD DOWN REAR SEAT/SPLIT FOLD DOWN REAR SEAT

**NOTE: Take care not to bend or scratch the interior trim.**

1. Remove the rear shelf:
   - 2-door (see **TRIM REMOVAL/INSTALLATION - REAR SHELF AREA** )
   - 4-door (see **REAR SHELF EXTENSION - 2-DOOR** )
2. From the trunk, disconnect the seat-back release cable (A) from the seat-back latch (B).

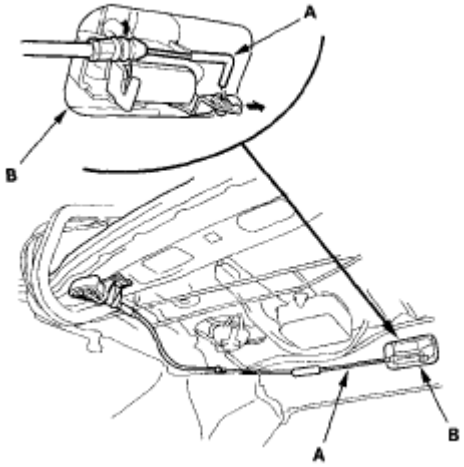



**Fig. 83: Disconnecting Seat-Back Release Cable (From Trunk)**

3. Remove the bolts, then remove the seat-back latch (A).

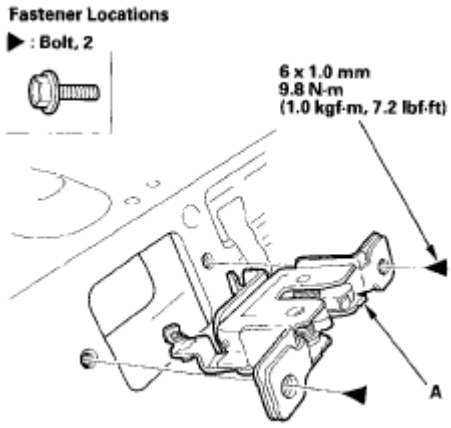



**Fig. 84: Removing Seat-Back Latch (With Specifications)**

4. Install the latch in the reverse order of removal, and note these items:
   - Make sure the release cable is connected securely.
   - Make sure the seat-back locks securely and unlocks properly.

## REAR SEAT-BACK RELEASE LEVER/CABLE REMOVAL/INSTALLATION

### FOLD DOWN REAR SEAT/SPLIT FOLD DOWN REAR SEAT

**NOTE: Take care not to bend or scratch the interior trim.**

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1. Open the trunk lid.
2. From the trunk room, detach the cable clip.

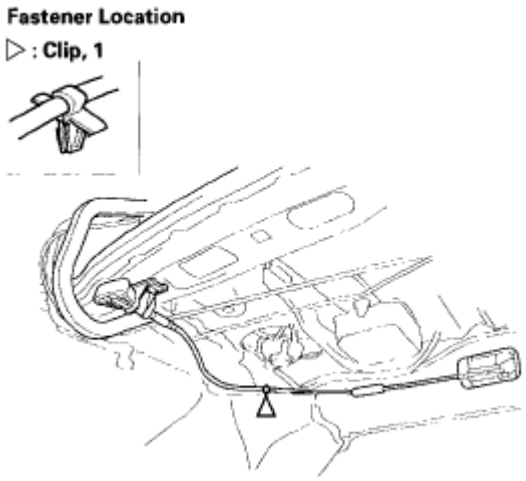



**Fig. 85: Detaching Cable Clip From Trunk Room**

3. 2-door: Remove the rear seat-back release cable (A) out through the slit (B) in the trim panel.

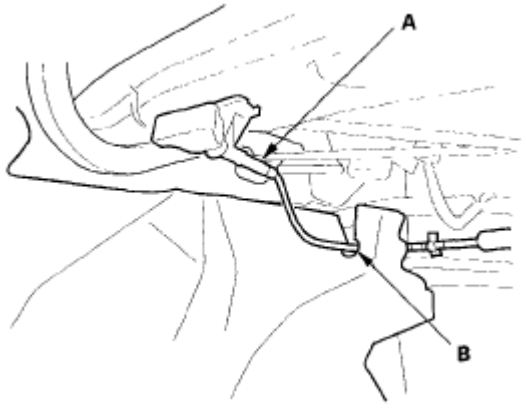



**Fig. 86: Removing Rear Seat-Back Release Cable (2-Door)**

4. Disconnect the seat-back release cable (A) from the seat-back latch (B).

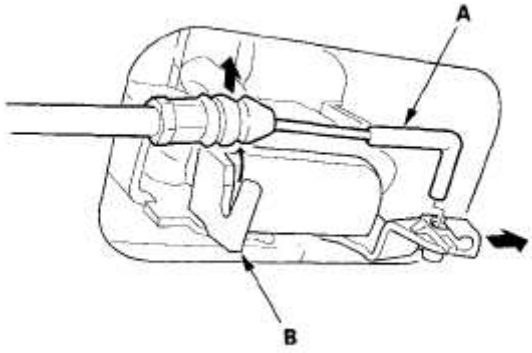



**Fig. 87: Disconnecting Seat-Back Release Cable From Seat-Back Latch**

5. Push the tab (A) to release the hook (B), and rotate the seat-back release lever (C) clockwise to release the hook (D).

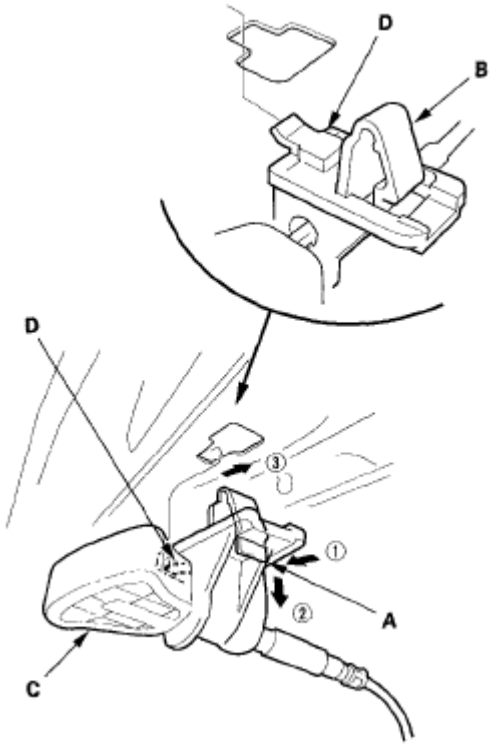



**Fig. 88: Rotating Seat-Back Lever Clockwise To Release Hook**

6. Install the release lever/cable in the reverse order of removal, and note these items:

- Make sure the release cable is connected securely.
- Make sure the seat-back locks securely and unlocks properly.

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# REAR SEAT ARMREST BEVERAGE HOLDER REPLACEMENT

## Special Tools Required

KTC trim tool set SOJATP2014 *

* Available through the American Honda Tool and Equipment Program; call 888-424-6857

**FOR SOME MODELS - 4-DOOR**

**NOTE:**

- **Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.**
- **Take care not to tear the seams or damage the seat covers.**

1. Using a trim tool, push on the bottom ribs (A) of the rear hooks (B) to pull up the beverage holder (C), then release the hooks from the wire (D).

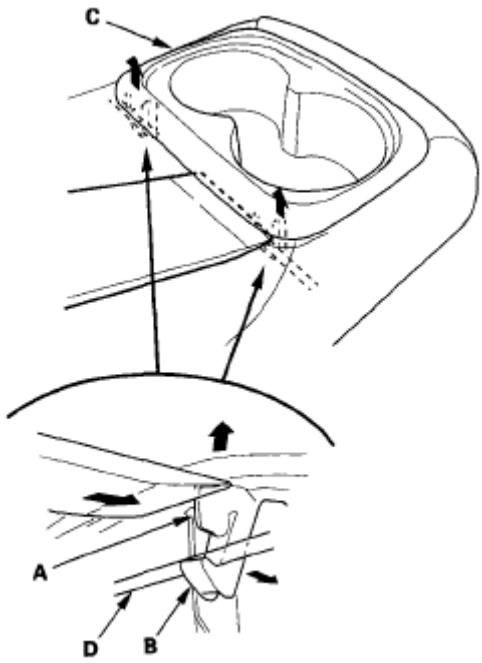



**Fig. 89: Pushing Bottom Ribs Of Rear Hooks To Pull Up Beverage Holder**

2. Release the front hooks (A) from the wire (B), then remove the beverage

holder (C).

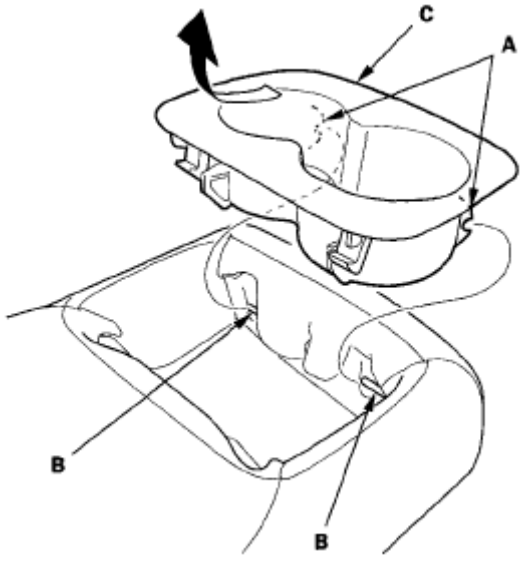



**Fig. 90: Removing Beverage Holder**

3. Install the beverage holder in the reverse order of removal. Make sure the front hooks are installed securely to the wire, then push down on the beverage holder and install the rear hooks into the wire securely.

## REAR SEAT ARMREST REPLACEMENT

**FOR SOME MODELS - 4-DOOR**

**NOTE: Take care not to tear the seams or damage the seat covers.**

1. Remove the clip (A) from the left portion of the armrest pivot (B).

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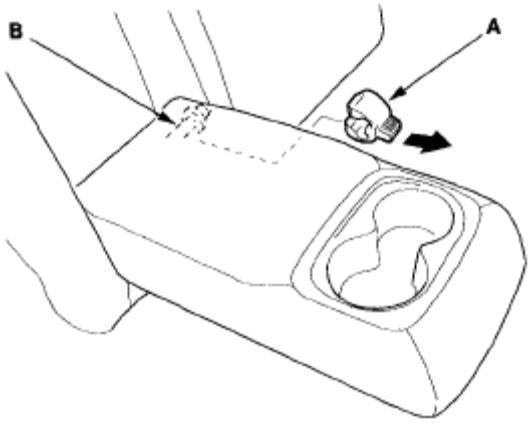



**Fig. 91: Removing Clip From Left Portion Of Armrest Pivot**

2. Slide the armrest (A) toward the driver's side of the vehicle, and remove the pivot shaft (B) from the collar (C) on the right side of the vehicle by pulling back on the armrest.

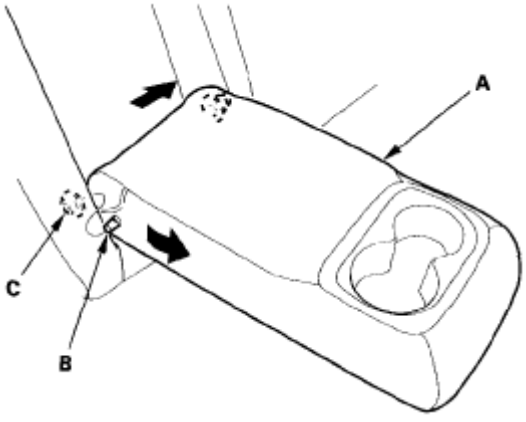



**Fig. 92: Removing Pivot Shaft Form Collar On Side Of Vehicle**

3. Remove the pivot shaft (A) from the collar (B) on the left, then remove the armrest (C).

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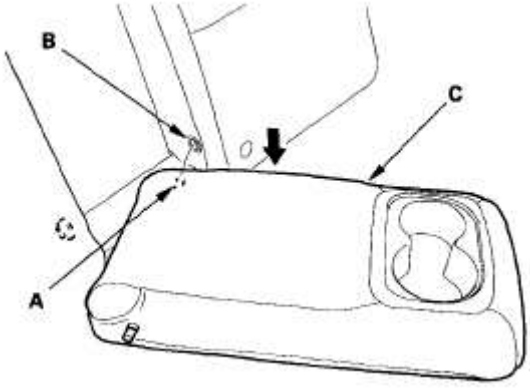



**Fig. 93: Removing Armrest**

4. Remove the collars (A) from the seat-back (B). A

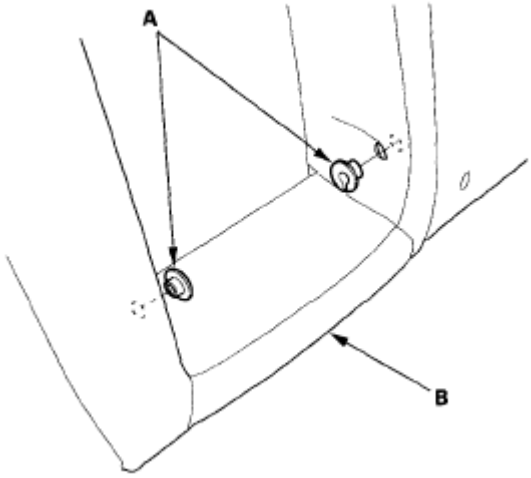



**Fig. 94: Removing Collars From Seat-Back**

5. Install the armrest in the reverse order of removal.

## REAR SEAT-BACK COVER REPLACEMENT

**SEAT-BACK - FOLD DOWN - 2-DOOR**

**NOTE:**

- **Take care not to tear the seams or damage the seat covers.**
- **Put on gloves to protect your hands.**

1. Remove the seat-back (see **REAR SEAT REMOVAL/INSTALLATION** ).

2. Remove these head restraint.
3. Remove the screw, then remove the center belt guide (A).

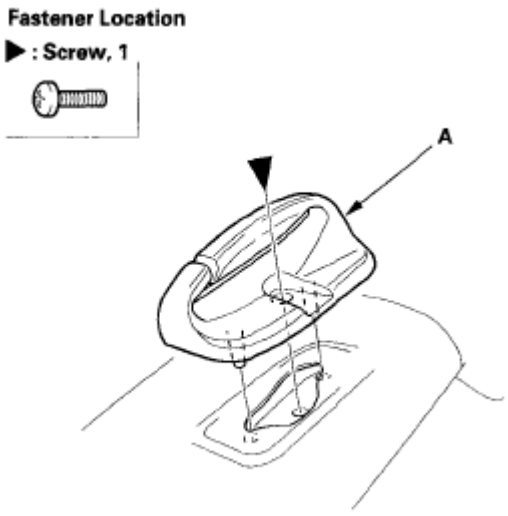



**Fig. 95: Removing Center Belt Guide**

4. Release the lower hook (A), and clips.

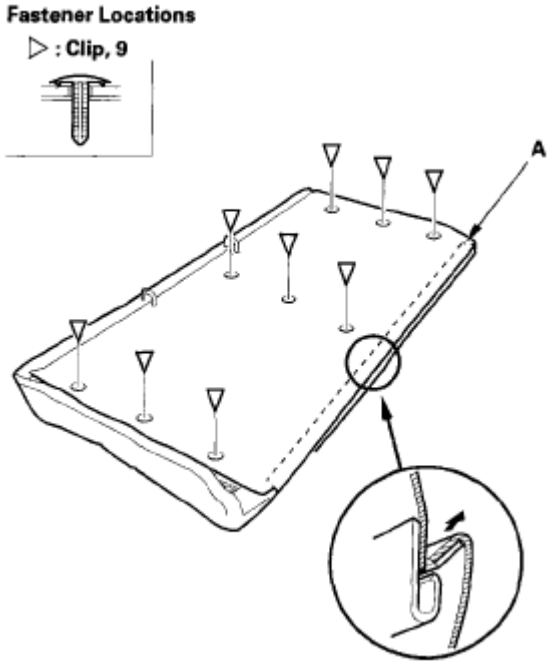



**Fig. 96: Releasing Lower Hook And Clips**

5. Pull back the seat-back cover (A), then release the hook strips (B).

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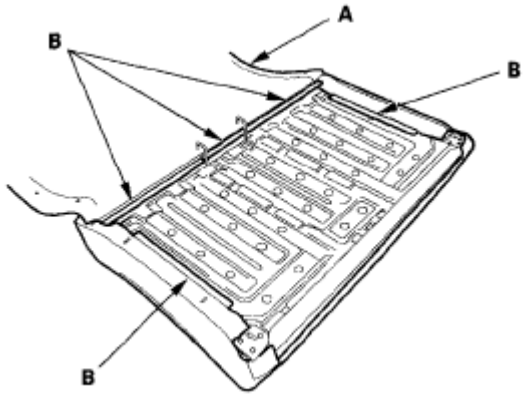



**Fig. 97: Releasing Hook Strips Pulling Back Seat-Back Cover**

6. Pull out the seat-back frame (A) from the pad (B), then pull out the head restraint guides (C) while pinching the end of the guides, and remove them.

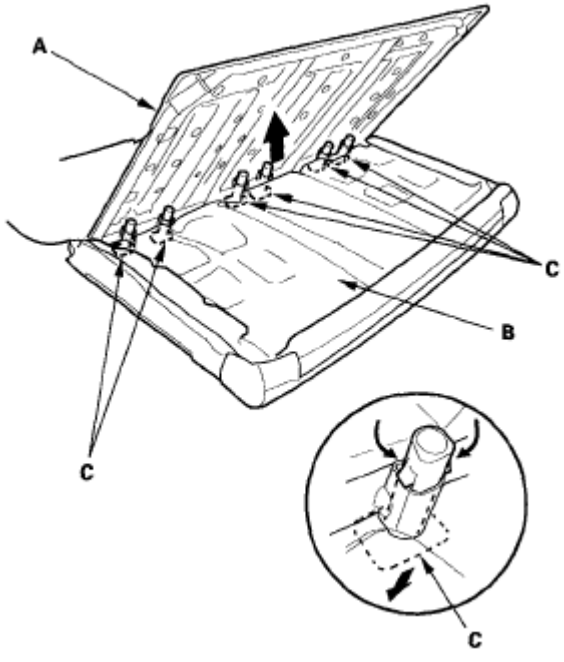



**Fig. 98: Removing Head Restraint Guides**

7. Remove the seat-back cover and pad from the seat-back frame.
8. Pull back the edge of the seat-back cover (A) all the way around, and release the hooks (B) of the horizontal wires (C) from the vertical wires (D) on the pad, and remove the clips (E), then remove the seat-back cover.

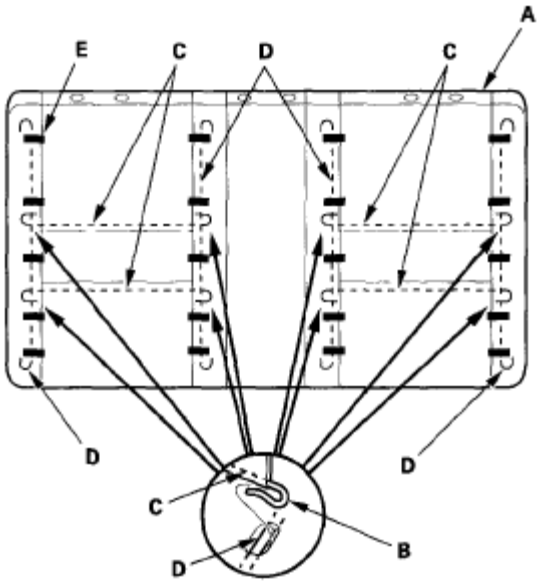



**Fig. 99: Removing Seat-Back Cover**

9. Install the cover in the reverse order of removal, and note these items:

- To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips and hook strips.
- Replace any clips (A) you removed with new ones. Install them with commercially available upholstery ring pliers (B).

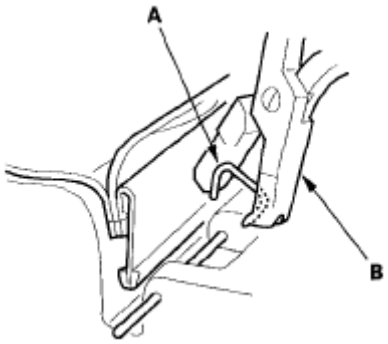



**Fig. 100: Installing Rear Seat-Back Cover Of Seat-Back - Fold Down - 2-Door**

**SEAT-BACK - FOLD DOWN - 4-DOOR**

**NOTE:**

- **Take care not to tear the seams or damage the seat**

**covers.**

- **Put on gloves to protect your hands.**

1. Remove the seat-back (see **REAR SEAT REMOVAL/INSTALLATION** ).
2. Remove the head restraint.
3. Remove the screw, then remove the center belt guide (A).

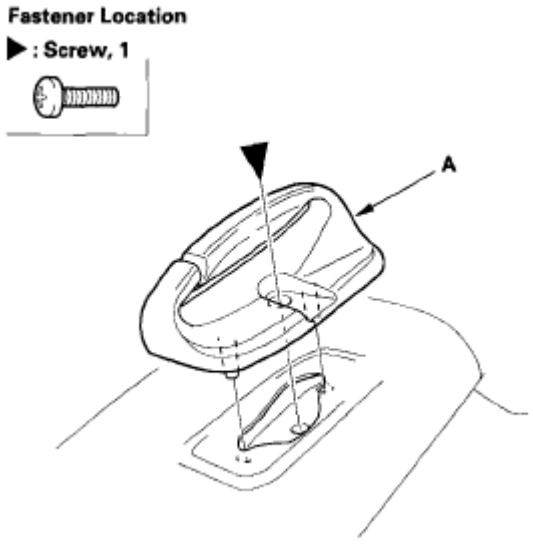



**Fig. 101: Removing Center Belt Guide**

4. Release the lower hook (A), and clips.

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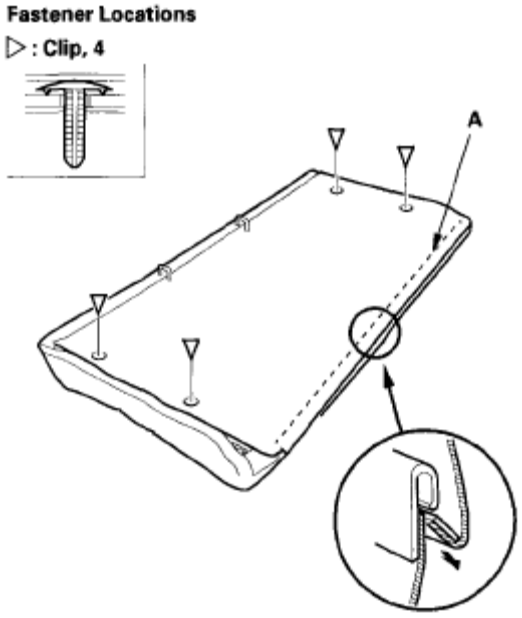



**Fig. 102: Releasing Lower Hook And Clips**

5. Pull back the seat-back cover (A), then release the hook strips (B).

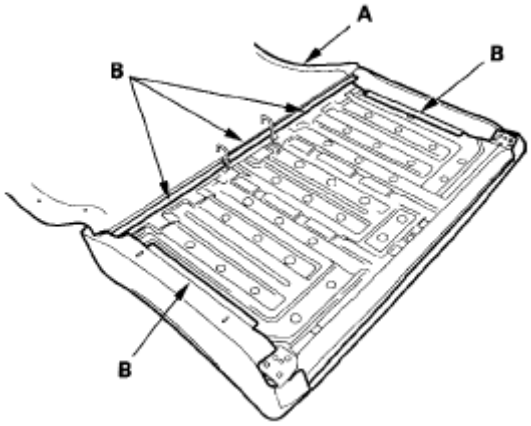



**Fig. 103: Releasing Hook Strips Pulling Back Seat-Back Cover**

6. Pull out the seat-back frame (A) from the pad (B), then pull out the head restraint guides (C) while pinching the end of the guides, and remove them.

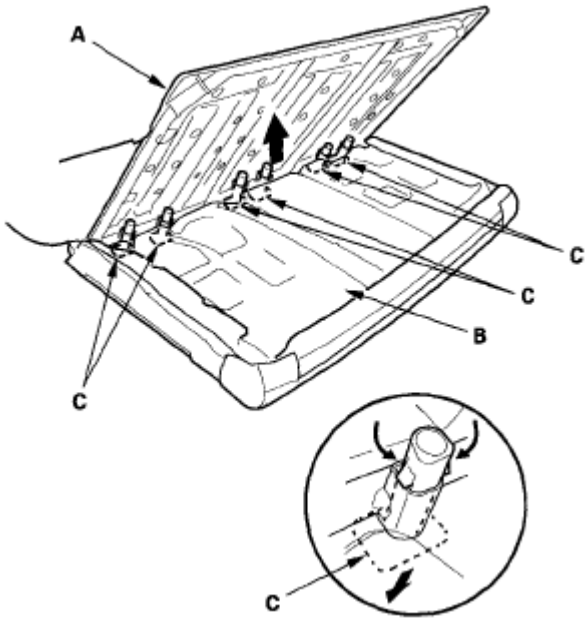



**Fig. 104: Removing Head Restraint Guides Pinching End Of Guides**

7. Remove the seat-back cover and pad from the seat-back frame.
8. Pull back the edge of the seat-back cover (A) all the way around, and release the clips (B), then remove the seat-back cover.

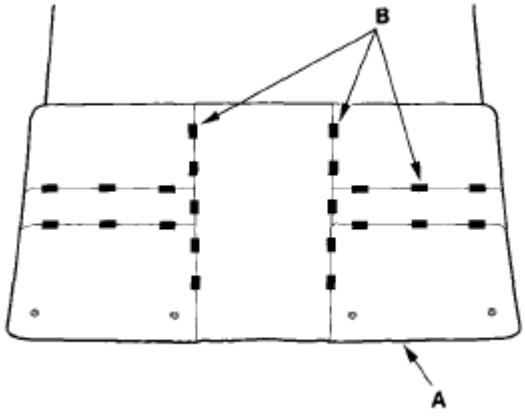



**Fig. 105: Removing Seat-Back Cover**

9. Install the cover in the reverse order of removal, and note these items:

- To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips and hook strips.
- Replace any clips (A) you removed with new ones. Install them with

commercially available upholstery ring pliers (B).

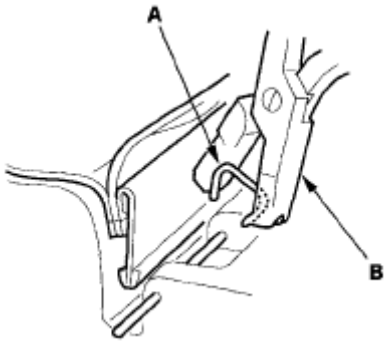



**Fig. 106: Installing Rear Seat-Back Cover Of Seat-Back - Fold Down - 4-Door**

**SEAT-BACK - SPLIT FOLD DOWN - 2-DOOR**

**NOTE:**

- **Take care not to tear the seams or damage the seat covers.**
- **Put on gloves to protect your hands.**

1. Remove the seat-back (see **SEAT-BACK - SPLIT FOLD DOWN** ).
2. Remove these head restraint.
3. Left seat-back: Remove the screw, then remove the center belt guide (A).

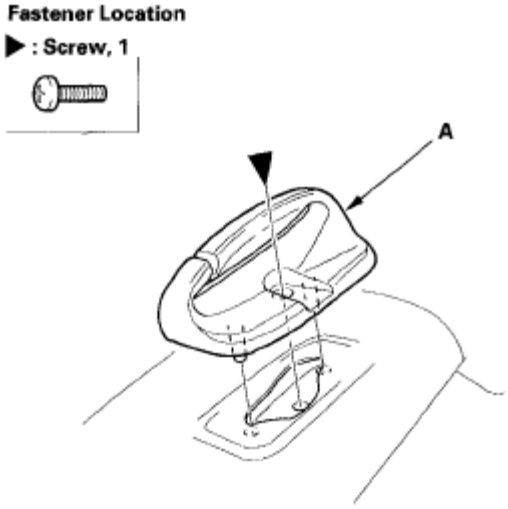



**Fig. 107: Removing Center Belt Guide**

4. Release the velcro fastener (A), the lower hook (B), and clips.

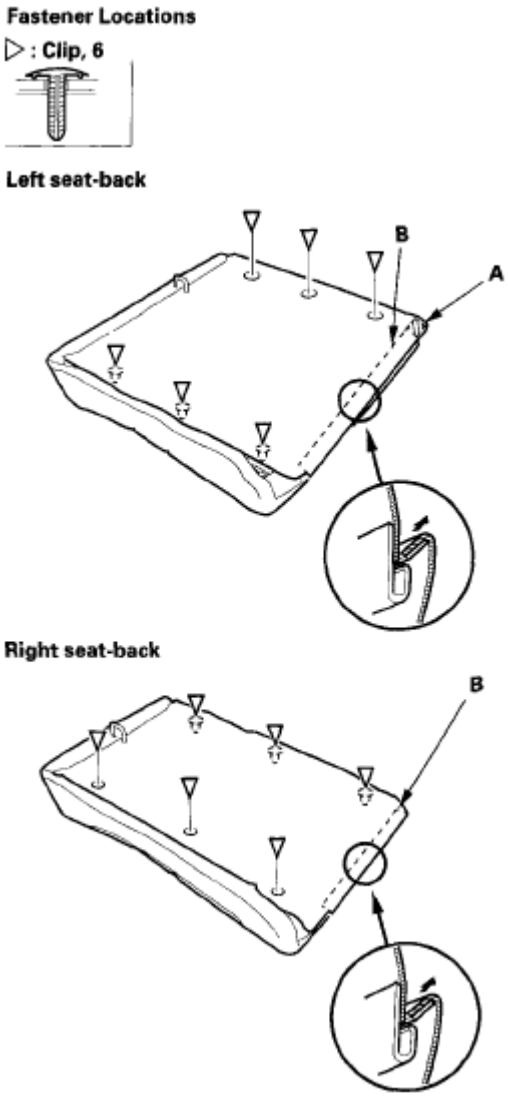



**Fig. 108: Releasing Velcro Fastener, Lower Hook And Clips**

5. Pull back the seat-back cover (A), then release the hook strips (B).

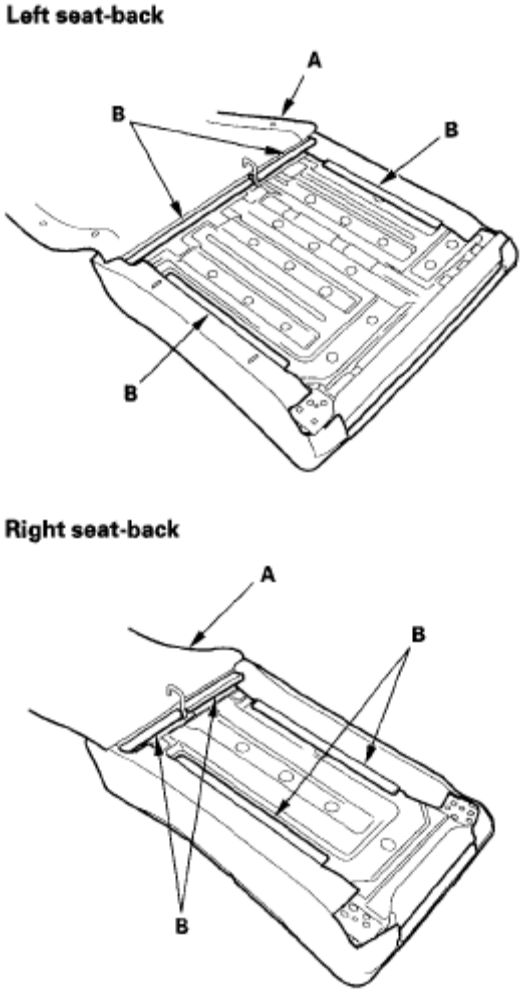



**Fig. 109: Releasing Hook Strips Pulling Back Seat-Back Cover**

6. Pull out the seat-back frame (A) from the pad (B), then pull out the head restraint guides (C) while pinching the end of the guides, and remove them. The left seat-back is shown; the right seat-back is similar.

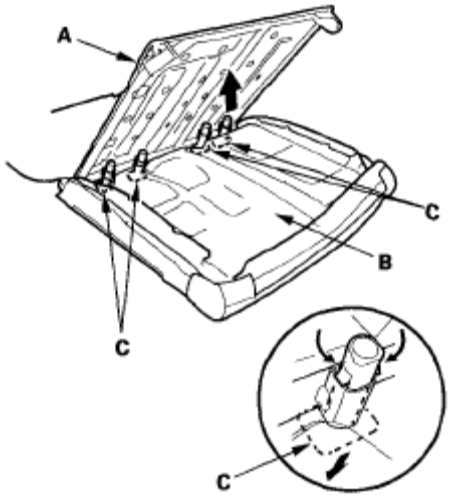



**Fig. 110: Removing Head Restraint Guides Pinching End Of Guides**

7. Remove the seat-back cover and pad from the seat-back frame.
8. Pull back the edge of the seat-back cover (A) all the way around, and release the hooks (B) of the horizontal wires (C) from the vertical wires (D) on the pad, and remove the clips (E), then remove the seat-back cover.

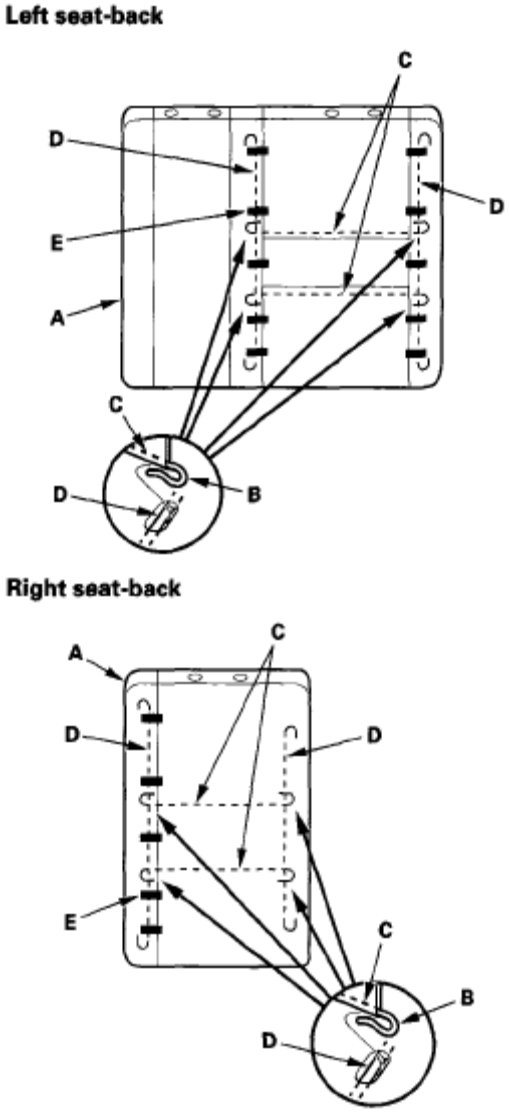



**Fig. 111: Removing Seat-Back Cover**

9. Install the cover in the reverse order of removal, and note these items:

- To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips and hook strips.
- Replace any clips (A) you removed with new ones. Install them with commercially available upholstery ring pliers (B).

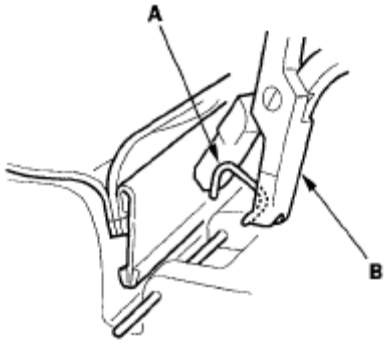



**Fig. 112: Installing Rear Seat-Back Cover Of Seat-Back - Split Fold Down - 2-Door**

**SEAT-BACK - SPLIT FOLD DOWN - 4-DOOR**

**NOTE:**

- **Take care not to tear the seams or damage the seat covers.**
- **Put on gloves to protect your hands.**

1. Remove the seat-back (see **SEAT-BACK - SPLIT FOLD DOWN** ).
2. Remove these items:
   - Armrest (see **REAR SEAT ARMREST REPLACEMENT** )
   - Head restraint
3. Left seat-back: Remove the screws, then remove the center belt guide (A).

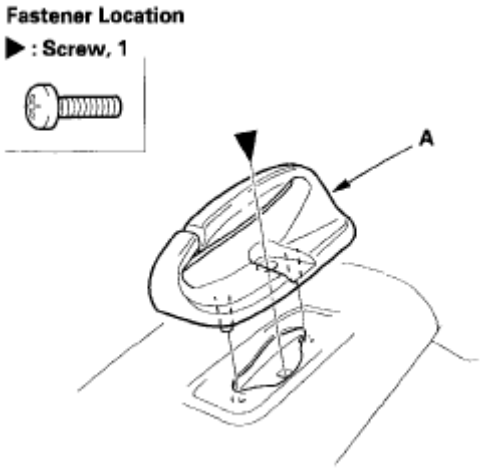



**Fig. 113: Removing Center Belt Guide**

4. Left seat-back: Pull out the center portion of the armrest back panel (A) to release upper edge of the armrest back panel.

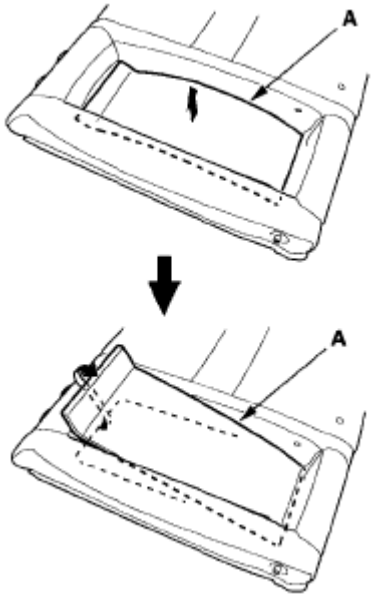



**Fig. 114: Releasing Upper Edge Of Armrest Back Panel Pulling Out Center Portion Of Armrest Back Panel**

5. Left seat-back: Pull out the armrest back panel (A) to release the hook (B) from the seat-back frame and hook (C) from the seat-back cover.

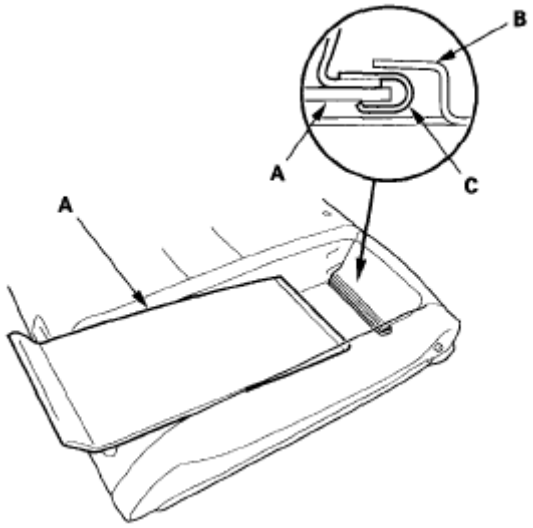



**Fig. 115: Releasing Hook From Seat-Back Frame And Hook From Seat-Back Cover**

6. Release the lower hook (A), and clips (B, C).

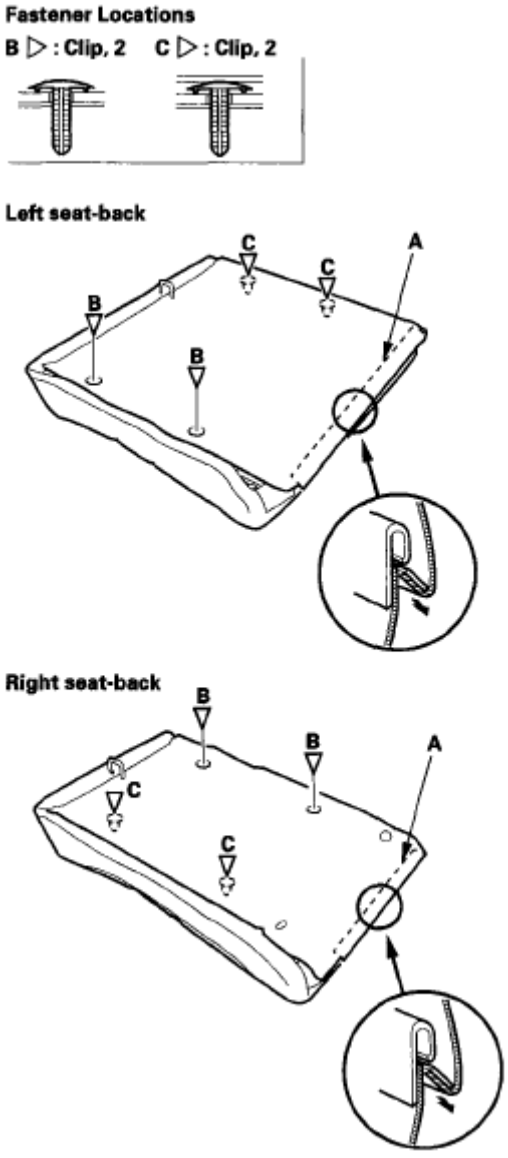



**Fig. 116: Releasing Lower Hook And Clips**

7. Pull back the seat-back cover (A), then release the hook strips (B).

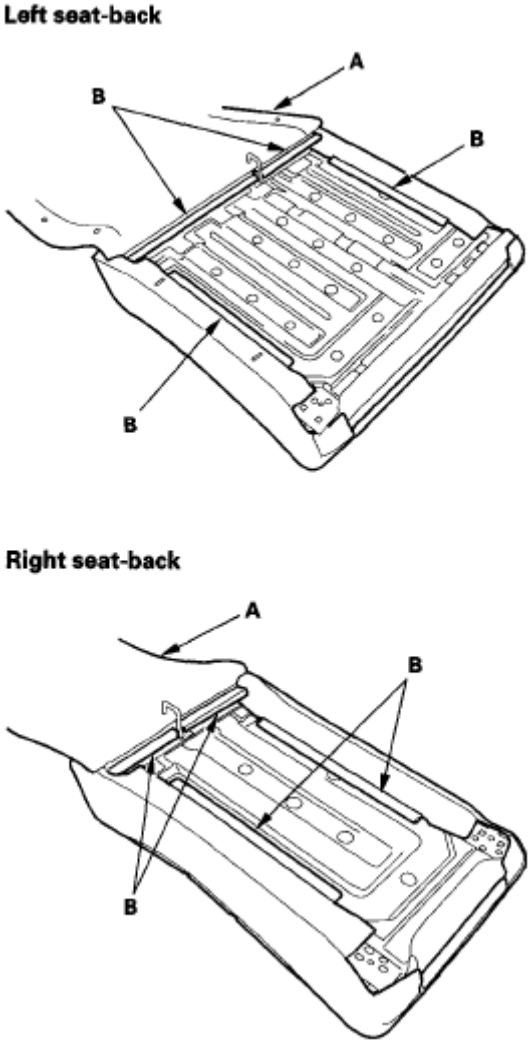



**Fig. 117: Releasing Hook Strips Pulling Back Seat-Back Cover**

8. Pull out the seat-back frame (A) from the pad (B), then pull out the head restraint guides (C) while pinching the end of the guides, and remove them. The left seat-back is shown; the right seat-back is similar.

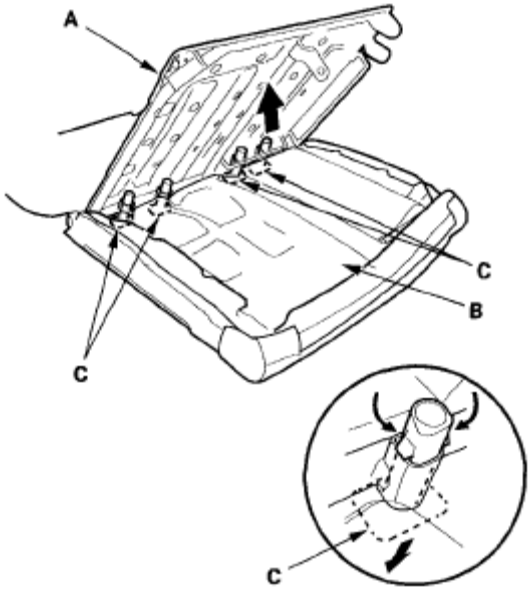



**Fig. 118: Removing Head Restraint Guides Pinching End Of Guides**

9. Remove the seat-back cover and pad from the seat-back frame.
10. Pull back the edge of the seat-back cover (A) all the way around, and release the clips (B), then remove the seat-back cover.

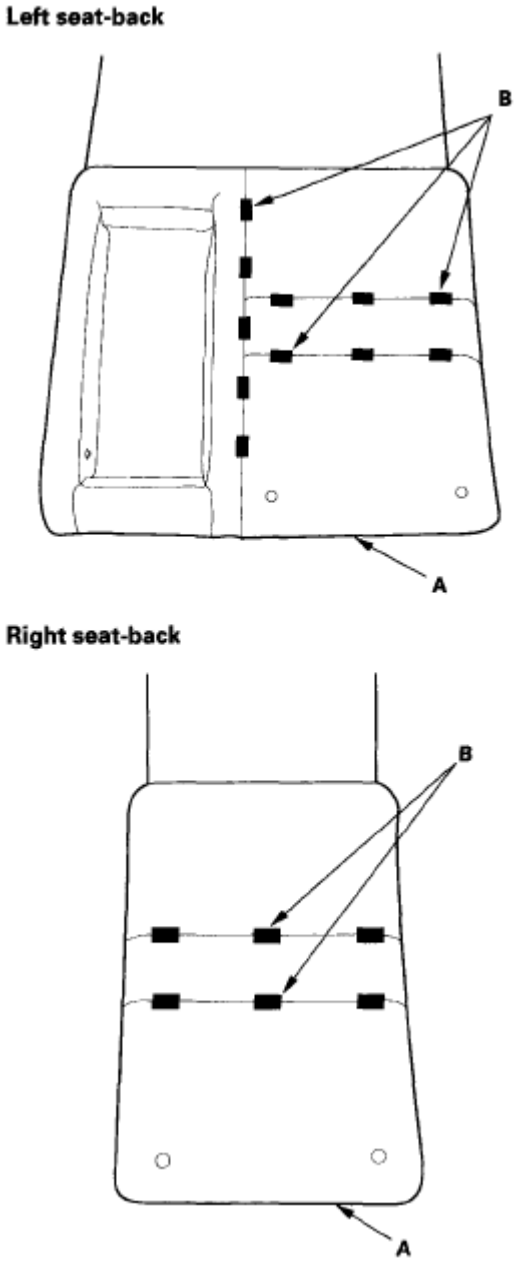



**Fig. 119: Removing Seat-Back Cover**

11. Install the cover in the reverse order of removal, and note these items:
    - To prevent wrinkles when installing a seat-back cover, make sure the material is stretched evenly over the pad before securing the clips.
    - Replace any clips (A) you removed with new ones. Install them with commercially available upholstery ring pliers (B).

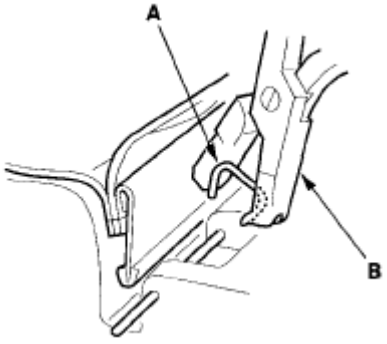



**Fig. 120: Installing Rear Seat-Back Cover Of Seat-Back - Split Fold Down - 4-door**

## REAR SEAT SIDE BOLSTER COVER REPLACEMENT

**NOTE: Take care not to tear the seams or damage the seat covers.**

1. Remove the seat side bolster (see **SEAT SIDE BOLSTER - 4-DOOR** ).
2. Release all the hook strips (A), and fold back the seat side bolster cover (B), and release the cover from the hooks (C).

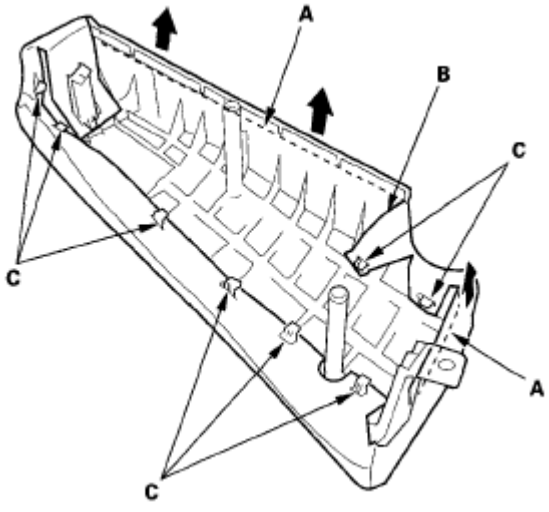



**Fig. 121: Releasing Rear Seat Side Bolster Cover From Hooks**

3. Install the cover in the reverse order of removal, and to prevent wrinkles when installing a side bolster cover, make sure the material is stretched evenly over the pad before securing the hook strips and staples.

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# REAR SEAT CUSHION COVER REPLACEMENT

**2-DOOR**

**NOTE:**

- **Take care not to tear the seams or damage the seat covers.**
- **Put on gloves to protect your hands.**

1. Remove the seat cushion (see **SEAT CUSHION** ).
2. From the back of the seat-back, release the clips (A), then remove the insulator (B).

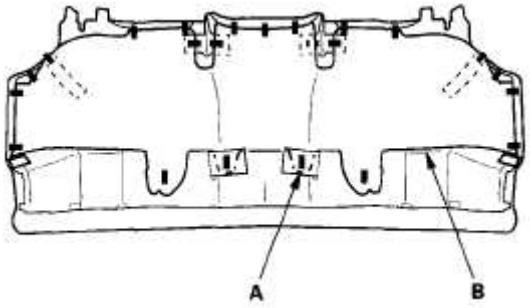



**Fig. 122: Removing Insulator**

3. Release all the clips (A), in the seat cushion cover (B) through the holes in the seat cushion pad, and fold back the seat cushion cover.

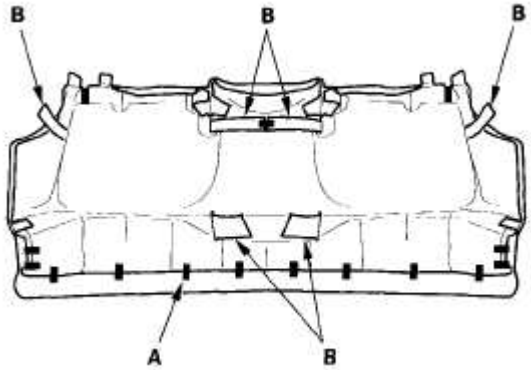



**Fig. 123: Releasing All Clips In Seat Cushion Cover**

4. Pull back the edge of the seat cushion cover all the way around, and release the clips (A), then remove the seat cushion cover (B).

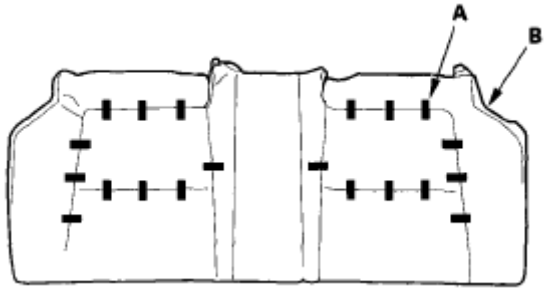



**Fig. 124: Removing Seat Cushion Cover**

5. Install the cover in the reverse order of removal, and note these items:
   - To prevent wrinkles when installing a seat cushion cover, make sure the material is stretched evenly over the pad before securing the clips.
   - Replace any clips (A) you removed with new ones. Install them with commercially available upholstery ring pliers (B).

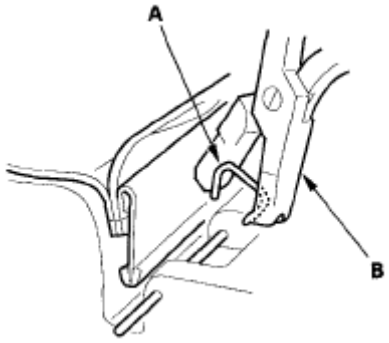



**Fig. 125: Installing Rear Seat Cushion Cover (2-Door)**

**4-DOOR**

**NOTE:**

- **Take care not to tear the seams or damage the seat covers.**
- **Put on gloves to protect your hands.**

1. Remove the seat cushion (see **SEAT CUSHION** ).
2. From the back of the seat-back, pass both lower retainers (A) through the slots in the seat cushion pad, and release all the clips (B), and fold back the seat cushion cover.

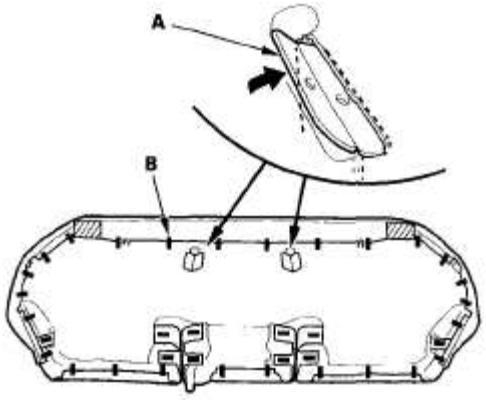



**Fig. 126: Folding Back Seat Cushion Cover**

3. Pull back the edge of the seat cushion cover all the way around, and release the clips (A), from the seat cushion cover (B) through the hole in the seat cushion pad, then remove the seat cushion cover.

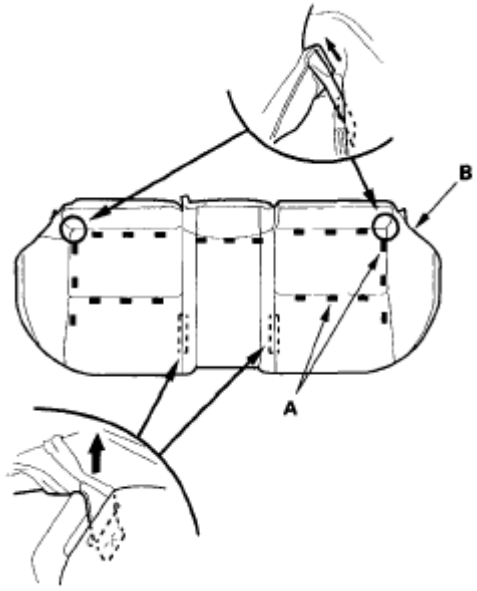



**Fig. 127: Removing Seat Cushion Cover**

4. Install the cover in the reverse order of removal, and note these items:

- To prevent wrinkles when installing a seat cushion cover, make sure the material is stretched evenly over the pad before securing the clips.
- Replace any clips (A) you removed with new ones. Install them with commercially available upholstery ring pliers (B).

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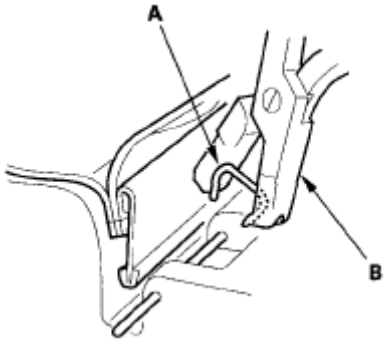



**Fig. 128: Installing Rear Seat Cushion Cover (4-Door)**

## REAR SEAT ARMREST COVER REPLACEMENT

**FOR SOME MODELS - 4-DOOR**

**NOTE: Take care not to tear the seams or damage the seat covers.**

1. Remove the armrest from the seat-back (see **REAR SEAT ARMREST REPLACEMENT** ).
2. Remove the armrest beverage holder from the armrest (see **REAR SEAT ARMREST BEVERAGE HOLDER REPLACEMENT** ).
3. Release the clips (A) and hook strip (B), and pull back the armrest cover (C) all the way around.

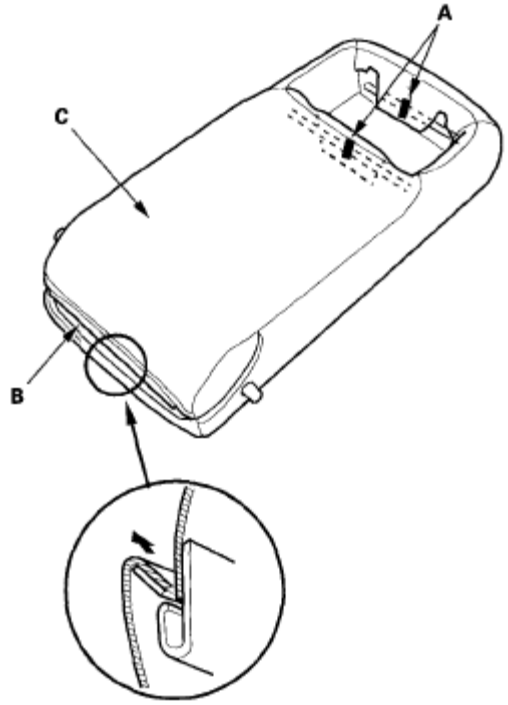



**Fig. 129: Releasing Clips & Hooks And Pulling Back Armrest Cover**

4. Release the armrest cover from the armrest pivot portions (A), then remove it from the pad (B).

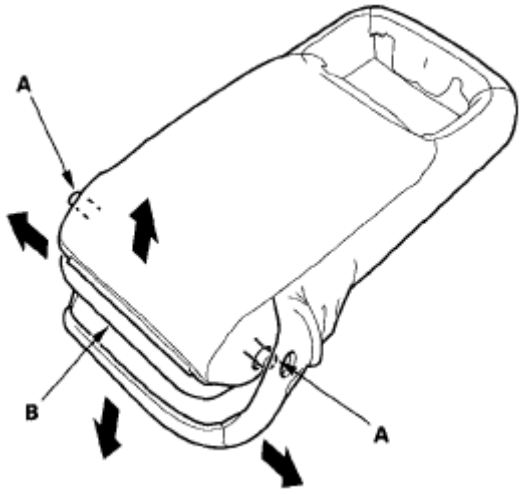



**Fig. 130: Removing Rear Seat Armrest Cover**

5. Install the cover in the reverse order of removal. To prevent wrinkles when installing an armrest cover, make sure the material is stretched evenly over the

pad before securing the hooks and hook strips.

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**2006-08 GENERAL INFORMATION**

**Specifications - Civic (All Except GX & Hybrid)**

## STANDARDS AND SERVICE LIMITS

**ENGINE ELECTRICAL (R18A1 ENGINE)**

## STANDARDS AND SERVICE LIMITS - ENGINE ELECTRICAL (R18A1 ENGINE)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Ignition coil | Rated voltage | | 12V | |
| | Firing order | | 1-3-4-2 | |
| Spark plug | Type | | NGK:IZFR6K11S DENSO:SKJ20DR-M11S | |
| | Gap | | 1.0-1.1 mm (0.039-0.043 in.) | - |
| Ignition timing | At idle Check the red mark | M/T (in neutral) | 8±2° BTDC | |
| | | A/T (in N or P position) | 8±2 ° BTDC | |
| Drive belt | Tension | | Auto-tensioner | |
| Alternator | Output | At 13.5 V and normal engine temperature | 90 A | |
| | Coil (rotor) resistance | At 68°F (20°C) | 1.84-2.10 ohms | |
| | Slip ring O.D. | | 22.7 mm (0.89 in.) | 21.2 mm (0.83 in.) |
| | Brush length | | 19.0 mm (0.75 in.) | 5.0 mm (0.20 in.) |
| | Brush spring tension | | 3.3-4.1 N (0.34-0.42 kgf, 0.75-0.93 lbf) | |
| Starter | Output | | 1.0 kW | |

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|---|---|---|---|---|
| | Commutator mica depth | M/T<br>A/T | 0.50-0.80 mm (0.020-0.031 in.) | 0.2 mm (0.008 in.) |
| | Commutator runout | | 0.02 mm (0.001 in.) max. | 0.05 mm (0.002 in.) |
| | Commutator O.D. | M/T<br>A/T | 28.0 mm (1.10 in.) | 27.0 mm (1.06 in.) |
| | Brush length | M/T<br>A/T | 14.0-14.5 mm (0.55-0.57 in.) | 9.0 mm (0.35 in.) |
| | Brush spring tension | | 13.7-17.7 N (1.40-1.80 kgf, 3.09-3.97 lbf) | |

**ENGINE ELECTRICAL (K20Z3 ENGINE)**

## STANDARDS AND SERVICE LIMITS - ENGINE ELECTRICAL (K20Z3 ENGINE)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Ignition coil | Rated voltage | | 12V | |
| | Firing order | | 1-3-4-2 | |
| Spark plug | Type | | NGK:IFR7G11KS<br>DENSO:SK22PR-M11S | |
| | Gap | | 1.0-1.1 mm (0.039-0.043 in.) | - |
| Ignition timing | At idle Check the red mark | | 8±2° BTDC | |
| Drive belt | Tension | | Auto-tensioner | |
| Alternator | Output | At 13.5 V and normal engine temperature | 105 A | |

| | | | | |
|---|---|---|---|---|
| | Coil (rotor) resistance | At 68 °F (20 °C) | 3.2-4.0 ohms | |
| | Slip ring O.D. | | 14.4 mm (0.57 in.) | 14.0 mm (0.55 in.) |
| | Brush length | | 10.5 mm (0.41 in.) | 1.5 mm (0.06 in.) |
| | Brush spring tension | | 3.2 N (0.33 kgf, 0.7 lbf) | |
| Starter | Output | | 1.0 kW | |
| | Commutator mica depth | | 0.40-0.50 mm (0.016-0.020 in.) | 0.15 mm (0.006 in.) |
| | Commutator runout | | 0.02 mm (0.001 in.) max. | 0.05 mm (0.002 in.) |
| | Commutator O.D. | | 28.0-28.1 mm (1.102-1.106 in.) | 27.5 mm (1.083 in.) |
| | Brush length | | 11.1-11.5 mm (0.44-0.45 in.) | 9.0 mm (0.35 in.) |
| | Brush spring tension | | 13.7-17.7 N (1.40-1.80 kgf, 3.09-3.97 lbf) | |

**ENGINE ASSEMBLY (R18A1 ENGINE)**

## STANDARDS AND SERVICE LIMITS - ENGINE ASSEMBLY (R18A1 ENGINE)

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Compression | Pressure Check the engine with the starter cranking | Minimum | 880 kPa (9.0 $kgf/cm^2$ , 128 psi) |
| | | Maximum variation | 200 kPa (2.0 $kgf/cm^2$ , 28 psi) |

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**ENGINE ASSEMBLY (K20Z3 ENGINE)**

## STANDARDS AND SERVICE LIMITS - ENGINE ASSEMBLY (K20Z3 ENGINE)

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Compression | Pressure Check the engine with the starter cranking | Minimum | 930 kPa (9.5 $kgf/cm^2$ , 135 psi) |
| | | Maximum variation | 200 kPa (2.0 $kgf/cm^2$ , 28 psi) |

**CYLINDER HEAD (R18A1 ENGINE)**

## STANDARDS AND SERVICE LIMITS - CYLINDER HEAD (R18A1 ENGINE)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Head | Warpage | | - | 0.08 mm (0.003 in.) |
| | Height | | 114.95-115.05 mm (4.526-4.530 in.) | - |
| Camshaft | End play | | 0.050-0.250 mm (0.002-0.010 in.) | 0.4 mm (0.02 in.) |
| | Camshaft-to-holder oil clearance | | 0.045-0.084 mm (0.0018-0.0033 in.) | 0.15 mm (0.006 in.) |
| | Total runout | | 0.03 mm (0.001 in.) max. | 0.04 mm (0.002 in.) |
| | Cam lobe height | Intake, primary | 35.754 mm (1.4076 in.) | - |
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|---|---|---|---|---|
| | | Intake, secondary A | 35.358 mm (1.3920 in.) | - |
| | | Intake, secondary B | 36.027 mm (1.4184 in.) | - |
| | | Exhaust | 35.813 mm (1.4100 in.) | - |
| Valve | Clearance (cold) | Intake | 0.18-0.22 mm (0.007-0.009 in.) | - |
| | | Exhaust | 0.23-0.27 mm (0.009-0.011 in.) | - |
| | Stem O.D. | Intake | 5.48-5.49 mm (0.2157-0.2161 in.) | 5.45 mm (0.215 in.) |
| | | Exhaust | 5.45-5.46 mm (0.2146-0.2150 in.) | 5.42 mm (0.213 in.) |
| | Stem-to-guide clearance | Intake | 0.02-0.05 mm (0.0008-0.0020 in.) | 0.08 mm (0.003 in.) |
| | | Exhaust | 0.05-0.08 mm (0.0020-0.0031 in.) | 0.11 mm (0.004 in.) |
| Valve seat | Width | Intake | 0.85-1.15 mm (0.033-0.045 in.) | 1.6 mm (0.06 in.) |
| | | Exhaust | 1.25-1.55 mm (0.049-0.061 in.) | 2.0 mm (0.08 in.) |
| | Stem installed height | Intake | 67.2-67.4 mm (2.646-2.654 in.) | 67.7 mm (2.665 in.) |
| | | Exhaust | 58.4-58.6 mm | 58.9 mm |

| | | | | |
|---|---|---|---|---|
| | | | (2.299-2.307 in.) | (2.319 in.) |
| Valve spring | Free length | Intake | 55.31 mm (2.178 in.) | - |
| | | Exhaust | 56.97 mm (2.243 in.) | - |
| Valve guide | I.D. | Intake | 5.51-5.53 mm (0.217-0.218 in.) | 5.55 mm (0.219 in.) |
| | | Exhaust | 5.51-5.53 mm (0.217-0.218 in.) | 5.55 mm (0.219 in.) |
| | Installed height | Intake | 18.25-18.75 mm (0.719-0.738 in.) | - |
| | | Exhaust | 18.25-18.75 mm (0.719-0.738 in.) | - |
| Rocker arm | Arm-to-shaft clearance | Intake | 0.019-0.050 mm (0.0007-0.0020 in.) | 0.08 mm (0.0031 in.) |
| | | Exhaust | 0.019-0.050 mm (0.0007-0.0020 in.) | 0.08 mm (0.0031 in.) |

**CYLINDER HEAD (K20Z3 ENGINE)**

## STANDARDS AND SERVICE LIMITS - CYLINDER HEAD (K20Z3 ENGINE)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Head | Warpage | | - | 0.05 mm (0.002 in.) |
| | Height | | 103.95-104.05 mm (4.093- | - |

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|---|---|---|---|---|
| | | | 4.096 in.) | |
| Camshaft | End play | | 0.05-0.20 mm (0.002-0.008 in.) | 0.4 mm (0.02 in.) |
| | Camshaft-to-holder oil clearance | No. 1 journal | 0.030-0.069 mm (0.001-0.003 in.) | 0.15 mm (0.006 in.) |
| | | No. 2, 3, 4, 5 journals | 0.060-0.099 mm (0.002-0.004 in.) | 0.15 mm (0.006 in.) |
| | Total runout | | 0.03 mm (0.001 in.) max. | 0.04 mm (0.002 in.) |
| | Cam lobe height | Intake, primary | 32.791 mm (1.2910 in.) | - |
| | | Intake, mid | 35.534 mm (1.3990 in.) | - |
| | | Intake, secondary | 32.678 mm (1.2865 in.) | - |
| | | Exhaust, primary | 32.772 mm (1.2902 in.) | - |
| | | Exhaust, mid | 34.768 mm (1.3688 in.) | - |
| | | Exhaust, secondary | 32.661 mm (1.2859 in.) | - |
| Valve | Clearance (cold) | Intake | 0.21-0.25 mm (0.008-0.010 in.) | - |
| | | Exhaust | 0.25-0.29 mm (0.010-0.011 in.) | - |
| | Stem O.D. | Intake | 5.475-5.485 mm (0.2156-0.2159 in.) | 5.445 mm (0.214 in.) |

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|---|---|---|---|---|
| | | Exhaust | 5.450-5.460 mm (0.2146-0.2150 in.) | 5.420 mm (0.213 in.) |
| | Stem-to-guide clearance | Intake | 0.030-0.055 mm (0.0012-0.0022 in.) | 0.08 mm (0.003 in.) |
| | | Exhaust | 0.055-0.080 mm (0.0022-0.0031 in.) | 0.11 mm (0.004 in.) |
| Valve seat | Width | Intake | 1.25-1.55 mm (0.049-0.061 in.) | 2.00 mm (0.079 in.) |
| | | Exhaust | 1.25-1.55 mm (0.049-0.061 in.) | 2.00 mm (0.079 in.) |
| | Stem installed height | Intake | 44.0-44.5 mm (1.73-1.75 in.) | 44.7 mm (1.76 in.) |
| | | Exhaust | 44.1-44.6 mm (1.74-1.76 in.) | 44.8 mm (1.76 in.) |
| Valve spring | Free length | Intake | NIPPON HATSUJO: 47.57 mm (1.8728 in.) | - |
| | | | CHUO HATSUJO: 47.58 mm (1.8732 in.) | |
| | | Exhaust | NIPPON HATSUJO: 49.64 mm (1.954 in.) | - |
| | | | CHUO HATSUJO: 49.63 mm | |

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|---|---|---|---|---|
| | | | (1.954 in.) | |
| Valve guide | I.D. | Intake | 5.515-5.530 mm (0.2171-0.2177 in.) | 5.55 mm (0.219 in.) |
| | | Exhaust | 5.515-5.530 mm (0.2171-0.2177 in.) | 5.55 mm (0.219 in.) |
| | Installed height | Intake | 15.2-16.2 mm (0.598-0.638 in.) | - |
| | | Exhaust | 15.5-16.5 mm (0.610-0.650 in.) | - |
| Rocker arm | Arm-to-shaft clearance | | 0.025-0.052 mm (0.0010-0.0020 in.) | 0.08 mm (0.003 in.) |

**ENGINE BLOCK (R18A1 ENGINE)**

## STANDARDS AND SERVICE LIMITS - ENGINE BLOCK (R18A1 ENGINE)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Block | Warpage of deck | | 0.07 mm (0.003 in.) max. | 0.10 mm (0.004 in.) |
| | Bore diameter | | 81.000-81.015 mm (3.1890-3.1896 in.) | 81.070 mm (3.1917 in.) |
| | Bore taper | | - | 0.05 mm (0.002 in.) |
| | Reboring limit | | - | 0.25 mm (0.01 in.) |
| Piston | Skirt O.D. at 14 mm (0.55 in.) | | 80.980-80.990 mm (3.1881- | 80.98 mm (3.186 in.) |

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| | from bottom of skirt | | 3.1886 in.) | |
| | Clearance in cylinder | | 0.010-0.035 mm (0.0004-0.0014 in.) | 0.05 mm (0.002 in.) |
| | Ring groove width | Top | 1.23-1.24 mm (0.048-0.049 in.) | 1.26 mm (0.050 in.) |
| | | Second | 1.22-1.23 mm (0.047-0.048 in.) | 1.25 mm (0.049 in.) |
| | | Oil | 2.005-2.020 mm (0.0789-0.0795 in.) | 2.05 mm (0.081 in.) |
| Piston ring | Ring-to-groove clearance | Top | 0.045-0.070 mm (0.0018-0.0028 in.) | 0.13 mm (0.005 in.) |
| | | Second | 0.035-0.060 mm (0.0014-0.0024 in.) | 0.13 mm (0.005 in.) |
| | Ring end gap | Top | 0.20-0.35 mm (0.008-0.014 in.) | 0.60 mm (0.024 in.) |
| | | Second | 0.40-0.55 mm (0.016-0.022 in.) | 0.70 mm (0.028 in.) |
| | | Oil | 0.20-0.70 mm (0.008-0.028 in.) | 0.80 mm (0.031 in.) |
| Piston pin | O.D. | | 19.960-19.964 mm (0.7858-0.7860 in.) | 19.960 mm (0.7858 in.) |
| | Pin-to-piston clearance | | -0.004 to +0.003 mm | 0.006 mm (0.0002 in.) |

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| | | | (-0.00016 to +0.00012 in.) | |
| Connecting rod | Pin-to-rod clearance | | 0.005-0.015 mm (0.0002-0.0006 in.) | 0.02 mm (0.0008 in.) |
| | Small-end bore diameter | | 19.969-19.975 mm (0.7862-0.7864 in.) | - |
| | Large-end bore diameter | | 48.0 mm (1.89 in.) | - |
| | End play installed on crankshaft | | 0.15-0.35 mm (0.006-0.014 in.) | 0.45 mm (0.018 in.) |
| Crankshaft | Main journal diameter | | 54.976-55.000 mm (2.1644-2.1654 in.) | - |
| | Rod journal diameter | | 44.976-45.000 mm (1.7707-1.7716 in.) | - |
| | Rod/main journal taper | | 0.005 mm (0.0002 in.) max. | 0.010 mm (0.0004 in.) |
| | Rod/main journal out-of-round | | 0.005 mm (0.0002 in.) max. | 0.010 mm (0.0004 in.) |
| | End play | | 0.10-0.35 mm (0.004-0.014 in.) | 0.45 mm (0.018 in.) |
| | Runout | | 0.03 mm (0.0012 in.) max. | 0.04 mm (0.0016 in.) |
| Crankshaft bearing | Main bearing-to-journal oil clearance | | 0.018-0.034 mm (0.0007-0.0013 in.) | 0.045 mm (0.0018 in.) |

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| | Rod bearing clearance | | 0.024-0.042 mm (0.0009-0.0017 in.) | 0.055 mm (0.0022 in.) |

**ENGINE BLOCK (K20Z3 ENGINE)**

## STANDARDS AND SERVICE LIMITS - ENGINE BLOCK (K20Z3 ENGINE)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Block | Warpage of deck | | 0.07 mm (0.003 in.) max. | 0.10 mm (0.004 in.) |
| | Bore diameter | A or I | 86.010-86.020 mm (3.3862-3.3866 in.) | 86.070 mm (3.3886 in.) |
| | | B or II | 86.000-86.010 mm (3.3858-3.3862 in.) | 86.070 mm (3.3886 in.) |
| | Bore taper | | - | 0.05 mm (0.002 in.) |
| | Reboring limit | | - | 0.25 mm (0.01 in.) |
| Piston | Skirt O.D. at 11 mm (0.4 in.) from bottom of skirt | No letter or A | 85.980-85.990 mm (3.3850-3.3854 in.) | 85.930 mm (3.3831 in.) |
| | | Letter B | 85.970-85.980 mm (3.3846-3.3850 in.) | 85.920 mm (3.3827 in.) |
| | Clearance in cylinder | | 0.020-0.040 mm (0.0008-0.0016 in.) | 0.05 mm (0.002 in.) |
| | Ring groove width | Top | 1.220-1.230 mm (0.0481-0.0484 in.) | 1.25 mm (0.049 in.) |

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| | | Second | 1.220-1.230 mm (0.0481-0.0484 in.) | 1.25 mm (0.049 in.) |
| | | Oil | 2.005-2.025 mm (0.0789-0.0797 in.) | 2.05 mm (0.081 in.) |
| Piston ring | Ring-to-groove clearance | Top | 0.045-0.070 mm (0.0018-0.0028 in.) | 0.13 mm (0.005 in.) |
| | | Second | 0.040-0.065 mm (0.0016-0.0026 in.) | 0.13 mm (0.005 in.) |
| | Ring end gap | Top | 0.20-0.35 mm (0.008-0.014 in.) | 0.60 mm (0.024 in.) |
| | | Second | 0.50-0.65 mm (0.020-0.026 in.) | 0.75 mm (0.030 in.) |
| | | Oil | 0.20-0.70 mm (0.008-0.028 in.) | 0.80 mm (0.031 in.) |
| Piston pin | O.D. | | 21.961-21.965 mm (0.8646-0.8648 in.) | 21.953 mm (0.8643 in.) |
| | Pin-to-piston clearance | | -0.005 to +0.002 mm (-0.00020 to +0.00008 in.) | 0.005 mm (0.0002 in.) |
| Connecting rod | Pin-to-rod clearance | | 0.005-0.015 mm (0.0002-0.0006 in.) | 0.02 mm (0.0008 in.) |
| | Small-end bore diameter | | 21.970-21.976 mm (0.8650-0.8652 in.) | - |

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| | Large-end bore diameter | | 51.0 mm (2.01 in.) | - |
| | End play installed on crankshaft | | 0.15-0.30 mm (0.006-0.012 in.) | 0.40 mm (0.016 in.) |
| Crankshaft | Main journal diameter | No. 1 journal<br>No. 2 journal<br>No. 4 journal<br>No. 5 journal | 54.984-55.008 mm (2.1648-2.1657 in.) | - |
| | | No. 3 journal | 54.976-55.000 mm (2.1644-2.1654 in.) | - |
| | Rod journal diameter | | 44.976-45.000 mm (1.7707-1.7717 in.) | - |
| | Rod/main journal taper | | 0.005 mm (0.0002 in.) max. | 0.010 mm (0.0004 in.) |
| | Rod/main journal out-of-round | | 0.005 mm (0.0002 in.) max. | 0.010 mm (0.0004 in.) |
| | End play | | 0.10-0.35 mm (0.004-0.014 in.) | 0.45 mm (0.018 in.) |
| | Runout | | 0.03 mm (0.0012 in.) max. | 0.04 mm (0.0016 in.) |
| Crankshaft bearing | Main bearing-to-journal oil clearance | No. 1 journal<br>No. 2 journal<br>No. 4 journal<br>No. 5 journal | 0.017-0.041 mm (0.0007-0.0016 in.) | 0.050 mm (0.0020 in.) |
| | | No. 3 journal | 0.025-0.049 mm (0.0010-0.0019 in.) | 0.055 mm (0.0022 in.) |

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| | Rod bearing clearance | | 0.032-0.066 mm (0.0013-0.0026 in.) | 0.077 mm (0.0030 in.) |

**ENGINE LUBRICATION (R18A1 ENGINE)**

## STANDARDS AND SERVICE LIMITS - ENGINE LUBRICATION (R18A1 ENGINE)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Engine oil | Capacity | Engine overhaul | 4.5 L (4.8 US qt) | |
| | | Oil change including filter | 3.7 L (3.9 US qt) | |
| | | Oil change without filter | 3.5 L (3.7 US qt) | |
| Oil pump | Inner-to-outer rotor clearance | | 0.02-0.16 mm (0.001-0.006 in.) | 0.20 mm (0.008 in.) |
| | Pump housing-to-outer rotor clearance | | 0.100-0.175 mm (0.0039-0.0069 in.) | 0.20 mm (0.008 in.) |
| | Pump housing-to-outer rotor axial clearance | | 0.02-0.07 mm (0.001-0.003 in.) | 0.12 mm (0.005 in.) |
| | Oil pressure with oil temperature at 176°F (80°C) | At idle | 70 kPa (0.7 kgf/$cm^2$ psi) | |
| | | At 3,000 rpm | 340 kPa (3.5 kgf/$cm^2$ , 50 psi) | |

**ENGINE LUBRICATION (K20Z3 ENGINE)**

## STANDARDS AND SERVICE LIMITS - ENGINE LUBRICATION (K20Z3 ENGINE)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|

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|---|---|---|---|---|
| Engine oil | Capacity | Engine overhaul | 5.5 L (5.8 US qt) | |
| | | Oil change including filter | 4.4 L (4.6 US qt) | |
| | | Oil change without filter | 4.2 L (4.4 US qt) | |
| Oil pump | Inner-to-outer rotor clearance | | 0.06-0.16 mm (0.002-0.006 in.) | 0.20 mm (0.008 in.) |
| | Pump housing-to-outer rotor clearance | | 0.15-0.21 mm (0.006-0.008 in.) | 0.23 mm (0.009 in.) |
| | Pump housing-to-outer rotor axial clearance | | 0.035-0.070 mm (0.0013-0.0028 in.) | 0.12 mm (0.005 in.) |
| | Balancer shafts, journal diameter | No. 1 journal, front shaft | 19.938-19.950 mm (0.7850-0.7854 in.) | 19.92 mm (0.784 in.) |
| | | No. 1 journal, rear shaft | 23.938-23.950 mm (0.9424-0.9429 in.) | 23.92 mm (0.942 in.) |
| | | No. 2 journal, front and rear shaft | 32.949-32.961 mm (1.2972-1.2977 in.) | 32.93 mm (1.296 in.) |
| | Balancer shafts, journal taper | | 0.005 mm (0.0002 in.) max. | - |
| | Balancer shafts, end play | Front | 0.063-0.108 mm (0.0025-0.0043 in.) | 0.14 mm (0.0055 in.) |
| | | Rear | 0.063-0.108 mm (0.0025-0.0043 in.) | 0.14 mm (0.0055 in.) |
| | Balancer shafts, shaft-to-bearing | No. 1 journal, front shaft | 0.050-0.082 mm (0.0020- | 0.10 mm (0.004 in.) |

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| | clearance | | 0.0032 in.) | |
| | | No. 1 journal, rear shaft | 0.050-0.082 mm (0.0020-0.0032 in.) | 0.10 mm (0.004 in.) |
| | | No. 2 journal, front and rear shaft | 0.060-0.120 mm (0.0024-0.0047 in.) | 0.15 mm (0.006 in.) |
| | Balancer shaft bearings, I.D. | No. 1 journal, front shaft | 20.000-20.020 mm (0.7874-0.7882 in.) | 20.03 mm (0.789 in.) |
| | | No. 1 journal, rear shaft | 24.000-24.020 mm (0.9449-0.9457 in.) | 24.03 mm (0.946 in.) |
| | | No. 2 journal, front and rear shaft | 33.021-33.069 mm (1.3000-1.3019 in.) | 33.09 mm (1.303 in.) |
| | Relief valve, oil pressure with oil temperature at 176 °F (80 °C) | At idle | 70 kPa (0.7 kgf/cm$^2$ , 10 psi) min. | |
| | | At 3,000 rpm | 300 kPa (3.1 kgf/cm$^2$ , 44 psi) min. | |

**COOLING SYSTEM (R18A1 ENGINE)**

## STANDARDS AND SERVICE LIMITS - COOLING SYSTEM (R18A1 ENGINE)

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Radiator | Coolant capacity (includes engine, heater, hoses, and reservoir) Use Honda Long Life Antifreeze/Coolant Type 2 | M/T: engine overhaul | 6.5 L (1.72 US gal) |
| | | A/T engine overhaul | 6.7 L (1.77 US gal) |
| | | M/T: coolant change | 5.2 L (1.37 US gal) |
| | | A/T coolant change | 5.3 L (1.40 US |

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| | | | gal) |
| | | M/T: engine overhaul | 6.5 L (1.72 US gal) |
| | | A/T engine overhaul | 7.1 L (1.88 US gal) |
| | | M/T: coolant change | 5.2 L (1.37 US gal) |
| | | A/T: coolant change | 5.5 L (1.45 US gal) |
| Reservoir | Coolant capacity | | 0.4 L (0.11 US gal) |
| Radiator cap | Opening pressure | | 93-123 kPa (0.95-1.25 $kgf/cm^2$ , 14-18 psi) |
| Thermostat | Opening temperature | Begins to open | 176-183°F (80-84°C) |
| | | Fully open | 203°F (951) |
| | Valve lift at fully open | | 8.0 mm (0.31 in.) min. |

**COOLING SYSTEM (K20Z3 ENGINE)**

## STANDARDS AND SERVICE LIMITS - COOLING SYSTEM (K20Z3 ENGINE)

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Radiator | Coolant capacities (including engine, heater, hoses, and reservoir) Use Honda Long Life Antifreeze/Coolant Type 2 | Engine overhaul | 6.8 L (1.80 US gal) |
| | | Coolant change | 4.5 L (1.19 US gal) |

| | | | |
|---|---|---|---|
| Reservoir | Coolant capacity | | 0.4 L (0.11 US gal) |
| Radiator cap | Opening pressure | | 93-123 kPa (0.95-1.25 kgf/cm$^2$ , 14-18 psi) |
| Thermostat | Opening temperature | Begins to open | 169-176°F (76-80°C) |
| | | Fully open | 194°F (90°C) |
| | Valve lift at fully open | | 8.0 mm (0.31 in.) |

**FUEL AND EMISSIONS (R18A1)**

## STANDARDS AND SERVICE LIMITS - FUEL AND EMISSIONS

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Fuel pressure regulator | Pressure with fuel pressure gauge connected | | 380-430 kPa (3.9-4.4 kgf/cm$^2$ , 55-63 psi) |
| Fuel tank | Capacity | | 50 L (13.2 US gal) |
| Engine idle (USA models) | Idle speed without load | A/T (in N or P position), M/T (in neutral) | 670 50 rpm |
| | Idle speed with high electrical load (A/C switch ON, temperature set to max cool, blower fan on High, rear window defogger ON, and headlights on high beam) | A/T (in N or P position), M/T (in neutral) | 710 50 rpm |
| Engine idle | Idle speed without | A/T (in N or P | 750 50 rpm |

| | | | |
|---|---|---|---|
| (Canada models) | load | position), M/T (in neutral) | |
| | Idle speed with high electrical load (A/C switch ON, temperature set to max cool, blower fan on High, rear window defogger ON, and headlights on high beam) | A/T (in N or P position), M/T (in neutral) | 750 50 rpm |

**FUEL AND EMISSIONS (K20Z3)**

## STANDARDS AND SERVICE LIMITS - FUEL AND EMISSIONS

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Fuel pressure regulator | Pressure with fuel pressure gauge connected | K20Z3 engine | 330-380 kPa (3.4-3.9 kgf/$cm^2$ , 48-55 psi) |
| Fuel tank | Capacity | | 50 L (13.2 US gal) |
| Engine idle | Idle speed without load | In neutral | 750 50 rpm |
| | Idle speed with high electrical load (A/C switch ON, temperature set to max cool, blower fan on High, rear window defogger ON, and headlights on high beam) | In neutral | 750 50 rpm |

**CLUTCH**

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## STANDARDS AND SERVICE LIMITS - CLUTCH

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Clutch pedal | Height from the floor | | 157 mm (6.18 in.) | - |
| | Stroke | | 130-140 mm (5.12-5.51 in.) | - |
| | Play | | 10-18 mm (0.39-0.71 in.) | - |
| | Disengagement height from the floor | | 77 mm (3.03 in.) min. | - |
| Flywheel | Runout on clutch mating surface | | 0.05 mm (0.002 in.) max. | 0.15 mm (0.006 in.) |
| Clutch disc | Rivet head depth | 5M/T model | 1.35-1.95 mm (0.053-0.077 in.) | 0.2 mm (0.01 in.) |
| | | 6M/T model | 1.65-2.25 mm (0.065-0.089 in.) | 0.7 mm (0.03 in.) |
| | Thickness | 5M/T model | 7.8-8.4 mm (0.30-0.33 in.) | 6.0 mm (0.24 in.) |
| | | 6M/T model | 8.3-8.9 mm (0.33-0.35 in.) | 6.0 mm (0.24 in.) |
| Pressure plate | Warpage | | 0.03 mm (0.001 in.) max. | 0.15 mm (0.006 in.) |
| | Height if diaphragm spring fingers | Measured with clutch alignment disc, clutch alignment shaft, remover handle, and feeler gauge | 0.6 mm (0.02 in.) max. | 0.8 mm (0.03 in.) |

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**MANUAL TRANSMISSION AND M/T DIFFERENTIAL (5-SPEED)**

# STANDARDS AND SERVICE LIMITS - MANUAL TRANSMISSION AND M/T DIFFERENTIAL (5-SPEED)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Manual transmission fluid | Capacity Use Honda MTF | Fluid change | 1.4 L (1.5 US qt) | |
| | | Overhaul | 1.6 L (1.7 US qt) | |
| Mainshaft | End play | | 0.11-0.18 mm (0.004-0.007 in.) | Adjust |
| | Diameter of bushing contact area | | 18.800-18.850 mm (0.7402-0.7421 in.) | 18.75 mm (0.738 in.) |
| | Diameter of distance collar contact area | | 28.992-29.005 mm (1.1414-1.1419 in.) | 28.93 mm (1.139 in.) |
| | Diameter of ball bearing contact area (clutch housing side) | | 25.977-25.990 mm (1.0227-1.0232 in.) | 25.92 mm (1.020 in.) |
| | Diameter of needle bearing contact area | | 34.984-35.000 mm (1.3773-1.3780 in.) | 34.93 mm (1.375 in.) |
| | Diameter of ball bearing contact area (transmission housing side) | | 24.987-25.000 mm (0.9837-0.9843 in.) | 24.93 mm (0.981 in.) |
| | Runout | | 0.02 mm (0.001 in.) max. | 0.05 mm (0.002 in.) |

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|---|---|---|---|---|
| Mainshaft 3rd, 4th, and 5th gear | I.D. | | 39.009-39.025 mm (1.5358-1.5364 in.) | 38.95 mm (1.533 in.) |
| | End play | 3rd | 0.06-0.21 mm (0.002-0.008 in.) | 0.30 mm (0.012 in.) |
| | | 4th | 0.06-0.19 mm (0.002-0.007 in.) | 0.28 mm (0.011 in.) |
| | | 5th | 0.06-0.14 mm (0.002-0.006 in.) | 0.23 mm (0.009 in.) |
| | Thickness | 3rd | 27.02-27.07 mm (1.064-1.066 in.) | 26.95 mm (1.061 in.) |
| | | 4th | 25.52-25.57 mm (1.005-1.007 in.) | 25.45 mm (1.002 in.) |
| | | 5th | 22.42-22.47 mm (0.883-0.885 in.) | 22.35 mm (0.880 in.) |
| Mainshaft 4th and 5th gear distance collar | I.D. | | 29.014-29.024 mm (1.1423-1.1427 in.) | 29.03 mm (1.423 in.) |
| | O.D. | | 34.989-35.000 mm (1.3775-1.3780 in.) | 34.94 mm (1.376 in.) |
| | Length | A | 48.97-49.03 mm (1.9279-1.9303 in.) | - |
| | | B | 22.53-22.56 | - |

