

2002 ACCESSORIES & EQUIPMENT

Gauges & Instrument Panel - RAV4

BODY ELECTRICAL SYSTEM

PRECAUTION

NOTE: Take care to observe the following precautions when performing inspections or removal and replacement of body electrical related parts.

1. Headlight System

Halogen bulbs have pressurized gas inside and require special handling. They can burst if scratched or dropped. Hold a bulb only by its plastic or metal case.

Don't touch the glass part of a bulb with bare hands.

2. SRS (Supplemental Restraint System)

The RAV4 is equipped with an SRS (Supplemental Restraint System) such as the driver airbag and front passenger airbag, failure to carry out service operation in the correct sequence could cause the SRS to unexpectedly deploy during servicing, possibly leading to a serious accident. Before servicing (including removal or installation of parts, inspection or replacement), be sure to read the precautionary notices in **AIR BAG SAFETY PRECAUTIONS** .

3. Audio System

If the negative (-) terminal cable is disconnected from the battery, the preset AM, FM1 and FM2 stations stored in memory are erased, so be sure to note the stations and reset them after the battery terminal is reconnected.

4. Mobile Communication System

If the vehicle is equipped with a mobile communication system, refer to precautions in **IF VEHICLE IS EQUIPPED WITH MOBILE COMMUNICATION SYSTEM** .

TROUBLESHOOTING

PROBLEM SYMPTOMS

Combination Meter

METER, GAUGES AND ILLUMINATION:

Symptom/Suspect Area	See
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Tachometer, Fuel Gauge And Water Temperature Gauge Do Not Operate	
ECU-IG Fuse	<u>FUSES & CIRCUIT BREAKERS</u>
GAUGE Fuse	<u>FUSES & CIRCUIT BREAKERS</u>
Passenger Side J/B ECU	.....
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Speedometer Does Not Operate	
Vehicle Speed Sensor	<u>DTC P0500: VEHICLE SPEED SENSOR CIRCUIT</u>
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Tachometer Does Not Operate	
ECM	<u>PIN VOLTAGE CHART INDEX</u>
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Fuel Gauge Does Not Operate Or Abnormal Operation	
Fuel Sender Gauge (Main & Sub)	Step 7 under INSPECTION
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Inclination Sensor	.....
Combination Meter Horizontally Set	<u>INSTALLATION</u>
Engine Coolant Temperature Gauge Does Not Operate Or Abnormal Operation	
ECM	<u>PIN VOLTAGE CHART INDEX</u>
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
All Illumination Light Does Not Light Up	
Light Control Switch	<u>INSPECTION</u>
Light Control Rheostat	Step 22 under INSPECTION
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Only One Illumination Light Does Not Light Up	
LED	.....
Meter Circuit	<u>CIRCUIT</u>

WARNING LIGHTS:

Symptom/Suspect Area	See
Warning Lights Do Not Light Up (Except Discharge And Door Open)	
LED	.....
IG2 Fuse	<u>FUSES & CIRCUIT BREAKERS</u>
ECU-IG Fuse	<u>FUSES & CIRCUIT BREAKERS</u>
Ignition Switch	<u>INSPECTION</u>
Meter Circuit	<u>CIRCUIT</u>

ABS ECU (w/ABS)	<u>ABS ECU PIN VOLTAGES</u>
Generator	.....
Wire Harness	.....
Brake Warning Light Does Not Light up	
LED	.....
Brake Fluid Level Warning Switch	Step 13 under INSPECTION
Parking Brake Switch	Step 15 under INSPECTION
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Seat Belt Warning Light Does Not Light Up	
LED	.....
Seat Belt Buckle Switch	
Driver's	Step 19 under INSPECTION
Passenger's	Step 20 under INSPECTION
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Low Oil Pressure Warning light Does Not Light Up	
LED	.....
Oil Pressure Warning Switch	Step 11 under INSPECTION
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Door Open Warning Light Does Not Light Up	
LED	.....
DOME Fuse	<u>FUSES & CIRCUIT BREAKERS</u>
Door Courtesy Switch	<u>INSPECTION</u>
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....

INDICATOR LIGHTS:

Symptom/Suspect Area	See
SRS Indicator Light Does Not Light Up	
LED	.....
Airbag Sensor Assembly	<u>AIR BAG WARNING LIGHT DOES NOT ILLUMINATE</u>
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Front Fog Indicator Light Does Not Light Up	
LED	.....
Front Fog Light	<u>INSPECTION</u>
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....

ABS Indicator Does Not Light Up	
LED	.....
ABS ECU	.....
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
Malfunction Indicator Light Does Not Light Up	
LED	.....
ECM	.....
Wire Harness	.....
Turn Indicator Light Does Not Light Up	
LED	.....
Turn Signal And Hazard Warning System	<u>TURN SIGNAL AND HAZARD WARNING SYSTEM</u>
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....
High Beam Indicator Light Does Not Light Up	
LED	.....
Headlight And Taillight System	<u>HEADLIGHT AND TAILLIGHT SYSTEM</u>
Meter Circuit	<u>CIRCUIT</u>
Wire Harness	.....

INSTRUMENT PANEL

COMPONENTS

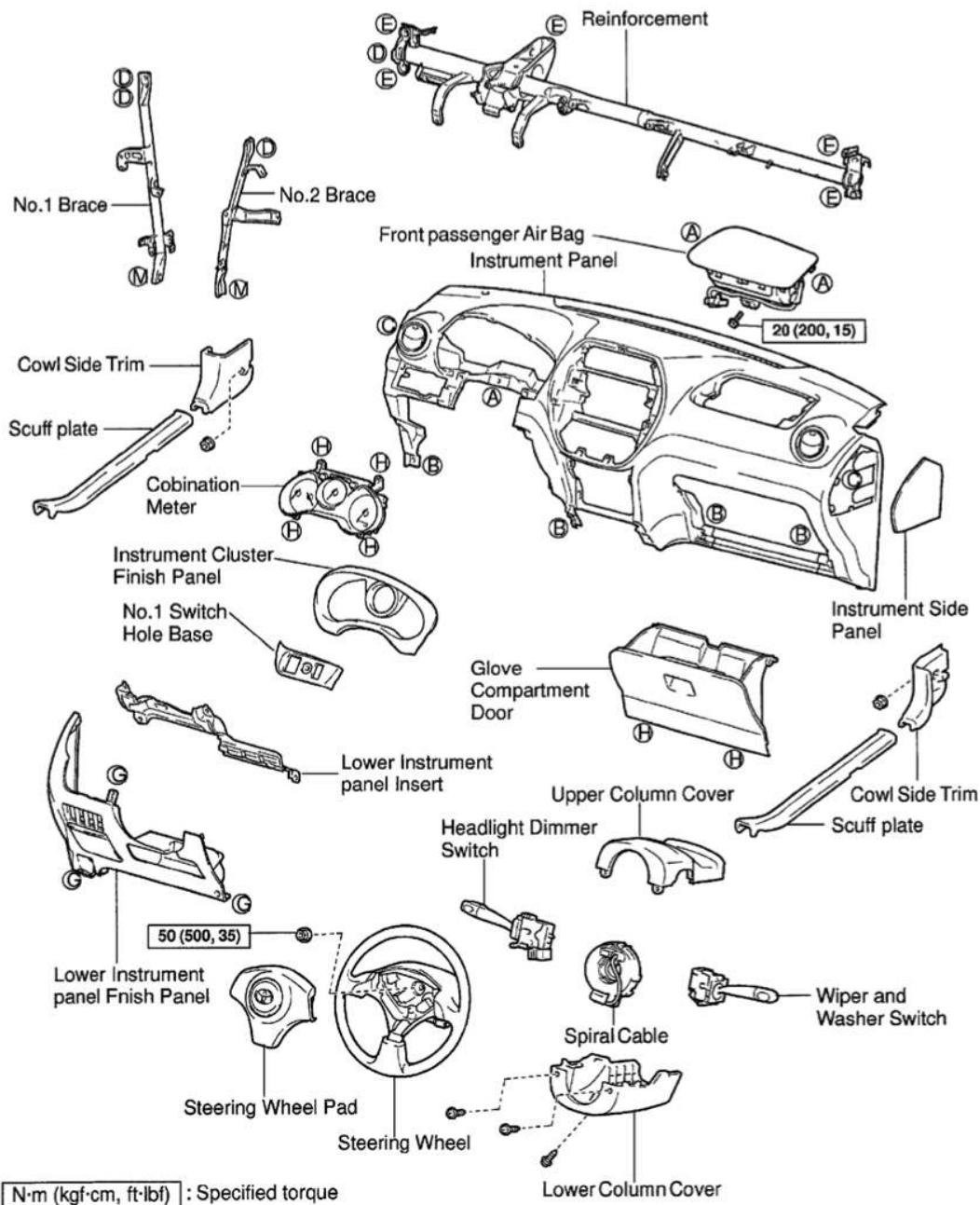
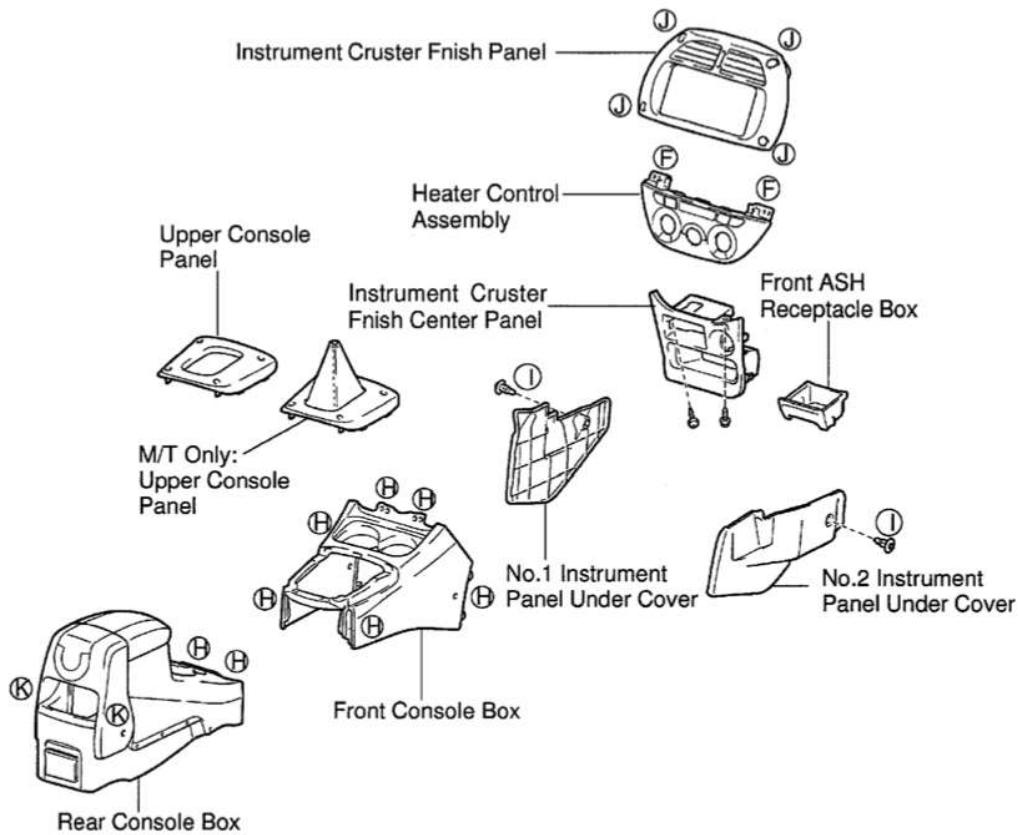


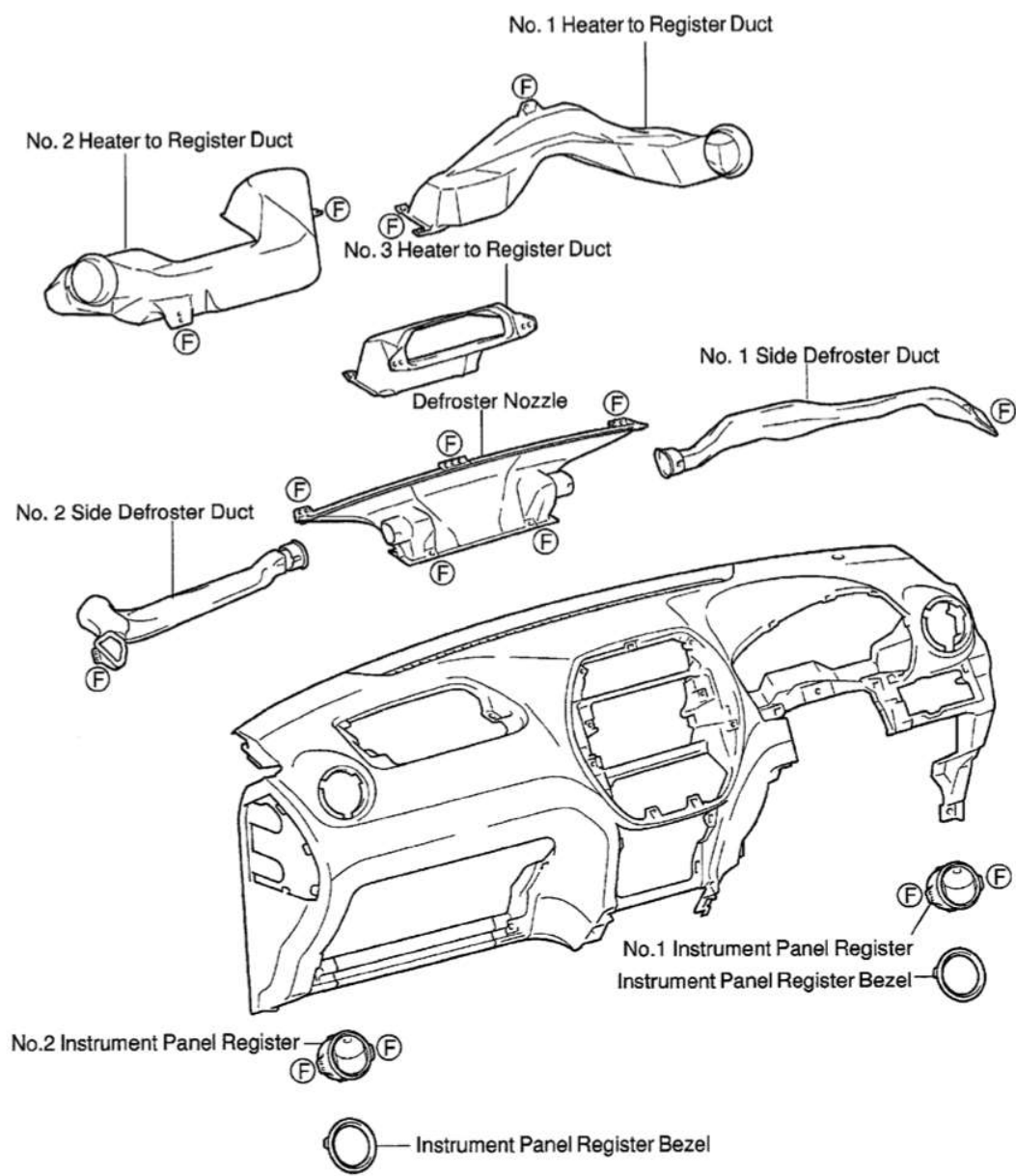
Fig. 1: Identifying Instrument Panel Components
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 2: Identifying Center Console Components
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 3: Identifying Air Ducts Behind Instrument Panel
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: Screw shapes and sizes are indicated in the table below. The codes ("A"-"M")

correspond to those indicated on the previous pages.

mm (in.)								
	Shape	Size		Shape	Size		Shape	Size
(A)		ø = 6 (0.24)	(B)		ø = 6 (0.24) L = 20 (0.79)	(C)		ø = 6 (0.24) L = 16 (0.63)
(D)		ø = 8 (0.32)	(E)		ø = 8 (0.32) L = 20 (0.79)	(F)		ø = 5 (0.20) L = 14 (0.55)
(G)		ø = 5 (0.20) L = 16 (0.63)	(H)		ø = 5 (0.20) L = 16 (0.63)	(I)		
(J)		ø = 6 (0.24) L = 22 (0.87)	(K)		ø = 6 (0.24) L = 16 (0.63)	(L)		ø = 8 (0.32) L = 18 (0.71)
(M)		ø = 8 (0.32) L = 18 (0.71)						

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Fig. 4: Identifying Screw Shapes & Sizes
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. Remove steering wheel pad and steering wheel (See TILT STEERING COLUMN) .
2. Remove door scuff plate .
3. Remove cowl side trim .
4. Remove No. 1 switch hole base .
5. Remove lower instrument panel finish panel .
 - a. Remove the 3 screws and disconnect the connector.
 - b. Using a screwdriver, remove the lower instrument panel finish panel.

NOTE: Tape the screwdriver tip before use.

