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# AUTOMATIC TRANSAXLE (U240E)

|                                           |       |
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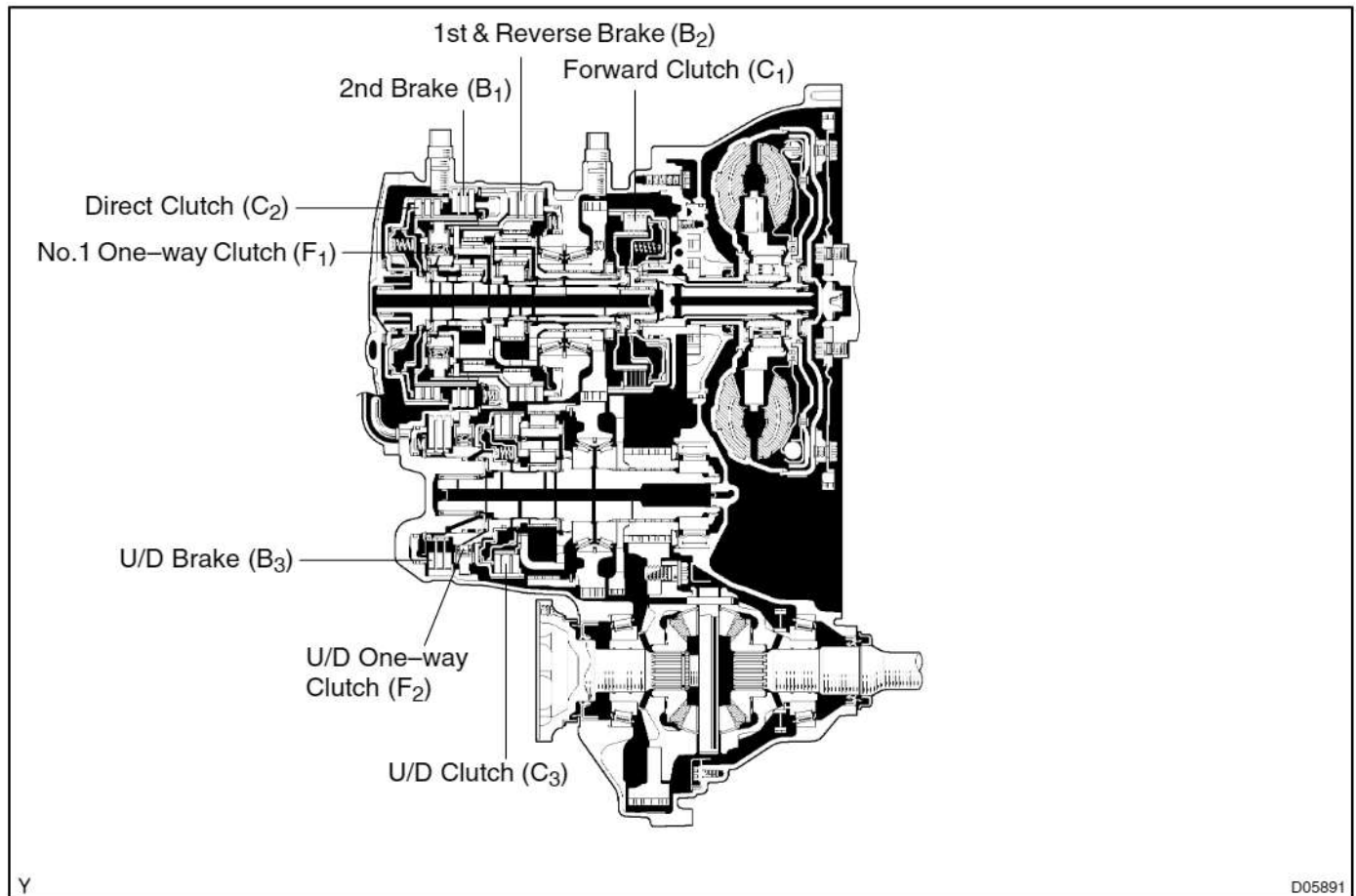
# AUTOMATIC TRANSAXLE SYSTEM

AX0LF-01

## PRECAUTION

If the vehicle is equipped with a mobile communication system, refer to the precautions in the IN section.

# OPERATION



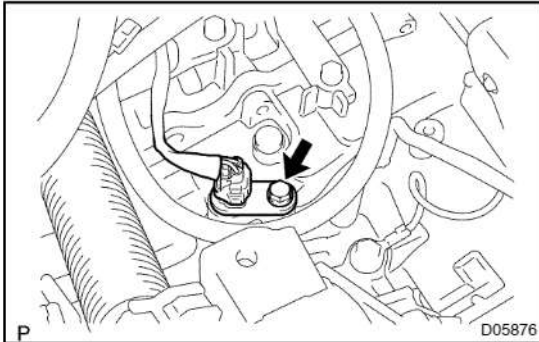
○ ... Operating

| Shift lever range | Gear range | C <sub>1</sub> | C <sub>2</sub> | C <sub>3</sub> | B <sub>1</sub> | B <sub>2</sub> | B <sub>3</sub> | F <sub>1</sub> | F <sub>2</sub> |
|-------------------|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| P                 | Parking    |                |                |                |                |                | ○              |                |                |
| R                 | Reverse    |                | ○              |                |                | ○              | ○              |                |                |
| N                 | Neutral    |                |                |                |                |                | ○              |                |                |
| D                 | 1st        | ○              |                |                |                |                | ○              | ○              | ○              |
|                   | 2nd        | ○              |                |                | ○              |                | ○              |                | ○              |
|                   | 3rd        | ○              | ○              |                |                |                | ○              |                | ○              |
|                   | O/D        | ○              | ○              | ○              |                |                |                |                |                |
| 2                 | 1st        | ○              |                |                |                |                | ○              | ○              | ○              |
|                   | 2nd        | ○              |                |                | ○              |                | ○              |                | ○              |
| L                 | 1st        | ○              |                |                |                | ○              | ○              | ○              | ○              |