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|---|---|---|---|---|
| |  | | mm (0.887-0.888 in.) | |
| MBS distance collar | I.D. | | 25.00-25.10 mm (0.984-0.988 in.) | 28.02 mm (1.103 in.) |
| | Length | | 24.03-24.08 mm (0.946-0.948 in.) | - |
| Countershaft | Diameter of needle bearing contact area (clutch housing side) | | 34.000-34.015 mm (1.3386-1.3392 in.) | 33.95 mm (1.337 in.) |
| | Diameter of distance collar contact area | | 38.987-39.000 mm (1.5349-1.5354 in.) | 38.94 mm (1.533 in.) |
| | Diameter of ball bearing contact area (transmission housing side) | | 26.020-26.033 mm (1.0244-1.0249 in.) | 25.97 mm (1.022 in.) |
| | Runout | | 0.02 mm (0.001 in.) max. | 0.05 mm (0.002 in.) |
| | 35 mm shim-to-bearing inner race clearance | | 0.04-0.10 mm (0.0016-0.0039 in.) | Adjust |
| Countershaft 1st and 2nd gear | I.D. | | 48.509-48.525 mm (1.9098-1.9104 in.) | 48.58 mm (1.913 in.) |
| | End play | 1st | 0.06-0.21 mm (0.002- | 0.25 mm (0.010 in.) |

| | | | | |
|---|---|---|---|---|
| | | | 0.008 in.) | |
| | | 2nd | 0.06-0.14 mm (0.002-0.006 in.) | 0.23 mm (0.009 in.) |
| | Thickness | 1st | 27.42-27.47 mm (1.080-1.081 in.) | - |
| | | 2nd | 26.42-26.47 mm (1.040-1.042 in.) | - |
| Countershaft 1st and 2nd gear distance collar | I.D. | | 39.00-39.01 mm (1.5354-1.5358 in.) | 39.02 mm (1.536 in.) |
| | O.D. | | 44.489-44.5 mm (1.7515-1.7520 in.) | 44.44 mm (1.750 in.) |
| | Length | 1st | 21.53-21.58 mm (0.843-0.849 in.) | - |
| | | 2nd | 26.53-26.56 mm (1.044-1.046 in.) | - |
| Reverse idler gear | I.D. | | 18.016-18.043 mm (0.7090-0.7104 in.) | 18.08 mm (0.712 in.) |
| | Gear-to-reverse gear shaft clearance | | 0.032-0.077 mm (0.001-0.003 in.) | 0.14 mm (0.006 in.) |
| Synchro ring | Ring-to-gear clearance | Ring pushed against gear | 0.655-1.334 mm (0.026-0.053 in.) | 0.4 mm (0.016 in.) |
| Shift fork | Finger thickness | 1-2 | 6.7-6.9 mm (0.26-0.27 | - |

| | | | | |
|---|---|---|---|---|
| | | | in.) | |
| | | 3-4,5 | 7.4-7.6 mm (0.29-0.30 in.) | - |
| | Fork-to-synchro sleeve clearance | | 0.35-0.65 mm (0.014-0.026 in.) | 1.0 mm (0.039 in.) |
| Reverse shift fork | Finger width | | 14.7-14.9 mm (0.579-0.587 in.) | - |
| | Fork-to-reverse idler gear clearance | | 0.20-0.60 mm (0.007-0.024 in.) | 1.2 mm (0.047 in.) |
| Shift arm | I.D. | | 14.013-14.058 mm (0.552-0.553 in.) | - |
| | Shift arm-to-shift piece clearance | | 0.20-0.61 mm (0.008-0.024 in.) | 0.7 mm (0.028 in.) |
| | Shift arm-to-shift lever clearance | | 0.013-0.085 mm (0.0005-0.0033 in.) | - |
| Select lever | Finger width | | 14.85-14.95 mm (0.585-0.589 in.) | - |
| Change lever | O.D. | | 13.941-13.968 mm (0.549-0.550 in.) | - |
| | Interlock to select lever clearance | | 0.032-0.136 mm (0.001-0.005 in.) | - |
| Shift piece | I.D. | | 14.000- | - |

| | | | | |
|---|---|---|---|---|
| | | | 14.068 mm (0.5512-0.5539 in.) | |
| | Shift piece groove width | | 16.00-16.20 mm (0.630-0.638 in.) | - |
| | Shift piece finger width | | 15.9-16.0 mm (0.626-0.630 in.) | - |
| | Shift piece-to-shift fork clearance | | 0.2-0.5 mm (0.008-0.020 in.) | - |
| M/T differential carrier | Pinion shaft contact area I.D. | | 18.010-18.028 mm (0.7091-0.7098 in.) | - |
| | Carrier-to-pinion shaft clearance | | 0.027-0.057 mm (0.0011-0.0022 in.) | 0.1 mm (0.004 in.) |
| | Driveshaft contact area I.D. | | 28.025-28.045 mm (1.1033-1.1041 in.) | - |
| M/T differential pinion gear | Backlash | | 0.05-0.15 mm (0.002-0.006 in.) | - |
| | I.D. | | 18.042-18.066 mm (0.7103-0.7113 in.) | - |
| | Pinion gear-to-pinion shaft clearance | | 0.059-0.095 mm (0.0023-0.0037 in.) | 0.15 mm (0.006 in.) |
| 80 mm shim | 80 mm shim-to- | | 0-0.10 mm | Adjust |

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|---|---|---|---|---|
| | bearing outer race clearance in transmission housing | | (0-0.0039 in.) | |

**MANUAL TRANSMISSION AND M/T DIFFERENTIAL (6-SPEED)**

## STANDARDS AND SERVICE LIMITS - MANUAL TRANSMISSION AND M/T DIFFERENTIAL (6-SPEED)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Manual transmission fluid | Capacity Use Honda MTF | Fluid change | 1.5 L (1.6 US qt) | |
| | | Overhaul | 1.7 L (1.8 US qt) | |
| Mainshaft | End play | | 0.11-0.17 mm (0.004-0.007 in.) | Adjust |
| | Diameter of bushing contact area | | 20.80-20.85 mm (0.819-0.821 in.) | 20.75 mm (0.817 in.) |
| | Diameter of distance collar contact area | | 31.984-32.000 mm (1.2594-1.2598 in.) | 31.93 mm (1.257 in.) |
| | Diameter of ball bearing contact area (clutch housing side) | | 27.977-27.990 mm (1.1015-1.1020 in.) | 27.92 mm (1.099 in.) |
| | Diameter of needle bearing contact area | | 38.984-39.000 mm (1.5348-1.5354 in.) | 38.93 mm (1.533 in.) |
| | Diameter of ball bearing contact area (transmission | | 27.987-28.000 mm (1.1019- | 27.93 mm (1.100 in.) |

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|---|---|---|---|---|
| | housing side) | | 1.1024 in.) | |
| | Runout | | 0.02 mm (0.001 in.) max. | 0.05 mm (0.002 in.) |
| Mainshaft 3rd, 4th, and 5th gear | I.D. | | 44.009-44.025 mm (1.7326-1.7333 in.) | 44.08 mm (1.735 in.) |
| | End play | | 0.06-0.16 mm (0.002-0.006 in.) | 0.25 mm (0.010 in.) |
| | Thickness | | 23.92-23.97 mm (0.941-0.944 in.) | 23.80 mm (0.937 in.) |
| Mainshaft 6th gear | I.D. | | 40.009-40.025 mm (1.5752-1.5758 in.) | 40.08 mm (1.578 in.) |
| | End play | | 0.06-0.16 mm (0.002-0.006 in.) | 0.25 mm (0.010 in.) |
| | Thickness | | 23.92-23.97 mm (0.941-0.944 in.) | 23.80 mm (0.937 in.) |
| Mainshaft 4th and 5th gear distance collar | I.D. | | 32.00-32.01 mm (1.2598-1.2602 in.) | 32.02 mm (1.261 in.) |
| | O.D. | | 38.989-39.000 mm (1.5350-1.5354 in.) | 38.94 mm (1.533 in.) |
| | Length | A | 51.95-52.05 mm (2.045-2.049 in.) | - |
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|---|---|---|---|---|
| |  | B | 24.03-24.08 mm (0.946-0.948 in.) | - |
| Mainshaft 6th gear distance collar | I.D. | | 28.00-28.01 mm (1.102-1.103 in.) | 28.02 mm (1.103 in.) |
| | O.D. | | 34.989-35.000 mm (1.3775-1.3779 in.) | 34.940 mm (1.3756 in.) |
| | Length | | 24.03-24.08 mm (0.946-0.948 in.) | - |
| Countershaft | Diameter of needle bearing contact area (clutch housing side) | | 35.000-35.015 mm (1.3780-1.3785 in.) | 34.95 mm (1.3760 in.) |
| | Diameter of distance collar contact area | | 39.937-39.950 mm (1.5723-1.5728 in.) | 39.883 mm (1.5702 in.) |
| | Diameter of ball bearing contact area (transmission housing side) | | 30.020-30.033 mm (1.1819-1.1824 in.) | 29.97 mm (1.180 in.) |
| | Runout | | 0.02 mm (0.001 in.) max. | 0.05 mm (0.002 in.) |
| | 35 mm shim-to-bearing inner race clearance | | 0.04-0.10 mm (0.0016-0.0039 in.) | Adjust |
| Countershaft 1st and 2nd | I.D. | | 52.010-52.029 mm | 52.08 mm (2.050 in.) |

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|---|---|---|---|---|
| gear | | | (2.0476-2.0484 in.) | |
| | End play | | 0.06-0.16 mm (0.002-0.006 in.) | 0.25 mm (0.010 in.) |
| | Thickness | 1st | 22.92-22.97 mm (0.902-0.904 in.) | 22.87 mm (0.900 in.) |
| | | 2nd | 27.92-27.97 mm (1.099-1.101 in.) | 27.87 mm (1.097 in.) |
| Countershaft 1st and 2nd gear distance collar | I.D. | | 39.95-39.96 mm (1.5728-1.5732 in.) | 39.97 mm (1.574 in.) |
| | O.D. | | 46.989-47.000 mm (1.8499-1.8504 in.) | 46.94 mm (1.848 in.) |
| | Length | 1st | 23.03-23.08 mm (0.907-0.909 in.) | - |
| | | 1st | 28.03-28.08 mm (1.104-1.106 in.) | - |
| Reverse idler gear | I.D. | | 20.016-20.043 mm (0.7880-0.7891 in.) | 20.90 mm (0.832 in.) |
| | Gear-to-reverse gear shaft clearance | | 0.036-0.084 mm (0.0014-0.0033 in.) | 0.16 mm (0.006 in.) |
| Synchro ring | Ring-to-gear clearance | Ring pushed against gear | 0.70-1.49 mm (0.028-0.059 in.) | 0.4 mm (0.016 in.) |

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|---|---|---|---|---|
| Double cone synchro | Outer synchro ring-to-synchro cone clearance | Ring pushed against gear | 0.70-1.19 mm (0.028-0.047 in.) | 0.3 mm (0.012 in.) |
| | Synchro cone-to-gear clearance | Ring pushed against gear | 0.50-1.04 mm (0.020-0.041 in.) | 0.3 mm (0.012 in.) |
| | Outer synchro ring-to-gear clearance | Ring pushed against gear | 0.95-1.68 mm (0.037-0.066 in.) | 0.6 mm (0.024 in.) |
| Triple cone synchro | Outer synchro ring-to-synchro cone clearance | Ring pushed against gear | 0.70-1.19 mm (0.028-0.047 in.) | 0.3 mm (0.012 in.) |
| | Synchro cone-to-gear clearance | Ring pushed against gear | 0.50-1.04 mm (0.020-0.041 in.) | 0.3 mm (0.012 in.) |
| | Outer synchro ring-to-gear clearance | Ring pushed against gear | 0.95-1.68 mm (0.037-0.066 in.) | 0.6 mm (0.024 in.) |
| Shift fork | Finger thickness | | 7.4-7.6 mm (0.29-0.30 in.) | - |
| | Fork-to-synchro sleeve clearance | | 0.35-0.65 mm (0.014-0.026 in.) | 1.0 mm (0.039 in.) |
| Reverse shift fork | Finger width | | 13.4-13.7 mm (0.527-0.539 in.) | - |
| | Fork-to-reverse idler gear clearance | | 0.20-0.59 mm (0.007-0.024 in.) | 1.3 mm (0.051 in.) |
| Shift arm | I.D. | | 13.973-14.000 mm (0.5501-0.5512 in.) | - |
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|---|---|---|---|---|
| | Finger width | | 16.9-17.0 mm (0.665-0.669 in.) | - |
| | Shift arm-to-shift fork clearance | | 0.2-0.5 mm (0.007-0.020 in.) | 0.62 mm (0.024 in.) |
| Select lever | Finger width | | 14.85-14.95 mm (0.585-0.589 in.) | - |
| Change lever | Shaft-to-select lever clearance | | 0.05-0.25 mm (0.002-0.010 in.) | 0.50 mm (0.020 in.) |
| | Groove width | | 15.00-15.10 mm (0.591-0.594 in.) | - |
| | Shaft-to-shift arm clearance | | 0.013-0.070 mm (0.0005-0.0028 in.) | 0.1 mm (0.004 in.) |
| M/T differential carrier | Pinion shaft contact area I.D. | | 18.010-18.028 mm (0.7091-0.7098 in.) | - |
| | Carrier-to-pinion shaft clearance | | 0.027-0.057 mm (0.0011-0.0022 in.) | 0.1 mm (0.004 in.) |
| | Driveshaft contact area I.D. | | 28.025-28.045 mm (1.1033-1.1041 in.) | - |
| M/T differential pinion gear | Backlash | | 0.05-0.15 mm (0.002-0.006 in.) | - |
| | I.D. | | 18.042-18.066 mm | - |

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|---|---|---|---|---|
| | | | (0.7103-0.7113 in.) | |
| | Pinion gear-to-pinion shaft clearance | | 0.059-0.095 mm (0.0023-0.0037 in.) | 0.15 mm (0.006 in.) |
| 80 mm shim | 80 mm shim-to-bearing outer race clearance in transmission housing | | 0-0.10 mm (0-0.004 in.) | Adjust |

**AUTOMATIC TRANSMISSION AND A/T DIFFERENTIAL**

## STANDARDS AND SERVICE LIMITS - AUTOMATIC TRANSMISSION AND A/T DIFFERENTIAL (1 OF 3)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Automatic transmission fluid | Capacity Use Honda ATF-Z1 | Fluid change | 2.4 L (2.5 US qt) | |
| | | Overhaul | 5.9 L (6.2 US qt) | |
| ATF pressure | Line pressure | At 2,000 rpm in P or N position | 900-960 kPa (9.2-9.8 $kgf/cm^2$ , 130-140 psi) | 850 kPa (8.7 $kgf/cm^2$ , 120 psi) |
| | 1st clutch pressure | At 2,000 rpm in 1 position | 890-970 kPa (9.1-9.9 $kgf/cm^2$ , 130-140 psi) | 840 kPa (8.6 $kgf/cm^2$ , 120 psi) |
| | 2nd clutch pressure | At 2,000 rpm in 2 position | 890-970 kPa (9.1-9.9 $kgf/cm^2$ , 130-140 psi) | 840 kPa (8.6 $kgf/cm^2$ , 120 psi) |
| | 3rd clutch pressure | At 2,000 rpm in 3rd gear in D3 | 890-970 kPa (9.1-9.9 | 840 kPa (8.6 |

| | | | | |
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| | | position | kgf/cm$^2$ , 130-140 psi) | kgf/cm$^2$ , 120 psi) |
| | 4th clutch pressure | At 2,000 rpm in 4th gear in D position | 890-970 kPa (9.1-9.9 kgf/cm$^2$ , 130-140 psi) | 840 kPa (8.6 kgf/cm$^2$ , 120 psi) |
| | 5th clutch pressure | At 2,000 rpm in 5th gear in D position | 890-970 kPa (9.1-9.9 kgf/cm$^2$ , 130-140 psi) | 840 kPa (8.6 kgf/cm$^2$ , 120 psi) |
| Torque converter | Stall speed Check with vehicle on level ground | | 2,670 rpm | 2,520-2,820 rpm |
| Clutch | Clutch end-plate-to-top disc clearance | 1st | 1.62-1.82 mm (0.064-0.072 in.) | - |
| | | 2nd and 4th | 0.7-0.9 mm (0.028-0.035 in.) | - |
| | | 3rd and 5th | 0.93-1.13 mm (0.037-0.044 in.) | - |
| | Clutch return spring free length | 1st | 36.0 mm (1.42 in.) | 34.5 mm (1.36 in.) |
| | | 2nd and 4th | 39.4 mm (1.55 in.) | 37.4 mm (1.47 in.) |
| | | 3rd and 5th | 45.15 mm (1.778 in.) | 43.0 mm (1.69 in.) |
| | Clutch disc thickness | 1st, 3rd, and 5th | 1.94 mm (0.076 in.) | - |
| | | 2nd and 4th | 1.96 mm (0.077 in.) | - |

| | | | |
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| Clutch plate thickness | 1st, 3rd, 4th, and 5th | 1.6 mm (0.063 in.) | When discolored |
| | 2nd | 2.0 mm (0.079 in.) | When discolored |
| Clutch waved-plate height 1st, 3rd, and 5th clutches | | 0.07-0.20 mm (0.003-0.008 in.) | 0.05 mm (0.002 in.) |
| 1st, 3rd, and 5th clutch end-plate thickness | Markl | 2.1 mm (0.082 in.) | When discolored |
| | Mark 2 | 2.2 mm (0.086 in.) | When discolored |
| | Mark 3 | 2.3 mm (0.090 in.) | When discolored |
| | Mark 4 | 2.4 mm (0.094 in.) | When discolored |
| | Mark 5 | 2.5 mm (0.098 in.) | When discolored |
| | Mark 6 | 2.6 mm (0.102 in.) | When discolored |
| | Mark 7 | 2.7 mm (0.106 in.) | When discolored |
| | Mark 8 | 2.8 mm (0.110 in.) | When discolored |
| | Mark 9 | 2.9 mm (0.114 in.) | When discolored |
| 2nd and 4th clutch end-plate thickness | Mark AC or AM | 2.1 mm (0.082 in.) | When discolored |
| | Mark AD or AN | 2.2 mm (0.086 in.) | When discolored |
| | Mark AE or AP | 2.3 mm (0.090 in.) | When discolored |
| | Mark AF or AQ | 2.4 mm | When |

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| | | | (0.094 in.) | discolored |
| | | Mark AG or AR | 2.5 mm (0.098 in.) | When discolored |
| | | Mark AH or AS | 2.6 mm (0.102 in.) | When discolored |
| | | Mark AJ or AT | 2.7 mm (0.106 in.) | When discolored |
| | | Mark AK or AU | 2.8 mm (0.110 in.) | When discolored |
| | | Mark AL or AV | 2.9 mm (0.114 in.) | When discolored |
| ATF pump | ATF pump thrust clearance | | 0.03-0.06 mm (0.001-0.002 in.) | 0.07 mm (0.003 in.) |
| | ATF pump gear-to-body clearance | Drive gear | 0.210-0.265 mm (0.008-0.010 in.) | - |
| | | Driven gear | 0.070-0.125 mm (0.003-0.005 in.) | - |
| | ATF pump driven gear I.D. | | 14.016-14.034 mm (0.5518-0.5525 in.) | When worn or damaged |
| | ATF pump driven gear shaft O.D. | | 13.980-13.990 mm (0.5504-0.5508 in.) | When worn or damaged |
| Stator shaft | Needle bearing contact I.D. | Torque converter side | 27.000-27.021 mm (1.063-1.064 in.) | When worn or damaged |
| | | ATF pump side | 29.000-29.021 mm | - |

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|---|---|---|---|---|
| | | | (1.1417-1.1426 in.) | |
| | Sealing ring contact area I.D. | | 29.000-29.021 mm (1.1417-1.1426 in.) | 29.05 mm (1.144 in.) |
| Reverse shift fork | Fork finger thickness | | 5.90-6.00 mm (0.232-0.236 in.) | 5.40 mm (0.213 in.) |
| Park gear and pawl | | | - | When worn or damaged |
| Servo body | Shift fork shaft bore I.D. | | 14.000-14.010 mm (0.5512-0.5526 in.) | When worn or damaged |
| | Shift fork shaft valve bore I.D. | | 37.000-37.039 mm (1.4567-1.4582 in.) | 37.045 mm (1.4585 in.) |
| Regulator valve body | Sealing ring contact I.D. | | 29.000-29.021 mm (1.1417-1.1426 in.) | 29.05 mm (1.144 in.) |
| Mainshaft | Diameter of needle bearing contact area | At stator shaft | 22.984-23.000 mm (0.905-0.906 in.) | When worn or damaged |
| | | At 5th gear collar | 32.975-32.991 mm (1.298-1.300 in.) | When worn or damaged |
| | | At 3rd gear | 46.983-46.999 mm (1.8497- | When worn or damaged |

| | | | |
|---|---|---|---|
| | | 1.8503 in.) | |
| I.D. of gears | 5th gear | 37.000-37.016 mm (1.456-1.457 in.) | When worn or damaged |
| | 3rd gear | 52.000-52.019 mm (2.047-2.048 in.) | When worn or damaged |
| End play | 5th gear | 015-0.27 mm (0.006-0.106 in.) | - |
| | 3rd gear | 0.04-0.10 mm (0.002-0.004 in.) | - |
| 40 x 63 mm thrust washer thickness | No. 1 | 3.750 mm (0.1476 in.) | When worn or damaged |
| | No. 2 | 3.775 mm (0.1486 in.) | When worn or damaged |
| | No. 3 | 3.800 mm (0.1496 in.) | When worn or damaged |
| | No. 4 | 3.825 mm (0.1506 in.) | When worn or damaged |
| | No. 5 | 3.850 mm (0.1516 in.) | When worn or damaged |
| | No. 6 | 3.875 mm (0.1526 in.) | When worn or damaged |
| | No. 7 | 3.900 mm (0.1535 in.) | When worn or damaged |
| | No. 8 | 3.925 mm (0.1545 in.) | When worn or damaged |
| | No. 9 | 3.950 mm (0.1555 in.) | When worn or damaged |
| | No. 10 | 3.975 mm | When worn |

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| | | | (0.1565 in.) | or damaged |
| | | No. 11 | 4.000 mm (0.1575 in.) | When worn or damaged |
| | 5th gear collar length | | 60.4-60.5 mm (2.380-2.381 in.) | - |
| | 5th gear collar flange thickness | | 3.70-3.85 mm (0.146-0.152 in.) | When worn or damaged |
| | Sealing ring thickness | | 1.91-1.97 mm (0.0752-0.0776 in.) | 1.86 mm (0.0732 in.) |
| | Width of sealing ring groove | | 2.025-2.060 mm (0.0797-0.0811 in.) | 2.080 mm (0.0819 in.) |
| | 3rd clutch feed pipe O.D. | | 7.97-7.98 mm (0.3138-0.3142 in.) | 7.95 mm (0.313 in.) |
| | Feed pipe bushing I.D. | | 8.000-8.015 mm (0.3150-0.3156 in.) | 8.030 mm (0.3161 in.) |
| Countershaft | Diameter of needle bearing contact area | At torque converter housing | 33.504-33.517 mm (1.3191-1.3196 in.) | When worn or damaged |
| | | At 5th gear | 32.986-32.999 mm (1.287-1.299 in.) | When worn or damaged |
| | | Reverse selector hub | 35.983-35.999 mm (1.4167-1.4173 in.) | When worn or damaged |
| | I.D. of gears | 5th gear | 39.000- | When worn |

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| | | | 39.016 mm (1.535-1.536 in.) | or damaged |
| | | Reverse gear | 42.000-42.016 mm (1.6535-1.6542 in.) | When worn or damaged |
| | End play | 5th gear | 0.64-0.87 mm (0.025-0.034 in.) | - |
| | | Reverse gear | 0.10-0.25 mm (0.0039-0.0098 in.) | - |
| | Reverse selector hub width | | 29.25-29.45 mm (1.1516-1.1595 in.) | - |
| | Collar, 33.2 x 40 x 26 mm length | | 25.95-26.00 mm (1.022-1.024 in.) | - |
| | Reverse selector hub O.D. | | 55.87-55.90 mm (2.200-2.201 in.) | When worn or damaged |
| Secondary shaft | Diameter of needle bearing contact area | 1st gear | 30.986-30.999 mm (1.2199-1.2204 in.) | When worn or damaged |
| | | 2nd gear | 42.986-42.999 mm (1.6924-1.6929 in.) | When worn or damaged |
| | | 4th gear collar | 34.975-34.991 mm (1.3770-1.3776 in.) | When worn or damaged |
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| I.D. of gears | 1st gear | 38.000-38.016 mm (1.4961-1.4967 in.) | When worn or damaged |
| | 2nd gear | 49.000-49.016 mm (1.9291-1.9298 in.) | When worn or damaged |
| | 4th gear | 41.000-41.016 mm (1.6142-1.6148 in.) | When worn or damaged |
| End play | 1st gear | 0.04-0.12 mm (0.002-0.005 in.) | - |
| | 2nd gear | 0.04-0.12 mm (0.002-0.005 in.) | - |
| | 4th gear | 0.10-0.22 mm (0.004-0.009 in.) | - |
| 31 x 54 mm thrust washer thickness | No. 1 | 3.925 mm (0.1545 in.) | When worn or damaged |
| | No. 2 | 3.950 mm (0.1555 in.) | When worn or damaged |
| | No. 3 | 3.975 mm (0.1565 in.) | When worn or damaged |
| | No. 4 | 4.000 mm (0.1575 in.) | When worn or damaged |
| | No. 5 | 4.025 mm (0.1585 in.) | When worn or damaged |
| | No. 6 | 4.050 mm (0.1594 in.) | When worn or damaged |
| | No. 7 | 4.075 mm | When worn |

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| | | (0.1604 in.) | or damaged |
| | No. 8 | 4.100 mm (0.1614 in.) | When worn or damaged |
| | No. 9 | 4.125 mm (0.1624 in.) | When worn or damaged |
| | No. 10 | 4.150 mm (0.1634 in.) | When worn or damaged |
| | No. 11 | 4.175 mm (0.1644 in.) | When worn or damaged |
| | No. 12 | 4.200 mm (0.1654 in.) | When worn or damaged |
| | No. 13 | 4.225 mm (0.1663 in.) | When worn or damaged |
| | No. 14 | 4.250 mm (0.1673 in.) | When worn or damaged |
| | No. 15 | 4.275 mm (0.1683 in.) | When worn or damaged |
| | No. 16 | 4.300 mm (0.1693 in.) | When worn or damaged |
| | No. 17 | 4.325 mm (0.1703 in.) | When worn or damaged |
| 43 x 54.5 mm thrust washer thickness | No. 1 | 2.900 mm (0.114 in.) | When worn or damaged |
| | No. 2 | 2.925 mm (0.115 in.)u | When worn or damaged |
| | No. 3 | 2.950 mm (0.116 in.) | When worn or damaged |
| | No. 4 | 2.975 mm (0.117 in.) | When worn or damaged |
| | No. 5 | 3.000 mm (0.118 in.) | When worn or damaged |
| | No. 6 | 3.025 mm (0.119 in.) | When worn or damaged |
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|---|---|---|---|
| | No. 7 | 3.050 mm (0.120 in.) | When worn or damaged |
| | No. 8 | 3.075 mm (0.121 in.) | When worn or damaged |
| | No. 9 | 3.100 mm (0.122 in.) | When worn or damaged |
| | No. 10 | 3.125 mm (0.123 in.) | When worn or damaged |
| | No. 11 | 3.150 mm (0.124 in.) | When worn or damaged |
| | No. 12 | 3.175 mm (0.125 in.) | When worn or damaged |
| | No. 13 | 3.200 mm (0.126 in.) | When worn or damaged |
| 4th gear collar length | | 32.9-33.0 mm (1.295-1.299 in.) | - |
| 4th gear collar flange thickness | | 3.75-3.90 mm (0.148-0.154 in.) | When worn or damaged |
| Sealing ring thickness | | 1.87-1.97 mm (0.074-0.078 in.) | 1.82 mm (0.072 in.) |
| Width of sealing ring groove | | 2.025-2.060 mm (0.0797-0.0811 in.) | 2.080 mm (0.0819 in.) |
| Clutch feed pipe O.D. | 2nd clutch | 6.97-6.98 mm (0.2744-0.2748 in.) | 6.95 mm (0.2736 in.) |
| | 4th clutch | 11.47-11.48 mm (0.4516-0.4520 in.) | 11.45 mm (0.4508 in.) |
| Clutch feed pipe bushing O.D. | 2nd clutch | 7.018-7.030 mm (0.2763- | 7.045 mm (0.2774 in.) |

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| | | | 0.2768 in.) | |
| | | 4th clutch | 11.500-11.518 mm (0.4528-0.4553 in.) | 11.530 mm (0.4539 in.) |
| | ATF guide collar I.D. at sealing ring contact area | | 21.200-21.221 mm (0.8346-0.8355 in.) | 21.25 mm (0.8366 in.) |
| Idler gear shaft | End cover bearing contact area | | 30.003-30.013 mm (1.1812-1.1816 in.) | When worn or damaged |
| | Cotters thickness | | 1.39-1.42 mm (0.0547-0.0559 in.) | - |
| Reverse idler gear | Reverse idler gear shaft O.D. at needle bearing contact area | | 14.99-15.00 mm (0.5902-0.5906 in.) | When worn or damaged |
| | I.D. | | 20.001-20.014 mm (0.7874-0.7880 in.) | When worn or damaged |
| | I.D. of reverse idler gear shaft contact area on transmission housing | | 14.800-14.818 mm (0.5827-0.5834 in.) | - |
| | I.D. of reverse idler gear shaft holder | | 14.800-14.824 mm (0.5827-0.5836 in.) | When worn or damaged |

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## STANDARDS AND SERVICE LIMITS - AUTOMATIC TRANSMISSION AND A/T DIFFERENTIAL (2 OF 3)

| Item | Measurement | Qualification | Standard or New | | | |
|---|---|---|---|---|---|---|
| | | | Wire Diameter | O.D. | Free Length | No. of Coil |
| Main valve body spring (see **MAIN VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ) | Cut valve B spring | | 0.8 mm (0.031 in.) | 9.9 mm (0.290 in.) | 27.3 mm (1.074 in.) | 8.0 |
| | Shift valve A spring | | 0.8 mm (0.031 in.) | 7.1 mm (0.280 in.) | 23.7 mm (0.933 in.) | 9.7 |
| | Shift valve C spring | | 0.8 mm (0.031 in.) | 7.1 mm (0.280 in.) | 23.7 mm (0.933 in.) | 9.7 |
| | Relief valve spring | | 1.0 mm (0.039 in.) | 9.6 mm (0.378 in.) | 34.1 mm (1.343 in.) | 10.2 |
| | Lock-up control valve spring | | 0.6 mm (0.024 in.) | 7.1 mm (0.280 in.) | 31.2 mm (1.228 in.) | 11.2 |
| | Cooler check valve spring | | 0.85 mm (0.033 in.) | 6.6 mm (0.260 in.) | 27.0 mm (1.063 in.) | 11.3 |
| | Shift valve D spring | | 0.8 mm (0.031 in.) | 5.6 mm (0.220 in.) | 28.1 mm (1.106 in.) | 15.9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Servo control valve spring | | 0.8 mm (0.031 in.) | 9.9 mm (0.290 in.) | 27.3 mm (1.075 in.) | 8.0 |
| Regulator valve body spring (see **REGULATOR VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ) | Stator reaction spring | | 4.5 mm (0.177 in.) | 35.4 mm (1.394 in.) | 30.3 mm (1.193 in.) | 1.92 |
| | Regulator valve spring A | | 1.9 mm (0.075 in.) | 14.7 mm (0.579 in.) | 80.6 mm (3.173 in.) | 16.1 |
| | Regulator valve spring B | | 1.6 mm (0.063 in.) | 9.2 mm (0.362 in.) | 44.0 mm (1.732 in.) | 12.5 |
| | Torque converter check valve spring | | 1.2 mm (0.047 in.) | 8.6 mm (0.339 in.) | 33.8 mm (1.331 in.) | 12.2 |
| | Lock-up shift valve spring | | 1.0 mm (0.039 in.) | 6.6 mm (0.260 in.) | 35.5 mm (1.398 in.) | 18.2 |
| | 1st accumulator spring B | | 2.4 mm (0.094 in.) | 12.2 mm (0.480 in.) | 35.0 mm (1.378 in.) | 7.7 |
| | 1st accumulator spring A | | 2.4 mm (0.094 in.) | 18.6 mm (0.732 in.) | 50.1 mm (1.972 in.) | 6.7 |
| | 4th accumulator | | 2.5 mm (0.098 | 14.6 mm | 29.9 mm | 4.9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | spring | | in.) | (0.575 in.) | (1.177 in.) | |
| Servo body spring (see **SERVO BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY** ) | Cut valve A spring | | 0.9 mm (0.035 in.) | 9.9 mm (0.390 in.) | 22.3 mm (0.878 in.) | 6.9 |
| | Shift valve B spring | | 0.8 mm (0.031 in.) | 7.1 mm (0.280 in.) | 23.7 mm (0.933 in.) | 9.7 |
| | 5th accumulator spring A | | 2.5 mm (0.098 in.) | 16.6 mm (0.654 in.) | 46.9 mm (1.846 in.) | 7.8 |
| | 5th accumulator spring B | | 1.9 mm (0.075 in.) | 10.0 mm (0.394 in.) | 38.5 mm (1.516 in.) | 10.6 |
| | 2nd accumulator spring A | | 1.8 mm (0.071 in.) | 14.6 mm (0.575 in.) | 43.8 mm (1.724 in.) | 7.9 |
| | 2nd accumulator spring B | | 1.85 mm (0.073 in.) | 9.4 mm (0.370 in.) | 32.5 mm (1.280 in.) | 8.7 |
| | 3rd accumulator spring A | | 1.8 mm (0.071 in.) | 14.6 mm (0.575 in.) | 43.8 mm (1.724 in.) | 7.9 |
| | 3rd accumulator spring B | | 1.85 mm (0.073 in.) | 9.4 mm (0.370 in.) | 32.5 mm (1.280 in.) | 8.7 |

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## STANDARDS AND SERVICE LIMITS - AUTOMATIC TRANSMISSION AND A/T DIFFERENTIAL (3 OF 3)

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| A/T differential carrier | Pinion shaft contact area I.D. | | 18.010-18.028 mm (0.709-0.710 in.) | - |
| | Carrier-to-pinion shaft clearance | | 0.027-0.057 mm (0.001-0.002 in.) | 0.1 mm (0.004 in.) |
| | Driveshaft contact area I.D. | | 26.025-26.045 mm (1.024-1.025 in.) | - |
| | Carrier-to-driveshaft clearance | | 0.045-0.086 mm (0.002-0.003 in.) | 0.12 mm (0.005 in.) |
| | Final driven gear backlash | (References) | 0.085-0.142 mm (0.003-0.006 in.) | 0.2 mm (0.008 in.) |
| A/T differential pinion gear | Backlash | | 0.05-0.15 mm (0.002-0.006 in.) | - |
| | I.D. | | 18.042-18.066 mm (0.7103-0.7113 in.) | - |
| | Pinion gear-to-pinion shaft clearance | | 0.059-0.095 mm (0.002-0.004 in.) | 0.12 mm (0.005 in.) |

**STEERING (ELECTRONIC POWER STEERING)**

## STANDARDS AND SERVICE LIMITS - STEERING (EPS)

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Steering wheel | Rotational play measured at outside | | 0-10 mm (0-0.39 in.) |

| | | | |
|---|---|---|---|
| | edge with engine running | | |
| | Starting load measured at outside edge with engine running | | 34 N (3.5 kgf, 7.7 lbf) |
| Gearbox | Angle of rack guide screw loosened from locked position | | 7 ° ± 3° |

**STEERING (HYDRAULIC POWER STEERING)**

## STANDARDS AND SERVICE LIMITS - STEERING (POWER STEERING)

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Steering wheel | Rotational play measured at outside edge with engine running | | 0-10 mm (0-0.39 in.) |
| | Starting load measured at outside edge with engine running | | 34 N (3.5 kgf, 7.7 lbf) |
| Gearbox | Angle of rack guide screw loosened from locked position | | 15° ± 5° |
| Pump | Output pressure with shut-off valve closed | | 7,850-8,550 kPa (80-87 kgf/$cm^2$, 1,140-1,240 psi) |
| Power steering fluid | Capacity<br>Use Honda Power Steering Fluid | Fluid change | 0.26 L (0.27 US qt, 0.22 lmp qt) |
| | | System overhaul | 0.8 L (0.85 US qt, 0.70 lmp) |

**SUSPENSION**

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## STANDARDS AND SERVICE LIMITS - SUSPENSION

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Wheel alignment | Camber | Front | 0°00' ± 30' | |
| | | Rear (without "C" marks on the rear upper arm) | -1° 30'$^{+1°\ 05'}$ -0° 45' | |
| | | Rear (with "C" marks on the rear upper arm) | -0° 45'$^{+1°\ 05'}$ -0° 45' | |
| | Caster | Front | 7°00'±1° | |
| | Total toe-in | Front | 0±2 mm (0±0.08 in.) | |
| | | Rear | 2$^{+2}$ -1mm (0.08$^{+0.08}$ -0.04 in.) | |
| | Front wheel turning angle (DX, DX-G) | Inward | 40°06' ± 2° | |
| | | Outward | 31 °55' (Reference) | |
| | Front wheel turning angle (Except DX, DX-G) | Inward | 38° 46' ±2° | |
| | | Outward | 31 ° 14' (Reference) | |
| Wheel | Steel wheel runout | Axial | 0-1.0 mm (0-0.04 in.) | 2.0 mm (0.08 in.) |
| | | Radial | 0-1.0 mm (0-0.04 in.) | 1.5 mm (0.06 in.) |
| | Aluminum wheel runout | Axial | 0-0.7 mm (0-0.03 in.) | 2.0 mm (0.08 in.) |
| | | Radial | 0-0.7 mm (0-0.03 in.) | 1.5 mm (0.06 in.) |
| Wheel bearing | End play | Front | 0-0.05 mm (0-0.002 in.) | |
| | | Rear | 0-0.05 mm (0-0.002 in.) | |

**BRAKES**

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## STANDARDS AND SERVICE LIMITS - BRAKES

| Item | Measurement | Qualification | Standard or New | Service Limit |
|---|---|---|---|---|
| Parking brake | Distance traveled when lever pulled with 196 N (20 kgf, 44 lbf) of force | | 8 to 10 clicks | |
| Brake pedal | Pedal height (carpet removed) | M/T model | 153 mm (6 in.) | |
| | | A/T model | 158 mm (6 1/4 in.) | |
| | Free play | | 1-5 mm (1/16-3/16 in.) | |
| Brake disc | Thickness | Front (except Si) | 20.9-21.1 mm (0.82-0.83 in.) | 19.0 mm (0.75 in.) |
| | | Front (Si) | 24.9-25.1 mm (0.98-0.99 in.) | 23.0 mm (0.91 in.) |
| | | Rear | 8.9-9.1 mm (0.35-0.36 in.) | 8.0 mm (0.31 in.) |
| | Runout | | - | 0.04 mm (0.0016 in.) |
| | Parallelism | | - | 0.015 mm (0.0006 in.) |
| Brake pad | Pad thickness | Front (except Si) | 9.6-10.2 mm (0.38-0.40 in.) | 1.6 mm (0.06 in.) |
| | | Front (Si) | 9.0-9.7 mm (0.35-0.38 in.) | 1.6 mm (0.06 in.) |
| | | Rear | 8.3-9.4 mm (0.33-0.37 in.) | 1.6 mm (0.06 in.) |
| Rear brake (drum brake) | Brake drum I.D. | | 199.9-200 mm (7.870-7.874 in.) | 201 mm (7.91 in.) |
| | Brake shoe lining thickness | | 4.0 mm (0.16 in.) | 2.0 mm (0.08 in.) |

**AIR CONDITIONING**

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## STANDARDS AND SERVICE LIMITS - AIR CONDITIONING

| Item | Measurement | Qualification | Standard or New |
|---|---|---|---|
| Refrigerant | Type | | HFC-134a(R-134a) |
| | Capacity of system | | 400-450 g (14.1-15.8 oz) |
| Refrigerant oil | Type | | SP-10 (P/N 38897-P13-A01 or 38899-P13-A01) |
| | Capacity of components | Condenser | 50 mL (1 2/3 fl.oz, 1.8 lmp oz) |
| | | Evaporator | 40 mL (1 1/3 fl.oz, 1.4 lmp oz) |
| | | Each Line and hose | 10 mL (1/3 fl.oz, 0.4 lmp oz) |
| | | Compressor | 75-85 mL (2 1/2-2 5/6 fl.oz, 2.6-3.0 lmp oz) |
| Compressor | Field coil resistance | At 68 °F (20 °C) | 3.15-3.45 ohms |
| | Pulley-to-pressure plate clearance | | 0.35-0.65 mm (0.014-0.026 in.) |

## DESIGN SPECIFICATIONS

## STANDARDS AND SERVICE LIMITS - DESIGN SPECIFICATIONS

| Item | Measurement | Qualification | Specification |
|---|---|---|---|
| DIMENSIONS: 4-door | Overall length | | 4,489 mm (176.7 in.) |
| | Overall width | | 1,752 mm (69.0 in.) |
| | Overall height | | 1,435 mm (56.5 in.) |

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| | Wheelbase | | 2,700 mm (106.3 in.) |
| | Track | Front | 1,499 mm (59.0 in.) |
| | | Rear | 1,528 mm (60.2 in.) |
| | Ground clearance | | 154 mm (6.1 in.) |
| | Seating capacity | | Five (5) |
| DIMENSIONS: 2-door | Overall length | | 4,440 mm (174.8 in.) |
| | Overall width | | 1,751 mm (68.9 in.) |
| | Overall height | | 1,359 mm (53.5 in.) |
| | Wheelbase | | 2,650 mm (104.3 in.) |
| | Track | Front | 1,499 mm (59.0 in.) |
| | | Rear | 1,526 mm (60.1 in.) |
| | Ground clearance | | 154 mm (6.1 in.) |
| | Seating capacity | | Five (5) |
| WEIGHT | Gross Vehicle Weight Rating: 4-door (GVWR) | DX, DX-G, and LX | 1,665 kg (3,671 lbs) |
| | | EX | 1,695 kg (3,737 lbs) |
| | | Si | See |
| | Gross Vehicle Weight Rating: 2-door (GVWR) | DX, DX-G, and LX | 1,645 kg (3,627 lbs) |
| | | EX | 1,665 kg (3,671 lbs) |
| | | | |

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| | | Si | 1,725 kg (3,803 lbs) |
| R18A1 engine | Type | | Water cooled, 4-stroke SOHC i-VTEC gasoline engine |
| | Cylinder arrangement | | Inline 4-cylinder, transverse |
| | Bore and stroke | | 81.0 x 87.3 mm (3.19 x 3.44 in.) |
| | Displacement | | 1,799 $cm^3$ (110 cu in.) |
| | Compression ratio | | 10.5 |
| | Valve train | | Chain drive, SOHC i-VTEC 4 valves per cylinder |
| | Lubrication system | | Forced, wet sump, with trochoid pump |
| | Oil pump displacement | At 6,800 rpm | 52.3 L (55.3 US qt, 46.0 lmp qt)/minute |
| | Water pump displacement | At 6,000 rpm | 104 L (110 US qt, 110 lmp qt)/minute |
| | Fuel required | | Regular UNLEADED gasoline with 87 Pump Octane Number or higher |
| K20Z3 engine | Type | | Water cooled, 4-stroke DOHC i-VTEC gasoline engine |
| | | | |

| | | | |
|---|---|---|---|
| | Cylinder arrangement | | Inline 4-cylinder, transverse |
| | Bore and stroke | | 86 x 86 mm (3.39 x 3.39 in.) |
| | Displacement | | 1,998 $cm^3$ (122 cu in.) |
| | Compression ratio | | 11.0 |
| | Valve train | | Chain drive, DOHC i-VTEC 4 valves per cylinder |
| | Lubrication system | | Forced, wet sump, with trochoid pump |
| | Oil pump displacement | At 6,000 rpm | 54.3 L (57.4 US qt, 47.8 lmp qt)/minute |
| | Water pump displacement | At 6,000 rpm | 82 L (87 US qt, 72 lmp qt)/minute |
| | Fuel required | | Premium UNLEADED gasoline with 91 Pump Octane Number or higher |
| STARTER | Type | | Gear Reduction |
| | Nominal output | | 1.0 kW |
| | Nominal voltage | | 12 V |
| | Hour rating | | 30 seconds |
| | Direction of rotation | | Counterclockwise as viewed from drive end |
| CLUTCH | Clutch | | Single plate dry, diaphragm spring |
| | Clutch friction | R18A1 engine model | 221 $cm^2$ (34.22 sq |

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| | | | |
|---|---|---|---|
| | material surface area | | in.) |
| | | K20Z3 engine model | 174 $cm^2$ (28.99 sq in.) |
| MANUAL TRANSMISSION (5-speed) | Type | | Synchronized, 5-speed forward, 1 reverse |
| | Primary reduction | | Direct 1:1 |
| | Gear ratio | 1st | 3.142 |
| | | 2nd | 1.750 |
| | | 3rd | 1.241 |
| | | 4th | 0.969 |
| | | 5th | 0.805 |
| | | Reverse | 3.230 |
| | Final reduction | Type | Single helical gear |
| | | Gear ratio | 4.111 |
| MANUAL TRANSMISSION (6-speed) | Type | | Synchronized, 6-speed forward, 1 reverse |
| | Primary reduction | | Direct 1:1 |
| | Gear ratio | 1st | 3.267 |
| | | 2nd | 2.130 |
| | | 3rd | 1.517 |
| | | 4th | 1.147 |
| | | 5th | 0.921 |
| | | 6th | 0.659 |
| | | Reverse | 3.583 |
| | Final reduction | Type | Single helical gear |
| | | Gear ratio | 4.765 |
| AUTOMATIC TRANSMISSION | Type | | Electronically controlled |

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| | | | |
|---|---|---|---|
| | | | automatic, 5-speed forward, 1 reverse, 3-element torque converter with lock-up clutch |
| | Primary reduction | | Direct 1:1 |
| | Gear ratio | 1st | 2.666 |
| | | 2nd | 1.534 |
| | | 3rd | 1.021 |
| | | 4th | 0.720 |
| | | 5th | 0.524 |
| | | Reverse | 1.956 |
| | Final reduction | Type | Single helical gear |
| | | Gear ratio | 4.437 |
| STEERING (EPS) | Type | | Rack and pinion with electrical power-assisted |
| | Overall ratio | | 13.62 |
| | Turns, lock-to-lock | | 2.65 |
| | Steering wheel diameter | | 360 mm (14.0 in.) |
| STEERING (Power Steering) | Type | | Hydraulic power assisted rack and pinion |
| | Overall ratio | | 13.73 |
| | Turns, lock-to-lock | | 2.67 |
| | Steering wheel diameter | | 360 mm (14.0 in.) |
| SUSPENSION | Type | Front | Independent strut with stabilizer, coil |

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| | | | |
|---|---|---|---|
| | | | spring |
| | | Rear | Independent double wishbone with stabilizer, coil spring |
| | Shock absorber | Front and rear | Telescopic, hydraulic, nitrogen gas-filled |
| TIRES | Size of front and rear | DX, DX-G | P195/65+R 15 89H |
| | | EX, LX | P205/55R16 89H |
| | | Si | P215/45R17 89V or 215/45ZR17 91W |
| | Size of spare | Except Si | T125/70D15 95M |
| | | Si (ABS model) | T125/70D16 96M |
| | | Si (VSA model) | T135/80D16 101M |
| WHEEL ALIGNMENT | Camber | Front | 0° 00' |
| | | Rear (without "C" marks on the rear upper arm) | -1° 30' |
| | | Rear (with "C" marks on the rear upper arm) | -0° 45' |
| | Caster | Front | 7° 00' |
| | Total toe-in | Front | 0 mm (0 in.) |
| | | Rear | 2 mm (0.08 in.) |
| | Front wheel turning angle (DX, DX-G) | Inward | 40° 06' |
| | | Outward (reference) | 31° 55' |
| | Front wheel turning angle (except DX, DX-G) | Inward | 38° 46' |
| | | Outward (reference) | 31° 14' |

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| | | | |
|---|---|---|---|
| BRAKES | Type of service brake | Front | Power-assisted self-adjusting ventilated disc |
| | | Rear (disc) | Power-assisted self-adjusting solid disc |
| | | Rear (drum) | Power-assisted self-adjusting solid drum |
| | Type of parking brake | | Mechanical actuating, rear wheels |
| | Pad friction surface area | Front (except Si) | 37.5 $cm^2$ (5.81 sq in.) x 2 |
| | | Front (Si) | 33.8 $cm^2$ (5.24 sq in.) x 2 |
| | | Rear | 20.6 $cm^2$ (3.19 sq in.) x 2 |
| | Shoe friction surface area | Rear | 57.6 $cm^2$ (8.93 sq in.) x 2 |
| AIR CONDITIONING | Compressor | Type | Scroll |
| | | Capacity | 77.1 mL (4.7 cu in.)/rev. |
| | | Maximum speed | 10,000 rpm |
| | | Lubricant capacity | 75 mL (2 1/2 fl-oz) |
| | | Lubricant type | SP-10 |
| | Condenser | Type | Corrugated fin |
| | Evaporator | Type | Corrugated fin |
| | Blower | Type | Stabilized swirling flow |
| | | Motor type | 220 W/12V |
| | | Speed control | Infinite variable |

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| | | | |
|---|---|---|---|
| | | Maximum capacity | 470 $m^3$ (16.571 cu ft)/h |
| | Temperature control | | Air-mix type |
| | Compressor clutch | Type | Dry, single plate, poly V-belt drive |
| | | Electrical power consumption at 68 ° F (20 ° F) | 42 W maximum at 12 V |
| | Refrigerant | Type | HFC-134a (R-134a) |
| | | Capacity | 400-450 g (14.1-15.8 oz) |
| ELECTRICAL RATINGS | Battery | R18A1 engine, USA models | 12V-45 Ah/20 HR (12 V-36 Ah/5 HR) |
| | | K20Z3 engine, Canada models | 12 V-47 Ah/20 HR (12 V-38 Ah/5HR) |
| | Fuses | Under-hood fuse/relay box | 100 A, 80 A,70 A, 50 A, 40 A, 30 A, 20 A, 15 A, 10A, 7.5 A |
| | | Under-dash fuse/relay box | 30 A, 20 A, 15 A, 10 A, 7.5 A |
| | Light bulbs | Headlight high beam | 12V-60W |
| | | Headlight low beam | 12V-51W |
| | | Front side marker/parking/turn signal lights | 2-door: 12V-28/5W (two filaments) Amber color<br>4-door: 12V-21/5W (two filaments) Amber color |
| | | | |

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| | | | |
|---|---|---|---|
| | | Rear turn signal lights | 12V-21W Amber color |
| | | Brake/Taillights | 12V-21/5W (two filaments) |
| | | Inner taillights | 12V-5W (4-door) |
| | | Rear side marker light | 12V-5W |
| | | High mount brake light | 12V-21W (Except Si)<br>12V-LED (Si) |
| | | Back-up lights | 12V-21W |
| | | License plate light | 2-door: 12V-3 CP<br>4-door: 12V-5W |
| | | Ceiling lights | 12V-5W |
| | | Individual map light | 12V-8W |
| | | Trunk light | 12V-5W |
| | | Gauge lights | 12V-LED (non-replaceable) |
| | | Indicator lights | 12V-LED, 14V-0.56W, 0.84 W |
| | Washer reservoir | Capacity (USA models) | 2.5 L (2.6 US qt) |
| | | Capacity (Canada models) | 4.5 L (4.8 US qt) |

**BODY SPECIFICATIONS**

## 4-door:

# 2008 Honda Civic EX

2006-08 GENERAL INFORMATION Specifications - Civic (All Except GX & Hybrid)

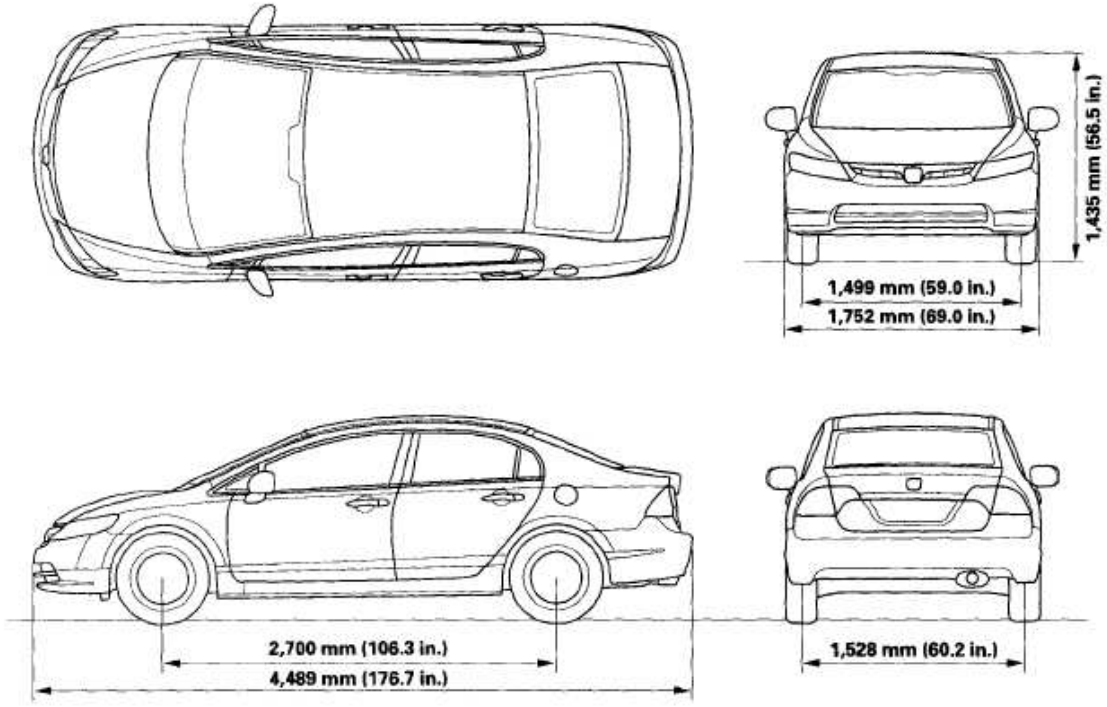



**Fig. 1: Identifying Body Specifications (4-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## 2-door:

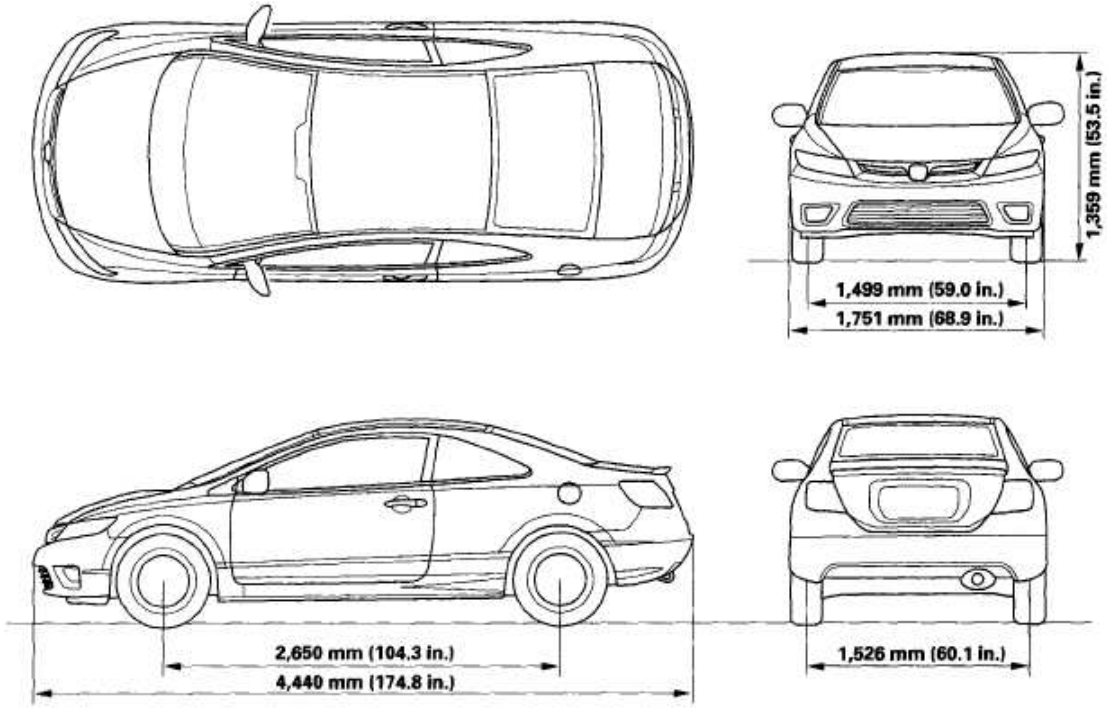


**Fig. 2: Identifying Body Specifications (2-Door)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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## 2006-08 ENGINE

## Starting System (K20Z3) - Civic (All Except Si)

# COMPONENT LOCATION INDEX

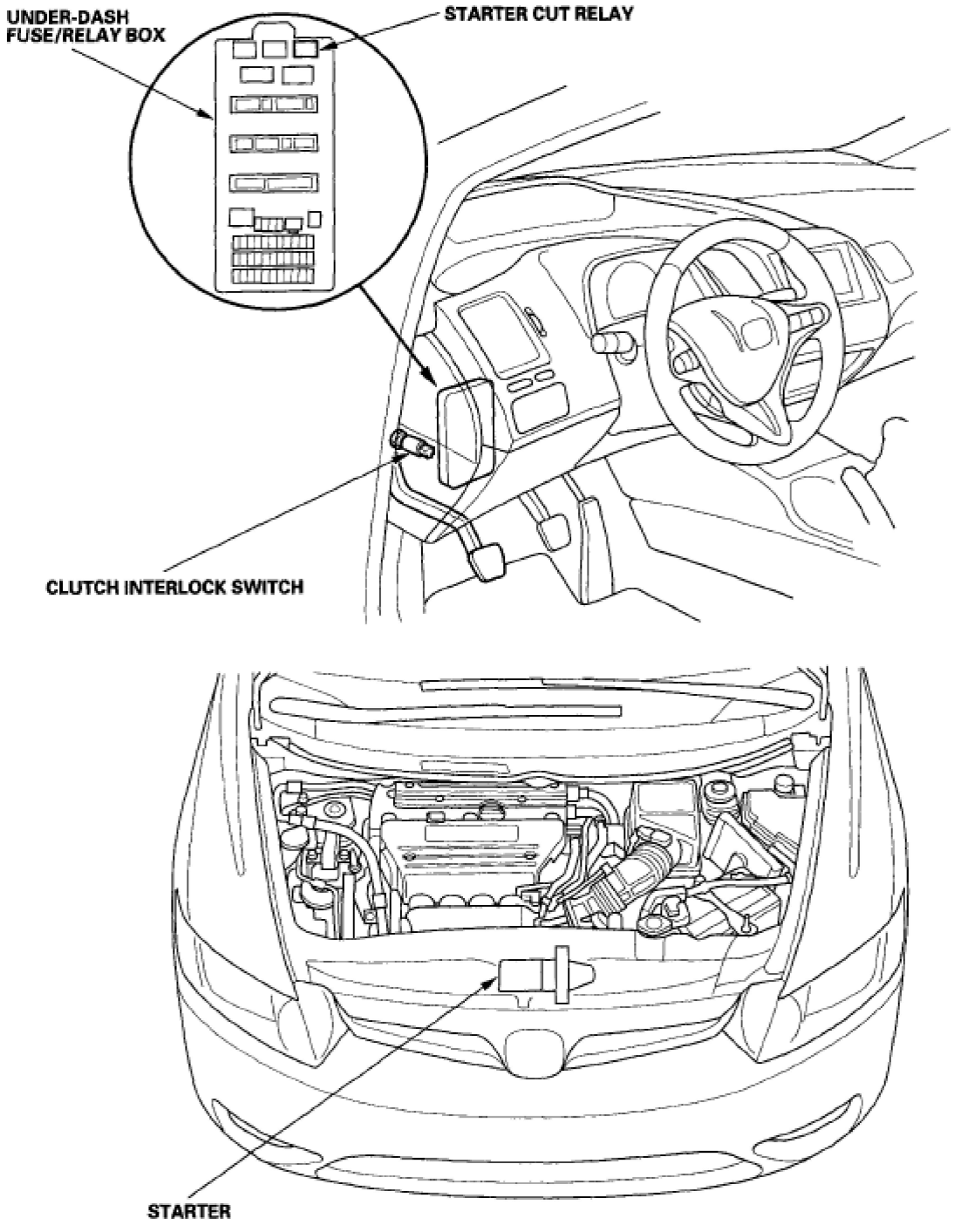



**Fig. 1: Identifying Starting System (K2023) Component Location**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SYMPTOM TROUBLESHOOTING INDEX

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## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Engine does not start (does not crank) | 1. Check for loose battery terminals or connections.<br>2. Test the battery for a low charge (see **BATTERY TEST** ).<br>3. Check the starter (see **STARTER CIRCUIT TROUBLESHOOTING** ).<br>4. Check the starter cut relay (see **POWER RELAY TEST** ).<br>5. Check the clutch interlock switch (see **CLUTCH INTERLOCK SWITCH TEST** ).<br>6. Check the ignition switch or wire (see **TEST** ). | Poor ground at G401 |
| Engine cranks, but does not start | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the fuel pressure (see **FUEL PRESSURE TEST** ).<br>3. Check for a plugged or damaged fuel line (see **FUEL LINE INSPECTION** ).<br>4. Check for a plugged fuel filter (see **FUEL PRESSURE REGULATOR REPLACEMENT** ).<br>5. Check the throttle body (see **THROTTLE BODY REMOVAL/INSTALLATION** ).<br>6. Check for low engine compression (see **ENGINE COMPRESSION INSPECTION** ).<br>7. Check for a damage or broken cam chain. | |
| | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the fuel pressure (see **FUEL PRESSURE TEST** ). | |

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| | | |
|---|---|---|
| Engine is hard to start | 3. Check for a plugged or damaged fuel line (see **FUEL LINE INSPECTION** ).<br>4. Check for a plugged fuel filter (see **FUEL PRESSURE REGULATOR REPLACEMENT** ).<br>5. Check for a restricted three way catalytic converter (TWC) or exhaust system | |
| Engine cranks slowly | 1. Check for loose battery terminals or connections.<br>2. Test the battery for a low charge (see **BATTERY TEST** ).<br>3. Check the starter for binding (see **STARTER OVERHAUL** ).<br>4. Check for excessive drag in the engine. | |

## CIRCUIT DIAGRAM

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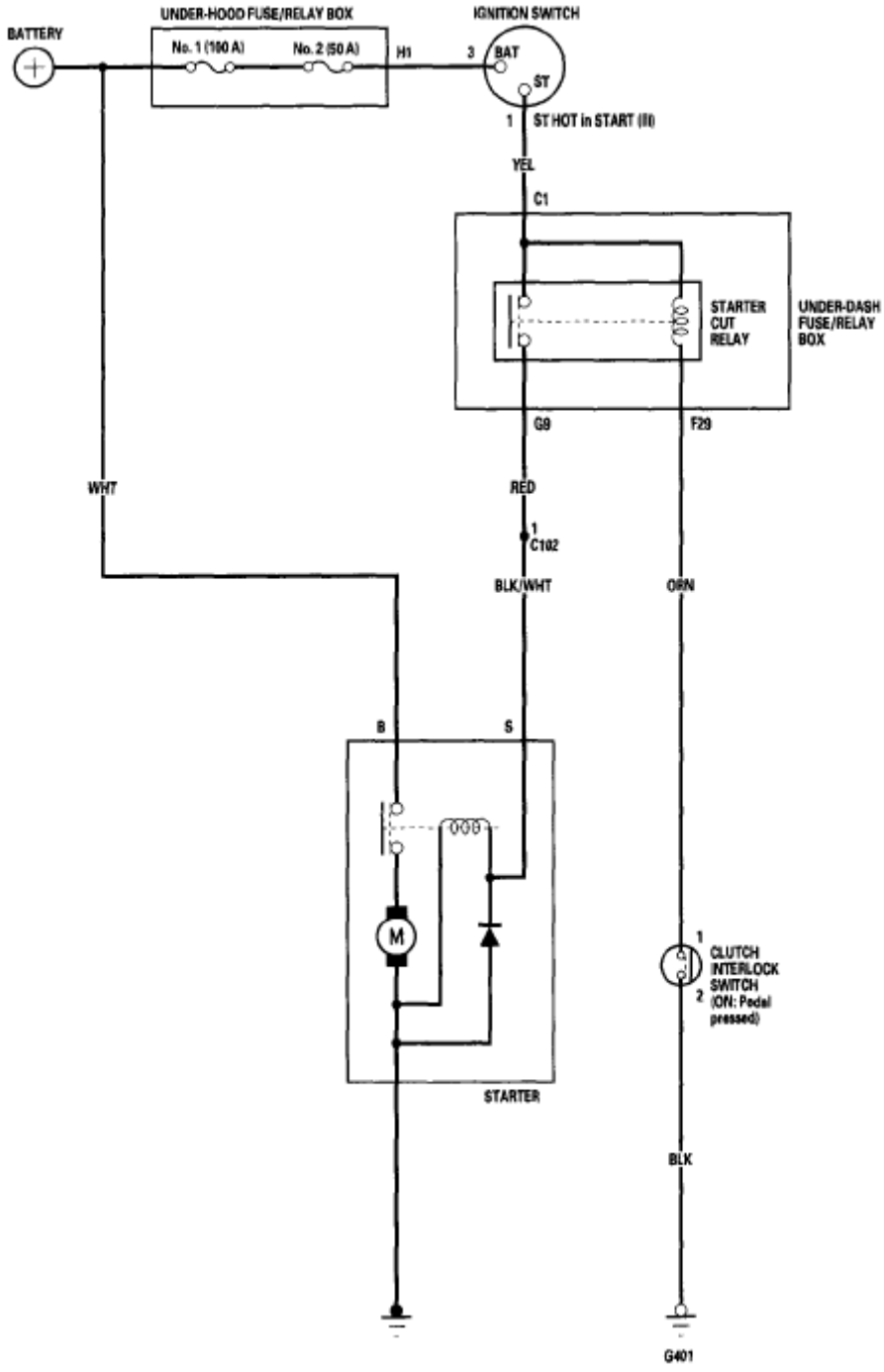



**Fig. 2: Starting System - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## STARTER CIRCUIT TROUBLESHOOTING

**NOTE:**

- **Air temperature must be between 59-100°F (15-38°C)**

**during this procedure.**

- **After this inspection, you must reset the engine control module (ECM), otherwise the ECM will continue to stop the fuel injectors from functioning.**
- **The battery must be in good condition and fully charged.**

1. Hook up the following equipment:
   - Ammeter, 0-400 A
   - Voltmeter, 0-20 V (accurate within 0.1 V)

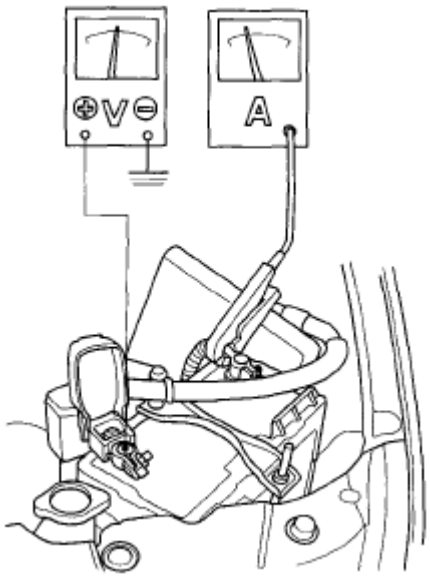



**Fig. 3: Hooking Up Ammeter & Voltmeter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the HDS to the data link connector (DLC) (see step 2 on **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the ECM. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Select PGM-FI, INSPECTION, then ALL INJECTORS OFF on the HDS.
6. Set the parking brake, then with the clutch pedal pressed, turn the ignition

switch to START (III).

*Does the starter crank the engine normally?*

**YES** -The starting system is OK. Go to step 12.

**NO** -Go to step 7.

7. Check the battery condition (see **BATTERY TEST** ). Check the electrical connections at the battery, the negative battery cable to the body, the engine ground cables, and the starter for looseness and corrosion. Then try cranking the engine again.

   *Does the starter crank the engine?*

   **YES** -Repairing the loose connection corrected the problem. The starting system is OK. Go to step 12.

   **NO** -Check the following:

   - If the starter will not crank the engine at all, go to step 8.
   - If starter cranks the engine erratically or too slowly, go to step 10.
   - If starter does not disengage from the flywheel ring gear when you release the key, replace the starter, or remove and disassemble it and check for the following:
     - Solenoid plunger and switch malfunction
     - Dirty drive gear or damaged overrunning clutch

8. Make sure the transmission is in neutral, and set the parking brake. Disconnect the starter subharness 1P connector (A) from the main wire harness 1P connector (B). Connect a jumper wire from the battery positive terminal to the starter subharness IP connector.

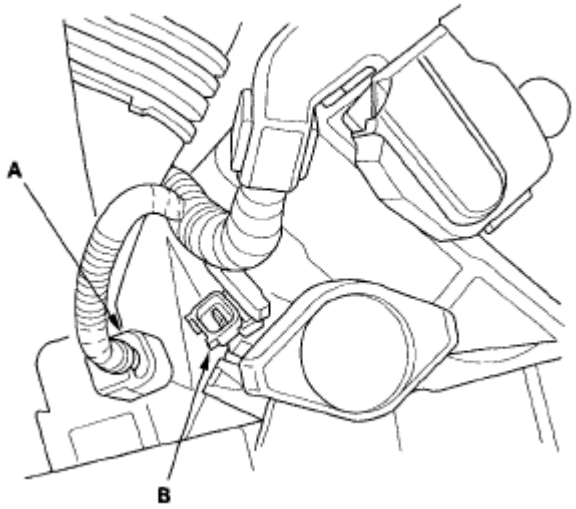



**Fig. 4: Identifying Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Does the starter crank the engine?*

**YES** -Go to step 9.

**NO** -Check the BLK/WHT wire between the starter subharness 1P connector and the starter. If the wire is OK, remove the starter, and repair or replace as necessary.

9. Check the following items in the order listed until you find the open circuit:
   - The YEL wire and connectors between the under-dash fuse/relay box and the ignition switch.
   - The RED wire and connectors between the under-dash fuse/relay box and the main wire harness 1P connector.
   - The ignition switch (see **TEST** ).
   - The clutch interlock switch and connector.
   - The starter cut relay (see **POWER RELAY TEST** ).
10. While cranking the engine, check the cranking voltage and the current draw.

*Is the cranking voltage greater than or equal to 8.5 V and is the current draw less than or equal to 380 A?*

**YES** -Go to step 11.

**NO** -Replace the starter, or remove and disassemble it, and check the following:

- Drag in the starter armature
- Shorted armature winding
- Excessive drag in the engine
- Open circuit in the starter armature commutator segments
- Excessively worn starter brushes
- Open circuit in the starter brushes
- Dirty or damaged helical splines or drive gear
- Faulty drive gear clutch

11. Remove the starter, and inspect its drive gear and the flywheel ring gear for damage. Replace any damaged parts.
12. Select ECM reset (see **HDS CLEAR COMMAND** ) to cancel ALL INJECTORS OFF on the HDS.

## CLUTCH INTERLOCK SWITCH TEST

1. Disconnect the clutch interlock switch 2P connector (A).

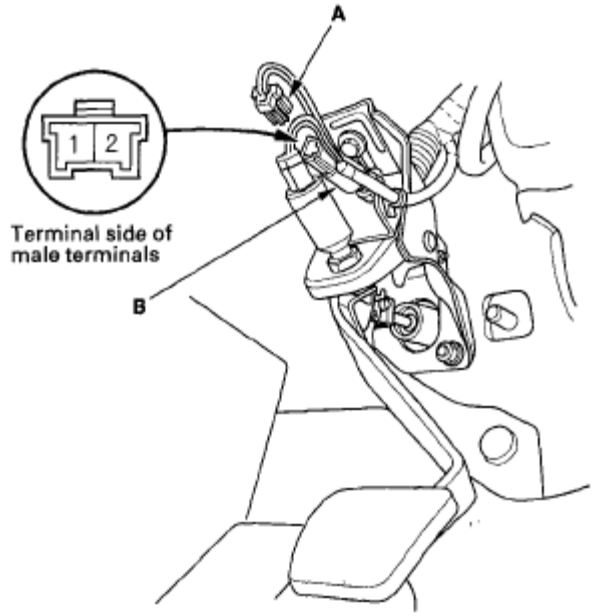



**Fig. 5: Identifying Clutch Interlock Switch 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the clutch interlock switch (B).
3. Check for continuity between the terminals according to the table.
   - If the continuity is not as specified, replace the clutch interlock switch.
   - If OK, install the clutch interlock switch, and adjust the pedal height (see **CLUTCH PEDAL, CLUTCH PEDAL POSITION SWITCH, AND CLUTCH INTERLOCK SWITCH ADJUSTMENT** ).

| Terminal / Clutch Interlock Switch | 1 | 2 |
|---|---|---|
| PRESSED | ○—— | ——○ |
| RELEASED | | |

**Fig. 6: Terminals Continuity Table**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## STARTER PERFORMANCE TEST

1. Make a connection for this test using the thickest (gauge) wire possible (preferably the same gauge as used on the vehicle).

**NOTE: To avoid damaging the starter, never leave the battery connected for more than 10 seconds.**

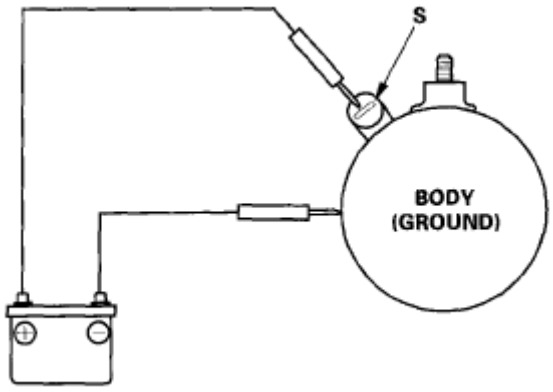



**Fig. 7: Identifying Starter Connections**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the battery as shown. If the starter pinion moves out, it is working properly.
3. Disconnect the battery from the body. If the pinion retracts immediately, it is working properly.

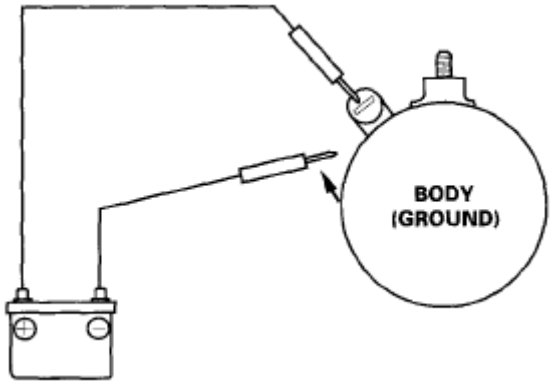



**Fig. 8: Disconnecting Battery From Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Firmly clamp the starter in a vise.
5. Connect the starter to the battery as shown, and check that the motor turns and keeps rotating.

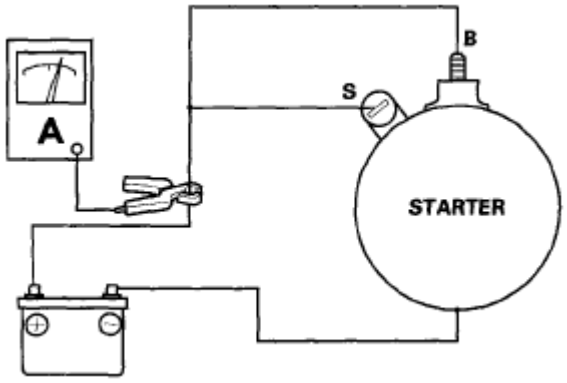



**Fig. 9: Connecting Starter To Battery**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the electric current meets the specification when the battery voltage is at 11.5 V, the starter is working properly.

   **Specification**

   **Electric Current: 80 A or less**

## STARTER REMOVAL AND INSTALLATION

### REMOVAL

1. Make sure you have the anti-theft code for the audio system and the navigation system (if equipped), then write down the audio presets.
2. Disconnect the negative cable from the battery first, then disconnect the positive cable.
3. Remove the splash shield.

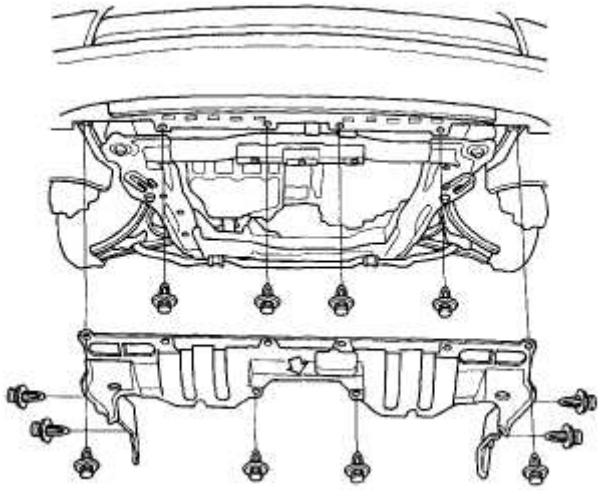


**Fig. 10: Identifying Splash Shield And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the intake manifold bracket.

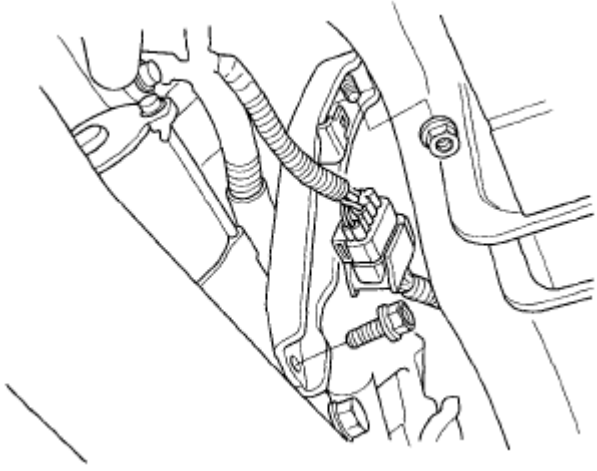


**Fig. 11: Identifying Intake Manifold Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the harness clamp (A), and remove the two bolts (B) securing the starter, then remove the starter from the engine.

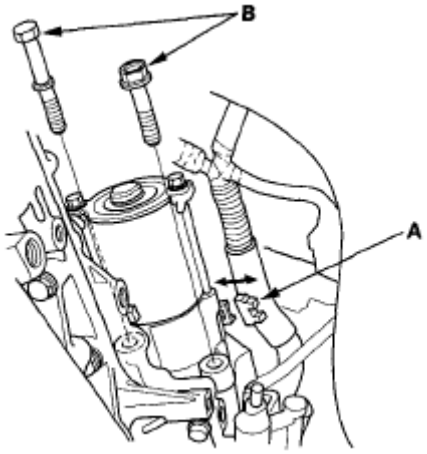



**Fig. 12: Identifying Starter Bolts**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Disconnect the starter cable (A) from the B terminal, then disconnect the BLK/WHT wire (B) from the S terminal.

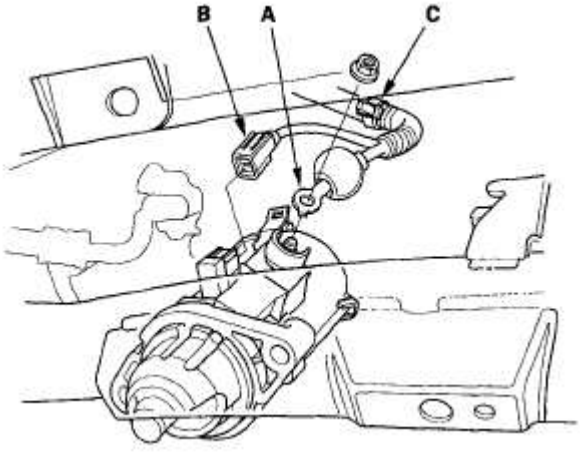



**Fig. 13: Identifying BLK/WHT Wire**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Remove the harness clamp (C), then remove the starter.

**INSTALLATION**

1. Install the starter cable (A) and BLK/WHT (B) wire. Make sure the starter cable crimped side of the ring terminal faces away from the starter when you connect it.

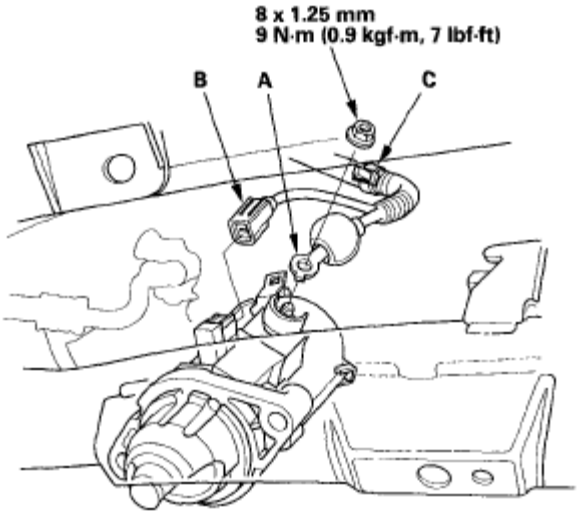



**Fig. 14: Identifying Starter Cable And BLK/WHT Wire (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the harness clamp (C).
3. Install the starter, and tighten the bolts then install the harness clamp (A).

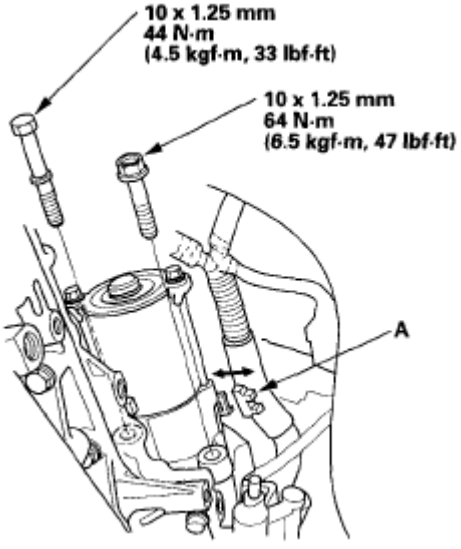



**Fig. 15: Identifying Starter Bolts (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install the intake manifold bracket.

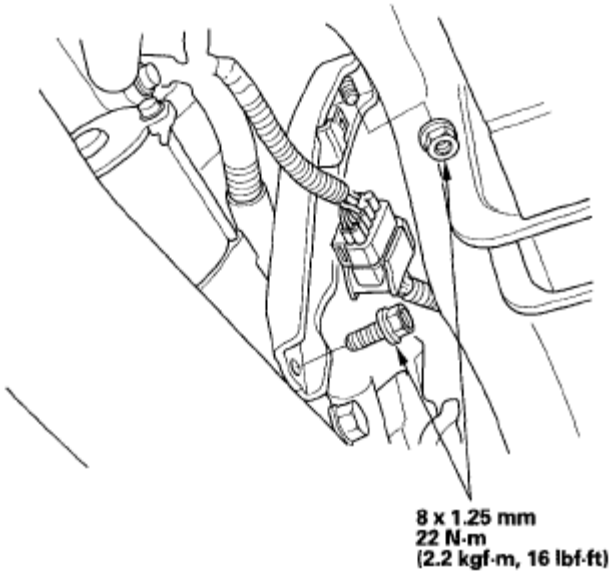



**Fig. 16: Identifying Intake Manifold Bracket (With Torque Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the splash shield.

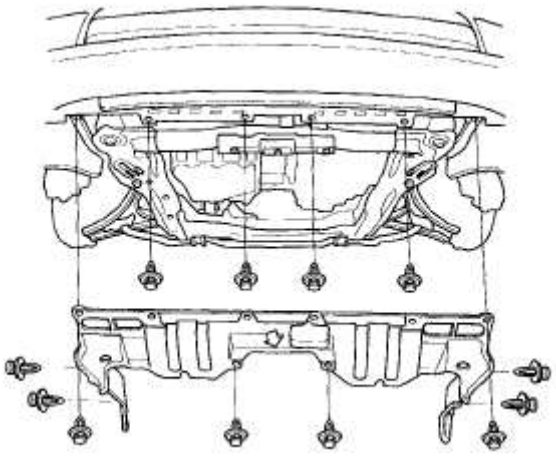


**Fig. 17: Identifying Splash Shield And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Connect the positive cable to the battery first, then connect the negative cable.
7. Start the engine to make sure the starter works properly.
8. Enter the anti-theft code for the audio system and the navigation system (if equipped), then enter the audio presets.

9. Set the clock.

## STARTER OVERHAUL

### DISASSEMBLY/REASSEMBLY

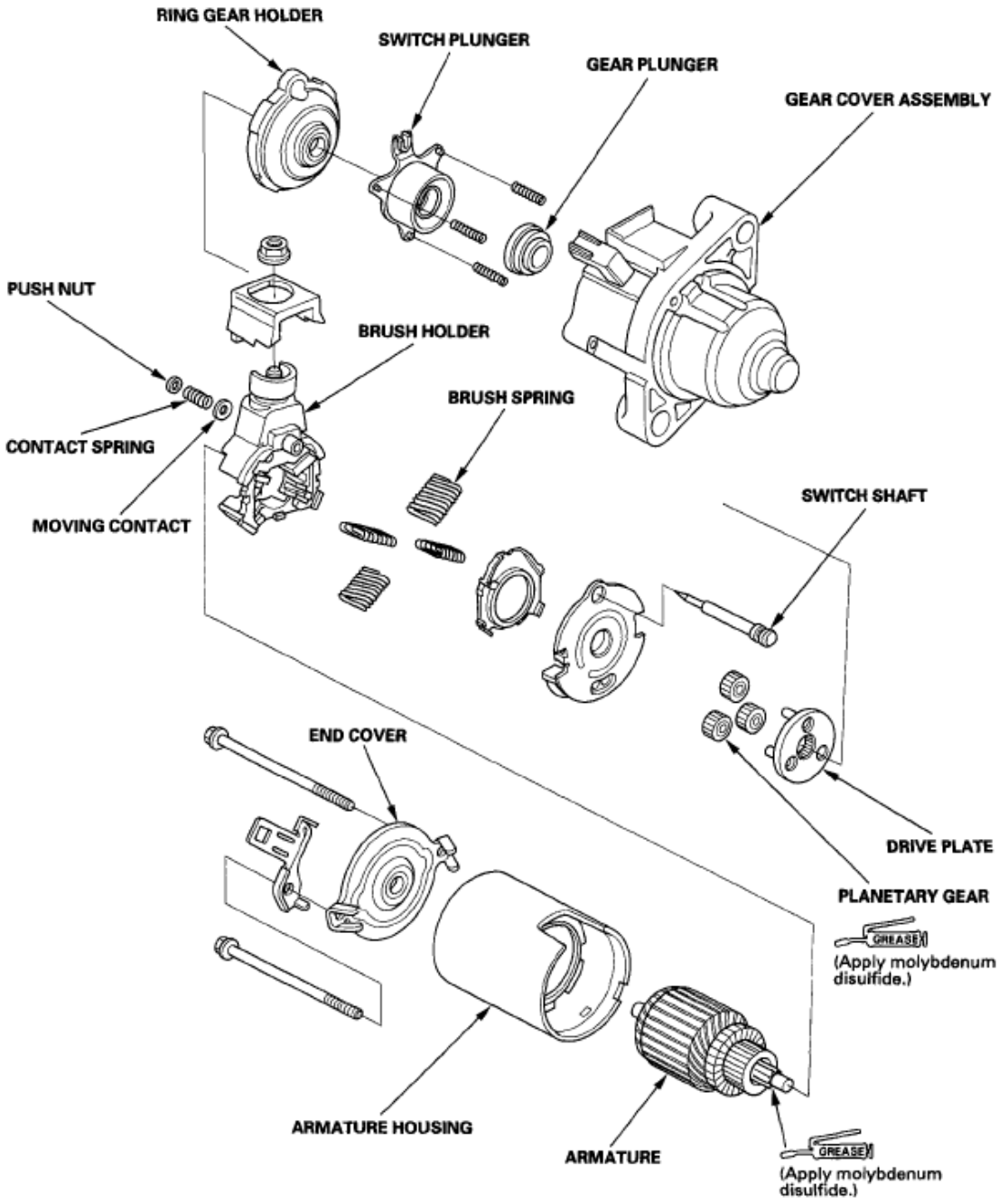



**Fig. 18: Exploded View Of Starter Overhaul**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## Armature Inspection and Test

1. Remove the starter (see **STARTER REMOVAL AND INSTALLATION** ).
2. Disassemble the starter as shown at the beginning of this procedure.
3. Inspect the armature for wear or damage from contact with the permanent magnet. If there is wear or damage, replace the armature.

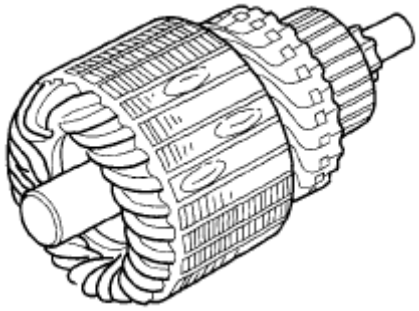


**Fig. 19: Identifying Armature**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check the commutator (A) surface. If the surface is dirty or burnt, resurface it with an emery cloth or a lathe to the following specifications, or recondition with #500 or #600 sandpaper (B).

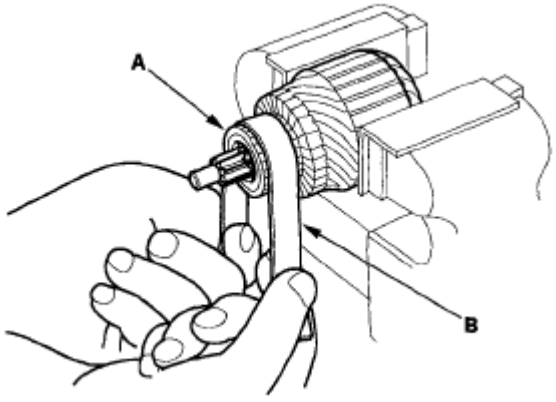



**Fig. 20: Checking Commutator Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Check the commutator diameter. If the diameter is below the service limit, replace the armature.

**Commutator Diameter**

**Standard (New): 28.0-28.1 mm (1.102-1.106 in.)**

**Service Limit: 27.5 mm (1.083 in.)**

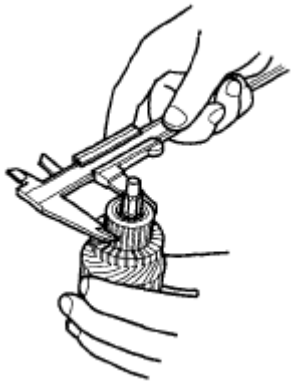


**Fig. 21: Checking Commutator Diameter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Measure the commutator (A) runout.
   - If the commutator runout is within the service limit, check the commutator for carbon dust or brass chips between the segments.
   - If the commutator runout is not within the service limit, replace the armature.

**Commutator Runout**

**Standard (New): 0.02 mm (0.001 in.) max.**

**Service Limit: 0.05 mm (0.002 in.)**

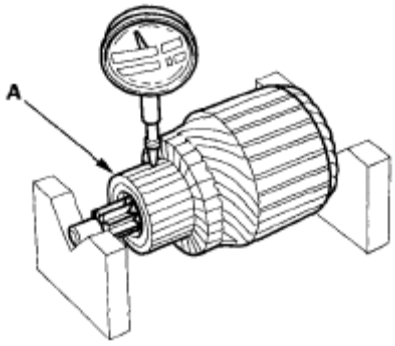



**Fig. 22: Measuring Commutator Runout**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Check the mica depth (A). If the mica is too high (B), undercut the mica with a hacksaw blade to the proper depth. Cut away all the mica (C) between the commutator segments. The undercut should not be too shallow, too narrow, or V-shaped (D).