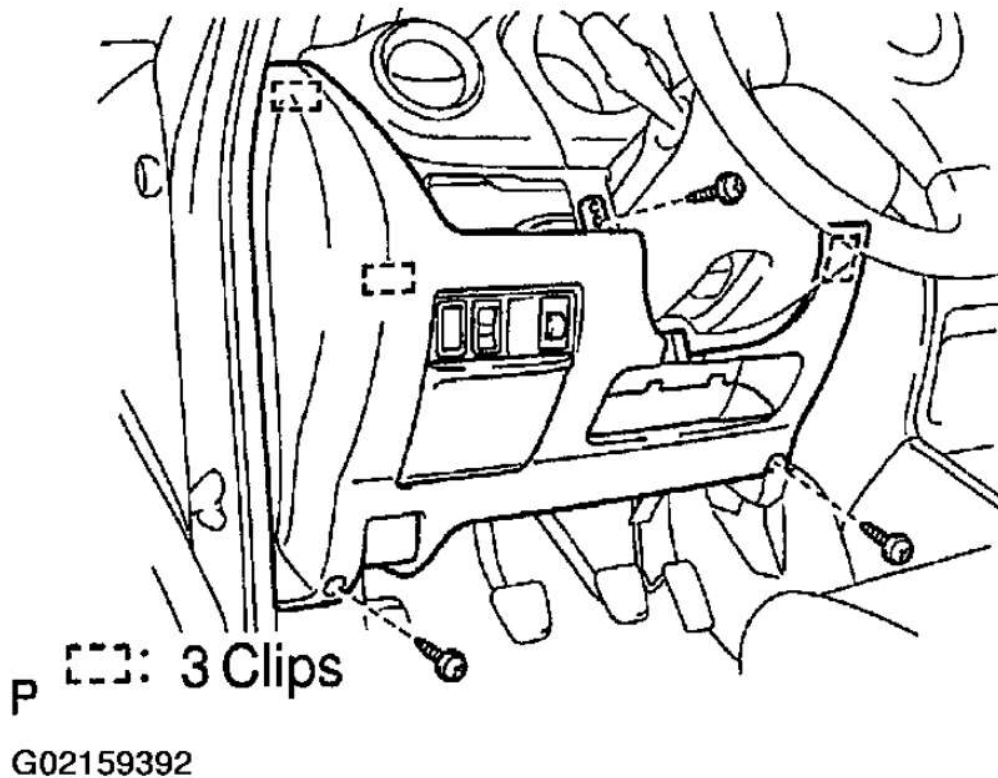


Fig. 5: Removing Lower Instrument Panel
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. Remove lower panel insert .

Remove the 4 bolts and lower panel insert.

7. Remove column covers (See TILT STEERING COLUMN) .

8. Remove spiral cable (See TILT STEERING COLUMN) .

9. Remove wiper and washer switch and light control switch and headlight dimmer switch (See TILT STEERING COLUMN) .

10. Remove cluster finish panel .

Using a screwdriver, remove the cluster finish panel.

NOTE: **Tape the screwdriver tip before use.**

11. Remove combination meter .

- a. Push out the connector by loosening the bolt.

NOTE: **Operation is completed when the bolt failed to catch.**

- b. Check that the red-colored indicator is pulled back behind.
- c. Remove the 4 screws.

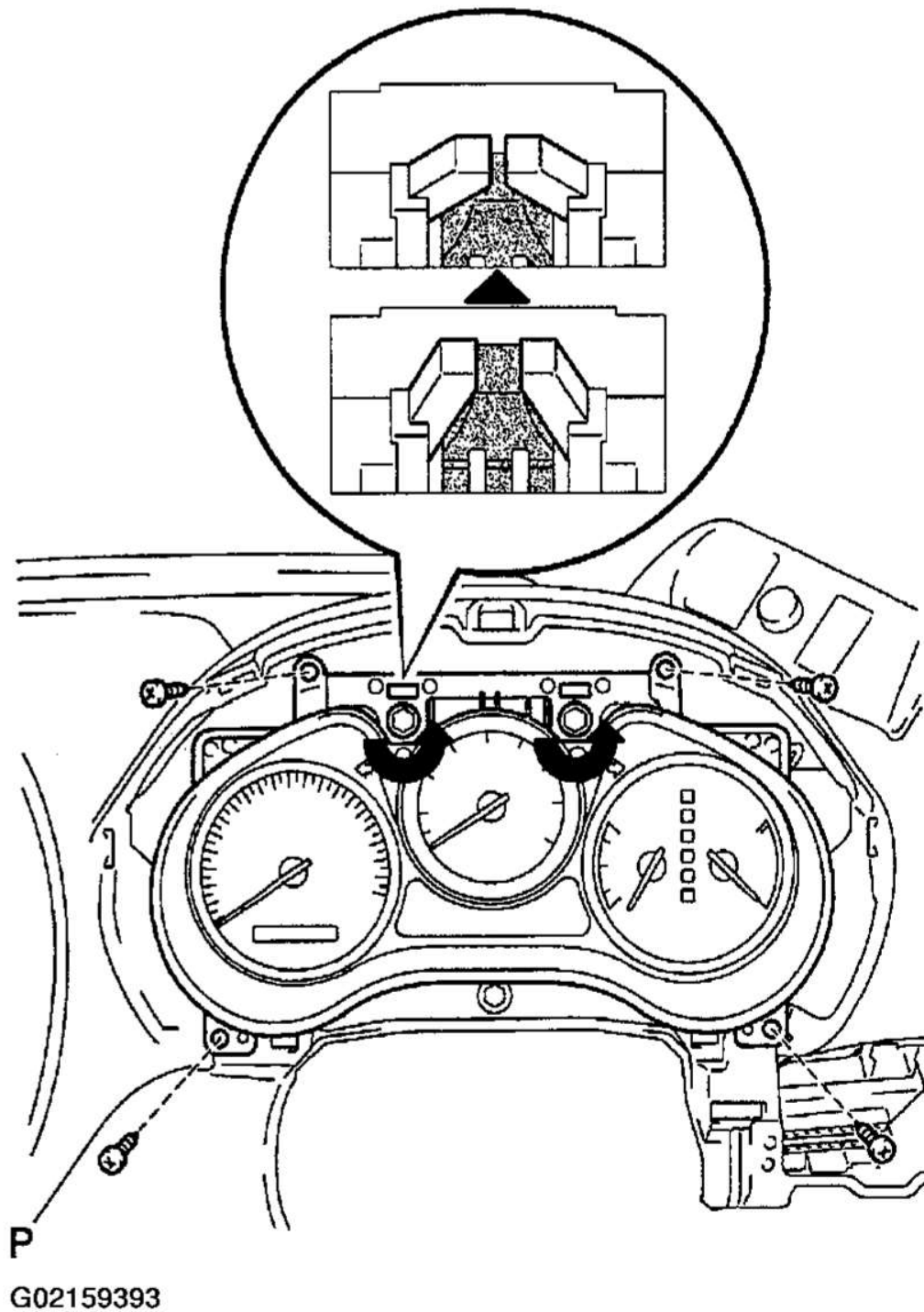


Fig. 6: Removing Combination Meter

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. Remove instrument cluster finish panel .

- a. Remove the 4 bolts.

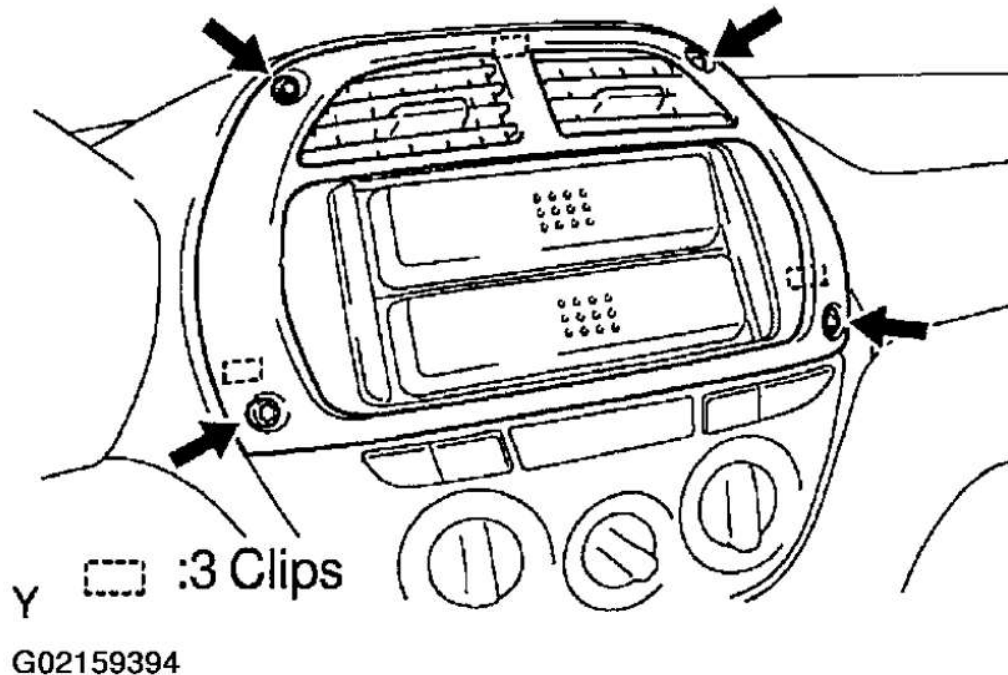


Fig. 7: Locating Instrument Cluster Finish Panel Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a screwdriver, remove the instrument cluster finish panel.

NOTE: Tape the screwdriver tip before use.

- c. w/o Radio:

Remove the 4 bolts and stereo opening cover.

- d. w/ Radio:

Remove the 4 bolts and radio then disconnect the connectors.

13. Remove heater control assembly (See HEATER CONTROL ASSEMBLY) .

14. Remove instrument panel cluster finish center panel .

- a. Remove the 2 screws.
- b. Using a screwdriver, remove the instrument panel cluster finish center panel then disconnect the connector.

NOTE:

- After removing the screws, if you remove the clip shown by an arrow mark with a resin spatula, the panel can be removed smoothly.
- Tape the screwdriver tip before use.

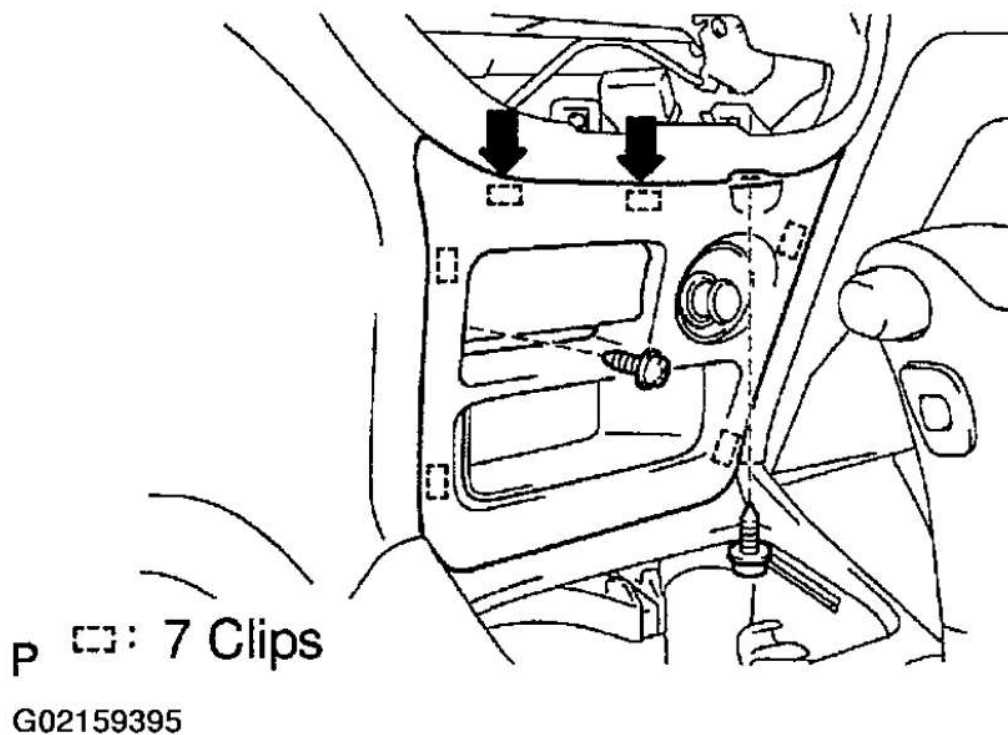


Fig. 8: Locating Instrument Panel Cluster Finish Center Panel Screws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

15. Remove upper console panel .

- a. M/T only:

Remove the shift lever knob.

- b. Using a screwdriver, remove the upper console panel.

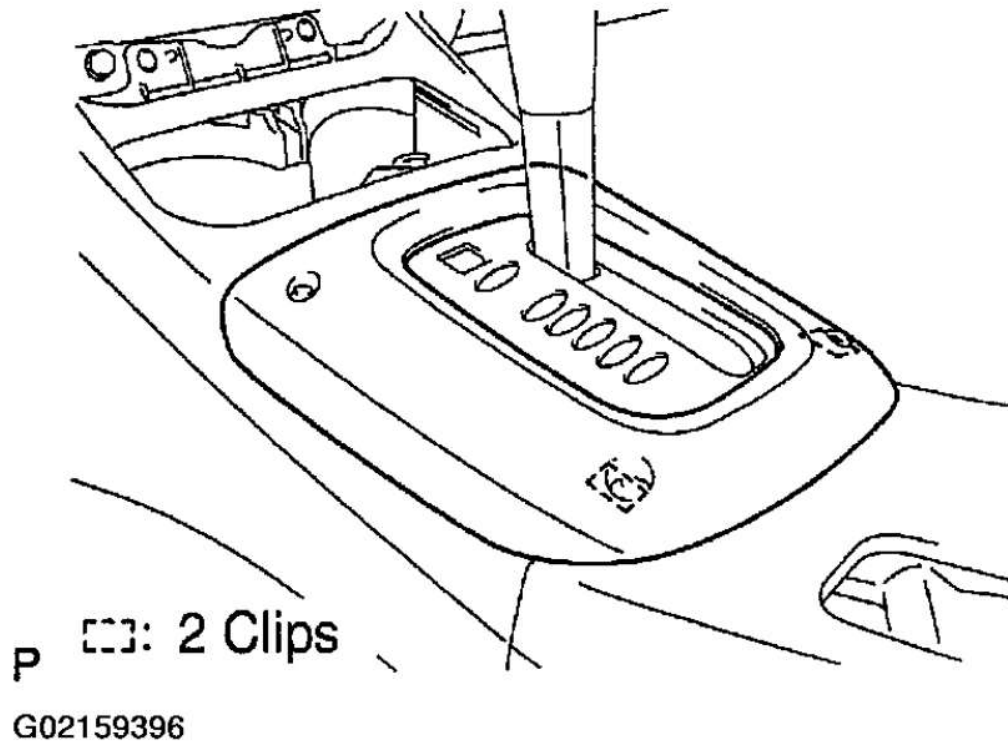


Fig. 9: Removing Upper Console Panel
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: Tape the screwdriver tip before use.

16. Remove rear console box .

Remove the 2 bolts, 2 screws and rear console box, then disconnect the connector.