## SPEED SENSOR ON-VEHICLE REPAIR

AX01-03

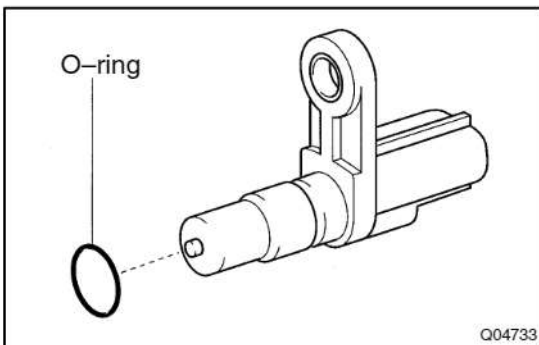
### 1. REMOVE AIR CLEANER ASSEMBLY



### 2. DISCONNECT COUNTER GEAR SPEED SENSOR CONNECTOR

### 3. REMOVE COUNTER GEAR SENSOR

- (a) Remove the bolt and counter gear speed sensor.



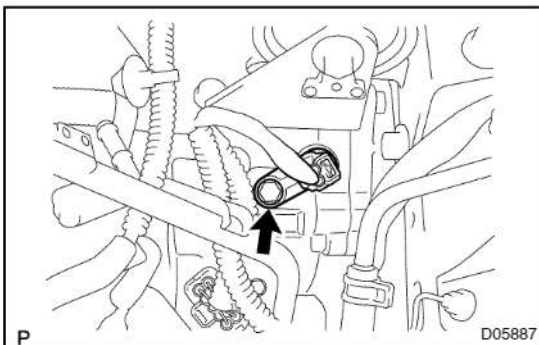
- (b) Remove the O-ring from the counter gear speed sensor.

### 4. INSTALL COUNTER GEAR SPEED SENSOR

- (a) Coat a new O-ring with ATF and install it to the counter gear speed sensor.  
(b) Install the counter gear speed sensor with the bolt.

**Torque: 11.3 N·m (115 kgf·cm, 8 ft·lbf)**

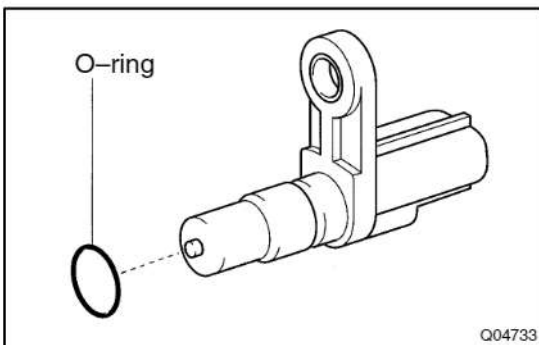
### 5. CONNECT COUNTER GEAR SPEED SENSOR CONNECTOR



### 6. DISCONNECT INPUT TURBINE SPEED SENSOR CONNECTOR

### 7. REMOVE INPUT TURBINE SPEED SENSOR

- (a) Remove the bolt and input turbine speed sensor.



- (b) Remove the O-ring from the input turbine speed sensor.

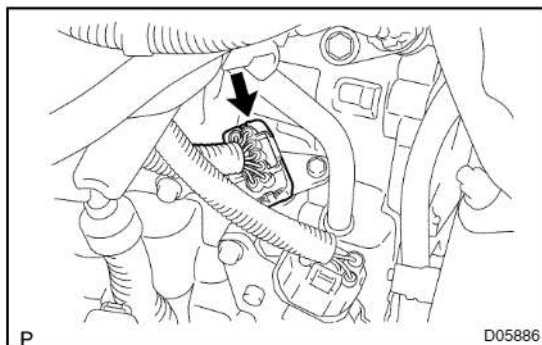
### 8. INSTALL INPUT TURBINE SPEED SENSOR

- (a) Coat a new O-ring with ATF and install it to the input turbine speed sensor.  
(b) Install the input turbine speed sensor with the bolt.