   **Commutator Mica Depth**

   **Standard (New): 0.40-0.50 mm (0.016-0.020 in.)**

   **Service Limit: 0.15 mm (0.006 in.)**

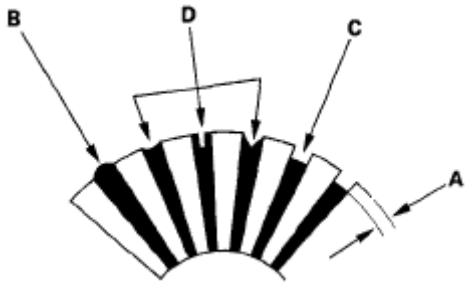



**Fig. 23: Identifying Commutator Mica Depth**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Check for continuity between the segments of the commutator. If there is open circuit between any of the segments, replace the armature.

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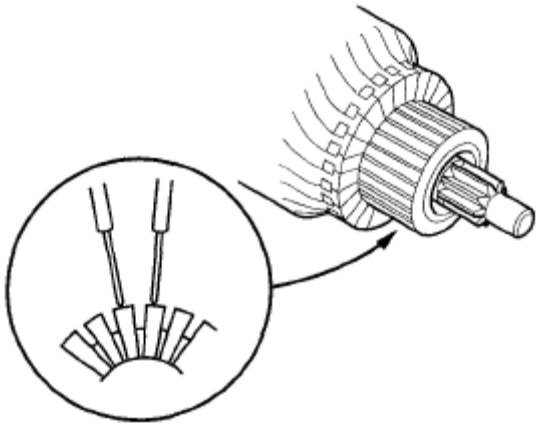


**Fig. 24: Identifying Commutator Segments**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Place the armature (A) on an armature tester (B). Hold a hacksaw blade (C) on the armature core. If the blade is attracted to the core or vibrates while the core is turned, the armature is shorted. Replace the armature.

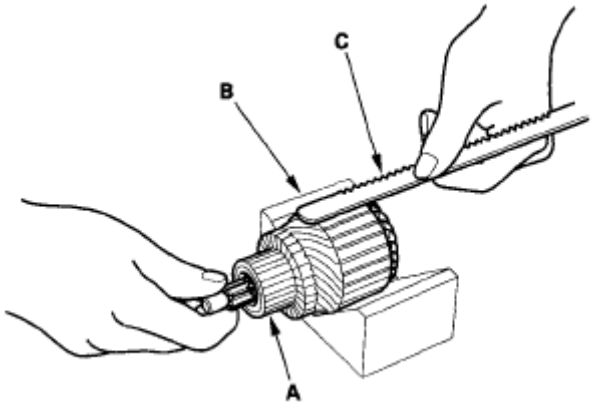



**Fig. 25: Placing Armature On Armature Tester Hold Hacksaw Blade On Armature Core**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Check for continuity between the commutator (A) and the armature coil core (B), and between the commutator and the armature shaft (C). If there is continuity, replace the armature.

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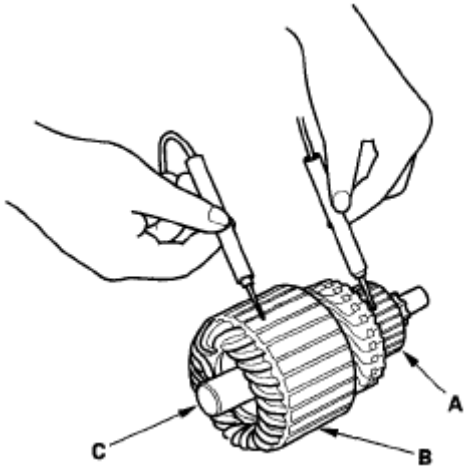



**Fig. 26: Checking Continuity Between Commutator And Armature Coil Core**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Starter Brush Inspection**

11. Measure the brush length. If it is shorter than the service limit, replace the brush holder assembly.

**Brush Length**

**Standard (New): 11.1-11.5 mm (0.44-0.45 in.)**

**Service Limit: 4.3 mm (0.17 in.)**

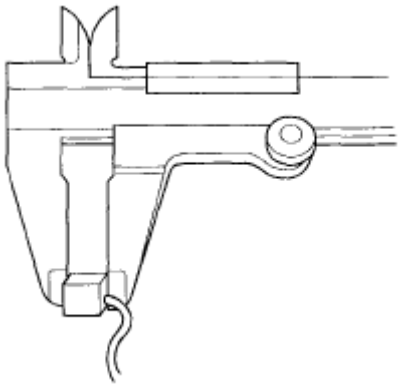


**Fig. 27: Measuring Brush Length**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

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### Starter Brush Holder Test

12. Check for continuity between the (+) brush (A) and (-) brush (B). If there is continuity, replace the brush holder assembly.

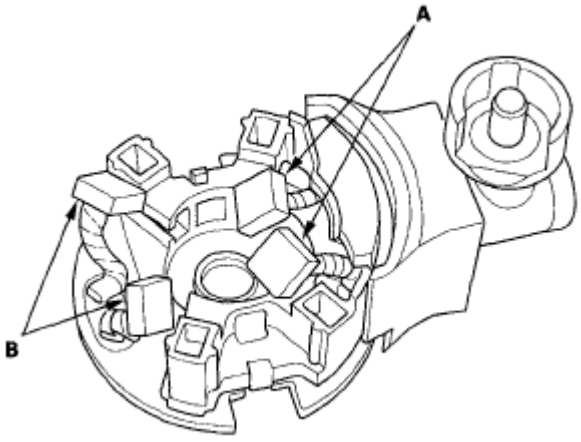



**Fig. 28: Identifying Starter Brush Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Planetary Gear Inspection

13. Check the planetary gears (A) and ring gear (B). Replace them if they are worn or damaged.

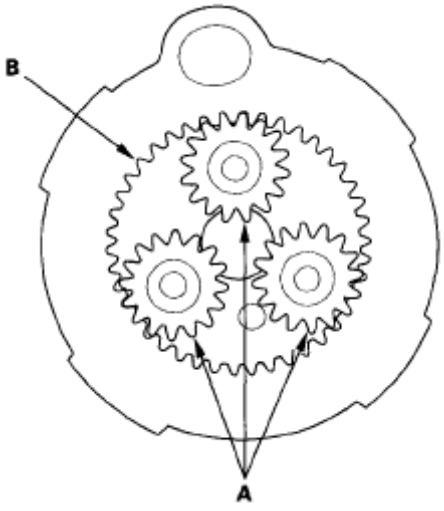



**Fig. 29: Identifying Planetary Gears And Ring Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Overrunning Clutch Inspection

14. While holding the drive gear (A), turn the gear shaft (B) counterclockwise. Check that the drive gear comes out to the other end. If the drive gear does not move smoothly, replace the gear cover assembly.

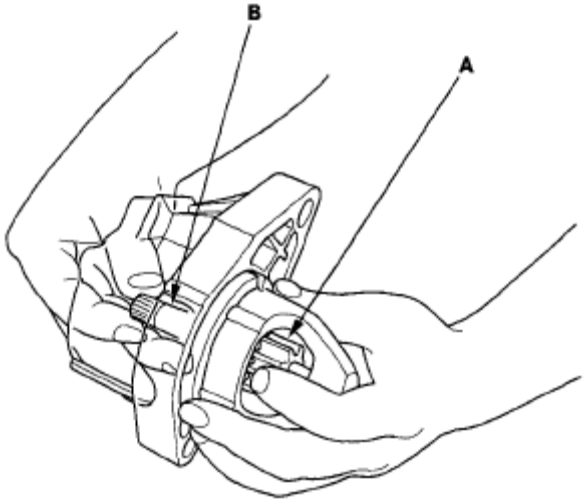



**Fig. 30: Turning Gear Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. While holding the drive gear, turn the gear shaft clockwise. The gear shaft should turn freely. If the gear shaft does not turn freely, replace the gear cover assembly.
16. If the starter drive gear is worn or damaged, replace the overrunning clutch assembly; the gear is not available separately.

    Check the condition of the flywheel ring gear to see if the starter drive gear teeth are damaged.

### Starter Reassembly

17. Install the brush into the brush holder, and set the armature (A) in the brush holder (B).

**NOTE: To seat the new brushes, slip a strip of # 500 or # 600 sandpaper, with the grit side up, between the**

**commutator and each brush, and smoothly turn the armature. The contact surface of the brushes will be sanded to the same contour as the commutator.**

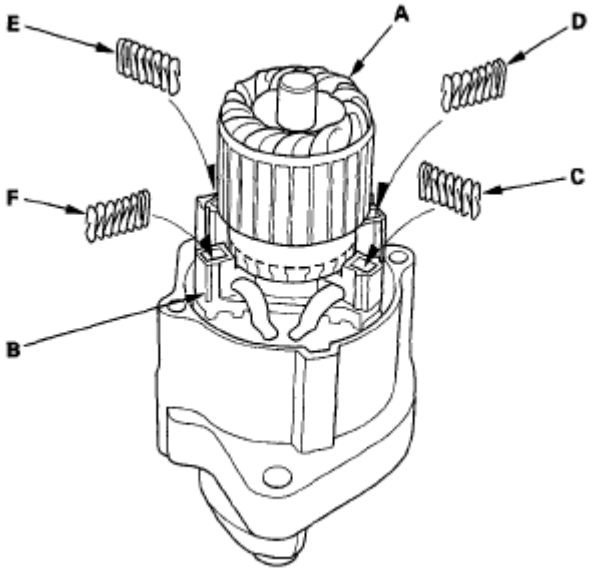



**Fig. 31: Identifying Brush Springs**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. While squeezing a spring (C), insert it in the hole on the brush holder, and push it until it bottoms. Repeat this for the other three springs (D, E, and F).
19. Install the armature and brush holder assembly into the housing.

**NOTE: Make sure the armature stays in the holder.**

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**2006-08 ENGINE**

**Starting System (R18A1) - Civic (All Except Hybrid)**

# COMPONENT LOCATION INDEX

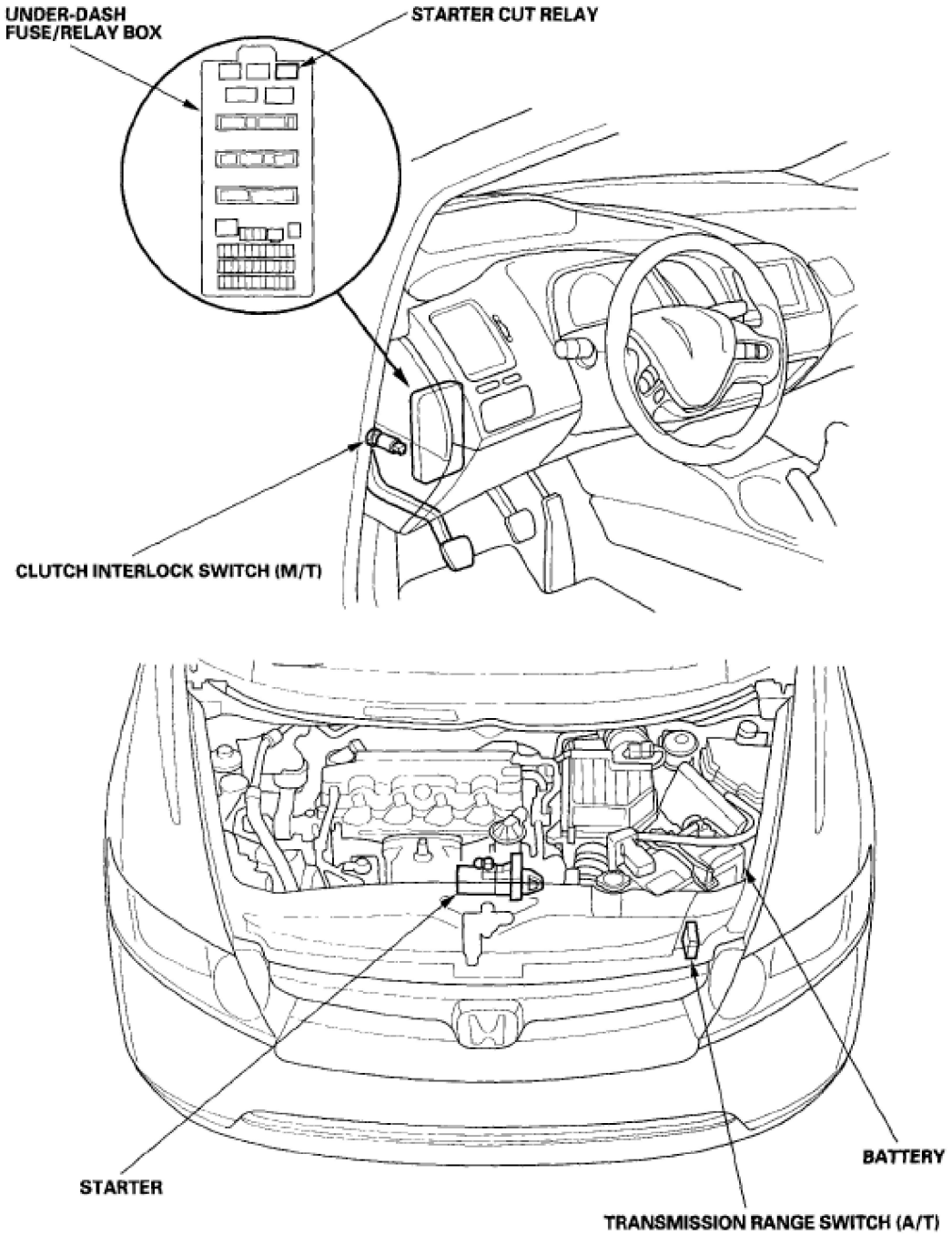



**Fig. 1: Locating Starting System Components**

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**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## SYMPTOM TROUBLESHOOTING INDEX

## SYMPTOM TROUBLESHOOTING INDEX (EXCEPT GX)

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Engine does not start (does not crank) | 1. Check for loose battery terminals or connections.<br>2. Test the battery for a low charge (see **BATTERY TEST** ).<br>3. Check the starter (see **STARTER CIRCUIT TROUBLESHOOTING** ).<br>4. Check the starter cut relay (see **POWER RELAY TEST** ).<br>5. Check the transmission range switch (A/T) (see **TRANSMISSION RANGE SWITCH TEST** ).<br>6. Check the clutch interlock switch (M/T) (see **CLUTCH INTERLOCK SWITCH TEST** ).<br>7. Check the ignition switch or wire (see **IGNITION SWITCH (ALL EXCEPT HYBRID)** ). | Poor ground at G101 (A/T) or G401 (M/T) |
| Engine cranks, but does not | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the fuel pressure (see **FUEL PRESSURE TEST** ).<br>3. Check for a plugged or damaged fuel line (see **FUEL LINE INSPECTION** ).<br>4. Check for a plugged fuel filter (see **FUEL PRESSURE REGULATOR** | Fuel level in tank |

| | | |
|---|---|---|
| start | **REPLACEMENT** ).<br>5. Check the throttle body (see **THROTTLE BODY TEST** ).<br>6. Check for low engine compression (see **ENGINE COMPRESSION INSPECTION** ).<br>7. Check for a damaged or broken cam chain. | |
| Engine is hard to start | 1. Check for PGM-FI DTCs (see **GENERAL TROUBLESHOOTING INFORMATION** ).<br>2. Check the fuel pressure (see **FUEL PRESSURE TEST** ).<br>3. Check for a plugged or damaged fuel line (see **FUEL LINE INSPECTION** ).<br>4. Check for a plugged fuel filter (see **FUEL PRESSURE REGULATOR REPLACEMENT** ).<br>5. Check for a restricted three way catalytic converter (TWO or exhaust system. | |
| Engine cranks slowly | 1. Check for loose battery terminals or connections.<br>2. Test the battery for a low charge (see **BATTERY TEST** ).<br>3. Check the starter for binding (see **STARTER OVERHAUL** ).<br>4. Check for excessive drag in the engine. | |

## SYMPTOM TROUBLESHOOTING CHART (GX)

| Symptom | Diagnostic procedure | Also check for |
|---|---|---|
| Engine does not start (does not crank) | 1. Check for loose battery terminals or connections. | Poor ground at G101 |

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| | | |
|---|---|---|
| | 2. Test the battery for a low charge, refer to the **BATTERY (ALL EXCEPT HYBRID)** .<br>3. Check the starter, refer to the **STARTER CIRCUIT TROUBLESHOOTING** .<br>4. Check the starter cut relay (see **POWER RELAY TEST** ).<br>5. Check the transmission range switch, refer to the **TRANSMISSION RANGE SWITCH TEST** .<br>6. Check the ignition switch or wire, refer to the **IGNITION SWITCH (ALL EXCEPT HYBRID)** . | |
| Engine cranks, but does not start | 1. Check for PGM-FI DTCs (see **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).<br>2. Check the throttle body, refer to the **THROTTLE BODY TEST** .<br>3. Check for low engine compression, refer to the **ENGINE COMPRESSION INSPECTION** . | |

| | | |
|---|---|---|
| | 4. Check for a damaged or broken cam chain. | |
| Engine is hard to start | 1. Check for PGM-FI DTCs (see **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).<br>2. Check for a restricted three way catalytic converter (TWC) or exhaust system. | |
| Engine cranks slowly | 1. Check for loose battery terminals or connections.<br>2. Test the battery for a low charge, refer to the **BATTERY (ALL EXCEPT HYBRID)** .<br>3. Check the starter for binding, refer to the **STARTER PERFORMANCE TEST** .<br>4. Check for excessive drag in the engine. | |

## CIRCUIT DIAGRAM

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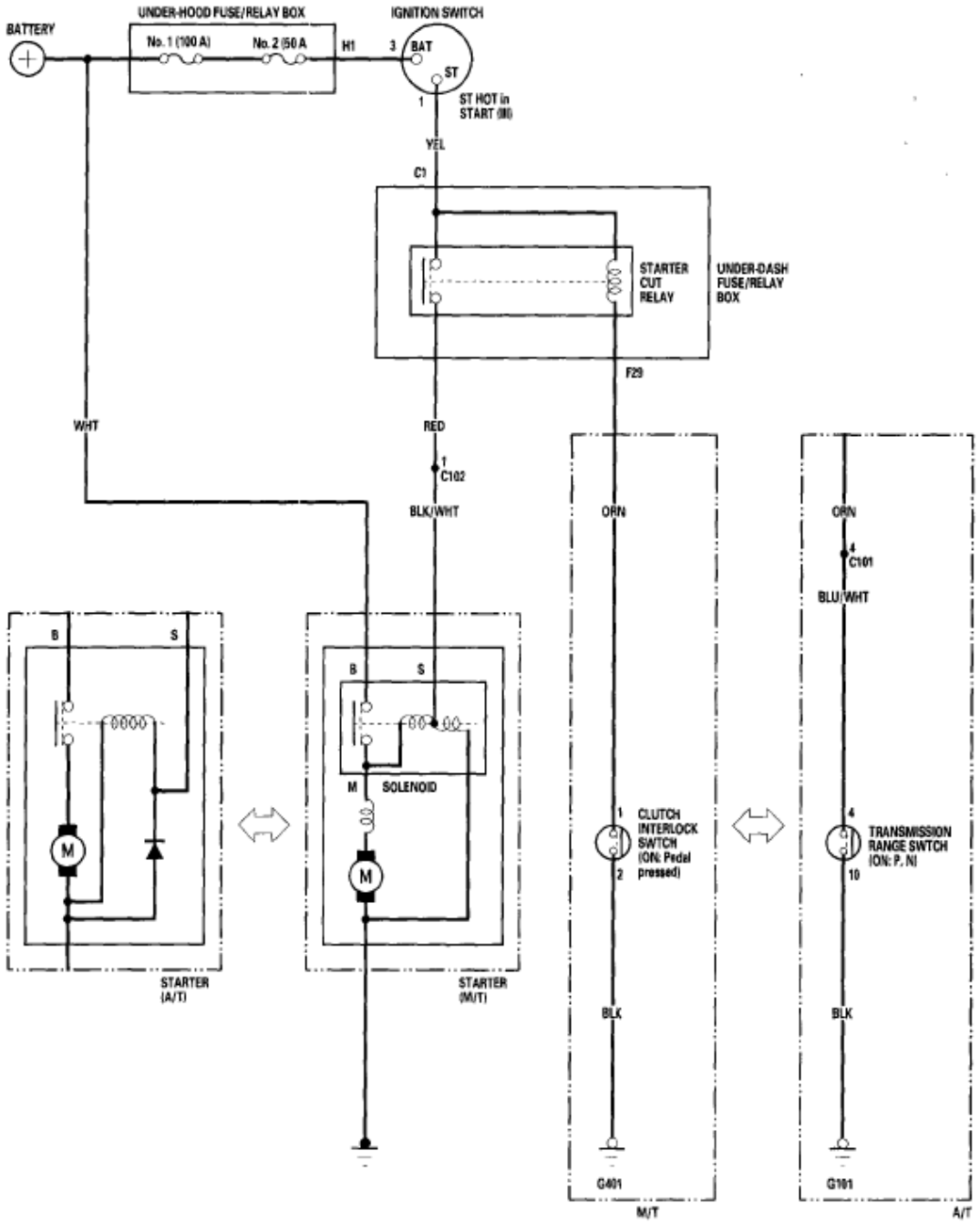



**Fig. 2: Starting System - Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## STARTER CIRCUIT TROUBLESHOOTING

**NOTE:**

- **Air temperature must be between 59 and 100°F (15 and 38°C) during this procedure.**

- **After this inspection, you must reset engine control module (ECM)/powertrain control module (PCM), otherwise the ECM/PCM will continue to stop the fuel injectors from functioning.**
- **The battery must be in good condition and fully charged.**

1. Hook up the following equipment:
   - Ammeter, 0-400 A
   - Voltmeter, 0-20 V (accurate within 0.1 V)

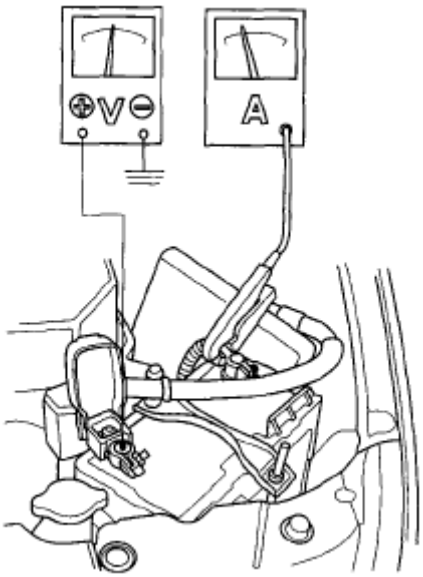



**Fig. 3: Connecting Ammeter And Voltmeter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the HDS to the data link connector (DLC) (see step 2 in **HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)** ).
3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the ECM/PCM. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Select PGM-FI, INSPECTION, then ALL INJECTORS OFF on the HDS.

6. Set the parking brake, then with the shift lever in the P or N position (A/T) or the clutch pedal pressed (M/T), turn the ignition switch to START (III).

   *Does the starter crank the engine normally?*

   **YES** - The starting system is OK. Go to step 13.

   **NO** - Go to step 7.

7. Check the battery condition (see **BATTERY TEST** ). Check the electrical connections at the battery, the negative battery cable to the body, the engine ground cables, and the starter for looseness and corrosion. Then try cranking the engine again.

   *Does the starter crank the engine?*

   **YES** - Repairing the loose connection corrected the problem. The starting system is OK. Go to step 13.

   **NO** - Check the following:

   - If the starter will not crank the engine at all, go to step 8.
   - If the starter cranks the engine erratically or too slowly, go to step 10.
   - If the starter does not disengage from the flywheel or torque converter ring gear when you release the key, replace the starter, or remove and disassemble it and check for the following:
     - Solenoid plunger and switch malfunction
     - Dirty drive gear or damaged overrunning clutch

8. Make sure the shift lever is in the N or P position (A/T) or neutral (M/T), and set the parking brake. Disconnect the connector from the starter solenoid S terminal. Connect a jumper wire from the battery positive terminal to the solenoid terminal.

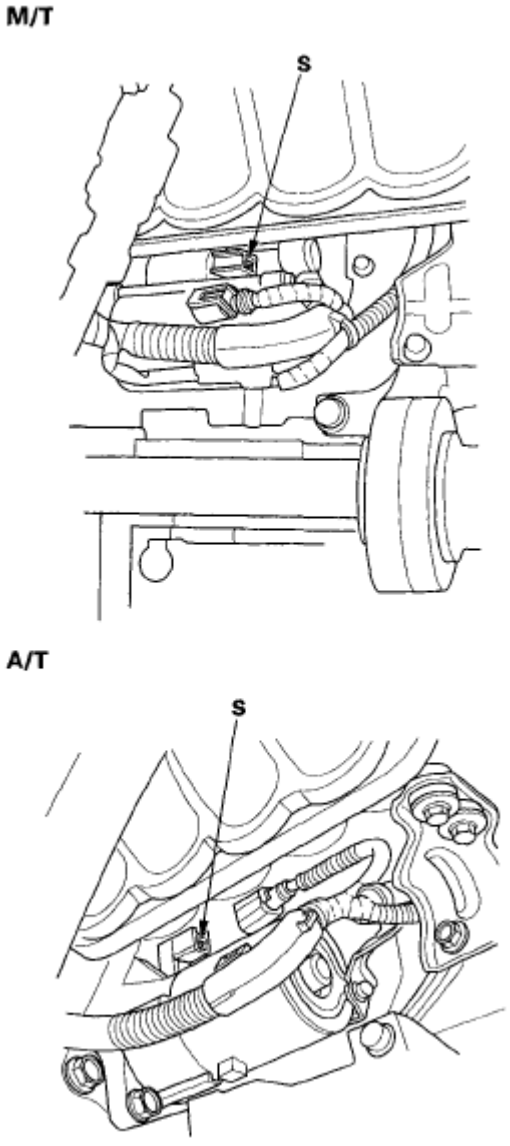



**Fig. 4: Making Sure Shift Lever Is In N Or P Position**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Does the starter crank the engine?*

**YES** - Go to step 9.

**NO** - Remove the starter, and repair or replace as necessary.

9. Check the following items in the order listed until you find the open circuit:
    - The YEL wire and connectors between the under-dash fuse/relay box and

the ignition switch.

- The RED and BLK/WHT wire and connectors between the under-dash fuse/relay box and the starter.
- The ignition switch (see **IGNITION SWITCH (ALL EXCEPT HYBRID)** ).
- The transmission range switch and connector (A/T) or the clutch interlock switch and connector (M/T).
- The starter cut relay.

10. While cranking the engine, check the cranking voltage and the current draw.

    *Is the cranking voltage greater than or equal to 8.7 V (M/T)/8.5 V (A/T) and is the current draw less than or equal to 230 A (M/T)/350 A (A/T)?*

    **YES** - Go to step 11.

    **NO** - Replace the starter, or remove and disassemble it, and check for the following:

    - Drag in the starter armature
    - Shorted armature winding
    - Excessive drag in the engine

11. Check the engine speed while cranking the engine.

    *Is the engine speed above 100 rpm?*

    **YES** - Go to step 12.

    **NO** - Replace the starter, or remove and disassemble it, and check for the following:

    - Open circuit in the starter armature commutator segments
    - Excessively worn starter brushes
    - Open circuit in the starter brushes
    - Dirty or damaged helical splines or drive gear
    - Faulty drive gear clutch

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12. Remove the starter, and inspect its drive gear and the flywheel or torque converter ring gear for damage. Replace any damaged parts.
13. Select ECM/PCM reset (see **ECM/PCM RESET** ) to cancel ALL INJECTORS OFF on the HDS.

## CLUTCH INTERLOCK SWITCH TEST

**M/T**

1. Disconnect the clutch interlock switch 2P connector (A).

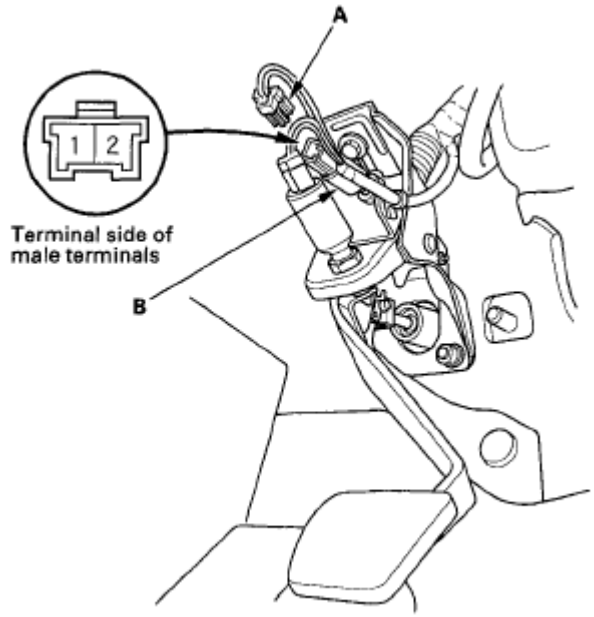



**Fig. 5: Identifying Clutch Interlock Switch 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the clutch interlock switch (B).
3. Check for continuity between the terminals according to the table.
   - If the continuity is not as specified, replace the clutch interlock switch.
   - If OK, install the clutch interlock switch, and adjust the pedal height (see **CLUTCH PEDAL, CLUTCH PEDAL POSITION SWITCH, AND CLUTCH INTERLOCK SWITCH ADJUSTMENT** ).

| Terminal / Clutch Interlock Switch | 1 | 2 |
|---|---|---|
| PRESSED | o—— | ——o |
| RELEASED | | |

**Fig. 6: Checking Continuity Between Clutch Interlock Switch Table**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## STARTER SOLENOID TEST

**M/T**

1. Remove the starter (see **STARTER REMOVAL AND INSTALLATION** ).
2. Remove the motor cable (A).

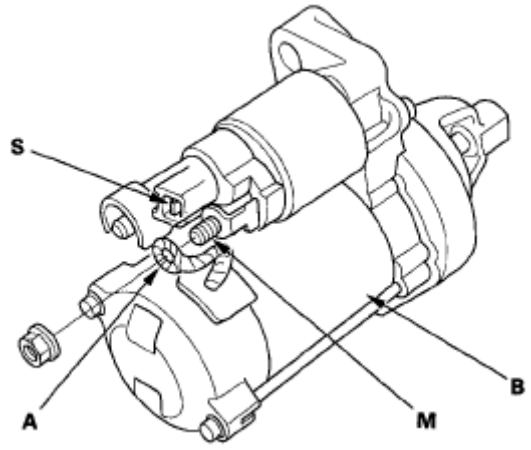



**Fig. 7: Removing Motor Cable**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check the hold-in coil for continuity between the S terminal and the armature housing (ground) (B). There should be continuity.
   - If there is continuity, go to step 4.
   - If there is no continuity, replace the solenoid.
4. Check the pull-in coil for continuity between the S terminal and the M terminal. There should be continuity.
   - If there is continuity, the solenoid is OK.
   - If there is no continuity, replace the solenoid.

5. Install the motor cable.
6. Install the starter (see **INSTALLATION** ).

## STARTER PERFORMANCE TEST

**M/T**

1. Disconnect the wires from the M terminal.
2. Make a connections for this test using the thickest (gauge) wire possible (preferably the same gauge as used on the vehicle).

**NOTE: To avoid damaging the starter, never leave the battery connected for more than 10 seconds.**

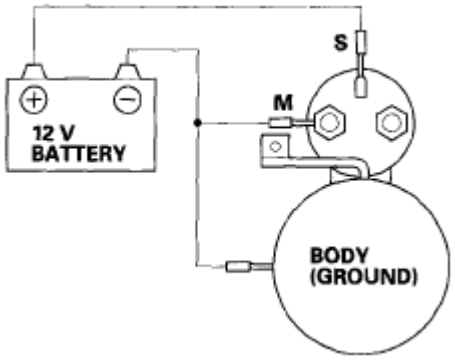



**Fig. 8: Connecting Battery To Starter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Connect the battery as shown in **Fig. 8**. Make sure you disconnect the starter motor wire from the solenoid. If the starter pinion moves out, it is working properly.
4. Disconnect the battery from the M terminal. If the pinion does not retract, the hold-in coil of the solenoid is working properly.

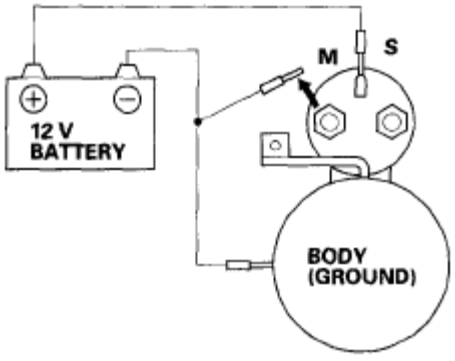



**Fig. 9: Disconnecting Battery From M Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Disconnect the battery from the starter body. If the pinion retracts immediately, it is working properly.

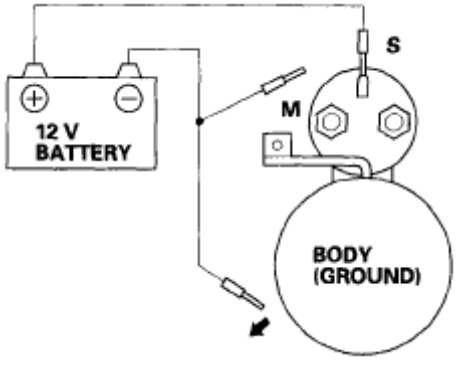



**Fig. 10: Disconnecting Battery From Starter Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Firmly clamp the starter in a vise.
7. Reconnect the wire to the M terminal.
8. Connect the starter to the battery as shown, and check that the motor turns and keeps rotating.

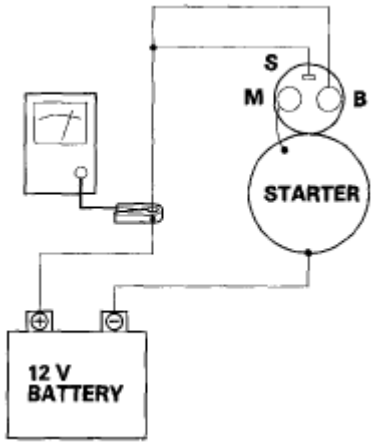



**Fig. 11: Connecting Starter To Battery**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. If the electric current meets the specification when the battery voltage is at 11.5 V, the starter is working properly.

   **Specification Electric Current: 90 A or less**

**A/T**

1. Make a connection for this test using the thickest (gauge) wire possible (preferably the same gauge as used on the vehicle).

   **NOTE: To avoid damaging the starter, never leave the battery connected for more than 10 seconds.**

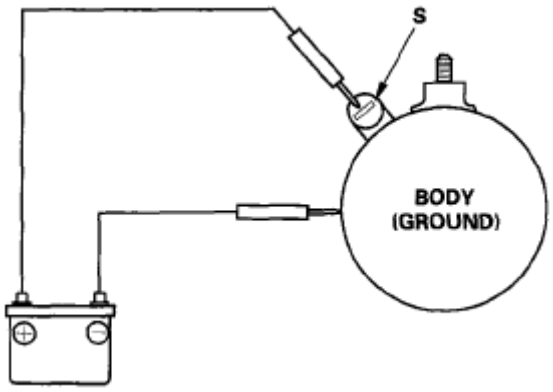



**Fig. 12: Connecting Battery To Starter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Connect the battery as shown in **Fig. 12**. If the starter pinion moves out, it is working properly.
3. Disconnect the battery from the body. If the pinion retracts immediately, it is working properly.

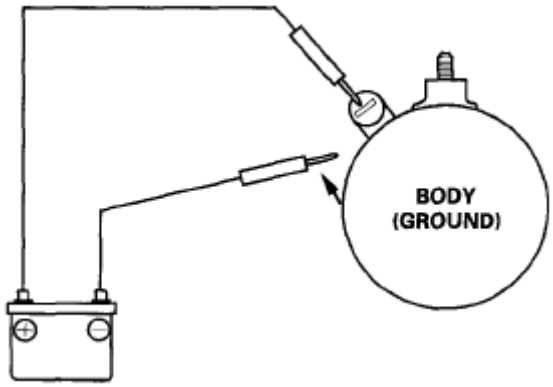



**Fig. 13: Disconnecting Battery From Body**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Firmly clamp the starter in a vise.
5. Connect the starter to the battery as shown, and check that the motor turns and keeps rotating.

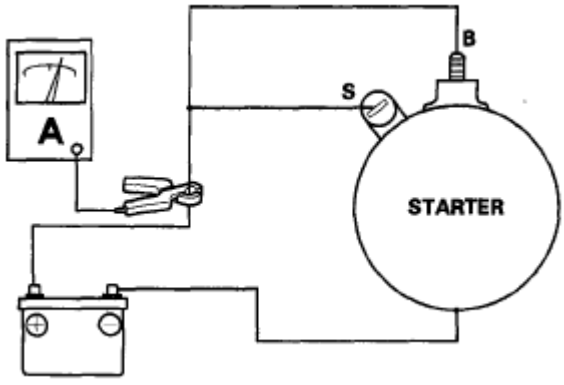



**Fig. 14: Connecting Starter To Battery**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. If the electric current meets the specification when the battery voltage is at 11.5 V, the starter is working properly.

**Specification Electric Current: 80 A or less**

## STARTER REMOVAL AND INSTALLATION

**REMOVAL**

1. Make sure you have the anti-theft code for the audio system and the navigation system (if equipped), then write down the audio presets.
2. Disconnect the negative cable from the battery first, then disconnect the positive cable.
3. Remove exhaust pipe A.

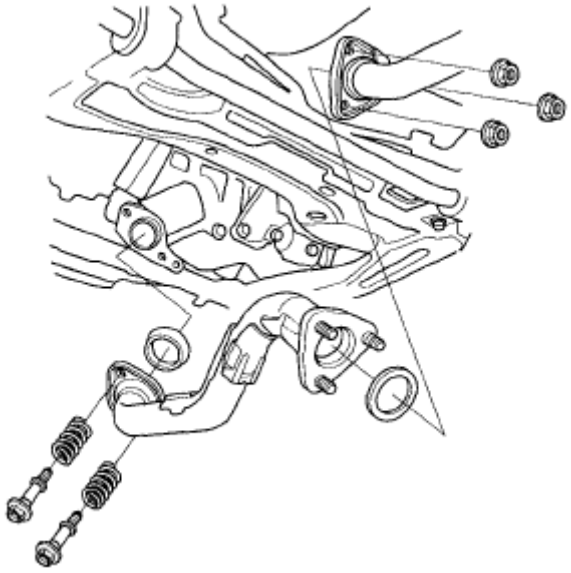


**Fig. 15: Removing Exhaust Pipe A**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Remove the intake manifold bracket.

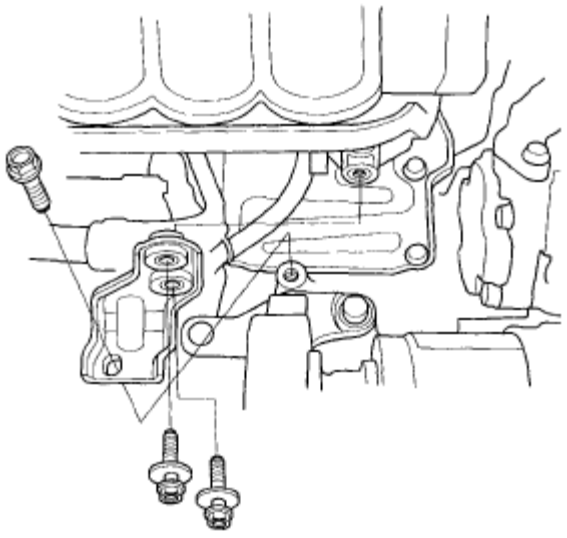


**Fig. 16: Removing Intake Manifold Bracket**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Remove the harness clamps (A) and harness connector (B) from each clamp.

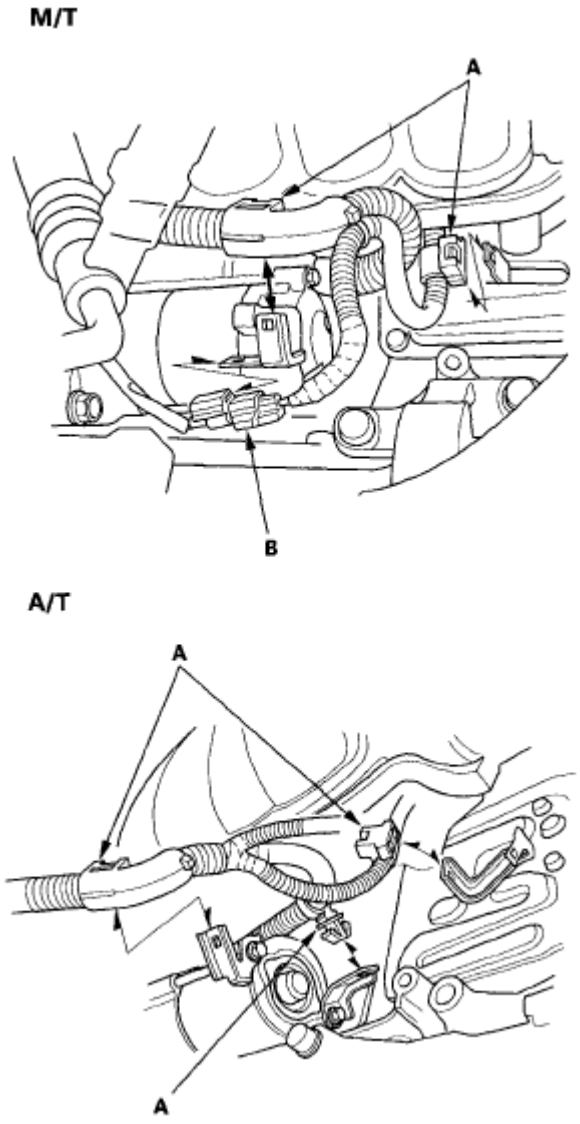
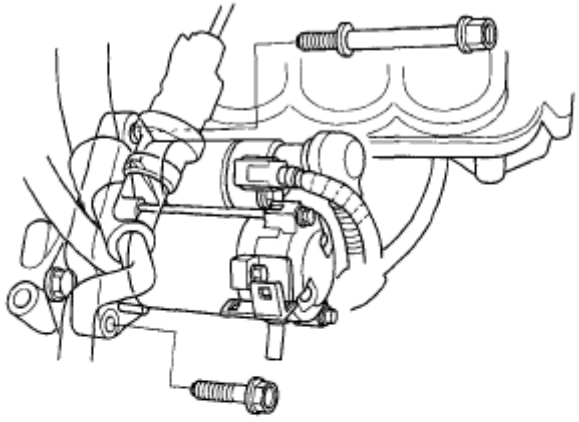



**Fig. 17: Removing Harness Clamps And Harness Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the two bolts securing the starter, then remove the starter from the engine.

M/T



A/T

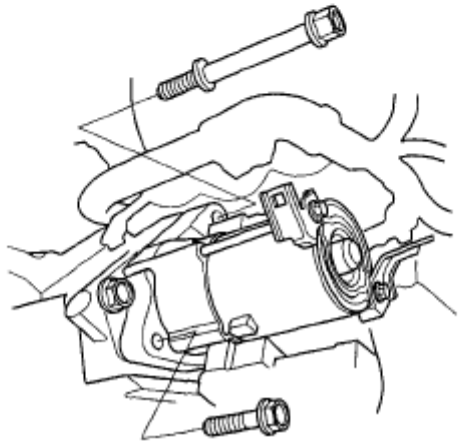


**Fig. 18: Removing Starter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Disconnect the starter cable (A) from the B terminal. Disconnect the connector (B) from the S terminal, then remove the starter.

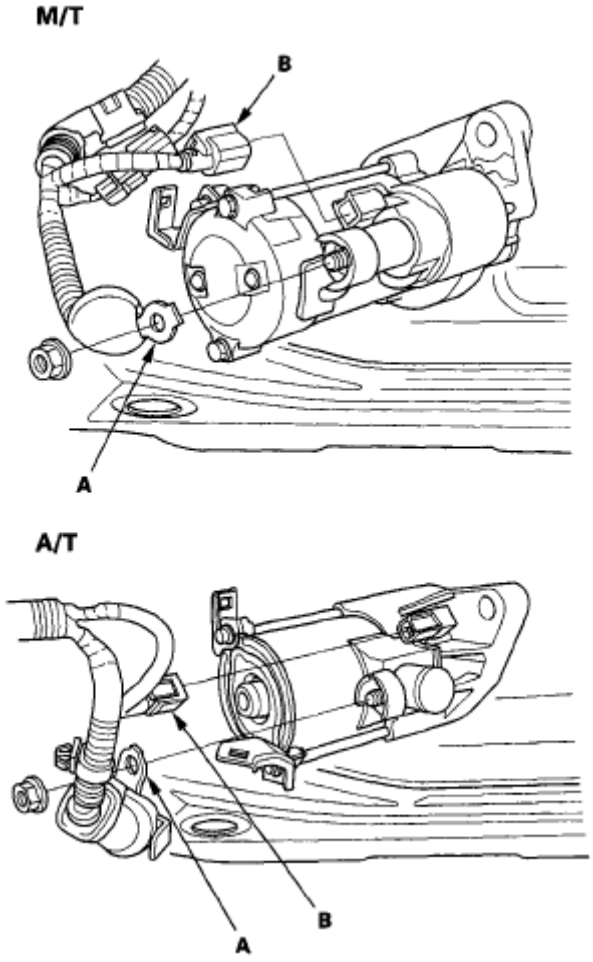



**Fig. 19: Disconnecting Starter Cable From B Terminal**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**INSTALLATION**

1. Install the starter cable (A) and connector (B). Make sure the starter cable crimped side of the ring terminal faces away from the starter when you connect it.

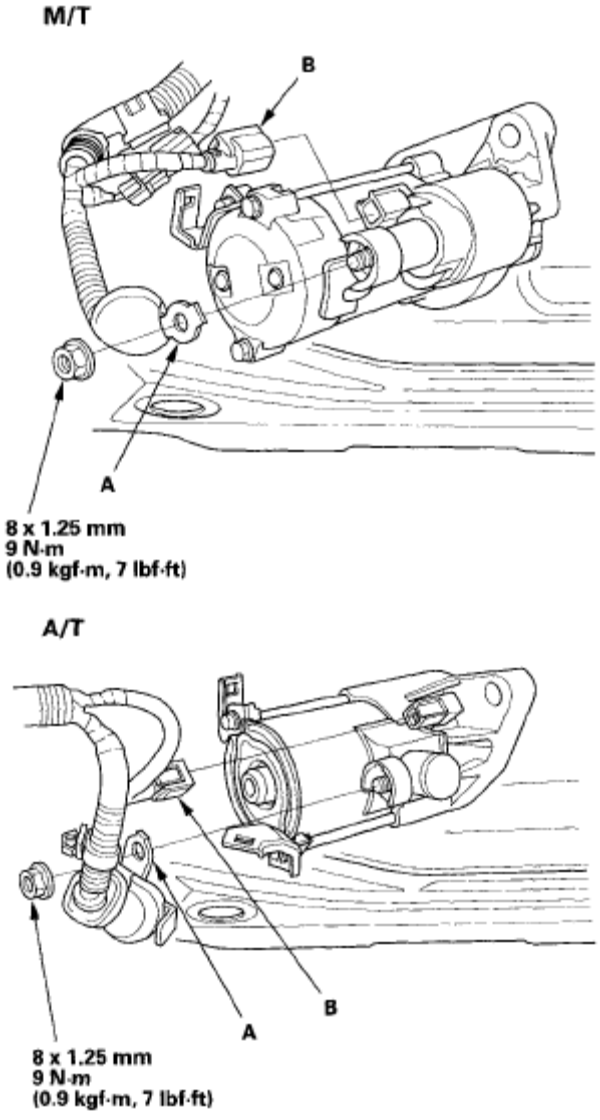



**Fig. 20: Installing Starter Cable And Connector (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Install the starter, then loosely install the upper mounting bolt (A) and lower mounting bolt (B).

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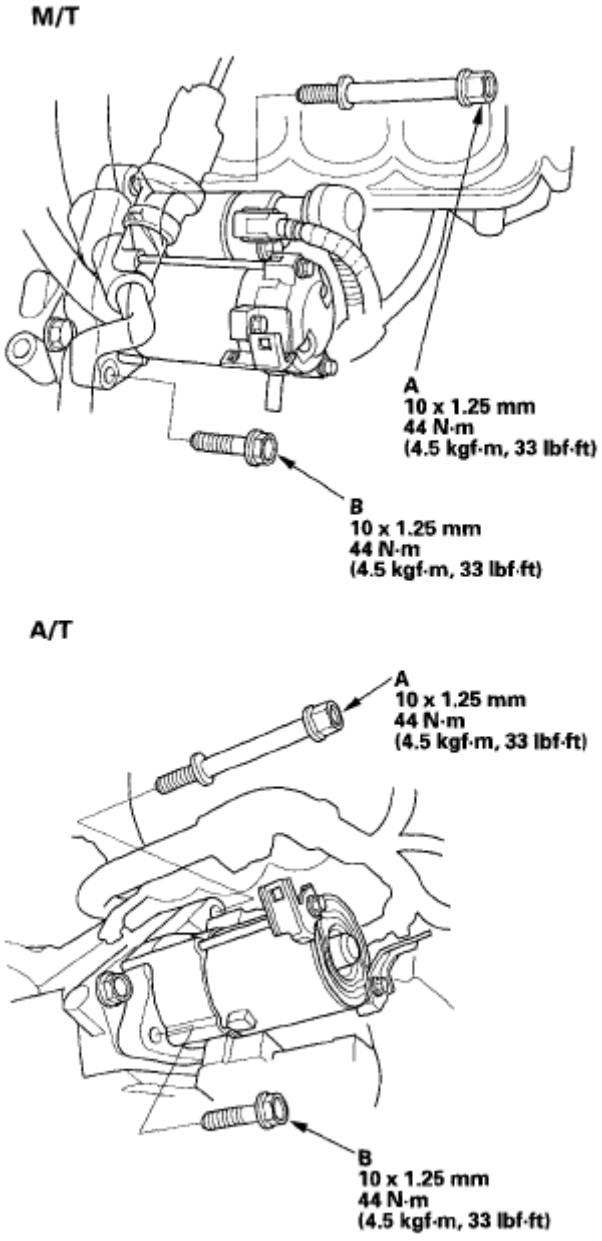



**Fig. 21: Installing Starter (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Tighten the upper mounting bolt, then tighten the lower mounting bolt.
4. Install the harness clamps (A) and harness connector (B) to each clamp.

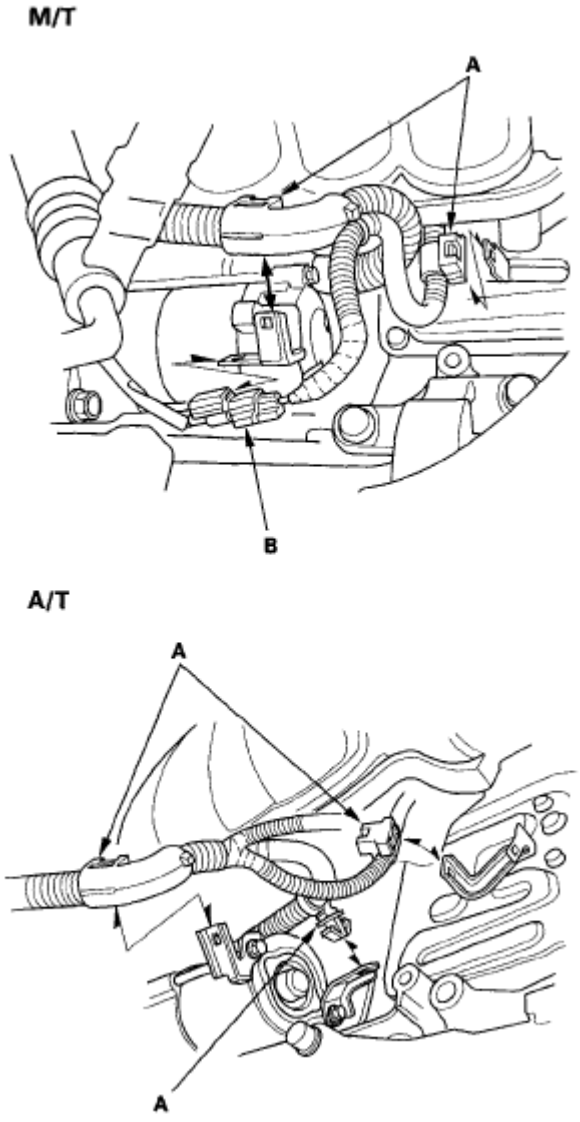



**Fig. 22: Installing Harness Clamps And Harness Connector To Each Clamp**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install the intake manifold bracket.

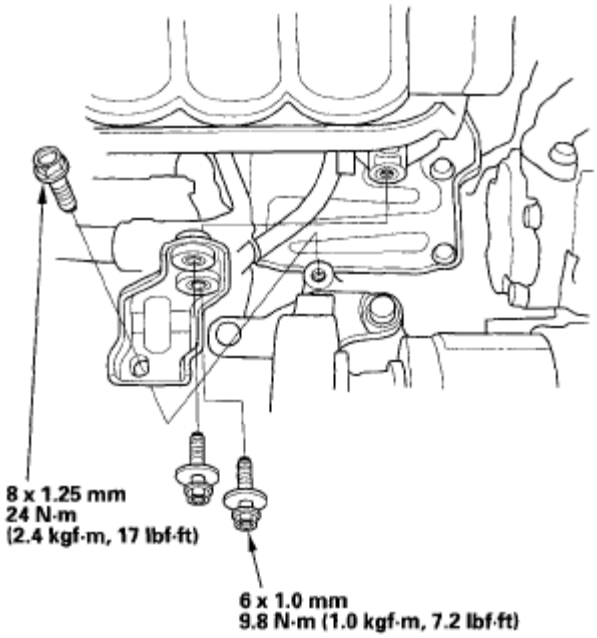



**Fig. 23: Installing Intake Manifold Bracket (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Install exhaust pipe A. Use new gaskets (B) and new self-locking nuts (C).

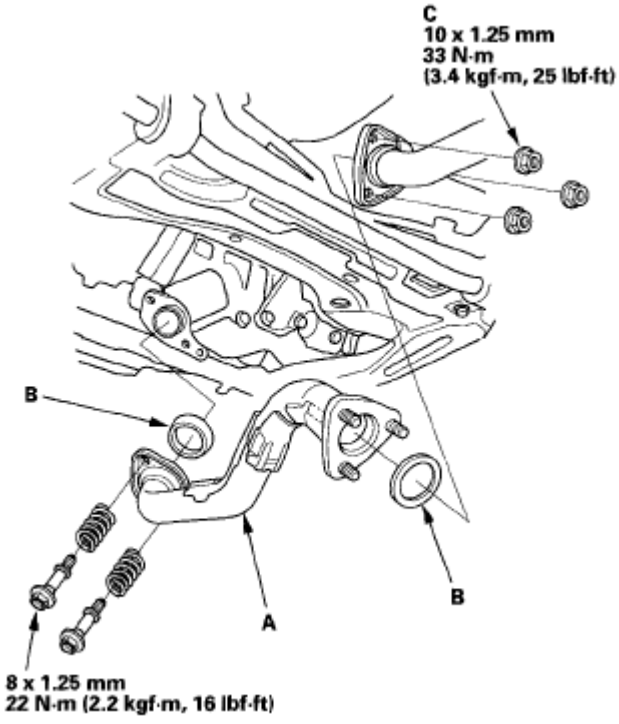



**Fig. 24: Installing Exhaust Pipe (With Specifications)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Connect the positive cable to the battery first, then connect the negative cable.
8. Start the engine to make sure the starter works properly.
9. Enter the anti-theft code for the audio system and the navigation system (if equipped), then enter the audio presets.
10. Set the clock (on vehicles without navigation.

## STARTER OVERHAUL

**M/T**

**Disassembly/Reassembly**

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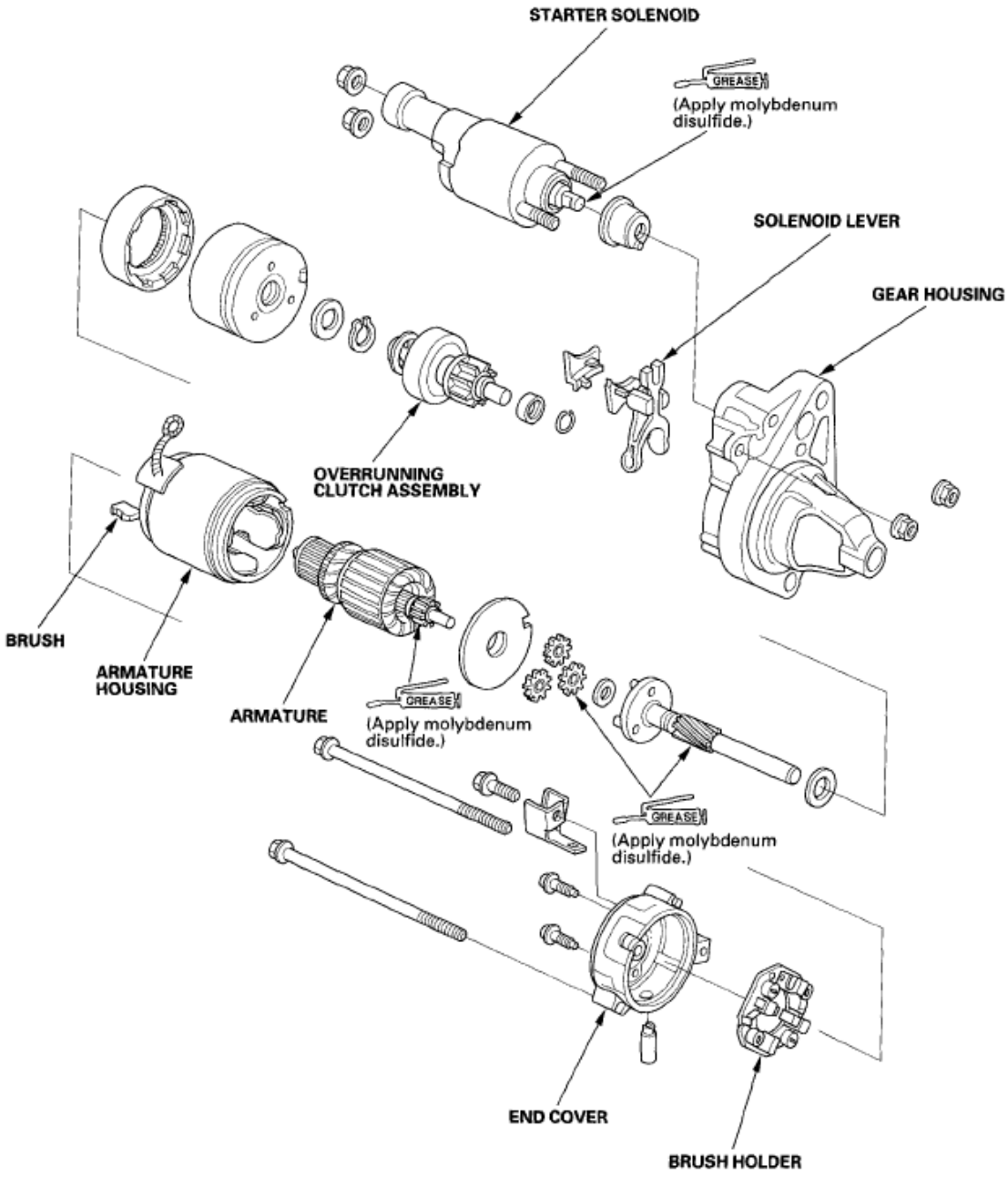



**Fig. 25: Disassembly/Reassembly Of Starter Overhaul (M/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Armature Inspection and Test

1. Remove the starter (see **STARTER REMOVAL AND INSTALLATION** ).
2. Disassemble the starter as shown at the beginning of this procedure.
3. Inspect the armature for wear or damage from contact with the permanent

magnet. If there is wear or damage, replace the armature.

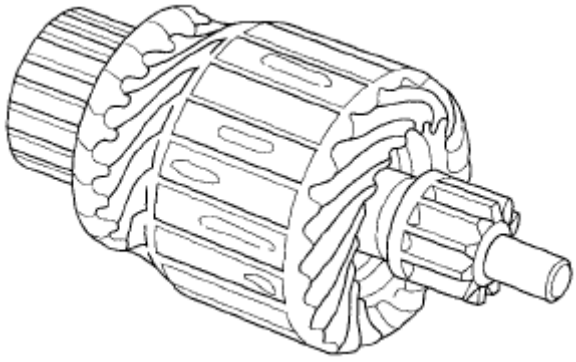


**Fig. 26: Inspecting Armature For Wear Or Damage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check the commutator (A) surface. If the surface is dirty or burnt, resurface it with an emery cloth or a lathe to the following specifications, or recondition with #500 or #600 sandpaper (B).

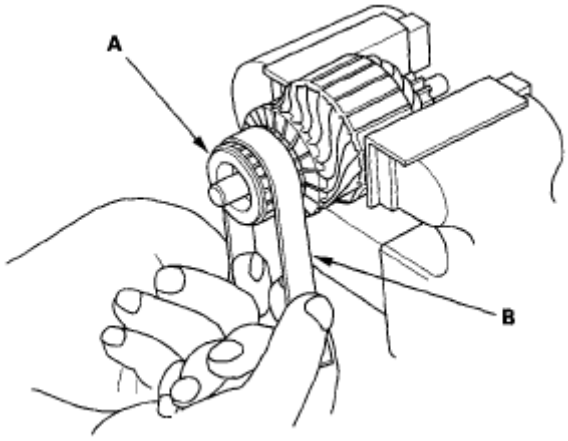



**Fig. 27: Checking Commutator Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Check the commutator diameter. If the diameter is below the service limit, replace the armature.

**Commutator Diameter**

**Standard (New): 28.0 mm (1.10 in.)**

**Service Limit: 27.0 mm (1.06 in.)**

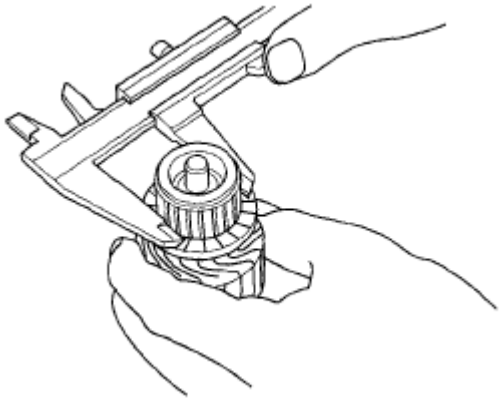


**Fig. 28: Checking Commutator Diameter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Measure the commutator (A) runout.
   - If the commutator runout is within the service limit, check the commutator for carbon dust or brass chips between the segments.
   - If the commutator runout is not within the service limit, replace the armature.

**Commutator Runout**

**Standard (New): 0.02 mm (0.001 in.) max.**
**Service Limit: 0.05 mm (0.002 in.)**

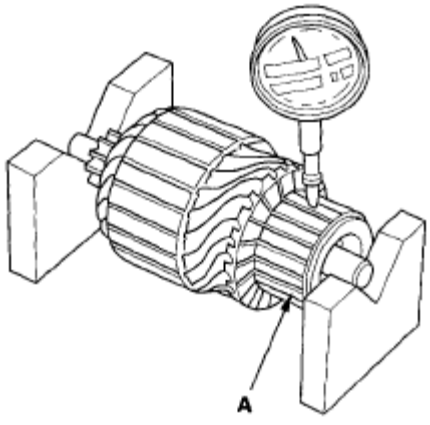



**Fig. 29: Checking Commutator Runout**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Check the mica depth (A). If the mica is too high (B), undercut the mica with a hacksaw blade to the proper depth. Cut away all the mica (C) between the commutator segments. The undercut should not be too shallow, too narrow, or V-shaped (D).

**Commutator Mica Depth**

**Standard (New): 0.50-0.80 mm (0.020-0.031 in.)**
**Service Limit: 0.2 mm (0.008 in.)**

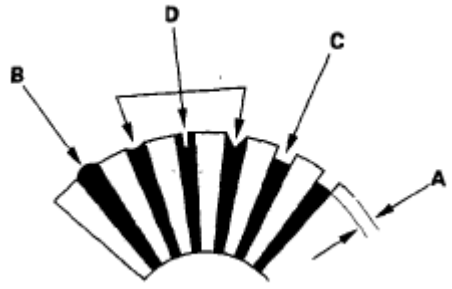



**Fig. 30: Checking Commutator Mica Depth**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Check for continuity between the segments of the commutator. If there is open circuit between any of the segments, replace the armature.

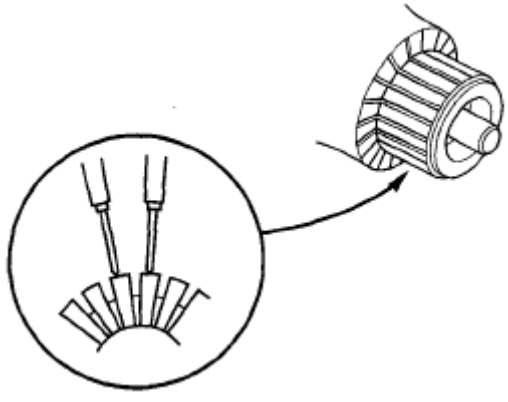


**Fig. 31: Checking Continuity Between Segments Of Commutator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Place the armature (A) on an armature tester (B). Hold a hacksaw blade (C) on the armature core. If the blade is attracted to the core or vibrates while the core is turned, the armature is shorted. Replace the armature.

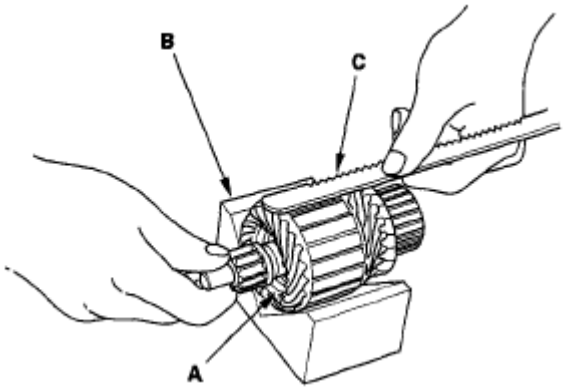



**Fig. 32: Placing Armature On Armature Tester**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Check for continuity between the commutator (A) and the armature coil core (B), and between the commutator and the armature shaft (C). If there is continuity, replace the armature.

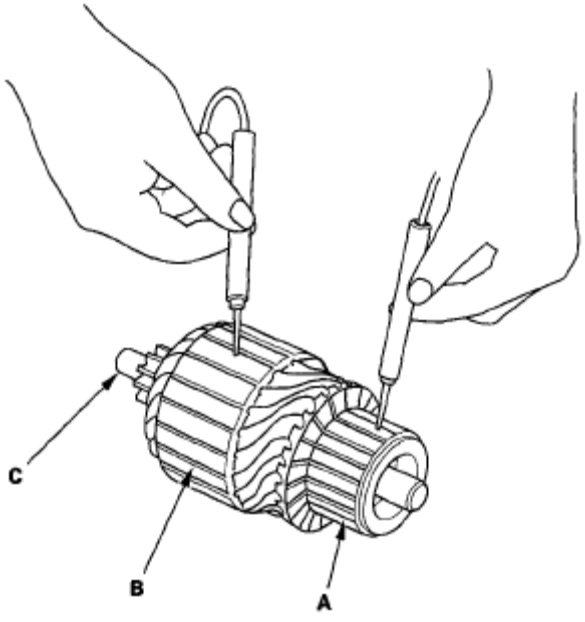



**Fig. 33: Checking Continuity Between Commutator And Armature Coil Core**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Starter Brush Inspection**

11. Measure the brush length. If it is not within the service limit, replace the brush holder assembly.

**Brush Length**

**Standard (New): 14.0-14.5 mm (0.55-0.57 in.)**
**Service Limit: 9.0 mm (0.35 in.)**

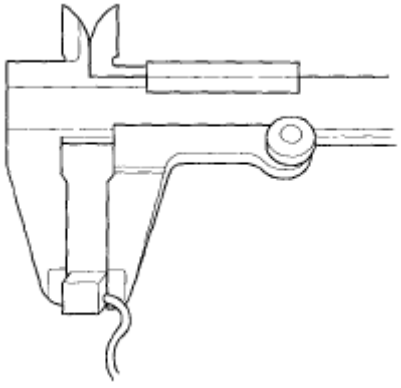


**Fig. 34: Measuring Brush Length**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Starter Field Winding Test**

12. Check for continuity between the brushes (A). If there is no continuity, replace the armature housing (B).

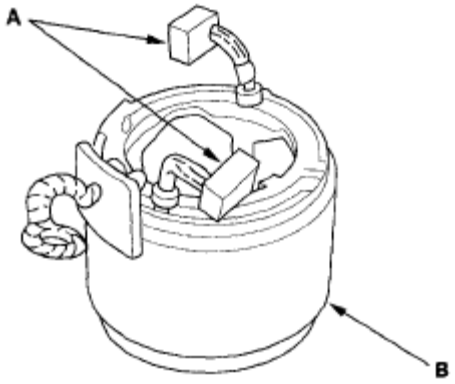



**Fig. 35: Checking Continuity Between Brushes**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

13. Check for continuity between each brush (A) and the armature housing (B). If there is continuity, replace the armature housing.

**Starter Brush Holder Test**

14. Check for continuity between the (+) brush holder (A) and (-) brush holder (B). If there is continuity, replace the brush holder assembly.

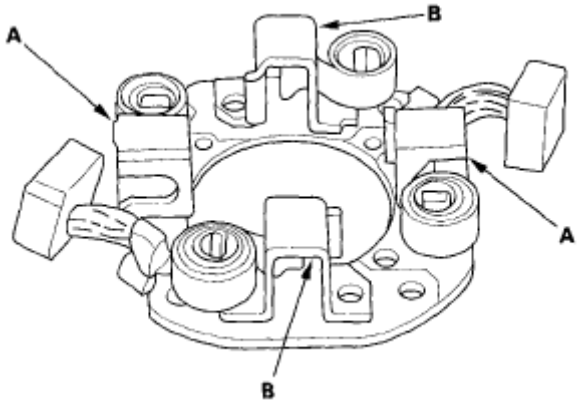



**Fig. 36: Checking Continuity Between Brush Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Brush Spring Inspection**

15. Insert the brush (A) into the brush holder, and bring the brush into contact with the commutator, then attach a spring scale (B) to the spring (C). Measure the spring tension at the moment the spring lifts off the brush.

**Spring Tension: 13.7-17.7 N (1.40-1.80 kgf, 3.09-3.97 lbf)**

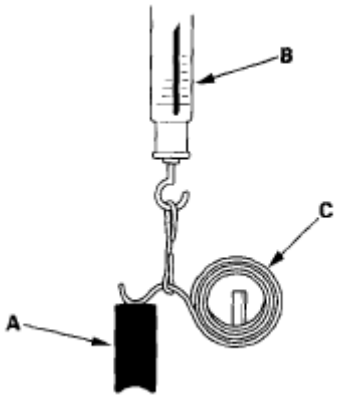



**Fig. 37: Measuring Spring Tension**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Overrunning Clutch Inspection**

16. Slide the overrunning clutch (A) along the shaft. Replace it, if it does not slide smoothly.

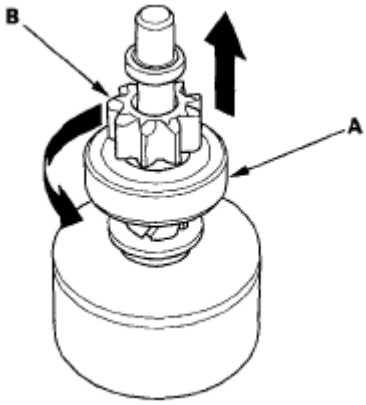



**Fig. 38: Sliding Overrunning Clutch Along Shaft**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

17. Hold the drive gear (B), and turn the overrunning clutch in the direction shown to make sure it turns freely. Also make sure the overrunning clutch locks in the opposite direction.
18. If the starter drive gear is worn or damaged, replace the overrunning clutch assembly; the gear is not available separately.

Check the condition of the flywheel or torque converter ring gear if the starter drive gear teeth are damaged.

**Starter Reassembly**

19. Pry back each brush spring with a screwdriver, then position the brush about halfway out of its holder. Release the spring to hold it in place.

**NOTE: To seat new brushes, slip a strip of # 500 or # 600 sandpaper, with the grit side up, between the commutator and each brush, and smoothly turn the armature. The contact surface of the brushes will be sanded to the same contour as the commutator.**

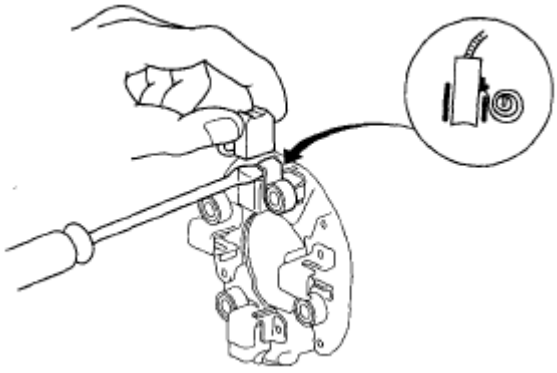


**Fig. 39: Prying Brush Spring With Screwdriver**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

20. Install the armature in the housing, and install the brush holder. Next, pry back each brush spring again, and push the brush down until it seats against the commutator, then release the spring against the end of the brush.

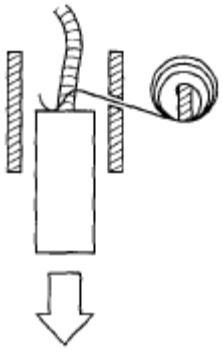


**Fig. 40: Installing Armature In Housing**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

21. Install the starter end cover to retain the brush holder.

**A/T**

**Disassembly/Reassembly**

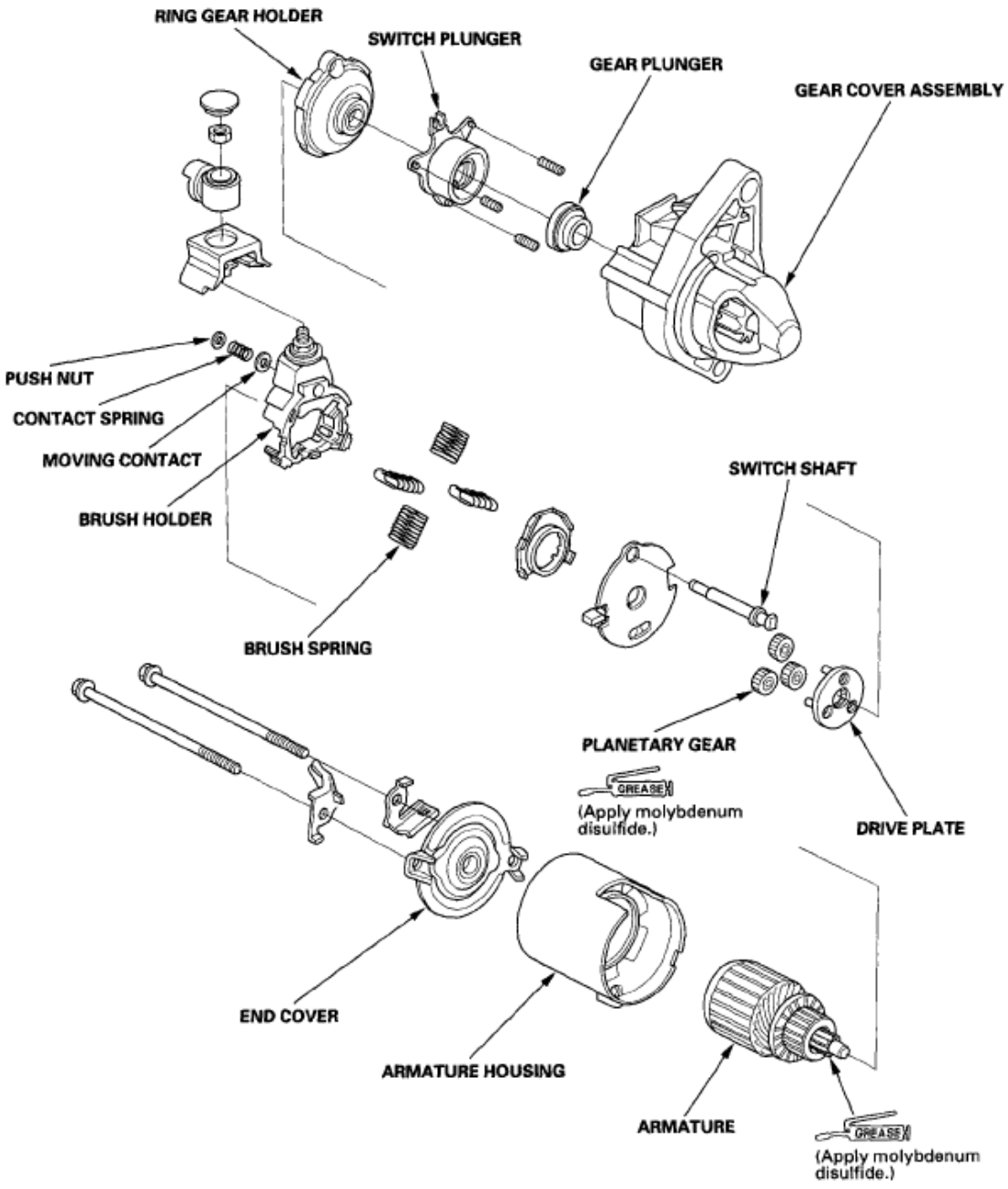



**Fig. 41: Disassembly/Reassembly Of Starter Overhaul (A/T)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

### Armature Inspection and Test

1. Remove the starter (see **STARTER REMOVAL AND INSTALLATION** ).
2. Disassemble the starter as shown at the beginning of this procedure.
3. Inspect the armature for wear or damage from contact with the permanent

magnet. If there is wear or damage, replace the armature.

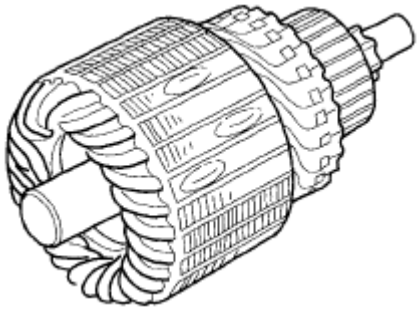


**Fig. 42: Inspecting Armature For Wear Or Damage**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Check the commutator (A) surface. If the surface is dirty or burnt, resurface it with an emery cloth or a lathe to the following specifications, or recondition with #500 or #600 sandpaper (B).

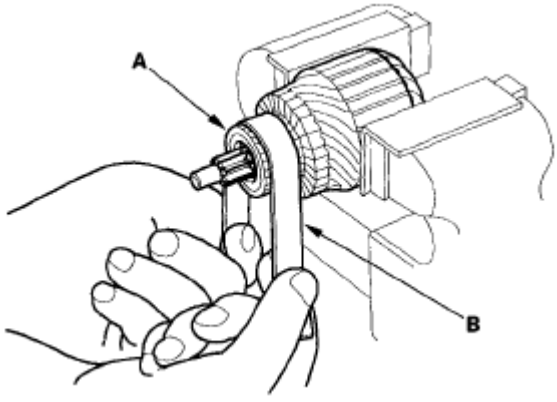



**Fig. 43: Checking Commutator Surface**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Check the commutator diameter. If the diameter is below the service limit, replace the armature.

**Commutator Diameter**

**Standard (New): 28.0-28.1 mm (1.102-1.106 in.)**
**Service Limit: 27.5 mm (1.083 in.)**

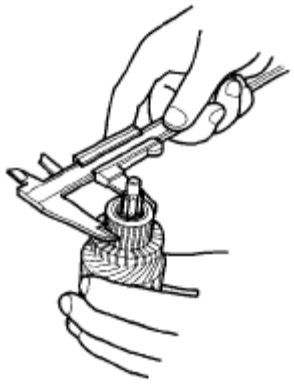


**Fig. 44: Checking Commutator Diameter**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Measure the commutator (A) runout.
   - If the commutator runout is within the service limit, check the commutator for carbon dust or brass chips between the segments.
   - If the commutator runout is not within the service limit, replace the armature.

   **Commutator Runout**

   **Standard (New): 0.02 mm (0.001 in.) max.**
   **Service Limit: 0.05 mm (0.002 in.)**

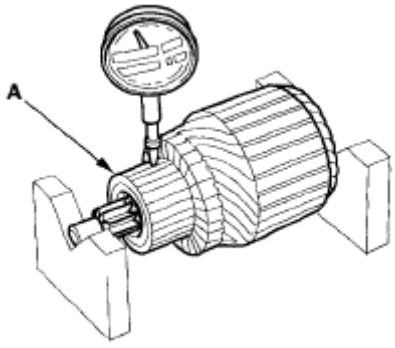



**Fig. 45: Measuring Commutator Runout**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

7. Check the mica depth (A). If the mica is too high (B), undercut the mica with a hacksaw blade to the proper depth. Cut away all the mica (C) between the

commutator segments. The undercut should not be too shallow, too narrow, or V-shaped (D).

**Commutator Mica Depth**

**Standard (New): 0.40-0.50 mm (0.016-0.020 in.)**
**Service Limit: 0.15 mm (0.006 in.)**

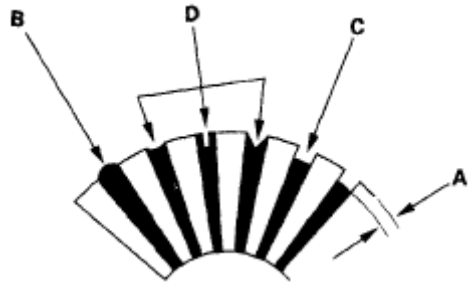



**Fig. 46: Checking Commutator Mica Depth**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

8. Check for continuity between the segments of the commutator. If there is an open circuit between any of the segments, replace the armature.

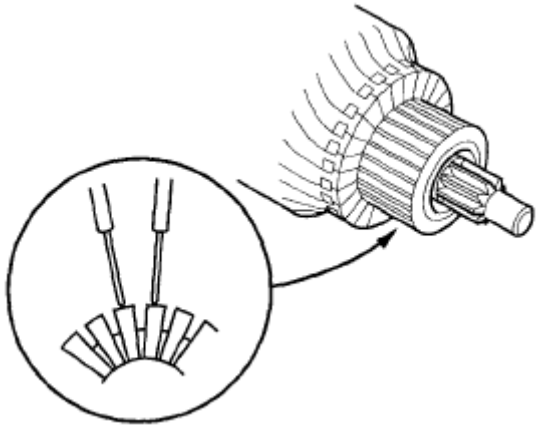


**Fig. 47: Checking Continuity Between Segments Of Commutator**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

9. Place the armature (A) on an armature tester (B). Hold a hacksaw blade (C) on the armature core. If the blade is attracted to the core or vibrates while the core is turned, the armature is shorted. Replace the armature.

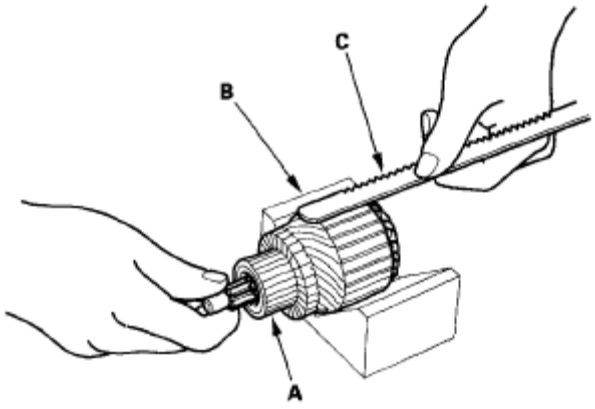



**Fig. 48: Placing Armature On Armature Tester**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

10. Check with an ohmmeter for continuity between the commutator (A) and the armature coil core (B), and between the commutator and the armature shaft (C). If there is continuity, replace the armature.

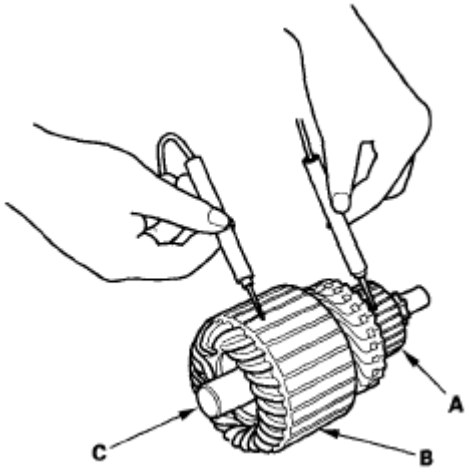



**Fig. 49: Checking Continuity Between Commutator And Armature Coil Core**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Starter Brush Inspection**

11. Measure the brush length. If it is shorter than the service limit, replace the brush holder assembly.

**Brush Length**

**Standard (New): 11.1-11.5 mm (0.44-0.45 in.)**
**Service Limit: 4.3 mm (0.17 in.)**

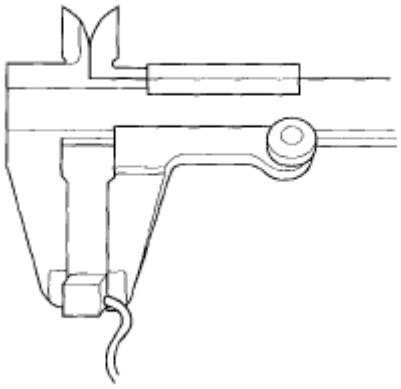


**Fig. 50: Measuring Brush Length**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Starter Brush Holder Test**

12. Check for continuity between the (+) brush (A) and (-) brush (B). If there is continuity, replace the brush holder assembly.

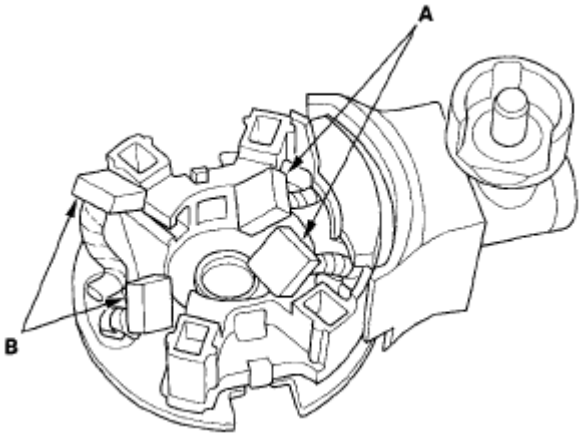



**Fig. 51: Checking Continuity Between Brush**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Planetary Gear Inspection**

13. Check the planetary gears (A) and ring gear (B). Replace them if they are worn or damaged.

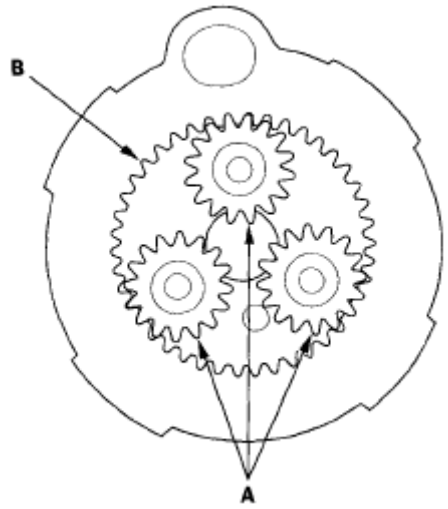



**Fig. 52: Checking Planetary Gears And Ring Gear**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

**Overrunning Clutch Inspection**

14. While holding the drive gear (A), turn the gear shaft (B) counterclockwise. Check that the drive gear comes out to the other end. If the drive gear does not move smoothly, replace the gear cover assembly.

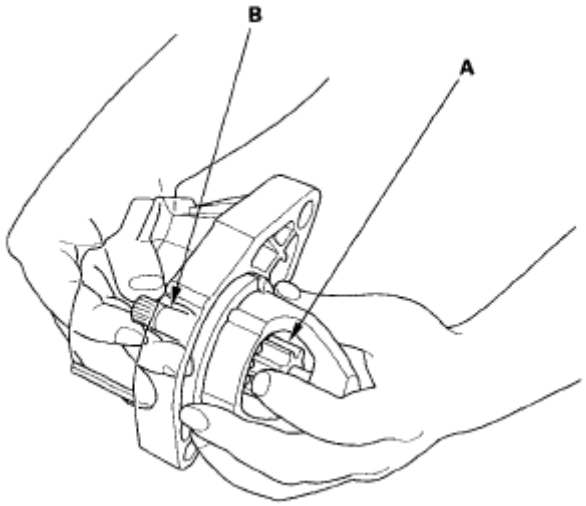



**Fig. 53: Turning Gear Shaft Counterclockwise**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

15. While holding the drive gear, turn the gear shaft clockwise. The gear shaft should turn freely. If the gear shaft does not turn freely, replace the gear cover

assembly.

16. If the starter drive gear is worn or damaged, replace the overrunning clutch assembly; the gear is not available separately.

    Check the condition of the torque converter ring gear to see if the starter drive gear teeth are damaged.

**Starter Reassembly**

17. Install the brush into the brush holder, and set the armature (A) in the brush holder (B).

**NOTE: To seat the new brushes, slip a strip of #500 or # 600 sandpaper, with the grit side up, between the commutator and each brush, and smoothly turn the armature. The contact surface of the brushes will be sanded to the same contour as the commutator.**

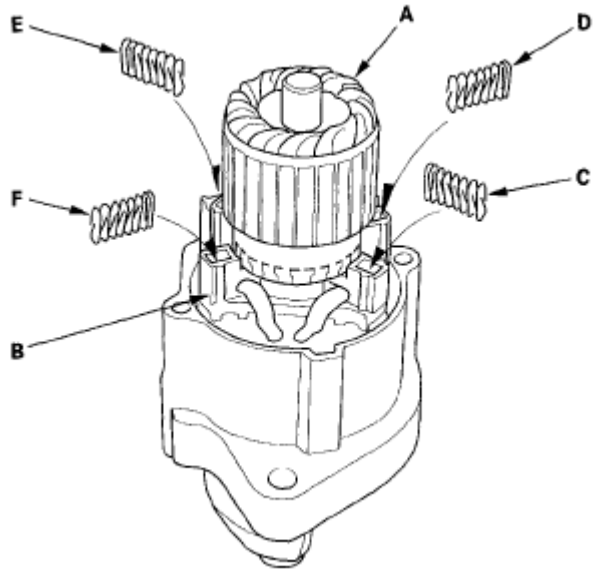



**Fig. 54: Installing Brush Into Brush Holder**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

18. While squeezing a spring (C), insert it in the hole on the brush holder, and push it until it bottoms. Repeat this for the other three springs (D, E, and F).