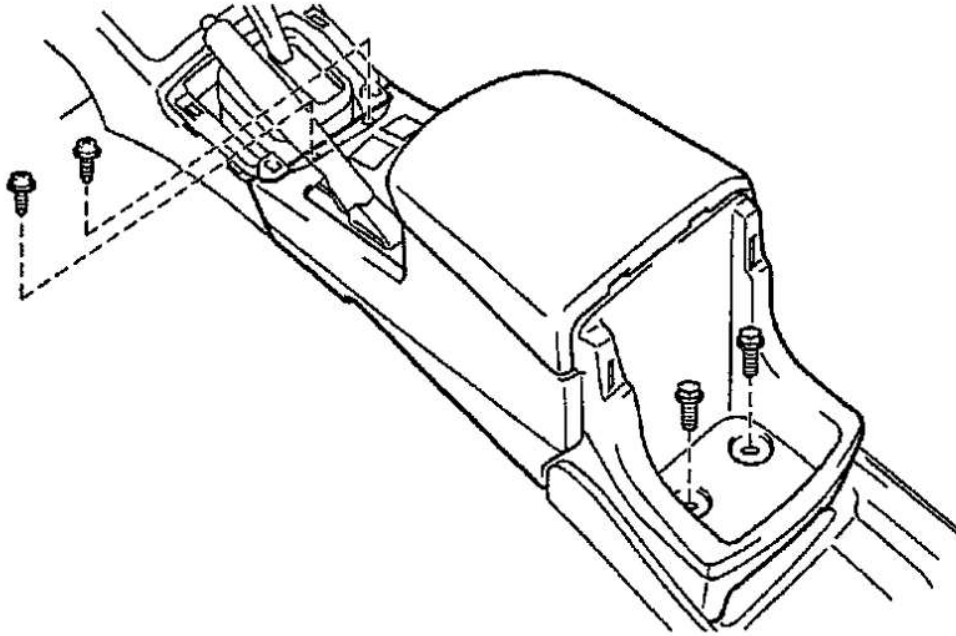
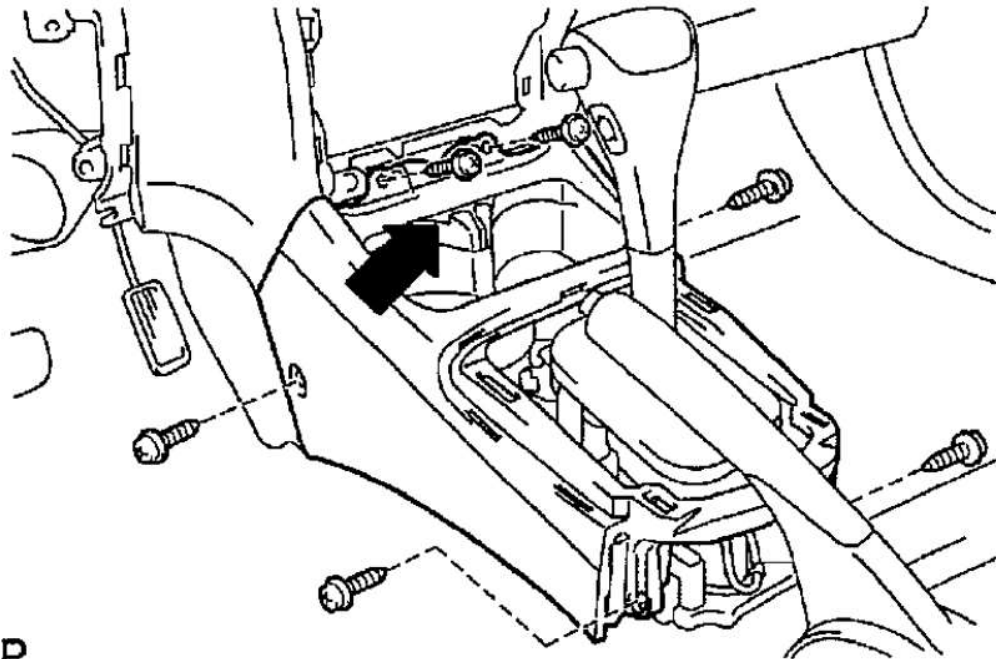
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Fig. 10: Removing Rear Console Box
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

17. **Remove front console box .**
 - a. Remove the 6 screws and front console box.



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Fig. 11: Locating Screws & Front Console Box
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a screwdriver, remove the front console box to indicated direction.

NOTE: **Tape the screwdriver tip before use.**

18. Remove No. 1 and No. 2 instrument panel under covers .
19. Remove glove compartment box .
20. Remove instrument side panel .
21. Remove steering column (See TILT STEERING COLUMN) .
22. Remove front pillar garnishes .
 - a. Using a screwdriver, remove the front pillar garnish.

NOTE: **Tape the screwdriver tip before use.**

- b. Employ the same manner described above to the other side.

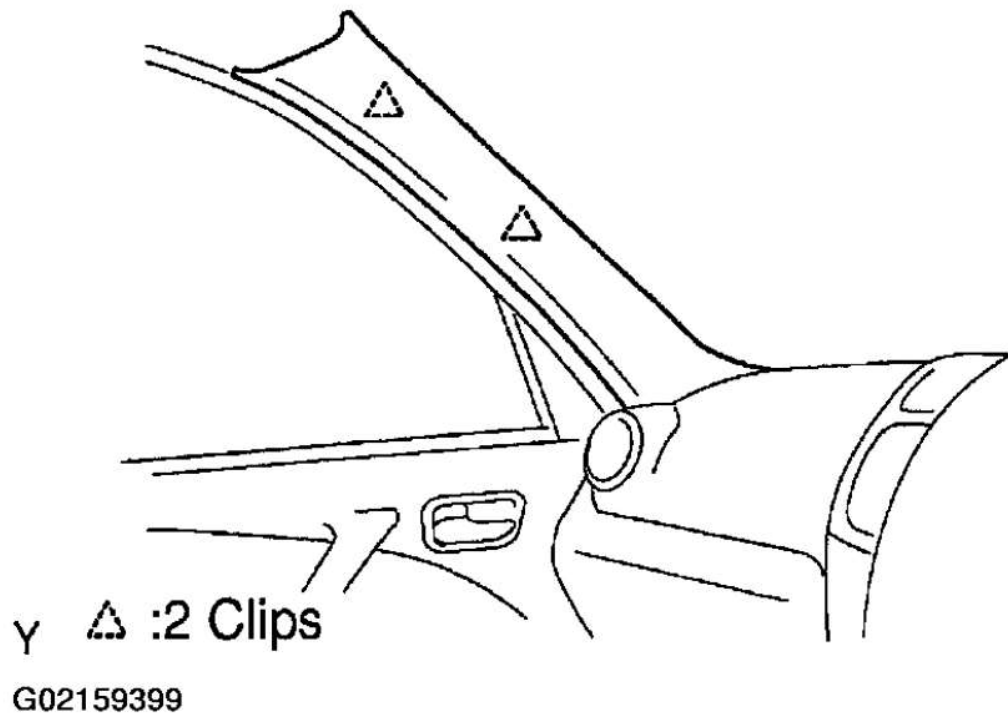
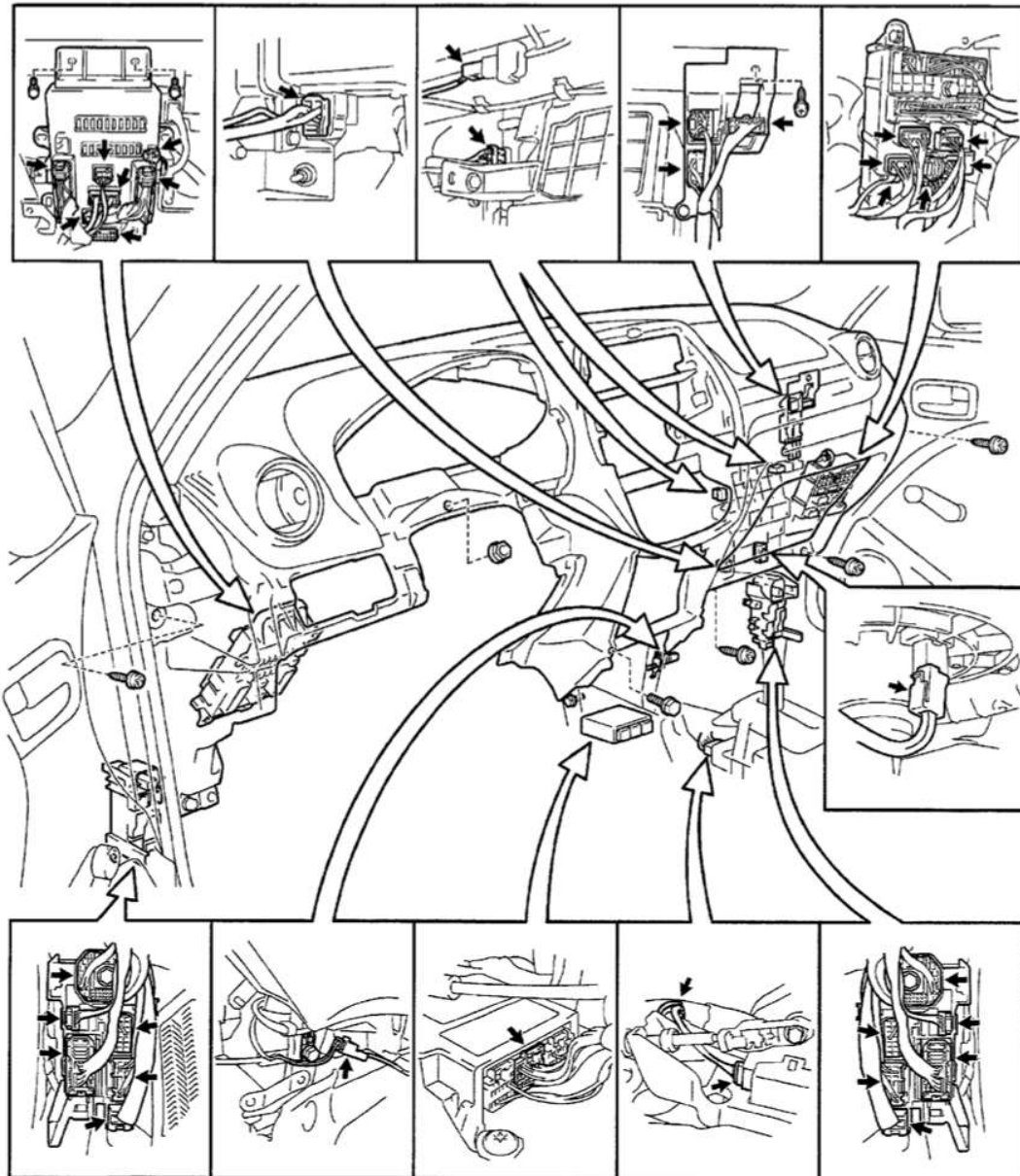


Fig. 12: Locating Front Pillar Garnish Clips
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

23. Remove instrument panel .

- a. Disconnect these connectors as shown in the illustration.
- b. Disengage the wire harness clamps as shown in the illustration.
- c. Remove the 4 screws, 2 nut, 8 bolt and instrument panel.



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Fig. 13: Locating Instrument Panel Component Fasteners
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

24. Remove No. 1 and No. 2 braces .

Remove the 3 bolts, 3 nuts, No. 1 and No. 2 braces.

25. Remove reinforcement .

- a. Remove the brake pedal spring.
- b. Remove the 5 bolts, nut and reinforcement.

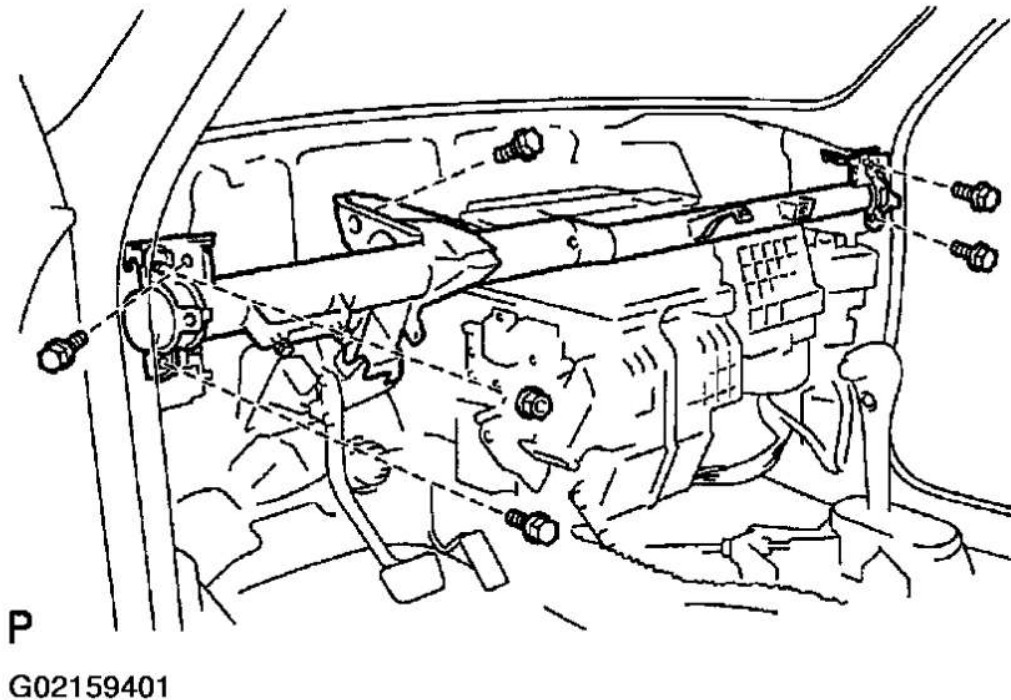


Fig. 14: Locating Instrument Panel Reinforcement Fasteners
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

DISASSEMBLY

1. Remove defroster nozzle with No. 1 and No. 2 defroster ducts .
2. Remove No. 1 heater to register duct .
3. Remove No. 2 heater to register duct .
4. Remove No. 3 heater to register duct .
5. Remove No. 1 resistor .
6. Remove No. 2 resistor .
7. Remove instrument panel register bezel .
8. Remove instrument panel wire .
9. Remove passenger air bag .

REASSEMBLY

Reassembly is in the reverse order of disassembly (See **DISASSEMBLY**) .

INSTALLATION

Installation is in the reverse order of removal (See **REMOVAL**) .

- NOTE:**
- Combination meter assembly has equipped with the inclination sensor to control the fuel gauge. When replacing the inclination sensor or combination meter assembly, please reset the vehicle in a horizontal condition according to the following procedure.
 - If you do not reset the vehicle in a horizontal condition, the fuel gauge fails to display the accurate value.

Reset Inclination Sensor Inside Combination Meter

- a. After replacing the part, install the combination meter to the vehicle.
- b. Move the vehicle to a horizontal place. (A surface with an angle of inclination no greater than +/-0.5°D)
- c. With the ignition switch at OFF position, press the trip switch.
- d. While pressing the trip switch, turn the ignition switch to ON position.
- e. Within 5 seconds after the ignition switch is turned ON, release the trip switch and repeat pressing the trip switch 3 times, but keep pressing the switch for 5 seconds for the third time. (The buzzer of 800 Hz will sound for 1 second.)
- f. After the buzzer stops, release the trip switch.
- g. Press the trip switch one more time and hold for 5 seconds. (Once more, the buzzer of 800 Hz will sound for 1 second.)
- h. The horizontal setting is now completed.

NOTE:

If in the operation of step (g), the buzzer higher than that of step (e) (1.9 kHz) sounds continually, turn the ignition switch to OFF position and repeat the setting procedure from step (c).

CLOCK

TROUBLESHOOTING

NOTE: Troubleshoot the clock according to the table below.

CLOCK SYSTEM

Troubleshooting	Refer To
Clock Will Not Operate	

TROUBLESHOOTING NO.1	Step 1
Clock Loses Or Gains Time	
TROUBLESHOOTING NO. 2	Step 2

+/- 1.5 seconds/day

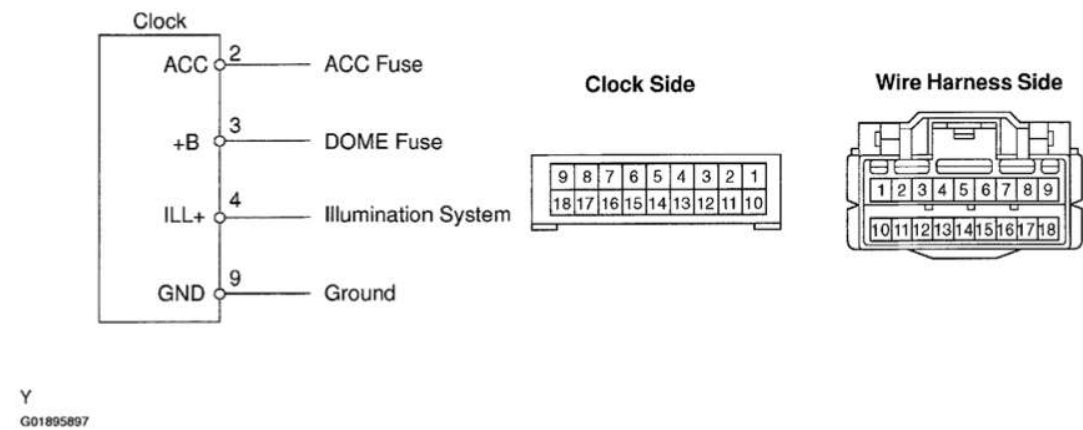


Fig. 15: Identifying Clock System Connectors & Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. Troubleshooting No .1 - Clock Will Not Operate
- a. Check that the battery voltage is 10 - 16 V.

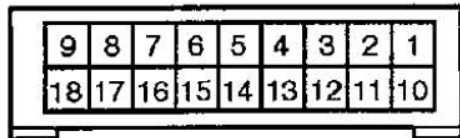
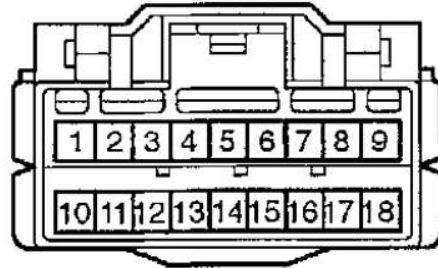
If voltage is not as specified, replace the battery.

b. Check that the CUT, DOME and ACC fuses are not blown.

If the fuse is blown, replace the fuse and check for short.

c. Troubleshoot the clock as follows.