**Torque: 11.3 N·m (115 kgf·cm, 8 ft·lbf)**

### 9. CONNECT INPUT TURBINE SPEED SENSOR CONNECTOR

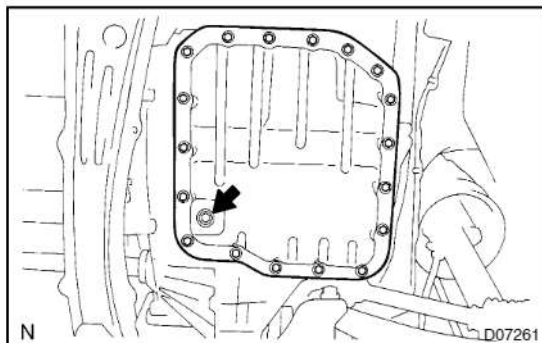
### 10. INSTALL AIR CLEANER ASSEMBLY



## ATF TEMPERATURE SENSOR ON-VEHICLE REPAIR

AX0LJ-03

1. DISCONNECT SOLENOID CONNECTOR
2. REMOVE LH ENGINE UNDER COVER

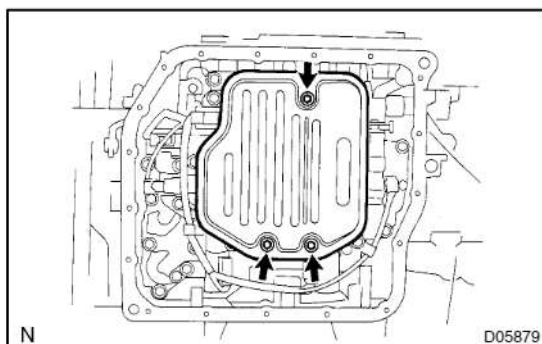


3. REMOVE DRAIN PLUG AND DRAIN ATF
4. REMOVE OIL PAN AND GASKET

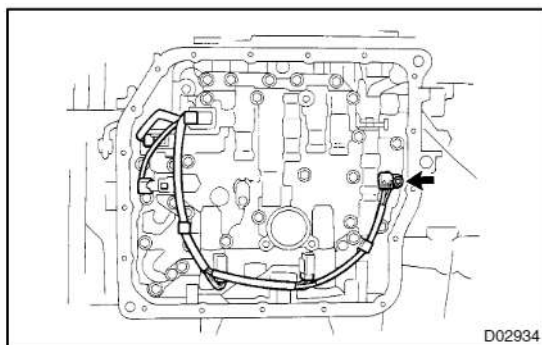
### NOTICE:

Some fluid will remain in the oil pan.

Remove the 18 bolts, and carefully remove the oil pan assembly. Discard the gasket.



5. REMOVE OIL STRAINER
  - (a) Remove the 3 bolts and oil strainer.
  - (b) Remove the O-ring.

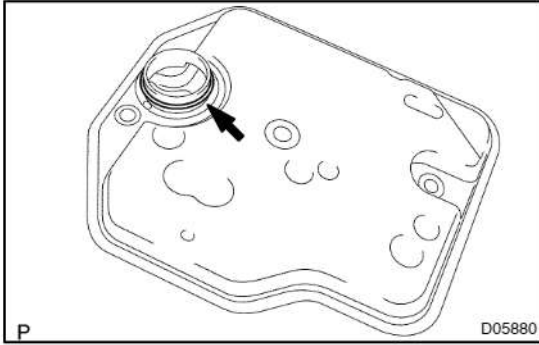


6. DISCONNECT 5 SHIFT SOLENOID VALVE CONNECTORS
7. REMOVE ATF TEMPERATURE SENSOR
 

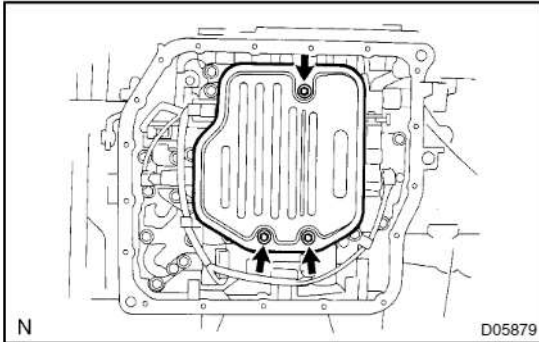
Remove the bolt and lock plate, and remove the ATF temperature sensor.
8. SEPARATE WIRE HARNESS FROM 2 CLAMPS
9. CLAMP WIRE HARNESS TO 2 CLAMPS
10. INSTALL ATF TEMPERATURE SENSOR
 

Install the ATF temperature sensor with the lock plate and bolt.

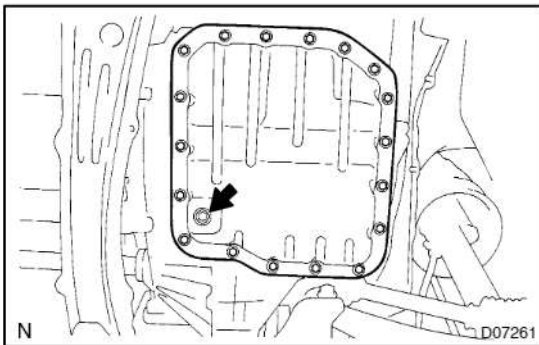
**Torque: 6.6 N·m (67 kgf·cm, 58 in.-lbf)**
11. CONNECT 5 SHIFT SOLENOID VALVE CONNECTORS

**12. INSTALL OIL STRAINER**

- (a) Coat a new O-ring with ATF.
- (b) Install the O-ring to the oil strainer.



- (c) Install the oil strainer with the 3 bolts.  
Torque: 10.8 N·m (110 kgf·cm, 8 ft·lbf)

**13. INSTALL OIL PAN**

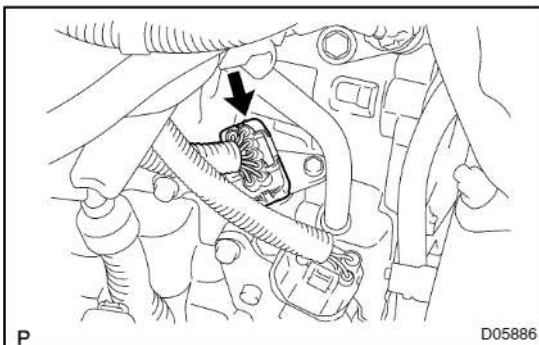
Install the oil pan and a new gasket with the 18 bolts.

Torque: 7.8 N·m (80 kgf·cm, 69 in·lbf)

**14. INSTALL DRAIN PLUG**

Install a new gasket and drain plug.