19. Install the armature and brush holder assembly into the housing.

**NOTE: Make sure the armature stays in the holder.**

## 2006-08 STEERING

## Steering - Civic (All Except Hybrid)

# SPECIAL TOOLS

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07AAK-SNAA400 | 1.8 Support Eyelet | 1 |
| ② | 07AAK-SNAA500 | 1.8 Support Bolt | 1 |
| ③ | 07HAG-SF10100 | Piston Seal Ring Guide | 1 |
| ④ | 07HAG-SF1020A or 07HAG-SF10200 | Piston Seal Ring Sizing Tool | 1 |
| ⑤ | 07JAF-SH20330 | Bushing Base | 1 |
| ⑥ | 07MAA-SL00100 or 07916-SA50001 | Locknut Wrench, 40 mm | 1 |
| ⑦ | 07MAA-SL0020A | Locknut Wrench, 43 mm | 1 |
| ⑧ | 07MAC-SL0A202 | Ball Joint Remover, 28 mm | 1 |
| ⑨ | 07NAD-SR3020A | Cylinder End Seal Remover Attachment | 1 |
| ⑩ | 07NAG-SR3090A | Valve Seal Ring Sizing Tool | 1 |
| ⑪ | 07RAK-S040111 | P/S joint Adapter (Pump) | 1 |
| ⑫ | 07RAK-S040122 | P/S joint Adapter (Hose) | 1 |
| ⑬ | 07YAG-S2X0100 | Sleeve Seal Ring Guide | 1 |
| ⑭ | 07ZAB-S5A0100 | Pulley Holder | 1 |
| ⑮ | 07ZAG-S5A0100 | Sleeve Seal Ring Sizing Tool, 36 mm | 1 |
| ⑯ | 07ZAG-S5A0300 | Cylinder End Seal Slider | 1 |
| ⑰ | 07406-0010001 or 07406-001000A | P/S Pressure Gauge | 1 |
| ⑱ | 07746-0010100 | Attachment, 32 x 35 mm | 1 |
| ⑲ | 07746-0010300 | Attachment, 42 x 47 mm | 1 |
| ⑳ | 07749-0010000 | Driver | 1 |

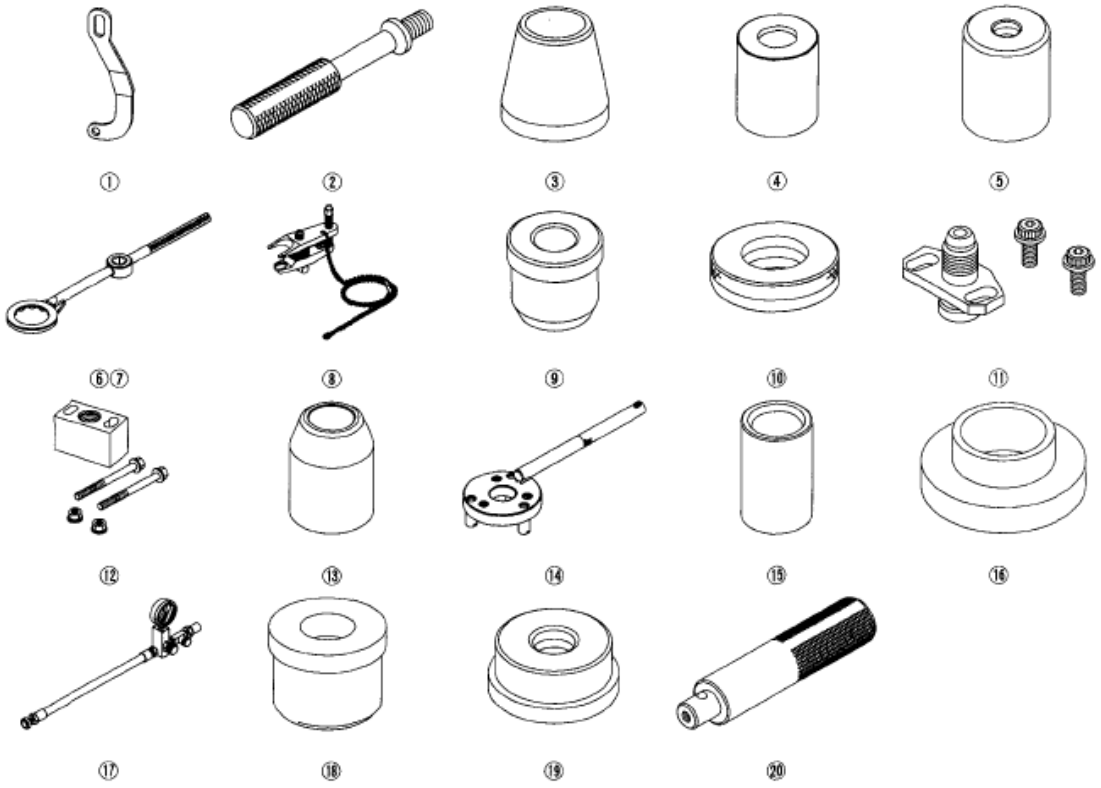



**Fig. 1: Identifying Special Tools**

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# COMPONENT LOCATION INDEX

## Hydraulic Power Steering Type

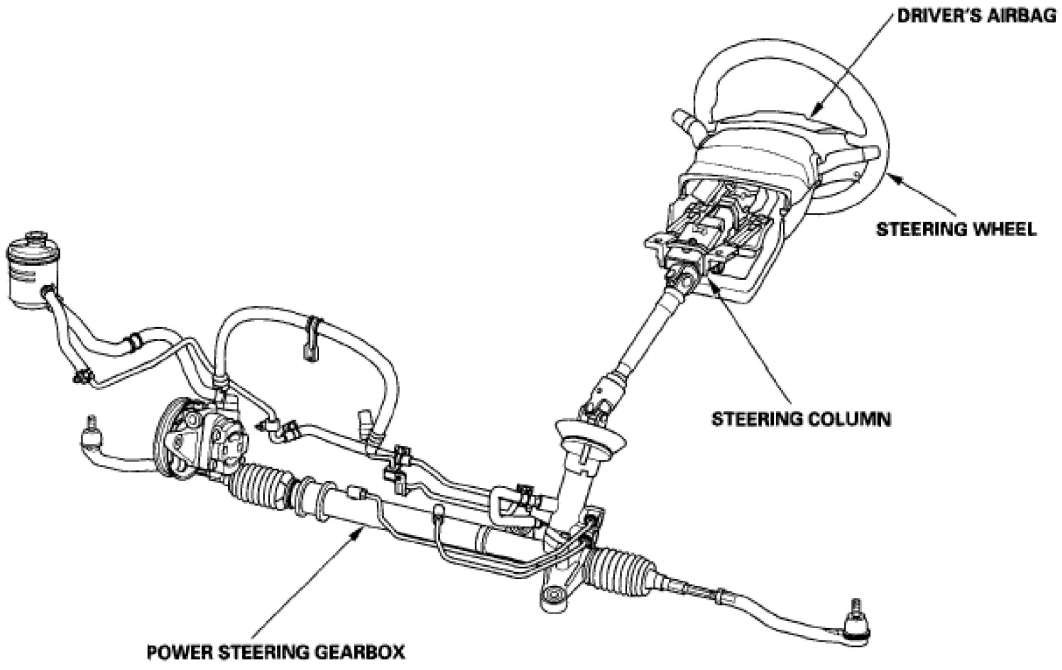



**Fig. 2: Identifying Hydraulic Power Steering Type Component Location**

## EPS Type

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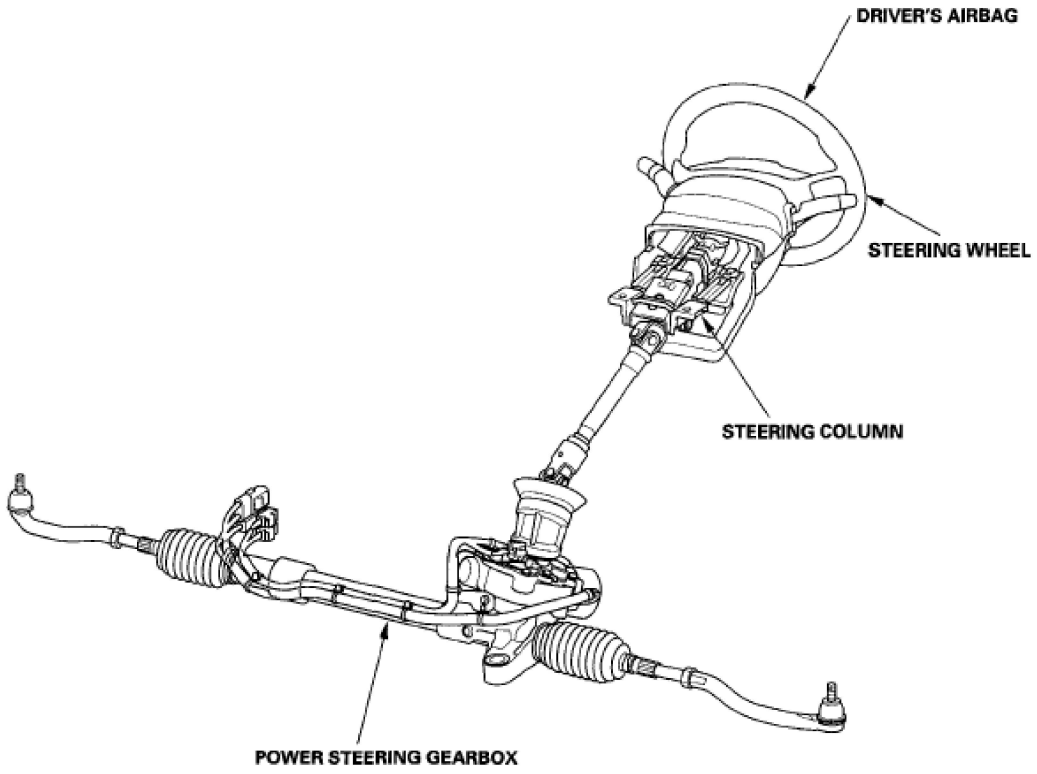



**Fig. 3: Identifying Hydraulic Power Steering EPS Type Component Location**

## STEERING WHEEL ROTATIONAL PLAY CHECK

1. Turn the front wheels to the straight ahead position.
2. Measure how far you can turn the steering wheel left and right without moving the front wheels.
   - If the play is within the limit, the gearbox and linkages are OK.
   - If the play exceeds the limit, adjust the rack guide: power steering type (see **HYDRAULIC POWER STEERING TYPE** ), EPS type (see **EPS TYPE** ). If the play is still excessive after rack guide adjustment, inspect the steering linkage and gearbox (see **STEERING LINKAGE AND GEARBOX INSPECTION** ).

**Rotational play: 0-10 mm (0-0.39 in.)**

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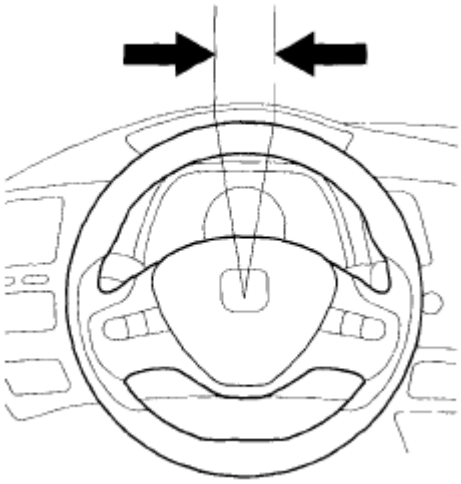


**Fig. 4: Identifying Steering Wheel Rotational Play**

## POWER ASSIST CHECK

**NOTE: This test should be done with original equipment tires and wheels at the correct tire pressure.**

1. For the power steering type, check the power steering fluid level (see **FLUID REPLACEMENT** ).
2. Start the engine, let it idle, and turn the steering wheel from lock-to-lock several times to warm up the component and the fluid (power steering type).
3. Attach a commercially available spring scale to the steering wheel. With the engine idling and the vehicle on a clean, dry floor, pull the scale as shown and read it as soon as the tires begin to turn.
   - If the scale reads no more than the specification, the steering gearbox and pump are OK.
   - For the power steering type, if the scale reads more than specifications, troubleshoot the steering system (see **SYMPTOM TROUBLESHOOTING** )
   - For the EPS type, if the scale reads more than specifications, check for steering linkage (see **STEERING LINKAGE AND GEARBOX INSPECTION** ), and check the rack guide adjustment (see **EPS TYPE** ).

**Initial turning load: 34 N (3.5 kgf, 7.7 lbf)**

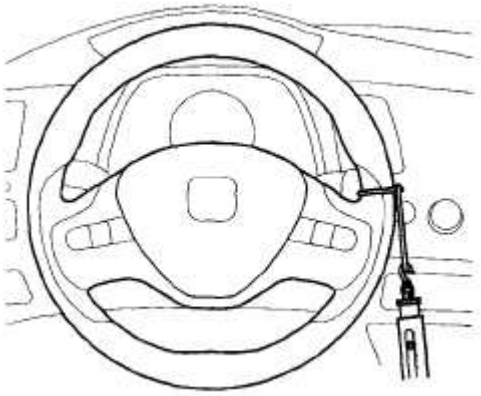


**Fig. 5: Identifying Power Steering Wheel Initial Turning Load**

## STEERING LINKAGE AND GEARBOX INSPECTION

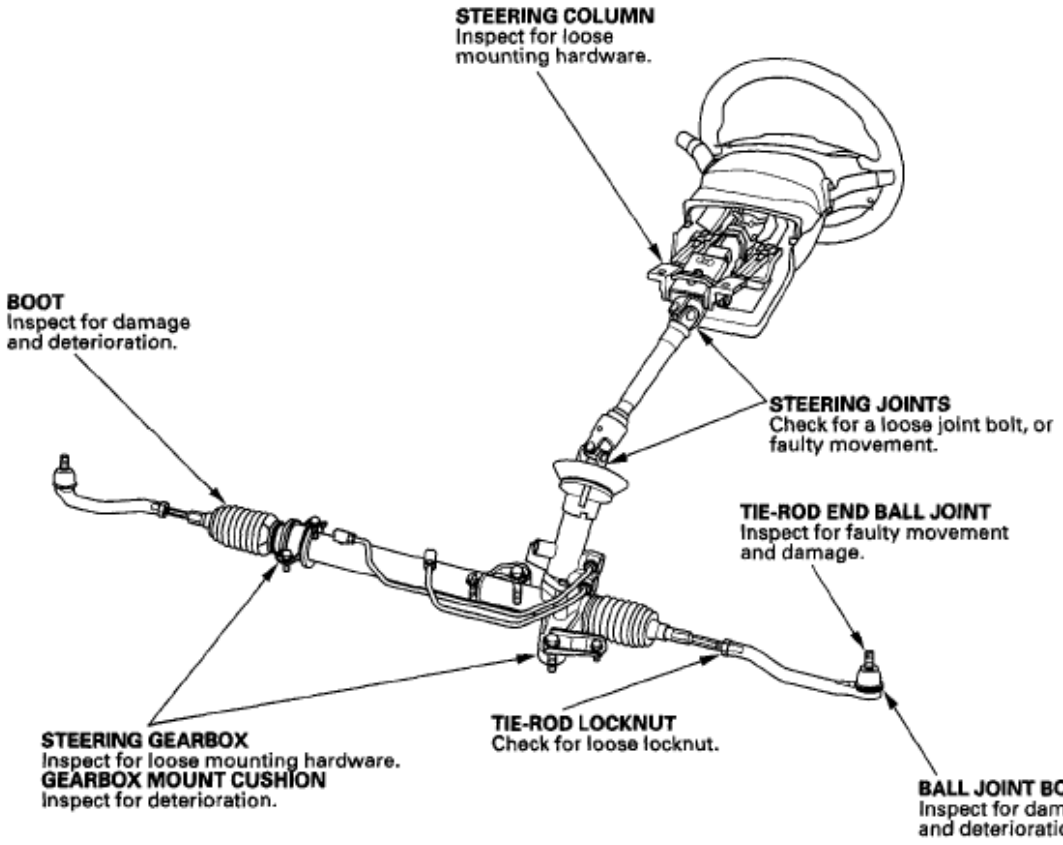



**Fig. 6: Identifying Steering Linkage And Gearbox Components Location**

## STEERING WHEEL REMOVAL

SRS components are located in this area. Review the SRS component locations (see

**COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

1. Make sure you have the anti-theft code for the audio or navigation system, then write down the audio presets.
2. Make sure the ignition switch at LOCK (0), then disconnect the negative cable from the battery.
3. Align the front wheels straight ahead, then remove the driver's airbag from the steering wheel (see **DRIVER'S AIRBAG REPLACEMENT** ).
4. Disconnect the cable reel subharness connector (A).

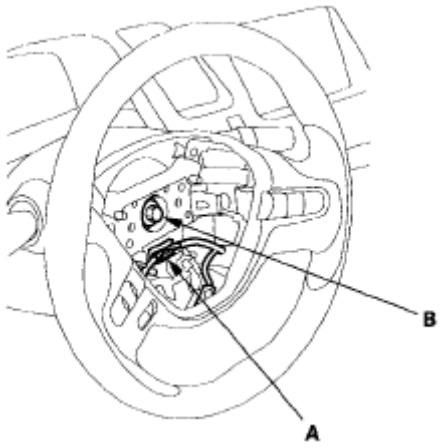



**Fig. 7: Identifying Cable Reel Subharness Connector And Steering Wheel Bolt**

5. Loosen the steering wheel bolt (B).
6. Install a commercially available steering wheel puller (A) on the steering wheel (B). Free the steering wheel from the steering column shaft by turning the pressure bolt (C) of the puller.

   Note these items when removing the steering wheel:

   - Do not tap on the steering wheel or the steering column shaft when removing the steering wheel.
   - If you thread the puller bolts (D) into the wheel hub more than five

threads, the bolts will hit the cable reel and damage it. To prevent this, install a pair of jam nuts five threads up on each puller bolt.

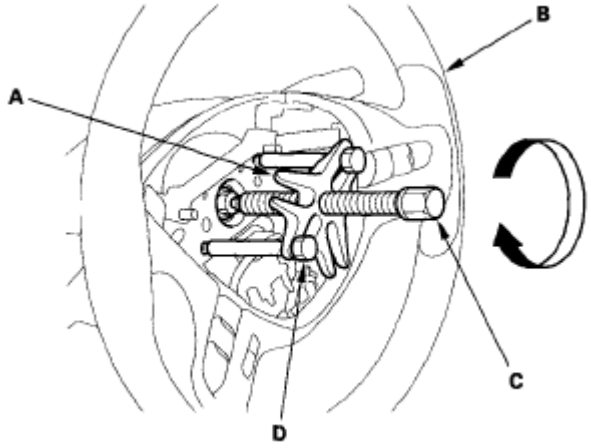



**Fig. 8: Identifying Steering Wheel Puller On Steering Wheel & Bolts**

7. Remove the steering wheel puller, then remove the steering wheel bolt and steering wheel from the steering column.

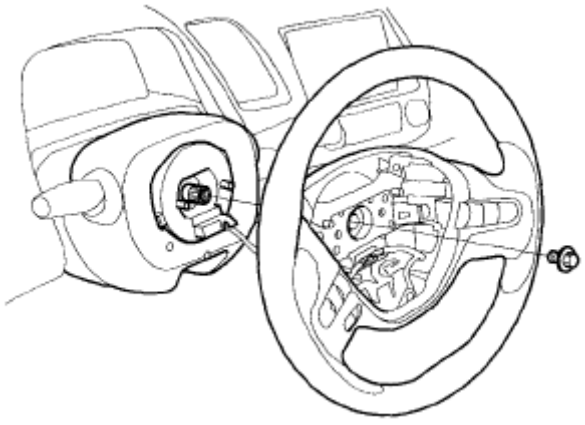


**Fig. 9: Identifying Steering Wheel And Bolt**

## STEERING WHEEL DISASSEMBLY/REASSEMBLY

### Except Si model

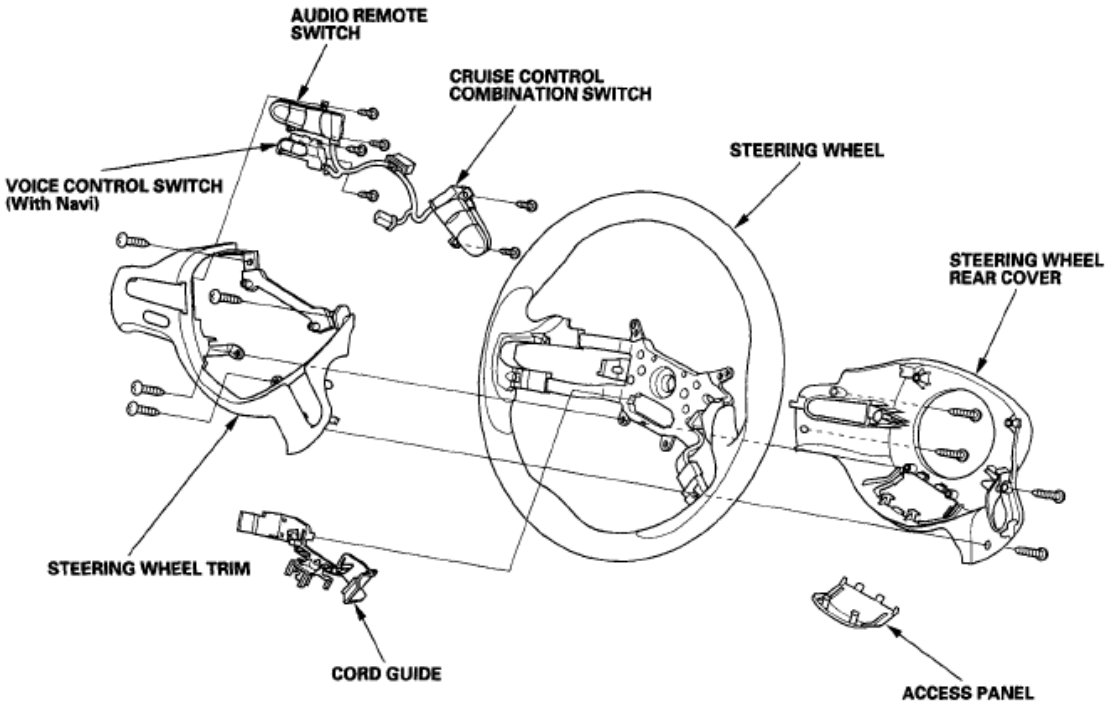



**Fig. 10: Exploded View Of Steering Wheel - Except Si Model**

## Si model

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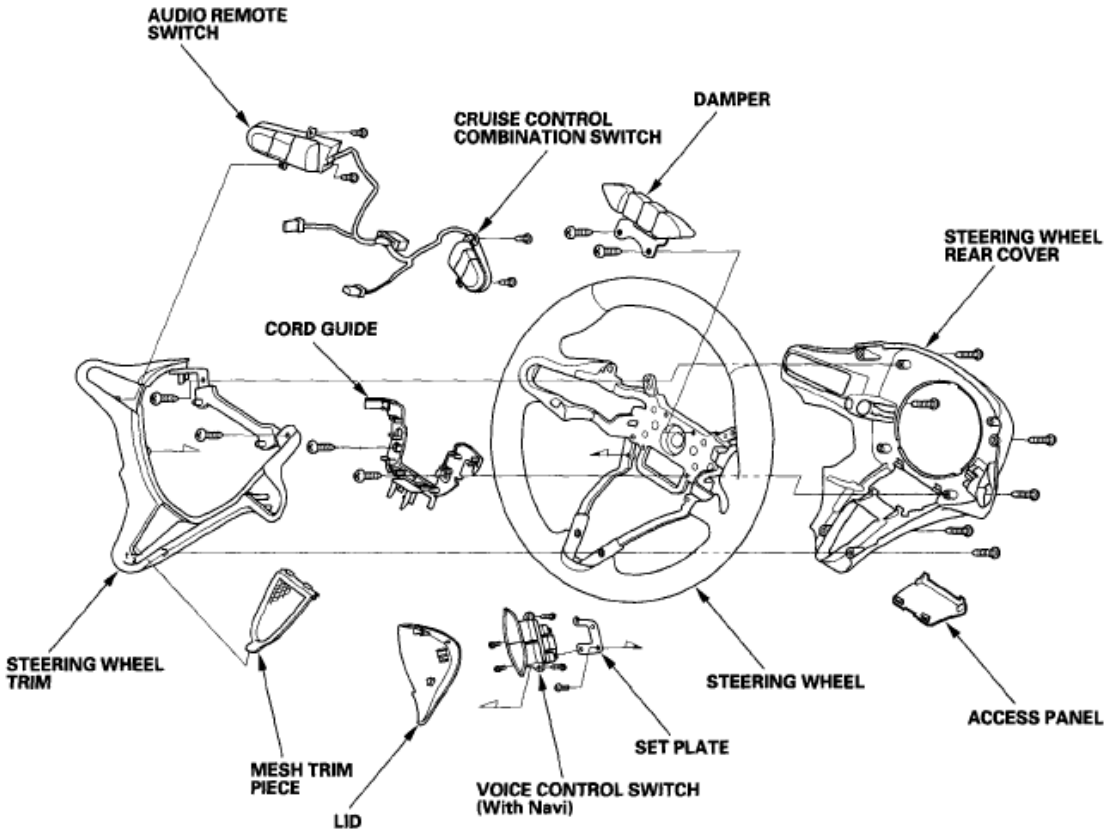



**Fig. 11: Exploded View Of Steering Wheel - Si Model**

## STEERING WHEEL INSTALLATION

1. Before installing the steering wheel, make sure the front wheels are aligned straight ahead, then center the cable reel (A). Do this by first rotating the cable reel clockwise until it stops. Then rotate it counterclockwise about three full turns. The arrow mark (B) on the cable reel label should point straight up.

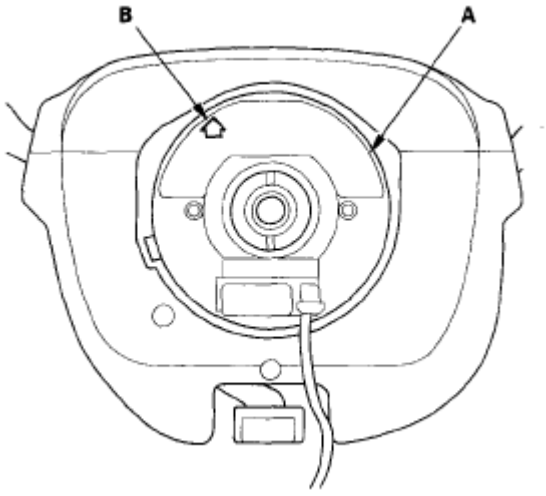



**Fig. 12: Identifying Arrow Mark On Cable Reel Label**

2. Position the two tabs (A) of the turn signal cancelling sleeve (B) as shown. Install the steering wheel on to the steering column shaft, making sure the steering wheel hub (C) engages the pins (D) of the cable reel and tabs of the turn signal canceling sleeve. Do not tap on the steering wheel or steering column shaft when installing the steering wheel.

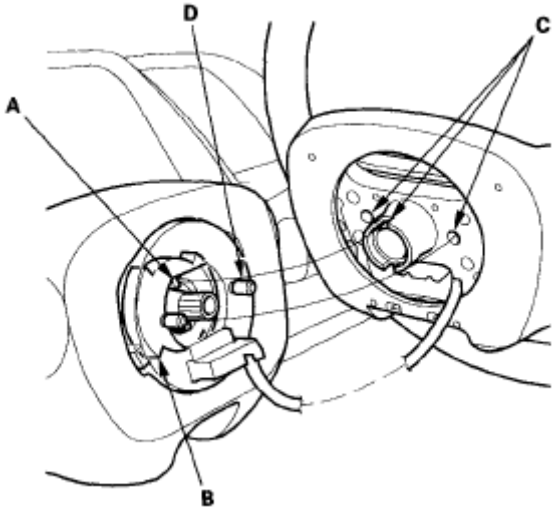



**Fig. 13: Identifying Steering Wheel On Steering Column Shaft**

3. Install the steering wheel bolt (A), and tighten it to the specified torque. Connect the cable reel subharness connector (B). Make sure the wire harness is routed and fastened properly.

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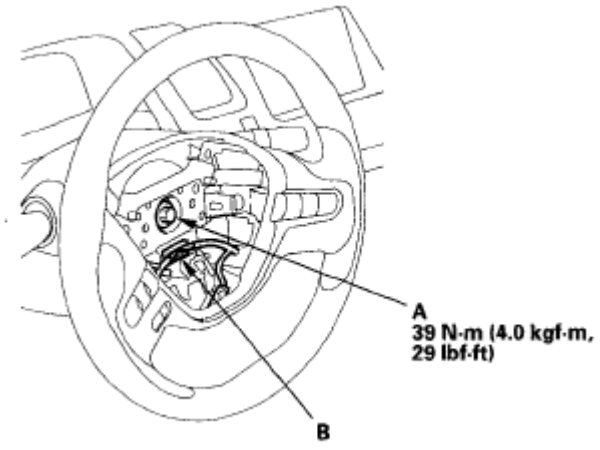



**Fig. 14: Identifying Steering Wheel Bolt - Specified Torque**

4. Install the driver's airbag, and confirm that the system is operating properly (see **DRIVER'S AIRBAG REPLACEMENT** ).
5. Reconnect the negative cable to the battery and do these items:
   - Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
   - Enter the anti-theft code for the audio or navigation system, then enter the audio presets.
   - Set the clock.
   - Make sure the horn and turn signal switch work properly.
   - Make sure the steering wheel switches work properly.
   - Make sure the steering wheel is centered.
6. After installation, do these checks.
   - Check the steering wheel spoke angle. If the steering spoke angles to the right and left are not equal (steering wheel is not centered), correct the engagement of the wheel/column shaft serrations.
   - Set the steering column to the center tilt position, and to the center telescopic position, then do the front toe inspection (see **FRONT TOE INSPECTION/ADJUSTMENT** ).

## COLUMN COVER REMOVAL AND INSTALLATION

**NOTE:**
- **Take care not to scratch or damage the column covers.**

- **Do not pry the cover surface with any tools.**

1. Release the lock lever (A), and adjust the steering column to full tilt down position and to the full telescopic pull position.

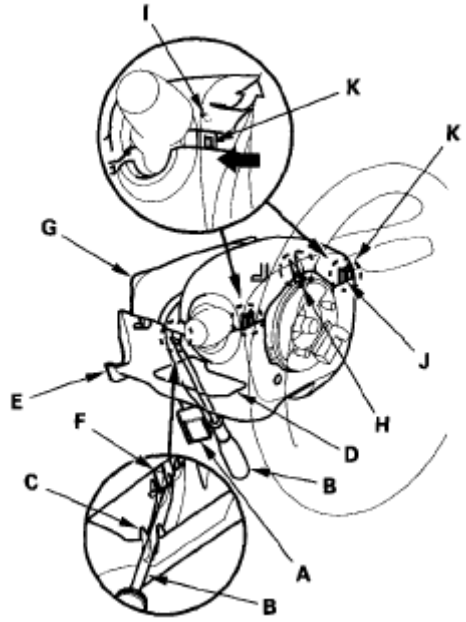



**Fig. 15: Identifying Column Cover Remove/Install Components**

2. Insert a suitable sized screwdriver or equivalent tool (B) along the guide rib (C) into the lever hole (D) in the lower column cover (E).
3. Release the hook (F) locating on the left side of the upper column cover (G). A right side hook (H) of the upper column cover can't be released from the inside.
4. Turn the steering wheel to left, and release the left pawl (I) of the upper column cover while pushing the lower column cover from the front side.
5. Turn the steering wheel to right, and release the right pawl (J) of the upper column cover is in the same as the step 4.
6. Remove the cover by lightly pulling it up by releasing the right side hook (H) of the upper column cover.

**NOTE: Carefully release the pawls, note the hooks (K) may break when upper column cover is pulled up too hard.**

7. Remove the three screws, then remove the lower column cover (A).

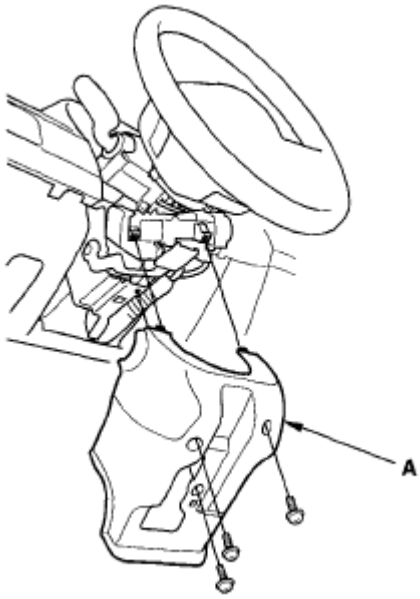



**Fig. 16: Identifying Lower Column Cover And Screws**

8. Install the upper and lower column cover in the reverse order of removal, and push the hooks into place securely.

## STEERING COLUMN REMOVAL AND INSTALLATION

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**REMOVAL**

**NOTE: Be careful not to pull the bracket (A) on the front side of steering column out of its normal position. If the bracket accidentally comes out, replace the steering column as an assembly.**

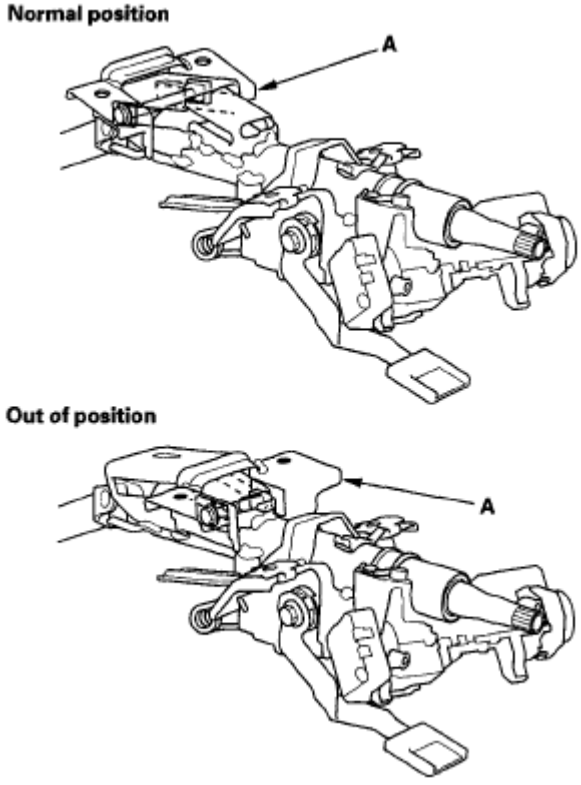



**Fig. 17: Identifying Steering Column Bracket Removal Position**

1. Make sure you have the anti-theft code for the audio or navigation system, then write down the audio presets.
2. Make sure the ignition switch is OFF, then disconnect the negative cable from the battery.
3. Remove the driver's airbag assembly and the steering wheel (see **STEERING WHEEL REMOVAL** ).
4. Remove the driver's dashboard undercover (see **DRIVER's DASHBOARD UNDERCOVER REMOVAL/INSTALLATION** ).
5. Remove the column covers (see **COLUMN COVER REMOVAL AND INSTALLATION** ).
6. Remove the steering joint cover (A).

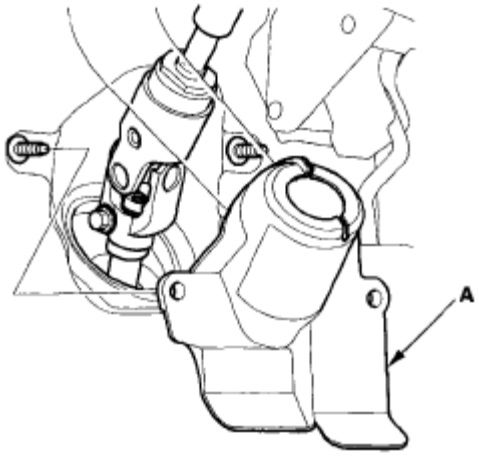



**Fig. 18: Identifying Steering Joint Cover**

7. Release the lock lever, and adjust the steering column to full tilt up position, and to the full telescopic in position.
8. Tighten the lock lever.
9. Hold the lower slide shaft (A) on the column with a piece of wire (B) between the joint yoke (C) of the lower slide shaft and joint yoke (D) of the upper shaft to prevent the slider shaft from pulling out.

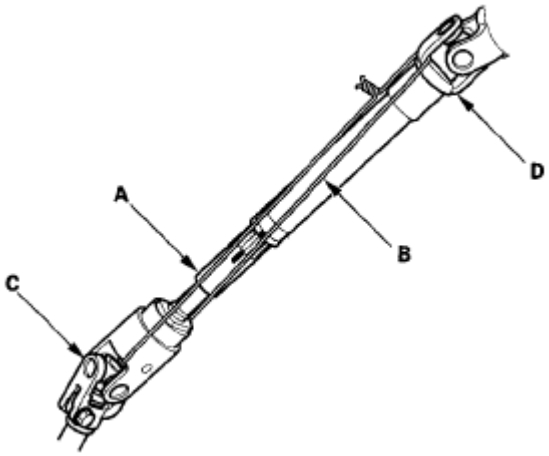



**Fig. 19: Identifying Lower Slide Shaft With Wire Between Joint Yokes**

10. Release the lock lever, and adjust the steering column to the full telescopic out position, then tighten the lock lever.

**NOTE: Do not release lock lever when removing the steering**

**column from the frame.**

11. Disconnect the wire harness connectors from the combination switch assembly and cable reel (A).

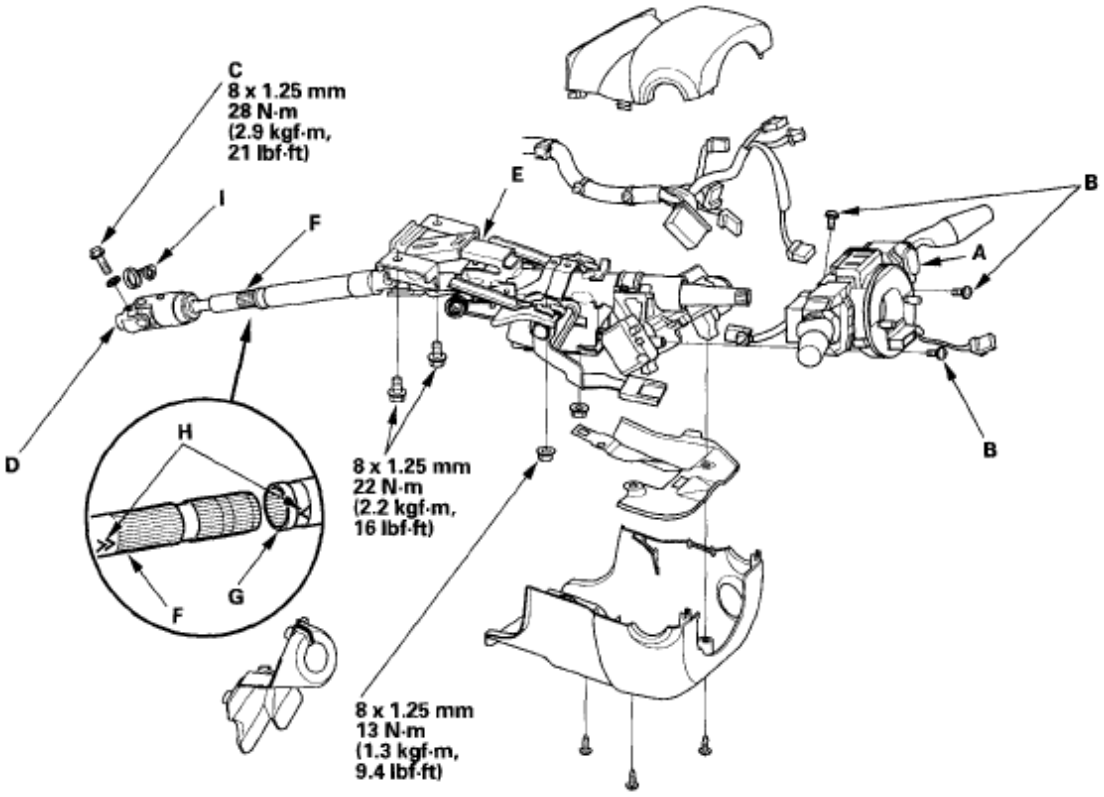



**Fig. 20: Identifying Steering Column Components With Torque Specifications**

12. Remove the combination switch assembly from the steering column shaft by removing the three screws (B).
13. Disconnect the connectors from the ignition switch, and release the wire harness clips from the steering column.
14. Remove the steering joint bolt (C), then disconnect the steering joint (D) from the pinion shaft.
15. Remove the steering column (E) by removing the attaching nuts and bolts. If the lower slide shaft (F) is removed, slip it into the upper shaft (G) by aligning the paint or stamped marks (H).
16. Remove the center guide (I) (if equipped), and discard it. The center guide is

for factory assembly only.

**INSTALLATION**

1. Install the steering column in the reverse order of removal, and note these items:
   - Make sure the wires are not caught or pinched by any parts.
   - Take care not to let the sliding capsules fall out of position during column installation.
2. Center the steering rack within its stroke in steering joint connection.
3. With the rack in the straight ahead driving position, cut the wire (A) and slip the lower end of the steering joint onto the pinion shaft (B) in the range shown.

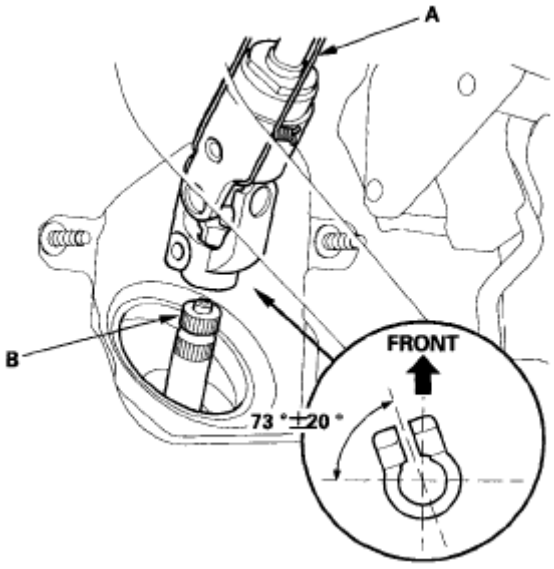



**Fig. 21: Cutting Wire & Slipping Lower End Of Steering Joint Into Pinion Shaft**

4. Align the bolt hole (A) on the steering joint with the groove (B) around the pinion shaft, and loosely install the joint bolt (C). Be sure that the joint bolt is securely in the groove in the pinion shaft. Pull on the steering joint to make sure that the steering joint is fully seated. Tighten the steering joint bolt to the specified torque.

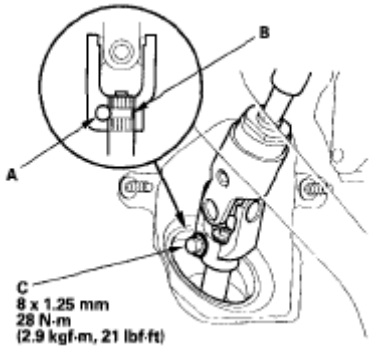



**Fig. 22: Identifying Bolt Hole, Steering Joint With Groove & Steering Joint Bolt With Torque Specifications**

5. Install the steering joint cover (A).

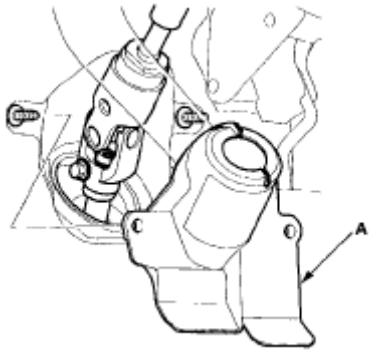



**Fig. 23: Identifying Steering Joint Cover**

6. Install the steering wheel (see **STEERING WHEEL INSTALLATION** ).
7. Install the column covers.
8. Install the driver's dashboard undercover.
9. Reconnect the negative cable to the battery and do these items:
   - Turn the ignition switch ON (II); the SRS indicator should come on for about 6 seconds and then go off.
   - Enter the anti-theft code for the audio or navigation system, then enter the audio presets.
   - Set the clock.
   - Make sure the horn and turn signal switch work properly.
   - Make sure the steering wheel switches work properly.

- Make sure the steering wheel is centered.

10. After installation, do these checks.
    - Check the steering wheel spoke angle. If the steering spoke angles to the right and left are not equal (steering wheel is not centered), correct the engagement of the wheel/column shaft serrations.
    - Set the steering column to the center tilt position, and to the center telescopic position, then do the front toe inspection (see **FRONT TOE INSPECTION/ADJUSTMENT** ).

## STEERING COLUMN/TILT/TELESCOPIC INSPECTION

- Check the steering column ball bearing (A) and the steering joint bearings (B) for play and proper movement. If any bearing is noisy or has excessive play, replace the steering column as an assembly.
- Check the lower slide shaft (C) for smooth movement in and out. If the lower slide shaft is removed, slip it into the upper shaft by aligning the paint or stamped marks (D). If it sticks or binds, replace the steering column as an assembly.
- Check the sliding capsules (E) for distortion or breakage. If there is distortion or breakage, replace the steering column as an assembly.
- Check the tilt mechanism and telescopic mechanism for movement and damage.
- Check the absorbing plates (F) for distortion or breakage. If there is distortion or breakage, replace the steering column as an assembly.

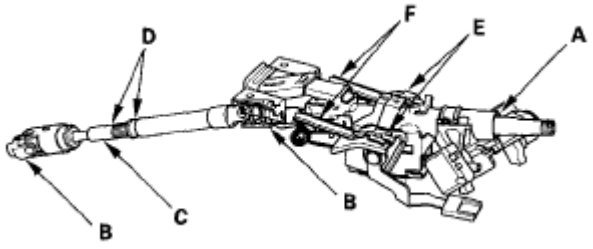



**Fig. 24: Identifying Steering Column/Tilt/Telescopic Components**

## STEERING LOCK REPLACEMENT

1. Remove the steering column (see **STEERING COLUMN REMOVAL AND INSTALLATION** ).
2. Center-punch each of the two shear bolts, and drill the heads of the bolts off with a 5 mm (3/16 in.) drill bit. Be careful not to damage the switch body when removing the shear bolts.

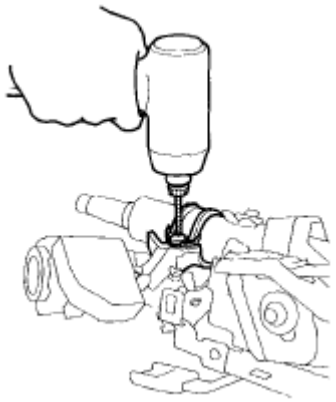


**Fig. 25: Removing Shear Bolts**

3. Remove the shear bolts from the switch body.
4. Install the switch body without the key inserted.
5. Loosely tighten the new shear bolts.
6. Insert the ignition key, and make sure the steering wheel lock works properly and that the ignition key turns freely.
7. Tighten the shear bolts (A) until the hex heads (B) twist off.

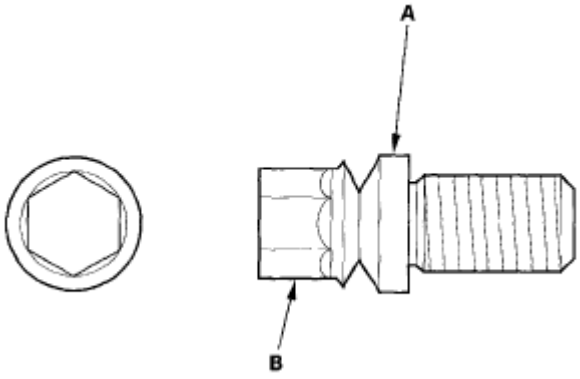



**Fig. 26: Identifying Shear Bolts And Hex Heads**

8. Rewrite the new immobilizer control unit-receiver (see **COMPONENT LOCATION INDEX** ), and make sure the immobilizer system works properly.

## RACK GUIDE ADJUSTMENT

### Special Tools Required

- Locknut wrench, 40 mm 07MAA-SL00100 or 07916-SA50001
- Locknut wrench, 43 mm 07MAA-SL0020A

#### HYDRAULIC POWER STEERING TYPE

1. Set the wheels in the straight ahead position.
2. Loosen the rack guide screw locknut (A) with the locknut wrench, then remove the rack guide screw (B).

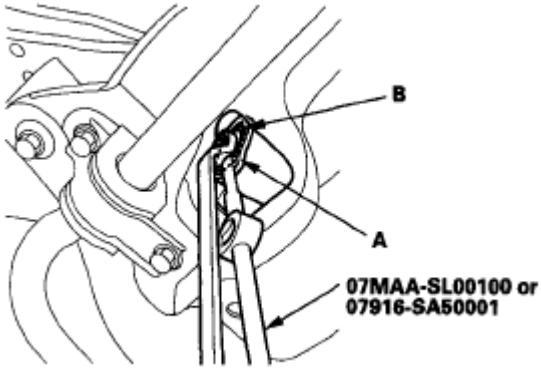



**Fig. 27: Identifying Rack Guide Screw Locknut, Locknut Wrench & Rack Guide Screw**

3. Remove the old sealant from the rack guide screw (A), and apply new sealant (Three Bond 1215 or Loctite 5699) to the middle of the threads (B). Loosely install the rack guide screw on the steering gearbox.

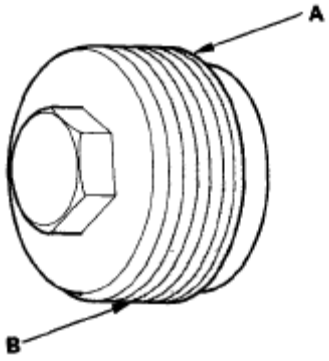



**Fig. 28: Identifying Rack Guide Screw**

4. Tighten the rack guide screw (A) to 25 N.m (2.5 kgf.m, 18 lbf.ft), then loosen it.

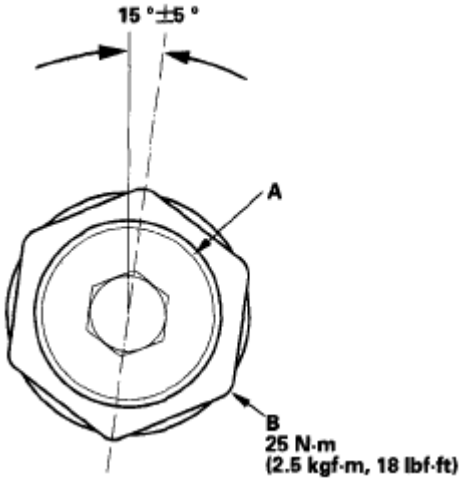



**Fig. 29: Identifying Rack Guide Screw Torque Specifications**

5. Retighten the rack guide screw to 5.9 N.m (0.6 kgf.m, 4.0 lbf.ft), then back it off to the specified angle.

   **Specified return angle:**

   **'06 model: 15° ± 5°**

   **'07-08 model: 10° ± 5°**

6. Hold the rack guide screw stationary with a wrench, and install the locknut (B) by hand until it's fully seated.

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7. Install the locknut wrench on the locknut, and hold the rack guide screw stationary with a wrench. Tighten the locknut to the specified torque.
8. Check for unusual steering effort through the complete turning travel.
9. Check the steering wheel rotational play (see **STEERING WHEEL ROTATIONAL PLAY CHECK** ), and the power assist (see **STEERING WHEEL ROTATIONAL PLAY CHECK** ).

**EPS TYPE**

1. Set the wheels in the straight ahead position.
2. Loosen the rack guide screw locknut (A) with the locknut wrench, then remove the rack guide screw (B).

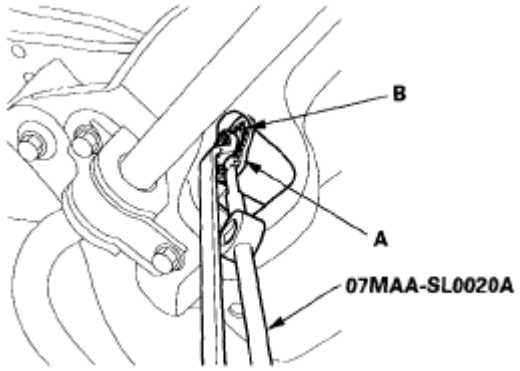



**Fig. 30: Identifying Rack Guide Screw Locknut, Locknut Wrench & Rack Guide Screw**

3. Remove the old sealant from the rack guide screw (A), and apply new sealant (Three Bond 1215 or Loctite 5699) to the middle of the threads (B). Loosely install the rack guide screw on the steering gearbox.

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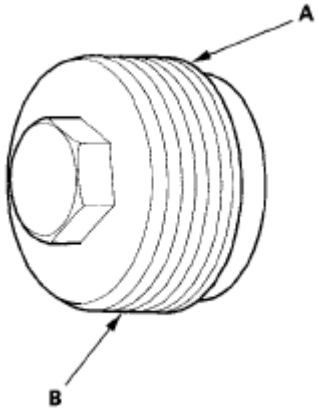



**Fig. 31: Identifying Rack Guide Screw**

4. Tighten the rack guide screw (A) to 25 N.m (2.5 kgf.m, 18 lbf.ft), then loosen it.

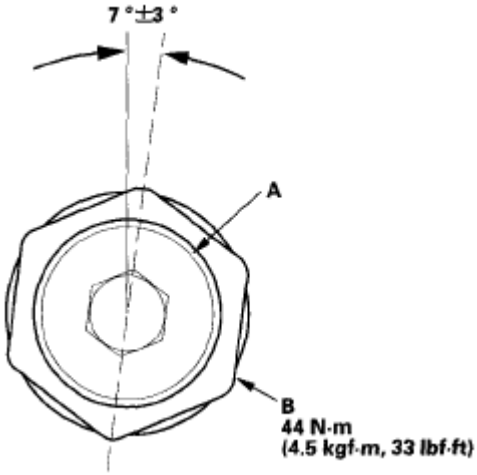



**Fig. 32: Identifying Rack Guide Screw Torque Specifications**

5. Retighten the rack guide screw to 3.9 N.m (0.4 kgf.m, 2.9 lbf.ft), then back it off to the specified angle.

   **Specified return angle: 7° ± 3°**

6. Hold the rack guide screw stationary with a wrench, and install the locknut (B) by hand until it's fully seated.
7. Install the locknut wrench on the locknut, and hold the rack guide screw stationary with a wrench. Tighten the locknut to the specified torque.

8. Check for unusual steering effort through the complete turning travel.
9. Check the steering wheel rotational play (see **STEERING WHEEL ROTATIONAL PLAY CHECK** ), and the power assist (see **STEERING WHEEL ROTATIONAL PLAY CHECK** ).

## TIE-ROD BALL JOINT BOOT REPLACEMENT

### Special Tools Required

Bushing Base 07JAF-SH20330

1. Remove the boot from the tie-rod end, and wipe the old grease off the ball pin.
2. Pack the lower area of the ball pin (A) with fresh multipurpose grease.

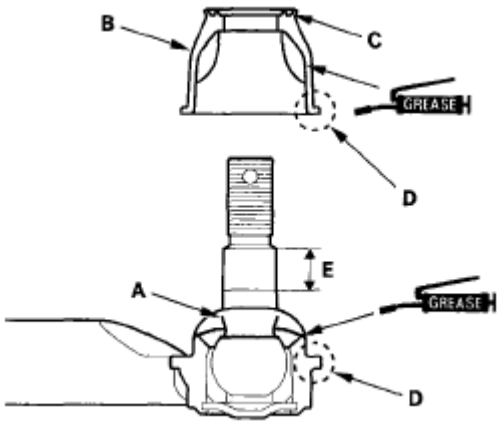



**Fig. 33: Identifying Areas For Applying Multipurpose Grease**

3. Pack the interior of the new boot (B) and lip (C) with fresh multipurpose grease.

   Note these items when installing new grease:

   - Keep grease off the boot mounting area (D) and the tapered section (E) of the ball pin.
   - Do not allow dust, dirt, or other foreign materials to enter the boot.
4. Install the new boot (A) using the bushing base. The boot must not have a gap at the boot installation sections (B). After installing the boot, check the ball pin tapered section for grease contamination, and wipe it if necessary.

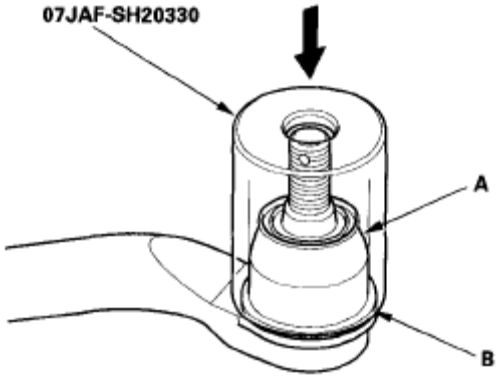



**Fig. 34: Installing New Boot**

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**2006-08 ELECTRICAL**

**Under-dash Fuse/Relay Box - Civic (Except Hybrid & Si)**

## REMOVAL AND INSTALLATION

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX** ) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES** ) in the SRS before doing repairs or service.

**REMOVAL**

1. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets.
2. Make sure the ignition switch is OFF.
3. Disconnect the negative battery cable, then disconnect the positive cable, and wait at least 3 minutes.
4. Remove the driver's dashboard lower cover (see **DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ).
5. Disconnect the connectors from the fuse side of the under-dash fuse/relay box (A).

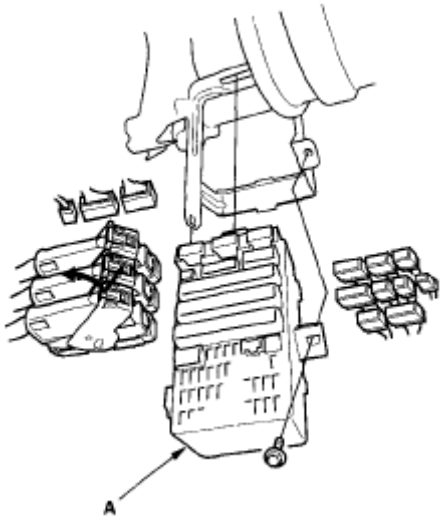



**Fig. 1: Identifying Under-Dash Fuse/Relay Box**

6. Remove the mounting bolt, and pull the fuse/relay box away from the body.
7. Disconnect the connectors from the back side of the under-dash fuse/relay box, then remove the under-dash fuse/relay box.
8. Carefully remove the relays by prying under the base of the relay.

**NOTE: Do not use pliers. Pliers will damage the relays, which could cause the engine to stall or not start.**

**INSTALLATION**

1. Install the relays and connect the connectors to the under-dash fuse/relay box, then install the under-dash fuse/relay box in the reverse order of removal.
2. Install the removed parts in the reverse order of removal.
3. Connect the positive cable to the battery, then connect the negative cable to the battery.
4. Register the immobilizer system with the HDS (see **IMMOBILIZER-KEYLESS CONTROL UNIT INPUT TEST** ).

**NOTE: The IMOES unit is built into the MICU which is part of the under-dash fuse/relay box. Because of this construction, the IMOES must be registered, or the vehicle will not start.**

5. Enter the anti-theft code for the audio or the navigation system, then enter the customer's audio presets, and set the clock.
6. Confirm that all systems work properly.

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**2006-08 ELECTRICAL**

**Under-hood Fuse/Relay Box - Civic (Except Hybrid & Si)**

## REMOVAL AND INSTALLATION

**REMOVAL**

1. Make sure you have the anti-theft code for the audio or the navigation system, then write down the audio presets.
2. Make sure the ignition switch is OFF.
3. Disconnect the negative battery cable, then disconnect the positive cable, and wait at least 3 minutes.
4. Remove the screws (A) for the alternator and battery cable terminals from the under-hood fuse/relay box.

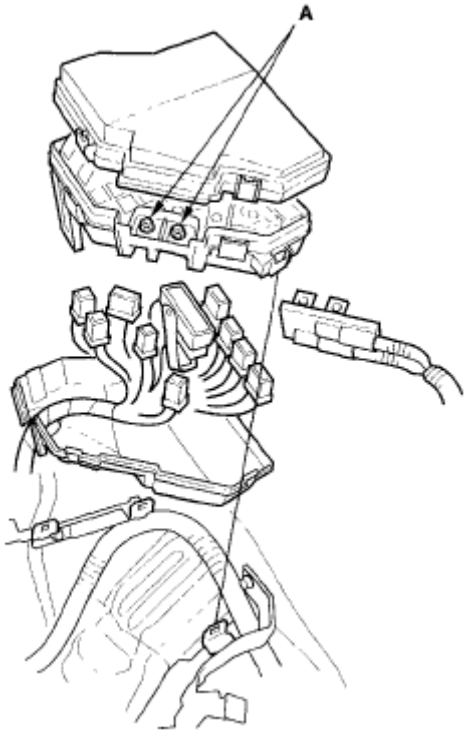



**Fig. 1: Identifying Screws**

5. Remove the bottom cover from the under-hood fuse/relay box.
6. Disconnect the connectors from the under-hood fuse/relay box.

7. Carefully remove the relays by prying under the base of the relay.

**NOTE: Do not use pliers. Pliers will damage the relays, which could cause the engine to stall or not start.**

**INSTALLATION**

1. Install the relays and connect the connectors to the under-hood fuse/relay box, then install the under-hood fuse/relay box in the reverse order of removal.
2. Install the removed parts in the reverse order of removal.
3. Connect the positive cable to the battery, then connect the negative cable to the battery.
4. Enter the anti-theft code for the audio or the navigation system, then enter the customer's audio presets, and set the clock.
5. Confirm that all systems work properly.

# 2006-08 BRAKES

# VSA System - Civic (All Except Hybrid)

## COMPONENT LOCATION INDEX

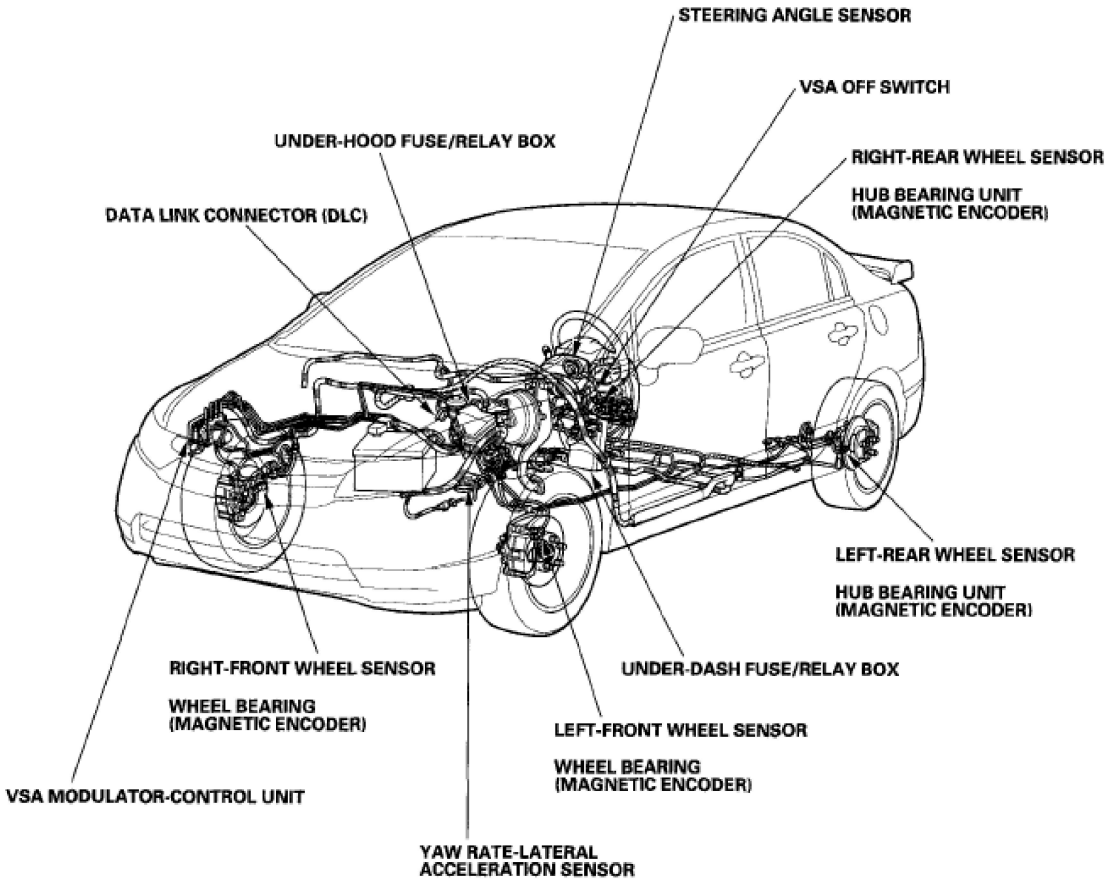



**Fig. 1: Locating VSA System Components**

## GENERAL TROUBLESHOOTING INFORMATION

### SYSTEM INDICATOR

This system has four indicators:

- ABS indicator (A)
- Brake system indicator (B)
- VSA indicator (C)
- VSA activation indicator (D)

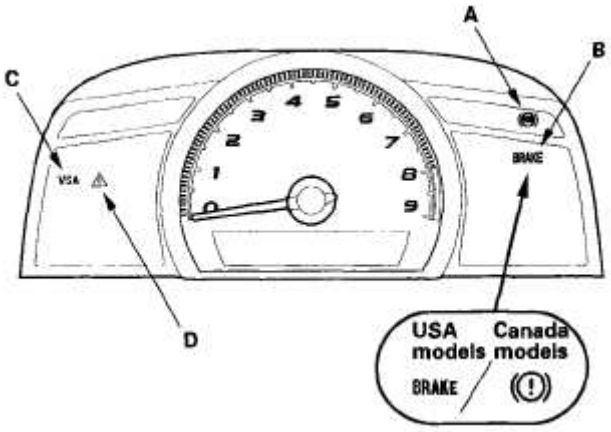



**Fig. 2: Identifying System Indicator**

When the system is OK, each indicator comes on for about 2 seconds after turning the ignition switch ON (II), then goes off.

When the system detects a problem, a DTC will be set and, depending upon the failure, the VSA modulator-control unit will determine which indicator(s) will be turned on. If the problem goes away (system returns to normal), the indicator(s) will be controlled in the following way depending upon the DTC that was set:

- The indicator(s) will come on and stay on when the ignition switch is ON (II).
- The indicator(s) will automatically go off.
- The indicator(s) will go off after the vehicle is driven.

**ABS Indicator**

The ABS indicator comes on when the ABS function is lost. The brakes still work like a conventional system.

**Brake System indicator**

The brake system indicator comes on when the EBD function is lost, the parking brake is applied, and/or the brake fluid level is low.

**NOTE: If two or more wheel speed sensors fail, the brake system indicator will come on.**

**VSA Indicator**

The VSA indicator comes on when the VSA function is lost.

**VSA Activation Indicator**

The VSA activation indicator blinks when the VSA function is activating. The VSA activation indicator comes on, when the VSA is off, or the VSA function is lost.

**DIAGNOSTIC TROUBLE CODE (DTC)**

- The memory can hold all DTCs. However, when the same DTC is detected more than once, the more recent DTC is written over the earlier one. Therefore, when the same problem is detected repeatedly, it is memorized as a single DTC.
- The DTCs are indicated in the order they occur.
- The DTCs are memorized in the EEPROM. Therefore, the memorized DTCs cannot be canceled by disconnecting the battery. Do the specified procedures to clear the DTCs.

**SELF-DIAGNOSIS**

- Self-diagnosis can be classified into two categories:
  - Initial diagnosis: Done right after the ignition switch is turned ON (II) and until the ABS and VSA indicators go off.
  - Regular diagnosis: Done right after the initial diagnosis until the ignition switch is turned OFF.
- When the system detects a problem, the VSA modulator-control unit shifts to fail-safe mode.

**KICKBACK**

The pump motor operates when the VSA modulator-control unit is functioning, and the fluid in the reservoir is forced out to the master cylinder, causing kickback at the brake pedal.

**PUMP MOTOR**

- The pump motor operates when the VSA modulator-control unit is functioning.
- The VSA modulator-control unit checks the pump motor operation during

regular diagnosis when the vehicle is driven over 10 mph (15 km/h) the first time after the ignition switch is turned ON (II). You may hear the motor operate at this time, but it is normal.

**BRAKE FLUID REPLACEMENT/AIR BLEEDING**

Brake fluid replacement and air bleeding procedures are identical to the procedures used on vehicles without VSA system (see **BRAKE SYSTEM BLEEDING** ).

**HOW TO TROUBLESHOOT DTCS**

The troubleshooting procedures assume that the cause of the problem is still present and the ABS and/or VSA indicator is still on. Following a troubleshooting procedure for a code that has been cleared and does not reset can result in incorrect diagnosis.

1. Question the customer about the conditions when the problem occurred, and try to reproduce the same conditions for troubleshooting. Find out when the ABS and/or VSA indicator came on, such as during VSA system operation, after VSA system operation, when vehicle was traveling at a certain speed, etc.
2. When the ABS or VSA indicator does not come on during the test-drive, but troubleshooting is done based on the DTC, check for loose connectors, poor contact of the terminals, etc. before you start troubleshooting.
3. After troubleshooting, or repairs are done, clear the DTCs, and test-drive the vehicle under the same conditions that originally set the DTCs. Make sure the ABS and VSA indicators do not come on.
4. Check for other unit DTCs which are connected via F-CAN, if there are DTCs that are related to F-CAN, the most likely cause was that the ignition switch was turned ON (II) with the VSA modulator-control unit connector disconnected. Clear the DTCs. Check for PGM-FI and VSA codes, and troubleshoot those first.

**INTERMITTENT FAILURES**

The term "intermittent failure" means a system may have had a failure, but it checks OK now. If the indicator(s) of the system does not come on, check for poor connections or loose pins at all connectors related to the circuit that you are

troubleshooting. If the indicators were on but then went out, the original problem may have been intermittent.

**HOW TO USE THE HDS (HONDA DIAGNOSTIC SYSTEM)**

1. If the system indicators stay on, connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.

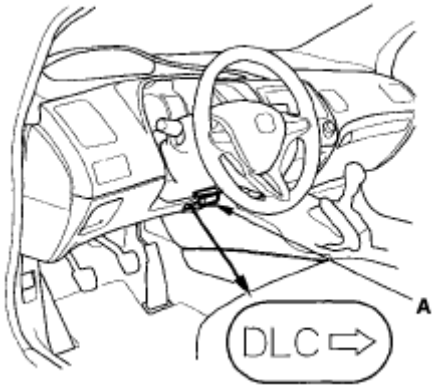



**Fig. 3: Identifying DLC Connector**

2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the VSA modulator-control unit. If it doesn't, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Check the diagnostic trouble code (DTC) and note it. Also check the on board snapshot data, and download any data found. Then refer to the indicated DTC's troubleshooting, and begin the appropriate troubleshooting procedure.

**NOTE:**

- **The HDS communication will be stopped when the vehicle speed is at 31 mph (50 km/h) or more.**
- **The HDS can read the DTC, current data, and other system data.**
- **For specific operations, refer to the Help menu that came with the HDS.**

**HOW TO RETRIEVE DTCS**

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1. With the ignition switch to LOCK (0), connect the HDS to the data link connector (DLC) under the driver's side of the dashboard.
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the VSA modulator-control unit. If it doesn't troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Follow the prompts on the HDS to display the DTC(s) on the screen. After determining the DTC, refer to the **DTC TROUBLESHOOTING**.
5. Turn the ignition switch to LOCK (0).

**HOW TO CLEAR DTCS**

1. With the ignition switch to LOCK (0), connect the HDS to the data link connector (DLC) under the driver's side of the dashboard.
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the VSA modulator-control unit. If it doesn't troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
4. Clear the DTC(s) by following the screen prompts on the HDS.
5. Turn the ignition switch to LOCK (0).

## DTC TROUBLESHOOTING INDEX

## DTC TROUBLESHOOTING INDEX

| DTC | | Detection Item | ABS Indicator | Brake System Indicator | VSA Indicator | VSA Activation Indicator |
|---|---|---|---|---|---|---|
| **11** | -13 | Right-front wheel speed sensor circuit malfunction | ON | ON/OFF(1) | ON | ON |
| **12** | -11 | Right-front wheel speed sensor | ON | ON/OFF(1) | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | electrical noise or intermittent interruption | | | | |
| | **-12** | Right-front wheel speed sensor short to the other sensor circuit | ON | ON/OFF(1) | ON | ON |
| | **-21** | Right-front wheel speed sensor installation error | ON | ON/OFF(1) | ON | ON |
| | **-22** | Right-front wheel speed sensor installation error (19 mph (30 km/h) or more) | ON | ON/OFF(1) | ON | ON |
| | **-23** | Right-front wheel speed sensor installation error (0 to 9 mph (0 to 15 km/h)) | ON | ON/OFF(1) | ON | ON |
| **13** | -13 | Left-front wheel speed sensor circuit malfunction | ON | ON/OFF(1) | ON | ON |
| **14** | -11 | Left-front wheel speed sensor electrical noise | ON | ON/OFF(1) | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | or intermittent interruption | | | | |
| | **-12** | Left-front wheel speed sensor short to the other sensor circuit | ON | ON/OFF(1) | ON | ON |
| | **-21** | Left-front wheel speed sensor installation error | ON | ON/OFF(1) | ON | ON |
| | **-22** | Left-front wheel speed sensor installation error (19 mph (30 km/h) or more) | ON | ON/OFF(1) | ON | ON |
| | **-23** | Left-front wheel speed sensor installation error (0 to 9 mph (0 to 15 km/h)) | ON | ON/OFF(1) | ON | ON |
| **15** | -13 | Right-rear wheel speed sensor circuit malfunction | ON | ON/OFF(1) | ON | ON |
| **16** | -11 | Right-rear wheel speed sensor electrical noise or intermittent | ON | ON/OFF(1) | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | interruption | | | | |
| | **-12** | Right-rear wheel speed sensor short to the other sensor circuit | ON | ON/OFF(1) | ON | ON |
| | **-21** | Right-rear wheel speed sensor installation error | ON | ON/OFF(1) | ON | ON |
| | **-22** | Right-rear wheel speed sensor installation error (19 mph (30 km/h) or more) | ON | ON/OFF(1) | ON | ON |
| | **-23** | Right-rear wheel speed sensor installation error (0 to 9 mph (0 to 15 km/h)) | ON | ON/OFF(1) | ON | ON |
| **17** | -13 | Left-rear wheel speed sensor circuit malfunction | ON | ON/OFF(1) | ON | ON |
| **18** | -11 | Left-rear wheel speed sensor electrical noise or intermittent interruption | ON | ON/OFF(1) | ON | ON |
| | | | | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | **-12** | Left-rear wheel speed sensor short to the other sensor circuit | ON | ON/OFF(1) | ON | ON |
| | **-21** | Left-rear wheel speed sensor installation error | ON | ON/OFF(1) | ON | ON |
| | **-22** | Left-rear wheel speed sensor installation error (19 mph (30 km/h) or more) | ON | ON/OFF(1) | ON | ON |
| | **-23** | Left-rear wheel speed sensor installation error (0 to 9 mph (0 to 15 km/h)) | ON | ON/OFF(1) | ON | ON |
| **21** | -11 | Right-front magnetic encoder malfunction (pulse missing) | ON | ON/OFF(1) | ON | ON |
| **22** | -11 | Left-front magnetic encoder malfunction (pulse missing) | ON | ON/OFF(1) | ON | ON |
| **23** | -11 | Right-rear magnetic encoder malfunction | ON | ON/OFF(1) | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | (pulse missing) | | | | |
| **24** | -11 | Left-rear magnetic encoder malfunction (pulse missing) | ON | ON/OFF(1) | ON | ON |
| **25** | -11 | Yaw rate sensor internal circuit malfunction (initial) | OFF | OFF | ON | ON |
| | **-12** | Yaw rate sensor internal circuit malfunction (open, short) | OFF | OFF | ON | ON |
| | **-13** | Yaw rate sensor communication error | OFF | OFF | ON | ON |
| | **-14** | Yaw rate/lateral acceleration sensor circuit high voltage | OFF | OFF | ON | ON |
| | **-15** | Yaw rate/lateral acceleration sensor circuit low voltage | OFF | OFF | ON | ON |
| | **-16** | Yaw rate/lateral acceleration sensor internal | OFF | OFF | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | circuit malfunction (keep alive memory (KAM) error) | | | | |
| | **-21** | Yaw rate sensor neutral position malfunction | OFF | OFF | ON | ON |
| | **-22** | Yaw rate sensor stuck | OFF | OFF | ON | ON |
| | **-23** | Yaw rate sensor circuit intermittent interruption | OFF | OFF | ON | ON |
| | **-24** | Yaw rate sensor gain low | OFF | OFF | ON | ON |
| | **-25** | Yaw rate sensor gain high | OFF | OFF | ON | ON |
| **26** | -11 | Lateral acceleration sensor internal circuit malfunction (initial) | OFF | OFF | ON | ON |
| | **-12** | Lateral acceleration sensor internal circuit malfunction (open, short) | OFF | OFF | ON | ON |
| | **-13** | Lateral | OFF | OFF | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | acceleration sensor communication error | | | | |
| | **-21** | Lateral acceleration sensor neutral position malfunction | OFF | OFF | ON | ON |
| | **-22** | Acceleration sensor stuck | OFF | OFF | ON | ON |
| | **-23** | Lateral acceleration sensor circuit intermittent interruption | OFF | OFF | ON | ON |
| | **-24** | Lateral acceleration sensor gain low | OFF | OFF | ON | ON |
| | **-25** | Lateral acceleration sensor gain high | OFF | OFF | ON | ON |
| **27** | -11 | Steering angle sensor DIAG signal error (initial) | OFF | OFF | ON | ON |
| | **-21** | Steering angle sensor stuck neutral position | OFF | OFF | ON | ON |
| | **-22** | Steering angle sensor stuck | OFF | OFF | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | offset position | | | | |
| | **-23** | Steering angle sensor counter malfunction | OFF | OFF | ON | ON |
| | **-24** | Steering angle sensor exchange malfunction | OFF | OFF | ON | ON |
| | **-26** | Steering angle sensor DIAG signal error (main) | OFF | OFF | ON | ON |
| **31** | -01 | ABS right-front inlet solenoid valve malfunction (solenoid initial pulse) | ON | ON | ON | ON |
| | **-21** | ABS right-front inlet solenoid valve malfunction (solenoid pulse) | ON | ON | ON | ON |
| | **-22** | ABS right-front inlet solenoid valve malfunction (solenoid speculative) | ON | ON | ON | ON |
| | **-23** | ABS right-front inlet solenoid valve malfunction | ON | ON | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | (solenoid stuck ON) | | | | |
| **32** | -01 | ABS right-front outlet solenoid valve malfunction (solenoid initial pulse) | ON | ON | ON | ON |
| | **-21** | ABS right-front outlet solenoid valve malfunction (solenoid pulse) | ON | ON | ON | ON |
| | **-22** | ABS right-front outlet solenoid valve malfunction (solenoid speculative) | ON | ON | ON | ON |
| | **-23** | ABS right-front outlet solenoid valve malfunction (solenoid stuck ON) | ON | ON | ON | ON |
| **33** | -01 | ABS left-front inlet solenoid valve malfunction (solenoid initial pulse) | ON | ON | ON | ON |
| | **-21** | ABS left-front inlet solenoid valve | ON | ON | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | malfunction (solenoid pulse) | | | | |
| | **-22** | ABS left-front inlet solenoid valve malfunction (solenoid speculative) | ON | ON | ON | ON |
| | **-23** | ABS left-front inlet solenoid valve malfunction (solenoid stuck ON) | ON | ON | ON | ON |
| **34** | -01 | ABS left-front outlet solenoid valve malfunction (solenoid initial pulse) | ON | ON | ON | ON |
| | **-21** | ABS left-front outlet solenoid valve malfunction (solenoid pulse) | ON | ON | ON | ON |
| | **-22** | ABS left-front outlet solenoid valve malfunction (solenoid speculative) | ON | ON | ON | ON |
| | **-23** | ABS left-front outlet solenoid | ON | ON | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | valve malfunction (solenoid stuck ON) | | | | |
| **35** | -01 | ABS right-rear inlet solenoid valve malfunction (solenoid initial pulse) | ON | ON | ON | ON |
| | **-21** | ABS right-rear inlet solenoid valve malfunction (solenoid pulse) | ON | ON | ON | ON |
| | **-22** | ABS right-rear inlet solenoid valve malfunction (solenoid speculative) | ON | ON | ON | ON |
| | **-23** | ABS right-rear inlet solenoid valve malfunction (solenoid stuck ON) | ON | ON | ON | ON |
| **36** | -01 | ABS right-rear outlet solenoid valve malfunction (solenoid initial pulse) | ON | ON | ON | ON |
| | **-21** | ABS right-rear | ON | ON | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | outlet solenoid valve malfunction (solenoid pulse) | | | | |
| | **-22** | ABS right-rear outlet solenoid valve malfunction (solenoid speculative) | ON | ON | ON | ON |
| | **-23** | ABS right-rear outlet solenoid valve malfunction (solenoid stuck ON) | ON | ON | ON | ON |
| **37** | -01 | ABS left-rear inlet solenoid valve malfunction (solenoid initial pulse) | ON | ON | ON | ON |
| | **-21** | ABS left-rear inlet solenoid valve malfunction (solenoid pulse) | ON | ON | ON | ON |
| | **-22** | ABS left-rear inlet solenoid valve malfunction (solenoid speculative) | ON | ON | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | **-23** | ABS left-rear inlet solenoid valve malfunction (solenoid stuck ON) | ON | ON | ON | ON |
| **38** | -01 | ABS left-rear outlet solenoid valve malfunction (solenoid initial pulse) | ON | ON | ON | ON |
| | **-21** | ABS left-rear outlet solenoid valve malfunction (solenoid pulse) | ON | ON | ON | ON |
| | **-22** | ABS left-rear outlet solenoid valve malfunction (solenoid speculative) | ON | ON | ON | ON |
| | **-23** | ABS left-rear outlet solenoid valve malfunction (solenoid stuck ON) | ON | ON | ON | ON |
| **41** | -21 | Right-front wheel lock | ON | ON/OFF(1) | ON | ON |
| **42** | -21 | Left-front wheel lock | ON | ON/OFF(1) | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| **43** | -21 | Right-rear wheel lock | ON | ON/OFF(1) | ON | ON |
| **44** | -21 | Left-rear wheel lock | ON | ON/OFF(1) | ON | ON |
| **51** | -11 | Motor lock | ON | OFF | ON | ON |
| | **-12** | Motor lock circuit malfunction | ON | OFF | ON | ON |
| | **-13** | Motor relay OFF malfunction | ON | OFF | ON | ON |
| **52** | -12 | Motor stuck OFF | ON | OFF | ON | ON |
| **53** | -01 | Motor relay stuck ON 1 | ON | OFF | ON | ON |
| | **-12** | Motor relay stuck ON 2 | ON | OFF | ON | ON |
| **54** | -03 | Fail-safe relay 1 stuck ON | ON | ON | ON | ON |
| | **-04** | Fail-safe relay 1 stuck OFF (initial) | ON | ON | ON | ON |
| | **-21** | Fail-safe relay 1 stuck OFF (main) | ON | ON | ON | ON |
| **56** | -01 | Initial VIG FET stuck OFF | ON | ON | ON | ON |
| | **-02** | Initial VIG FET stuck ON | ON | ON | ON | ON |
| | **-11** | VIG FET stuck OFF | ON | ON | ON | ON |
| **61** | -01 | VSA modulator- | ON | ON | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | control unit initial IG low voltage | | | | |
| | **-21** | VSA modulator-control unit power source low voltage 1 | ON | ON | ON | ON |
| | **-22** | VSA modulator-control unit power source low voltage 2 | ON | OFF | ON | ON |
| | **-23** | VSA modulator-control unit power source low voltage 3 | ON | ON | ON | ON |
| **62** | -21 | VSA modulator-control unit IG high voltage | ON | ON | ON | ON |
| **64** | -11 | Steering angle sensor power circuit short | OFF | OFF | ON | ON |
| | **-12** | Steering angle sensor power circuit open | OFF | OFF | ON | ON |
| **65** | -21 | Brake fluid level stuck ON | OFF | OFF | ON | ON |
| **66** | -11 | Pressure sensor (inside of VSA modulator-control unit) | OFF | OFF | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | malfunction | | | | |
| | **-12** | Pressure sensor (inside of VSA modulator-control unit) malfunction | OFF | OFF | ON | ON |
| | **-13** | Pressure sensor (inside of VSA modulator-control unit) malfunction | OFF | OFF | ON | ON |
| | **-14** | Pressure sensor (inside of VSA modulator-control unit) malfunction | OFF | OFF | ON | ON |
| | **-15** | Pressure sensor (inside of VSA modulator-control unit) malfunction | OFF | OFF | ON | ON |
| | **-16** | Pressure sensor (inside of VSA modulator-control unit) malfunction | OFF | OFF | ON | ON |
| **68** | -21 | Brake pedal position switch stuck OFF | OFF | OFF | ON | ON |
| | **-22** | Brake pedal position switch stuck ON | OFF | OFF | ON | ON |
| **71** | -21 | Right-front or left-rear | ON | ON | ON | ON |

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| | | | | | |
|---|---|---|---|---|---|
| | different diameter tire malfunction | | | | |
| **-22** | Left-front or right-rear different diameter tire malfunction | ON | ON | ON | ON |
| **-23** | Right-front and right-rear different diameter tire malfunction | ON | ON | ON | ON |
| **-24** | Left-front and left-rear different diameter tire malfunction | ON | ON | ON | ON |
| **-25** | Right-front and left-front different diameter tire malfunction | ON | ON | ON | ON |
| **-26** | Right-rear and left-rear different diameter tire malfunction | ON | ON | ON | ON |
| **-27** | Right-front or left-rear different diameter tire malfunction | OFF | OFF | ON | ON |
| **-28** | Left-front or | OFF | OFF | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | right-rear different diameter tire malfunction | | | | |
| | **-29** | Right-front and right-rear different diameter tire malfunction | OFF | OFF | ON | ON |
| | **-2A** | Left-front and left-rear different diameter tire malfunction | OFF | OFF | ON | ON |
| | **-2B** | Right-front and left-front different diameter tire malfunction | OFF | OFF | ON | ON |
| | **-2C** | Right-rear and Left-rear different diameter tire malfunction | OFF | OFF | ON | ON |
| **81** | -01 | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| | **-02** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **-03** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-05** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-06** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-07** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-08** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-11** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-12** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |

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| | | | | | |
|---|---|---|---|---|---|
| **-13** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-14** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-21** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-22** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-23** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-31** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-32** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |

| | | | | | |
|---|---|---|---|---|---|
| **-33** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-35** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-36** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-37** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-38** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-39** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-3A** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |

| | | | | | |
|---|---|---|---|---|---|
| **-3C** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-3D** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-3E** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-40** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-41** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-42** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-51** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |

| | | | | | |
|---|---|---|---|---|---|
| **-52** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-53** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-54** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-55** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-56** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-57** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **-58** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **-59** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| | **-61** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| | **-71** | Central processing unit (CPU) internal circuit malfunction | ON | OFF | ON | ON |
| | **-80** | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **83** | -13 | ECM communication error | OFF | OFF | ON | ON |
| | **-14** | ECM communication error | OFF | OFF | ON | ON |
| **84** | -21 | VSA sensor neutral position not writing | OFF | OFF | ON | ON |
| **86** | -01 | F-CAN bus-off malfunction | OFF | OFF | ON | ON |
| | **-11** | F-CAN communication | OFF | OFF | ON | ON |

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| | | | | | |
|---|---|---|---|---|---|
| | with ECM malfunction | | | | |
| **-21** | F-CAN communication with engine malfunction | OFF | OFF | ON | ON |
| **-22** | F-CAN communication with engine malfunction | OFF | OFF | ON | ON |
| **-23** | F-CAN communication with engine malfunction | OFF | OFF | ON | ON |
| **-24** | F-CAN communication with engine malfunction | OFF | OFF | ON | ON |
| **-25** | F-CAN communication with engine malfunction | OFF | OFF | ON | ON |
| **-31** | F-CAN communication with gauge control module malfunction | OFF | OFF | ON | ON |
| **-41** | F-CAN communication with EAT malfunction | OFF | OFF | ON | ON |
| **-71** | F-CAN communication with yaw rate- | OFF | OFF | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | lateral acceleration sensor malfunction | | | | |
| **107** | -22 | Central processing unit (CPU) internal circuit malfunction | OFF | OFF | OFF | ON |
| **108** | -21 | Steering angle sensor malfunction | OFF | OFF | OFF | ON |
| **112** | -01 | Central processing unit (CPU) internal circuit malfunction | ON | ON | ON | ON |
| **121** | -01 | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-02** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-11** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-21** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-24** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| **122** | -01 | VSA solenoid valve | ON | ON | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | malfunction | | | | |
| | **-21** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-22** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-23** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| **123** | -01 | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-02** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-11** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-21** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-24** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| **124** | -01 | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-21** | VSA solenoid valve malfunction | ON | ON | ON | ON |
| | **-22** | VSA solenoid valve malfunction | ON | ON | ON | ON |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | **-23** | VSA solenoid valve malfunction | ON | ON | ON | ON |

(1) Brake system indicator turns ON when two or more wheel speed sensors fail.

## SYMPTOM TROUBLESHOOTING INDEX

When the vehicle has one of these symptoms, check for a diagnostic trouble code (DTC) with the HDS. If there is no DTC, do the diagnostic procedure for the symptom, in the sequence listed, until you find the cause.