NOTE: **Inspect the connector on the wire harness side.**

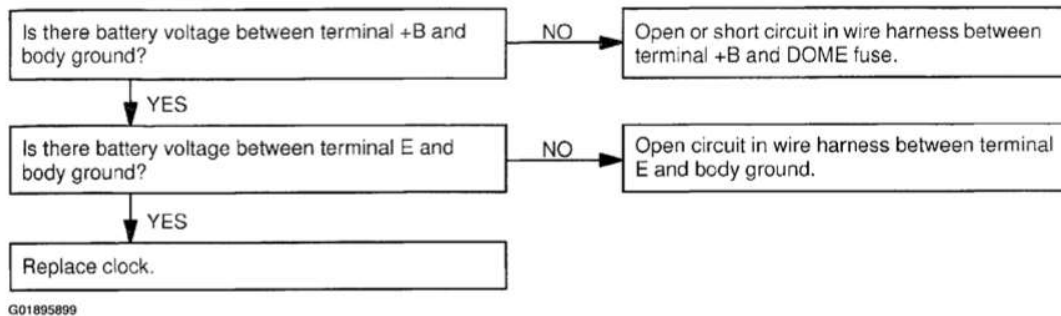
Clock Side**Wire Harness Side**

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Fig. 16: Locating B+ & Gnd Terminals

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 17: Troubleshooting Flow Chart (Clock Not Running)**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. Troubleshooting No. 2 - Clock Loses Or Gains Time

- a. Check that the battery voltage is 10 - 16 V.

If voltage is not as specified, replace the battery.

- b. Inspect the error of the clock.

Allowable error (per day): +/- 1.5 seconds

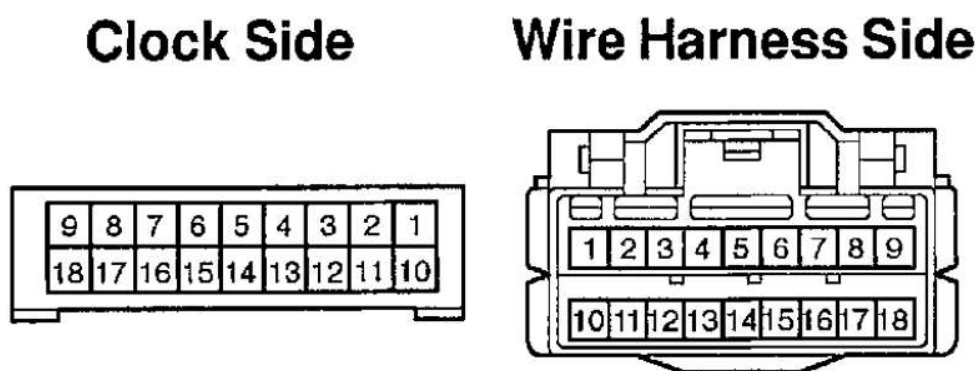
If the error exceeds the allowable error, replace the clock.

- c. Check that the clock adjusting button is sticking in position and has failed to return.

If the error exceeds the allowable error, replace the clock.

- d. Troubleshoot the clock as follows.

NOTE: Inspect the connector on the wire harness side.



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Fig. 18: Identifying Clock System Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

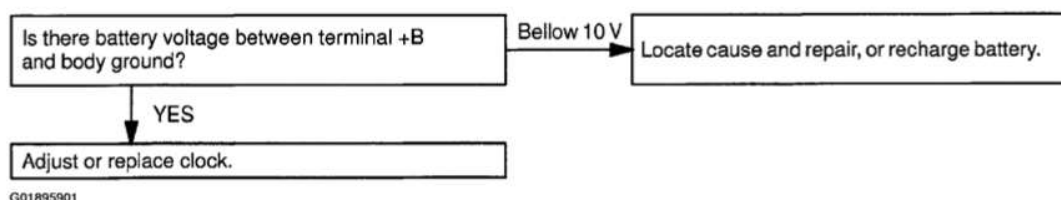
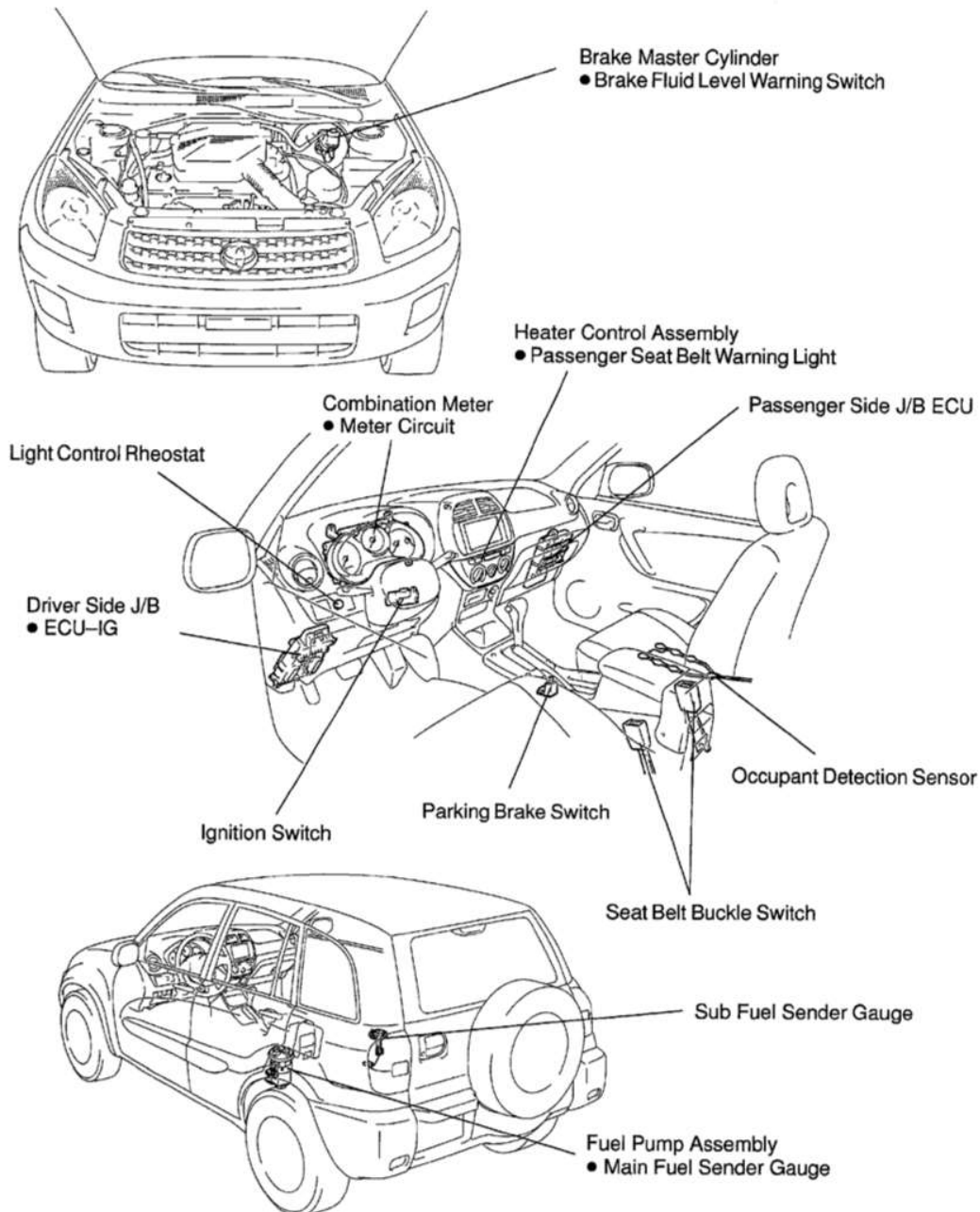


Fig. 19: Troubleshooting Flowchart (Clock Loses Or Gains Time)

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

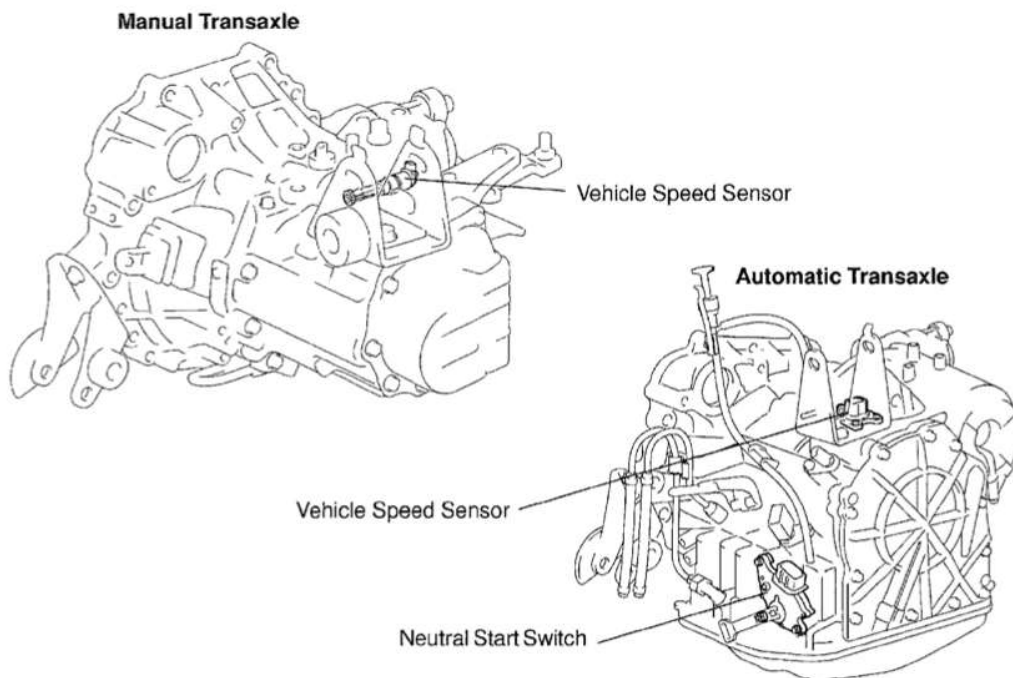
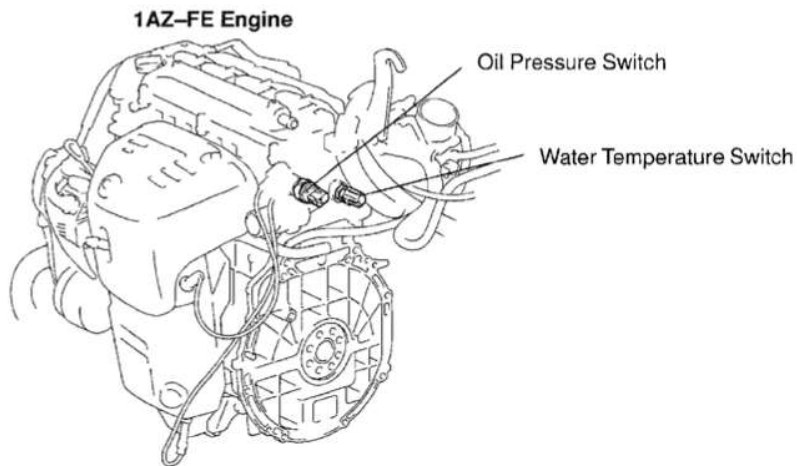
COMBINATION METER

LOCATION



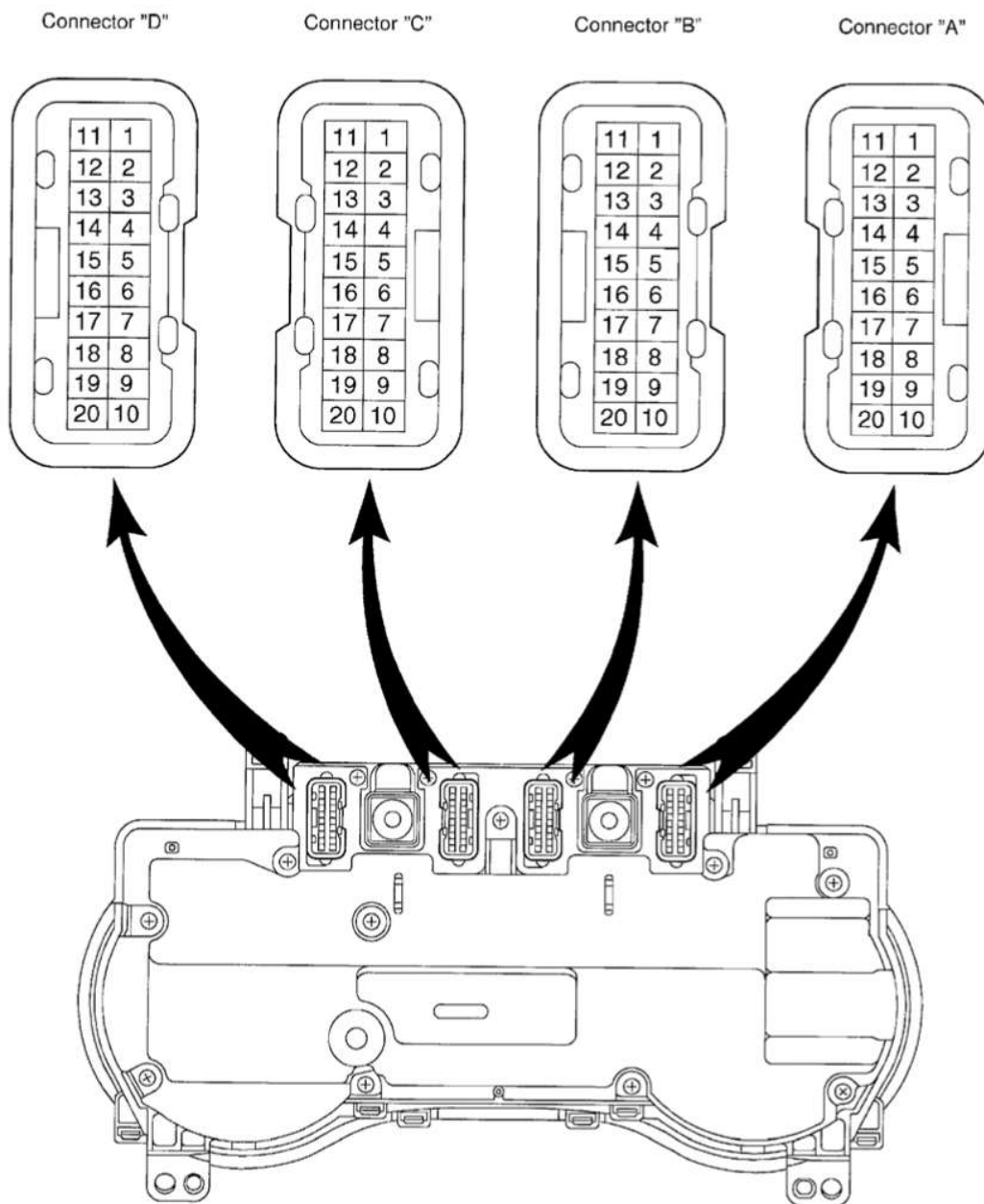
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Fig. 20: Locating Combination Meter-Related Components (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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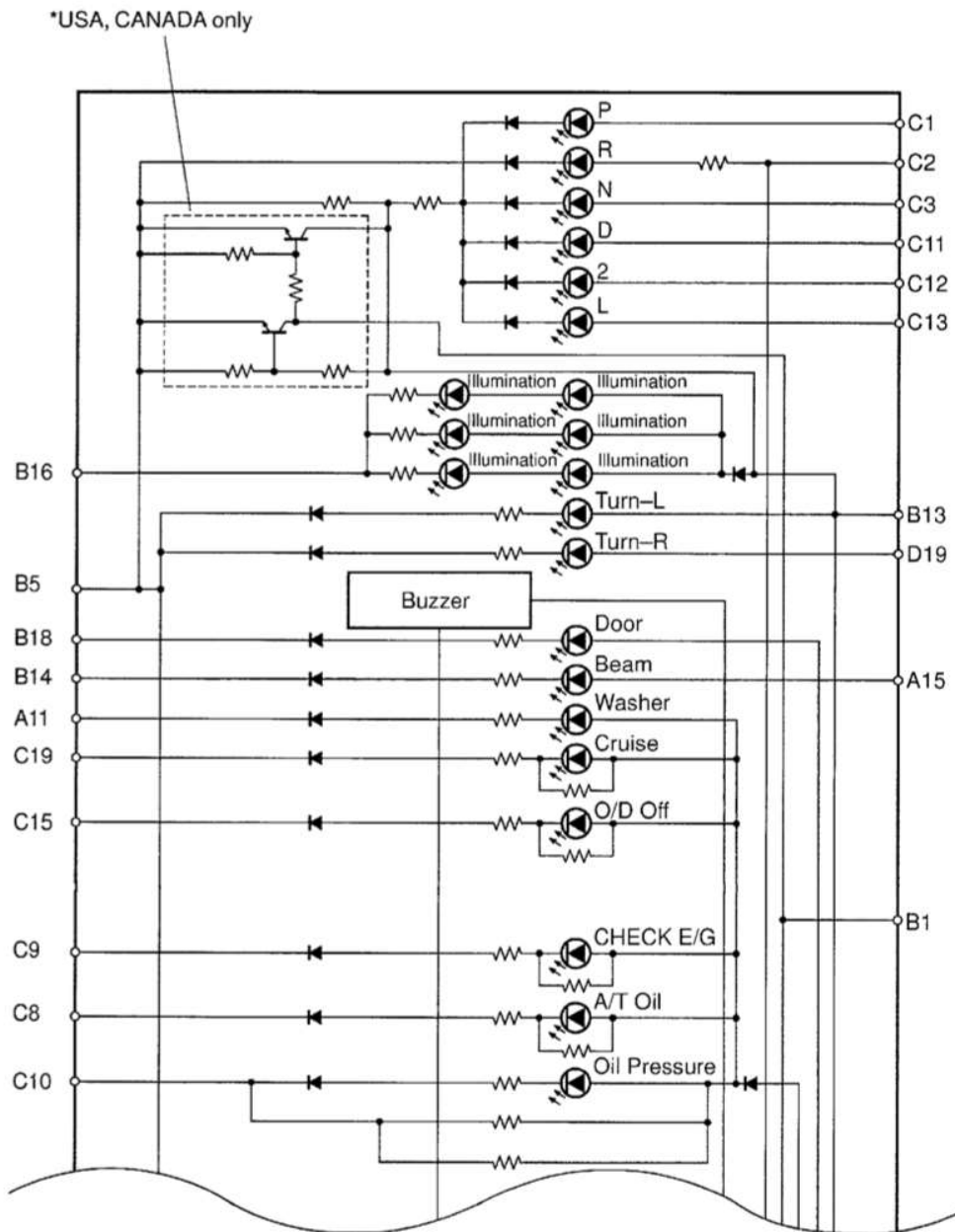
Fig. 21: Locating Combination Meter-Related Components (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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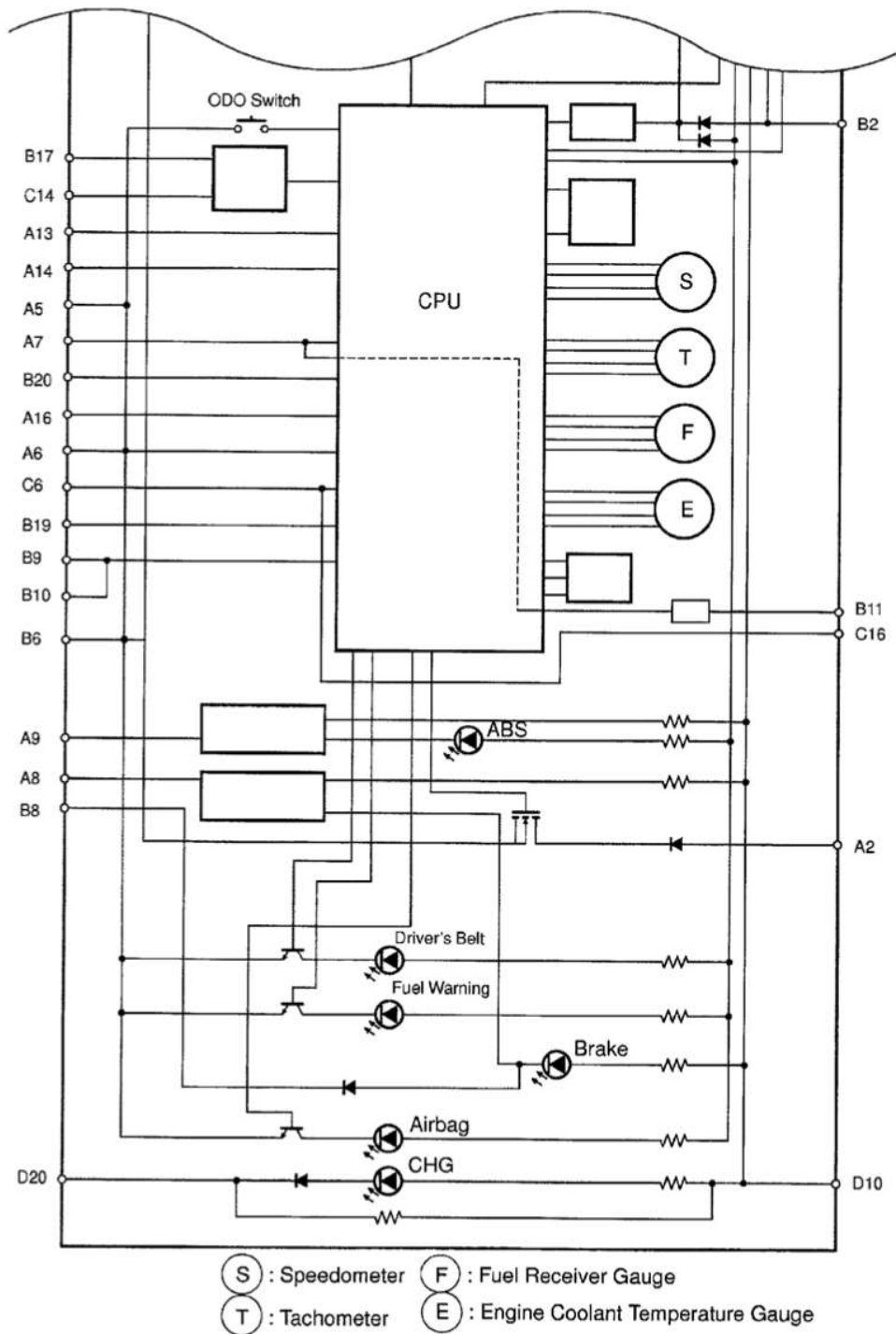
Fig. 22: Identifying Combination Meter Connectors & Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