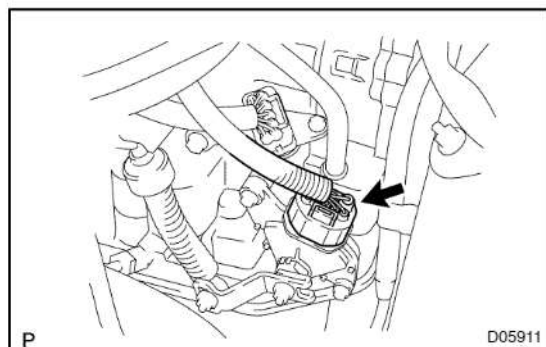
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

**15. CONNECT SOLENOID CONNECTOR****16. FILL ATF AND CHECK ATF LEVEL (See page DI-62)****17. INSTALL LH ENGINE UNDER COVER**

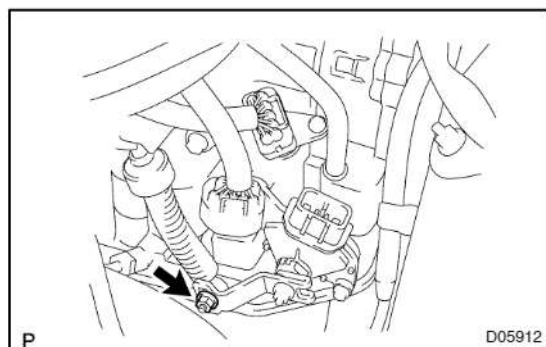
## NEUTRAL START SWITCH ON-VEHICLE REPAIR

AX0LK-03

### 1. REMOVE AIR CLEANER ASSEMBLY

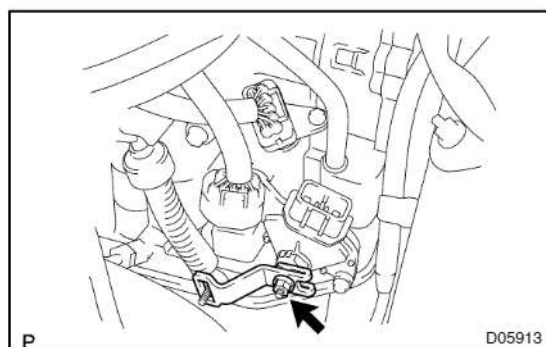


### 2. DISCONNECT NEUTRAL START SWITCH CONNECTOR

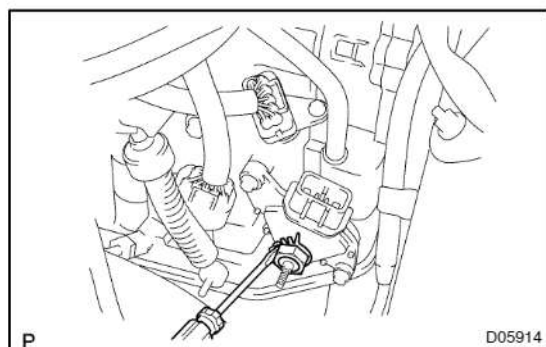


### 3. REMOVE NEUTRAL START SWITCH

(a) Remove the nut.

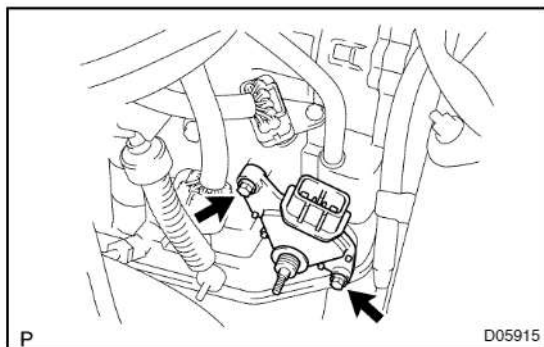


(b) Remove the nut, washer and control shift lever.



(c) Using a screwdriver, pry off the lock plate.

(d) Remove the nut and lock plate.



- (e) Remove the 2 bolts and pull out the neutral start switch.

#### 4. INSTALL AND ADJUST NEUTRAL START SWITCH

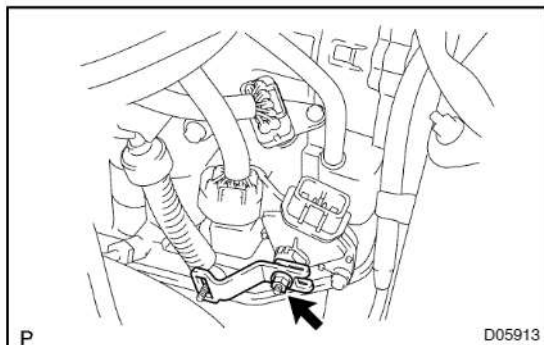
- (a) Install the neutral start switch with the 2 bolts.

**Torque: 5.4 N·m (55 kgf·cm, 48 in.-lbf)**

- (b) Install a new lock plate and nut.

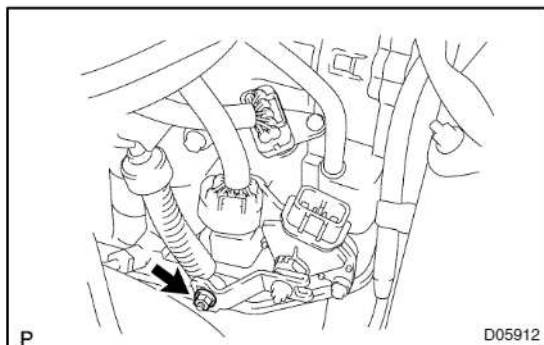
**Torque: 6.9 N·m (70 kgf·cm, 61 in.-lbf)**

- (c) Bend the claws on the lock plate to fix the nut.