## SYMPTOM TROUBLESHOOTING INDEX

| Symptom | Diagnostic procedure |
|---|---|
| HDS does not communicate with the VSA modulator-control unit or the vehicle | Troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ). |
| ABS indicator does not come on | 1. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).<br>2. Substitute a known-good VSA modulator-control unit, then recheck. If it is OK, replace the original VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ). |
| ABS indicator or VSA indicator does not go off, and no DTCs are stored | 1. Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING** ).<br>2. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ). |
| Brake system indicator does not | 1. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).<br>2. Substitute a known-good VSA modulator-control unit, then recheck. If it is OK, replace the original |

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| | |
|---|---|
| come on | VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ). |
| Brake system indicator does not go off, and no DTCs are stored | 1. Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING** ).<br>2. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ). |
| VSA indicator does not come on | 1. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).<br>2. Substitute a known-good VSA modulator-control unit, then recheck. If it is OK, replace the original VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ). |
| VSA activation indicator does not come on at start-up (bulb check) | 1. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).<br>2. Substitute a known-good VSA modulator-control unit, then recheck. If it is OK, replace the original VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ). |
| VSA activation indicator does not go off, and no DTCs are stored | 1. Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING** ).<br>2. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).<br>3. Substitute a known-good VSA modulator-control unit, then recheck. If it is OK, replace the original VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ). |
| ABS indicator, brake system indicator, and VSA indicator do not | 1. Symptom Troubleshooting (see **SYMPTOM TROUBLESHOOTING** ). |

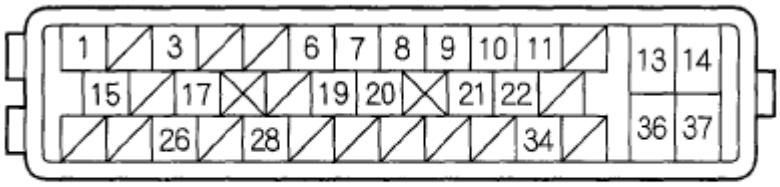
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| | |
|---|---|
| go off at same time | 2. Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ). |

## SYSTEM DESCRIPTION

**VSA MODULATOR-CONTROL UNIT INPUTS AND OUTPUTS FOR 37P CONNECTOR**




Wire side of female terminals

**Fig. 4: Identifying VSA Modulator-Control Unit Inputs And Outputs For 37P Connector**

## SYSTEM DESCRIPTION

| Terminal number | Wire color | Terminal sign | Description | Measurement (Disconnect the VSA modulator-control unit 37P connector) | | |
|---|---|---|---|---|---|---|
| | | | | Terminals | Conditions | Results |
| 1 | RED | CAN-L | F-CAN communication circuit | | | |
| 3 | BLU | STR-D | Detects steering angle sensor signal | | | |
| 6 | PNK | FR-GND | Detects right-front wheel speed sensor signal | | | |
| 7 | ORN | SVCC | Power source for the steering angle sensor | | | |
| | | | Detects left- | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | PUR | RL-GND | rear wheel speed sensor signal | - | - | - |
| 9 | LTGRN | RR+B | Detects right-rear wheel speed sensor signal | | | |
| 10 | BRN | SGND | Ground for the steering angle sensor | | | |
| 11 | RED(1) GRY(2) | FL-GND | Detects left-front wheel speed sensor signal | | | |
| 13 | WHT | FSR+B | Power source for the fail-safe relay | 13-GND | At all times | Battery voltage |
| 14 | RED | MR+B | Power source for the motor relay | 14-GND | At all times | Battery voltage |
| 15 | WHT | CAN-H | F-CAN communication circuit | - | - | - |
| 17 | PUR | STR-B | Detects steering angle sensor signal | | | |
| 19 | GRN | FR+B | Detects right-front wheel speed sensor signal | | | |
| 20 | YEL(1) (2)BLU | RL+B | Detects left-rear wheel speed sensor signal | | | |

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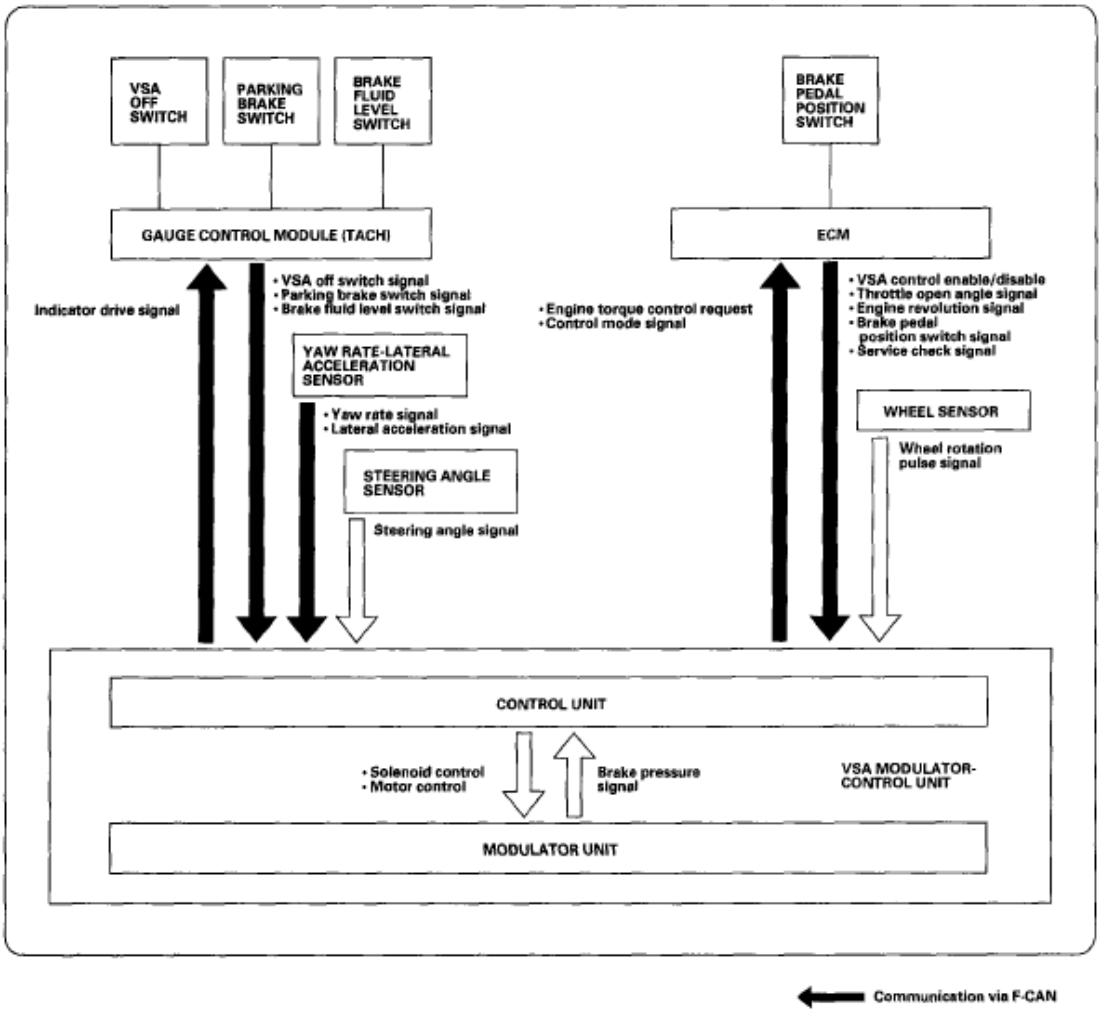
| | | | | | | |
|---|---|---|---|---|---|---|
| 21 | BLU(1) WHT(2) | RR-GND | Detects right-rear wheel speed sensor signal | | | |
| 22 | WHT(1) ORN(2) | FL+B | Detects left-front wheel speed sensor signal | | | |
| 26 | LTBLU | K-LINE | Communication with HDS | | | |
| 28 | GRY | IG1 | Power source for activating the system | 28-GND | Ignition switch ON (II) | Battery voltage |
| 34 | GRN | STR-A | Detects steering angle sensor signal | - | - | - |
| 36 | BLK | GND | Ground for the VSA modulator-control unit | 36-GND | At all times | Continuity |
| 37 | BLK | MR-GND | Ground for the pump motor | 37-GND | At all times | Continuity |

(1) 4-door

(2) 2-door

**System Outline**

This system is composed of the VSA modulator-control unit, the wheel speed sensor, the steering angle sensor, and the yaw rate-lateral acceleration sensor, and the system indicators in the gauge control module (tach). The VSA modulator-control unit controls the ABS, EBD, TCS, VSA, and brake assist with the brake pressure of each wheel and the engine torque.




## Fig. 5: Identifying VSA System Outline

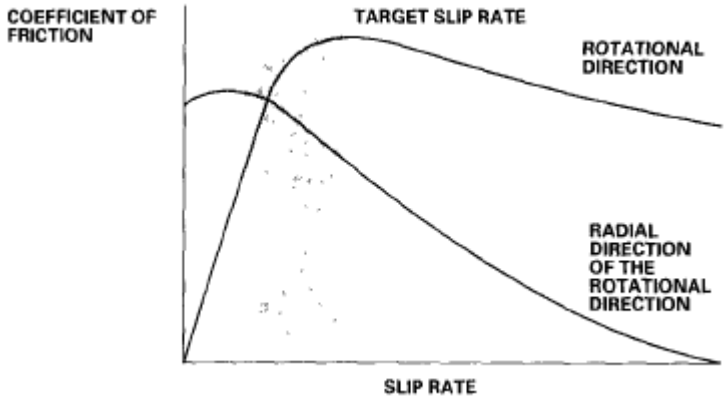
**ABS Features**

## Anti-lock control

Without ABS, when the brake pedal is pressed while driving, the wheels sometimes lock before the vehicle comes to a stop. In such an event, the maneuverability of the vehicle is reduced if the front wheels are locked, and the stability of the vehicle is reduced if the rear wheels are locked, creating an extremely unstable condition. With ABS, the system precisely controls the slip rate of the wheels to ensure maximum grip force from the tires, and it thereby ensures maneuverability and stability of the vehicle. The ABS calculates the slip rate of the wheels based on the four wheel speeds, then it controls the brake fluid pressure to reach the target slip

rate.

**Grip force of tire and road surface**



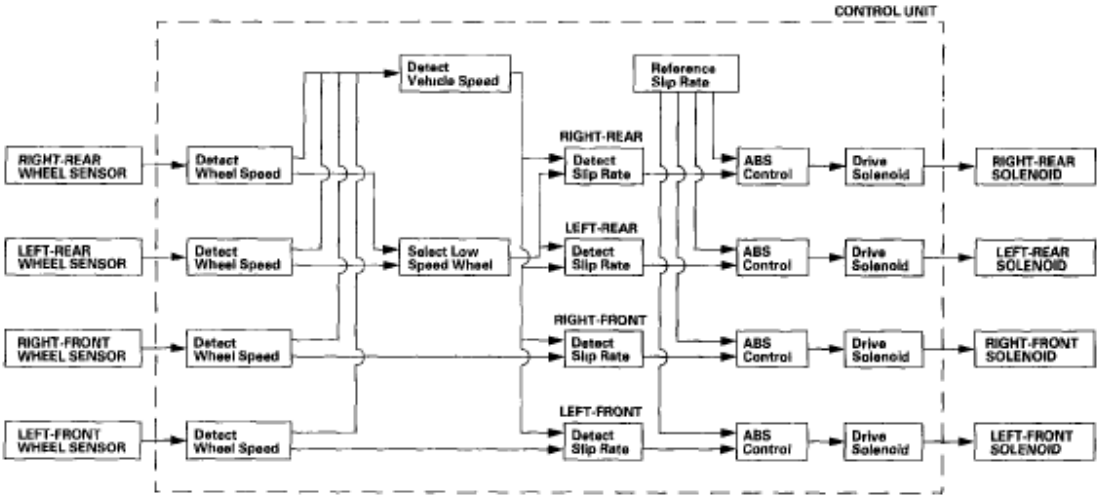

## Fig. 6: Identifying Grip Force Of Tire And Road Surface Graph

**Main Control**

The control unit detects the wheel speed based on the wheel speed sensor signals it received, then it calculates the vehicle speed based on the detected wheel speed. The control unit detects the vehicle speed during deceleration based on the rate of deceleration.

The control unit calculates the slip rate of each wheel, and transmits the control signal to the modulator unit solenoid valve when the slip rate is high.

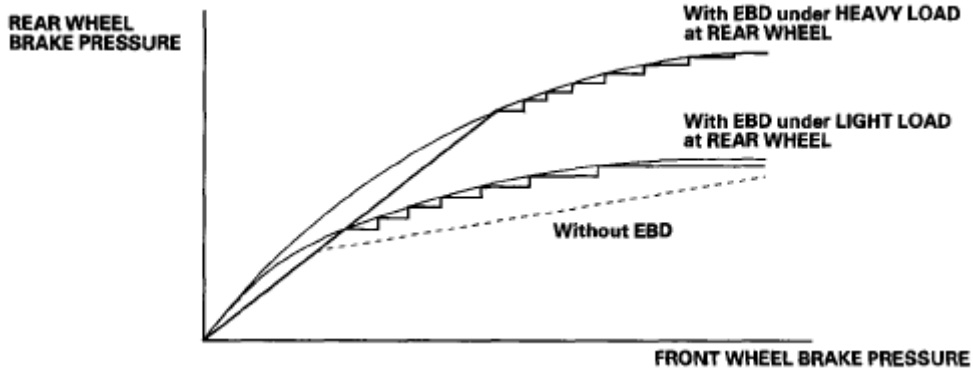
The hydraulic control has three modes: Pressure intensifying, pressure reducing, and pressure retaining.




## Fig. 7: Identifying Hydraulic Control Unit Graph

**EBD Features**

The electronic brake distribution (EBD) feature helps control vehicle braking by adjusting the rear brake force in accordance with the rear wheel load before the ABS operates. Based on the wheel speed sensor signals, the control unit uses the modulator to control the rear brakes individually. When the rear wheel speed is less than the front wheel speed, the VSA modulator-control unit retains the current rear brake fluid pressure by closing the inlet valve in the modulator. As the rear wheel speed increases and approaches the front wheel speed, the VSA modulator-control unit increases the rear brake fluid pressure by momentarily opening the inlet valve. This whole process is repeated very rapidly. While this is happening, there is kickback at the brake pedal.



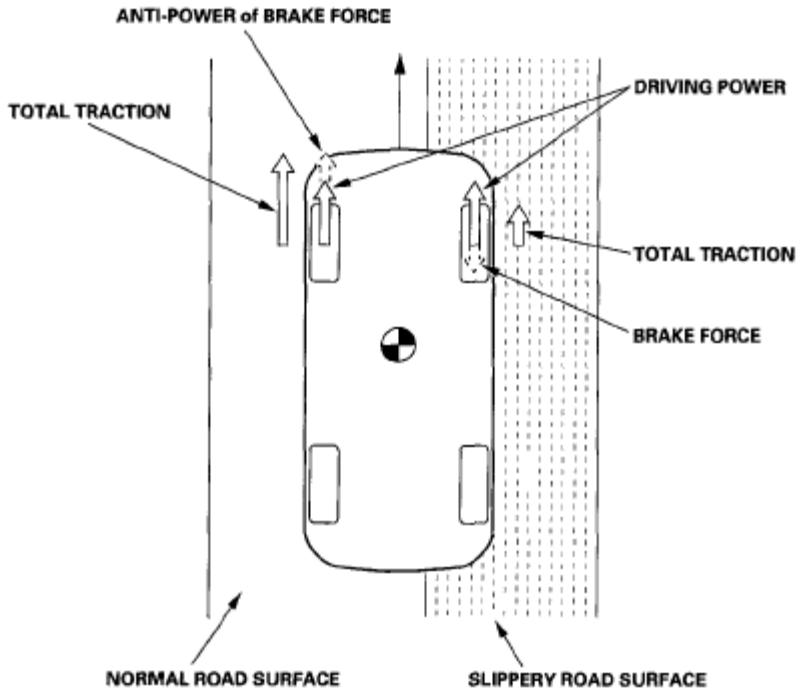

## Fig. 8: Identifying Electronic Brake Distribution Graph

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**TCS Features**

When a drive wheel loses traction on a slippery road surface and starts to spin, the VSA modulator-control unit applies brake pressure to the spinning wheel and sends engine torque control request to the ECM to slow the spinning wheel and keep traction.

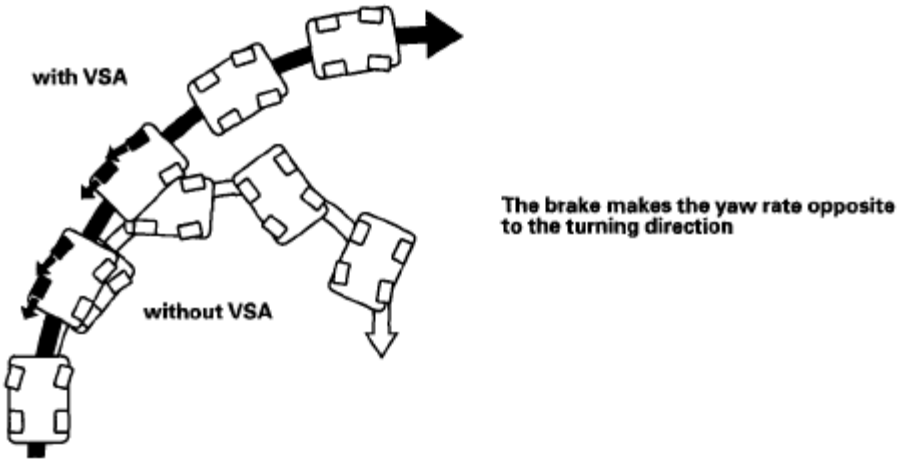



## Fig. 9: Identifying Total Traction

**VSA System Features**

**Oversteer control**

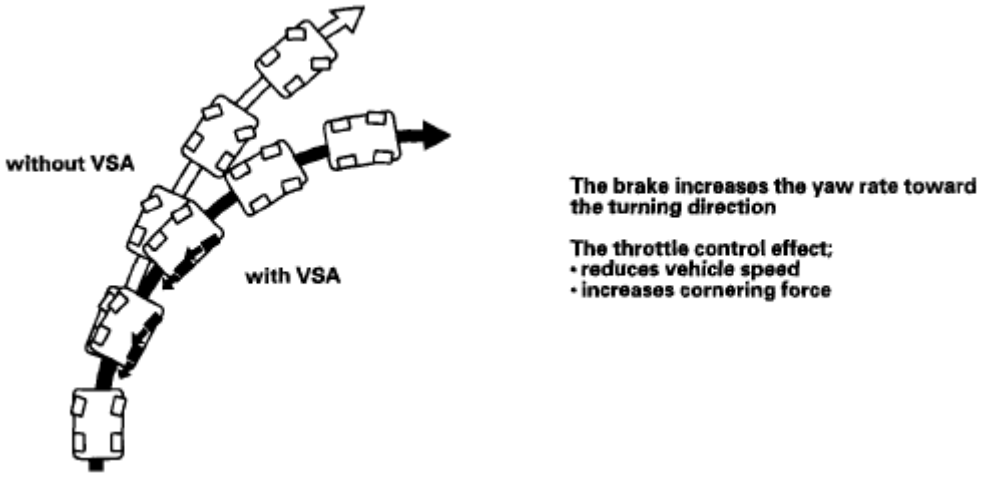
Applies the brake to the front and rear outside wheels




## Fig. 10: Identifying VSA System - Oversteer Control

**Understeer control**

- Applies the brake to the front and rear inside wheels
- Controls the engine torque when accelerating




## Fig. 11: Identifying VSA System - Understeer Control

**Brake Assist Features**

Brake assist helps ensure that any driver can achieve the full braking potential of the vehicle by increasing brake system pressure in a panic situation, bringing the vehicle into a full ABS stop.

Each time the ignition switch is turned ON (II), the VSA modulator-control unit

learns the current driver's normal braking characteristics by monitoring the brake pressure sensor and the brake pedal position switch at each stop. Using these inputs and their values, the VSA modulator-control unit is able to learn the driver's normal braking habits, and then determine the difference between a normal stop and a panic stop for the individual driver of the vehicle. If during a panic stop the VSA modulator-control unit determines that the brake system pressure increases above a learned threshold in less than a learned amount of time, the VSA modulator-control unit engages brake assist. Because the brake system pressure crossed the threshold before the time threshold had expired, the VSA modulator-control unit goes into brake assist mode.

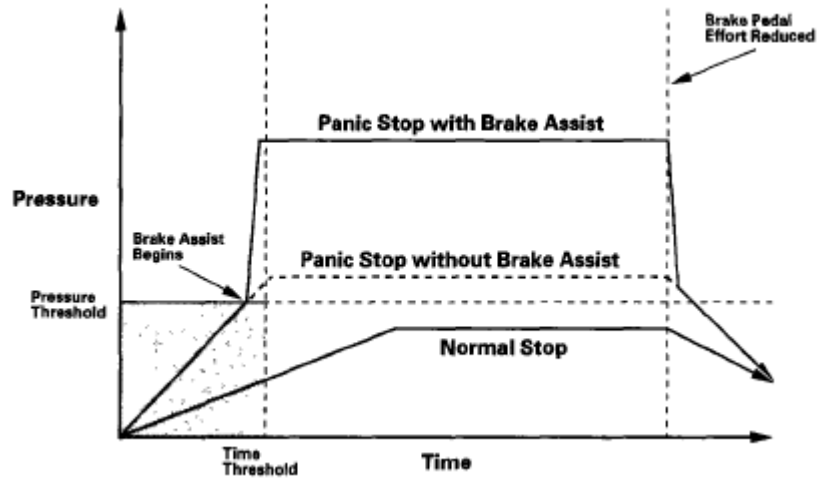



**Fig. 12: Identifying Brake Assist Features**

**Modulator Unit**

The modulator unit consists of the inlet solenoid valve, the outlet solenoid valve, the VSA NO (normally open) solenoid valve, the VSA NC (normally closed) solenoid valve, the reservoir, the pump, the pump motor, and the damping chamber.

The hydraulic control has three modes at ABS action; pressure intensifying, pressure retaining, and pressure reducing.

And pressure adding mode is combined at TCS, VSA, and brake assist action.

The hydraulic circuit is an independent four channel type; one channel for each wheel.

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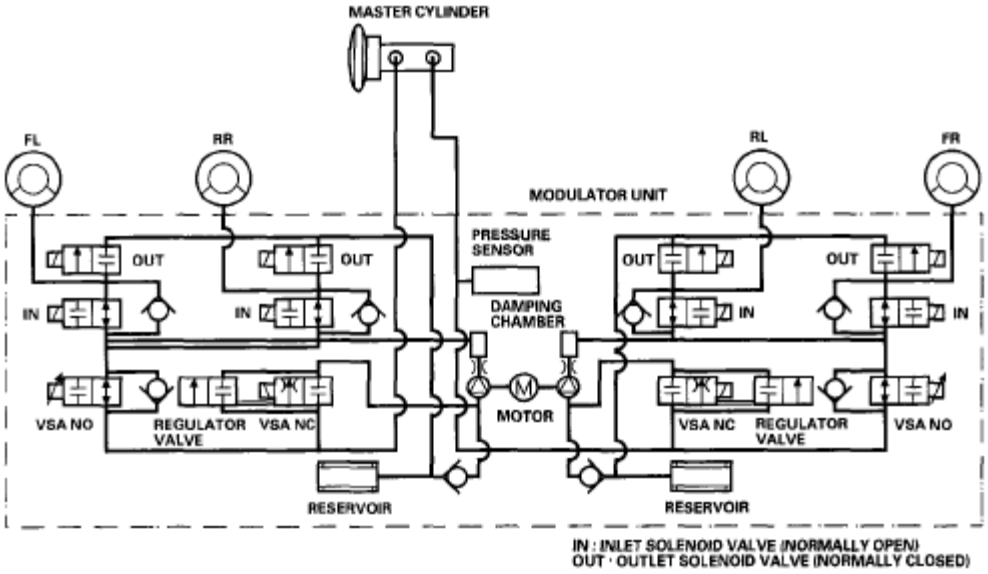



**Fig. 13: Identifying Modulator Unit Diagram**

## VALVE REFERENCE

| Mode | VSA NO Valve | VSA NC Valve | Inlet Solenoid Valve | Outlet Solenoid Valve | Brake Fluid |
|---|---|---|---|---|---|
| **Pressure intensifying mode** | open | closed | open | closed | Master cylinder fluid is pumped out to the caliper. |
| **Pressure retaining mode** | open | closed | closed | closed | Caliper fluid is retained by the inlet and outlet valves. |
| **Pressure reducing mode** | open | closed | closed | open | • Caliper fluid flows through the outlet valve to the reservoir.<br>• The motor pumps the reservoir fluid through the damping chamber to the master cylinder(1). |

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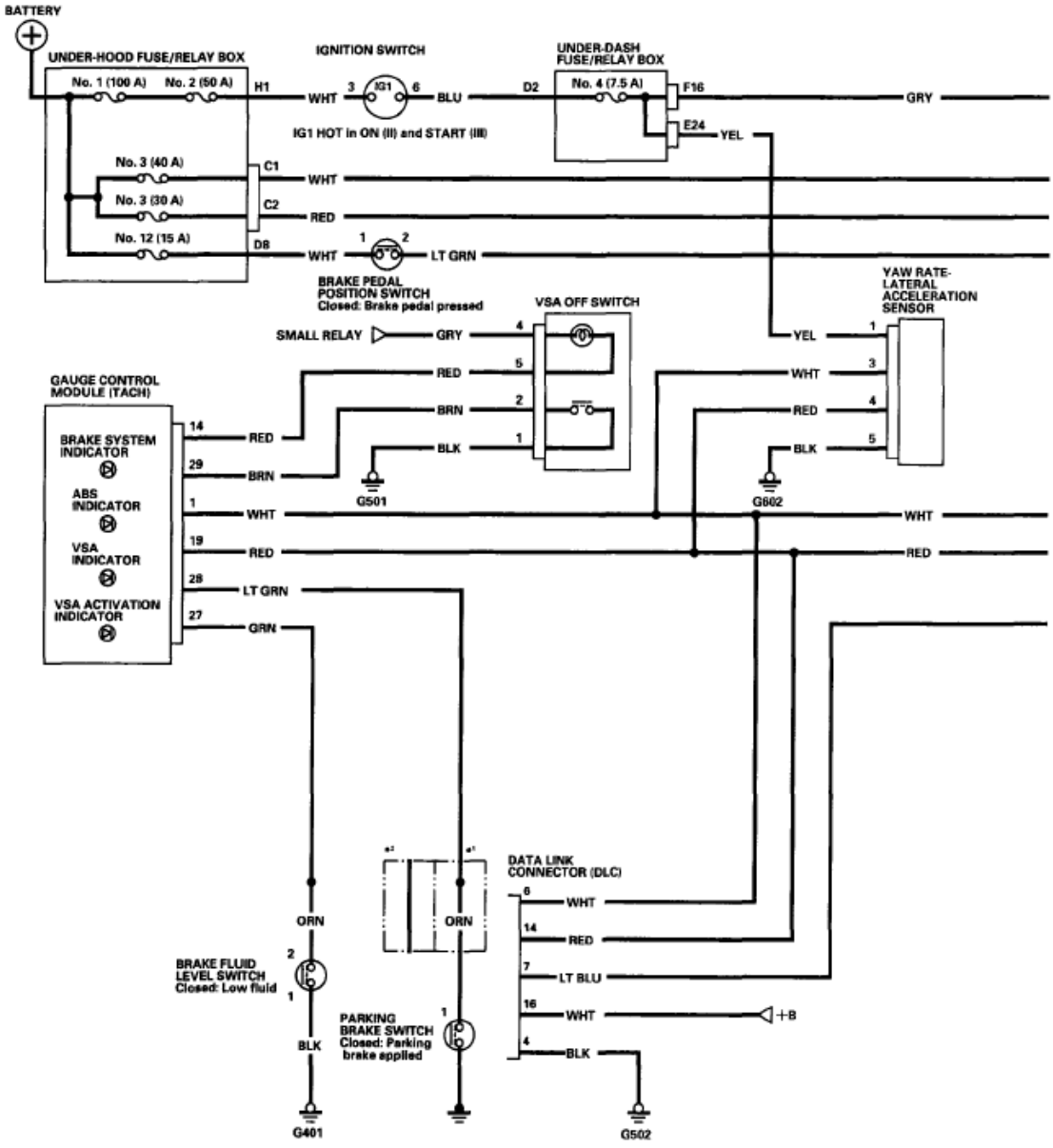


| | | | | | |
|---|---|---|---|---|---|
| **Pressure adding mode** | closed | open | open | closed | • Master cylinder fluid is pumped out by pump with motor through VSA NC valve to the caliper.<br>• Caliper fluid pressure exceed master cylinder pressure. |
| (1) The motor will keep running until the operation of the one anti-lock brake control is finished with the first pressure reducing mode. | | | | | |

## CIRCUIT DIAGRAM

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## Fig. 14: Identifying VSA System Circuit Diagram (1 Of 3)

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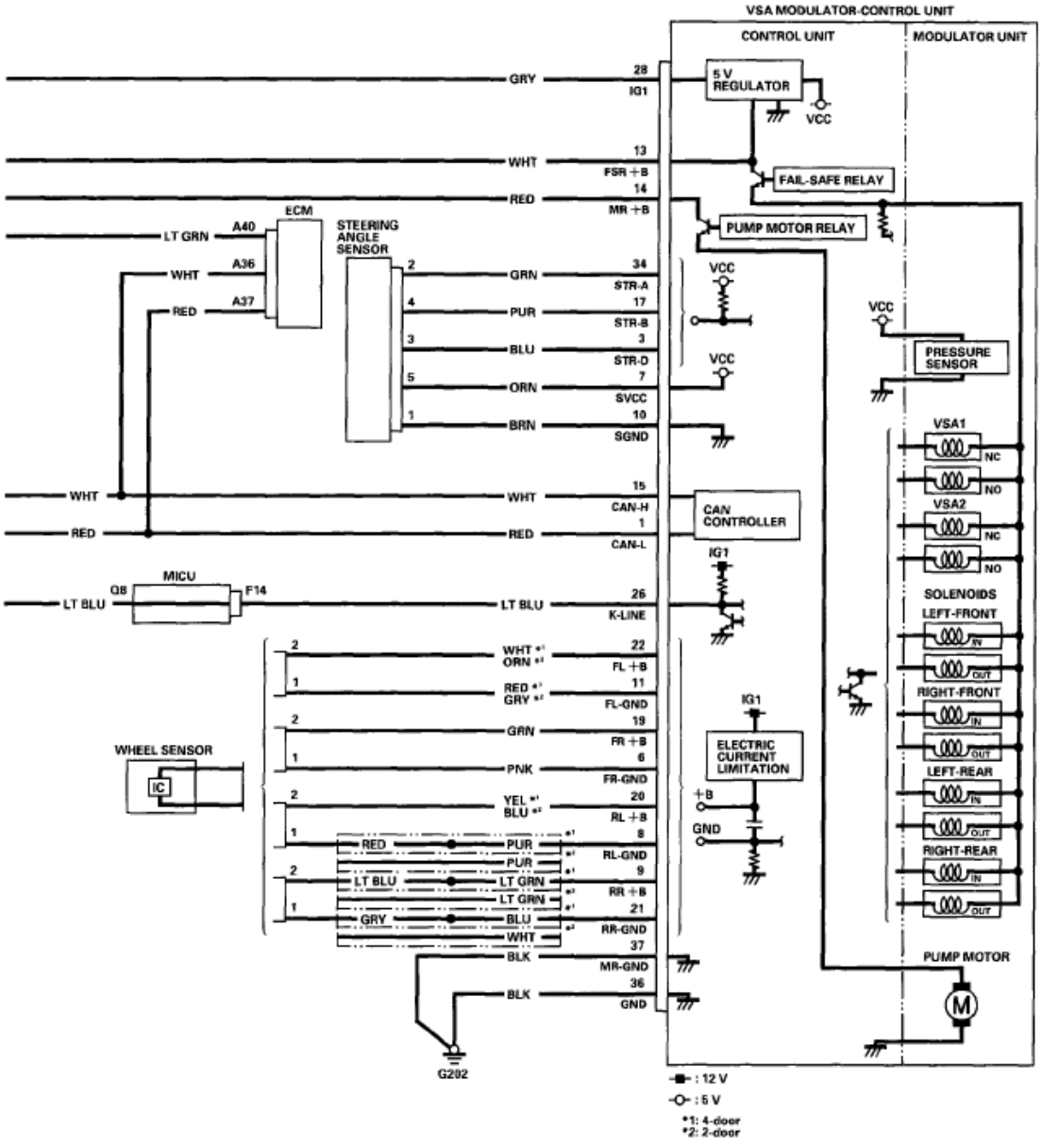
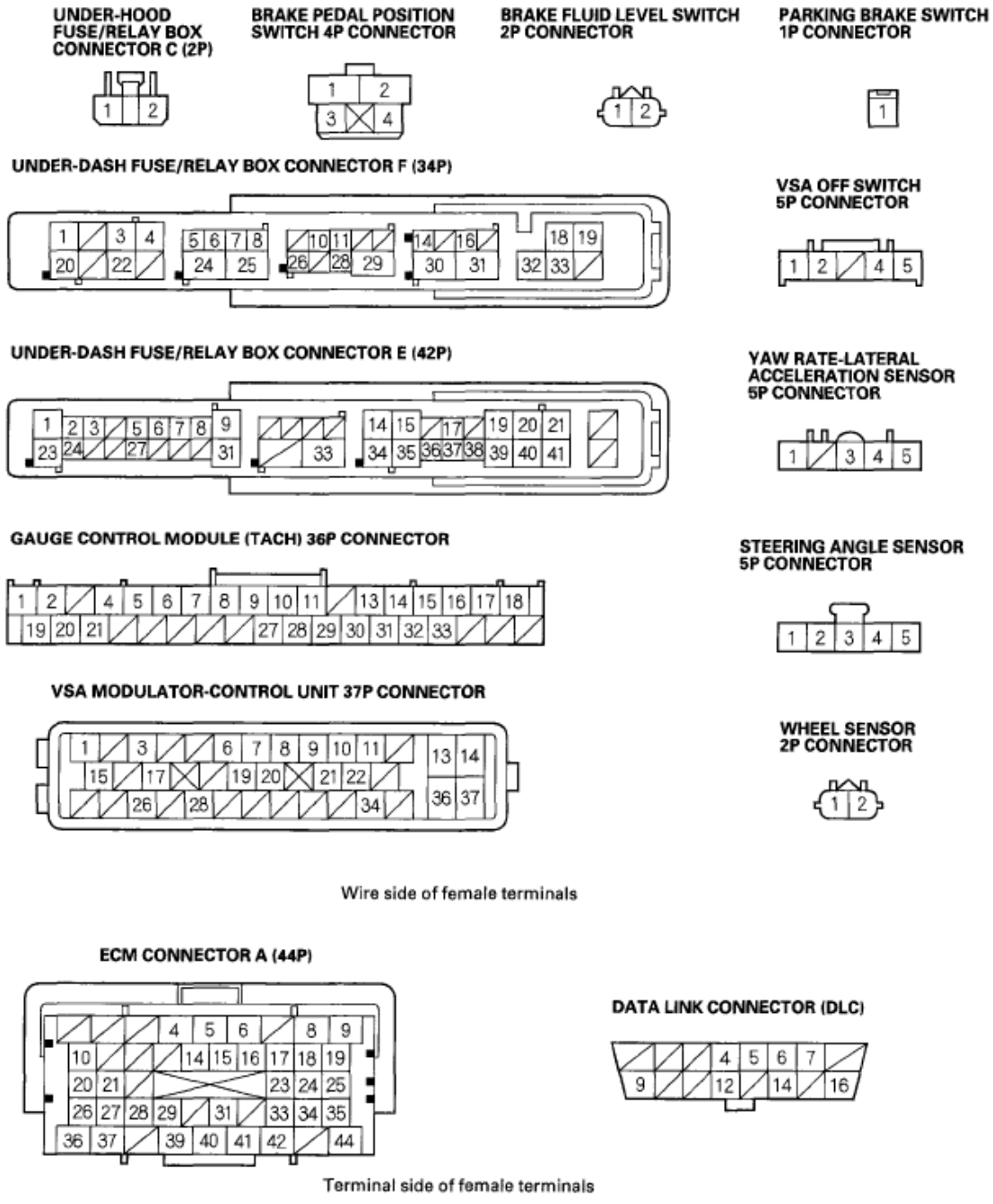



**Fig. 15: Identifying VSA System Circuit Diagram (2 Of 3)**

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## Fig. 16: Identifying VSA System Circuit Diagram (3 Of 3)

# DTC TROUBLESHOOTING

### DTC 11-13: RIGHT-FRONT WHEEL SPEED SENSOR CIRCUIT MALFUNCTION; DTC 13-13: LEFT-FRONT WHEEL SPEED SENSOR CIRCUIT MALFUNCTION; DTC 15-13: RIGHT-REAR WHEEL SPEED SENSOR CIRCUIT MALFUNCTION; DTC 17-13: LEFT-REAR WHEEL SPEED SENSOR CIRCUIT MALFUNCTION

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 11-13, 13-13, 15-13, and/or 17-13 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel speed sensor 2P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Disconnect the VSA modulator-control unit 37P connector.
7. Check for continuity between the appropriate VSA modulator-control unit 37P connector wheel speed sensor +B and GND terminals (see table), then check for continuity between the same terminals and reverse the positive and negative tester probes.

**DTC REFERENCE**

| DTC | VSA Modulator-control Unit 37P Connector Terminal No. | |
|---|---|---|
| 11-13 | No. 19 | No. 6 |
| 13-13 | No. 22 | No. 11 |
| 15-13 | No. 9 | No. 21 |
| 17-13 | No. 20 | No. 8 |

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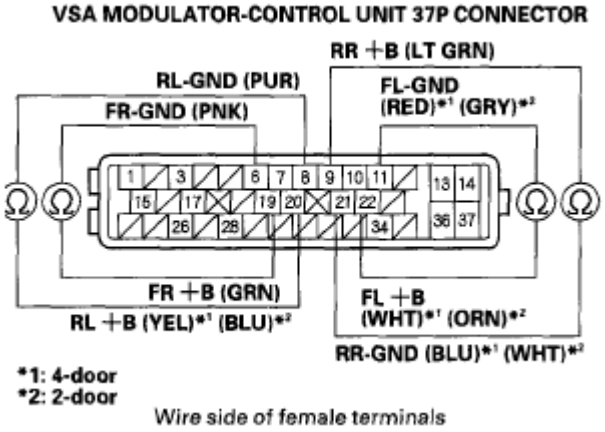



**Fig. 17: Checking Continuity Between Appropriate VSA Modulator-Control Unit 37P Connector Wheel Speed Sensor +B**

*Is there continuity in both directions?*

**YES** -Go to step 8.

**NO** -If there is no continuity in either direction, go to step 10. If there is continuity in only one direction, go to step 12.

8. Disconnect the appropriate wheel speed sensor 2P connector.
9. On the sensor side, check for continuity between appropriate wheel speed sensor 2P connector terminals No. 1 and No. 2, then check for continuity between the same terminals and reverse the positive and negative tester probes.

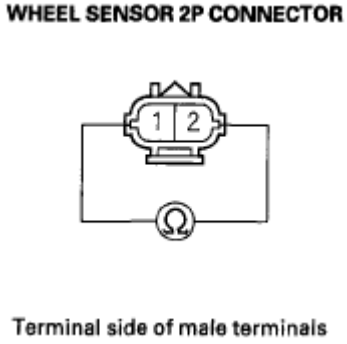



**Fig. 18: Checking Continuity Between Appropriate Wheel Speed Sensor 2P Connector Terminals No. 1 And No. 2**

*Is there continuity in both direction?*

**YES** -Replace the appropriate wheel speed sensor (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**NO** -Repair short in the wire between the appropriate wheel speed sensor and the VSA modulator-control unit.

10. Disconnect the appropriate wheel speed sensor 2P connector.
11. On the sensor side, check for continuity between appropriate wheel speed sensor 2P connector terminals No. 1 and No. 2, then check for continuity between the same terminals and reverse the positive and negative tester probes.

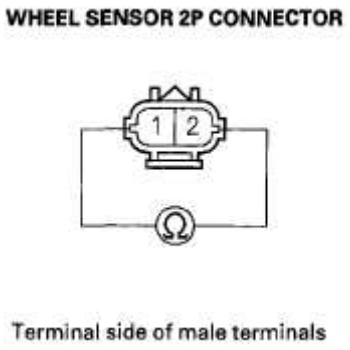



**Fig. 19: Checking Continuity Between Appropriate Wheel Speed Sensor 2P Connector Terminals No. 1 And No. 2**

*Is there continuity in only one direction?*

**YES** -Repair open in the wire between the appropriate wheel speed sensor and the VSA modulator-control unit.

**NO** -Replace the appropriate wheel speed sensor (see **WHEEL SPEED SENSOR REPLACEMENT** ).

12. Check for continuity between body ground and the appropriate VSA modulator-control unit 37P connector terminal (see table).

**DTC REFERENCE**

| DTC | VSA Modulator-control Unit 37P Connector Terminal No. | |
|---|---|---|
| 11-13 | No. 19 | No. 6 |
| 13-13 | No. 22 | No. 11 |

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| | | |
|---|---|---|
| 15-13 | No. 9 | No. 21 |
| 17-13 | No. 20 | No. 8 |

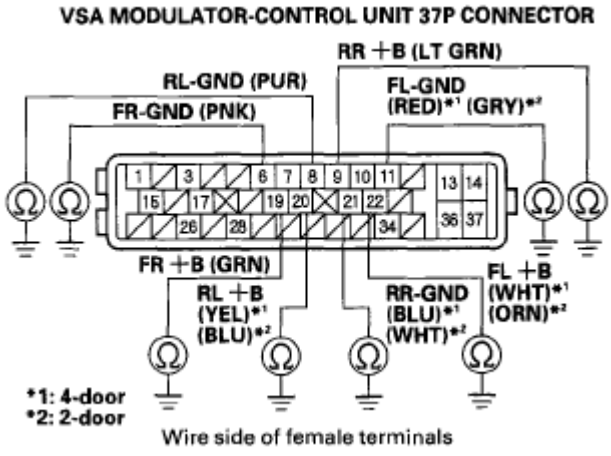



**Fig. 20: Checking Continuity Between Body Ground And Appropriate VSA Modulator-Control Unit 37P Connector Terminal**

*Is there continuity?*

**YES** -Go to step 13.

**NO** -Go to step 15.

13. Disconnect the appropriate wheel speed sensor 2P connector.
14. On the sensor side, check for continuity between body ground and appropriate wheel speed sensor 2P connector terminal No. 1 and No. 2 individually.

**NOTE: Check the wheel speed sensor while mounted on the vehicle**

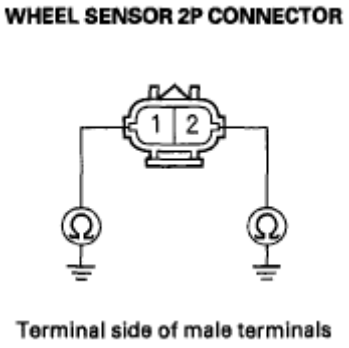



**Fig. 21: Checking Continuity Between Body Ground And Appropriate Wheel Speed Sensor 2P Connector Terminal No. 1 And No. 2**

*Is there continuity?*

**YES** -Replace the appropriate wheel speed sensor (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**NO** -Repair short to body ground in the wire between the appropriate wheel speed sensor and the VSA modulator-control unit.

15. Turn the ignition switch ON (II).
16. Measure voltage between body ground and the appropriate VSA modulator-control unit 37P connector terminal (see table).

**DTC REFERENCE**

| DTC | VSA Modulator-control Unit 37P Connector Terminal No. | |
|---|---|---|
| 11-13 | No. 19 | No. 6 |
| 13-13 | No. 22 | No. 11 |
| 15-13 | No. 9 | No. 21 |
| 17-13 | No. 20 | No. 8 |

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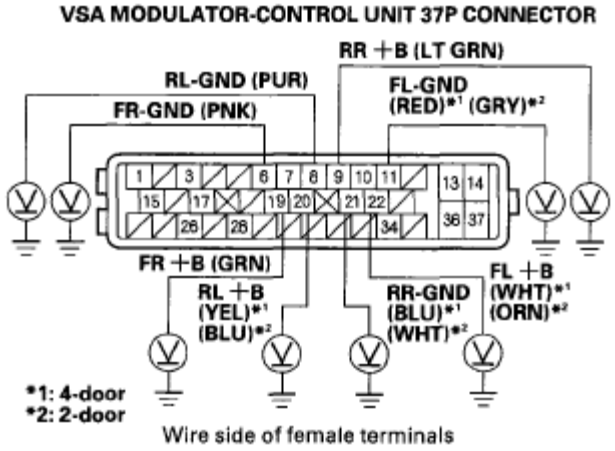



**Fig. 22: Measuring Voltage Between Body Ground And Appropriate VSA Modulator-Control Unit 37P Connector Terminal**

*Is there 0.1 V or more?*

**YES** -Repair short to power in the wire between the appropriate wheel speed sensor and the VSA modulator-control unit.

**NO** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**DTC 12-11: RIGHT-FRONT WHEEL SPEED SENSOR ELECTRICAL NOISE OR INTERMITTENT INTERRUPTION; DTC 14-11: LEFT-FRONT WHEEL SPEED SENSOR ELECTRICAL NOISE OR INTERMITTENT INTERRUPTION; DTC 16-11: RIGHT-REAR WHEEL SPEED SENSOR ELECTRICAL NOISE OR INTERMITTENT INTERRUPTION; DTC 18-11: LEFT-REAR WHEEL SPEED SENSOR ELECTRICAL NOISE OR INTERMITTENT INTERRUPTION**

**NOTE: These DTCs may be caused by electrical interference. Check for aftermarket devices installed in the vehicle when these DTC are indicated.**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle.
4. Check for DTCs with the HDS.

*Is DTC 12-11, 14-11, 16-11, and/or 18-11 indicated?*

**YES** -lf the DTC 12-12,14-12,16-12, or 18-12 is indicated at the same time, do the DTC 12-12, 14-12,16-12, or 18-12 troubleshooting (see **DTC 12-12: Right-front Wheel Speed Sensor Short to the Other Sensor Circuit; DTC 14-12: Left-front Wheel Speed Sensor Short to the Other Sensor Circuit; DTC 16-12: Right-rear Wheel Speed Sensor Short to the Other Sensor Circuit; DTC 18-12: Left-rear Wheel Speed Sensor Short to the Other Sensor Circuit** ). If DTC 12-12, 14-12,16-12 or 18-12 is not indicated, go to step 5.

**NO** -Troubleshoot the indicated DTC. If there are no DTCs indicated, there may be an intermittent failure, the system is OK at this time. Check for loose terminals between the wheel speed sensor 2P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Check that the appropriate wheel speed sensor is properly mounted (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC REFERENCE**

| DTC | Appropriate Wheel Speed Sensor |
|---|---|
| 12-11 | Right-front |
| 14-11 | Left-front |
| 16-11 | Right-rear |
| 18-11 | Left-rear |

*Is the wheel speed sensor installation OK?*

**YES** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**NO** -Reinstall the wheel speed sensor, and check the mounting position (see

**WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC 12-12: RIGHT-FRONT WHEEL SPEED SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 14-12: LEFT-FRONT WHEEL SPEED SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 16-12: RIGHT-REAR WHEEL SPEED SENSOR SHORT TO THE OTHER SENSOR CIRCUIT; DTC 18-12: LEFT-REAR WHEEL SPEED SENSOR SHORT TO THE OTHER SENSOR CIRCUIT**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle. Drive the vehicle at 13 mph (20 km/h) or more, and go a distance of 328 ft (100 m) or more.

**NOTE: Drive the vehicle on the road, not on the lift.**

4. Check for DTCs with the HDS.

   *Is DTC 12-12, 14-12, 16-12, and/or 18-12 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel speed sensor 2P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Disconnect VSA modulator-control unit 37P connector.
7. Check for continuity between the appropriate VSA modulator-control unit 37P connector wheel speed sensor +B terminals (see table).

**DTC REFERENCE**

| DTC | VSA Modulator-control Unit 37P Connector Terminal No. | | | |
|---|---|---|---|---|
| | Appropriate Terminal | Other Terminals | | |
| 12-12 | No. 19 | No. 22 | No. 9 | No. 20 |
| 14-12 | No. 22 | No. 19 | No. 9 | No. 20 |
| 16-12 | No. 9 | No. 19 | No. 22 | No. 20 |

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| 18-12 | No. 20 | No. 19 | No. 22 | No. 9 |
|---|---|---|---|---|

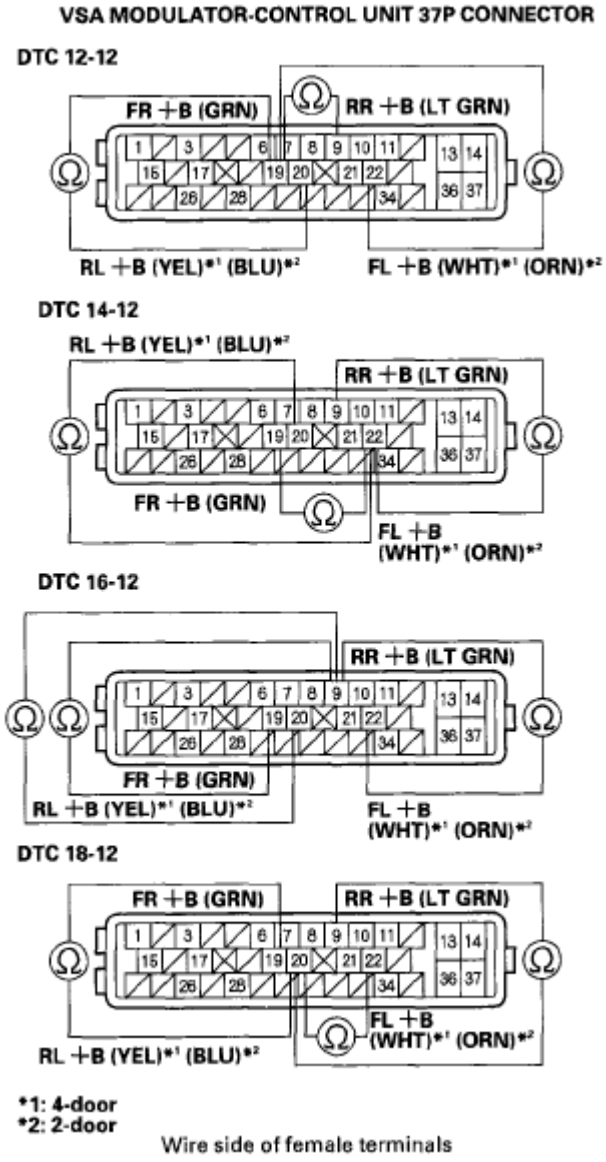



**Fig. 23: Checking Continuity Between Appropriate VSA Modulator-Control Unit 37P Connector Wheel Speed Sensor +B Terminals**

*Is there continuity?*

**YES** -Repair short in the wires between the appropriate wheel speed sensor and the VSA modulator-control unit.

**NO** -Check for loose terminals in the VSA modulator-control unit 37P

connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**DTC 12-21: RIGHT-FRONT WHEEL SPEED SENSOR INSTALLATION ERROR; DTC 14-21: LEFT-FRONT WHEEL SPEED SENSOR INSTALLATION ERROR; DTC 16-21: RIGHT-REAR WHEEL SPEED SENSOR INSTALLATION ERROR; DTC 18-21: LEFT-REAR WHEEL SPEED SENSOR INSTALLATION ERROR**

1. Test-drive the vehicle. Drive the vehicle at 7 mph (10 km/h).

   **NOTE: Drive the vehicle on the road, not on the lift.**

2. Check the RF, LF, RR, LR WHEEL SPD in the VSA DATA LIST with the HDS.

   *Are all four the same indicated value?*

   **YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel speed sensor 2P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

   **NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check that the appropriate wheel speed sensor is properly mounted (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC REFERENCE**

| DTC | Appropriate Wheel Speed Sensor |
|---|---|
| 12-21 | Right-front |
| 14-21 | Left-front |
| 16-21 | Right-rear |
| 18-21 | Left-rear |

*Is the wheel speed sensor installation OK?*

**YES** -Replace the appropriate wheel speed sensor (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**NO** -Reinstall the wheel speed sensor, and check the mounting position (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC 12-22: RIGHT-FRONT WHEEL SPEED SENSOR INSTALLATION ERROR (19 MPH (30 KM/H) OR MORE); DTC 14-22: LEFT-FRONT WHEEL SPEED SENSOR INSTALLATION ERROR (19 MPH (30 KM/H) OR MORE); DTC 16-22: RIGHT-REAR WHEEL SPEED SENSOR INSTALLATION ERROR (19 MPH (30 KM/H) OR MORE); DTC 18-22: LEFT-REAR WHEEL SPEED SENSOR INSTALLATION ERROR (19 MPH (30 KM/H) OR MORE)**

1. Test-drive the vehicle. Drive the vehicle between 19 mph (30 km/h) and 31 mph (50 km/h) for 70 seconds or more.

   **NOTE: Drive the vehicle on the road, not on the lift.**

2. Check the RF, LF, RR, LR WHEEL SPD in the VSA DATA LIST with the HDS.

   *Are all four the same indicated value?*

   **YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel speed sensor 2P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

   **NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check that the appropriate wheel speed sensor is properly mounted (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC REFERENCE**

| DTC | Appropriate Wheel Speed Sensor |
|---|---|
| 12-22 | Right-front |
| 14-22 | Left-front |
| 16-22 | Right-rear |

| | |
|---|---|
| 18-22 | Left-rear |

*Is the wheel speed sensor installation OK?*

**YES** -Replace the appropriate wheel speed sensor (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**NO** -Reinstall the wheel speed sensor, and check the mounting position (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC 12-23: RIGHT-FRONT WHEEL SPEED SENSOR INSTALLATION ERROR (0 TO 9 MPH (0 TO 15 KM/H)); DTC 14-23: LEFT-FRONT WHEEL SPEED SENSOR INSTALLATION ERROR (0 TO 9 MPH (0 TO 15 KM/H)); DTC 16-23: RIGHT-REAR WHEEL SPEED SENSOR INSTALLATION ERROR (0 TO 9 MPH (0 TO 15 KM/H)); DTC 18-23: LEFT-REAR WHEEL SPEED SENSOR INSTALLATION ERROR (0 TO 9 MPH (0 TO 15 KM/H))**

1. Test-drive the vehicle. Drive the vehicle between 1 mph (1 km/h) and 9 mph (15 km/h) in a straight line.

   **NOTE: Drive the vehicle on the road, not on the lift.**

2. Check the RF, LF, RR, LR WHEEL SPD in the VSA DATA LIST with the HDS.

   *Are all the same indicated values?*

   **YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel speed sensor 2P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

   **NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check that the appropriate wheel speed sensor is properly mounted (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC REFERENCE**

| | |
|---|---|

| DTC | Appropriate Wheel Speed Sensor |
|---|---|
| 12-23 | Right-front |
| 14-23 | Left-front |
| 16-23 | Right-rear |
| 18-23 | Left-rear |

*Is the wheel speed sensor installation OK?*

**YES** -Replace the appropriate wheel speed sensor (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**NO** -Reinstall the wheel speed sensor, and check the mounting position (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC 21-11: RIGHT-FRONT MAGNETIC ENCODER MALFUNCTION (PULSE MISSING); DTC 22-11: LEFT-FRONT MAGNETIC ENCODER MALFUNCTION (PULSE MISSING); DTC 23-11: RIGHT-REAR MAGNETIC ENCODER MALFUNCTION (PULSE MISSING); DTC 24-11: LEFT-REAR MAGNETIC ENCODER MALFUNCTION (PULSE MISSING)**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle. Drive the vehicle at 13 mph (20 km/h) or more, and go a distance of 328 ft (100 m) or more.

**NOTE: Drive the vehicle on the road, not on the lift.**

4. Check for DTCs with the HDS.

   *Is DTC 21-11, 22-11,23-11, and/or 24-11 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel speed sensor 2P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Inspect the appropriate magnetic encoder for debris or cracks.

**DTC REFERENCE**

| DTC | Appropriate Magnetic Encoder | Note |
|---|---|---|
| 21-11 | Right-front | Remove the driveshaft outboard joint from the appropriate wheel hub (see **KNUCKLE/HUB REPLACEMENT** ). |
| 22-11 | Left-front | |
| 23-11 | Right-rear | Remove the hub bearing unit (see **HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE** ). |
| 24-11 | Left-rear | |

*Is the magnetic encoder surface OK?*

**YES** -Replace the wheel bearing (front) or the hub bearing unit (rear):

- Front: Replace the front wheel bearing (see **KNUCKLE/HUB REPLACEMENT** ).
- Rear: Replace the rear hub bearing unit (see **HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE** ).

**NO** -Clean off dust or dirt from the appropriate magnetic encoder surface on the wheel bearing or the hub bearing unit, then go to step 1 and recheck. If the DTC is still present, replace the appropriate wheel bearing or hub bearing unit.

**DTC 25-11: YAW RATE SENSOR INTERNAL CIRCUIT MALFUNCTION (INITIAL); DTC 25-12: YAW RATE SENSOR INTERNAL CIRCUIT MALFUNCTION (OPEN, SHORT); DTC 25-13: YAW RATE SENSOR COMMUNICATION ERROR; DTC 25-16: YAW RATE/LATERAL ACCELERATION SENSOR INTERNAL CIRCUIT MALFUNCTION (KEEP ALIVE MEMORY (KAM) ERROR); DTC 25-21: YAW RATE SENSOR NEUTRAL POSITION MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.

3. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
4. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
5. Check for DTCs with the HDS.

   *Is DTC 25-11, 25-12, 25-13, 25-16, or 25-21 indicated?*

   **YES** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

   **NO** -Intermittent failure, the system is OK at this time.

**DTC 25-14: YAW RATE/LATERAL ACCELERATION SENSOR CIRCUIT HIGH VOLTAGE; DTC 25-15: YAW RATE/LATERAL ACCELERATION SENSOR CIRCUIT LOW VOLTAGE**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
4. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
5. Check for DTCs with the HDS.

   *Is DTC 25-14, or 25-15 indicated?*

   **YES** -lf the DTC 61-01,61-21,61-22,61-23, and/or 62-21 is indicated at the same time, check the battery performance (see **BATTERY TEST** ), and do the alternator and regulator circuit troubleshooting (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ). If the DTC 61-01, 61-21,61-22, 61-23, and/or 62-21 is not indicated at the same time, replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

   **NO** -Intermittent failure, the system is OK at this time.

**DTC 25-22: YAW RATE SENSOR STUCK**

1. Turn the ignition switch ON (II).

2. Clear the DTC with the HDS.
3. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
4. Turn the ignition switch to LOCK (0).
5. Test-drive the vehicle. Drive the vehicle at 7 mph (10 km/h) or more.
6. Check for DTCs with the HDS.

   *Is DTC 25-22 indicated?*

   **YES** -Go to step 7.

   **NO** -If any DTCs are indicated, go to the indicated DTCs troubleshooting. If DTCs are not indicated, intermittent failure, the system is OK at this time.

7. Check the LATERAL ACCELERATION SENSOR and YAW RATE S in the VSA DATA LIST with the HDS.

   *Is there 0 °/s indicated?*

   **YES** -Go to step 8.

   **NO** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

8. Test-drive the vehicle. Check the YAW RATE S in the VSA DATA LIST with the HDS while driving in corners.

   *Does the indicated value change?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

**DTC 25-23: YAW RATE SENSOR CIRCUIT INTERMITTENT INTERRUPTION**

1. Turn the ignition switch ON (II).

2. Clear the DTC with the HDS.
3. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
4. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
5. Wait 10 seconds or more.
6. Check for DTCs with the HDS.

   *Is DTC 25-23 indicated?*

   **YES** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

   **NO** -Intermittent failure, the system is OK at this time.

**DTC 25-24: YAW RATE SENSOR GAIN LOW; DTC 25-25: YAW RATE SENSOR GAIN HIGH; DTC 26-24: LATERAL ACCELERATION SENSOR GAIN LOW; DTC 26-25: LATERAL ACCELERATION SENSOR GAIN HIGH**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
4. Test-drive the vehicle. Drive the vehicle at 10 mph (15 km/h)or more.
5. Check for DTCs with the HDS.

   *Is DTC 25-24, 25-25, 26-24, or 26-25 indicated?*

   **YES** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

   **NO** -Intermittent failure, the system is OK at this time.

**DTC 26-11: LATERAL ACCELERATION SENSOR INTERNAL CIRCUIT MALFUNCTION (INITIAL); DTC 26-12: LATERAL ACCELERATION SENSOR INTERNAL CIRCUIT MALFUNCTION (OPEN, SHORT); DTC 26-13: LATERAL ACCELERATION SENSOR COMMUNICATION ERROR; DTC 26-21: LATERAL ACCELERATION SENSOR NEUTRAL POSITION MALFUNCTION; DTC 26-23: LATERAL ACCELERATION SENSOR CIRCUIT INTERMITTENT INTERRUPTION**

**NOTE: While doing this troubleshooting, avoid vibration or shaking of the vehicle.**

1. Park the vehicle on a flat and level surface.
2. Turn the ignition switch ON (II).
3. Clear the DTC with the HDS.
4. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
5. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
6. Wait 15 seconds or more.
7. Check for DTCs with the HDS.

   *Is DTC 26-11, 26-12, 26-13, 26-21, or 26-23 indicated?*

   **YES** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

   **NO** -Intermittent failure, the system is OK at this time.

**DTC 26-22: ACCELERATION SENSOR STUCK**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 26-22 indicated?*

   **YES** -Go to step 5.

   **NO** -If any DTCs are indicated, go to the indicated DTCs troubleshooting. If DTCs are not indicated, intermittent failure, the system is OK at this time.

5. Check the LATERAL ACCELERATION SENSOR and YAW RATE S in the VSA DATA LIST with the HDS.

*Is there 0 °/s indicated?*

**YES** -Go to step 6.

**NO** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

6. Test-drive the vehicle. Check the YAW RATE S in the VSA DATA LIST with the HDS while driving in corners.

   *Does the indicated value change?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

**DTC 27-11: STEERING ANGLE SENSOR DIAG SIGNAL ERROR (INITIAL); DTC 27-26: STEERING ANGLE SENSOR DIAG SIGNAL ERROR (MAIN)**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 27-11, or 27-26 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. Check for loose terminals between the steering angle sensor 5P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Disconnect the steering angle sensor 5P connector.
7. Disconnect the VSA modulator-control unit 37P connector.

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8. Check for continuity between steering angle sensor 5P connector terminal No. 3 and body ground.

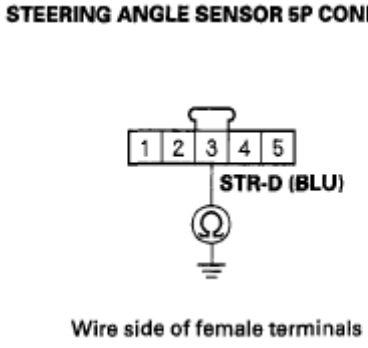



**Fig. 24: Checking Continuity Between Steering Angle Sensor 5P Connector Terminal No. 3 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Go to step 9.

9. Check for continuity between the VSA modulator-control unit 37P connector terminal and the steering angle sensor 5P connector terminal individually.

**CONNECTOR TERMINAL DESCRIPTION**

| Sign | Connector Terminal No. | |
|---|---|---|
| | VSA Modulator-control Unit | Steering Angle Sensor |
| STR-D | 3 | 3 |
| SVCC | 7 | 5 |
| SGND | 10 | 1 |

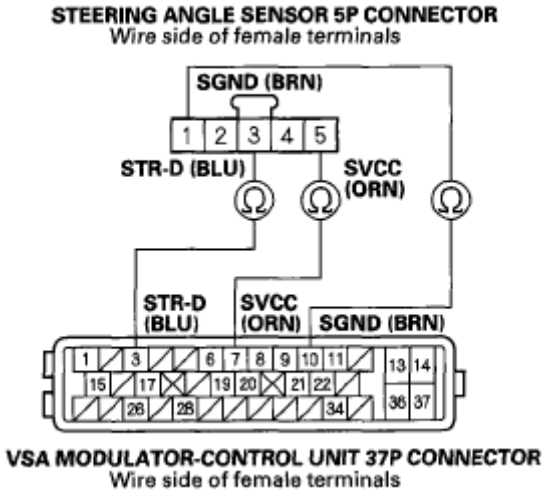



**Fig. 25: Checking Continuity Between VSA Modulator-Control Unit And Steering Angle Sensor Connector Terminal**

*Is there continuity?*

**YES** -Go to step 10.

**NO** -Repair open in the wire between the steering angle sensor and the VSA modulator-control unit.

10. Turn the ignition switch ON (II).
11. Measure voltage between steering angle sensor 5P connector terminal No. 3 and body ground.

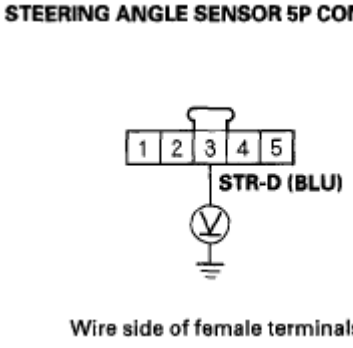



**Fig. 26: Measuring Voltage Between Steering Angle Sensor 5P Connector Terminal No. 3 And Body Ground**

*Is there 0.1 V or more?*

**YES** -Repair short to power in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Replace the steering angle sensor (see **STEERING ANGLE SENSOR REPLACEMENT** ).

**DTC 27-21: STEERING ANGLE SENSOR STUCK NEUTRAL POSITION; DTC 27-22: STEERING ANGLE SENSOR STUCK OFFSET POSITION**

1. Turn the ignition switch ON (II).
2. Turn the steering wheel left and right at 90 degree or more. Check the STEERING ANGLE in the VSA DATA LIST with the HDS.

   *Is there ±90° or more?*

   **YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the steering angle sensor 5P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

   **NO** -Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Disconnect the steering angle sensor 5P connector.
5. Disconnect the VSA modulator-control unit 37P connector.
6. Check for continuity between body ground and steering angle sensor 5P connector terminals No. 2 and No. 4 individually.

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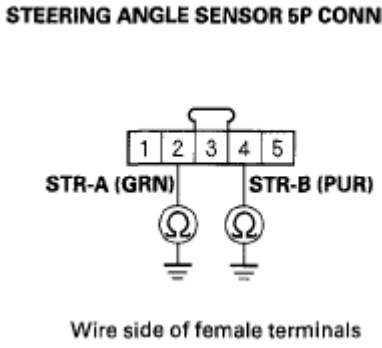



**Fig. 27: Checking Continuity Between Body Ground And Steering Angle Sensor 5P Connector Terminals No. 2 And No. 4**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Go to step 7.

7. Check for continuity between the VSA modulator-control unit 37P connector terminal and the steering angle sensor 5P connector terminal individually.

**CONNECTOR TERMINAL DESCRIPTION**

| Sign | Connector Terminal No. | |
|---|---|---|
| | VSA Modulator-control Unit | Steering Angle Sensor |
| STR-A | 34 | 2 |
| STR-B | 17 | 4 |
| SVCC | 7 | 5 |
| SGND | 10 | 1 |

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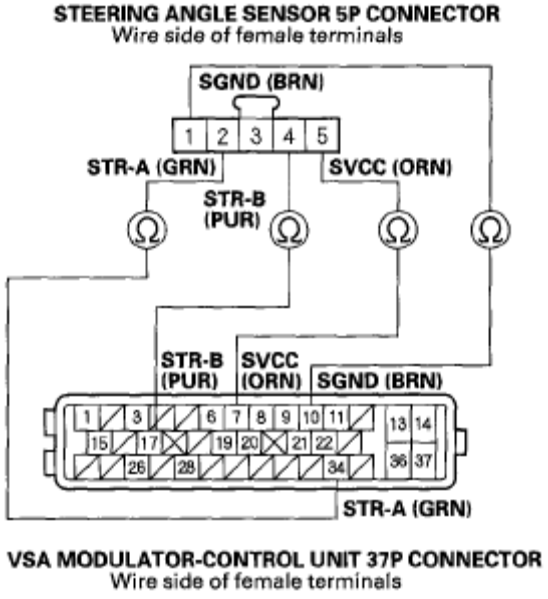



**Fig. 28: Checking Continuity Between VSA Modulator-Control Unit And Steering Angle Sensor 5P Connector Terminal**

*Is there continuity?*

**YES** -Go to step 8.

**NO** -Repair open in the wire between the steering angle sensor and the VSA modulator-control unit.

8. Check for continuity between steering angle sensor 5P connector terminals No. 2 and No. 4.

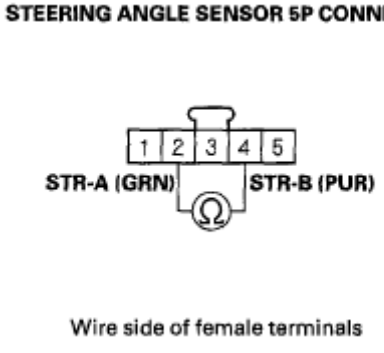



**Fig. 29: Checking Continuity Between Steering Angle Sensor 5P Connector Terminals No. 2 And No. 4**

*Is there continuity?*

**YES** -Repair short in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Go to step 9.

9. Check for continuity between steering angle sensor 5P connector terminals No. 5 and No. 2, No. 5 and No. 4 individually.

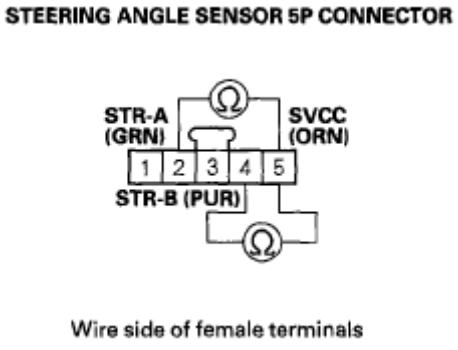



**Fig. 30: Checking Continuity Between Steering Angle Sensor 5P Connector Terminals No. 5 And No. 2, No. 5 And No. 4**

*Is there continuity?*

**YES** -Repair short in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Go to step 10.

10. Check for continuity between steering angle sensor 5P connector terminals No. 1 and No. 2, No. 1 and No. 4 individually.

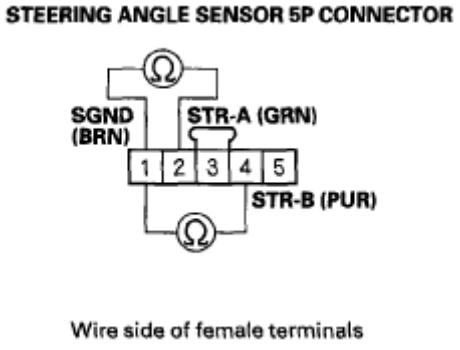



**Fig. 31: Checking For Continuity Between Steering Angle Sensor 5P Connector Terminals No. 1 And No. 2**

*Is there continuity?*

**YES** -Repair short in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Go to step 11.

11. Turn the ignition switch ON (II).
12. Measure voltage between body ground and steering angle sensor 5P connector terminals No. 2 and No. 4 individually.

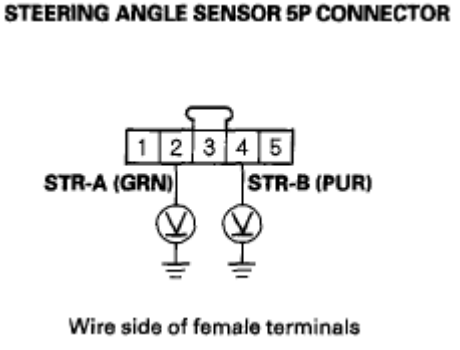



**Fig. 32: Measuring Voltage Between Body Ground And Steering Angle Sensor 5P Connector Terminals No. 2 And No. 4**

*Is there 0.1 V or more?*

**YES** -Repair short to power in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Replace the steering angle sensor (see **STEERING ANGLE SENSOR REPLACEMENT** ).

**DTC 27-23: STEERING ANGLE SENSOR COUNTER MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Turn the steering wheel from lock to lock.
5. Check for DTCs with the HDS.

*Is DTC 27-23 indicated?*

**YES** -Replace the steering angle sensor (see **STEERING ANGLE SENSOR REPLACEMENT** ).

**NO** -Intermittent failure, the system is OK at this time.

**DTC 27-24: STEERING ANGLE SENSOR EXCHANGE MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Turn the steering wheel 1 turn. Check the STEERING ANGLE in the VSA DATA LIST with the HDS.

*Is there about 288-432 °?*

**YES** -Intermittent failure, the system is OK at this time.

**NO** -Replace the steering angle sensor (see **STEERING ANGLE SENSOR REPLACEMENT** ).

**DTC 31-XX*: ABS RIGHT-FRONT INLET SOLENOID VALVE MALFUNCTION; DTC 32-XX*: ABS RIGHT-FRONT OUTLET SOLENOID VALVE MALFUNCTION; DTC 33-XX*: ABS LEFT-FRONT INLET SOLENOID VALVE MALFUNCTION; DTC 34-XX*: ABS LEFT-FRONT OUTLET SOLENOID VALVE MALFUNCTION; DTC 35-XX*: ABS RIGHT-REAR INLET SOLENOID VALVE MALFUNCTION; DTC 36-XX*: ABS RIGHT-REAR OUTLET SOLENOID VALVE MALFUNCTION; DTC 37-XX*: ABS LEFT-REAR INLET SOLENOID VALVE MALFUNCTION; DTC 38-XX*: ABS LEFT-REAR OUTLET SOLENOID VALVE MALFUNCTION**

*: Subcode

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

**DTC REFERENCE**

| Subcode | Malfunction | Note (DTC) |
|---|---|---|
| 01 | Solenoid Initial Pulse | 31-01, 32-01, 33-01, 34-01, 35-01, 36-01, 37-01, 38-01 |
| 21 | Solenoid Pulse | 31-21, 32-21, 33-21, 34-21, 35-21, 36-21, 37-21, 38-21 |
| 22 | Solenoid Speculative | 31-22, 32-22, 33-22, 34-22, 35-22, 36-22, 37-22, 38-22 |
| 23 | Solenoid Stuck ON | 31-23, 32-23, 33-23, 34-23, 35-23, 36-23, 37-23, 38-23 |

*Is DTC 31-xx, 32-xx, 33-xx, 34-xx, 35-xx, 36-xx, 37-xx, or 38-xx indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Intermittent failure, the system is OK at this time.

**DTC 41-21: RIGHT-FRONT WHEEL LOCK; DTC 42-21: LEFT-FRONT WHEEL LOCK; DTC 43-21: RIGHT-REAR WHEEL LOCK; DTC 44-21: LEFT-REAR WHEEL LOCK**

The DTCs may be indicated under these conditions:

- The vehicle goes into a spin.
- The ABS or VSA continues to operate for a long time.
- Snow build-up on the wheel speed sensor.
- Misadjusted brake switch.
- Contaminated brake fluid.

1. Raise the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Turn the appropriate wheel by hand.

**DTC REFERENCE**

| DTC | Appropriate Wheel |
|---|---|
| 41-21 | Right-front |
| 42-21 | Left-front |
| 43-21 | Right-rear |
| 44-21 | Left-rear |

*Is there brake drag?*

**YES** -Repair the brake drag.

**NO** -Go to step 3.

3. Check the appropriate wheel speed sensor is properly mounted (see **WHEEL SPEED SENSOR REPLACEMENT** ).

*Is the wheel speed sensor installation OK?*

**YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the wheel speed sensor 2P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ). If the vehicle continues to code, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Reinstall the wheel speed sensor, and check the mounting position (see **WHEEL SPEED SENSOR REPLACEMENT** ).

**DTC 51-11: MOTOR LOCK; DTC 51-13: MOTOR RELAY OFF MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.

3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Wait 5 seconds.
5. Operate SOLENOID or VSA in the VSA FUNCTION TEST five times with the HDS.
6. Check for DTCs with the HDS.

   *Is DTC 51-11 or 51-13 indicated?*

   **YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

   **NO** -Intermittent failure, the system is OK at this time.

**DTC 51-12: MOTOR LOCK CIRCUIT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check the DTCs with the HDS.

   *Is DTC 51-12 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. Check for loose terminals at the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Check the No. 3 MTR (30 A) fuse in the under-hood fuse/relay box.

   *Is the fuse blown?*

   **YES** -Go to step 7.

   **NO** -Reinstall the checked fuse, then go to step 9.

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7. Disconnect the VSA modulator-control unit 37P connector.
8. Check for continuity between VSA modulator-control unit 37P connector terminal No. 14 and body ground.

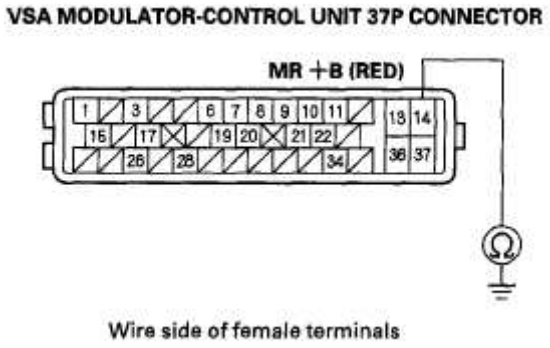



**Fig. 33: Checking Continuity Between VSA Modulator-Control Unit 37P Connector Terminal No. 14 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the No. 3 MTR (30 A) fuse in the under-hood fuse/relay box and the VSA modulator-control unit.

**NO** -Install the new No. 3 MTR (30 A) fuse in the under-hood fuse/relay box, then go to step 10.

9. Disconnect the VSA modulator-control unit 37P connector.
10. Measure voltage between VSA modulator-control unit 37P connector terminal No. 14 and body ground.

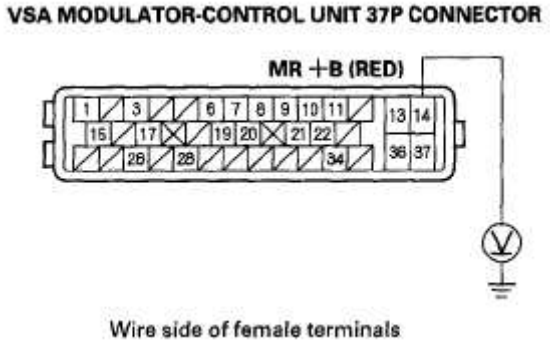



**Fig. 34: Measuring Voltage Between VSA Modulator-Control Unit 37P**

## Connector Terminal No. 14 And Body Ground

*Is there battery voltage?*

**YES** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**NO** -Repair open in the wire between the No. 3 MTR (30 A) fuse in the under-hood fuse/relay box and the VSA modulator-control unit.

**DTC 52-12: MOTOR STUCK OFF**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Operate each SOLENOID or VSA in the VSA FUNCTION TEST five times with the HDS.
5. Check for DTCs with the HDS.

*Is DTC 52-12 indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Intermittent failure, the system is OK at this time.

**DTC 53-01: MOTOR RELAY STUCK ON 1; DTC 53-12: MOTOR RELAY STUCK ON 2**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

*Is DTC 53-01 or 53-12 indicated?*

**YES** -Go to step 5.

**NO** -Intermittent failure, the system is OK at this time. Check for loose terminals at the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Disconnect the VSA modulator-control unit 37P connector.
7. Check for continuity between VSA modulator-control unit 37P connector terminal No. 37 and body ground.

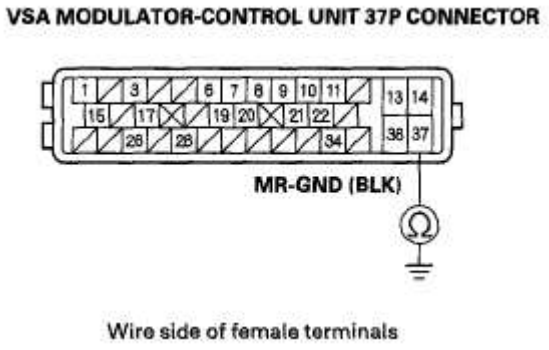



**Fig. 35: Checking For Continuity Between VSA Modulator-Control Unit 37P Connector Terminal No. 37 And Body Ground**

*Is there continuity?*

**YES** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**NO** -Repair open in the wire between the VSA modulator-control unit and body ground (G202).

**DTC 54-03: FAIL-SAFE RELAY 1 STUCK ON; DTC 54-04: FAIL-SAFE RELAY 1 STUCK OFF (INITIAL); DTC 54-21: FAIL-SAFE RELAY 1 STUCK OFF (MAIN)**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.

3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

*Is DTC 54-03, 54-04, or 54-21 indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Intermittent failure, the system is OK at this time.

**DTC 56-01: INITIAL VIG FET STUCK OFF; DTC 56-02: INITIAL VIG FET STUCK ON; DTC 56-11: VIG FET STUCK OFF**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

*Is DTC 56-01, 56-02, or 56-11 indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Intermittent failure, the system is OK at this time.

**DTC 61-01: VSA MODULATOR-CONTROL UNIT INITIAL IG LOW VOLTAGE; DTC 61-21: VSA MODULATOR-CONTROL UNIT POWER SOURCE LOW VOLTAGE 1; DTC 61-22: VSA MODULATOR-CONTROL UNIT POWER SOURCE LOW VOLTAGE 2; DTC 61-23: VSA MODULATOR-CONTROL UNIT POWER SOURCE LOW VOLTAGE 3**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then start the engine.
4. Check for DTCs with the HDS.

*Is DTC 61-01, 61-21, 61-22, or 61-23 indicated?*

**YES** -Go to step 5.

**NO** -Intermittent failure, the system is OK at this time. Check for loose terminals at the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Check and note BATTERY voltage in the VSA DATA LIST with the H DS. If the voltage listed is 0 V, go to step 8, otherwise go to step 6.
6. Using a voltmeter, measure and note the voltage between the battery terminals.

**NOTE: If the voltage is below 9.5 V, check the battery (see BATTERY TEST ), and troubleshoot the alternator regulator circuit (see ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING ).**

7. Compare the voltage noted in step 5 to the voltage in step 6.

   *Is the difference between the two voltage readings less then 3 V?*

   **YES** -Intermittent failure, the system is OK at this time. Check for loose terminals at the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ). If the code resets after clearing, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

   **NO** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the VSA modulator-control unit 37P connector.
10. Measure voltage between VSA modulator-control unit 37P connector terminal No. 13 and body ground.

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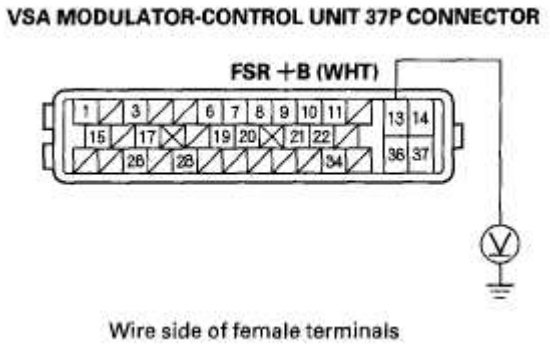



**Fig. 36: Measuring Voltage Between VSA Modulator-Control Unit 37P Connector Terminal No. 13 And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 11.

**NO** -Repair open in the wire between the No. 3 FSR (40 A) fuse in the under-hood fuse/relay box and the VSA modulator-control unit.

11. Turn the ignition switch ON (II).
12. Measure voltage between VSA modulator-control unit 37P connector terminal No. 28 and body ground.

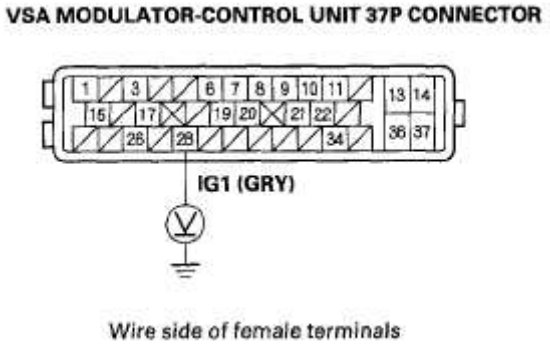



**Fig. 37: Measuring Voltage Between VSA Modulator-Control Unit 37P Connector Terminal No. 28 And Body Ground**

*Is there battery voltage?*

**YES** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit

(see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**NO** -Repair open in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse/relay box and the VSA modulator-control unit.

**DTC 62-21: VSA MODULATOR-CONTROL UNIT IG HIGH VOLTAGE**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then start the engine.
4. Check for DTCs with the HDS.

   *Is DTC 62-21 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time.

5. Using a voltmeter, measure the voltage between the battery terminals. Compare the voltage measured at the battery with the voltage shown in the VSA DATA LIST with the HDS.

   *Is there a voltage difference of 3 V or more?*

   **YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

   **NO** -Check the battery (see **BATTERY TEST** ), and troubleshoot the alternator regulator circuit (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ). Also check for loose terminals in the VSA modulator-control unit 37P connector. If it is OK, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**DTC 64-11: STEERING ANGLE SENSOR POWER CIRCUIT SHORT**

1. Turn the ignition switch ON (II).

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2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 64-11 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect the steering angle sensor 5P connector.
7. Disconnect the VSA modulator-control unit 37P connector.
8. Check for continuity between steering angle sensor 5P connector terminal No. 5 and body ground.

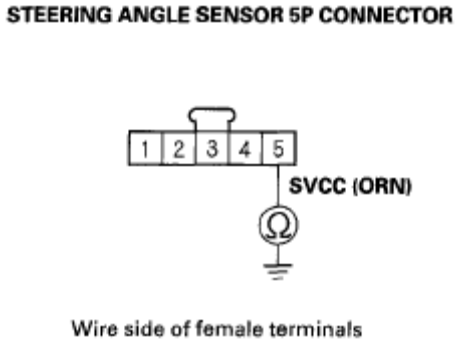



**Fig. 38: Checking Continuity Between Steering Angle Sensor 5P Connector Terminal No. 5 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**DTC 64-12: STEERING ANGLE SENSOR POWER CIRCUIT OPEN**

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1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 64-12 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. Check for loose terminals between the steering angle sensor 5P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Disconnect the steering angle sensor 5P connector.
7. Disconnect the VSA modulator-control unit 37P connector.
8. Check for continuity between VSA modulator-control unit 37P connector terminal No. 7 and steering angle sensor 5P connector terminal No. 5.

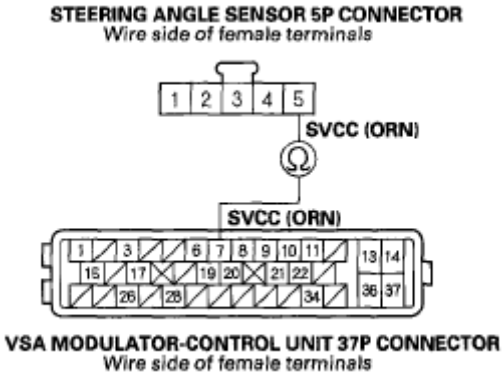



**Fig. 39: Checking Continuity Between VSA Modulator-Control Unit 7 And Steering Angle Sensor 5P Connector Terminal No. 5**

*Is there continuity?*

**YES** -Go to step 9.

**NO** -Repair open in the wire between the steering angle sensor and the VSA modulator-control unit.

9. Turn the ignition switch ON (II).
10. Measure voltage between steering angle sensor 5P connector terminal No. 5 and body ground.

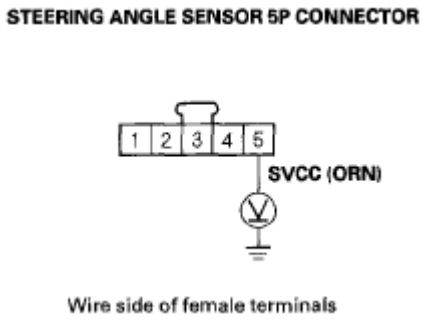



**Fig. 40: Measuring Voltage Between Steering Angle Sensor 5P Connector Terminal No. 5 And Body Ground**

*Is there 0.1 V or more?*

**YES** -Repair short to power in the wire between the steering angle sensor and the VSA modulator-control unit.

**NO** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**DTC 65-21: BRAKE FLUID LEVEL STUCK ON**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

*Is DTC 65-21 indicated?*

**YES** -Go to step 5.

**NO** -Intermittent failure, the system is OK at this time.

5. Release the parking brake.
6. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
7. Check the brake system indicator in the gauge control module (tach).

   *Does the indicator come on then go off?*

   **YES** -Go to step 8.

   **NO** -Go to step 9.

8. Check the FLUID LEVEL in the VSA DATA LIST with the HDS while moving the brake fluid reservoir tank float.

   *Does it indicate ON when the float is lowered and OFF when the float is raised?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

9. Check the brake fluid level in the master cylinder reservoir tank.

   *Is the brake fluid level OK?*

   **YES** -Go to step 10.

   **NO** -Do the brake pad inspection: Front (see **INSPECTION - SI MODEL** ), rear (see **REAR BRAKE PAD INSPECTION AND REPLACEMENT** ), check for brake fluid leaks or replace worn pads, then go to step 1 and recheck.

10. Check the FLUID LEVEL in the VSA DATA LIST with the HDS while moving the brake fluid reservoir tank float.

*Does it indicate ON when the float is lowered and OFF when the float raised?*

**YES** -Go to step 11.

**NO** -Replace the brake fluid reservoir tank (brake fluid level switch is included) (see **MASTER CYLINDER INSPECTION** ).

11. Turn the ignition switch to LOCK (0).
12. Disconnect the gauge control module (tach) 36P connector.
13. Disconnect the brake fluid level switch 2P connector.
14. Check for continuity between brake fluid level switch 2P connector terminal No. 2 and body ground.

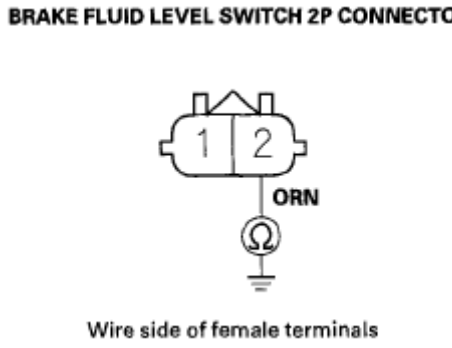



**Fig. 41: Checking Continuity Between Brake Fluid Level Switch 2P Connector Terminal No. 2 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the gauge control module (tach) and the brake fluid level switch.

**NO** -Substitute a known-good gauge control module (tach), then go to step 1 and recheck. If no DTCs are indicated, replace the original gauge control module (tach) (see **REPLACEMENT** ).

**DTC 66-11: PRESSURE SENSOR (INSIDE OF VSA MODULATOR-CONTROL UNIT) MALFUNCTION; DTC 66-12: PRESSURE SENSOR (INSIDE OF VSA MODULATOR-CONTROL UNIT) MALFUNCTION; DTC 66-13: PRESSURE SENSOR (INSIDE OF VSA MODULATOR-CONTROL UNIT) MALFUNCTION; DTC 66-14: PRESSURE SENSOR (INSIDE OF VSA MODULATOR-CONTROL UNIT) MALFUNCTION; DTC 66-16: PRESSURE SENSOR (INSIDE OF**

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**VSA MODULATOR-CONTROL UNIT) MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 66-11, 66-12, 66-13, 66-14, or 66-16 indicated?*

   **YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

   **NO** -Intermittent failure, the system is OK at this time.

**DTC 66-15: PRESSURE SENSOR (INSIDE OF VSA MODULATOR-CONTROL UNIT) MALFUNCTION**

1. Raise the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS** ).
2. Turn all four wheels by hand.

   *Is there brake drag?*

   **YES** -Repair the brake drag.

   **NO** -Go to step 3.

3. Check the PRESSURE SWITCH in the VSA DATA LIST with the HDS while moving the brake pedal.

   *Does the indicated value change?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**DTC 68-21: BRAKE PEDAL POSITION SWITCH STUCK OFF**

1. Turn the ignition switch ON (II).
2. Check the BRK PRESS in the VSA DATA LIST with the HDS. Do not press the brake pedal.

   *Is there 10 MPa or less?*

   **YES** -Go to step 3.

   **NO** -Check for brake drag or a miss-adjusted brake pedal position switch. If they are normal, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

3. Check the BRAKE SWITCH in the VSA DATA LIST with the HDS while moving the brake pedal.

   *Does it indicate ON when the pedal is pressed, and OFF when pedal is released?*

   **YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the brake pedal position switch 4P connector, ECM connector A (44P), and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

   **NO** -Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Disconnect the brake pedal position switch 4P connector.
6. Connect brake pedal position switch 4P connector terminal No. 1 and No. 2 to with a jumper wire.