CIRCUIT



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Fig. 23: Displaying Combination Meter Circuit (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 24: Displaying Combination Meter Circuit (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

No.	Wiring connector side
A	2 Passenger Seat Belt Warning Light (Heater Control Panel)
	5 Speed Sensor
	6 Fuel Sender (Main)
	7 Speed Sensor
	8 ABS ECU (BRL Terminal)
	9 ABS ECU (WA Terminal)
	11 Washer Switch
	13 Passenger Seat Belt Buckle Switch, Occupant Detection Sensor
	14 Driver Seat Belt Buckle Switch
B	15 Headlight
	16 Fuel Sender (Sub)
	1 ECU-IG Fuse
	2 DOME Fuse
	3 PANEL Fuse
	5 Ground
	6 Ground
	8 Parking Brake Switch, Brake Fluid Warning Switch
	9 Key Unlock Warning Switch
	10 Passenger Side J/B ECU
	11 Vehicle Speed Sensor
	12 Front Fog Switch
C	13 Turn Signal Switch (Left)
	14 Headlight Dimmer Switch (HI)
	16 Ground, Rheostat (w/ Rheostat)
	17 Ground, Airbag ECU (w/ Airbag)
	18 Door Courtesy Switch (Except Driver's Door)
	19 Driver Door Courtesy Switch
	20 ECM (TACH Terminal)
	1 Neutral Start Switch (P)
	2 Neutral Start Switch (R)
	3 Neutral Start Switch (N)
D	4 Ground (w/o Airbag)
	6 ECM (THW Terminal)
	8 ECM (WRS Terminal)
	9 ECM (W Terminal)
	10 Oil Pressure Switch
	11 Neutral Start Switch (D)
	12 Neutral Start Switch (2)
	13 Neutral Start Switch (L)
	15 ECM (VWA Terminal)
	19 Cruise Control ECU (SPD Terminal)
	10 Ignition Switch
	19 Turn Signal Switch (Right)
	20 Alternator

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Fig. 25: Identifying Combination Meter Terminal Circuits
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. **Inspect speedometer on-vehicle .**

Using a speedometer tester, inspect that the speedometer reading is within the allowable, and check the operation of the odometer.

NOTE: **Tire wear and tire over or under inflation will cause the reading error.**

USA (mph)		CANADA (km/h)	
Standard indication	Allowable range	Standard indication	Allowable range
20	20 – 23	20	18 – 23
40	40 – 43.5	40	40 – 44
60	60 – 64	60	60 – 64.5
80	80 – 84.5	80	80 – 85
100	100 – 105	100	100 – 105
120	120 – 125.5	120	120 – 125.5
		140	140 – 146
		160	160 – 167
		180	180 – 188

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Fig. 26: Displaying Speedometer Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the indicated value is out of the allowable range, replace the combination meter (See Step11 under INSTRUMENT PANEL REMOVAL).

2. **Inspect speedometer resistance .**

Measure the resistance between terminals with an ohmmeter at the positions shown in **Fig. 27** and **Fig. 28** .

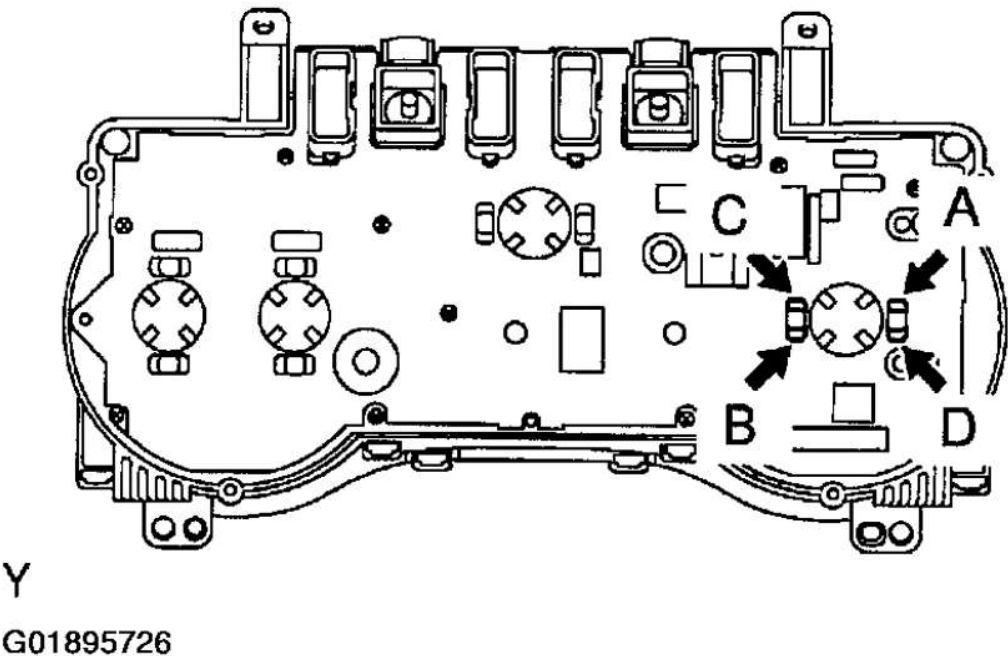


Fig. 27: Identifying Speedometer Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Tester connection	Resistance (Ω)
A – B	Approx. 250
C – D	Approx. 250

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Fig. 28: Displaying Speedometer Resistance Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If resistance value is not as specified, replace the combination meter (See Step11 under INSTRUMENT PANEL REMOVAL).

- 3. **Inspect tachometer on-vehicle .**
 - a. Connect a tune-up test tachometer, and start the engine.

NOTE: Reversing the connection of the tachometer will damage the transistors and diodes inside.

- b. Compare the tester reading with tachometer reading.

RPM (DC 13.5 V, 25°C (77°F))

Standard indication	Allowable range
700	630 – 770
(1,000)	(900 – 1,100)
(2,000)	(1,850 – 2,150)
3,000	2,800 – 3,200
(4,000)	(3,800 – 4,200)
5,000	4,800 – 5,200
(6,000)	(5,750 – 6,250)
7,000	6,700 – 7,300

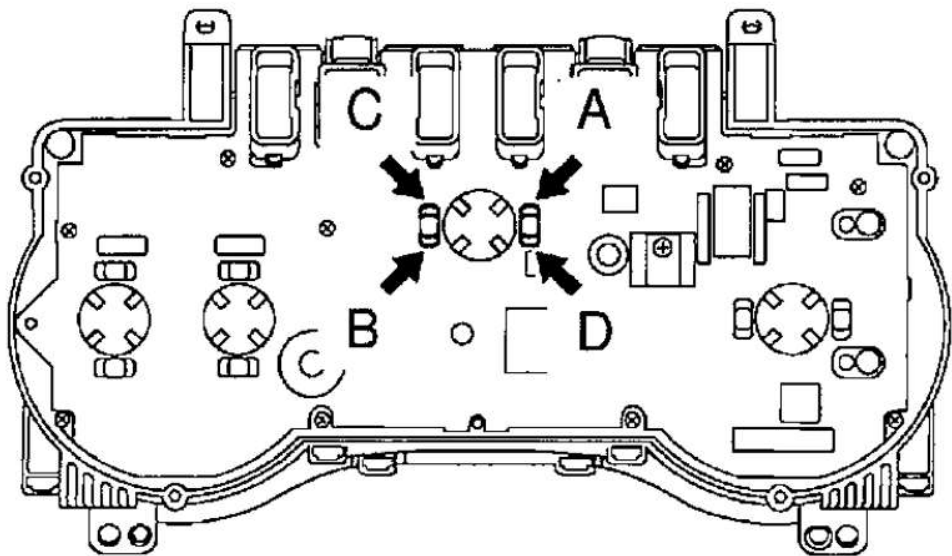
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Fig. 29: Displaying Tachometer Specifications
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the indicated value is out of the allowable range, replace the combination meter (See Step11 under INSTRUMENT PANEL REMOVAL).

4. **Inspect tachometer resistance .**

Measure the resistance between terminals with an ohmmeter at the positions shown in **Fig. 30** and **Fig. 31** .



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Fig. 30: Identifying Tachometer Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Tester connection	Resistance (Ω)
A – B	Approx. 250
C – D	Approx. 250

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Fig. 31: Displaying Tachometer Resistance Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If resistance value is not as specified, replace the combination meter (See Step11 under INSTRUMENT PANEL REMOVAL).

5. Inspect fuel receiver gauge operation .

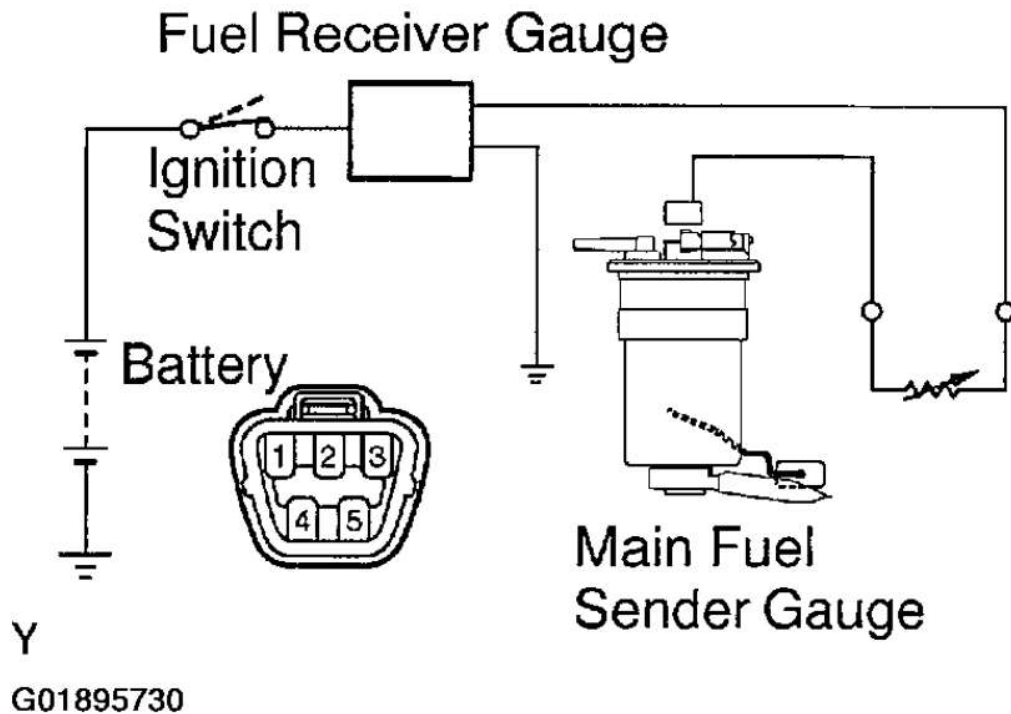


Fig. 32: Displaying Fuel Gauge Circuit
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: Put the vehicle on a level spot.

- Disconnect the connector from the main fuel pump assembly.
- Turn the ignition switch ON, check that the receiver gauge needle indicates EMPTY.
- Connect terminals 2 and 3 of the wire harness side connector through a 3.4 W test bulb.