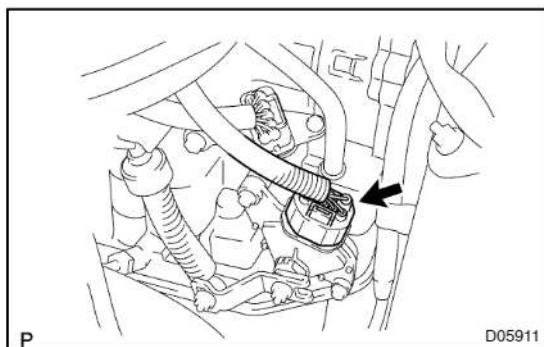
- (d) Install the control shift lever with the nut.

**Torque: 13 N·m (130 kgf·cm, 9 ft.-lbf)**



- (e) Connect the control cable to the control shaft.

**Torque: 12 N·m (120 kgf·cm, 9 ft.-lbf)**



#### 5. CONNECT NEUTRAL START SWITCH CONNECTOR

#### 6. CHECK NEUTRAL START OPERATION

Check that the engine can be started with the shift lever only in the N or P range, but not in other position.

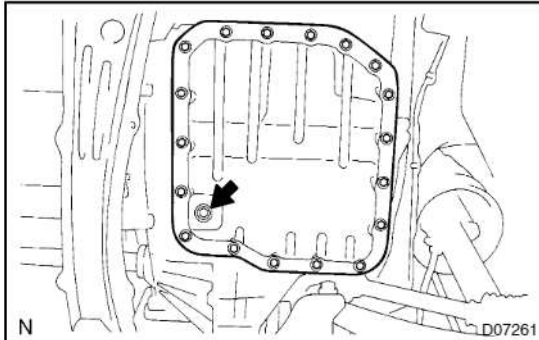
If the engine can not be started as stated above, carry out the adjustment procedure (See page DI-62).

#### 7. INSTALL AIR CLEANER ASSEMBLY

#### 8. TEST DRIVE VEHICLE

# VALVE BODY ASSEMBLY ON-VEHICLE REPAIR

## 1. REMOVE LH ENGINE UNDER COVER



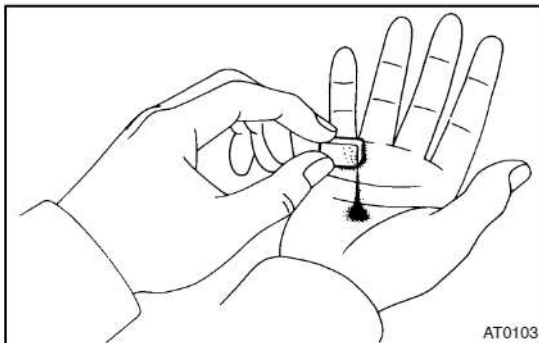
## 2. REMOVE DRAIN PLUG AND DRAIN ATF

## 3. REMOVE OIL PAN AND GASKET

### NOTICE:

Some fluid will remain in the oil pan.

Remove the 18 bolts, and carefully remove the oil pan assembly. Discard the gasket.

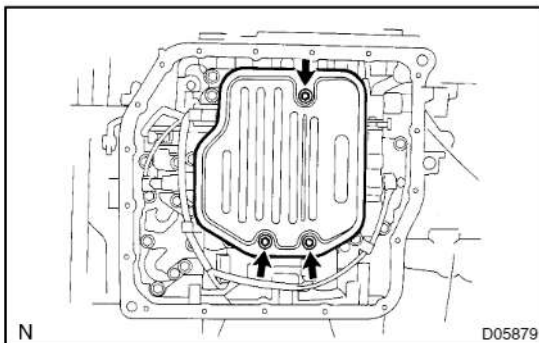


## 4. EXAMINE PARTICLES IN OIL PAN

Remove the magnets and use them to collect any steel chips. Look carefully at the chips and particles in the pan and on the magnet to anticipate what type of wear you will find in the trans-axle.

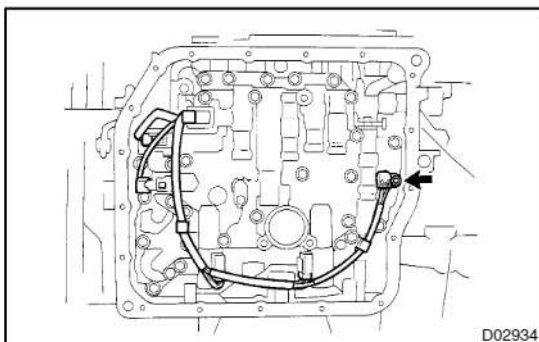
Steel (magnetic)...bearing, gear and plate wear

Brass (non-magnetic)... bushing wear



## 5. REMOVE OIL STRAINER

- Remove the 3 bolts and oil strainer.
- Remove the O-ring.

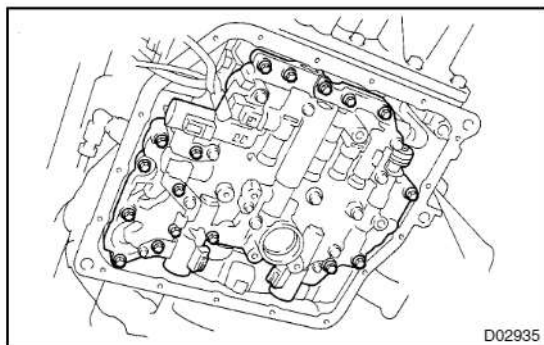


## 6. DISCONNECT 5 SHIFT SOLENOID VALVE CONNECTORS

## 7. REMOVE ATF TEMPERATURE SENSOR

Remove the bolt and lock plate, and remove the ATF temperature sensor.