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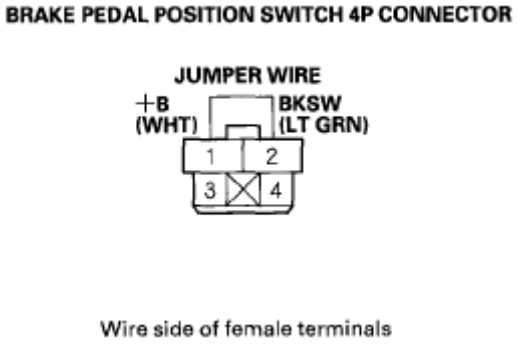



**Fig. 42: Identifying Brake Pedal Position Switch 4P Connector Terminal No. 1 And No. 2 To With Jumper Wire**

7. Turn the ignition switch ON (II).
8. Check the BRAKE SWITCH in the VSA DATA LIST with the HDS.

   *Does it indicate ON?*

   **YES** -Check the brake pedal position switch adjustment (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ). If it is OK, replace the brake pedal position switch.

   **NO** -Go to step 9.

9. Disconnect the jumper wire.
10. Turn the ignition switch to LOCK (0).
11. Short the SCS line with the HDS.
12. Disconnect ECM connector A (44P).
13. Check for continuity between brake pedal position switch 4P connector terminal No. 2 and ECM connector A (44P) terminal No. 40.

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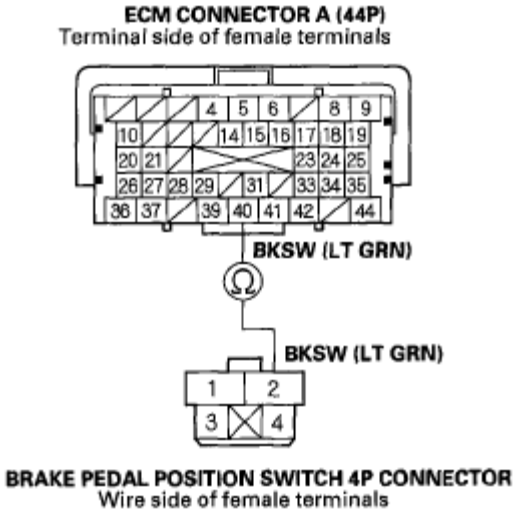



**Fig. 43: Checking Continuity Between Brake Pedal Position Switch 4P Connector And ECM Connector A (44P)**

*Is there continuity?*

**YES** -Substitute a known-good ECM, then go to step 1 and recheck. If DTCs are not indicated, replace the original ECM (see **ECM REPLACEMENT** ).

**NO** -Repair open in the wire between the ECM and the brake pedal position switch.

**DTC 68-22: BRAKE PEDAL POSITION SWITCH STUCK ON**

1. Turn the ignition switch ON (II).
2. Check the BRK PRESS in the VSA DATA LIST with the HDS. Do not press the brake pedal.

*Is 10 MPa or more?*

**YES** -Check brake pedal height (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ). If the brake pedal height is OK, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Go to step 3.

3. Check the BRAKE SWITCH in the VSA DATA LIST with the HDS while moving the brake pedal.

   *Does it indicate ON when the pedal is pressed, and OFF when the pedal is released?*

   **YES** -Intermittent failure, the system is OK at this time.

   **NO** -Go to step 4.

4. Check the BRAKE SWITCH in the VSA DATA LIST with the HDS, and disconnect the brake pedal position switch 4P connector.

   *Does the indicator change from ON to OFF?*

   **YES** -Replace the brake pedal position switch (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT** ).

   **NO** -Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Short the SCS line with the HDS.
7. Disconnect ECM connector A (44P).
8. Turn the ignition switch ON (II).
9. Measure voltage between brake pedal position switch 4P connector terminal No. 2 and body ground.

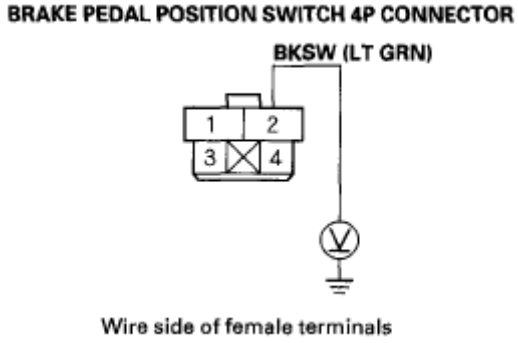



**Fig. 44: Measuring Voltage Between Brake Pedal Position Switch 4P**

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## Connector Terminal No. 2 And Body Ground

*Is there 0.1 V or more?*

**YES** -Repair short to power in the wire between the ECM and the brake pedal position switch.

**NO** -Substitute a known-good ECM, then go to step 1 and recheck. If DTCs are not indicated, replace the original ECM (see **ECM REPLACEMENT** ).

**DTC 71-21: RIGHT-FRONT OR LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-22: LEFT-FRONT OR RIGHT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-23: RIGHT-FRONT AND RIGHT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-24: LEFT-FRONT AND LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-25: RIGHT-FRONT AND LEFT-FRONT DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-26: RIGHT-REAR AND LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-27: RIGHT-FRONT OR LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-28: LEFT-FRONT OR RIGHT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-29: RIGHT-FRONT AND RIGHT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-2A: LEFT-FRONT AND LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-2B: RIGHT-FRONT AND LEFT-FRONT DIFFERENT DIAMETER TIRE MALFUNCTION;**
**DTC 71-2C: RIGHT-REAR AND LEFT-REAR DIFFERENT DIAMETER TIRE MALFUNCTION**

**NOTE: The DTC will be indicated when the vehicle has a different diameter tire(s) compared to the other tire(s).**

### DTC REFERENCE

| DTC | Sectional | Note |
|---|---|---|
| 71-21 | Right-front or left-rear | |
| 71-22 | Left-front or right-rear | |
| 71-23 | Right-front and right-rear | |
| 71-24 | Left-front and left-rear | |
| 71-25 | Right-front and left-front | |
| 71-26 | Right-rear and left-rear | |
| 71-27 | Right-front or left-rear | |
| 71-28 | Left-front or right-rear | |
| 71-29 | Right-front and right-rear | |
| 71-2A | Left-front and left-rear | |

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| | | |
|---|---|---|
| 71-2B | Right-front and left-front | |
| 71-2C | Right-rear and left-rear | |

1. Check the tires for proper inflation (see **WHEEL ALIGNMENT** ).
2. Turn the ignition switch ON (II).
3. Clear the DTC with the HDS.
4. Turn the ignition switch to LOCK (0).
5. Test-drive the vehicle.
6. Check for DTCs with the HDS.

   *Is DTC 71-21, 71-22, 71-23, 71-24, 71-25, 71-26, 71-27, 71-28, 71-29, 71-2A, 71-2B, or 71-2C indicated?*

   **YES** -Replace all four tires with the proper size (see **WHEEL ALIGNMENT** ).

   **NO** -Intermittent failure, the system is OK at this time.

**DTC 81-XX*: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION**

* : Subcode (Except DTC 81-11,81-3D, 81-3E, 81-51, 81-52,81-53,81-54,81-55, 81-56,81-57,81-58, and 81-59)

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 81-xx indicated?*

   **YES** -If the DTC 81-11,81-3D,81-3E, 81-51, 81-52, 81-53, 81-54, 81-55, 81-56, 81-57,81-58, or 81-59 is indicated at the same time, do the DTC 81-11, 81-52,81-54,81-56, or 81-58 troubleshooting (see **DTC 81-xx*: Central Processing Unit (CPU) Internal Circuit Malfunction** ), DTC 81-51,81-53,81-55, or 81-57 troubleshooting (see **DTC 81-51: Central Processing Unit (CPU) Internal Circuit Malfunction; DTC 81-53: Central Processing Unit**

**(CPU) Internal Circuit Malfunction; DTC 81-55: Central Processing Unit (CPU) Internal Circuit Malfunction; DTC 81-57: Central Processing Unit (CPU) Internal Circuit Malfunction** ), or DTC 81-3D, 81-3E, or 81-59 troubleshooting (see **DTC 81-3D: Central Processing Unit (CPU) Internal Circuit Malfunction; DTC 81-3E: Central Processing Unit (CPU) Internal Circuit Malfunction; DTC 81-59: Central Processing Unit (CPU) Internal Circuit Malfunction** ). If DTC 81-11, 81-3D, 81-3E, 81-51, 81-52, 81-53, 81-54, 81-55, 81-56, 81-57, 81-58, or 81-59 is not indicated. Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Intermittent failure, the system is OK at this time.

**DTC 81-11: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-52: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-54: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-56: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-58: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle.
4. Check for DTCs with the HDS.

*Is DTC 81-11, 81-52, 81-54, 81-56, or 81-58 indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Intermittent failure, the system is OK at this time.

**DTC 81-51: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-53: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-55: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-57: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.

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3. Test-drive the vehicle.
4. Check for DTCs with the HDS.

   *Is DTC 81-51, 81-53, 81-55, or 81-57 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time.

5. Turn the ignition switch to LOCK (0).
6. Disconnect the VSA modulator-control unit 37P connector.
7. Turn the ignition switch ON (II).
8. Measure voltage between body ground and the appropriate VSA modulator-control unit 37P connector terminals (see table).

**DTC REFERENCE**

| DTC | VSA Modulator-control Unit 37P Connector Terminals No. |
|---|---|
| 81-51 | No. 19 |
| 81-53 | No. 22 |
| 81-55 | No. 9 |
| 81-57 | No. 20 |

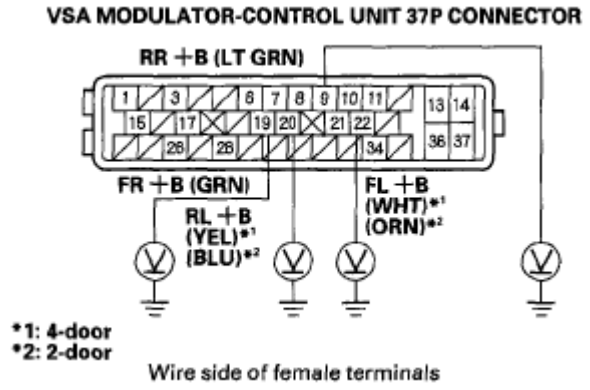



**Fig. 45: Measuring Voltage Between Body Ground And Appropriate VSA Modulator-Control Unit 37P Connector Terminals**

*Is there 0.1 V or more?*

**YES** -Repair short to power in the wire between the appropriate wheel speed sensor and the VSA modulator-control unit.

**NO** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**DTC 81-3D: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-3E: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION; DTC 81-59: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Turn the steering wheel from lock to lock.
5. Check for DTCs with the HDS.

*Is DTC 81-3D, 81-3E, or 81-59 indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Intermittent failure, the system is OK at this time.

**DTC 83-13: ECM COMMUNICATION ERROR; DTC 83-14: ECM COMMUNICATION ERROR**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Test-drive the vehicle.
4. Check for DTCs with the HDS.

*Is DTC 83-13, or 83-14 indicated?*

**YES** -Go to step 5.

**NO** -Intermittent failure, the system is OK at this time. Check for loose terminals between ECM connector A (44P) and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES**

**TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Substitute a known-good ECM (see **SUBSTITUTING THE ECM** ).
7. Turn the ignition switch ON (II).
8. Clear the DTC with the HDS.
9. Test-drive the vehicle.
10. Check for DTCs with the HDS.

*Is DTC 83-13, 83-14 indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Replace the original ECM (see **ECM REPLACEMENT** ).

**DTC 84-21: VSA SENSOR NEUTRAL POSITION NOT WRITING**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
4. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
5. Check for DTCs with the HDS.

*Is DTC 84-21 indicated?*

**YES** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**), and retest.

**NO** -The system is OK at this time.

**DTC 86-01: F-CAN BUS-OFF MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

   *Is DTC 86-01 indicated?*

   **YES** -Go to step 5.

   **NO** -Intermittent failure, the system is OK at this time. Check for loose terminals between ECM connector A (44P) and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch to LOCK (0).
6. Short the SCS line with the HDS.
7. Disconnect ECM connector A (44P).
8. Disconnect the HDS from the data link connector (DLC).
9. Disconnect the gauge control module (tach) 36P connector.
10. Disconnect SRS unit connector A (28P).
11. With EPS: Disconnect EPS control unit connector D (28P).
12. With TPMS: Disconnect the TPMS control unit 20P connector.
13. Disconnect the yaw rate-lateral acceleration sensor 5P connector.
14. Disconnect the VSA modulator-control unit 37P connector.
15. Check for continuity between VSA modulator-control unit 37P connector terminals No. 1 and No. 15 and body ground individually.

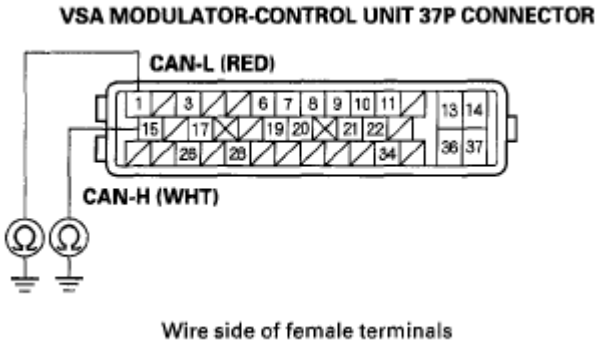



**Fig. 46: Checking Continuity Between VSA Modulator-Control Unit 37P Connector Terminals No. 1 And No. 15 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the ECM/PCM, the gauge control module (tach), the data link connector (DLC), the SRS unit, the EPS control unit (if equipped), the TPMS control unit (if equipped), and the yaw rate-lateral acceleration sensor, and the VSA modulator-control unit.

**NO** -Go to step 16.

16. Check for continuity between VSA modulator-control unit 37P connector terminals No. 1 and No. 15.

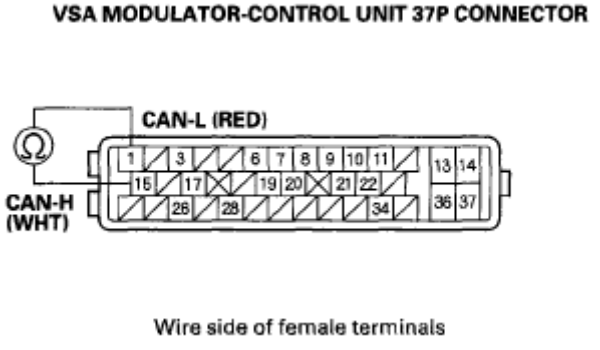



**Fig. 47: Checking Continuity Between VSA Modulator-Control Unit 37P Connector Terminals No. 1 And No. 15**

*Is there continuity?*

**YES** -Repair short in the wire between VSA modulator-control unit 37P

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connector terminals No. 1 (CAN-L line) and No. 15 (CAN-H line).

**NO** -Go to step 17.

17. Check for continuity between the VSA modulator-control unit 37P connector terminal and ECM connector A (44P) terminal (see table).

**CONNECTOR TERMINAL DESCRIPTION**

| Sign | Connector Terminal No. | |
|---|---|---|
| | VSA Modulator-control Unit | ECM |
| CAN-L | 1 | 37 |
| CAN-H | 15 | 36 |

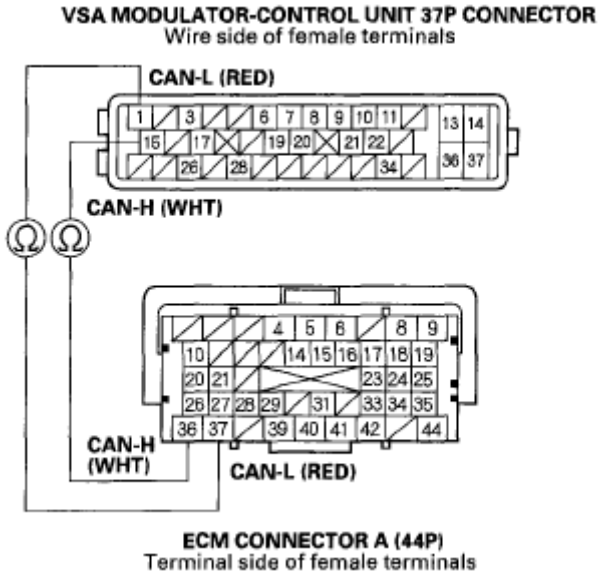



**Fig. 48: Checking Continuity Between VSA Modulator-Control Unit 37P Connector Terminal And ECM Connector A (44P) Terminal**

*Is there continuity?*

**YES** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**NO** -Repair open in the wire between the ECM and the VSA modulator-

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control unit.

**DTC 86-11: F-CAN COMMUNICATION WITH ECM MALFUNCTION; DTC 86-21: F-CAN COMMUNICATION WITH ENGINE MALFUNCTION; DTC 86-22: F-CAN COMMUNICATION WITH ENGINE MALFUNCTION; DTC 86-23: F-CAN COMMUNICATION WITH ENGINE MALFUNCTION; DTC 86-24: F-CAN COMMUNICATION WITH ENGINE MALFUNCTION; DTC 86-25: F-CAN COMMUNICATION WITH ENGINE MALFUNCTION; DTC 86-41: F-CAN COMMUNICATION WITH EAT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0).
4. Test-drive the vehicle. Drive the vehicle at 7 mph (10 km/h) or more.
5. Check for DTCs with the HDS.

   *Is 86-11, 86-21, 86-22, 86-23, 86-24, 86-25, and/or 86-41 DTC indicated?*

   **YES** -If the DTC 86-01 is indicated at the same time, do the DTC 86-01 troubleshooting (see **DTC 86-01: F-CAN Bus-off Malfunction** ). If 86-01 is not indicated, go to step 6.

   **NO** -If any DTCs are indicated, go to the indicated DTCs troubleshooting. If DTCs are not indicated, intermittent failure, the system is OK at this time. Check for loose terminals between ECM connector A (44P) and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

6. Turn the ignition switch to LOCK (0).
7. Short the SCS line with the HDS.
8. Disconnect ECM connector A (44P).
9. Disconnect the VSA modulator-control unit 37P connector.
10. Check for continuity between the VSA modulator-control unit 37P connector terminal and ECM connector A (44P) terminal (see table).

**CONNECTOR TERMINAL DESCRIPTION**

| Sign | Connector Terminal No. | |
|---|---|---|

| | VSA Modulator-control Unit | ECM |
|---|---|---|
| CAN-L | 1 | 37 |
| CAN-H | 15 | 36 |

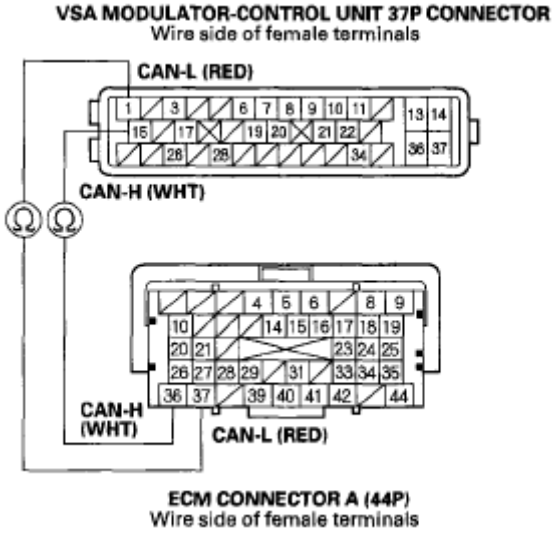



**Fig. 49: Checking Continuity Between VSA Modulator-Control Unit 37P Connector Terminal And ECM Connector A (44P) Terminal**

*Is there continuity?*

**YES** -Check for loose terminals in ECM connector A (44P) and at the VSA modulator-control unit 37P connector. If necessary, substitute a known-good ECM, then go to step 1 and recheck. If no DTCs are indicated, replace the original ECM (see **ECM REPLACEMENT** ). If DTCs are indicated, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Repair open in the wire between the ECM and the VSA modulator-control unit.

**DTC 86-31: F-CAN COMMUNICATION WITH GAUGE CONTROL MODULE MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.

4. Check for DTCs with the HDS.

   *Is 86-31 DTC indicated?*

   **YES** -If the DTC 86-01 is indicated at the same time, do the DTC 86-01 troubleshooting (see **DTC 86-01: F-CAN Bus-off Malfunction** ). If 86-01 is not indicated, go to step 5.

   **NO** -If any DTCs are indicated, go to the indicated DTCs troubleshooting. If DTCs are not indicated, intermittent failure, the system is OK at this time. Check for loose terminals between the gauge control module (tach) 36P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

5. Turn the ignition switch ON (II).

   *Do the gauge indicators come on?*

   **YES** -Go to step 6.

   **NO** -Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).

6. Turn the ignition switch to LOCK (0).
7. Disconnect the gauge control module (tach) 36P connector.
8. Disconnect the VSA modulator-control unit 37P connector.
9. Check for continuity between the VSA modulator-control unit 37P connector terminal and gauge control module (tach) 36P connector terminal (see table).

**CONNECTOR TERMINAL DESCRIPTION**

| Sign | Connector Terminal No. | |
|---|---|---|
| | VSA Modulator-control Unit | Gauge Control Module (Tach) |
| CAN-L | 1 | 19 |
| CAN-H | 15 | 1 |

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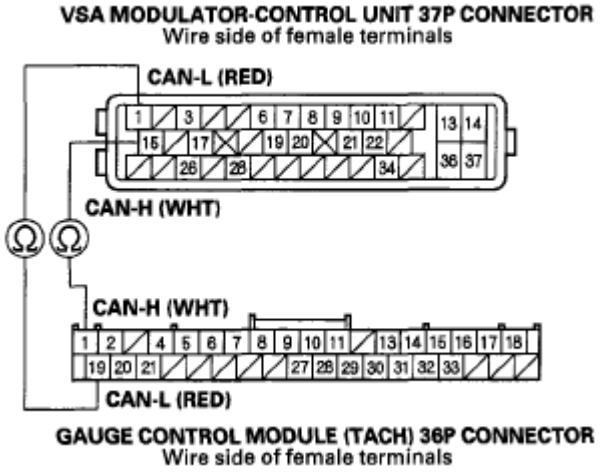



**Fig. 50: Checking Continuity Between VSA Modulator-Control Unit And Gauge Control Module 36P Connector Terminal**

*Is there continuity?*

**YES** -Check for loose terminals in the gauge control module (tach) 36P connector. If necessary, substitute a known-good gauge control module (tach), then go to step 1 and recheck. If no DTCs are indicated, replace the original gauge control module (tach) (see **REPLACEMENT** ). If DTC 86-31 resets, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Repair open in the wire between the gauge control module (tach) and the VSA modulator-control unit.

**DTC 86-71: F-CAN COMMUNICATION WITH YAW RATE-LATERAL ACCELERATION SENSOR MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Check for DTCs with the HDS.

*Is 86-71 DTC indicated?*

**YES** -If the DTC 86-01 is indicated at the same time, do the DTC 86-01 troubleshooting (see **DTC 86-01: F-CAN Bus-off Malfunction** ). If 86-01 is

not indicated, go to step 4.

**NO** -If any DTCs are indicated, go to the indicated DTCs troubleshooting. If DTCs are not indicated, intermittent failure, the system is OK at this time. Check for loose terminals at the yaw rate-lateral acceleration sensor 5P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

4. Turn the ignition switch to LOCK (0).
5. Disconnect the yaw rate-lateral acceleration sensor 5P connector.
6. Disconnect the VSA modulator-control unit 37P connector.
7. Check for continuity between the VSA modulator-control unit 37P connector terminal and the yaw rate-lateral acceleration sensor 5P connector terminal (see table).

**CONNECTOR TERMINAL DESCRIPTION**

| Sign | Connector Terminal No. | |
|---|---|---|
| | VSA Modulator-control Unit | Yaw Rate-lateral Acceleration Sensor |
| CAN-L | 1 | 4 |
| CAN-H | 15 | 3 |

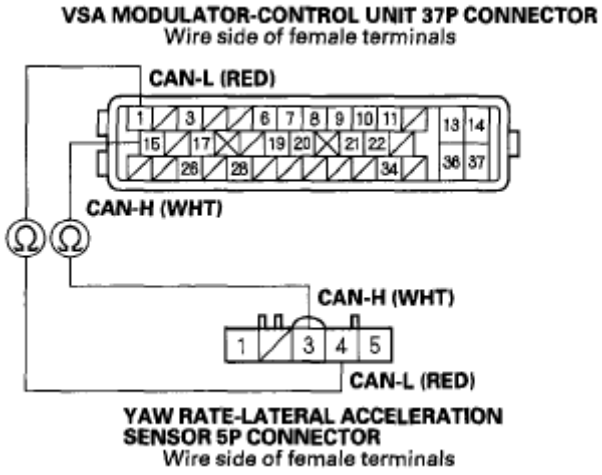



**Fig. 51: Checking Continuity Between VSA Modulator-Control Unit And**

**YAW Rate-Lateral Acceleration Sensor 5P Connector Terminal**

*Is there continuity?*

**YES** -Go to step 8.

**NO** -Repair open in the wire between the yaw rate-lateral acceleration sensor and the VSA modulator-control unit.

8. Turn the ignition switch ON (II).
9. Measure voltage between yaw rate-lateral acceleration sensor 5P connector terminal No. 1 and body ground.

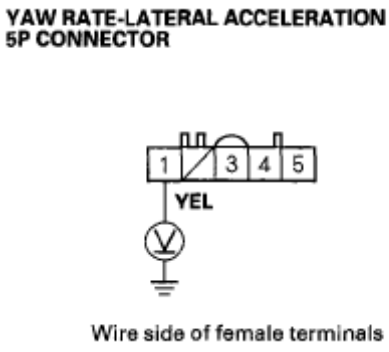



**Fig. 52: Measuring Voltage Between YAW Rate-Lateral Acceleration Sensor 5P Connector Terminal And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 10.

**NO** -Check the No. 4 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is OK, repair open in the wire between the No. 4 (7.5 A) fuse and yaw rate-lateral acceleration sensor.

10. Turn the ignition switch to LOCK (0).
11. Reconnect the yaw rate-lateral acceleration sensor 5P connector.
12. Turn the ignition switch ON (II).
13. Measure voltage between yaw rate-lateral acceleration sensor 5P connector terminal No. 5 and body ground.

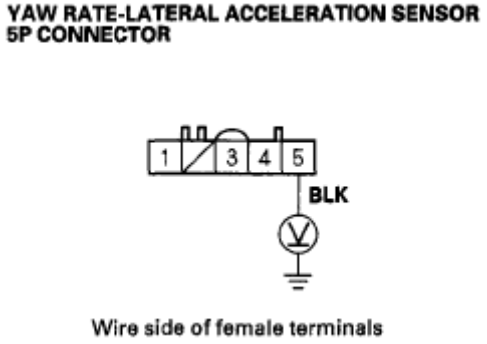



**Fig. 53: Measuring Voltage Between YAW Rate-Lateral Acceleration Sensor 5P Connector Terminal And Body Ground**

*Is there 0.1 V or less?*

**YES** -Replace the yaw rate-lateral acceleration sensor (see **YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT** ).

**NO** -Repair open in the wire between the yaw rate-lateral acceleration sensor and body ground (G602).

**DTC 107-22: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION**

1. Turn the ignition switch to LOCK (0) to cool the VSA modulator-control unit, and wait 1 hour or more.
2. Turn the ignition switch ON (II).
3. Clear the DTC with the HDS.
4. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
5. Check for DTCs with the HDS.

*Is DTC 107-22 indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -The system is OK at this time.

**DTC 108-21: STEERING ANGLE SENSOR MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.
3. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
4. Test-drive the vehicle.
5. Check for DTCs with the HDS.

   *Is DTC 108-21 indicated?*

   **YES** -Go to step 6.

   **NO** -Intermittent failure, the system is OK at this time.

6. Turn the ignition switch to LOCK (0).
7. Substitute a known-good steering angle sensor (see **STEERING ANGLE SENSOR REPLACEMENT** ).
8. Turn the ignition switch ON (II).
9. Clear the DTC with the HDS.
10. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
11. Test-drive the vehicle.
12. Check for DTCs with the HDS.

    *Is DTC 108-21 indicated?*

    **YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

    **NO** -Replace the original steering angle sensor (see **STEERING ANGLE SENSOR REPLACEMENT** ).

**DTC 112-01: CENTRAL PROCESSING UNIT (CPU) INTERNAL CIRCUIT MALFUNCTION**

1. Turn the ignition switch ON (II).
2. Clear the DTC with the HDS.

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3. Turn the ignition switch to LOCK (0).
4. Disconnect the VSA modulator-control unit 37P connector.
5. Measure voltage between VSA modulator-control unit 37P connector terminal No. 13 and body ground.

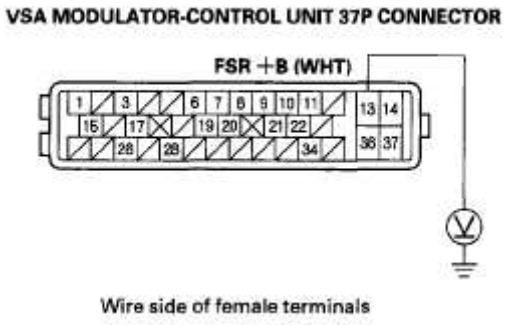



**Fig. 54: Measuring Voltage Between VSA Modulator-Control Unit 37P Connector Terminal No. 13 And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 6.

**NO** -Check the battery performance (see **BATTERY TEST** ), and troubleshoot the alternator and regulator circuit (see **ALTERNATOR AND REGULATOR CIRCUIT TROUBLESHOOTING** ).

6. Measure voltage between VSA modulator-control unit 37P connector terminal No. 28 and body ground.

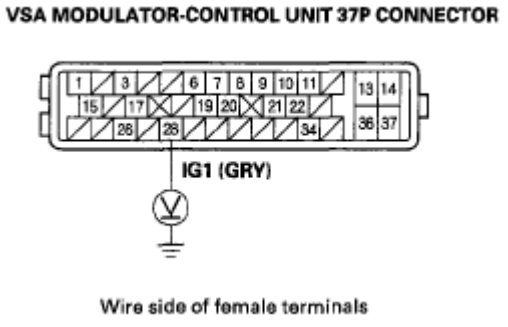



**Fig. 55: Measuring Voltage Between VSA Modulator-Control Unit 37P Connector Terminal No. 28 And Body Ground**

*Is there 0 V?*

**YES** -Go to step 7.

**NO** -Repair short to power in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse-relay box and the VSA modulator-control unit.

7. Turn the ignition switch ON (II).
8. Measure voltage between VSA modulator-control unit 37P connector terminal No. 28 and body ground.

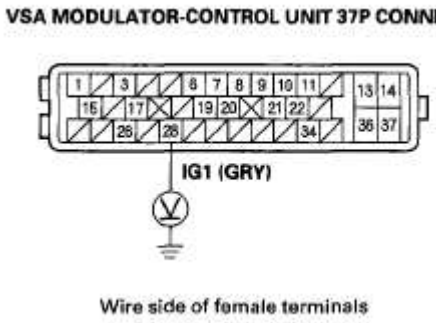



**Fig. 56: Measuring Voltage Between VSA Modulator-Control Unit 37P Connector Terminal No. 28 And Body Ground**

*Is there battery voltage?*

**YES** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**NO** -Repair open in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse-relay box and the VSA modulator-control unit.

**DTC 121-XX*: VSA SOLENOID VALVE MALFUNCTION; DTC 122-XX*: VSA SOLENOID VALVE MALFUNCTION; DTC 123-XX*: VSA SOLENOID VALVE MALFUNCTION; DTC 124-XX*: VSA SOLENOID VALVE MALFUNCTION**

*: Subcode

1. Turn the ignition switch ON (II).

2. Clear the DTC with the HDS.
3. Turn the ignition switch to LOCK (0), then turn it ON (II) again.
4. Check for DTCs with the HDS.

**CONNECTOR TERMINAL DESCRIPTION**

| DTC | | Sectional | Valve |
|---|---|---|---|
| 121 | -01 | Right-front and left-rear | Regulator |
| | -02 | | |
| | -11 | | |
| | -21 | | |
| | -24 | | |
| 122 | -01 | | Suction |
| | -21 | | |
| | -22 | | |
| | -23 | | |
| 123 | -01 | Left-front and right-rear | Regulator |
| | -02 | | |
| | -11 | | |
| | -21 | | |
| | -24 | | |
| 124 | -01 | | Suction |
| | -21 | | |
| | -22 | | |
| | -23 | | |

*Is DTC 121-xx, 122-xx, 123-xx, or 124-xx indicated?*

**YES** -Replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Intermittent failure, the system is OK at this time.

**SYMPTOM TROUBLESHOOTING**

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**ABS indicator or VSA indicator does not go off, and no DTCs are stored**

1. Check for the communication between the vehicle and the HDS.

   *Is there the communication?*

   **YES** -Check for loose terminals in the gauge control module (tach) 36P connector. If necessary, substitute a known-good gauge control module (tach), then recheck. If it is OK, replace the original gauge control module (tach) (see **REPLACEMENT** ).

   **NO** -If the HDS does not communicate with all the system of the vehicle, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ). If the HDS does not communicate with only VSA, go to step 2.

2. Turn the ignition switch to LOCK (0).
3. Check the No. 4 (7.5 A) fuse in the under-dash fuse/ relay box.

   *Is the fuse blown?*

   **YES** -Install the new No. 4 (7.5 A) fuse, and recheck. If the fuse continues to blow, check for short to body ground in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse/relay box and the VSA modulator-control unit. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

   **NO** -Reinstall the checked fuse, then go to step 4.

4. Disconnect the VSA modulator-control unit 37P connector.
5. Turn the ignition switch ON (II).
6. Measure voltage between VSA modulator-control unit 37P terminal No. 28 and body ground.

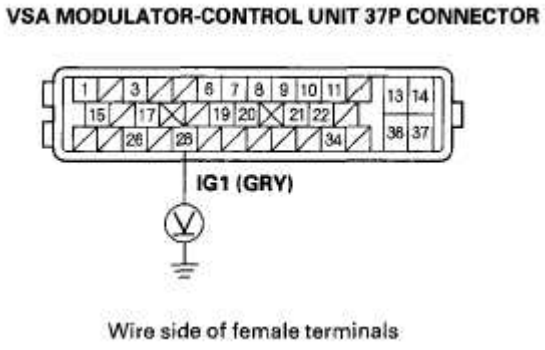



**Fig. 57: Measuring Voltage Between VSA Modulator-Control Unit 37P Terminal No. 28 And Body Ground**

*Is there battery voltage?*

**YES** -Go to step 7.

**NO** -Repair open in the wire between the No. 4 (7.5 A) fuse in the under-dash fuse/relay box and the VSA modulator-control unit.

7. Turn the ignition switch to LOCK (0).
8. Check for continuity between VSA modulator-control unit 37P terminal No. 36 and body ground.

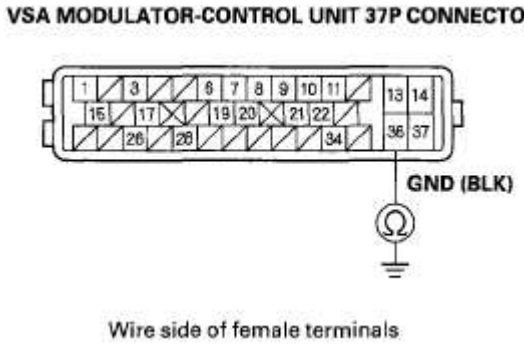



**Fig. 58: Checking Continuity Between VSA Modulator-Control Unit 37P Terminal No. 36 And Body Ground**

*Is there continuity?*

**YES** -Check for loose terminals in the VSA modulator-control unit 37P connector, clean terminal G202 and recheck. If necessary, substitute a known-

good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

**NO** -Repair open in the wire between the VSA modulator-control unit and body ground (G202).

**BRAKE SYSTEM INDICATOR DOES NOT GO OFF, AND NO DTCS ARE STORED**

1. Release the parking brake.
2. Turn the ignition switch ON (II).
3. Check the brake system indicator for several seconds when the ignition switch is turned ON (II).

   *Does the indicator come on then go off?*

   **YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the gauge control module (tach) 36P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

   **NO** -Go to step 4.

4. Check the BRAKE INDICATOR in the VSA DATA LIST with the HDS.

   *Does it indicate OFF?*

   **YES** -Go to step 5.

   **NO** -Check for loose terminals in the VSA modulator-control unit 37P connector. If necessary, substitute a known-good VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ), and retest.

5. Turn the ignition switch to LOCK (0).
6. Disconnect the parking brake switch 1P connector.
7. Turn the ignition switch ON (II).

*Does the brake system indicator go off?*

**YES** -Replace the parking brake switch (see **PARKING BRAKE CABLE REPLACEMENT** ).

**NO** -Go to step 8.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the gauge control module (tach) 36P connector.
10. Check for continuity between parking brake switch 1P connector terminal No. 1 and body ground.

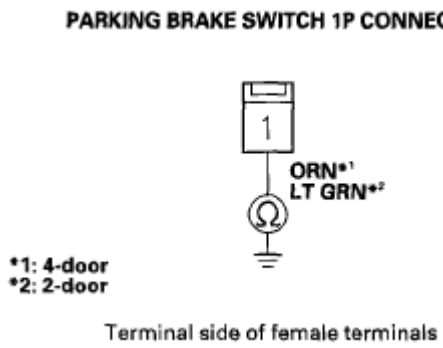



**Fig. 59: Checking Continuity Between Parking Brake Switch 1P Connector Terminal No. 1 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the gauge control module (tach) and the parking brake switch.

**NO** -Check for loose terminals in the gauge control module (tach) 36P connector. If necessary, substitute a known-good gauge control module (tach), then go to step 1 and recheck. If it is OK, replace the original gauge control module (tach) (see **REPLACEMENT** ).

**VSA activation indicator does not go off, and no DTCs are stored**

1. Turn the ignition switch ON (II).
2. Check the VSA activation indicator for several seconds when the ignition

switch is turned ON (II).

*Does the indicator come on then go off?*

**YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the VSA OFF switch 5P connector, the gauge control module (tach) 36P connector, and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT FAILURES TROUBLESHOOTING** (see ).

**NO** -Go to step 3.

3. Check the VSA OFF SWITCH in the VSA DATA LIST with the HDS while pushing the VSA OFF switch.

   *Does the indicator change from ON (OFF) to OFF (ON)?*

   **YES** -Do the gauge control module troubleshooting (see **SELF-DIAGNOSTIC FUNCTION** ).

   **NO** -Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Check the VSA OFF switch (see **VSA OFF SWITCH TEST** ).

   *Is the VSA off switch OK?*

   **YES** -Go to step 6.

   **NO** -Replace the VSA OFF switch (see **VSA OFF SWITCH TEST** ).

6. Disconnect the gauge control module (tach) 36P connector.
7. Disconnect the VSA OFF switch 5P connector.
8. Check for continuity between VSA OFF switch 5P connector terminal No. 2 and body ground.

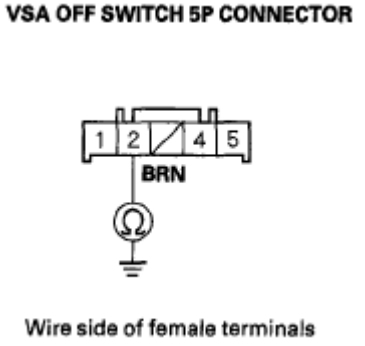



**Fig. 60: Checking Continuity Between VSA Off Switch 5P Connector Terminal No. 2 And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the gauge control module (tach) and the VSA OFF switch.

**NO** -Substitute a known-good VSA modulator-control unit, then go to step 1 and recheck. If it is OK, replace the original VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**ABS indicator, brake system indicator, and VSA indicator do not go off at same time**

**NOTE: Check for gauge DTCs with the HDS (see WIRE COLOR CODES ). If goluges DTCs are stored, troubleshoot those DTCs first.**

1. Release the parking brake.
2. Turn the ignition switch ON (II).
3. Check the ABS indicator, brake system indicator and the VSA indicator for several seconds when the ignition switch is turned ON (II).

*Do the indicators come on then go off?*

**YES** -Intermittent failure, the system is OK at this time. Check for loose terminals between the gauge control module (tach) 36P connector and the VSA modulator-control unit 37P connector. Refer to **INTERMITTENT**

**FAILURES TROUBLESHOOTING** (see ).

**NO** -Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Short the SCS line with the HDS.
6. Disconnect ECM connector A (44P).
7. Disconnect the HDS from the data link connector (DLC).
8. Disconnect the gauge control module (tach) 36P connector.
9. Disconnect SRS unit connector A (28P).
10. Disconnect EPS control unit connector D (28P).
11. With TPMS: Disconnect the TPMS control unit 20P connector.
12. Disconnect the yaw rate-lateral acceleration sensor 5P connector.
13. Disconnect the VSA modulator-control unit 37P connector.
14. Check for continuity between VSA modulator-control unit 37P connector terminals No. 1 and No. 15 and body ground individually.

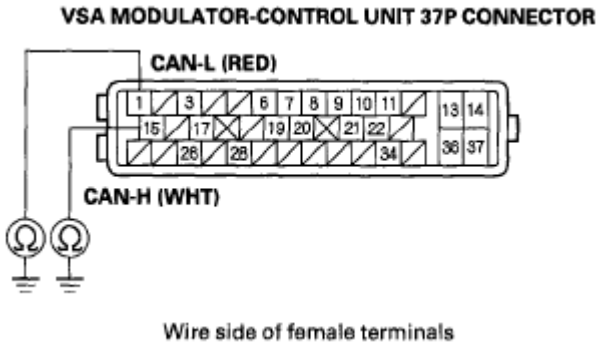



**Fig. 61: Checking Continuity Between VSA Modulator-Control Unit And Body Ground**

*Is there continuity?*

**YES** -Repair short to body ground in the wire between the ECM/PCM, the gauge control module (tach), the data link connector (DLC), the SRS unit, the EPS control unit (if equipped), the TPMS control unit (if equipped), and the yaw rate-lateral acceleration sensor, and the VSA modulator-control unit.

**NO** -Go to step 15.

15. Check for continuity between VSA modulator-control unit 37P connector terminals No. 1 and No. 15.

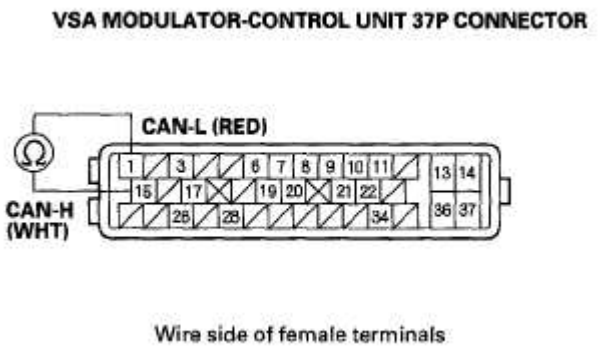



**Fig. 62: Checking Continuity Between VSA Modulator-Control Unit 37P Connector Terminals No. 1 And No. 15**

*Is there continuity?*

**YES** -Repair short in the wire between VSA modulator-control unit 37P connector terminals No. 1 (CAN-L line) and No. 15 (CAN-H line).

**NO** -Go to step 16.

16. Check for continuity between VSA modulator-control unit 37P connector terminal and gauge control module (tach) 36P connector terminal (see table).

**CONNECTOR TERMINAL DESCRIPTION**

| Sign | Connector Terminal No. | |
|---|---|---|
| | VSA Modulator-control Unit | Gauge Control Module (Tach) |
| CAN-L | 1 | 19 |
| CAN-H | 15 | 1 |

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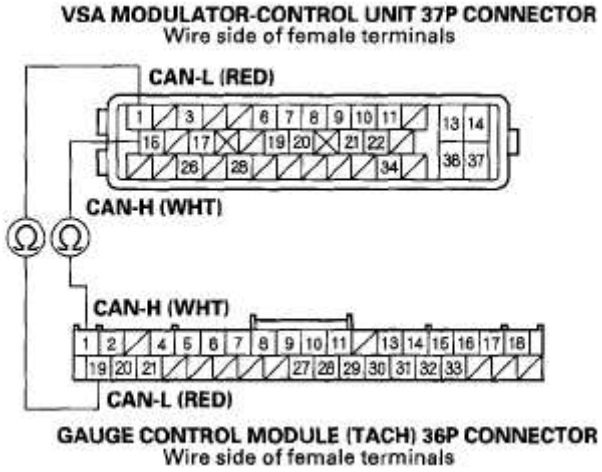



**Fig. 63: Checking Continuity Between VSA Modulator-Control Unit And Gauge Control Module Connector Terminal**

*Is there continuity?*

**YES** -Check for loose terminals in the gauge control module (tach) 36P connector. If necessary, substitute a known-good gauge control module (tach), then go to step 1 and recheck. If it is OK, replace the original gauge control module (tach) (see **REPLACEMENT** ). If DTCs are indicated, replace the VSA modulator-control unit (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION** ).

**NO** -Repair open in the wire between the gauge control module (tach) and the VSA modulator-control unit.

**STEERING ANGLE SENSOR REPLACEMENT**

**NOTE: Do not damage or drop the combination switch as the steering angle sensor is sensitive to shock and vibration.**

1. Remove the steering wheel (see **STEERING WHEEL REMOVAL** ).
2. Remove the steering column covers and the cable reel (see **CABLE REEL REPLACEMENT** ).
3. Remove the combination switch assembly (see **STEERING COLUMN REMOVAL AND INSTALLATION** ).

4. Remove the combination light switch (A) and the wiper/washer switch (B).

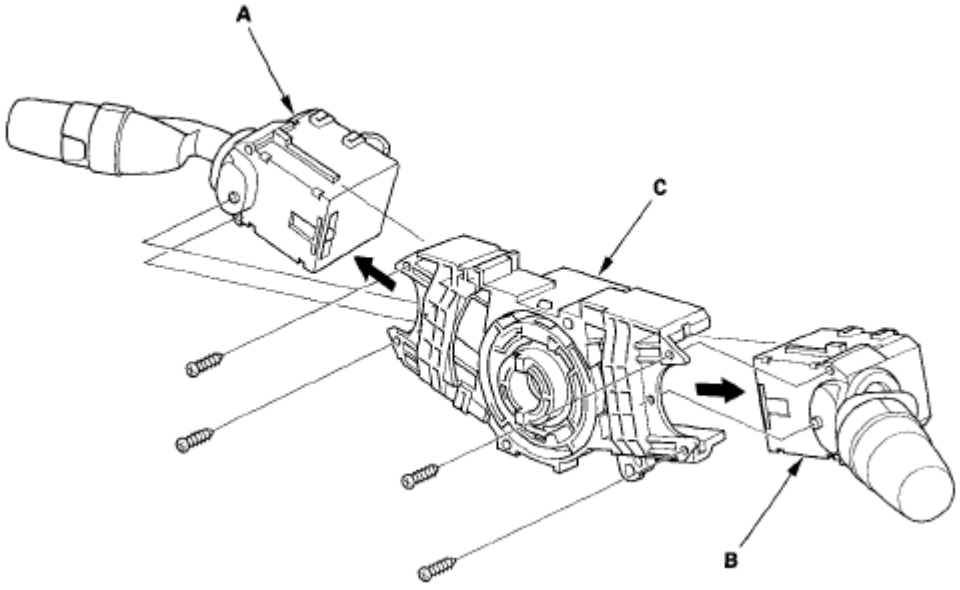



**Fig. 64: Identifying Steering Angle Sensor**

5. Replace the combination switch (C).
6. Install the combination switch in the reverse order of removal.

**NOTE:**

- **Do not remove the steering angle sensor from the combination switch body.**
- **When install the cable reel, set the turn signal cancelling sleeve position (see INSTALLATION ).**

**YAW RATE-LATERAL ACCELERATION SENSOR REPLACEMENT**

**NOTE:**

- **Do not damage or drop the sensor as it is sensitive.**
- **Do not use an air or electric impact tool.**

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION** ).
2. Remove the yaw rate-lateral acceleration sensor (A) fixing bolts.

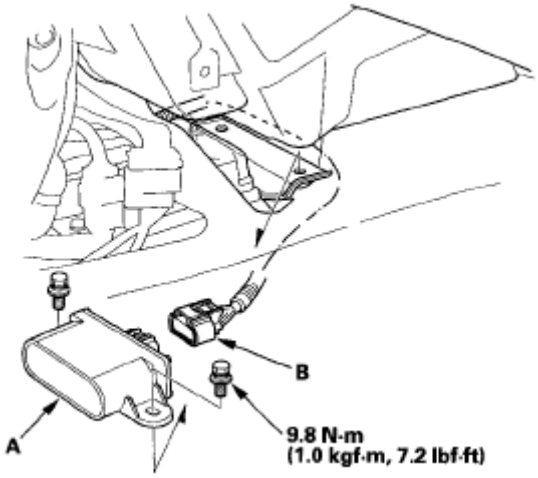



**Fig. 65: Identifying YAW Rate-Lateral Acceleration Sensor Fixing Bolts**

3. Pull out the yaw rate-lateral acceleration sensor, then disconnect the sensor connector (B).
4. Install the sensor in the reverse order of removal.
5. Do the VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).

**VSA SENSOR NEUTRAL POSITION MEMORIZATION**

**NOTE: Do not press the brake pedal during this procedure.**

1. Park the vehicle on a flat and level surface.
2. With the ignition switch to LOCK (0), connect the HDS to the data link connector (DLC) (A) under the driver's side of the dashboard.

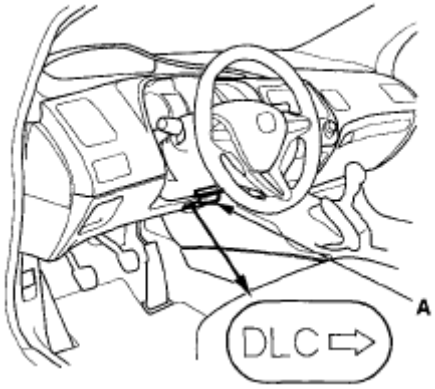


**Fig. 66: Identifying DLC**

3. Turn the ignition switch ON (II).
4. Make sure the HDS communicates with the vehicle and the VSA modulator-control unit. If it doesn't troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING** ).
5. Select VSA ADJUSTMENT with the HDS, and follow the screen prompts.

**NOTE: See the HDS Help menu for specific instructions.**

6. Turn the ignition switch to LOCK (0).

**VSA OFF SWITCH TEST**

1. Remove the driver's dashboard lower cover (see **DRIVER's DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ).
2. Push out the VSA OFF switch (A) from the back of the instrument panel.

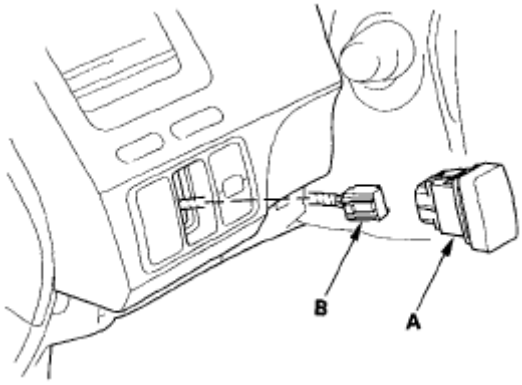



**Fig. 67: Identifying VSA Off Switch (A) From Back Of Instrument Panel**

3. Disconnect the VSA OFF switch 5P connector (B).
4. Check for continuity between VSA OFF switch 5P connector terminals No. 1 and No. 2. There should be continuity when the switch is pressed, and no continuity when the switch is released.

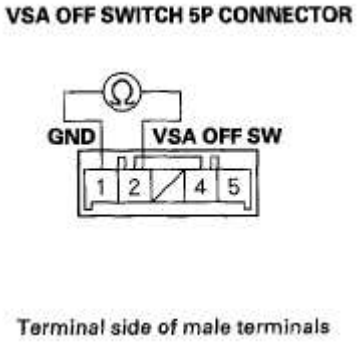



**Fig. 68: Checking Continuity Between VSA Off Switch 5P Connector Terminals No. 1 And Switch**

5. Check for continuity between VSA OFF switch 5P connector terminals No. 4 and No. 5. There should be continuity at all times.

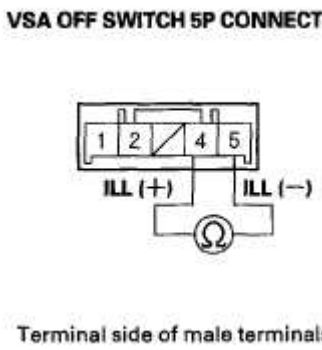



**Fig. 69: Checking Continuity Between VSA Off Switch 5P Connector Terminals No. 4 And No. 5**

**VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**

**NOTE:**

- **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.**
- **Be careful not to damage or deform the brake lines during removal and installation.**
- **To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent material.**

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**Removal**

1. Disconnect the VSA modulator-control unit 37P connector (A) by pushing the lock (B) and pulling down the lever (C); the connector disconnects it self.

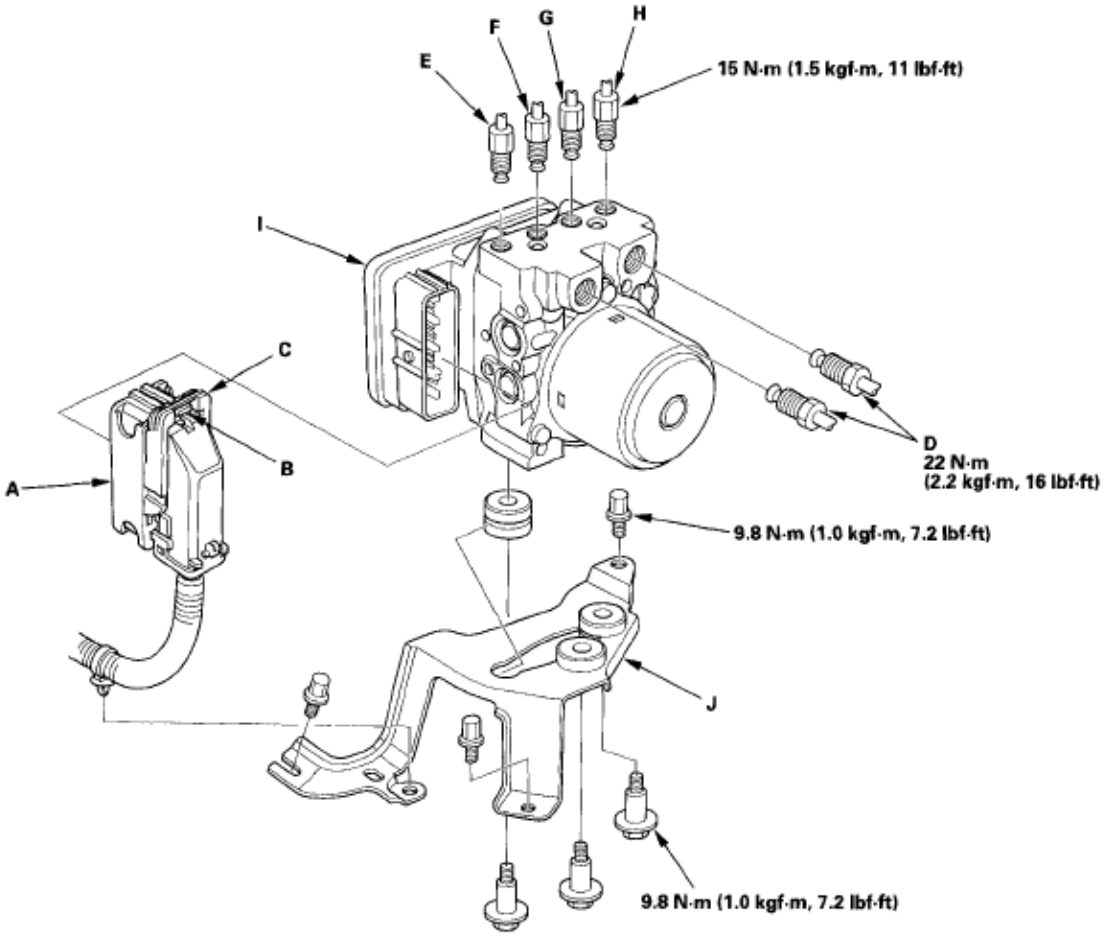



**Fig. 70: Identifying VSA Modulator-Control Unit Components (With Torque Specifications)**

2. Disconnect the six brake lines from the VSA modulator-control unit.

**NOTE: Brake lines are connected to the master cylinder (D) and to the right-front (E), the left-rear (F), the right-rear (G), and the left-front (H) brake systems.**

3. Remove the VSA modulator-control unit (I) with the bracket (J) from the body.
4. Remove the VSA modulator-control unit from the bracket.

**Installation**

1. Install the VSA modulator-control unit on the bracket.
2. Install the bracket with the VSA modulator-control unit to body.
3. Reconnect the six brake lines, then tighten the flare nuts to the specified torque.
4. Align the connecting surface of the VSA modulator-control unit 37P connector to the VSA modulator-control unit.
5. Pull up the lever of the VSA modulator-control unit 37P connector, then confirm the connector is fully seated.
6. Bleed the brake system (see **BRAKE SYSTEM BLEEDING** ).
7. Perform VSA sensor neutral position memorization (see **VSA SENSOR NEUTRAL POSITION MEMORIZATION** ).
8. Start the engine, and check that the ABS and the VSA indicators go off.
9. Test-drive the vehicle, and check that the ABS, and the VSA indicators do not come on.

**NOTE: If the brake pedal is spongy, there may be air trapped in the modulator and then induced into the normal brake system during modulation. Bleed the brake system again (see BRAKE SYSTEM BLEEDING ).**

## WHEEL SPEED SENSOR REPLACEMENT

**FRONT**

1. Release the clamp (A), then disconnect the wheel speed sensor connector (B).

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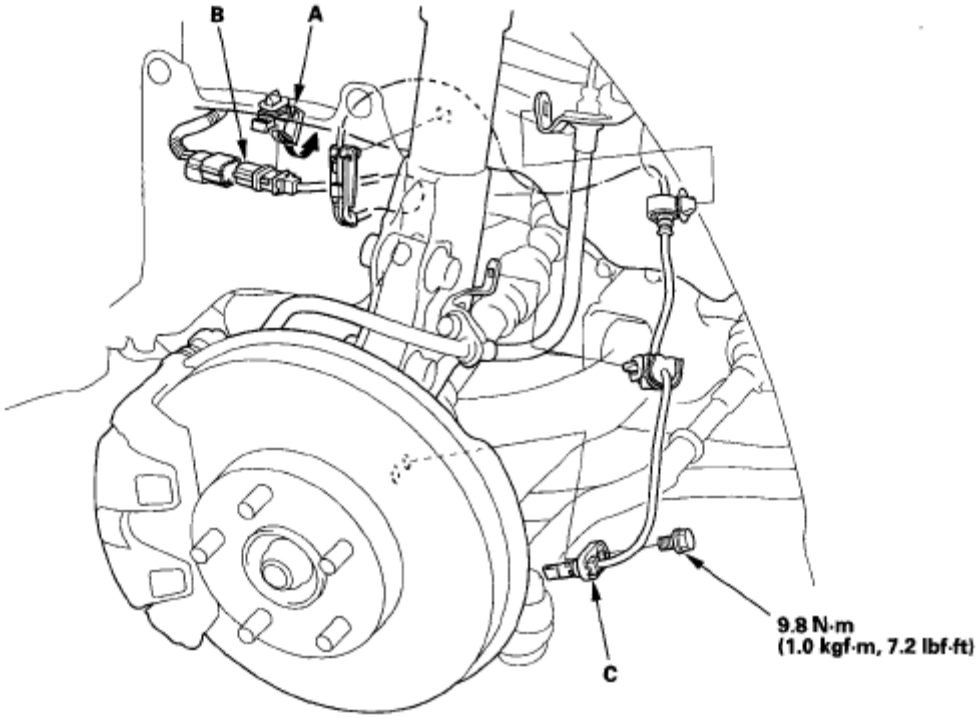



**Fig. 71: Identifying Wheel Speed Sensor (Front) (With Torque Specifications)**

2. Remove the clips, the bolt, and the wheel speed sensor (C).
3. Install the wheel speed sensor in the reverse order of removal, and note these items:
   - Install the sensor carefully to avoid twisting the wires.
   - If the wheel speed sensor comes in contact with the wheel bearing, it is faulty.
4. Start the engine, and check that the ABS and the VSA indicators go off.
5. Test-drive the vehicle, and check that the ABS and the VSA indicators do not come on.

**REAR**

1. Release the clamp (A), then disconnect the wheel speed sensor connector (B).

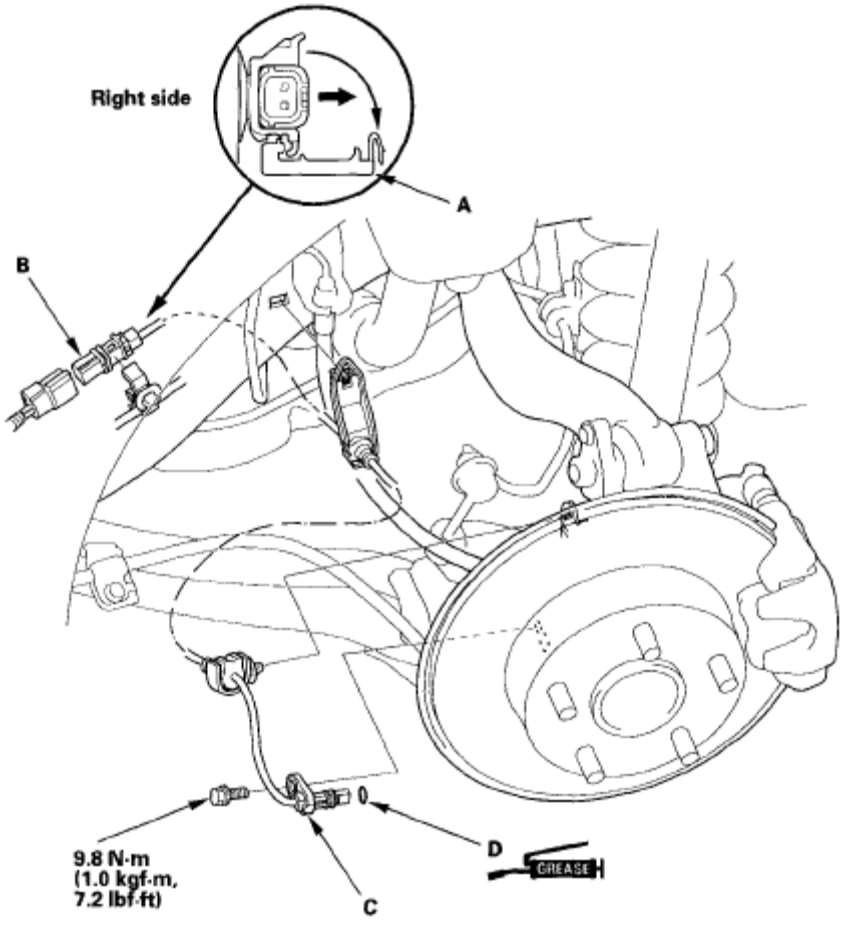



**Fig. 72: Identifying Wheel Speed Sensor Connector (Rear) (With Torque Specifications)**

2. Remove the clips, the bolt, and the wheel speed sensor (C).
3. Install the wheel speed sensor in the reverse order of removal, and note these items:
   - Apply multipurpose grease to the O-ring (D).
   - Install the sensor carefully to avoid twisting the wires.
   - If the wheel speed sensor comes in contact with the hub bearing unit, it is faulty.
4. Start the engine, and check that the ABS and the VSA indicators go off.
5. Test-drive the vehicle, and check that the ABS and the VSA indicators do not come on.

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**2006-08 ACCESSORIES & EQUIPMENT**

**Wipers/Washers - Civic (All Except Hybrid)**

## COMPONENT LOCATION INDEX

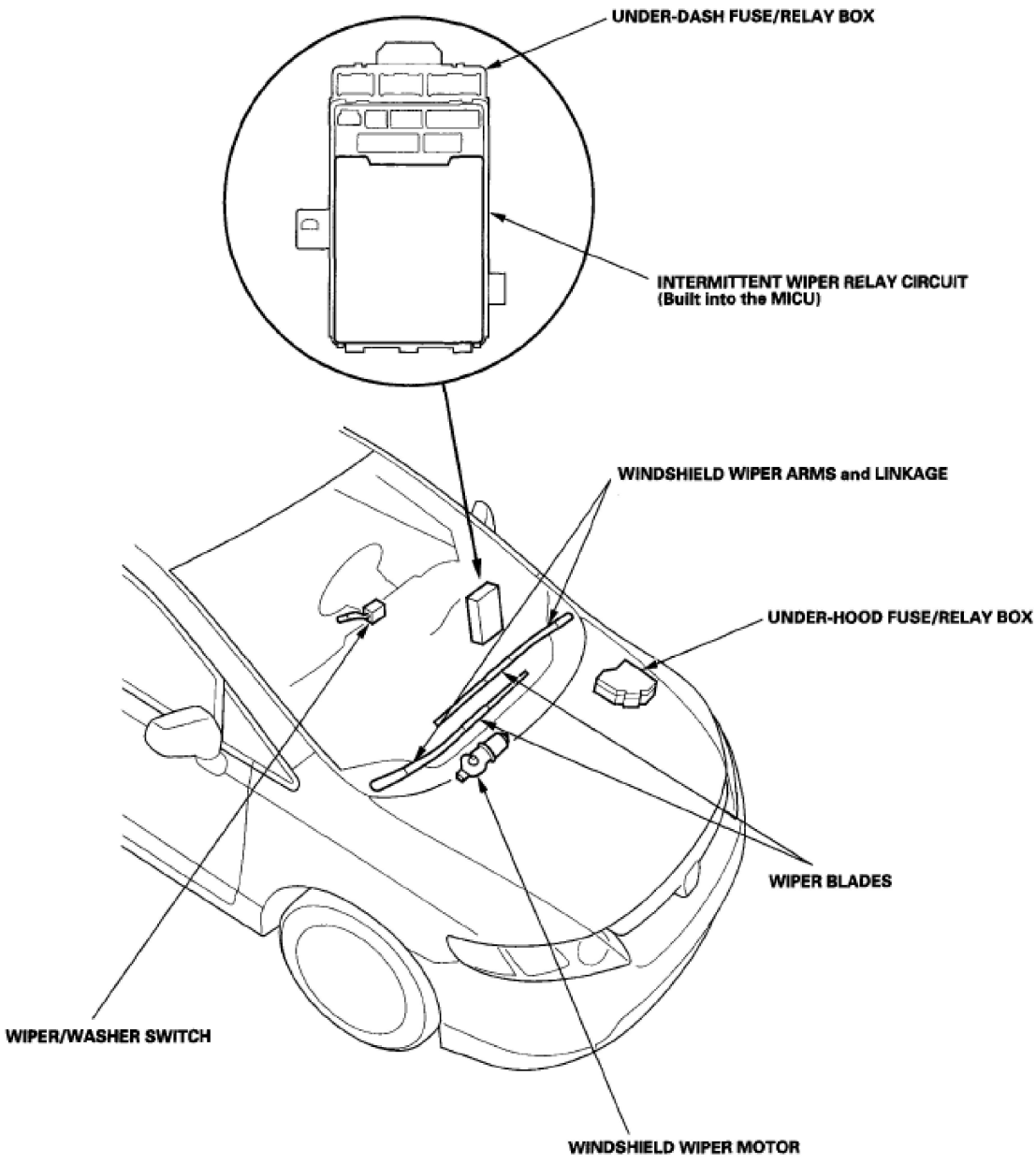



**Fig. 1: Locating Wipers/Washers Components (1 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

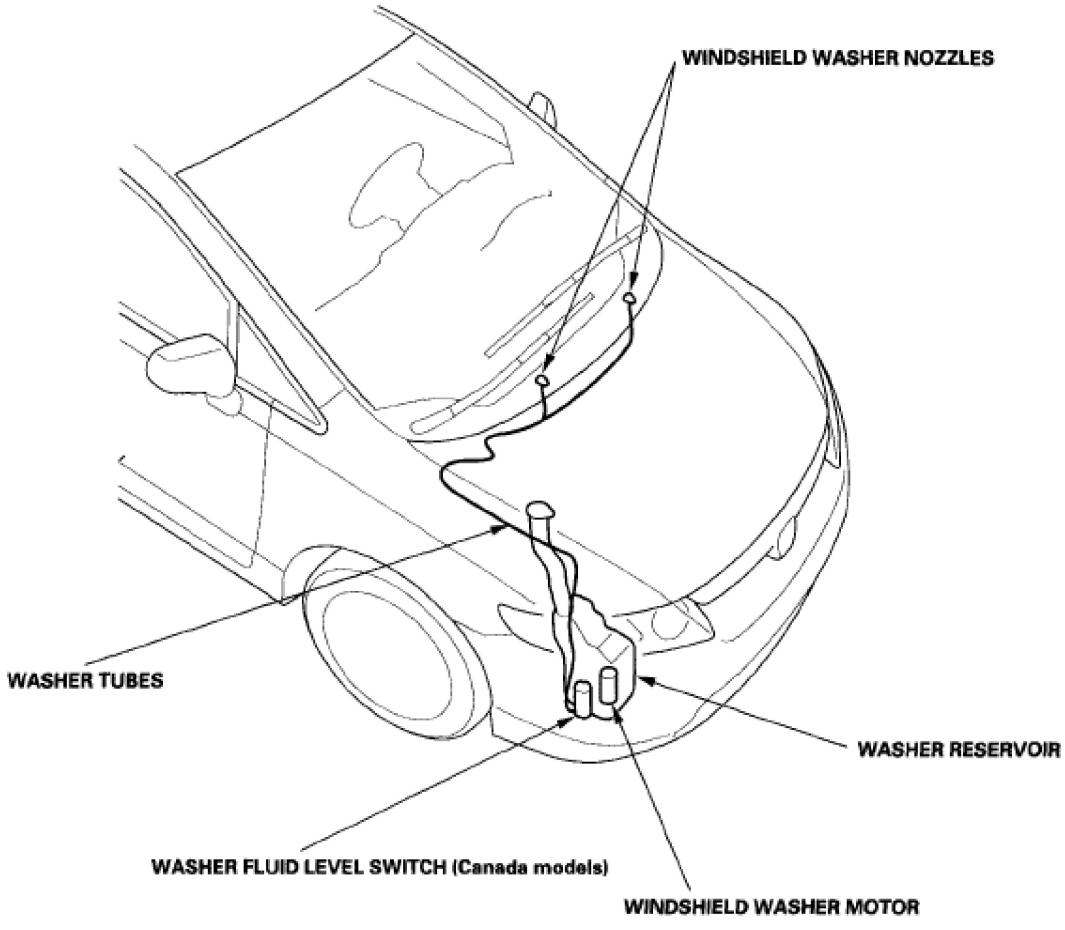



**Fig. 2: Locating Wipers/Washer Components (2 Of 2)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## CIRCUIT DIAGRAM

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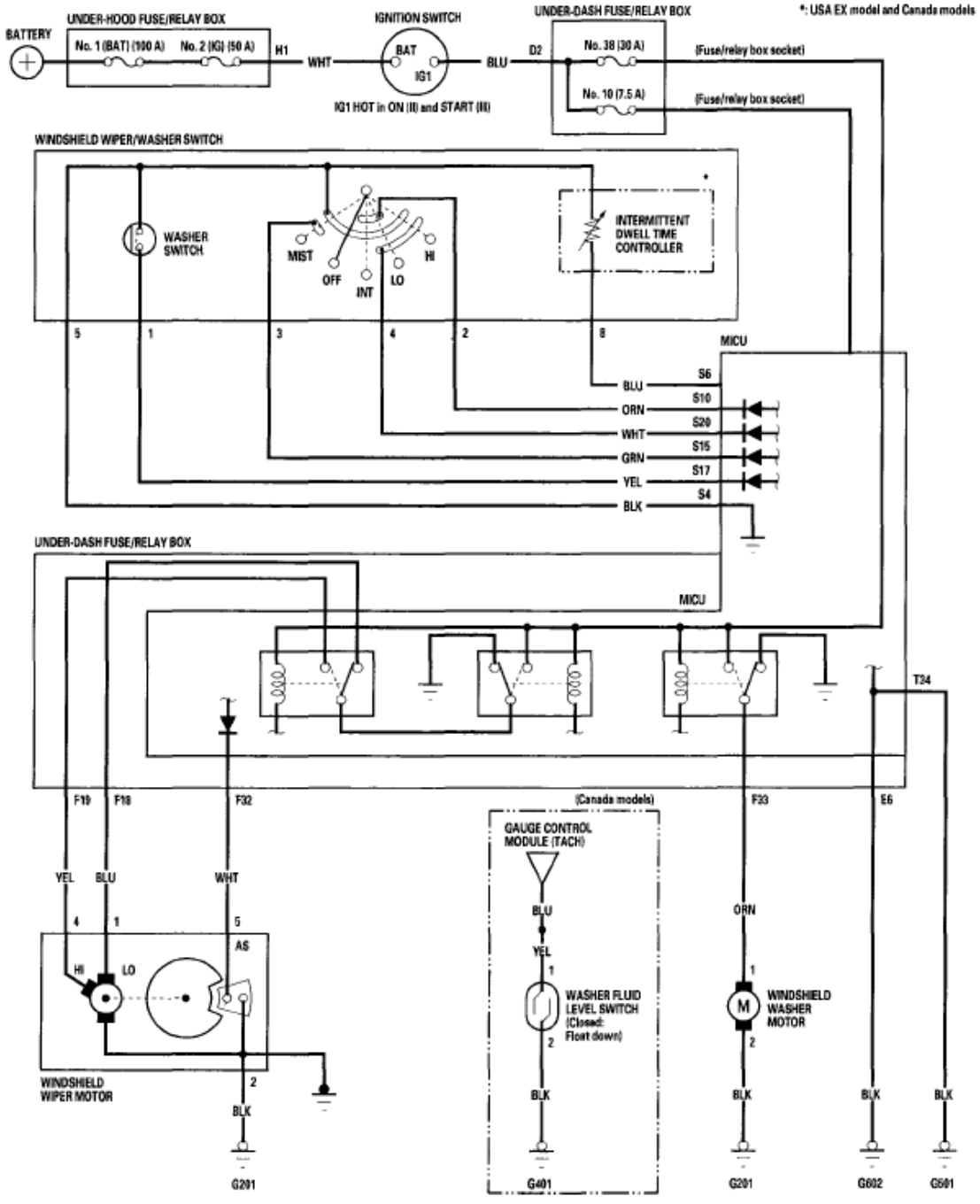



**Fig. 3: Wipers/Washers Circuit Diagram**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## DTC TROUBLESHOOTING

### DTC B1077: WINDSHIELD WIPER (AS) SIGNAL ERROR

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**NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A ).**

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Turn the wiper switch to LOW or HIGH for at least 15 seconds, then turn the switch OFF.

   *Does the windshield wiper motor run normally?*

   **YES** - Go to step 4.

   **NO** - Go to step 12.

4. Check for DTCs with the HDS.

   *Is DTC B1077 indicated?*

   **YES** - Go to step 5.

   **NO** - Intermittent failure. The windshield wiper system is OK at this time. Check for loose or poor connections.

5. Turn the ignition switch OFF.
6. Do the wiper motor test (see **WIPER/WASHER SWITCH TEST** ).

   *Does the wiper motor run normally?*

   **YES** - Go to step 7.

   **NO** - Replace the windshield wiper motor and recheck.

7. Disconnect the under-dash fuse/relay box connector F (34P) and windshield wiper motor 5P connector.
8. Check for continuity between the No. 5 terminal of the windshield wiper motor

5P connector and No. 32 terminal of the under-dash fuse/relay box connector F (34P).

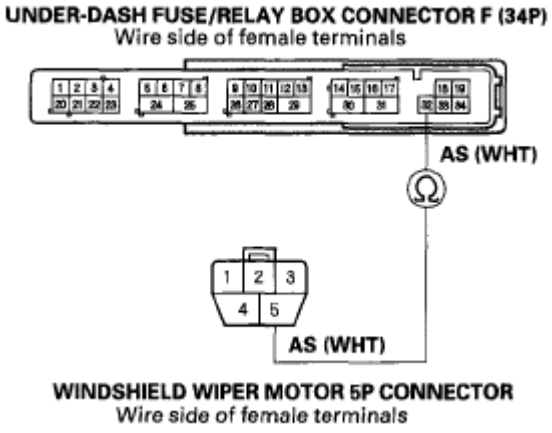



**Fig. 4: Checking Continuity Between No. 5 Terminal Of Windshield Wiper Motor 5P Connector And No. 32 Terminal Of Under-Dash Fuse/Relay Box Connector F (34P)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Go to step 9.

**NO** - Repair an open in the WHT wire.

9. Check for continuity between the No. 5 terminal of the windshield wiper motor 5P connector and body ground.

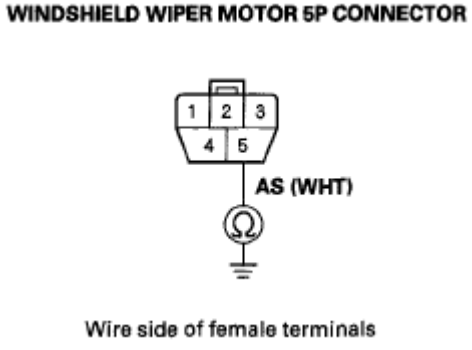



**Fig. 5: Checking Continuity Between No. 5 Terminal Of Windshield Wiper Motor 5P Connector And Body Ground**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there continuity?*

**YES** - Repair a short in the WHT wire.

**NO** - Go to step 10.

10. Turn the ignition switch ON (II).
11. Check for voltage between the No. 5 terminal of the windshield wiper motor 5P connector and body ground.

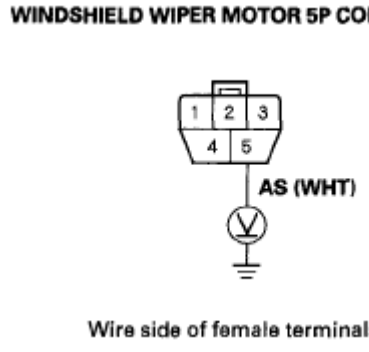



**Fig. 6: Checking Voltage Between No. 5 Terminal Of Windshield Wiper Motor 5P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there voltage?*

**YES** - Repair a short to power in the WHT wire.

**NO** - Faulty MICU; replace the under-dash fuse/relay box.

12. Turn the ignition switch OFF.
13. Check the No. 38 (30 A) fuse in the under-dash fuse/relay box.

*Is the fuse OK?*

**YES** - Go to step 14.

**NO** - Replace the fuse and recheck the system.

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14. Do the wiper motor test (see **WIPER/WASHER SWITCH TEST** ).

    *Does the wiper motor run normally?*

    **YES** - Go to step 15.

    **NO** - Replace the windshield wiper motor and recheck.

15. Reconnect the windshield wiper motor 5P connector.
16. Check the voltage between the No. 18 (LO) and No. 19 (HI) terminals of the under-dash fuse/relay box connector F (34P) and body ground with the wiper switch in the corresponding position individually.

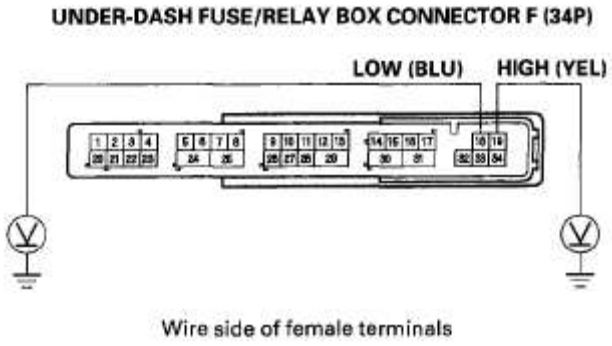



**Fig. 7: Checking Voltage Between No. 18 (LO) And No. 19 (HI) Terminals Of Under-Dash Fuse/Relay Box Connector F (34P) And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there battery voltage?*

**YES** - Go to step 17.

**NO** - Faulty MICU; replace the under-dash fuse/relay box.

17. Check the voltage between the No. 2 terminal of the windshield wiper motor 5P connector and body ground.

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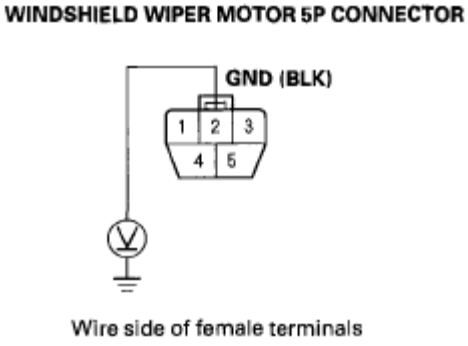



**Fig. 8: Checking Voltage Between No. 2 Terminal Of Windshield Wiper Motor 5P Connector And Body Ground**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

*Is there less than 1 V?*

**YES** - Repair an open in the BLU (LO) or YEL (HI) wire.

**NO** - Repair an open in the BLK wire or poor ground (G201).

## MICU INPUT TEST

1. Before troubleshooting the wiper/washer system, troubleshoot the B-CAN System Diagnosis Test Mode A (see **TROUBLESHOOTING - B-CAN SYSTEM DIAGNOSIS TEST MODE A** ), and check the No. 10 (7.5 A) and No. 38 (30 A) fuses in the under-dash fuse/relay box.
2. Disconnect the under-dash fuse/relay box connectors E, F, S, and T.

**NOTE: All connector views are shown from wire side of female terminals.**

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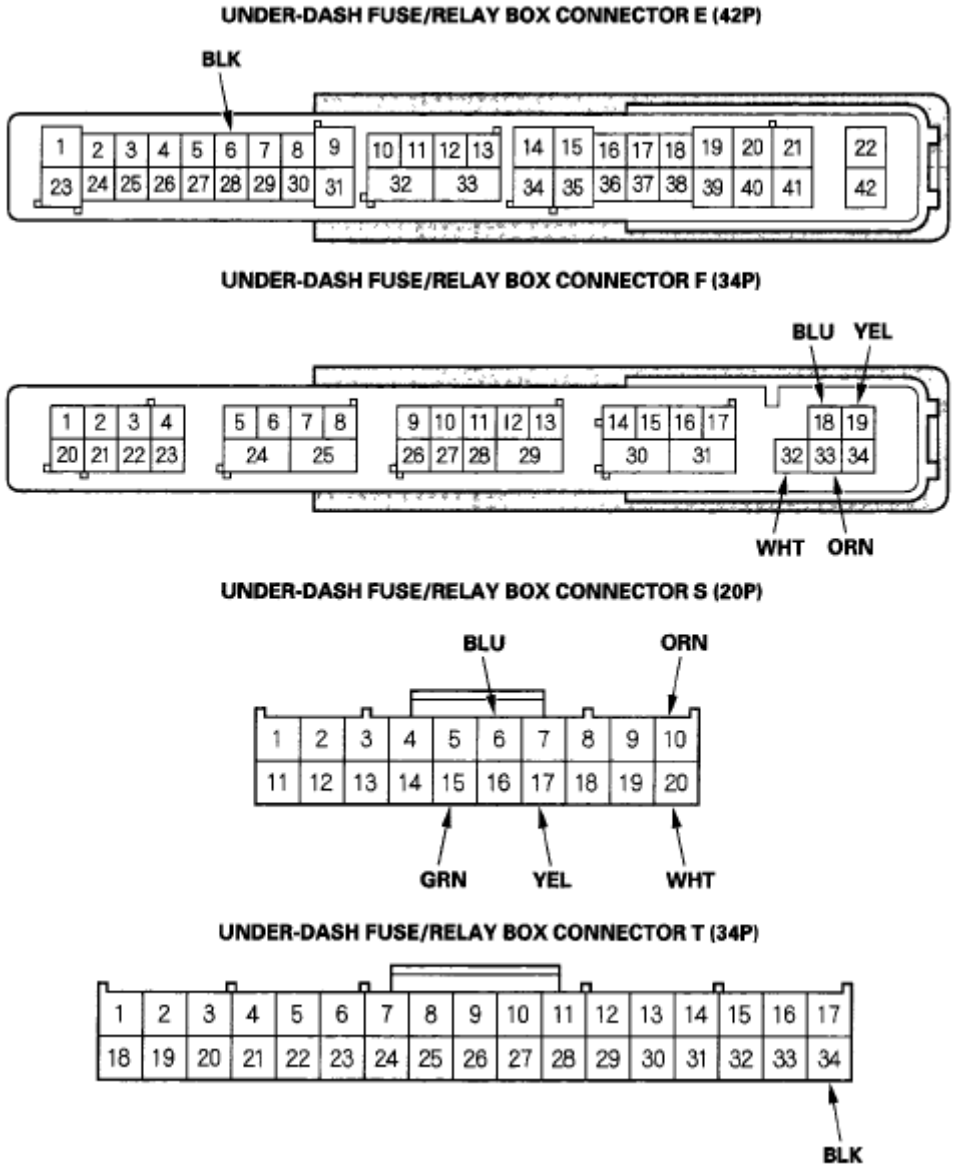



**Fig. 9: Identifying Under-Dash Fuse/Relay Box Connectors**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary and recheck the system.
   - If the terminals look OK, go to step 4.
4. With the connectors still disconnected, make these input tests at the appropriate connector.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 5.

## MICU INPUT TEST (CONNECTORS DISCONNECTED)

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| F18 | BLU | Under all conditions | Connect battery power to the F18 terminal: The wiper motor should run at low speed. | • Poor ground (G201)<br>• Faulty windshield wiper motor<br>• An open in the wire |
| F19 | YEL | Under all conditions | Connect battery power to the F19 terminal: The wiper motor should run at high speed. | • Poor ground (G201)<br>• Faulty windshield wiper motor<br>• An open in the wire |
| F32 | WHT | Under all conditions (disconnect the wiper motor 5P connector) | Check for continuity between the F32 terminal and wiper motor 5P connector No. 5 terminal: There should be continuity. | An open in the wire |
| F33 | ORN | Under all conditions | Connect battery power to the F33 terminal: The windshield washer motor should run. | • Poor ground (G201)<br>• Faulty windshield washer motor |

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| | | | | |
|---|---|---|---|---|
| | | | | • An open in the wire |
| S6(1) | BLU | Wiper/washer switch (intermittent dwell timer) turned | Check resistance between S6 and S4 terminals: There resistance should vary from about 0 to 1 kohms. | • Faulty wiper/washer switch<br>• An open in the wire<br>• Short to ground in the wire |
| (1) USA EX model and Canada models | | | | |

5. Reconnect the connectors to the under-dash fuse/relay box, and make these input tests at the connectors.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the MICU must be faulty; replace the under-dash fuse/relay box.

**MICU INPUT TEST (CONNECTORS RECONNECTED)**

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E6 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G602)<br>• An open in the wire |
| T34 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G501)<br>• An open in the wire |
| | | Ignition switch ON | Check for voltage between S10 and S4 | • Faulty wiper/washer |

| | | | | |
|---|---|---|---|---|
| S10 | ORN | (II), wiper/washer switch (INT) ON | terminals, and S20 and S4 terminals: There should be less than 1 V. | switch<br>• An open in the wire |
| | | Ignition switch ON (II), wiper/washer switch OFF | Check for voltage between S10 and S4 terminals, and S20 and S4 terminals: There should be 5 V or more. | • Faulty wiper/washer switch<br>• Short to ground in the wire |
| S15 | GRN | Ignition switch ON (II), wiper/washer switch (MIST) ON | Check for voltage between S15 and S4 terminals: There should be less than 1 V. | • Faulty wiper/washer switch<br>• An open in the wire in the wire |
| | | Ignition switch ON (II), wiper/washer switch (MIST) OFF | Check for voltage between S15 and S4 terminals: There should be 5 V or more. | • Faulty wiper/washer switch<br>• Short to ground in the wire |
| S17 | YEL | Ignition switch ON (II), washer switch ON | Check for voltage between S17 and S4 terminals: There should be less than 1 V. | • Faulty wiper/washer switch<br>• An open in the wire |
| | | Ignition switch ON (II), washer switch OFF | Check for voltage between S17 and S4 terminals: There should be 5 V or more. | • Faulty wiper/washer switch<br>• Short to ground in the wire |
| | | Ignition switch ON (II), wiper/washer | Check for voltage between S20 and S4 terminals: There | • Faulty wiper/washer switch |

| | | | | |
|---|---|---|---|---|
| S20 | WHT | switch (LOW) ON | should be less than 1 V. | • An open in the wire |
| | | Ignition switch ON (II), wiper/washer switch OFF | Check for voltage between S20 and S4 terminals: There should be 5 V or more. | • Faulty wiper/washer switch<br>• Short to ground in the wire |
| | WHT | Ignition switch ON (II), wiper/washer switch (HIGH) ON | Check for voltage between S20 and S4 terminals: There should be less than 1 V. | • Faulty wiper/washer switch<br>• An open in the wire |
| | | Ignition switch ON (II), wiper/washer switch OFF | Check for voltage between S20 and S4 terminals: There should be 5 V or more. | • Faulty wiper/washer switch<br>• Short to ground in the wire |

## WIPER/WASHER SWITCH TEST

1. Remove the wiper/washer switch (see **WIPER/WASHER SWITCH REPLACEMENT** ).
2. Disconnect the dashboard wire harness 8P connector (A) from the wiper/washer switch (B).

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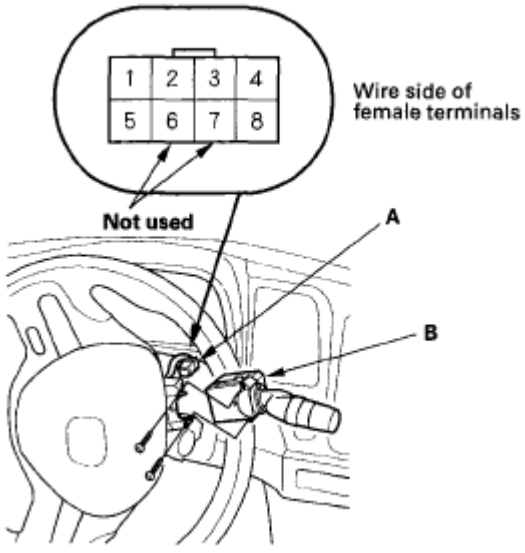



**Fig. 10: Disconnecting Dashboard Wire Harness 8P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Check for continuity between the terminals in each switch position according to **Fig. 11** .