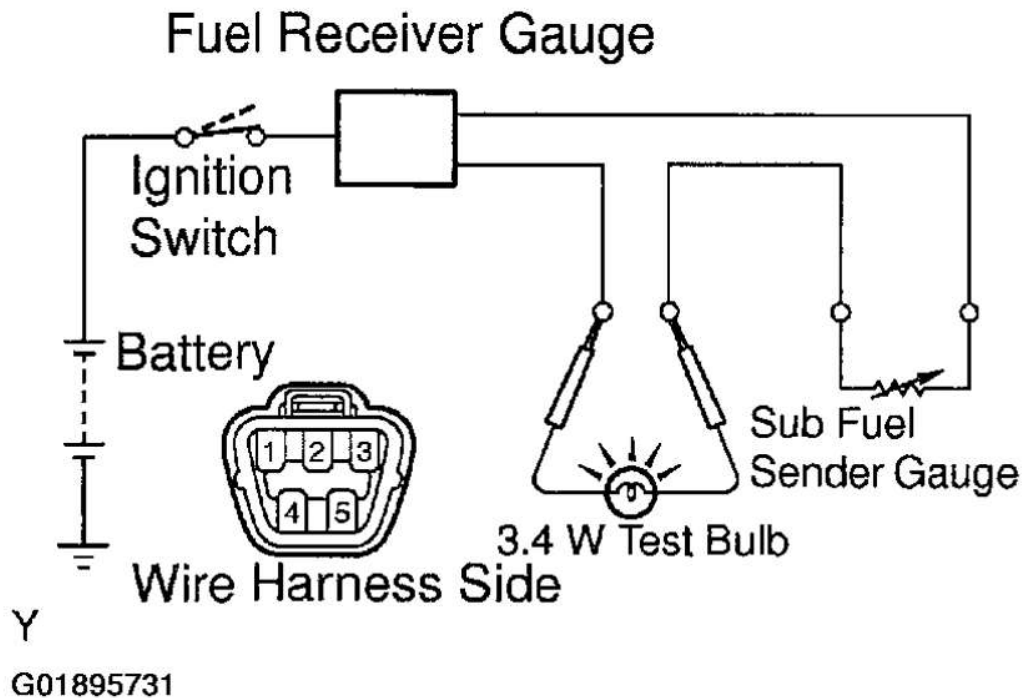


Fig. 33: Testing Fuel Receiver Gauge

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Turn the ignition switch ON, check that the bulb lights up and receiver gauge needle move to full side.

If operation is not as specified, inspect the main and sub sender gauge resistance.

6. Inspect fuel receiver gauge resistance .

Measure the resistance between terminals with an ohmmeter at the positions shown in **Fig. 34** and **Fig. 35** .

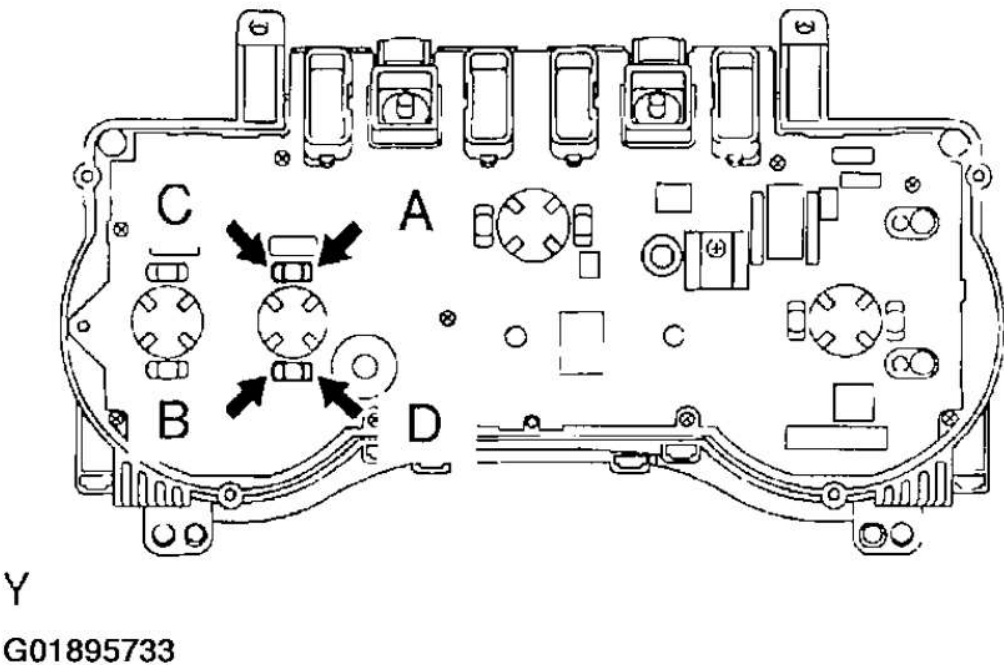


Fig. 34: Identifying Fuel Receiver Gauge Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Tester connection	Resistance (Ω)
A – B	Approx. 250
C – D	Approx. 250

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Fig. 35: Displaying Fuel Receiver Gauge Resistance
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If resistance value is not as specified, replace the combination meter (See Step11 under INSTRUMENT PANEL REMOVAL).

7. Inspect main fuel sender gauge resistance .

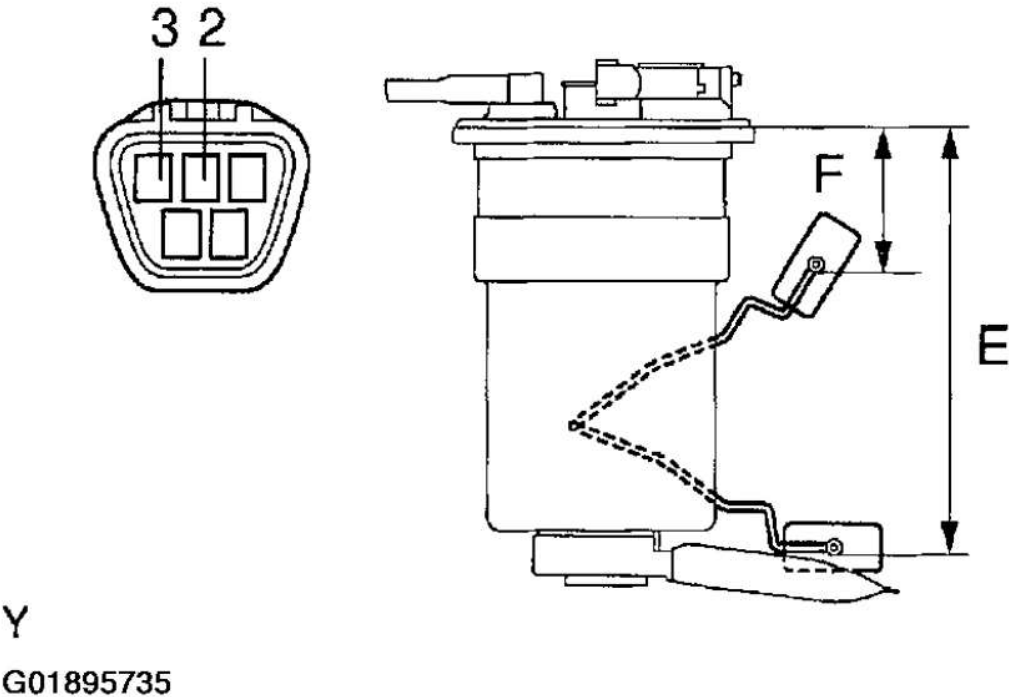


Fig. 36: Inspecting Main Fuel Sender Gauge Resistance
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Measure the resistance between terminals 2 and 3 for each float position.

Float position: mm (In.)	Resistance (Ω)
F: Approx. 57.8 (2.28)	Approx. 2
E: Approx. 169.0 (6.65)	Approx. 54

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Fig. 37: Displaying Main Fuel Sender Gauge Resistance Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If resistance value is not as specified, replace the sender gauge.

8. Inspect sub fuel sender gauge resistance .

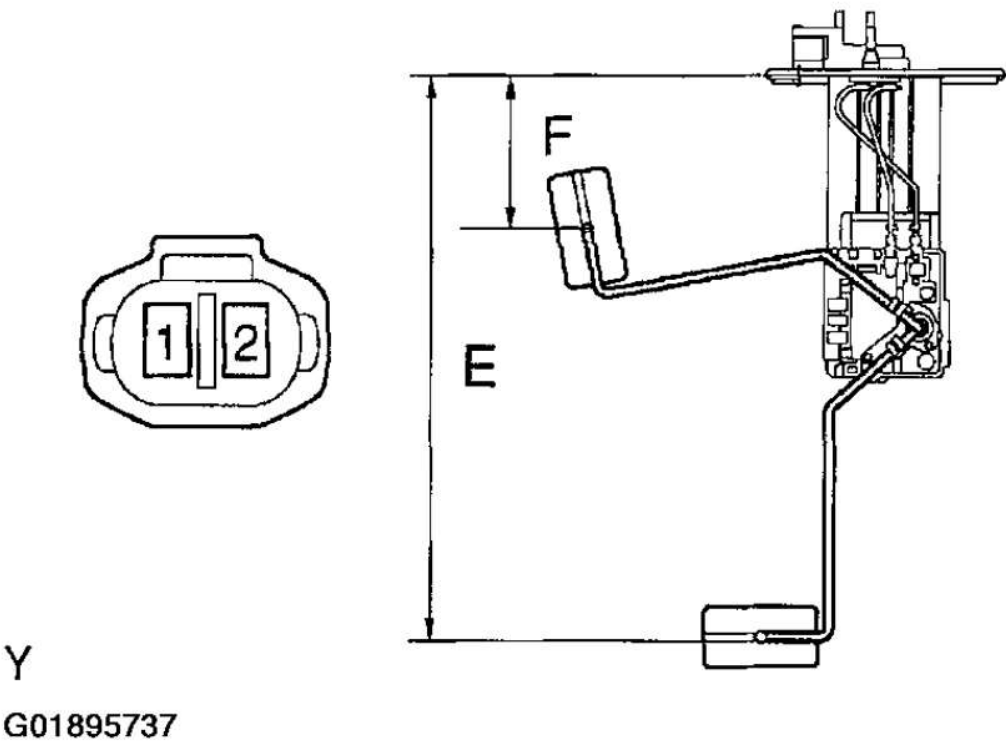


Fig. 38: Inspecting Sub Fuel Sender Gauge Resistance
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Measure the resistance between terminals 1 and 2 for each float position.

Float position: mm (in.)	Resistance (Ω)
F: Approx. 49.2 (1.94)	Approx. 2
E: Approx. 178.1 (7.01)	Approx. 53

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Fig. 39: Displaying Sub Fuel Sender Gauge Resistance Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If resistance value is not as specified, replace the sender gauge.

9. **Inspect engine coolant temperature receiver gauge resistance .**

Measure the resistance between terminals with an ohmmeter at the positions shown in **Fig. 40** and **Fig. 41** .

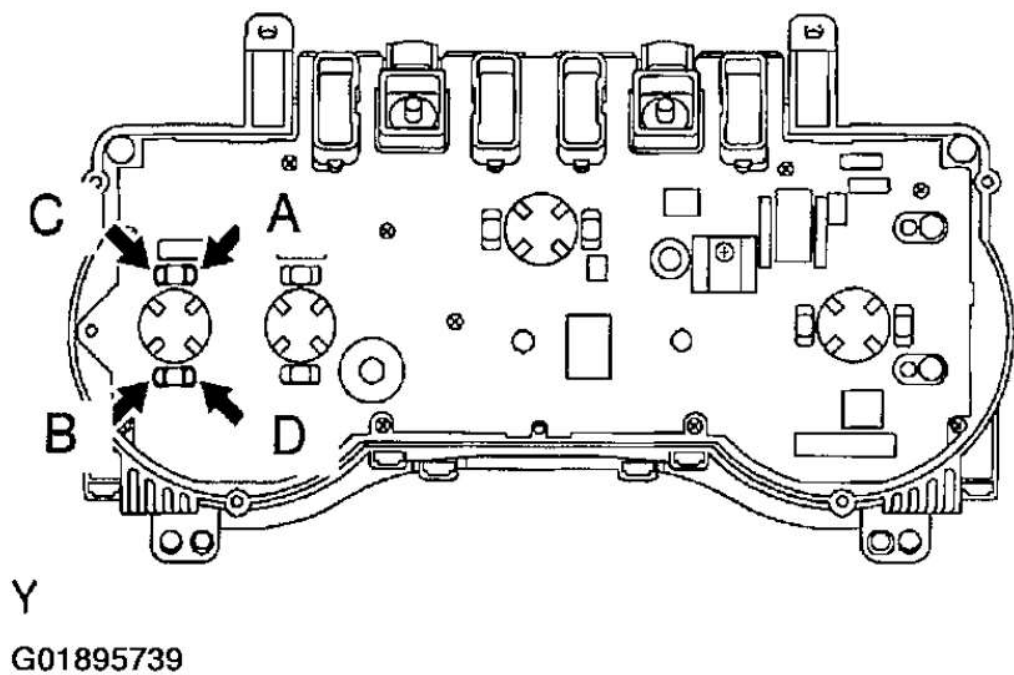


Fig. 40: Identifying Engine Coolant Temperature Receiver Gauge Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Tester connection	Resistance (Ω)
A – B	Approx. 250
C – D	Approx. 250

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Fig. 41: Displaying Engine Coolant Temperature Receiver Gauge Resistance Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If resistance value is not as specified, replace the combination meter (See Step11 under INSTRUMENT

PANEL REMOVAL).

10. **Inspect low oil pressure warning light .**

- a. Disconnect the connector from the warning switch and ground terminal of the wire harness side connector.
- b. Turn the ignition switch ON, check that the warning light lights up.

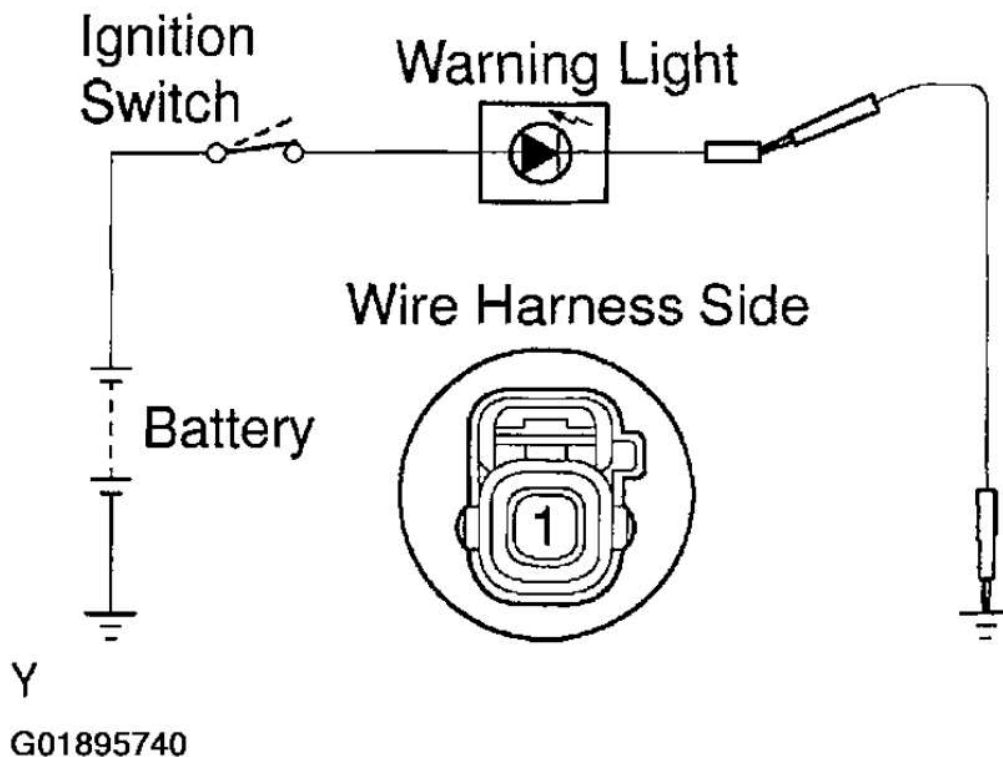
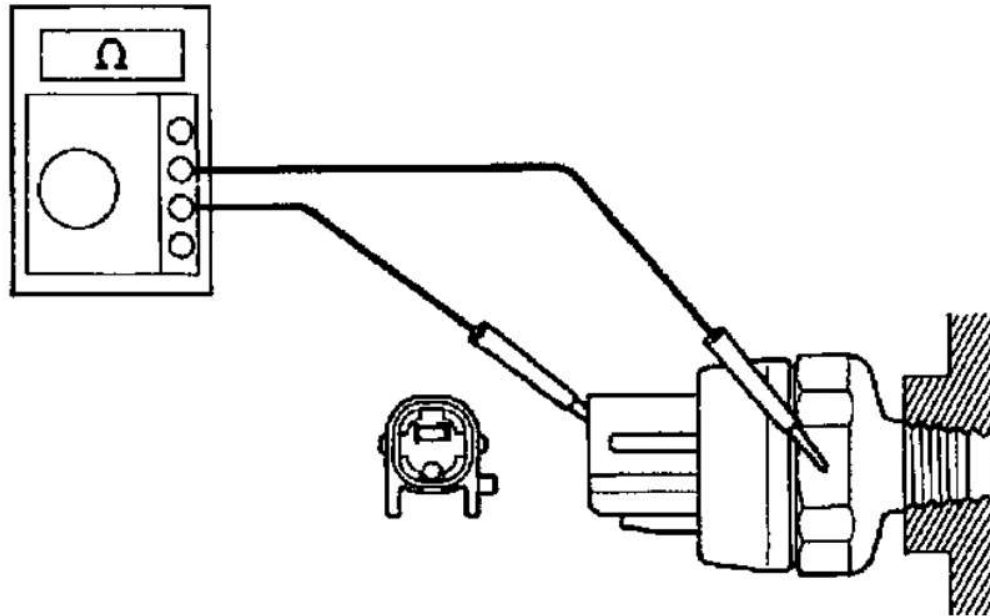


Fig. 42: Testing Low Oil Pressure Warning Light Circuit
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the warning light does not light up, test the LED or inspect wire harness.