## 8. SEPARATE WIRE HARNESS FROM 2 CLAMPS

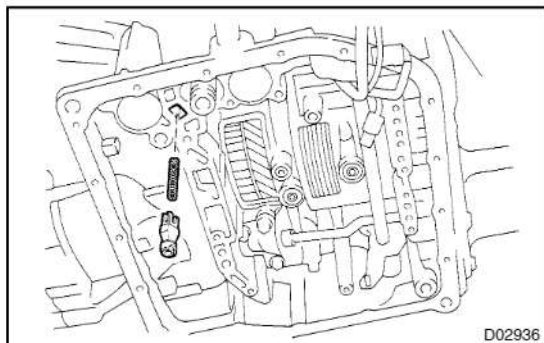


### 9. REMOVE VALVE BODY

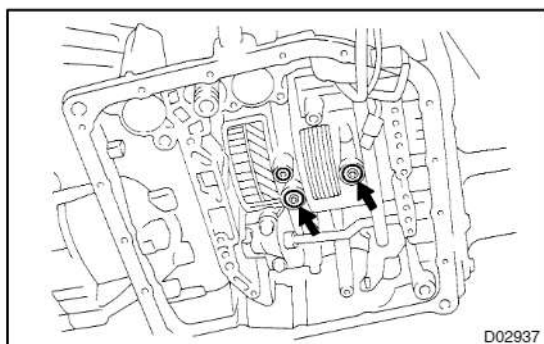
Remove the 17 bolts and valve body.

#### NOTICE:

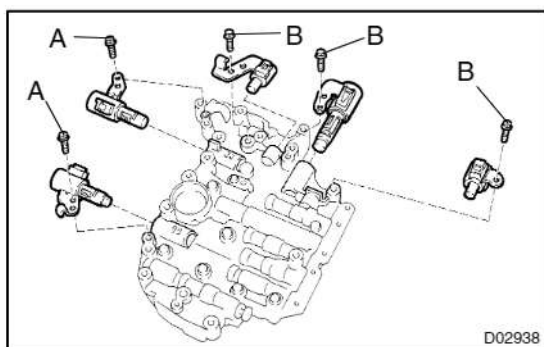
Be careful not to drop the check valve body, spring and accumulator piston.



### 10. REMOVE CHECK BALL BODY AND SPRING



### 11. REMOVE 2 APPLY GASKETS



### 12. REMOVE SHIFT SOLENOID VALVE

Remove the 5 bolts and 5 shift solenoid valves.

### 13. INSTALL SHIFT SOLENOID VALVE

Install the 5 shift solenoid valves with the 5 bolts.

#### Torque:

Bolt A: 6.6 N·m (67 kgf·cm, 58 in·lbf)

Bolt B: 10.8 N·m (110 kgf·cm, 8 ft·lbf)

#### Bolt length:

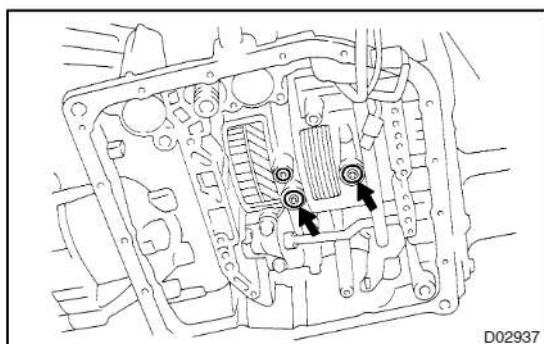
Bolt A: 12 mm (0.47 in.)

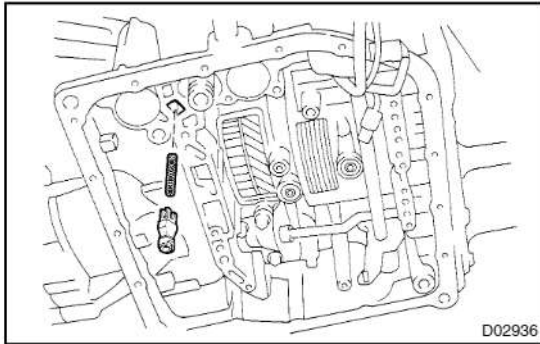
Bolt B: 45 mm (1.77 in.)

### 14. INSTALL 2 APPLY GASKETS

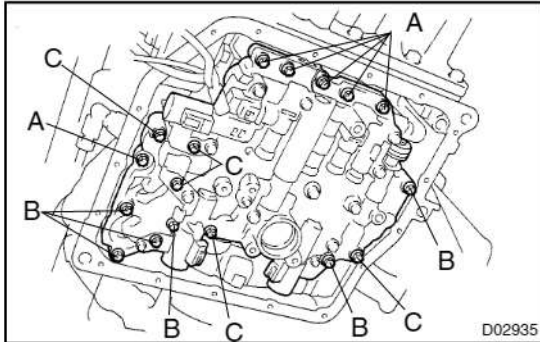
(a) Coat 2 new apply gaskets with ATF.

(b) Install the 2 gaskets to the transaxle case.





### 15. INSTALL CHECK VALVE AND SPRING



### 16. INSTALL VALVE BODY

(a) Align the groove of the manual valve with the pin of the manual valve lever.

(b) Temporarily install the valve body with the 17 bolts.