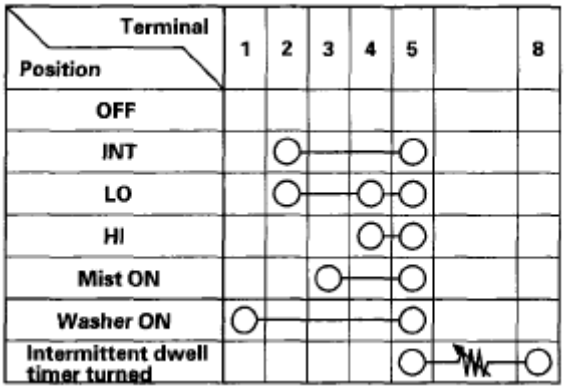



**Fig. 11: Checking Continuity Between Wiper/Washer Switch Terminals Table**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. If the continuity is not as specified, replace the switch.

## WIPER MOTOR TEST

1. Remove the wiper arms.

- 4-door (see **4-DOOR** )
- 2-door (see **2-DOOR** )

**NOTE: Carefully remove the wiper arms so that they do not touch the hood.**

2. Remove the hood seal and cowl cover.
3. Disconnect the 5P connector (A) from the wiper motor (B).

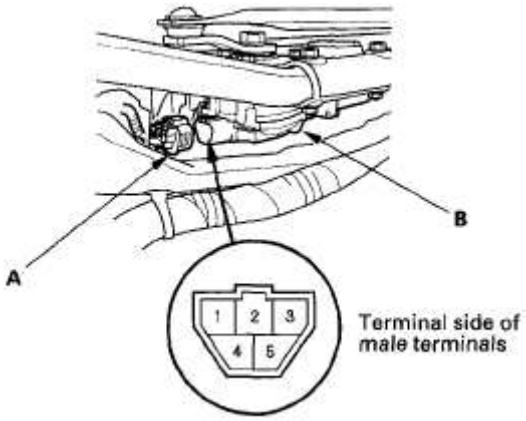



**Fig. 12: Disconnecting 5P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Test the motor by connecting battery power to the No. 1 terminal and ground to the No. 2 terminal of the wiper motor 5P connector.

   The motor should run at low speed. If the motor does not run or fails to run smoothly, replace the motor.

5. Test the motor by connecting battery power to the No. 4 terminal and ground to the No. 2 terminal of the wiper motor 5P connector.

   The motor should run at high speed. If the motor does not run, or fails to run smoothly, replace the motor.

6. Connect an analog ohmmeter to the No. 5 and No. 2 terminals, and run the motor at low or high speed. The needle of the ohmmeter should pulse. If it dose not, replace the motor.

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## WASHER MOTOR TEST

1. Remove the right inner fender.
   - 2-door (see **FRONT INNER FENDER REPLACEMENT** )
   - 4-door (see **4-DOOR** )
2. Disconnect the 2P connector (A) from the washer motor (B).

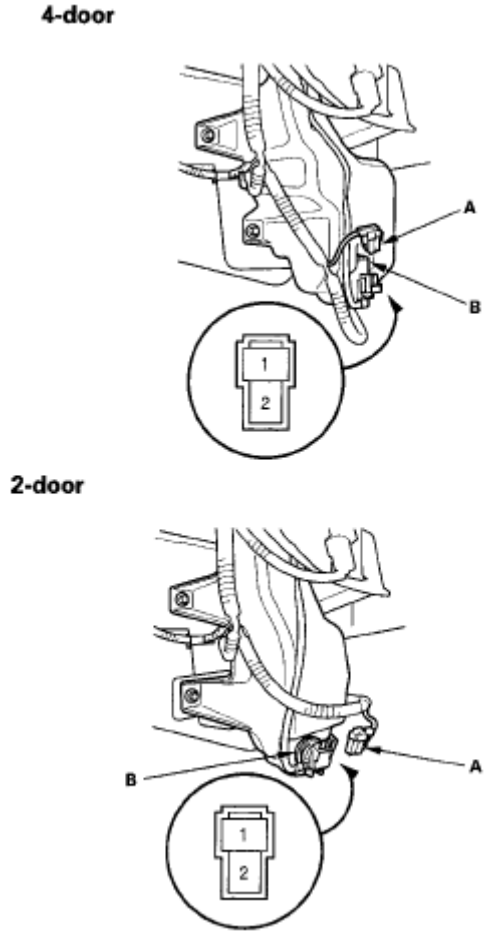



**Fig. 13: Disconnecting 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Test the motor by connecting battery power to the No. 1 terminal and ground the No. 2 terminal of the washer motor. The motor should run.
   - If the motor does not run, or fails to run smoothly, replace it.
   - If the motor runs smoothly, but little or no washer fluid is pumped, check for a disconnected or blocked washer hose, or a clogged washer motor

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outlet.

## WASHER FLUID LEVEL SWITCH TEST

**CANADA MODELS**

1. Remove the right inner fender.
   - 2-door (see **FRONT INNER FENDER REPLACEMENT** )
   - 4-door (see **4-DOOR** )
2. Disconnect the 2P connector (A) from the washer fluid level switch (B).

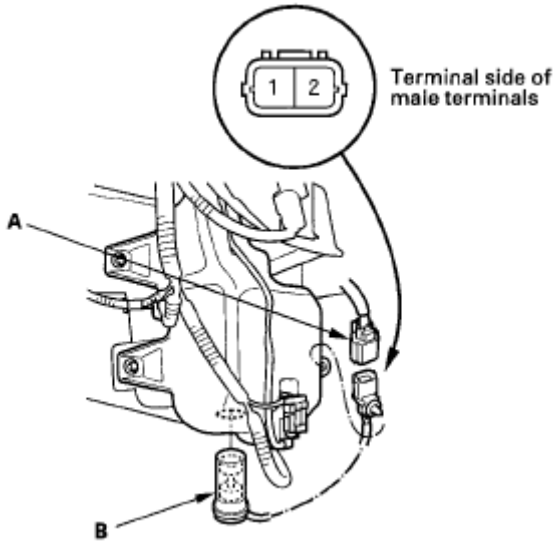



**Fig. 14: Disconnecting 2P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the washer fluid level switch from the washer reservoir.

**NOTE: Fluid may flow out of the opening.**

4. Check for continuity between the No. 1 and No. 2 terminals in each float position.
   - There should be continuity when the float is down.
   - There should be no continuity when the float is up.
5. If the continuity is not as specified, replace the switch.

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# WIPER MOTOR REPLACEMENT

**4-DOOR**

1. Open the hood. Remove the caps, nuts (A), and the windshield wiper arms (B).

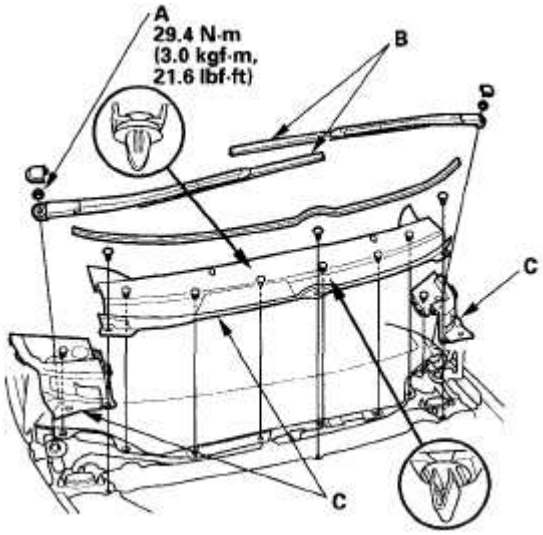



**Fig. 15: Removing Windshield Wiper Arms (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the cowl covers (C).
3. Remove the bolts and the under-cowl panel (A).

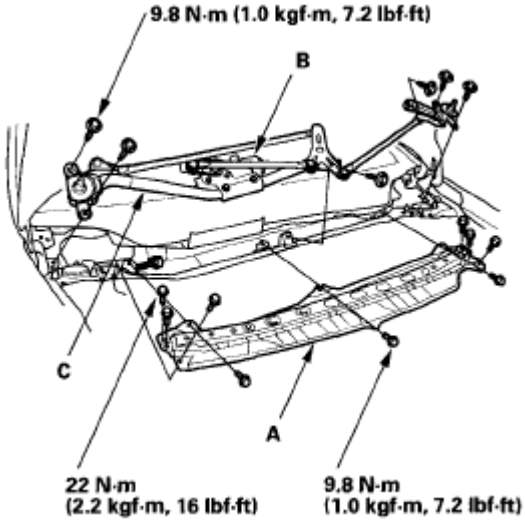



**Fig. 16: Removing Under-Cowl Panel (With Specifications)**

**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Disconnect the 5P connector from the wiper motor (B), then remove the six bolts and wiper linkage assembly (C).
5. Make sure the mark (A) on the link (B) is aligned with the mark (C) on the windshield wiper linkage (D).

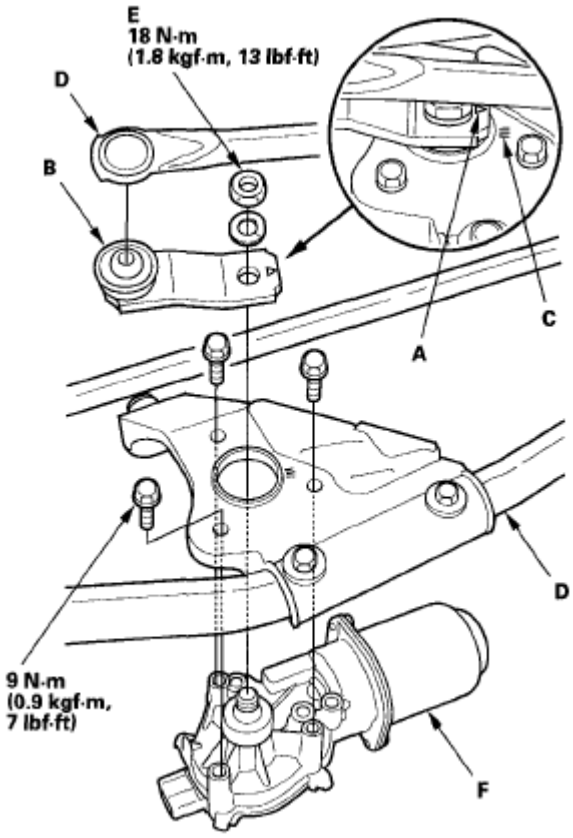



**Fig. 17: Aligning Mark On Windshield Wiper Linkage (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the nut (E), and separate the link and windshield wiper linkage.
7. Remove the three bolts, and separate the windshield wiper linkage from the wiper motor (F).
8. Install in the reverse order of removal, and note these items:
   - Align the marks of the link and the linkage to install the linkage with the original adjustment.

- Apply multipurpose grease to the moving parts.
- Before installing the wiper arms, turn the wiper switch ON, then OFF to return the wiper shafts to the park position.
- If necessary, replace any damaged clips.

9. After installation, adjust the wiper arms (see **WIPER ARM/NOZZLE ADJUSTMENT** ).

**2-DOOR**

1. Open the hood. Remove the caps, nuts (A), and the windshield wiper arms (B).

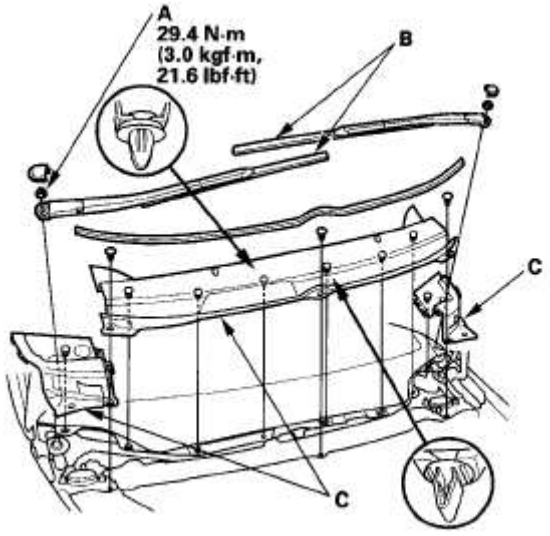



**Fig. 18: Removing Windshield Arms (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

2. Remove the cowl covers (C).
3. Remove the bolts and the under-cowl panel (A).

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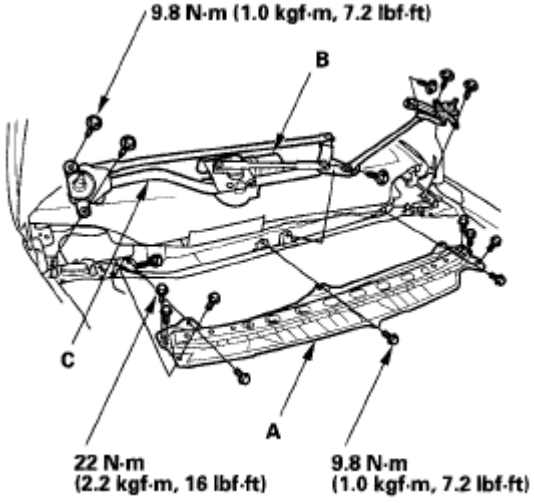



**Fig. 19: Removing Under-Cowl Panel (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Disconnect the 5P connector from the wiper motor (B), then remove the six bolts and wiper linkage assembly (C).
5. Make sure the mark (A) on the link (B) is aligned with the mark (C) on the windshield wiper linkage (D).

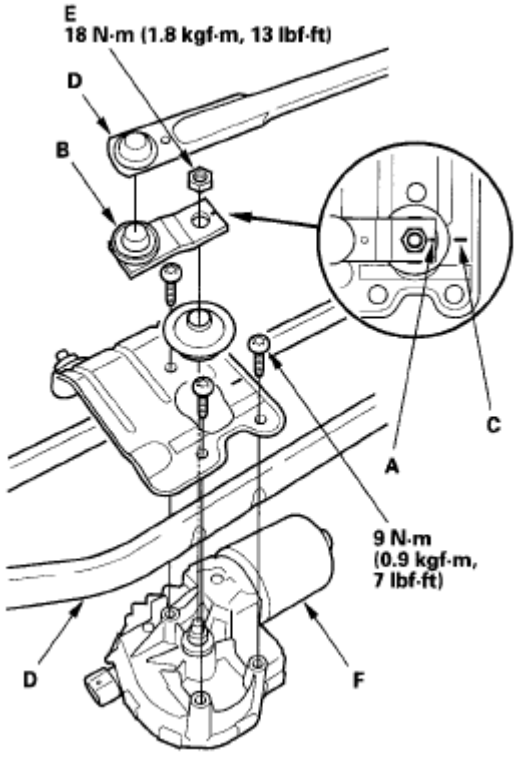


**Fig. 20: Aligning Mark On Windshield Wiper Linkage (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

6. Remove the nut (E), and separate the link and windshield wiper linkage.
7. Remove the three bolts, and separate the windshield wiper linkage from the wiper motor (F).
8. Install in the reverse order of removal, and note these items:
   - Align the marks of the link and the linkage to install the linkage with the original adjustment.
   - Apply multipurpose grease to the moving parts.
   - Before installing the wiper arms, turn the wiper switch ON, then OFF to return the wiper shafts to the park position.
   - If necessary, replace any damaged clips.
9. After installation, adjust the wiper arms (see **WIPER ARM/NOZZLE ADJUSTMENT** ).

## WIPER/WASHER SWITCH REPLACEMENT

1. Remove the dashboard lower cover (see **DRIVER'S DASHBOARD LOWER COVER REMOVAL/INSTALLATION** ).
2. Remove the steering column covers (see **STEERING COLUMN REMOVAL AND INSTALLATION** ).
3. Disconnect the dashboard wire harness 8P connector (A) from the wiper/washer switch (B).

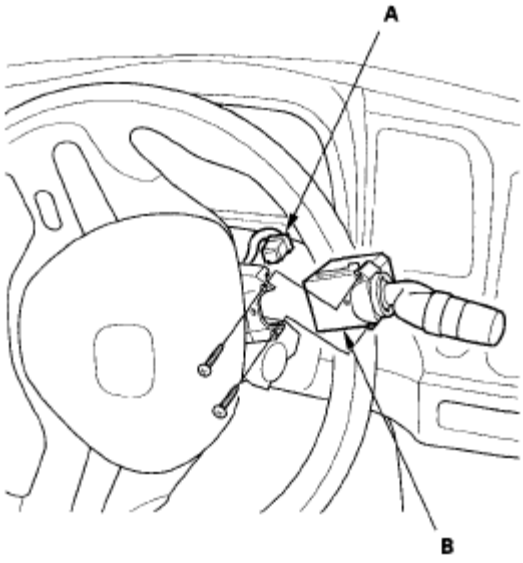



**Fig. 21: Disconnecting Dashboard Wire Harness 8P Connector**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

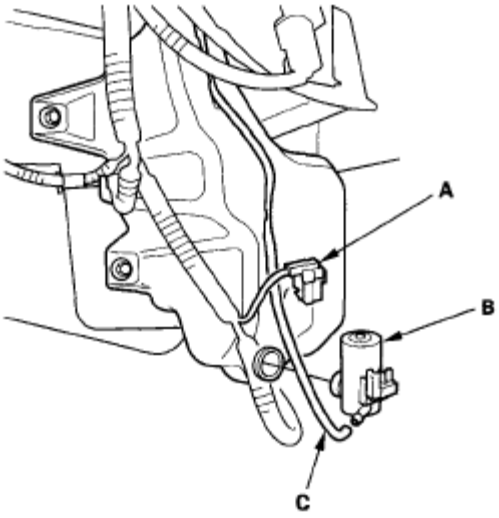
4. Remove the two screws, then slide out the wiper/washer switch.
5. Install the switch in the reverse order of removal.

## WASHER RESERVOIR REPLACEMENT

1. Remove the right inner fender.
   - 2-door (see **FRONT INNER FENDER REPLACEMENT** )
   - 4-door (see **4-DOOR** )
2. Disconnect the 2P connector(s) (A) from the windshield washer motor (B) and the washer fluid level switch*.

   *: Canada models

4-door




2-door

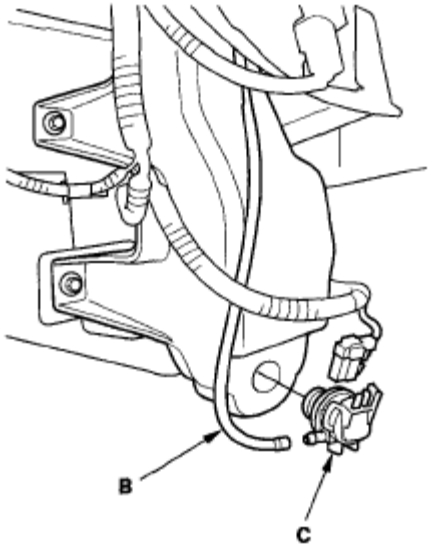



**Fig. 22: Disconnecting 2P Connector(s)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Disconnect the windshield washer tube (C).
4. Remove the bolts (A) and the clip (B), then remove the washer reservoir.

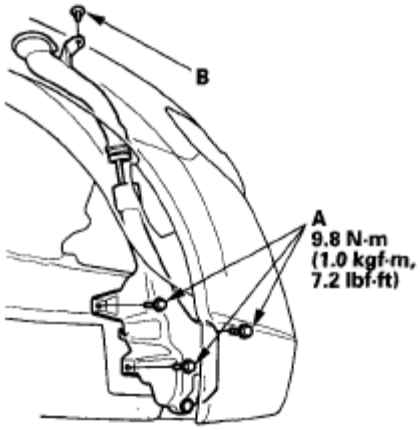



**Fig. 23: Removing Washer Reservoir (With Specifications)**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install in the reverse order of removal.

## WIPER BLADE REPLACEMENT

#### 4-DOOR

1. Lift the wiper arm off the windshield, raising the driver's side first, then the passenger's side.
2. Remove the cover (A), by squeezing the two tabs and pulling it straight out.

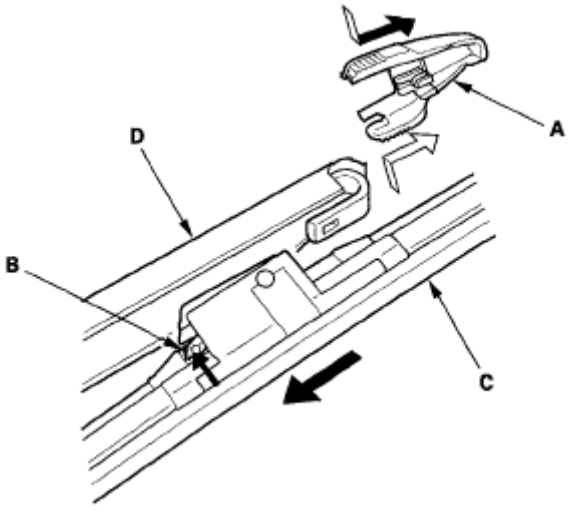



**Fig. 24: Removing Cover**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Press and hold the tab (B) and slide the wiper blade (C) toward the tabs until it releases from the wiper arm (D).
4. Find the side of the blade labeled "LOCK" (A), then pull back the end of the blade and slide out the old rubber (B).

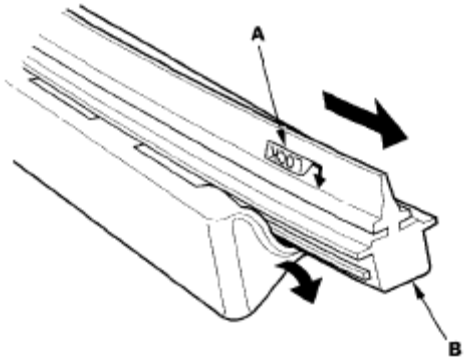



**Fig. 25: Identifying "LOCK" Blade Label**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

5. Install a new rubber in the reverse order of removal.
6. Install the wiper blades onto the windshield wiper arms in the reverse order of removal.
7. Test by turning on the wipers. If the blades slip, turn off the wipers and seat the attachments more firmly.

**2-DOOR**

1. Pull up the wiper arms from the windshield.
2. Push the tab (A) and remove the wiper blade (B) from the wiper arm (C).

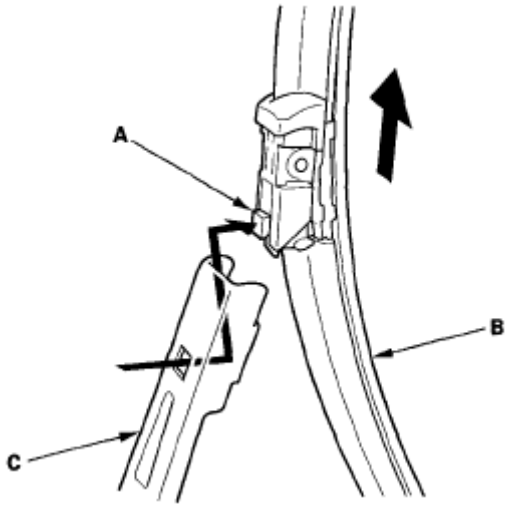



**Fig. 26: Removing Wiper Blade**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Remove the stopper (A), then pull and remove the old rubber (B).

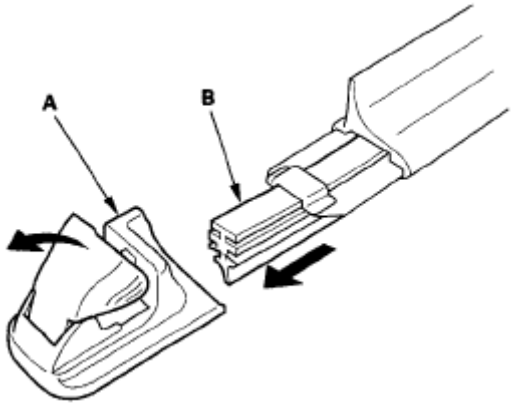



**Fig. 27: Removing Stopper**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Install a new rubber in the reverse order of removal.
5. Install the wiper blades onto the windshield wiper arms in the reverse order of removal.
6. Test by turning on the wipers. If the blades slip, turn off the wipers and seat the attachments more firmly.

## WIPER ARM/NOZZLE ADJUSTMENT

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### Wiper arms stop position

1. When the wiper arms stop at the automatic stop position, confirm that they are at the standard position.

#### 2-door

a: Position at about 1.1 in. (29 mm) from the top of cowl cover (A)

b: Position at about 4.1 in. (106 mm) from the top of cowl cover (A)

#### 4-door

a: Position at about 0.9 in. (23 mm) from the top of cowl cover (A)

b: Position at about 3.8 in. (96 mm) from the top of cowl cover (A)

### Washer nozzle position

2. When you turn on the washers, confirm 50% or more of the washer fluid lands within the spray area. If the spray area is not within the standard positions, adjust the nozzles.

#### 2-door

c: Position at about 11.8 in. (302 mm) from the top of the black ceramic area (B) at the lower windshield

d: Position at about 11.8 in. (302 mm) from the top of the black ceramic area (B) at the lower windshield

e: Position at about 9.8 in. (250 mm) from the windshield center line (C)

#### 4-door

c: Position at about 7.6 in. (192 mm) from the top of the black ceramic area (B) at the lower windshield

d: Position at about 7.6 in. (192 mm) from the top of the black ceramic area (B) at the lower windshield

e: Position at about 9.8 in. (250 mm) from the windshield center line (C)

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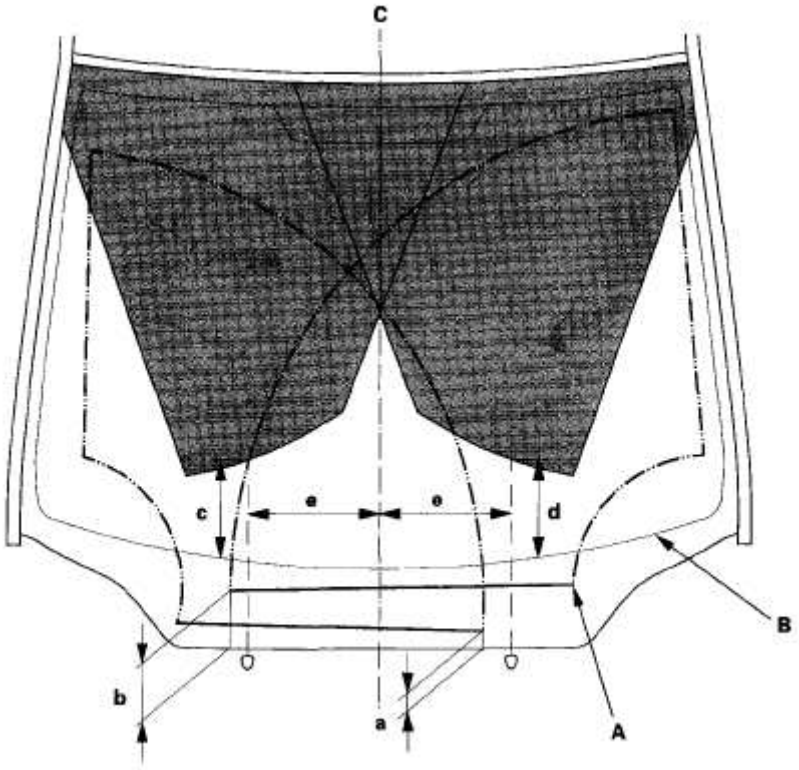



**Fig. 28: Adjusting Wiper Arm/Nozzle**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

## WASHER TUBE REPLACEMENT

1. Remove the right inner fender.
   - 2-door (see **FRONT INNER FENDER REPLACEMENT** )
   - 4-door (see **4-DOOR** )
2. Remove the washer nozzles and clips, then remove the tubes.

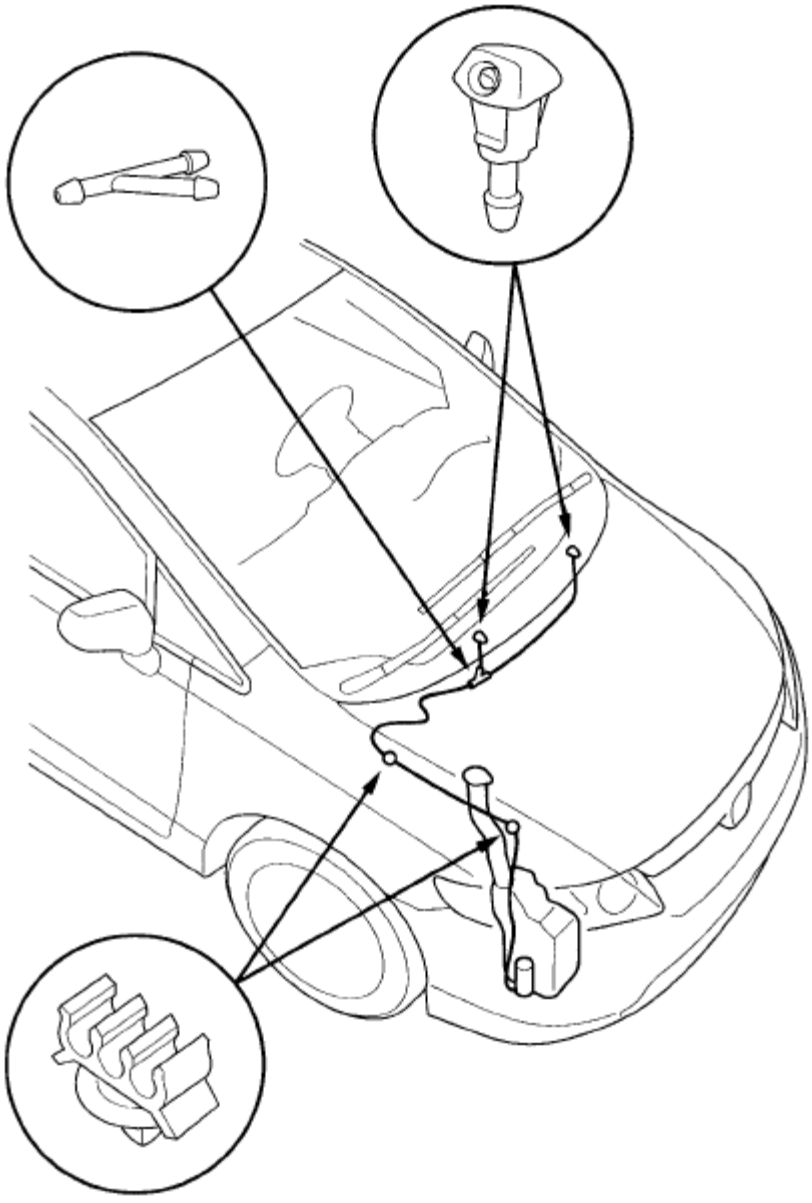


**Fig. 29: Removing Washer Nozzles And Clips**
**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

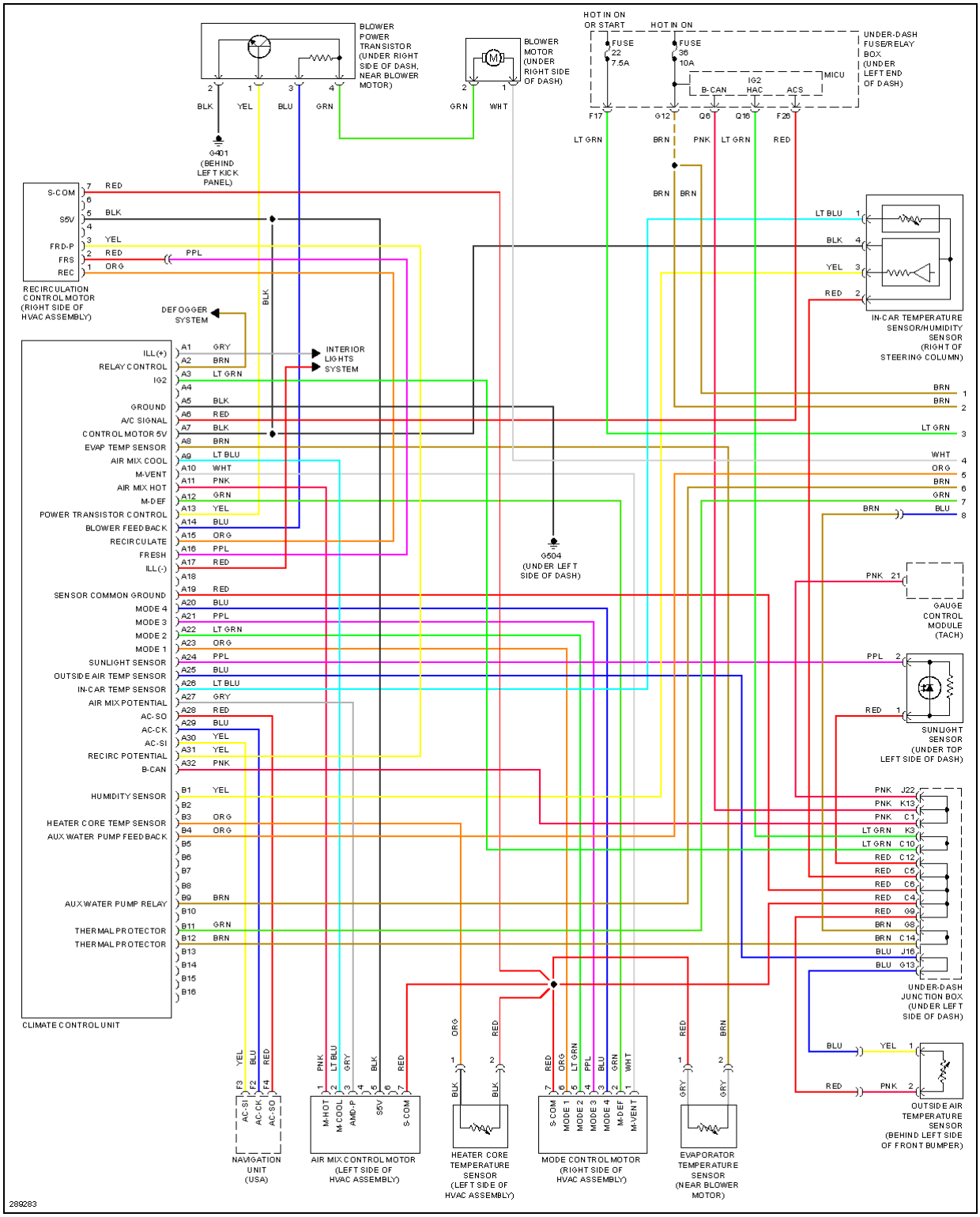
3. Install in the reverse order of removal. Take care not to pinch the washer tube. Check the windshield washer operation.

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic



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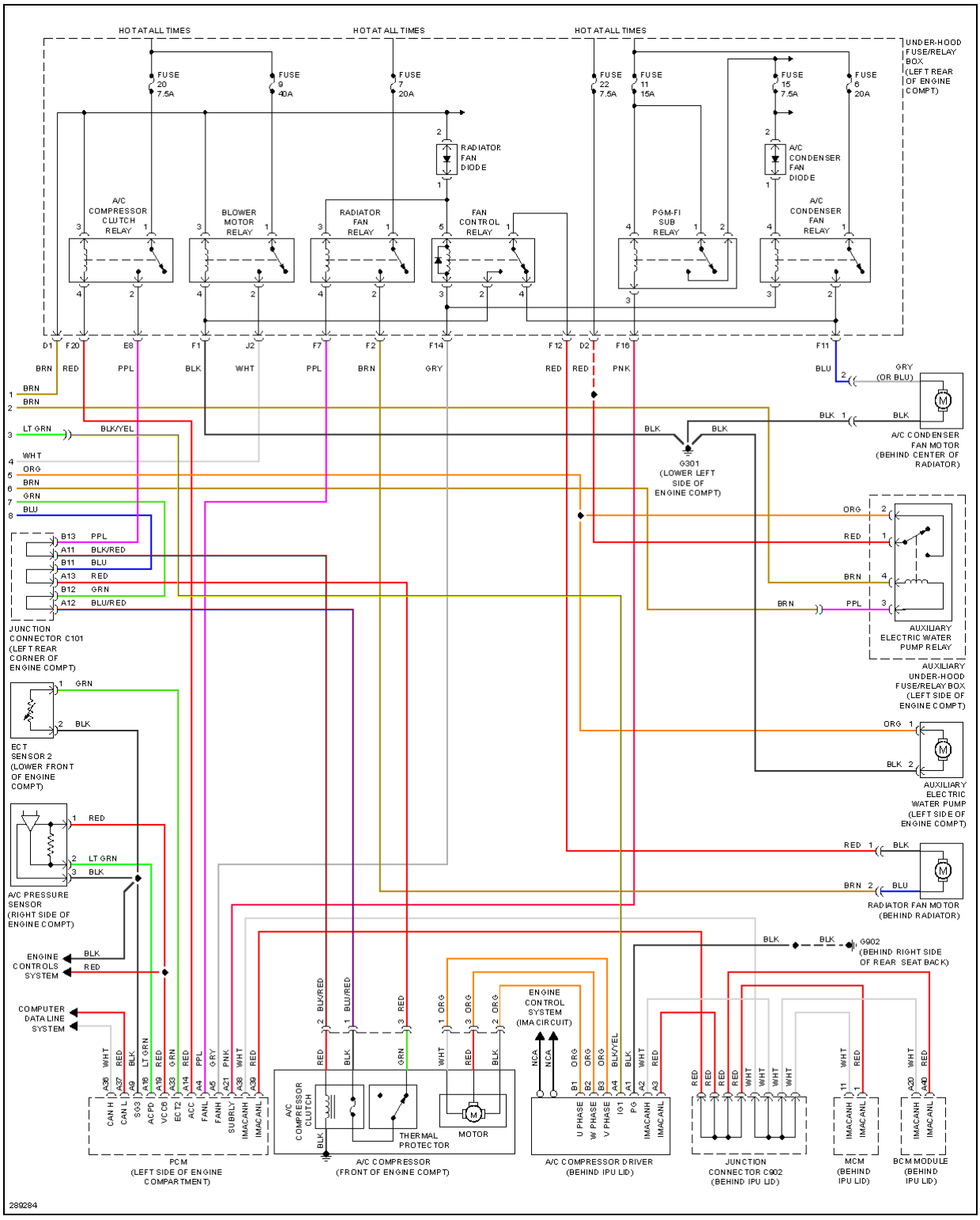


# Fig. 1: Automatic A/C Circuit, Hybrid (1 of 2)

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic



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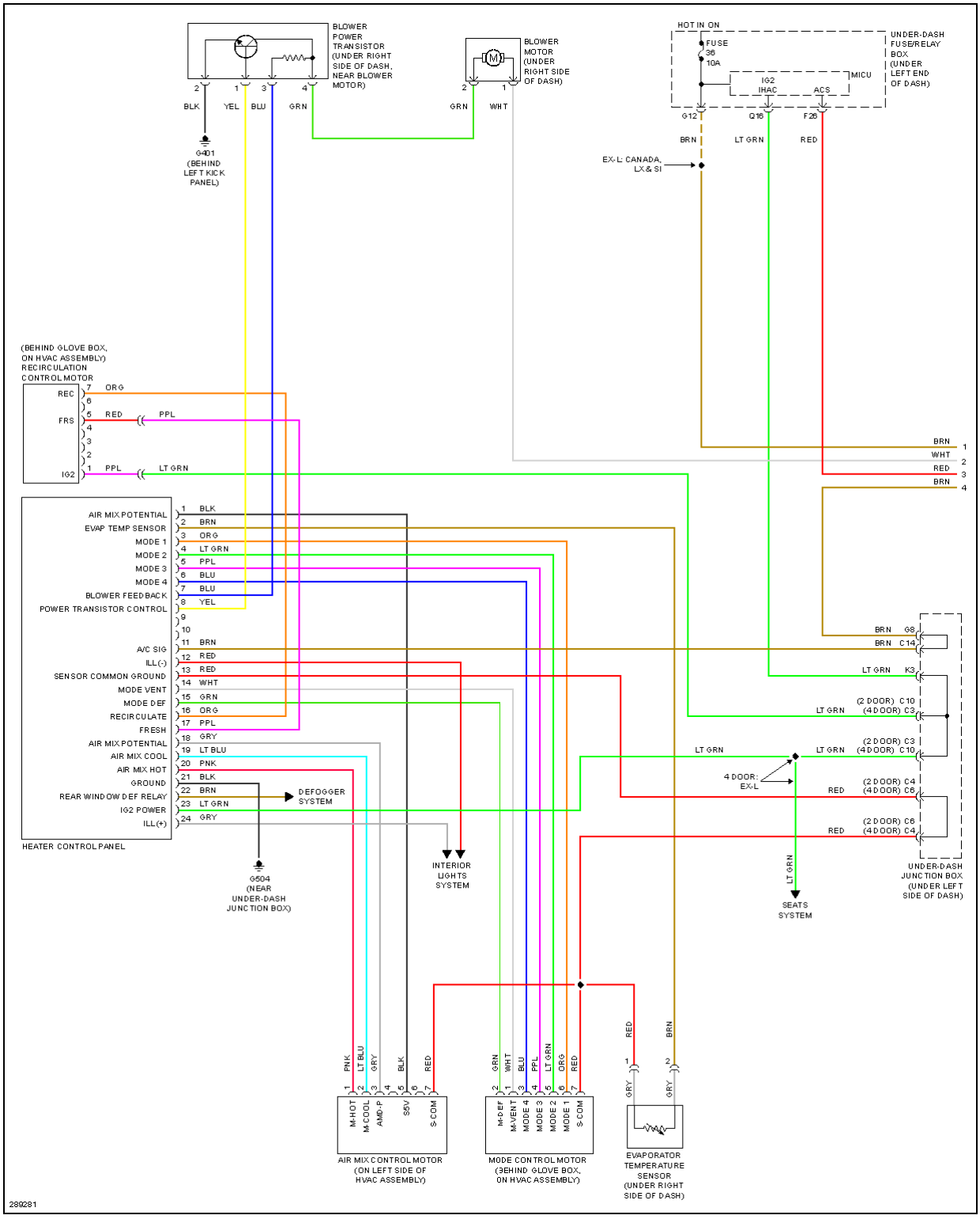


## Fig. 2: Automatic A/C Circuit, Hybrid (2 of 2)

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

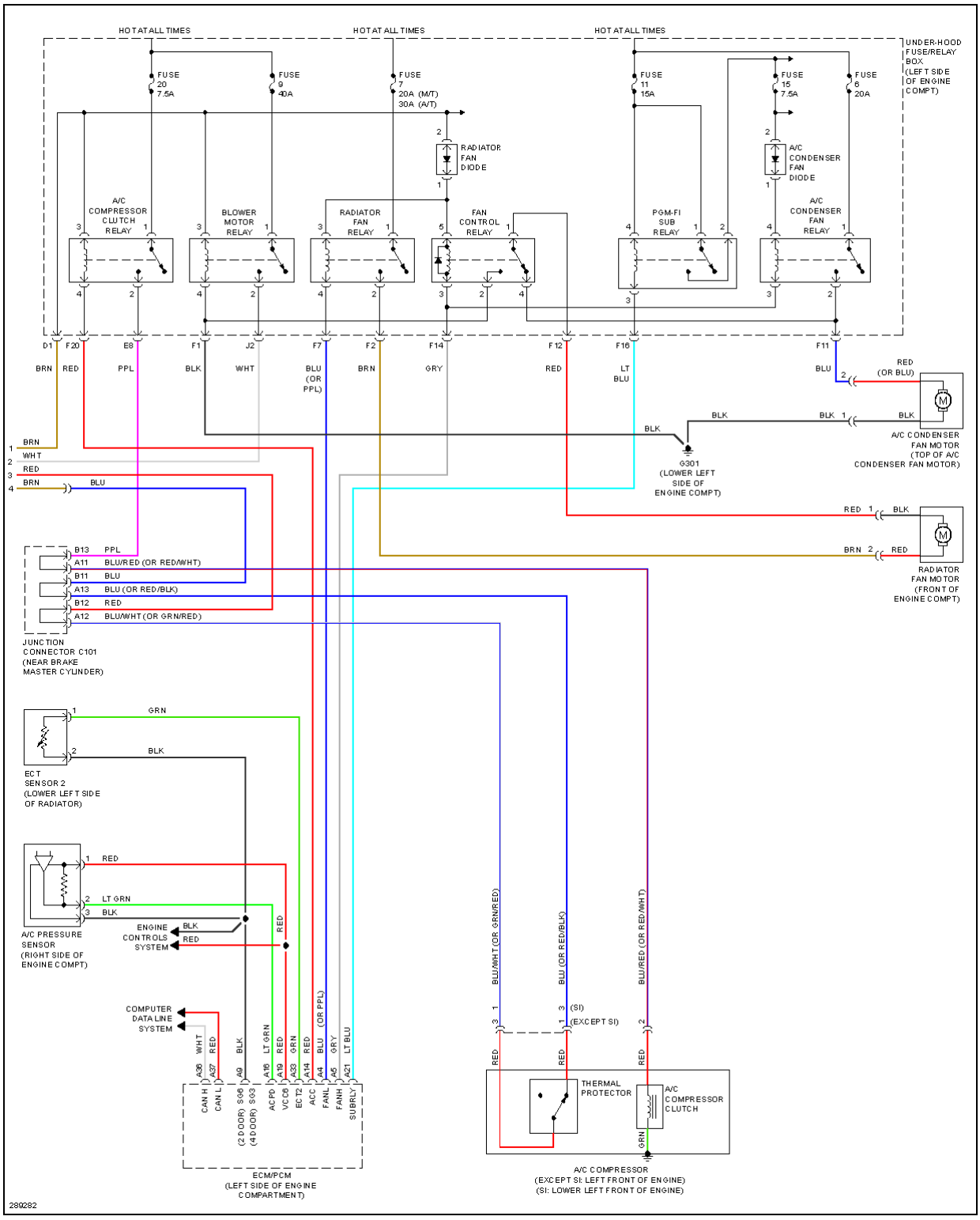


## Fig. 3: Manual A/C Circuit, Except Hybrid (1 of 2)

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic



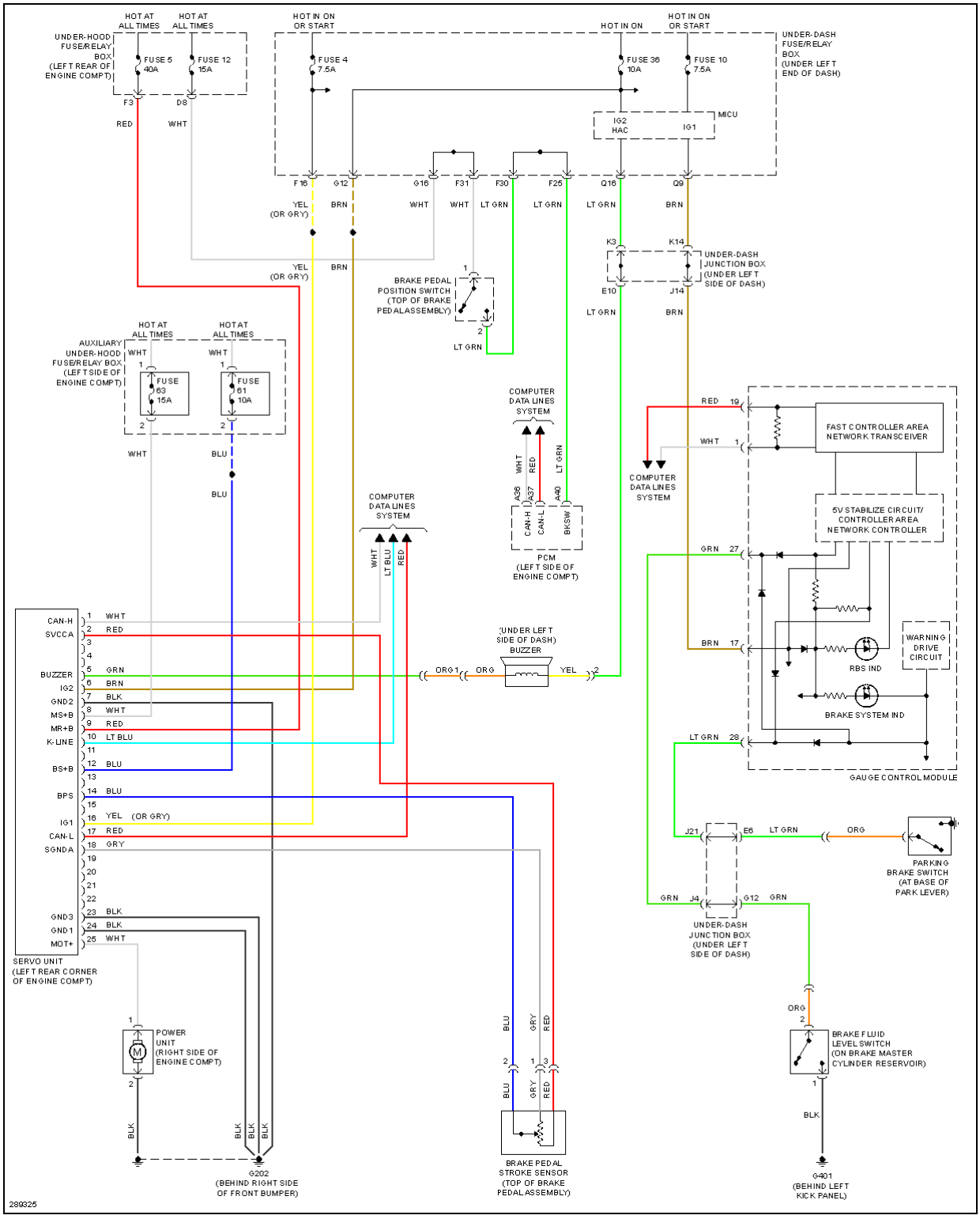
## Fig. 4: Manual A/C Circuit, Except Hybrid (2 of 2)

## ANTI-LOCK BRAKES

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

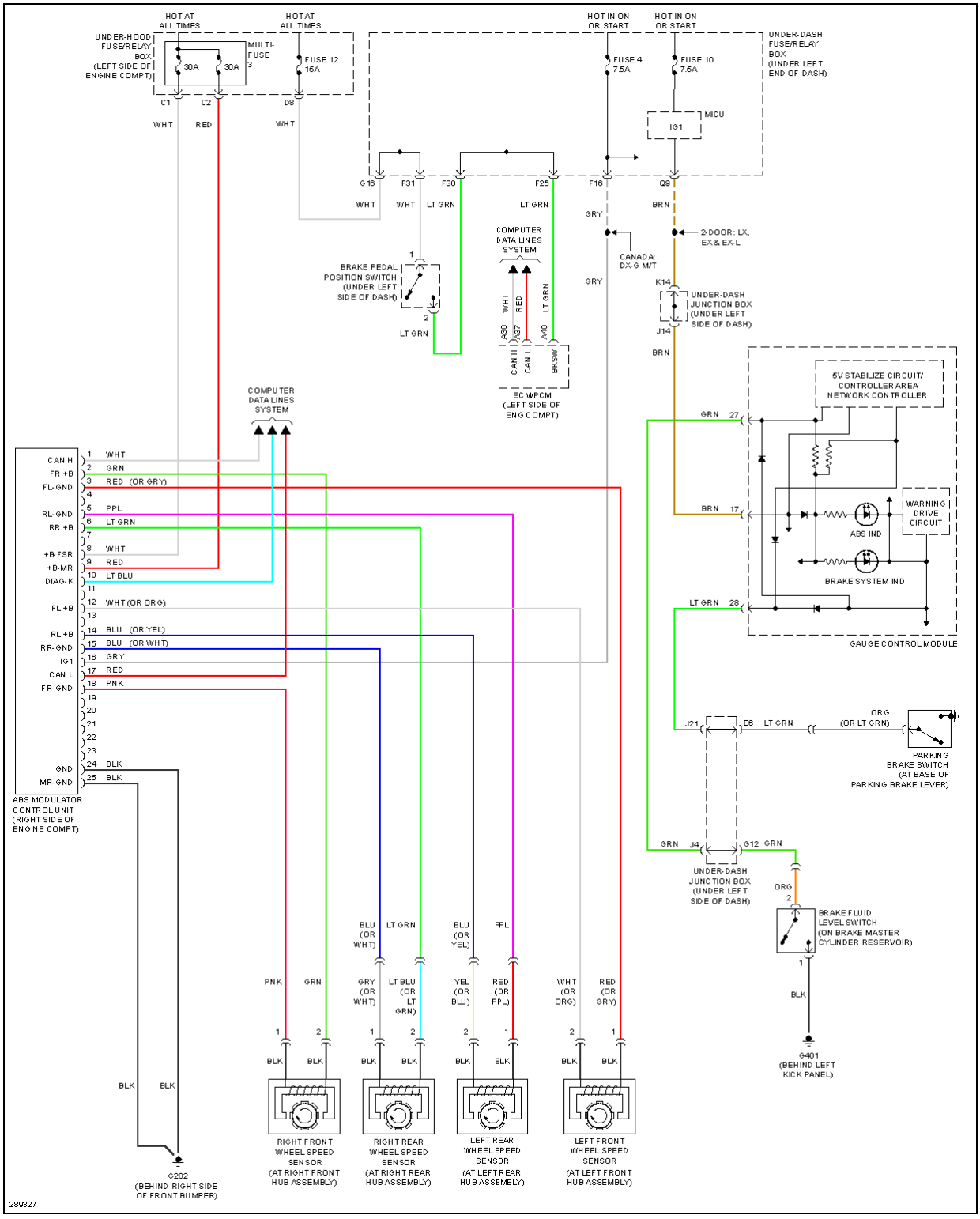


## Fig. 5: Advanced Hydraulic Booster Circuit, Hybrid

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

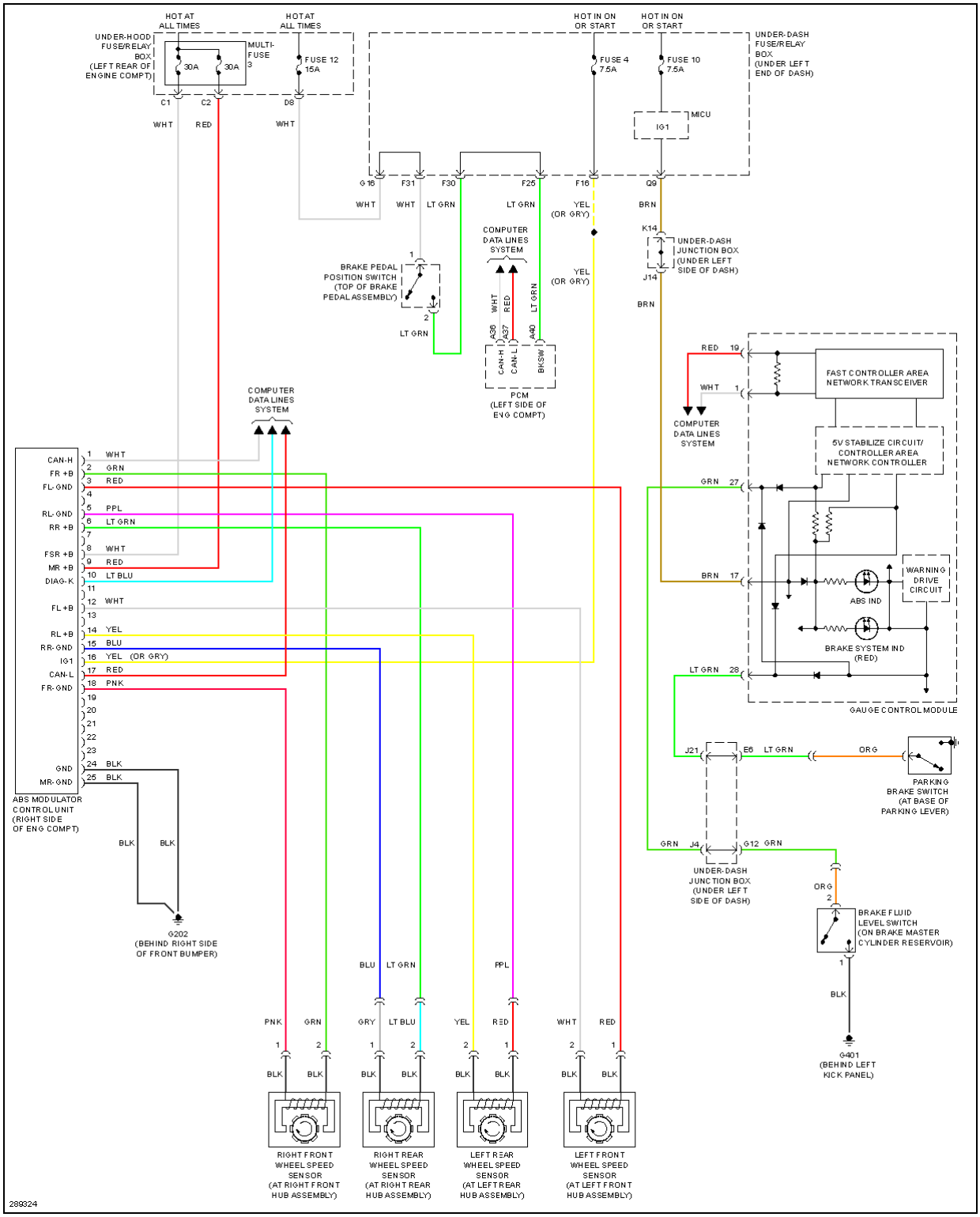


## Fig. 6: Anti-Lock Brakes Circuit, Except SI

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

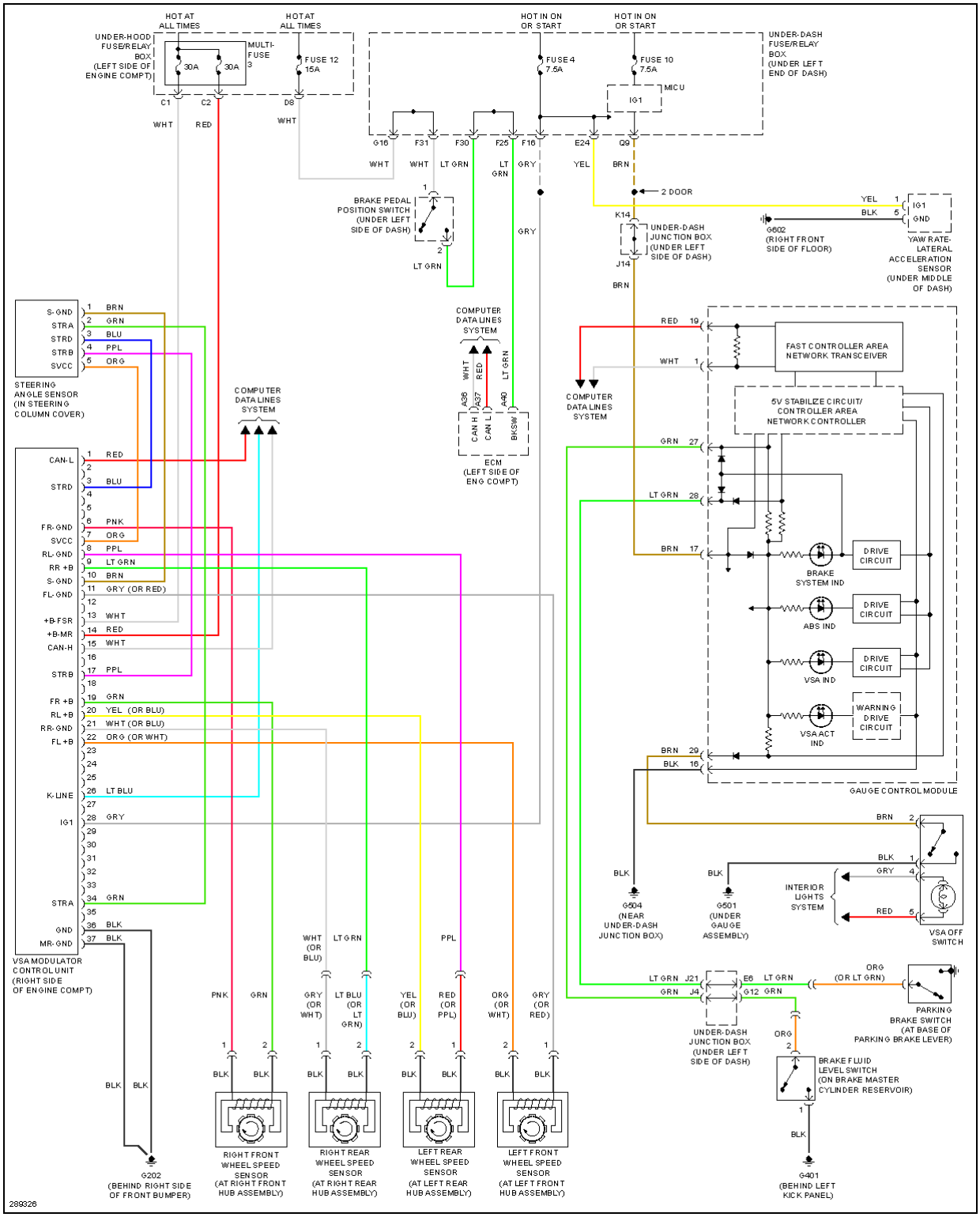


## Fig. 7: Anti-Lock Brakes Circuit, Hybrid

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic



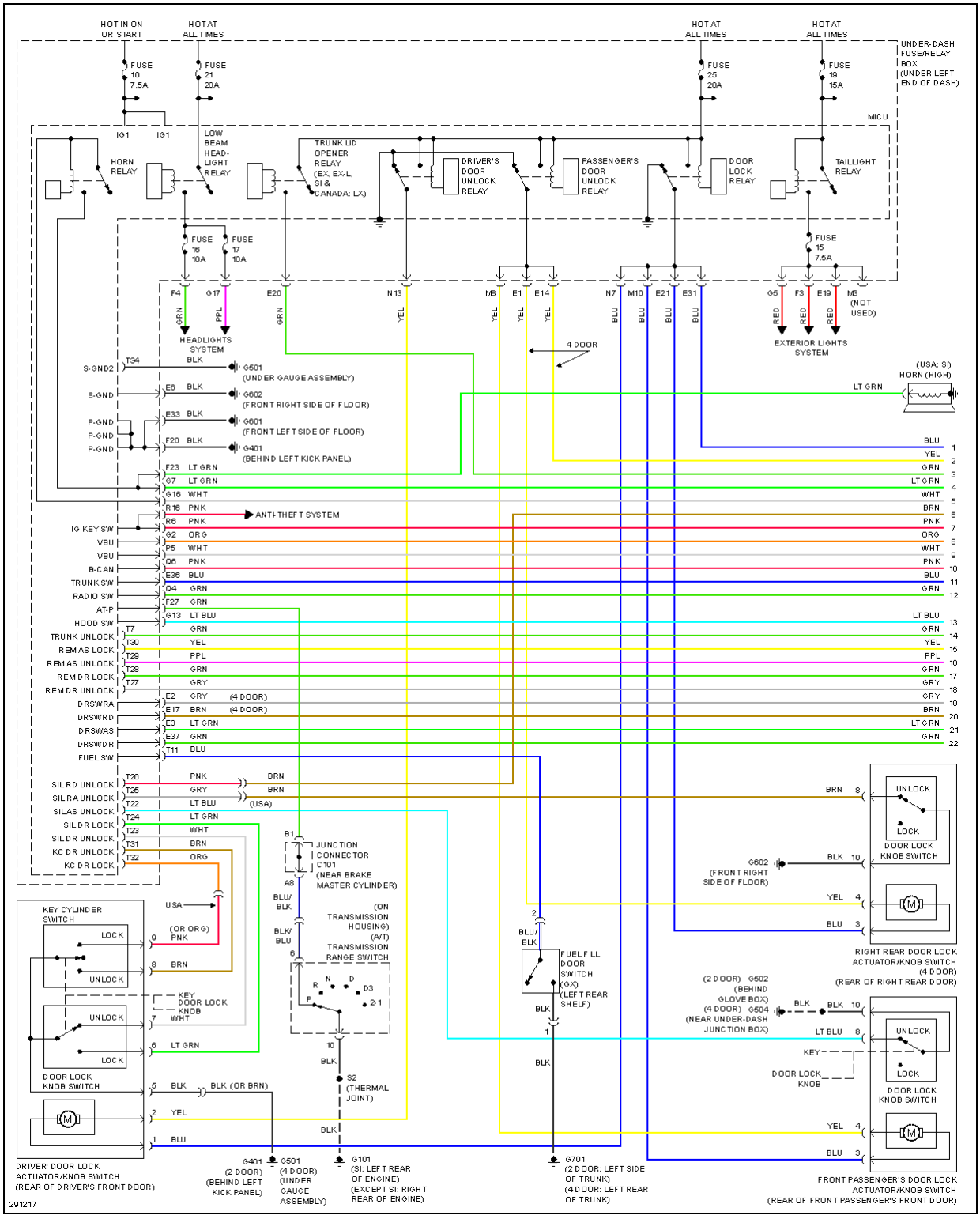
## Fig. 8: Anti-Lock Brakes Circuit, SI

## ANTI-THEFT

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

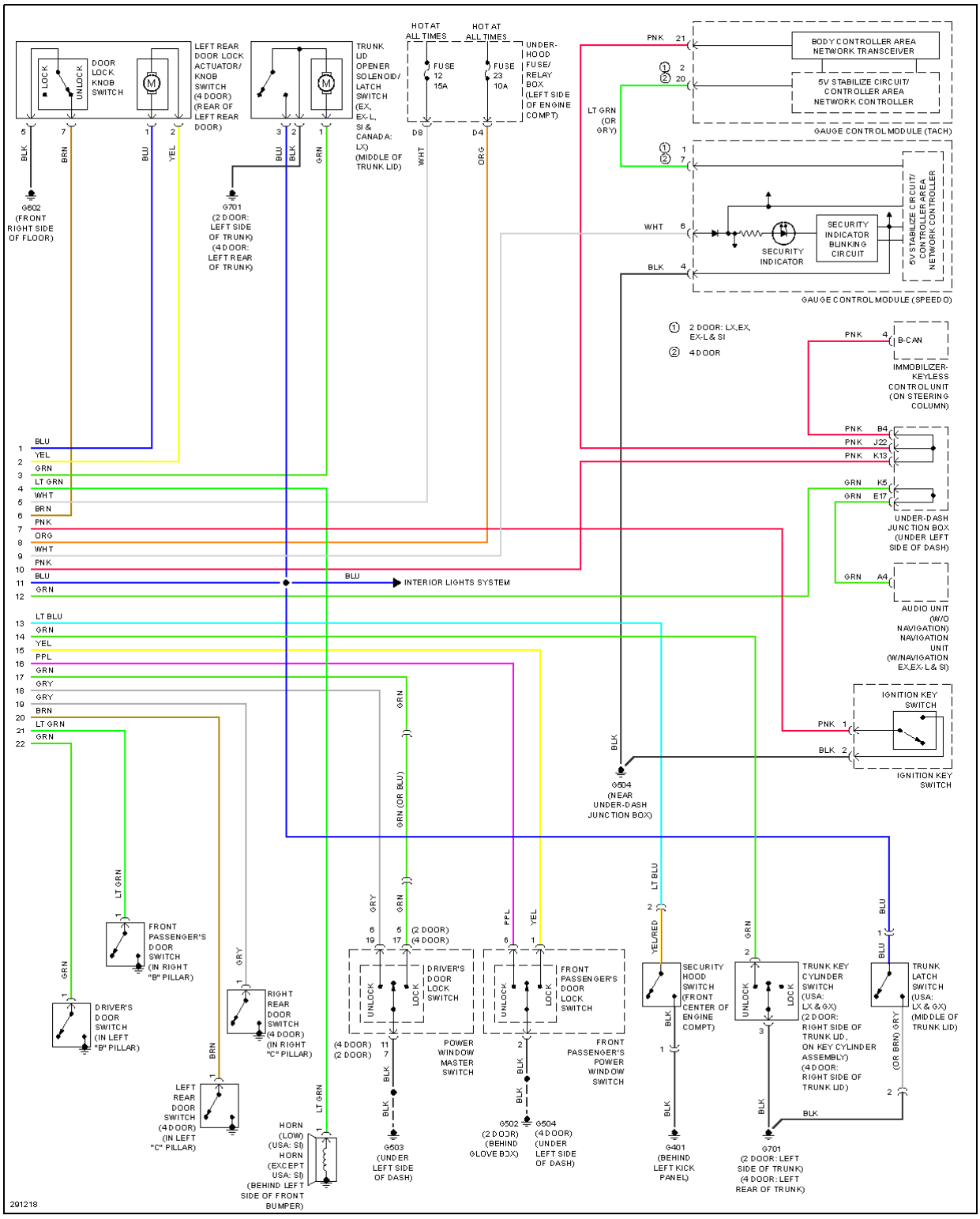


## Fig. 9: Forced Entry Circuit, Except Hybrid (1 of 2)

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

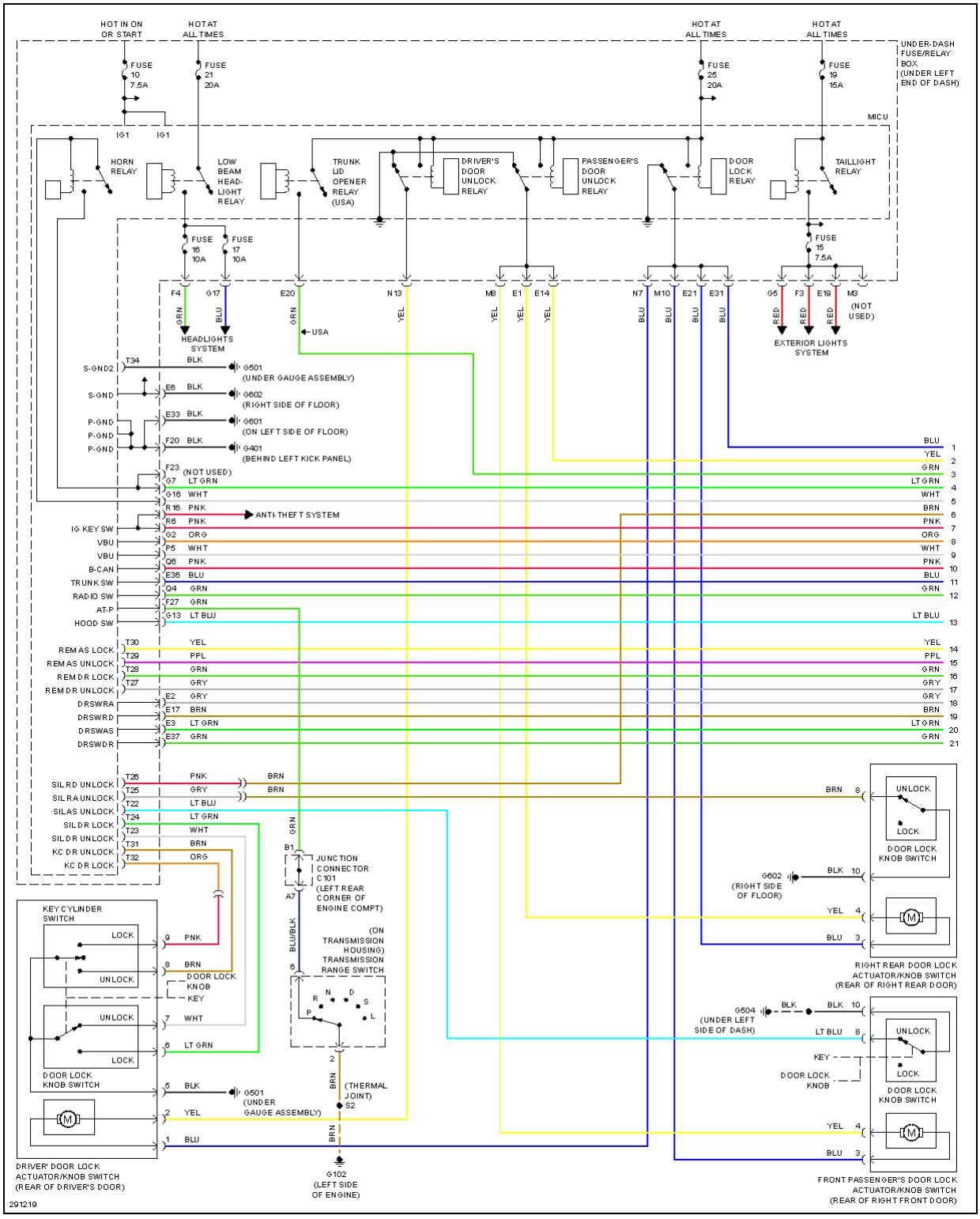


## Fig. 10: Forced Entry Circuit, Except Hybrid (2 of 2)

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic



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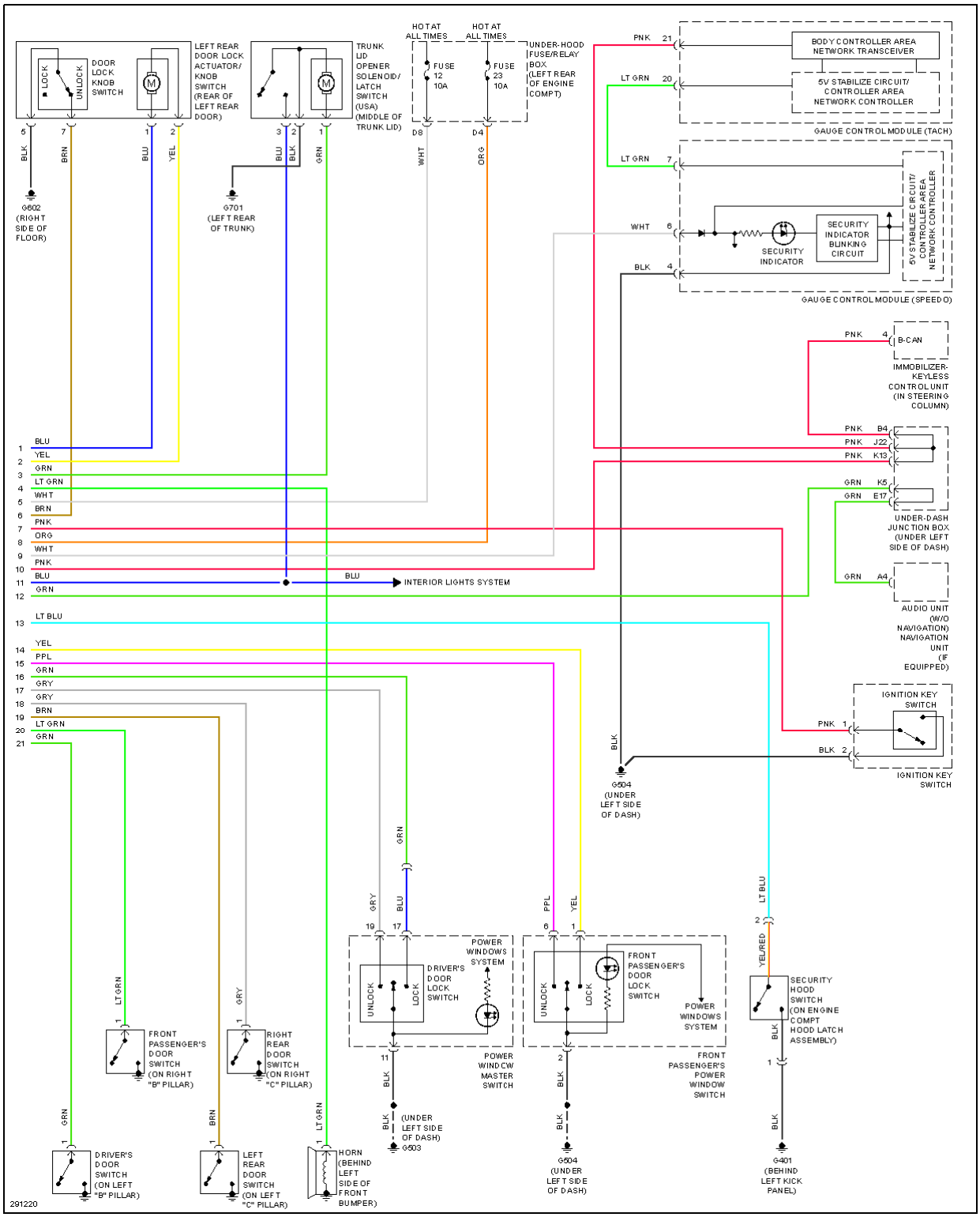