11. **Inspect low oil pressure switch continuity .**

- a. Check that continuity exists between terminal and ground with the engine stopped.
- b. Check that no continuity exists between terminal and ground with the engine running.



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Fig. 43: Checking Low Oil Pressure Switch Continuity
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: The oil pressure should be over 24.5 kPa (0.25 kgf/cm² , 3.55 psi).

If operation is not as specified, replace the switch.

12. Inspect brake warning system light .

- a. Disconnect the connector from the brake fluid warning switch.
- b. Connect terminals of the wire harness side of the level warning switch connector.
- c. Start the engine, check that the warning light lights up.

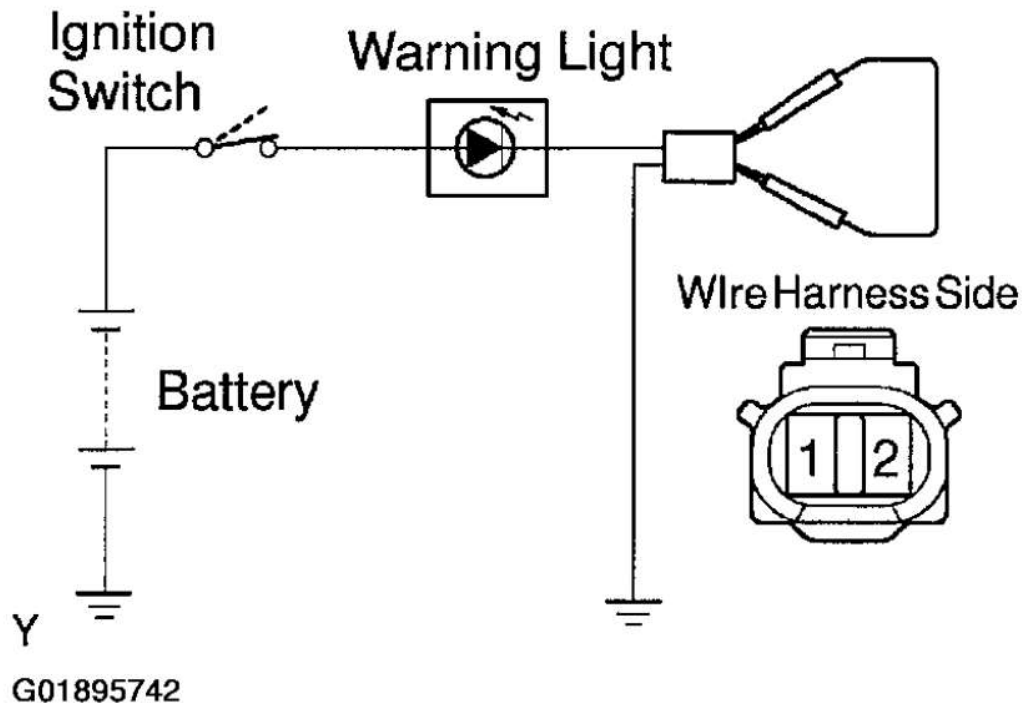


Fig. 44: Testing Brake Warning Light Circuit
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the warning light does not light up, test the LED or wire harness.

13. Inspect brake fluid level warning switch continuity .

- a. Remove the reservoir cap and strainer.
- b. Disconnect the connector.
- c. Check that no continuity exists between terminals with the switch OFF (float up).
- d. Use siphon, etc. to take fluid out of the reservoir.
- e. Check that continuity exists between terminals with the switch ON (float down).
- f. Pour the fluid back in the reservoir.

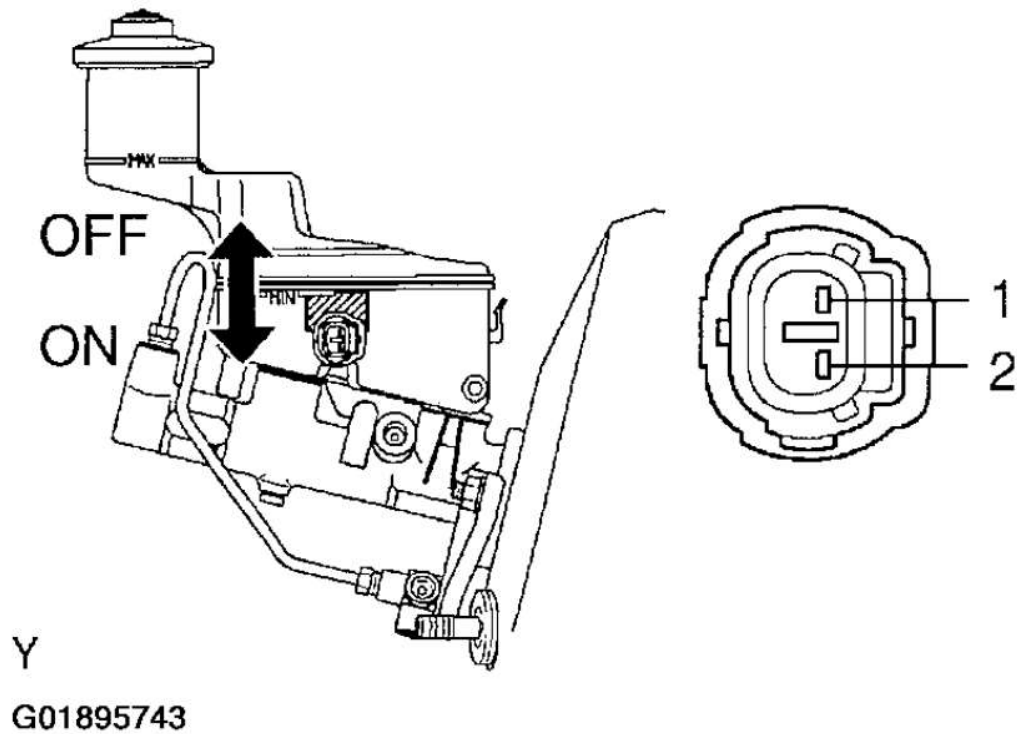


Fig. 45: Testing Brake Fluid Level Warning Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the switch.

14. Inspect parking brake warning light .

- a. Disconnect the connector from the parking brake switch.
- b. Ground the terminal of the wire harness side connector.
- c. Start the engine, check that the warning light lights up.

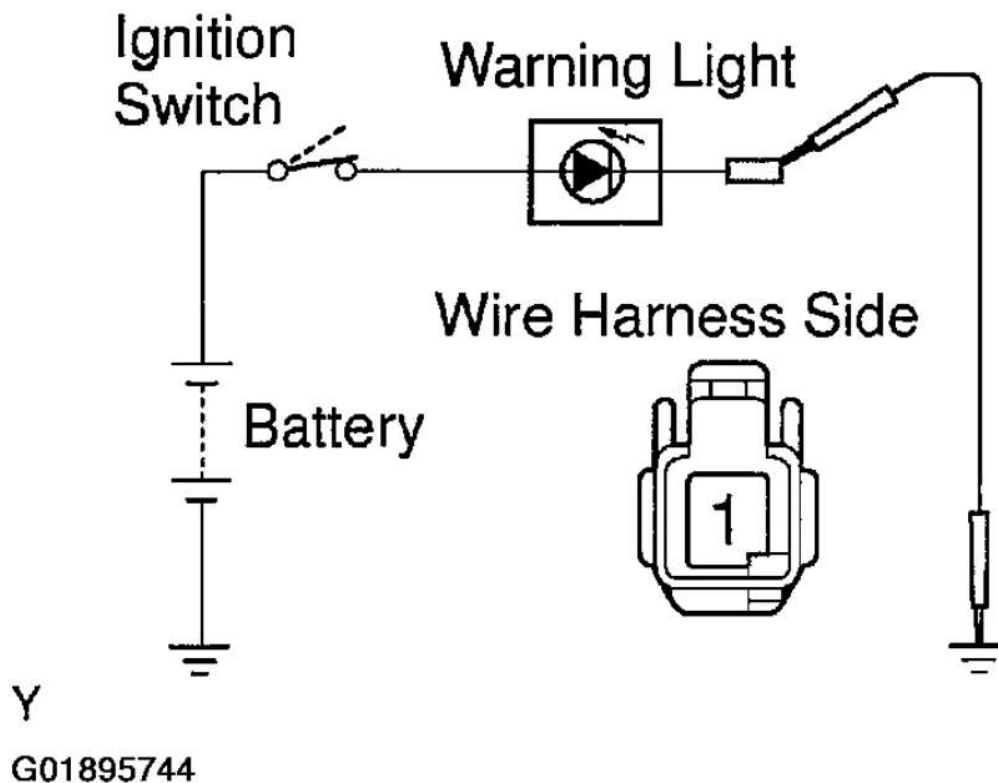
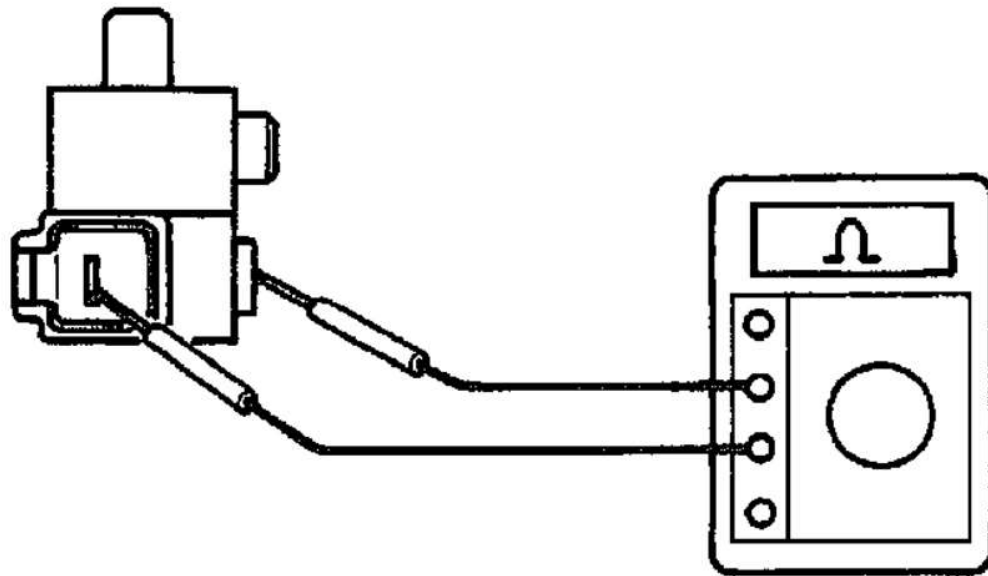


Fig. 46: Testing Parking Brake Warning Light Circuit
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the warning light does not light up, test the LED or inspect wire harness.

15. Inspect parking brake switch continuity .

- a. Check that continuity exists between terminal and switch body with the switch ON (switch pin released).
- b. Check that no continuity exists between terminal and switch body with the switch OFF (switch pin pushed in).



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Fig. 47: Testing Parking Brake Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the switch or inspect ground point.

16. Except back door: Inspect open door warning light

- a. Disconnect the connector from the door courtesy switch.
- b. Ground the terminal of the wire harness side connector.
- c. Start the engine, check that the warning light lights up.

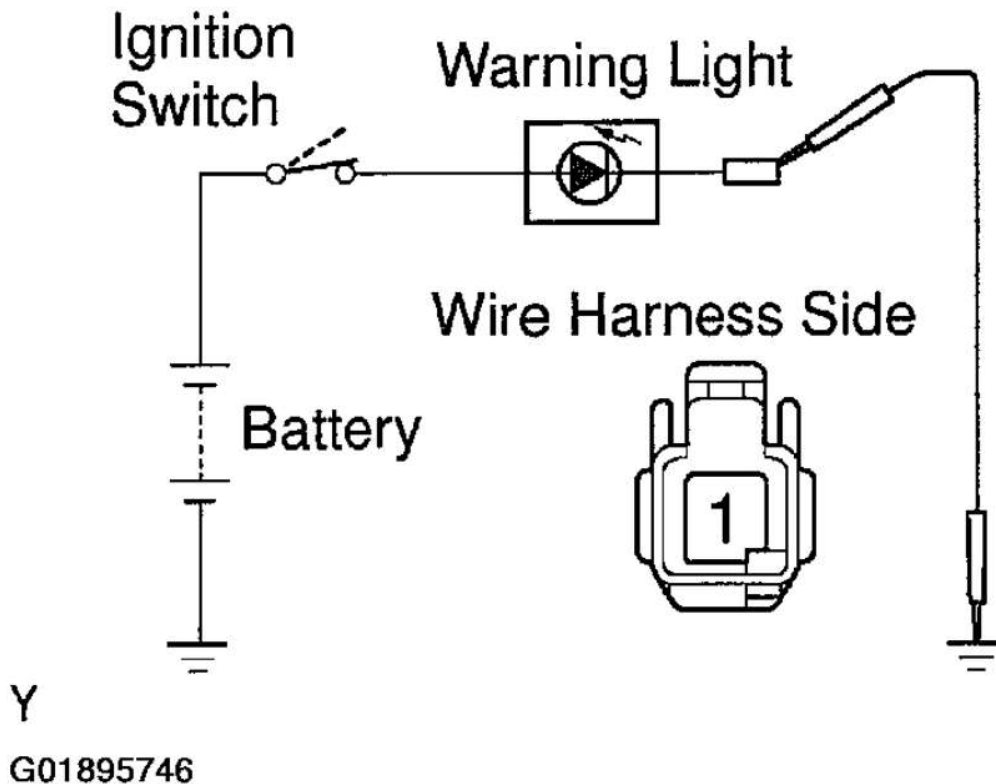


Fig. 48: Inspecting Open Door Warning Light Circuit (Except Back Door)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the warning light does not light up, test the LED or inspect wire harness.

17. Back door only: Inspect open door warning light .

- Disconnect the connector from the back door courtesy switch and ground the terminal on the wire harness side connector.
- Start the engine, check that the warning light lights up.

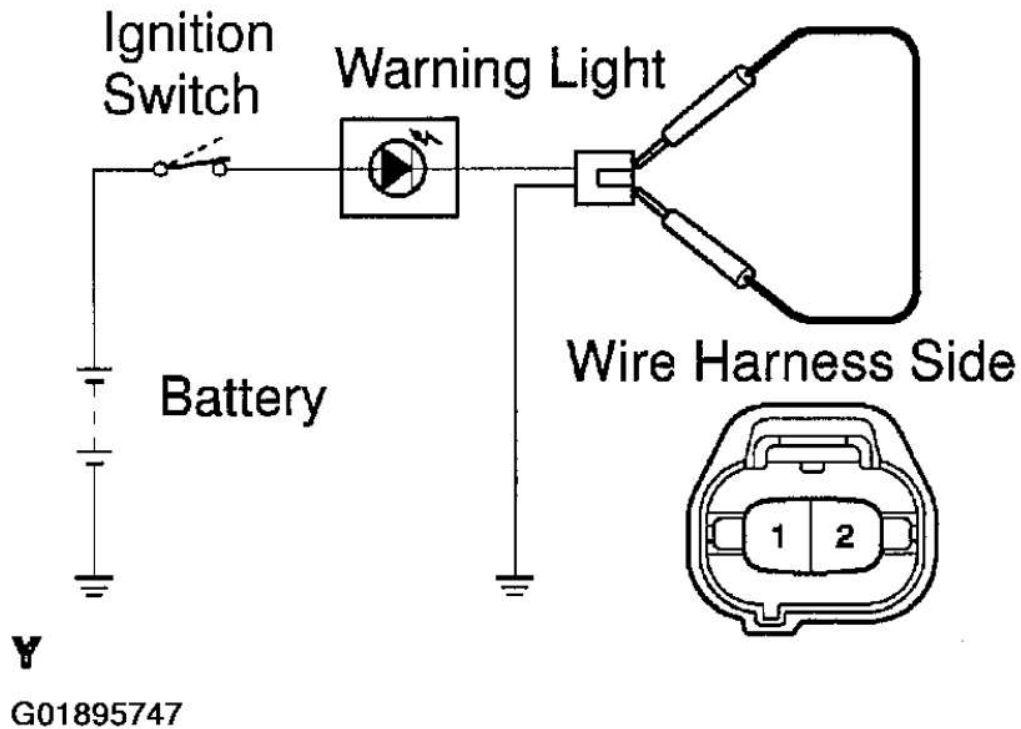


Fig. 49: Inspecting Open Door Warning Light Circuit (Back Door)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the warning light does not light up, test the LED or inspect wire harness.

18. Driver's side: Inspect seat belt warning light .

- a. Disconnect the connector from the buckle switch and ground the terminal on the wire harness side connector.
- b. Turn the ignition switch ON and check that the warning light lights up.