# Fig. 11: Forced Entry Circuit, Hybrid (1 of 2)

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

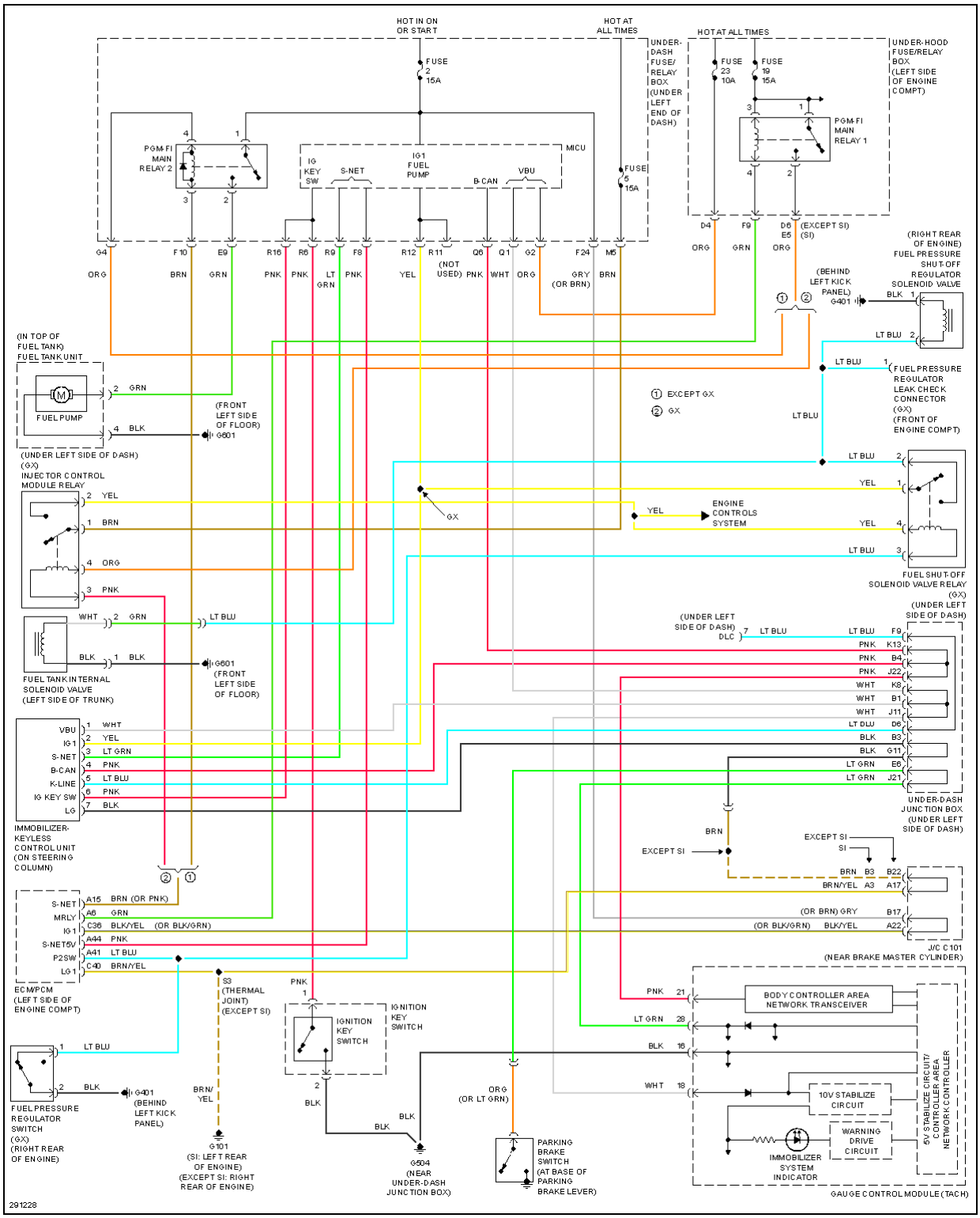


## Fig. 12: Forced Entry Circuit, Hybrid (2 of 2)

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

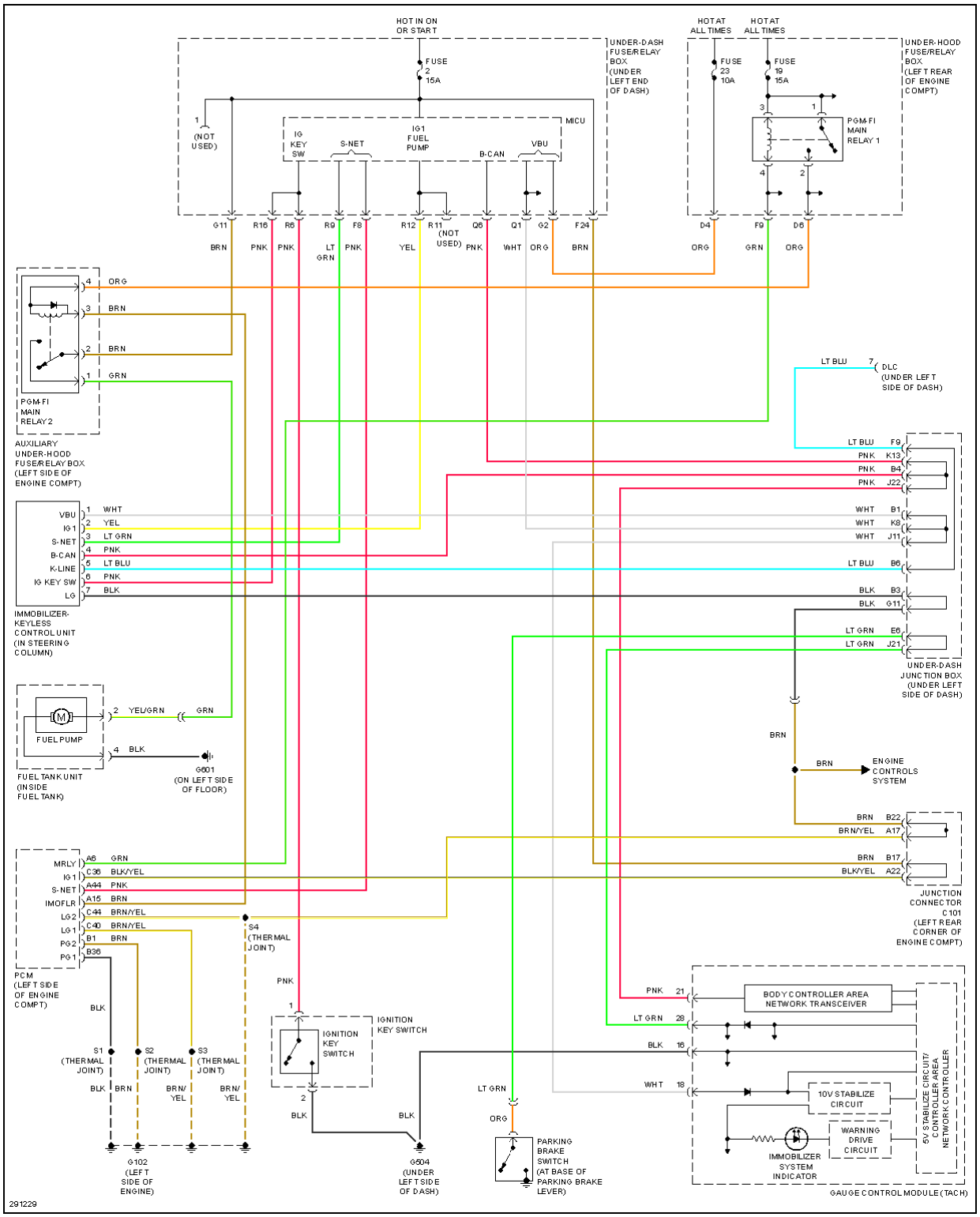


## Fig. 13: Immobilizer Circuit, Except Hybrid

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic



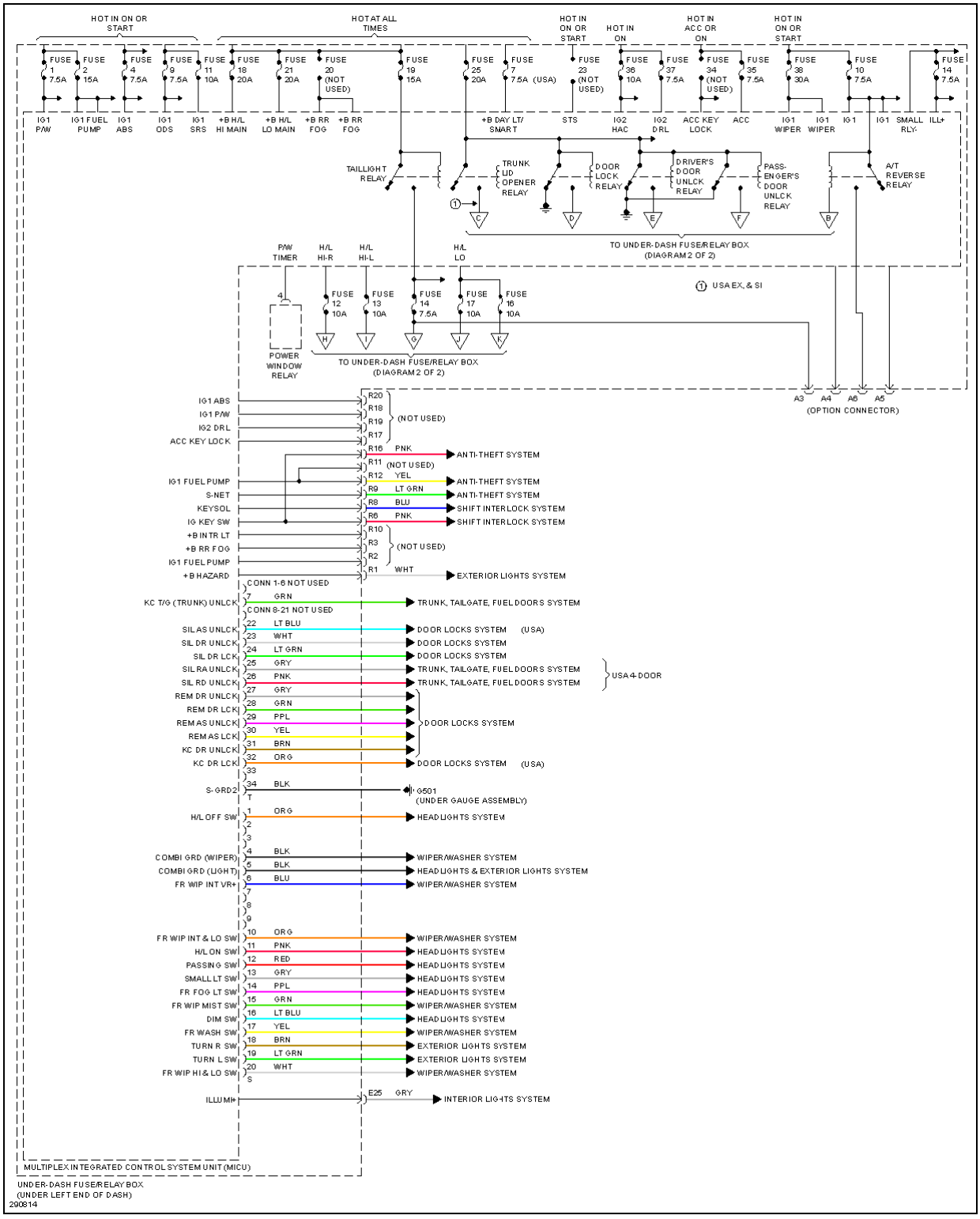
## Fig. 14: Immobilizer Circuit, Hybrid

## BODY CONTROL MODULES

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

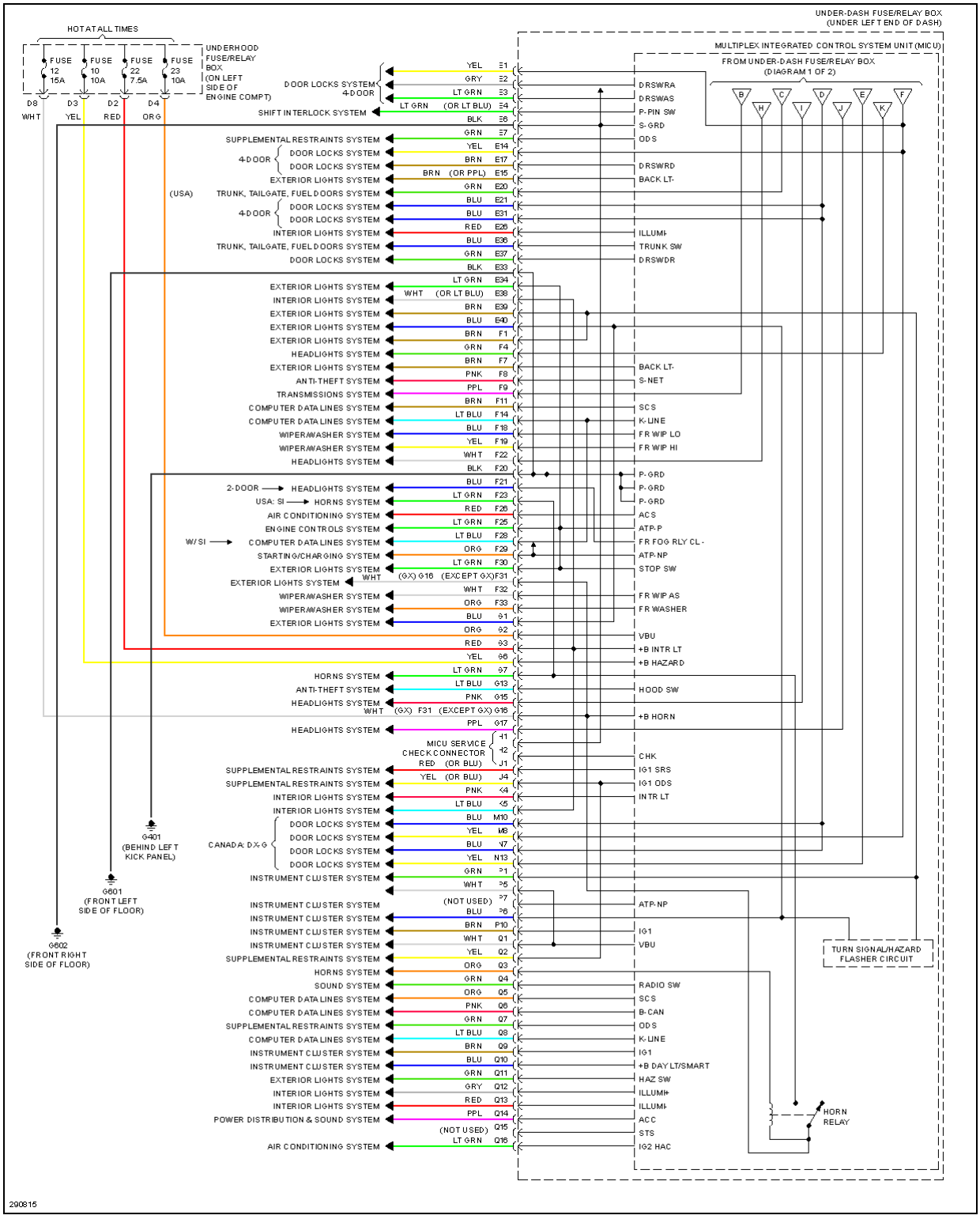


## Fig. 15: Body Control Modules Circuit, Except Hybrid (1 of 2)

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

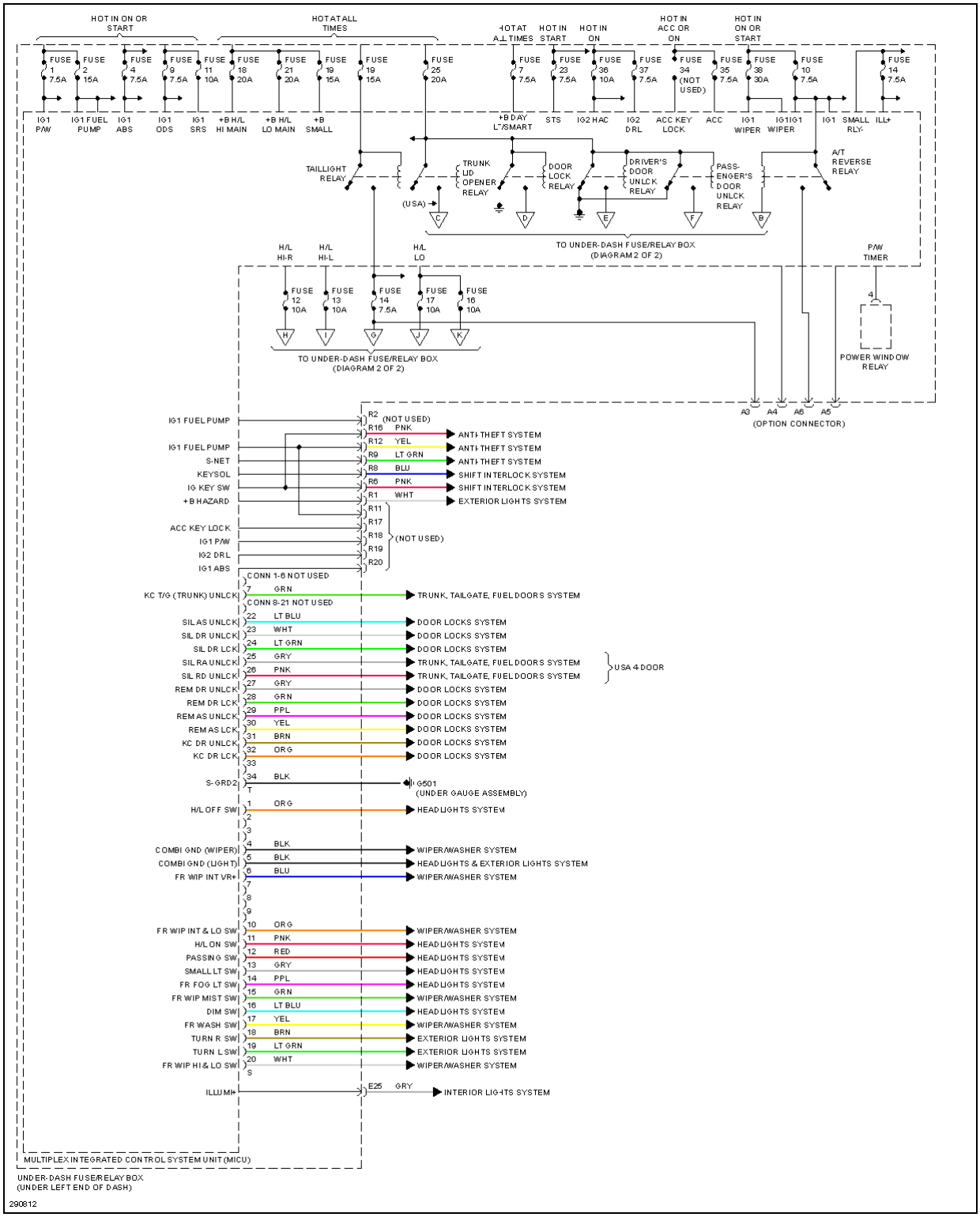


## Fig. 16: Body Control Modules Circuit, Except Hybrid (2 of 2)

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

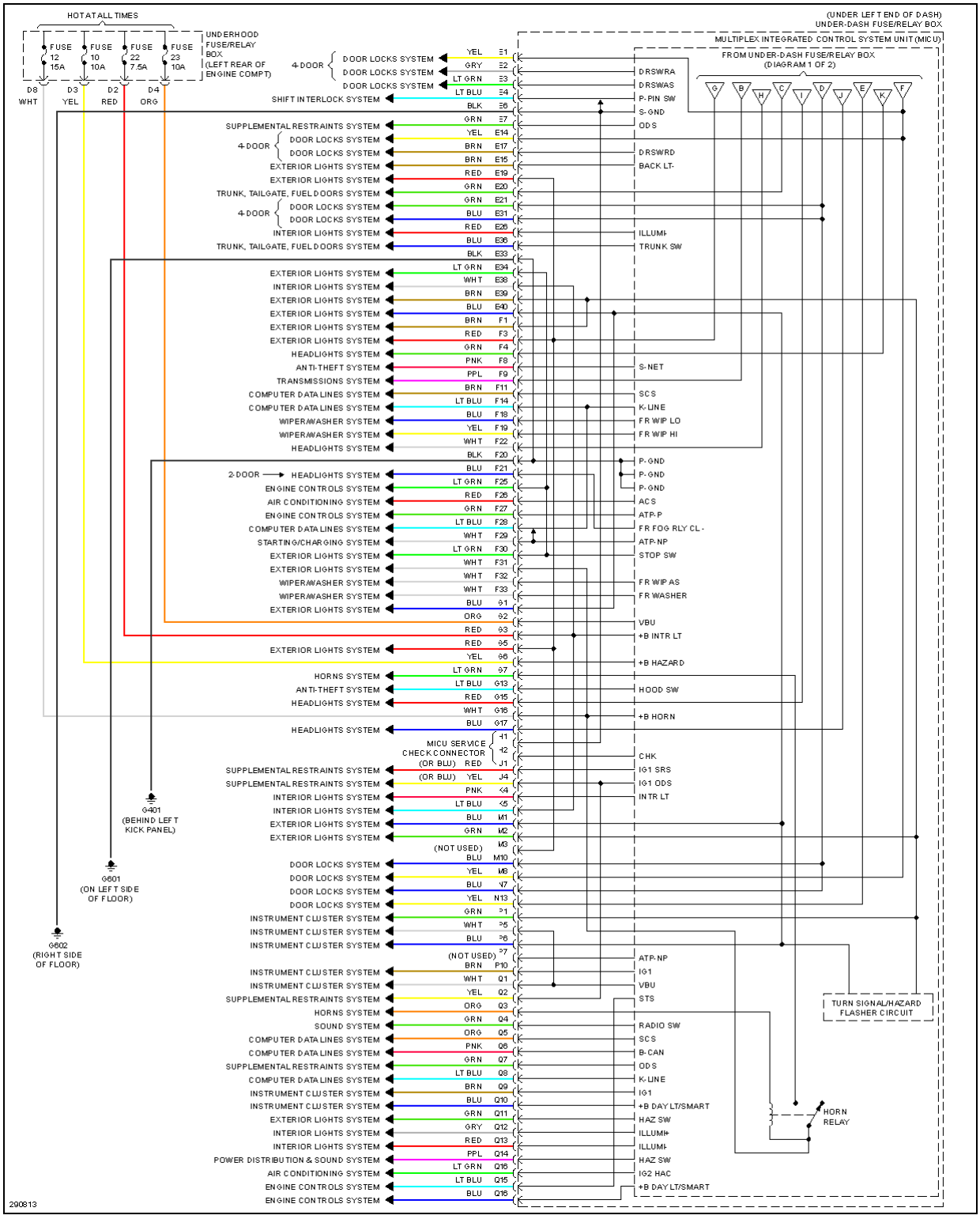


## Fig. 17: Body Control Modules Circuit, Hybrid (1 of 2)

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

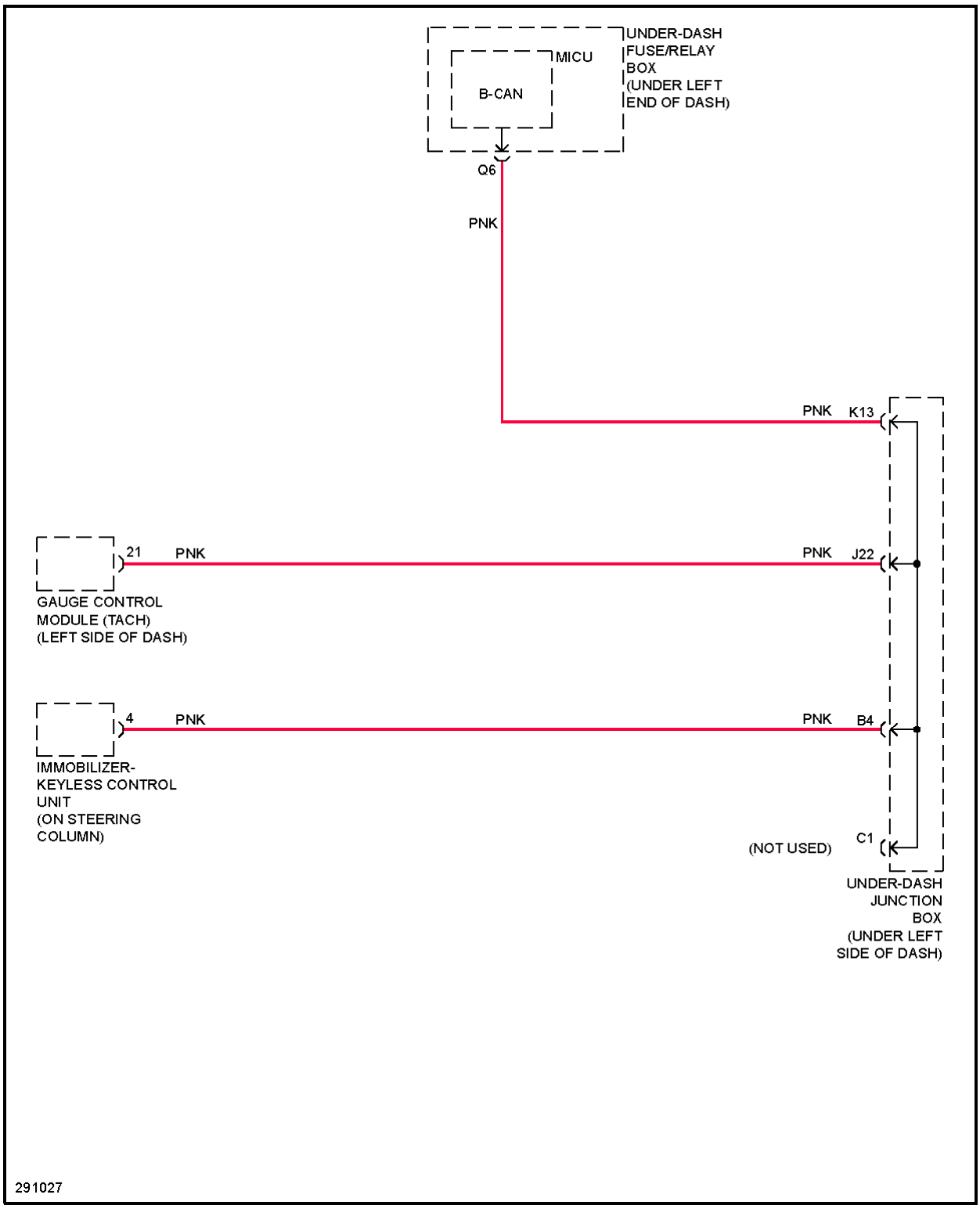


## Fig. 18: Body Control Modules Circuit, Hybrid (2 of 2)

## COMPUTER DATA LINES

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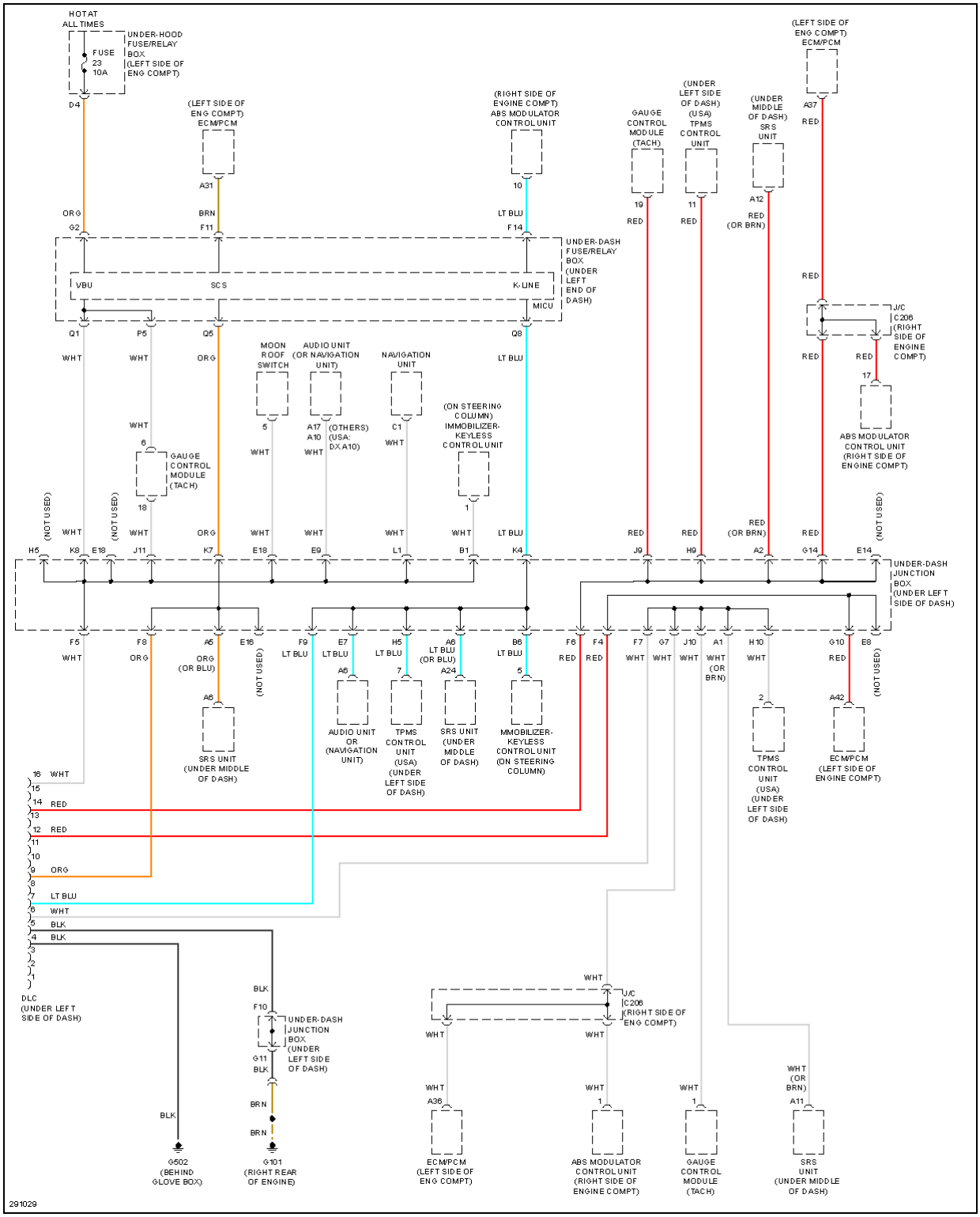


## Fig. 19: B-CAN Circuit, Except Hybrid

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

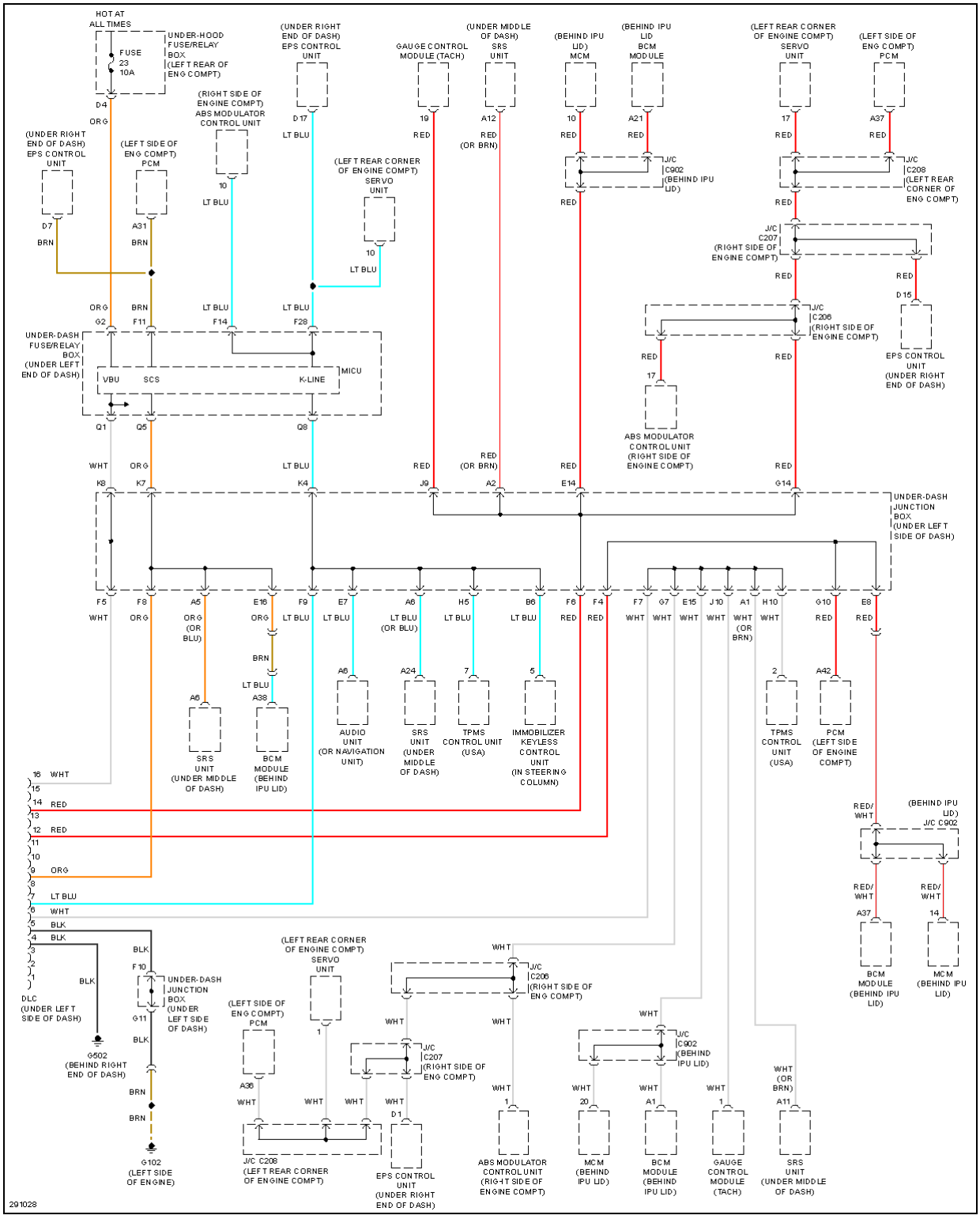


## Fig. 20: Data Link Connector Circuit, Except SI

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

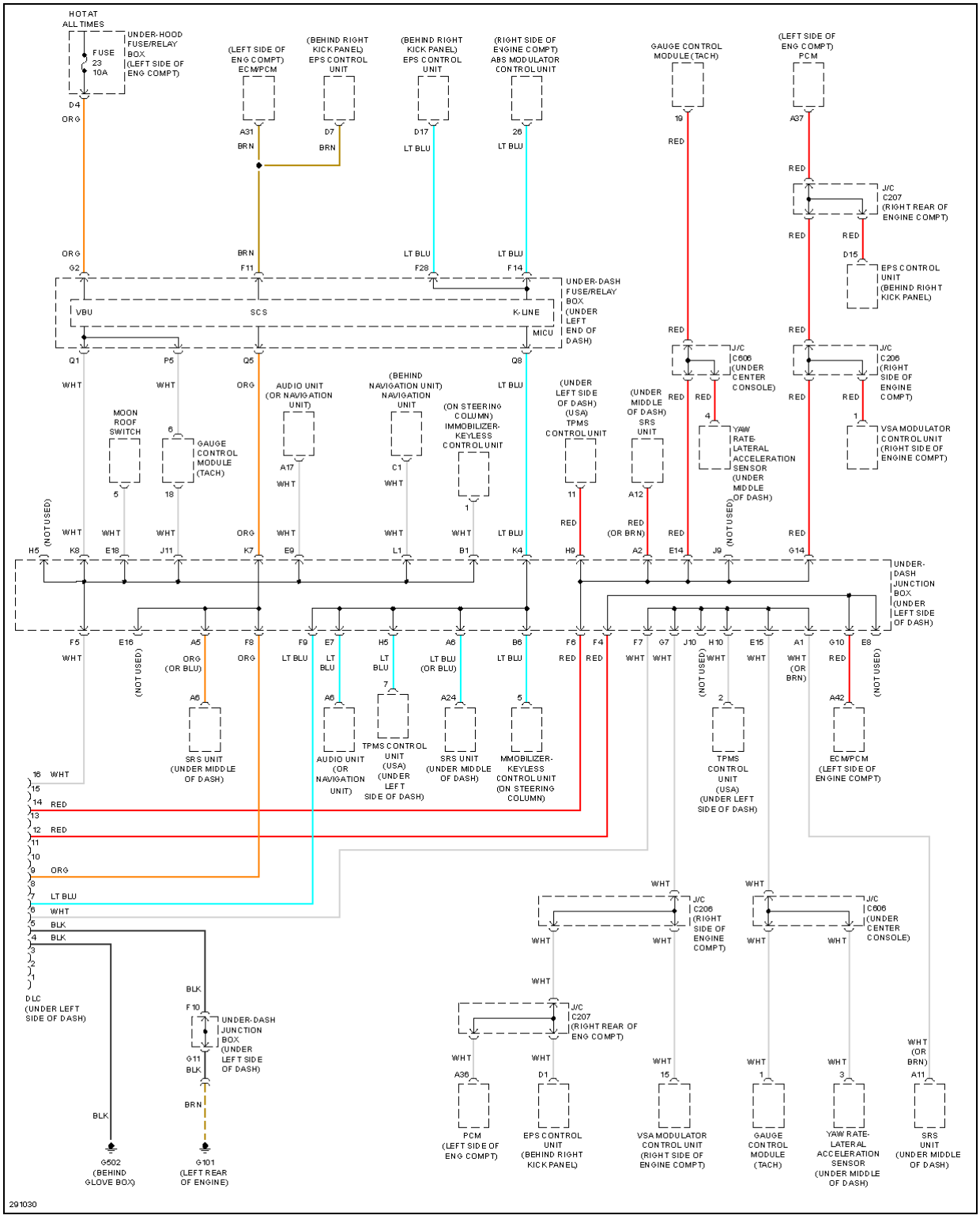


## Fig. 21: Data Link Connector Circuit, Hybrid

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

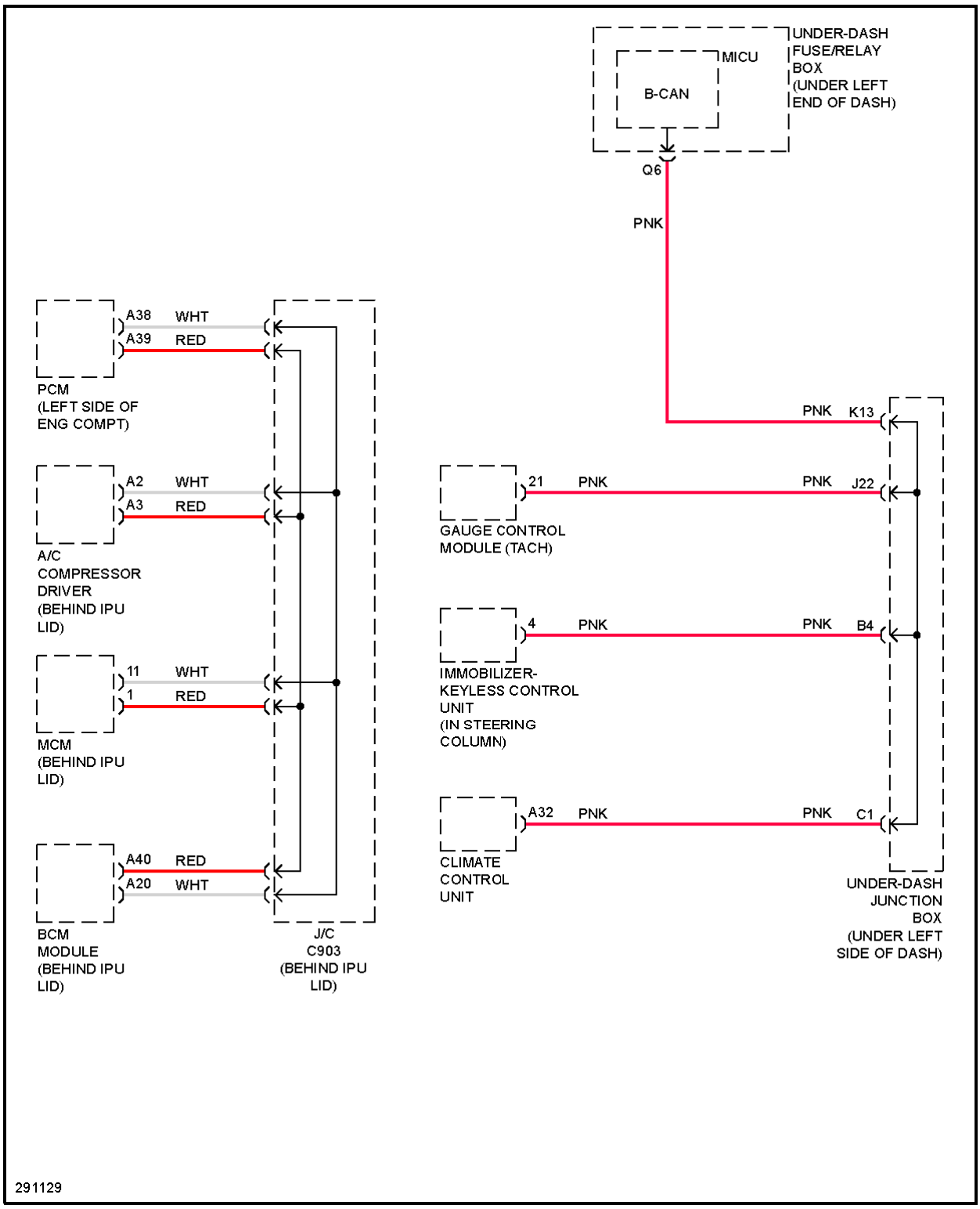


## Fig. 22: Data Link Connector Circuit, SI

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic



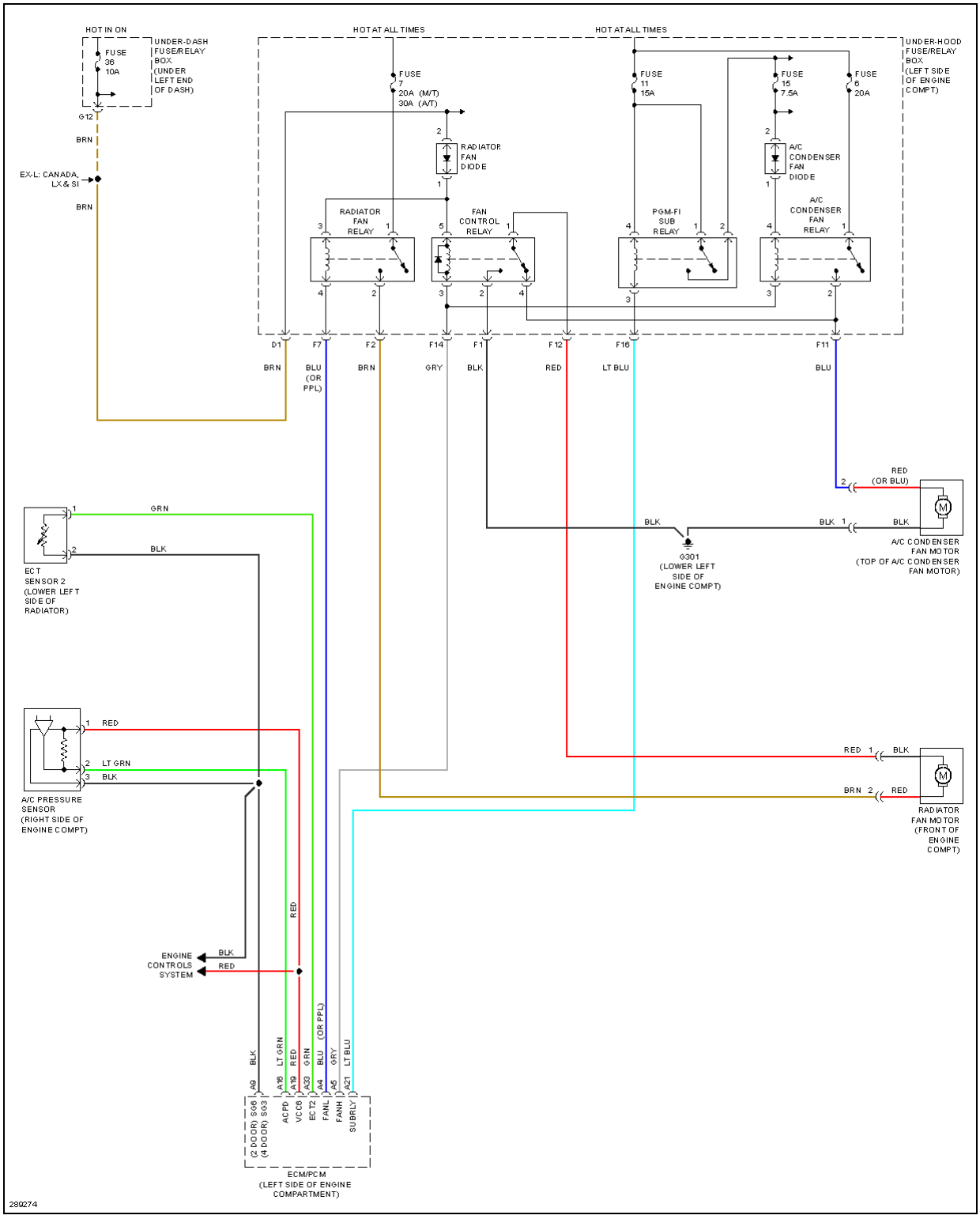
## Fig. 23: IMA F-CAN High/Low & B-CAN Circuits, Hybrid

## COOLING FAN

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

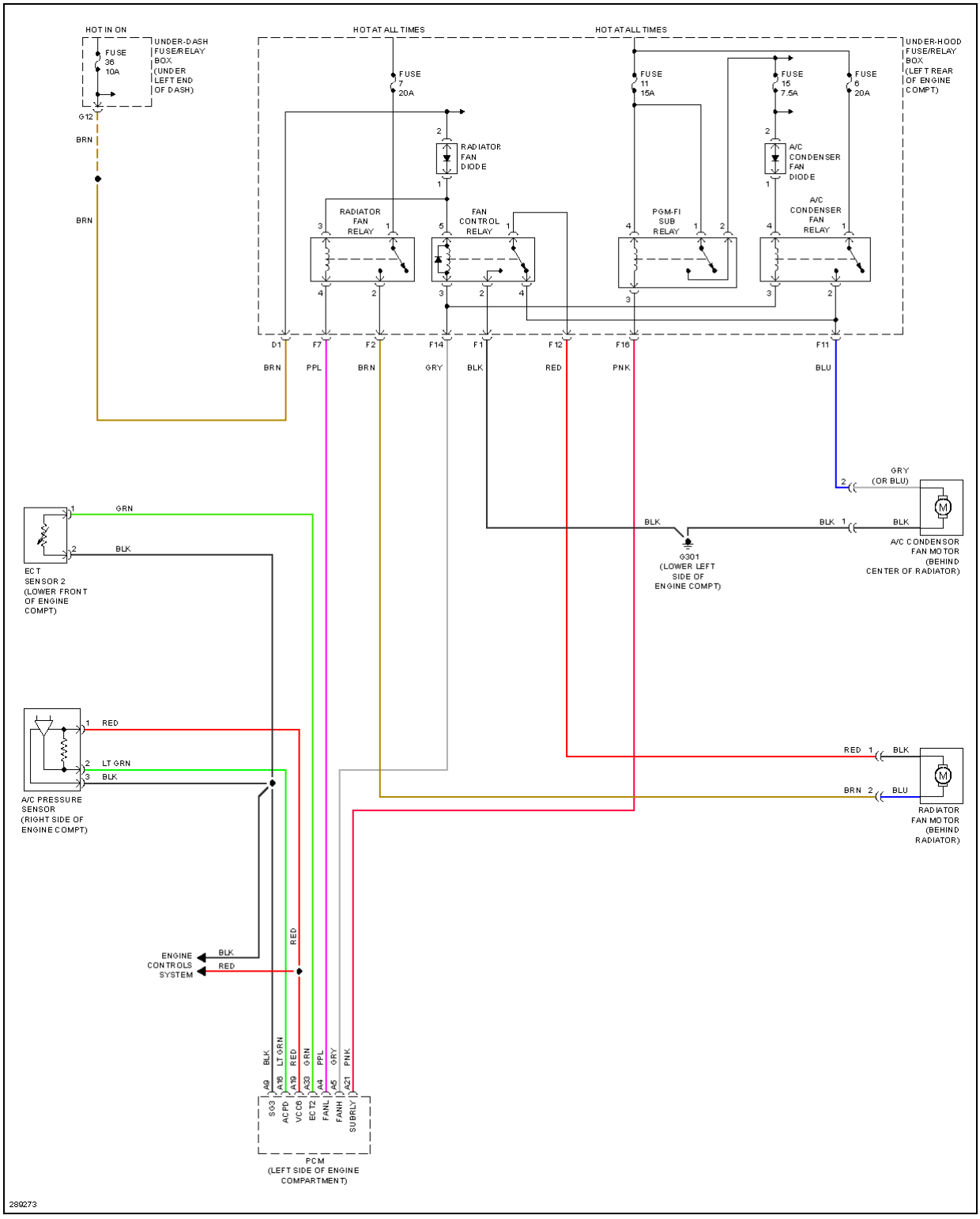


## Fig. 24: Cooling Fan Circuit, Except Hybrid

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic



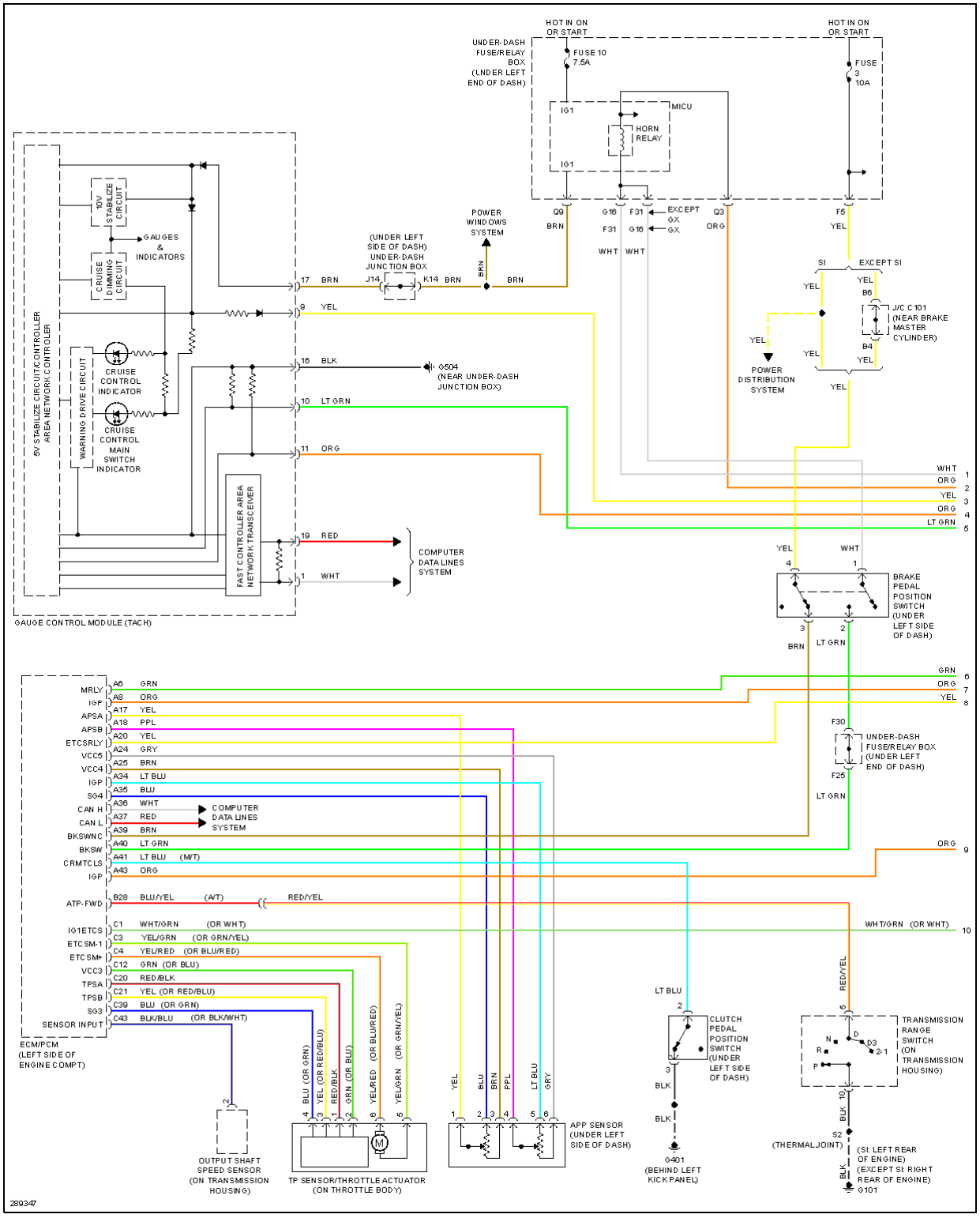
## Fig. 25: Cooling Fan Circuit, Hybrid

## CRUISE CONTROL

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

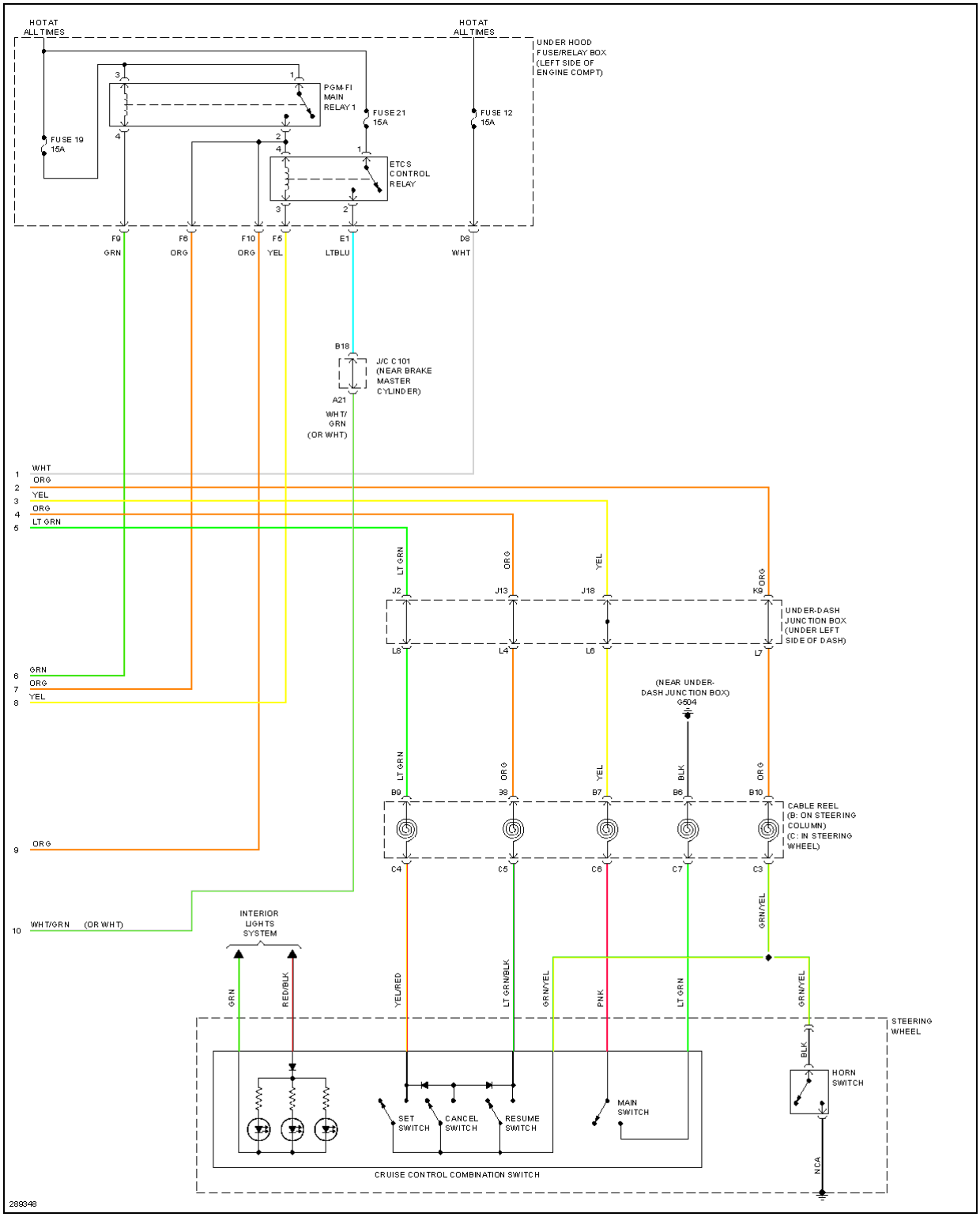


## Fig. 26: Cruise Control Circuit, Except Hybrid (1 of 2)

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

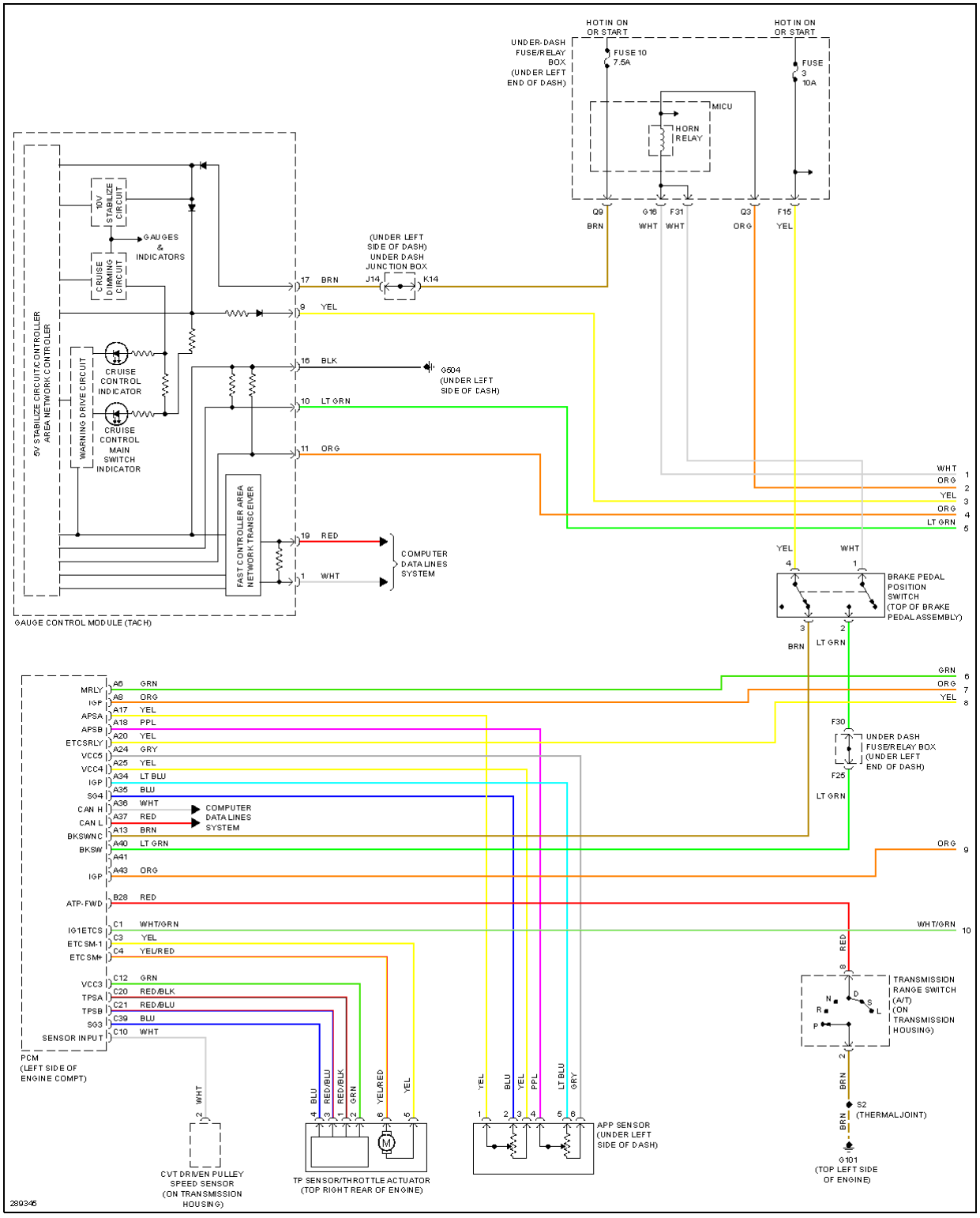


## Fig. 27: Cruise Control Circuit, Except Hybrid (2 of 2)

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

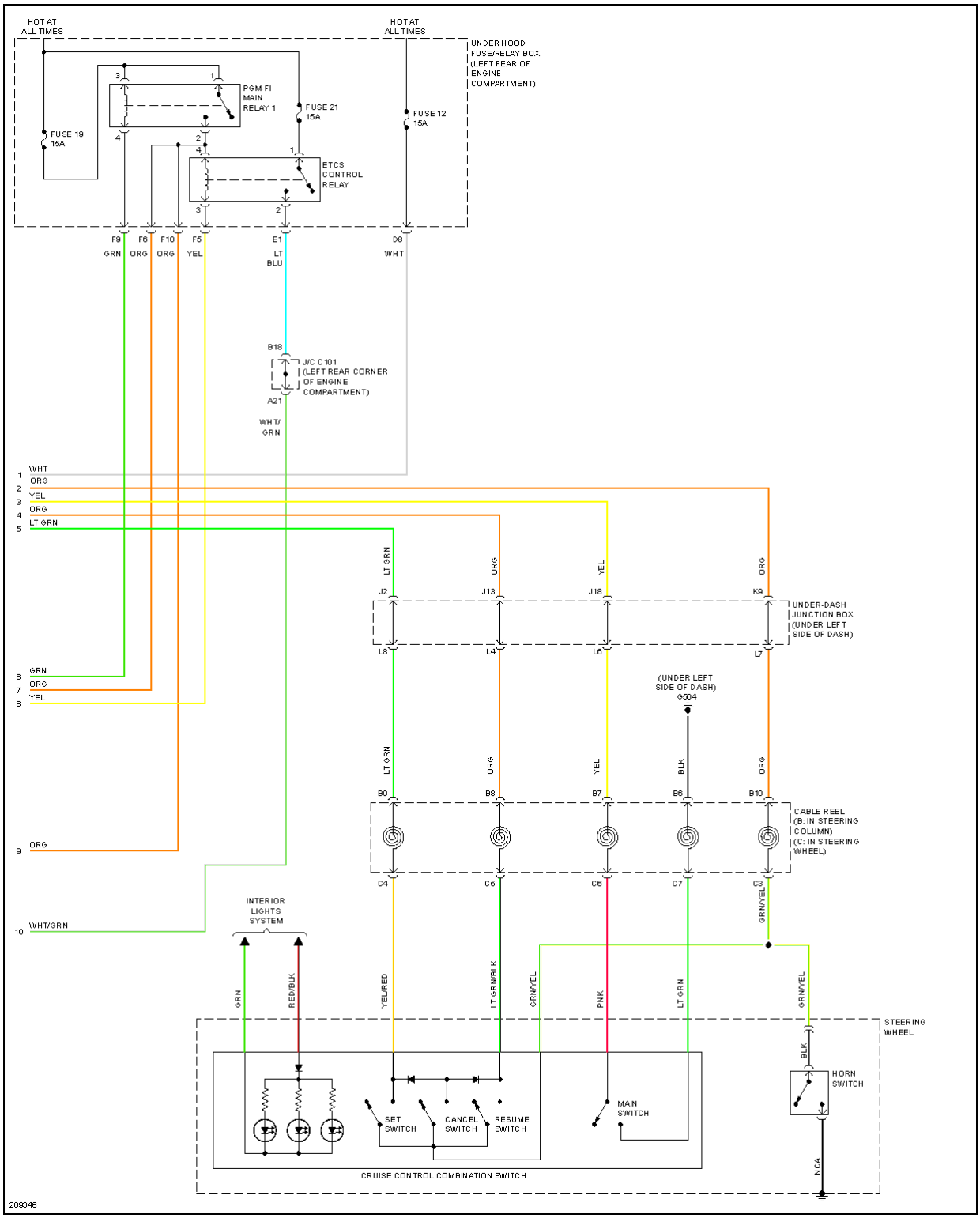


## Fig. 28: Cruise Control Circuit, Hybrid (1 of 2)

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic



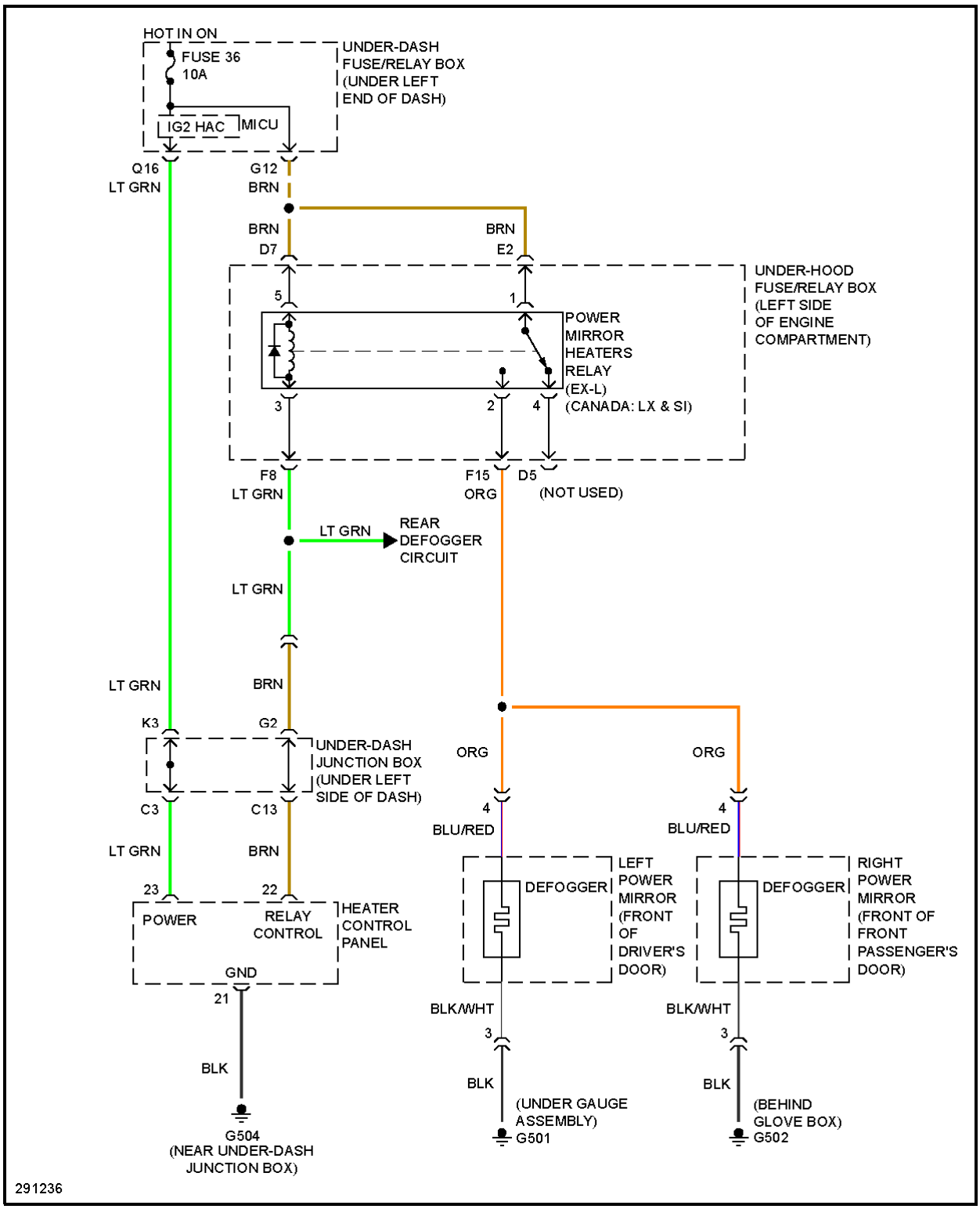
## Fig. 29: Cruise Control Circuit, Hybrid (2 of 2)

## DEFOGGERS

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

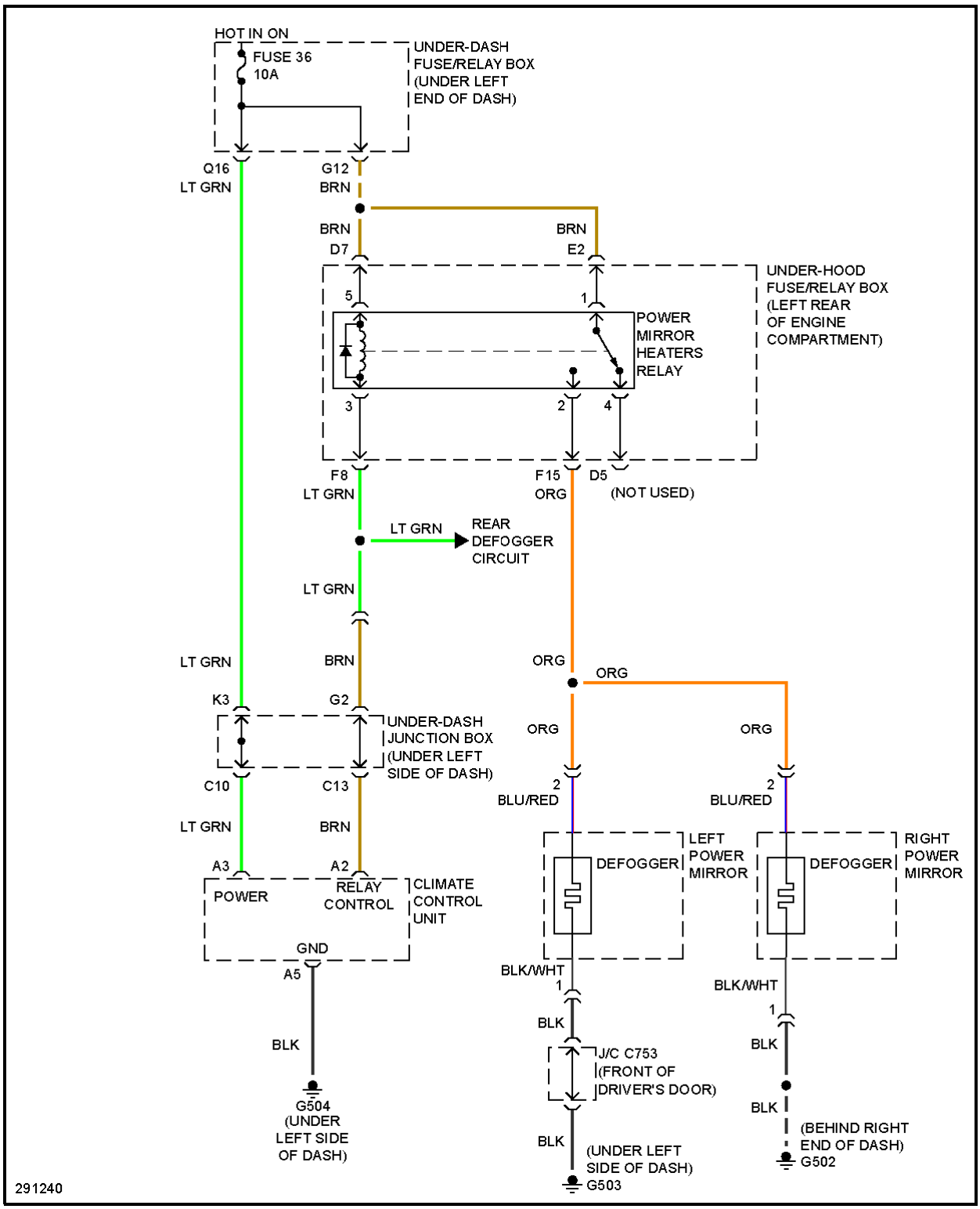


## Fig. 30: Heated Mirrors Circuit, Coupe

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

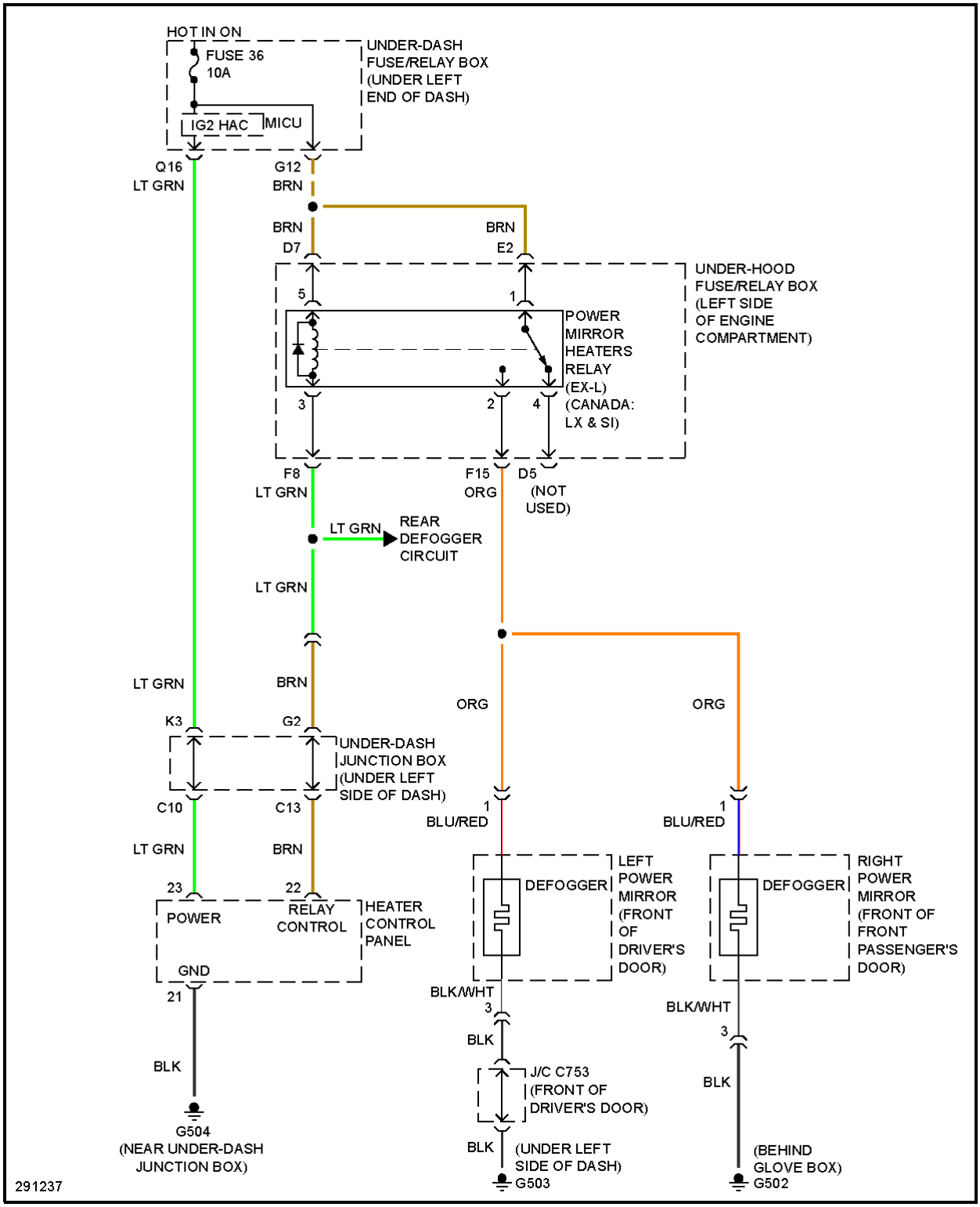


## Fig. 31: Heated Mirrors Circuit, Hybrid

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

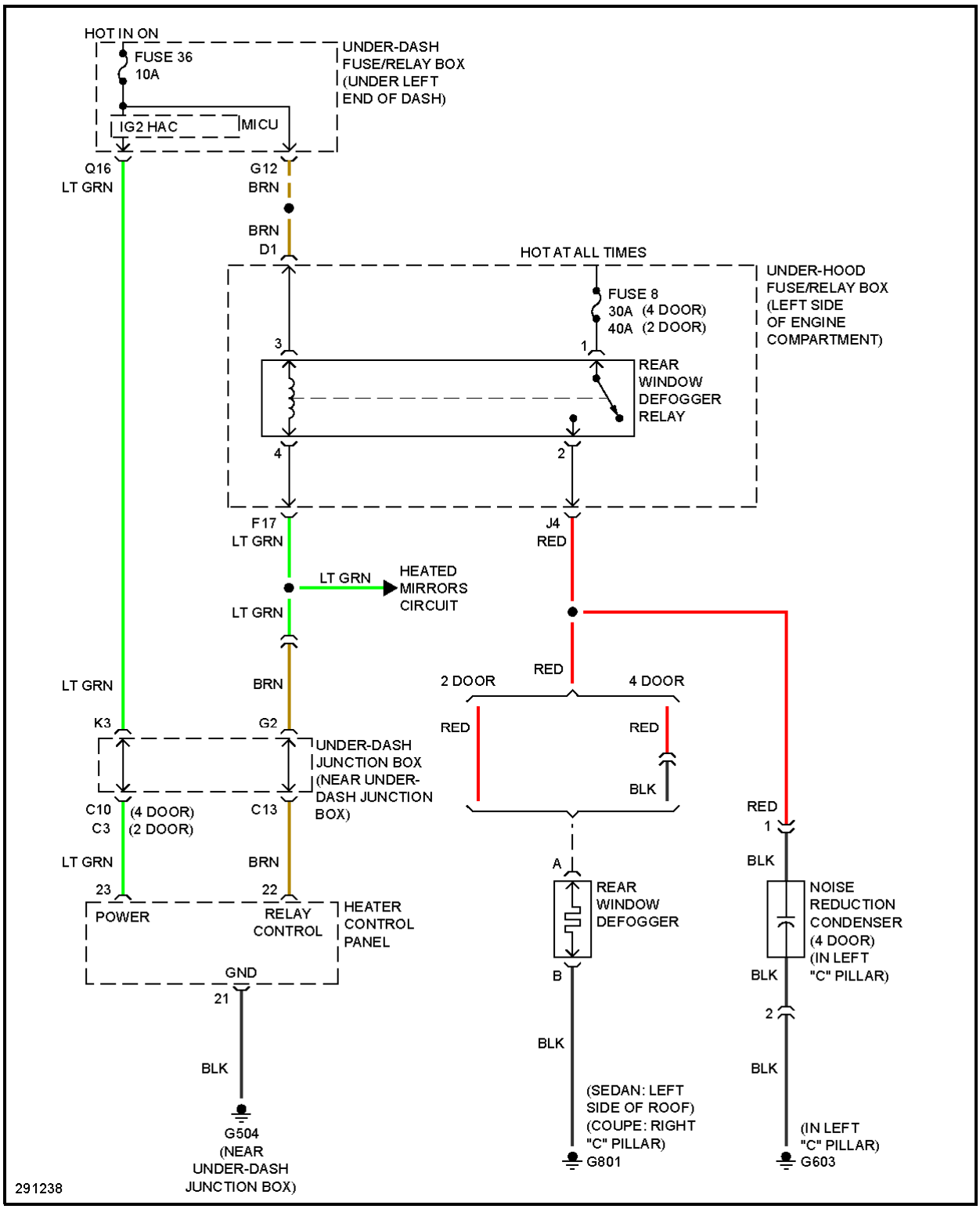


## Fig. 32: Heated Mirrors Circuit, Sedan W/O Hybrid

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

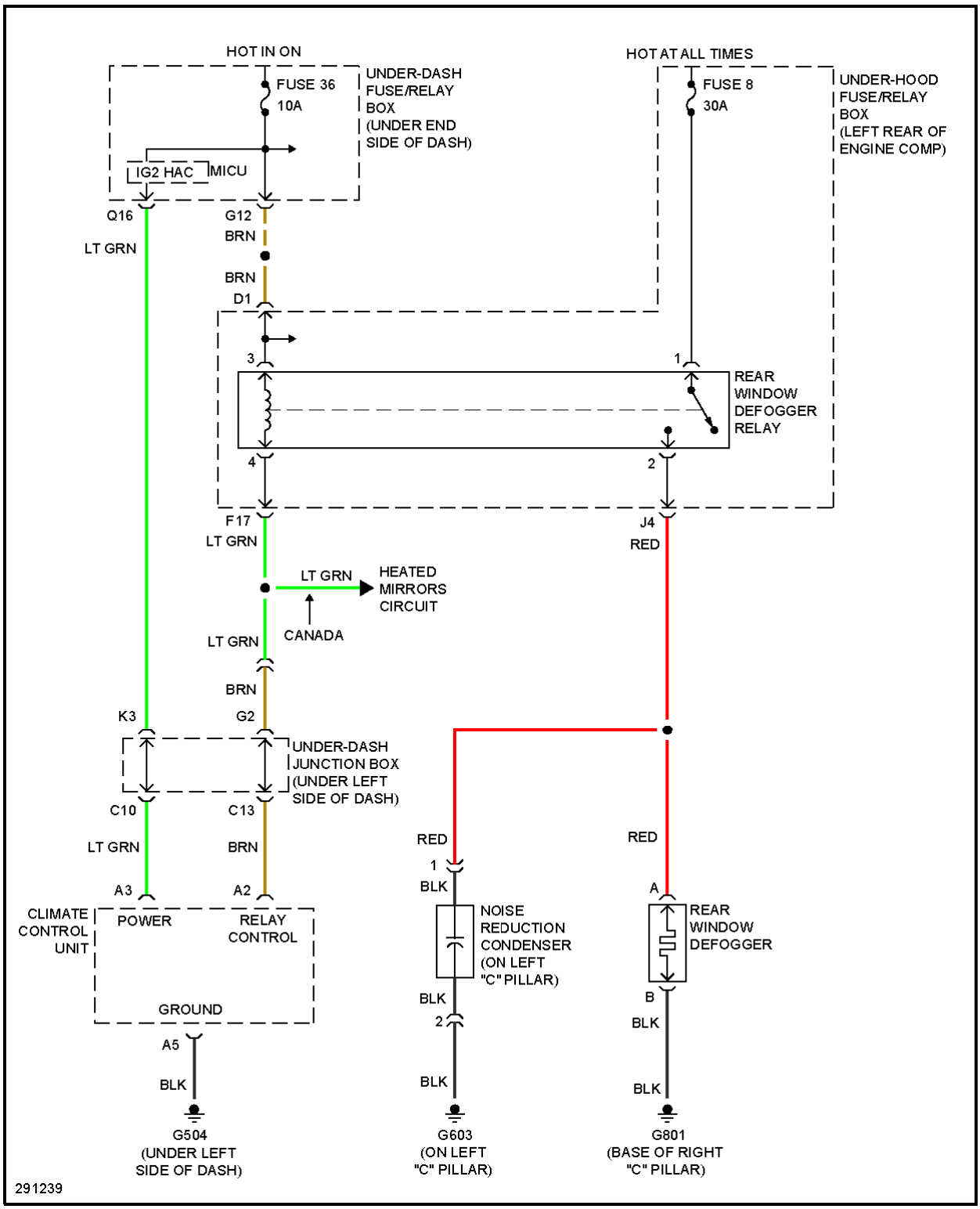


## Fig. 33: Rear Defogger Circuit, Except Hybrid

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic



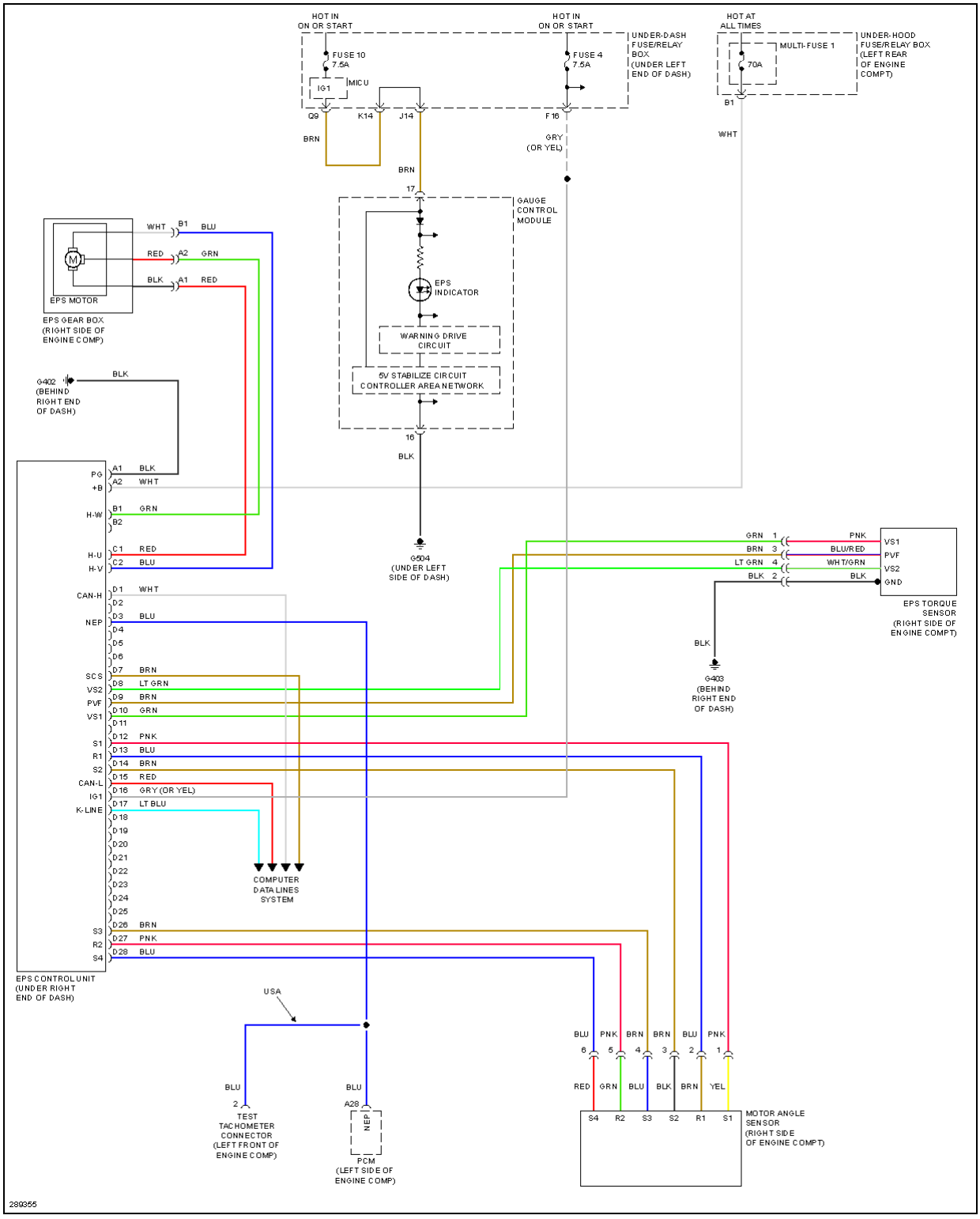
## Fig. 34: Rear Defogger Circuit, Hybrid

## ELECTRONIC POWER STEERING

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic

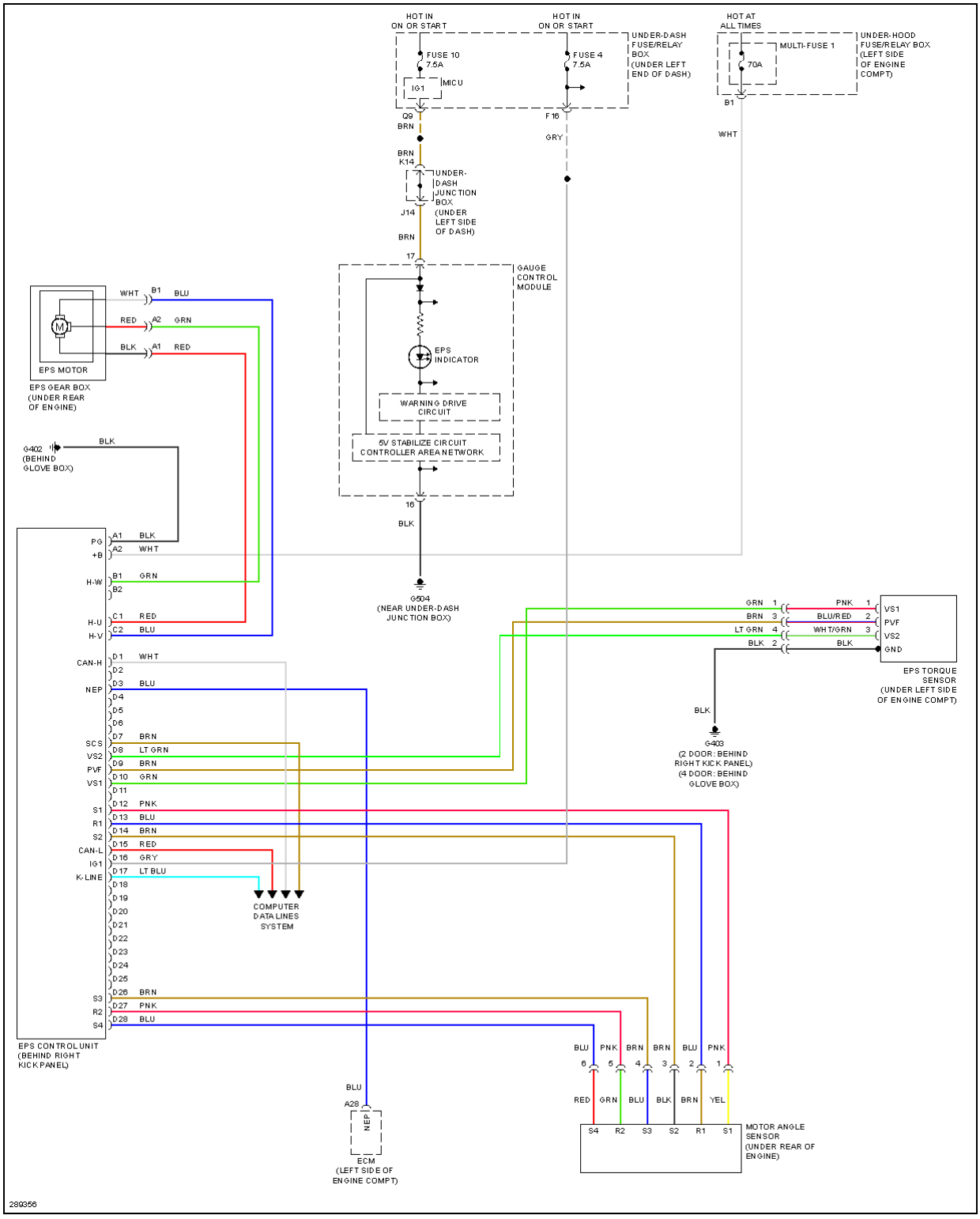


## Fig. 35: Electronic Power Steering Circuit, Hybrid

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# 2008 Honda Civic EX

## 2008 SYSTEM WIRING DIAGRAMS Honda - Civic



## Fig. 36: Electronic Power Steering Circuit, SI

## ENGINE PERFORMANCE

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 37: IMA Circuit (1 of 3)

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

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## Fig. 38: IMA Circuit (2 of 3)

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

# Fig. 39: IMA Circuit (3 of 3)

**1.3L**

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## Fig. 40: 1.3L, Engine Performance Circuit, Hybrid (1 of 5)

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## Fig. 41: 1.3L, Engine Performance Circuit, Hybrid (2 of 5)

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## Fig. 42: 1.3L, Engine Performance Circuit, Hybrid (3 of 5)

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## Fig. 43: 1.3L, Engine Performance Circuit, Hybrid (4 of 5)

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# Fig. 44: 1.3L, Engine Performance Circuit, Hybrid (5 of 5)

**1.8L**

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## Fig. 45: 1.8L, Engine Performance Circuit, Except GX (1 of 5)

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## Fig. 46: 1.8L, Engine Performance Circuit, Except GX (2 of 5)

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## Fig. 47: 1.8L, Engine Performance Circuit, Except GX (3 of 5)

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# 2008 Honda Civic EX

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## Fig. 48: 1.8L, Engine Performance Circuit, Except GX (4 of 5)

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## Fig. 49: 1.8L, Engine Performance Circuit, Except GX (5 of 5)

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## Fig. 50: 1.8L, Engine Performance Circuit, GX (1 of 5)

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# Fig. 51: 1.8L, Engine Performance Circuit, GX (2 of 5)

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## Fig. 52: 1.8L, Engine Performance Circuit, GX (3 of 5)

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## Fig. 53: 1.8L, Engine Performance Circuit, GX (4 of 5)

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# Fig. 54: 1.8L, Engine Performance Circuit, GX (5 of 5)

**2.0L**

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# 2008 Honda Civic EX

2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 55: 2.0L, Engine Performance Circuit, SI (1 of 3)

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## Fig. 56: 2.0L, Engine Performance Circuit, SI (2 of 3)

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## Fig. 57: 2.0L, Engine Performance Circuit, SI (3 of 3)

## EXTERIOR LIGHTS

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 58: Backup Lamps Circuit, A/T

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## Fig. 59: Backup Lamps Circuit, M/T

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## Fig. 60: Exterior Lamps Circuit, Except Hybrid (1 of 2)

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## Fig. 61: Exterior Lamps Circuit, Except Hybrid (2 of 2)

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## Fig. 62: Exterior Lamps Circuit, Hybrid (1 of 2)

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## Fig. 63: Exterior Lamps Circuit, Hybrid (2 of 2)

## GROUND DISTRIBUTION

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## Fig. 64: Ground Distribution Circuit, Except Hybrid (1 of 3)

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## Fig. 65: Ground Distribution Circuit, Except Hybrid (2 of 3)

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 66: Ground Distribution Circuit, Except Hybrid (3 of 3)

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 67: Ground Distribution Circuit, Hybrid (1 of 3)

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## Fig. 68: Ground Distribution Circuit, Hybrid (2 of 3)

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## Fig. 69: Ground Distribution Circuit, Hybrid (3 of 3)

## HEADLIGHTS

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 70: Headlights Circuit, Except Hybrid

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 71: Headlights Circuit, Hybrid

## HORN

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 72: Horn Circuit, Except Hybrid

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 73: Horn Circuit, Hybrid

## INSTRUMENT CLUSTER

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## Fig. 74: Instrument Cluster Circuit, DX, GX (1 of 2)

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## Fig. 75: Instrument Cluster Circuit, DX, GX (2 of 2)

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# Fig. 76: Instrument Cluster Circuit, EX, LX, SI & EX-L (1 of 2)

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# Fig. 77: Instrument Cluster Circuit, EX, LX, SI & EX-L (2 of 2)

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## Fig. 78: Instrument Cluster Circuit, Hybrid (1 of 2)

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## Fig. 79: Instrument Cluster Circuit, Hybrid (2 of 2)

# INTERIOR LIGHTS

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## Fig. 80: Courtesy Lamps Circuit, Except Hybrid W/ Sunroof

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## Fig. 81: Courtesy Lamps Circuit, Except Hybrid W/O Sunroof

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## Fig. 82: Courtesy Lamps Circuit, Hybrid

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## Fig. 83: Instrument Illumination Circuit, Except Hybrid (1 of 2)

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## Fig. 84: Instrument Illumination Circuit, Except Hybrid (2 of 2)

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## Fig. 85: Instrument Illumination Circuit, Hybrid (1 of 2)

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## Fig. 86: Instrument Illumination Circuit, Hybrid (2 of 2)

## NAVIGATION

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# Fig. 87: Navigation Circuit, 2 Door EX, EX-L, SI (1 of 3)

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# Fig. 88: Navigation Circuit, 2 Door EX, EX-L, SI (2 of 3)

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## Fig. 89: Navigation Circuit, 2 Door EX, EX-L, SI (3 of 3)

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## Fig. 90: Navigation Circuit, 4 Door EX, EX-L (1 of 2)

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## Fig. 91: Navigation Circuit, 4 Door EX, EX-L (2 of 2)

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## Fig. 92: Navigation Circuit, 4 Door SI (1 of 3)

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## Fig. 93: Navigation Circuit, 4 Door SI (2 of 3)

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## Fig. 94: Navigation Circuit, 4 Door SI (3 of 3)

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## Fig. 95: Navigation Circuit, Hybrid (1 of 2)

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## Fig. 96: Navigation Circuit, Hybrid (2 of 2)

## POWER DISTRIBUTION

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## Fig. 97: Power Distribution Circuit, Except Hybrid (1 of 3)

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## Fig. 98: Power Distribution Circuit, Except Hybrid (2 of 3)

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## Fig. 99: Power Distribution Circuit, Except Hybrid (3 of 3)

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## Fig. 100: Power Distribution Circuit, Hybrid (1 of 3)

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## Fig. 101: Power Distribution Circuit, Hybrid (2 of 3)

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## Fig. 102: Power Distribution Circuit, Hybrid (3 of 3)

## POWER DOOR LOCKS

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# Fig. 103: Power Door Locks Circuit, Except Hybrid (1 of 2)

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## Fig. 104: Power Door Locks Circuit, Except Hybrid (2 of 2)

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## Fig. 105: Power Door Locks Circuit, Hybrid (1 of 2)

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## Fig. 106: Power Door Locks Circuit, Hybrid (2 of 2)

## POWER MIRRORS

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## Fig. 107: Auto Dimming Rear View Mirror Circuit, A/T Except Hybrid

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## Fig. 108: Auto Dimming Rear View Mirror Circuit, Hybrid

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## Fig. 109: Auto Dimming Rear View Mirror Circuit, M/T Except Hybrid

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## Fig. 110: Power Mirrors Circuit, Coupe

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## Fig. 111: Power Mirrors Circuit, Hybrid

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## Fig. 112: Power Mirrors Circuit, Sedan W/O Hybrid

## POWER SEATS

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## Fig. 113: Heated Seats Circuit, Except Hybrid

## POWER TOP/SUNROOF

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## Fig. 114: Power Top/Sunroof Circuit, 2 Door

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2008 SYSTEM WIRING DIAGRAMS Honda - Civic

## Fig. 115: Power Top/Sunroof Circuit, 4 Door

## POWER WINDOWS

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## Fig. 116: Power Windows Circuit, 2 Door LX, EX, SI, EX-L

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## Fig. 117: Power Windows Circuit, 4 Door LX, EX, SI, GX, EX-L

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## Fig. 118: Power Windows Circuit, DX

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## Fig. 119: Power Windows Circuit, Hybrid

## RADIO

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## Fig. 120: Bass Speaker Circuit, Except Hybrid

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## Fig. 121: Bass Speaker Circuit, Hybrid

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## Fig. 122: CD Player Circuit, Except Hybrid

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## Fig. 123: CD Player Circuit, Hybrid

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## Fig. 124: Music Link Circuit, Hybrid

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## Fig. 125: Radio Circuit, 2 Door EX, EX-L, SI (1 of 2)

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## Fig. 126: Radio Circuit, 2 Door EX, EX-L, SI (2 of 2)

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## Fig. 127: Radio Circuit, Hybrid (1 of 2)

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## Fig. 128: Radio Circuit, Hybrid (2 of 2)

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## Fig. 129: Radio Circuit, SI 4 Door (1 of 2)

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## Fig. 130: Radio Circuit, SI 4 Door (2 of 2)

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## Fig. 131: Radio Circuit, USA DX

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## Fig. 132: Radio Circuit, USA LX 2 Door & EX, EX-L 4 Door W/ Navigation

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# Fig. 133: Radio Circuit, USA LX 2 Door & EX, EX-L 4 Door W/O Navigation

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# Fig. 134: Radio Circuit, USA LX 4 Door & Canada DX, LX, GX

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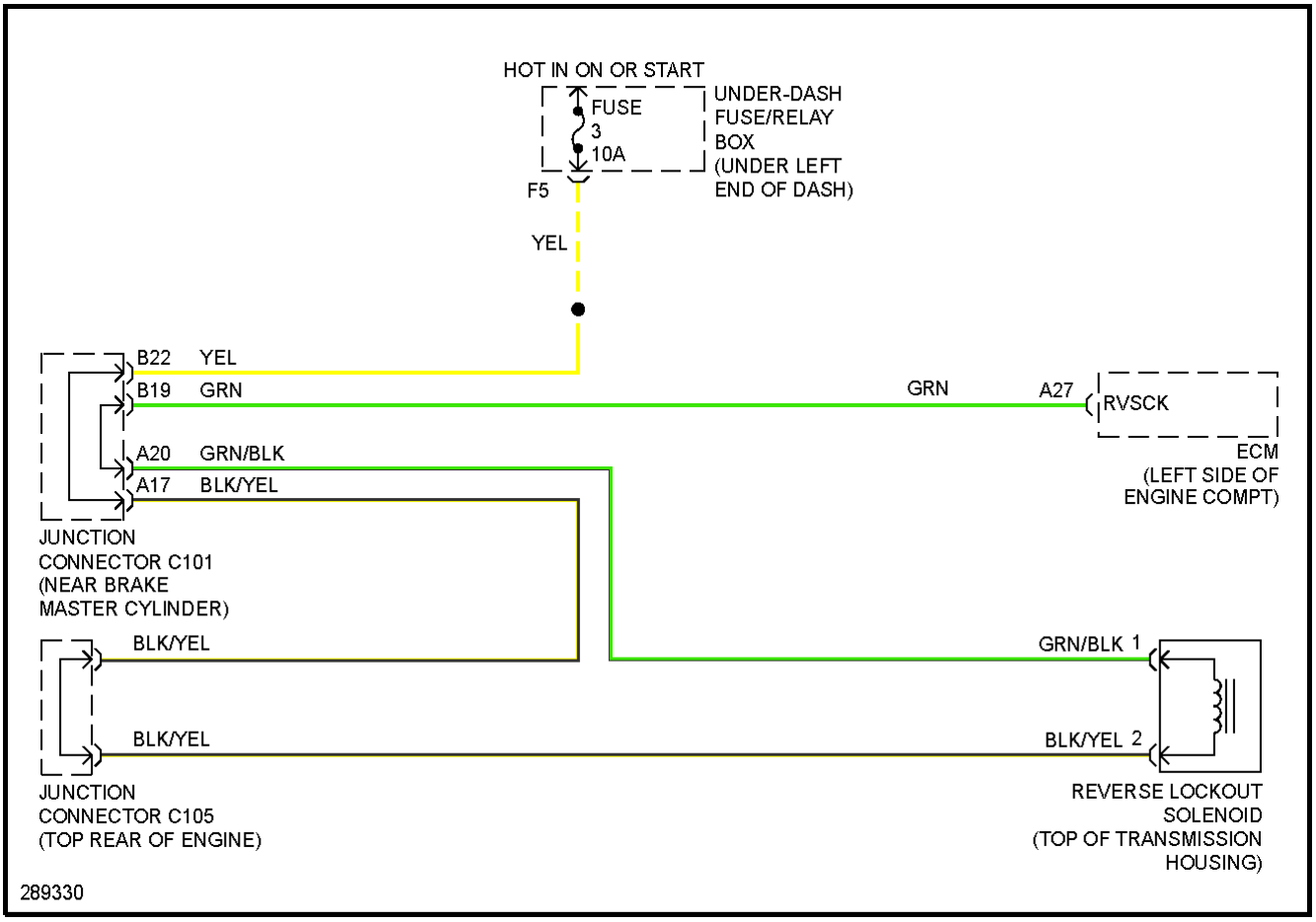
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## Fig. 135: XM Receiver Circuit

## SHIFT INTERLOCK

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## Fig. 136: Reverse Lockout Circuit, Except Hybrid

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## Fig. 137: Shift Interlock Circuit, Except Hybrid

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## Fig. 138: Shift Interlock Circuit, Hybrid

## STARTING/CHARGING

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## Fig. 139: Remote Starting Circuit, Canada (1 of 3)

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## Fig. 140: Remote Starting Circuit, Canada (2 of 3)

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## Fig. 141: Remote Starting Circuit, Canada (3 of 3)

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## Fig. 142: Starting Circuit, A/T Except Hybrid

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## Fig. 143: Starting Circuit, A/T Hybrid

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# Fig. 144: Starting Circuit, M/T

**1.8L**

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## Fig. 145: 1.8L, Charging Circuit

**2.0L**

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## Fig. 146: 2.0L, Charging Circuit

## SUPPLEMENTAL RESTRAINTS

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## Fig. 147: Supplemental Restraints Circuit, Except Hybrid (1 of 4)

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## Fig. 148: Supplemental Restraints Circuit, Except Hybrid (2 of 4)

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## Fig. 149: Supplemental Restraints Circuit, Except Hybrid (3 of 4)

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## Fig. 150: Supplemental Restraints Circuit, Except Hybrid (4 of 4)

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## Fig. 151: Supplemental Restraints Circuit, Hybrid (1 of 4)

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## Fig. 152: Supplemental Restraints Circuit, Hybrid (2 of 4)

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## Fig. 153: Supplemental Restraints Circuit, Hybrid (3 of 4)

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## Fig. 154: Supplemental Restraints Circuit, Hybrid (4 of 4)

## TRANSMISSION

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## Fig. 155: Transmission Circuit, Except Hybrid (1 of 2)

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## Fig. 156: Transmission Circuit, Except Hybrid (2 of 2)

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## Fig. 157: Transmission Circuit, Hybrid (1 of 2)

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## Fig. 158: Transmission Circuit, Hybrid (2 of 2)

## WARNING SYSTEMS

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## Fig. 159: Chime Circuit, Except Hybrid

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## Fig. 160: Chime Circuit, Hybrid

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## Fig. 161: Tire Pressure Monitoring Circuit

## WIPER/WASHER

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## Fig. 162: Front Wiper/Washer Circuit, Except Hybrid

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## Fig. 163: Front Wiper/Washer Circuit, Hybrid