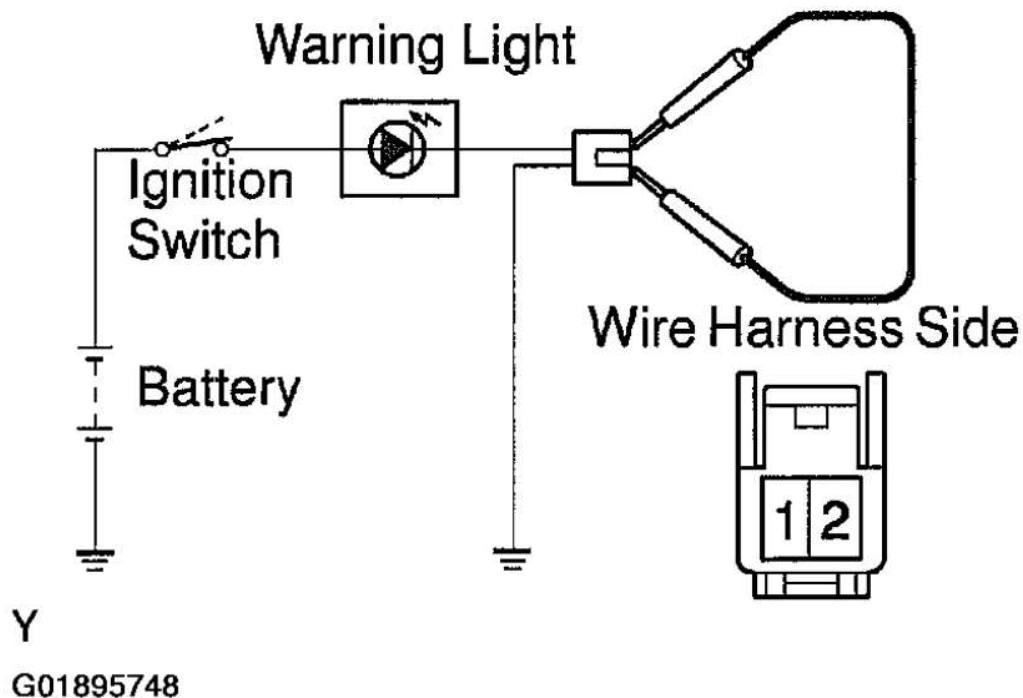


Fig. 50: Testing Seat Belt Warning Light Circuit
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the warning light does not light up, test the LED or inspect wire harness.

19. Driver's side: Inspect buckle switch continuity .

- Check that continuity exists between terminals 1 and 2 the switch side connectors with the switch ON (belt unfastened).
- Check that no continuity exists between terminals 1 and 2 of the switch side connectors with the switch OFF (belt fastened).

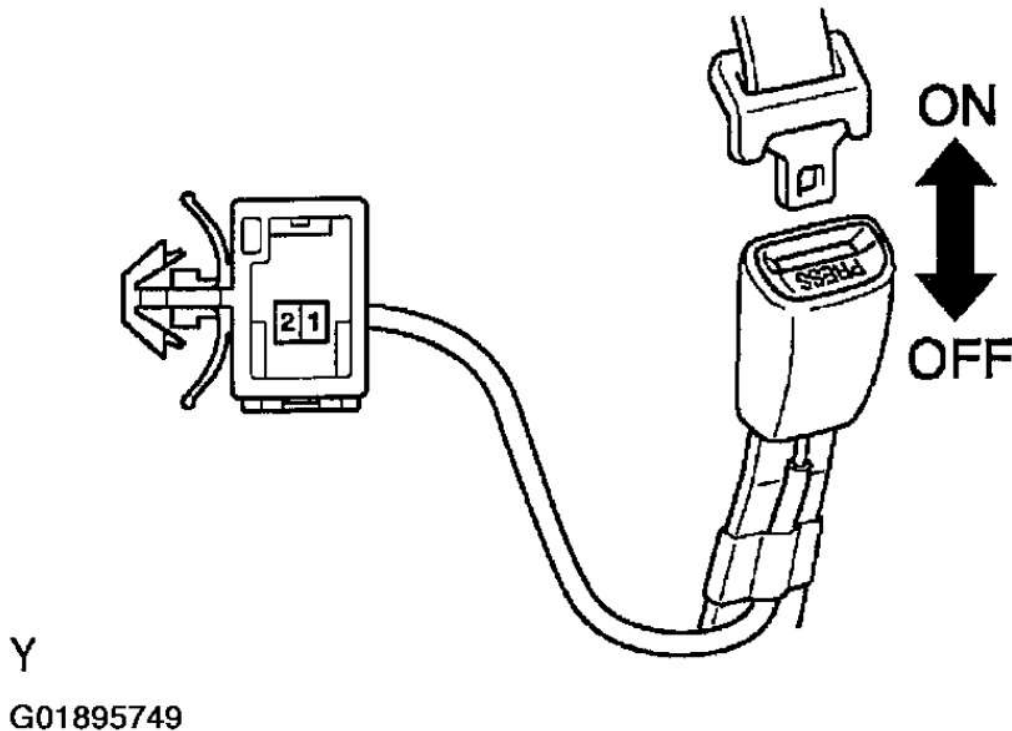


Fig. 51: Inspecting Driver's Side Buckle Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the switch.

20. Passenger's side: Inspect buckle switch continuity .

- a. Check that continuity exists between terminals 1 and 2 on the switch side connectors with the switch ON (belt unfastened).
- b. Check that no continuity exists between terminals 1 and 2 on the switch side connectors with the switch OFF (belt fastened).

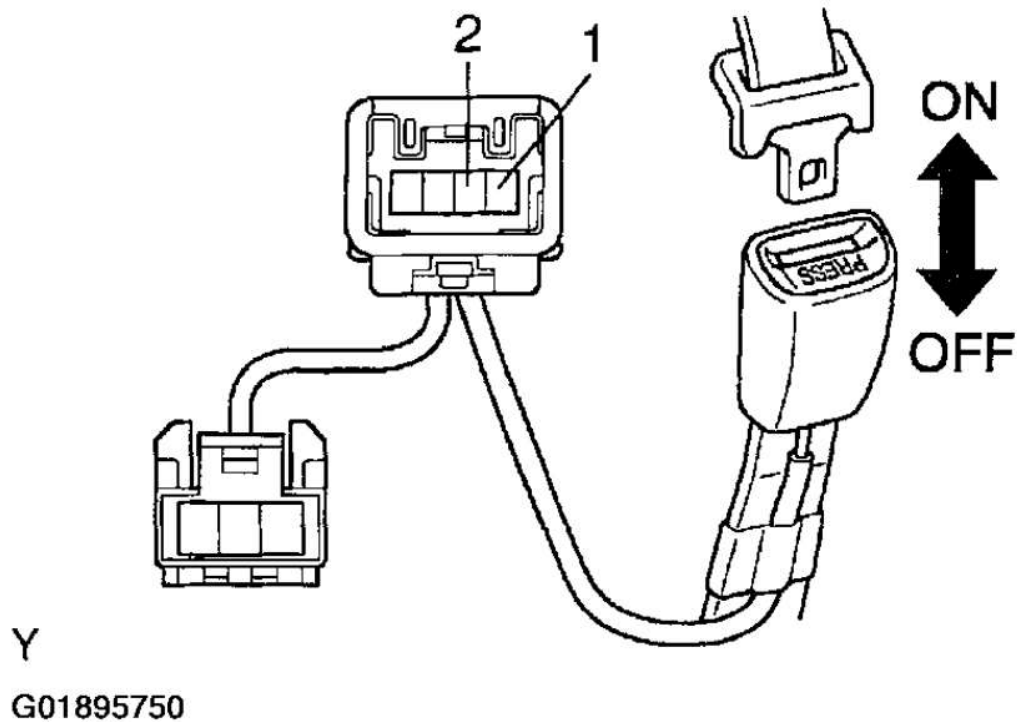
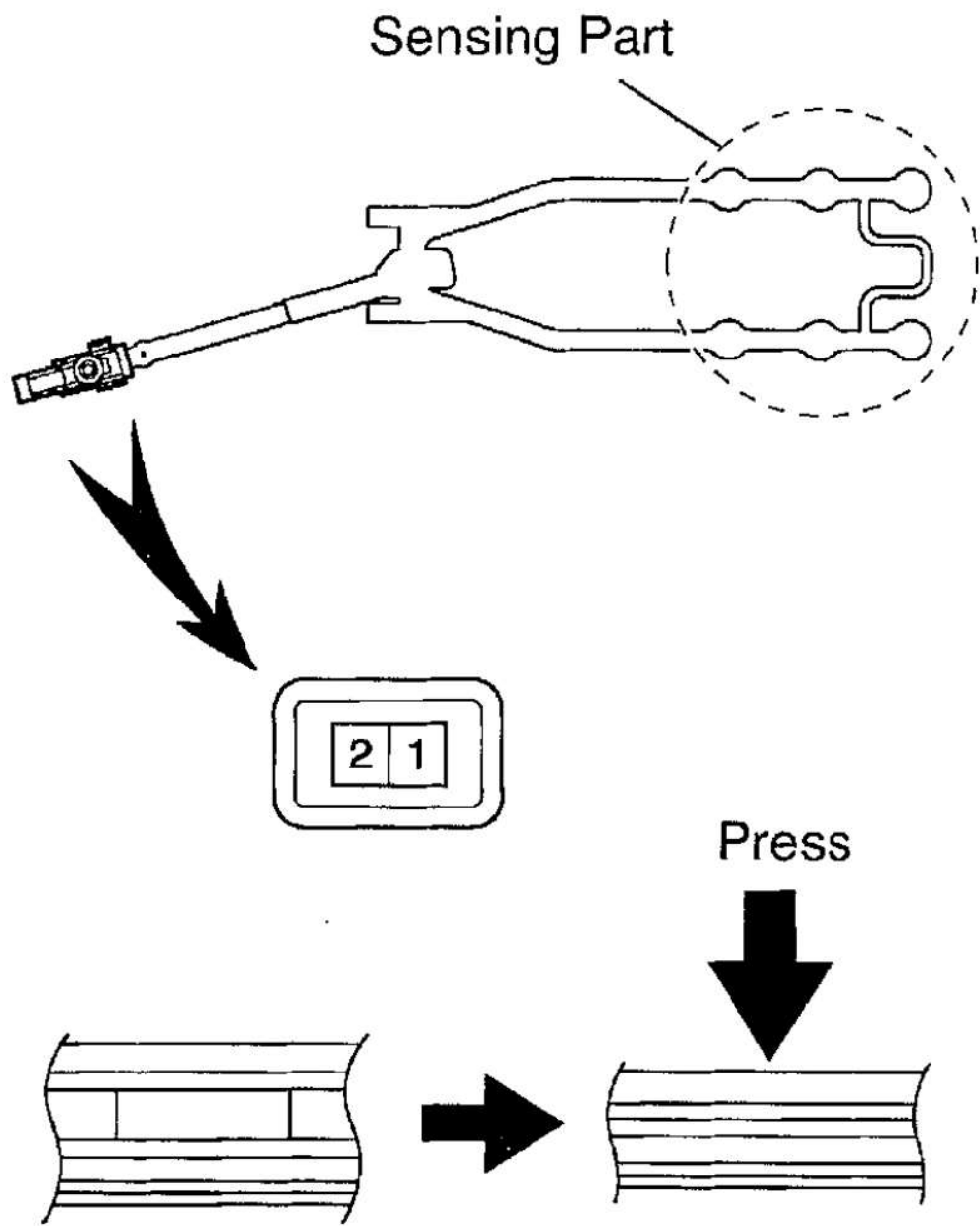


Fig. 52: Inspecting Passenger's Side Buckle Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the switch.

21. Passenger's seat only: Inspect seat belt warning occupant detection sensor continuity



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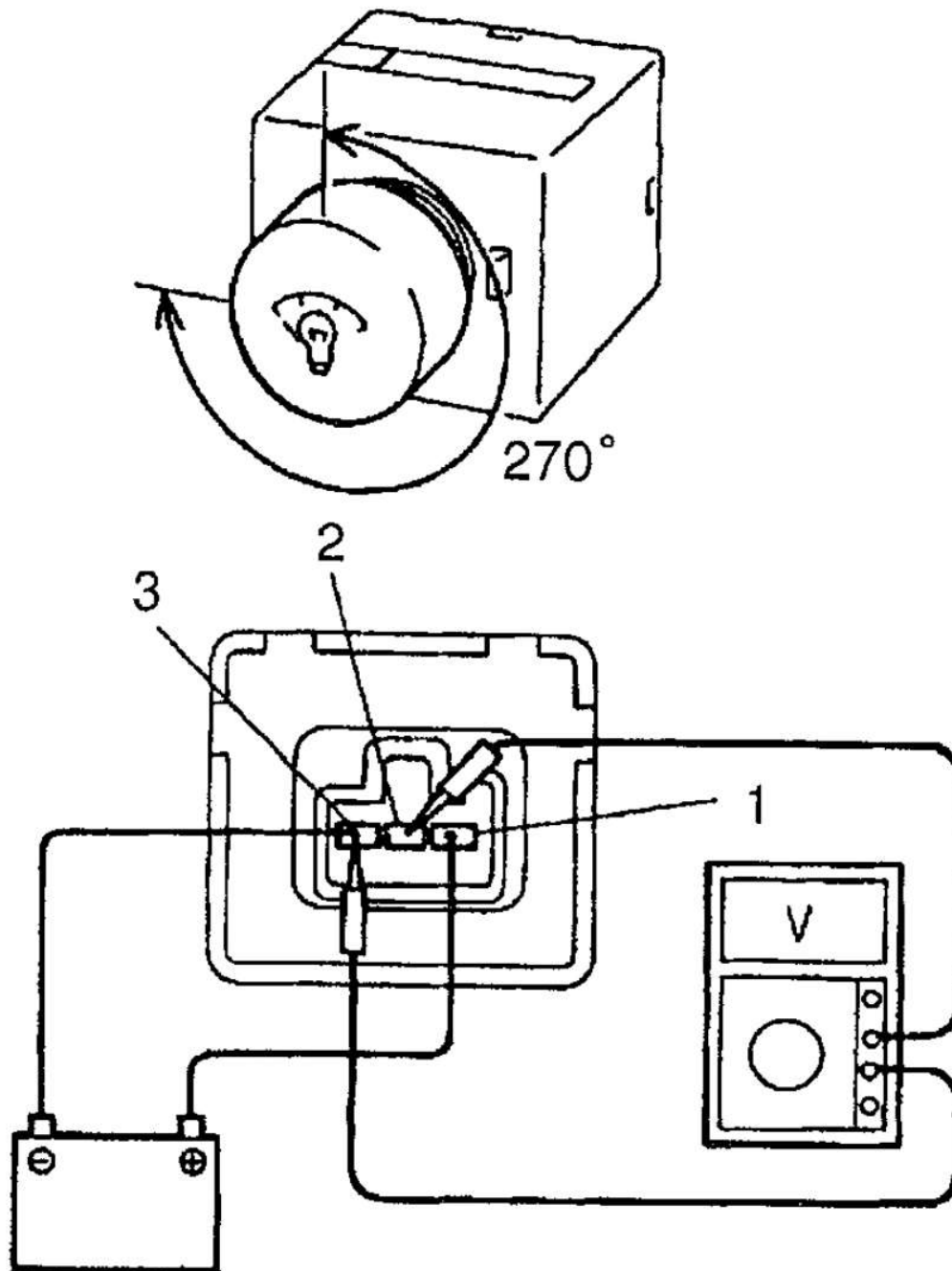
Fig. 53: Testing Occupant Detection Sensor
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Press the sensing part and check that continuity exists between terminals 1 and 2.

If operation is not as specified, replace the seat cushion pad with sensor.

22. Inspect light control rheostat operation .

- a. Connect the positive (+) lead from the battery to terminal 1 and negative lead (-) to terminal 3.
- b. Connect the positive (+) lead from the voltmeter to terminal 2 and negative lead to terminal 3.
- c. Turn the rheostat knob and check that the voltage changes.



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Fig. 54: Testing Light Control Rheostat

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If operation is not as specified, replace the light control rheostat.

ADJUSTMENT

NOTE:

- **Combination meter assembly is equipped with an inclination sensor to control the fuel gauge. When replacing the inclination sensor or combination meter assembly, please reset the vehicle in a horizontal condition according to the following procedure.**
- **If you do not reset the vehicle in a horizontal condition, the fuel gauge fails to display the accurate value.**

Reset inclination sensor inside combination meter .

- a. After replacing the part, install the combination meter to the vehicle.
- b. Move the vehicle to a horizontal place. (A surface with an angle of inclination no greater than $\pm 0.5^\circ$)
- c. With the ignition switch at OFF position, press the trip switch.
- d. While pressing the trip switch, turn the ignition switch to ON position.
- e. Within 5 seconds after the ignition switch is turned ON, release the trip switch and repeat pressing the trip switch 3 times, but keep pressing the switch for 5 seconds for the third time. (The buzzer of 800 Hz will sound for 1 second.)
- f. After the buzzer stops, release the trip switch.
- g. Press the trip switch one more time and hold for 5 seconds. (Once more, the buzzer of 800 Hz will sound for 1 second.)
- h. The horizontally setting is now completed.

NOTE:

If in the operation of step (g), the buzzer higher than that of step (e) (1.9 kHz) sounds continually, turn the ignition switch to OFF position and repeat the setting procedure from step (c).