**Bolt length:**

**Bolt A: 25 mm (0.98 in.)**

**Bolt B: 41 mm (1.61 in.)**

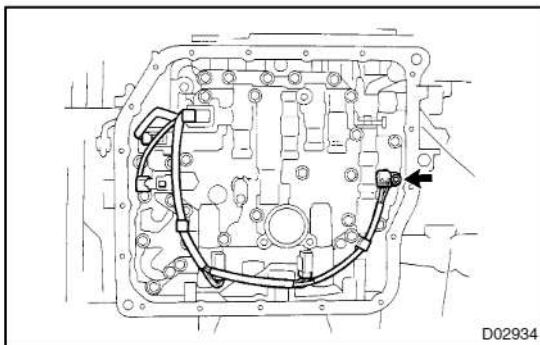
**Bolt C: 45 mm (1.77 in.)**

(c) Check that the manual valve lever contacts the center of the roller at the tip of the detent spring.

(d) Tighten the 17 bolts.

**Torque: 10.8 N·m (110 kgf·cm, 8 ft·lbf)**

### 17. CLAMP WIRE HARNESS TO 2 CLAMPS

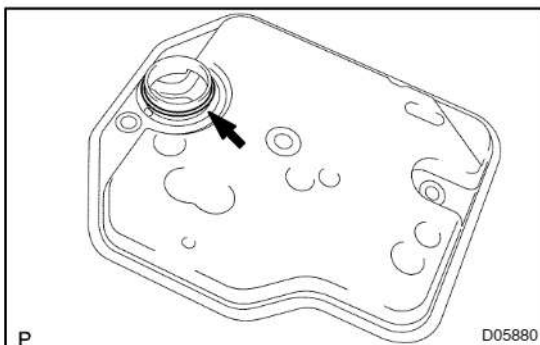


### 18. INSTALL ATF TEMPERATURE SENSOR

Install the ATF temperature sensor with the lock plate and bolt.

**Torque: 6.6 N·m (67 kgf·cm, 58 in·lbf)**

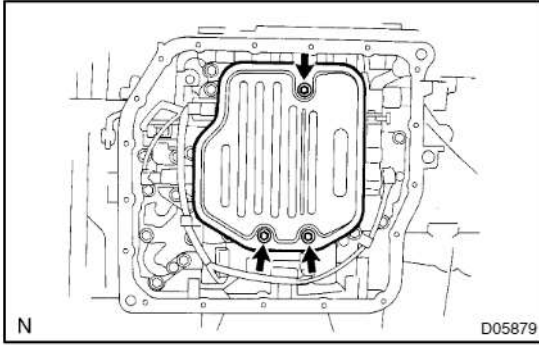
### 19. CONNECT 5 SHIFT SOLENOID VALVE CONNECTORS



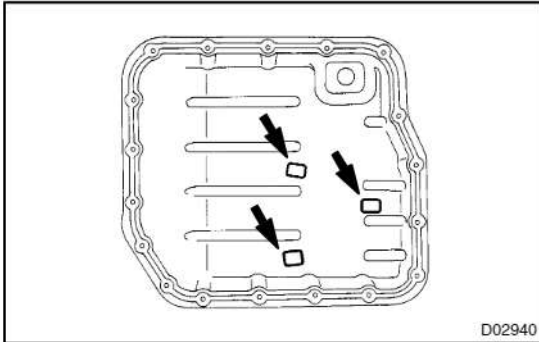
### 20. INSTALL OIL STRAINER

(a) Coat a new O-ring with ATF.

(b) Install the O-ring to the oil strainer.

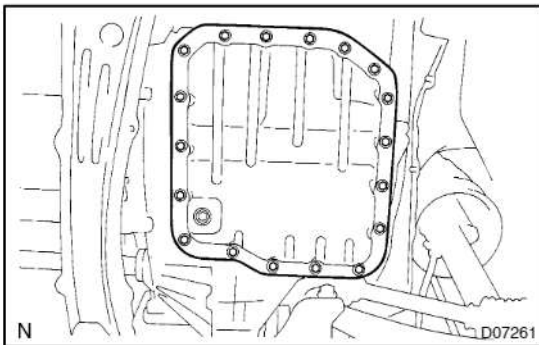


- (c) Install the oil strainer with the 3 bolts.  
Torque: 10.8 N·m (110 kgf·cm, 8 ft·lbf)



## 21. INSTALL MAGNET IN OIL PAN

Install the 3 magnets in the oil pan, as shown in the illustration.



## 22. INSTALL OIL PAN

Install the oil pan and a new gasket with the 18 bolts.

Torque: 7.8 N·m (80 kgf·cm, 69 in·lbf)

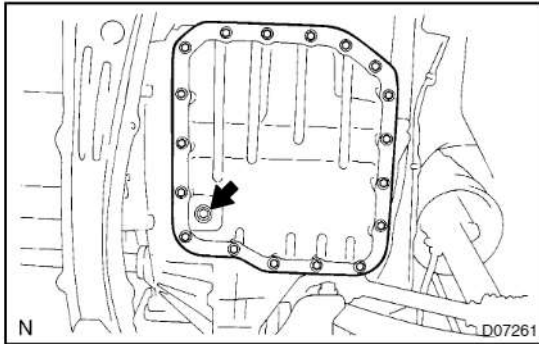
## 23. INSTALL DRAIN PLUG

Install a new gasket and drain plug.

Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

## 24. FILL ATF AND CHECK ATF LEVEL (See page DI-62)

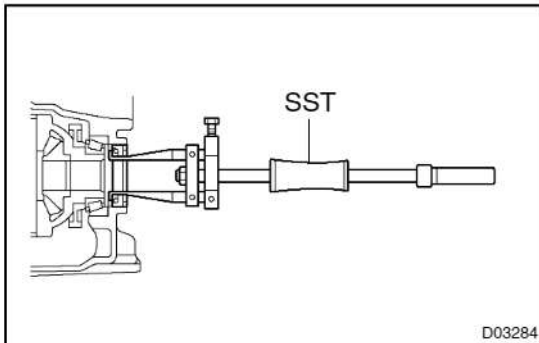
## 25. INSTALL LH ENGINE UNDER COVER



## DIFFERENTIAL OIL SEAL ON-VEHICLE REPAIR

AX0LN-02

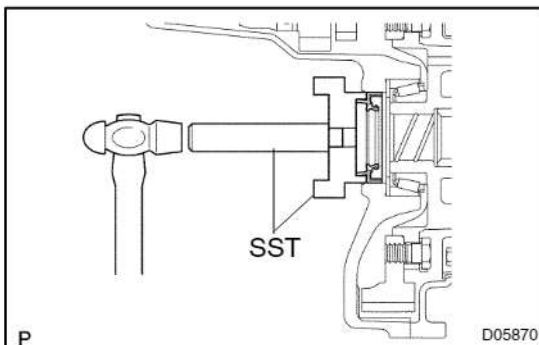
1. DRAIN ATF
2. REMOVE LH AND RH DRIVE SHAFTS (See page SA-3)



### 3. REMOVE LH AND RH SIDE OIL SEAL

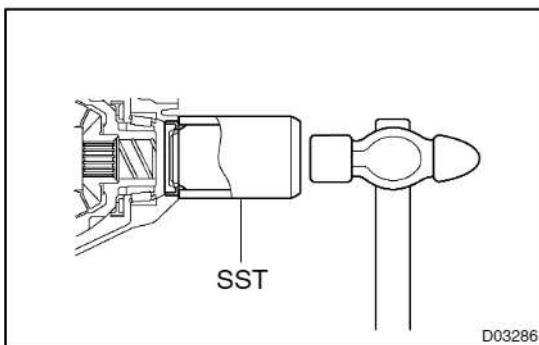
Using SST, drive out both the side oil seals.

SST 09308-10010



### 4. INSTALL LH SIDE OIL SEAL

- (a) Using SST and a hammer, drive in a new oil seal.  
SST 09350-32014 (09351-32130, 09351-32150)  
**Oil seal drive in depth:  $2.7 \pm 0.5$  mm ( $0.106 \pm 0.020$  in.)**
- (b) Coat the oil seal lip with MP grease.

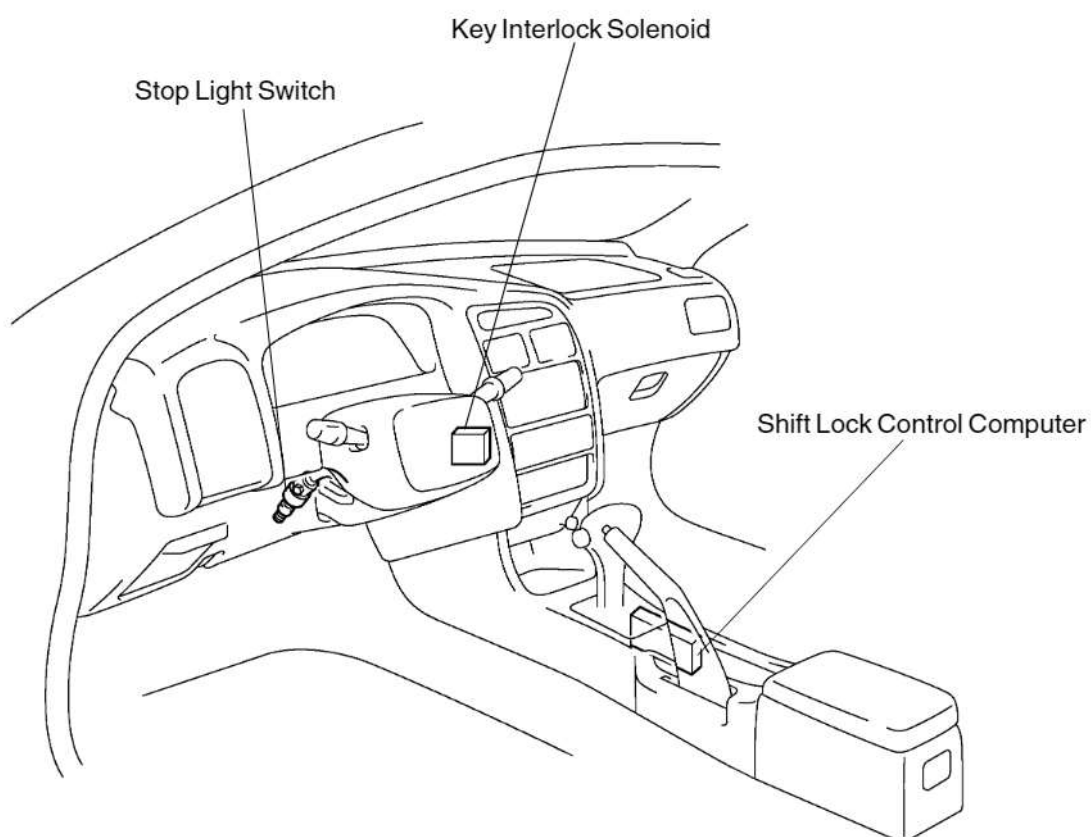


### 5. INSTALL RH SIDE OIL SEAL

- (a) Using SST and a hammer, drive in a new oil seal.  
SST 09223-00010  
**Oil seal drive in depth:  $0 \pm 0.5$  mm ( $0 \pm 0.020$  in.)**
- (b) Coat the oil seal lip with MP grease.
6. INSTALL LH AND RH DRIVE SHAFTS (See page SA-12)
7. FILL ATF AND CHECK ATF LEVEL (See page DI-62)

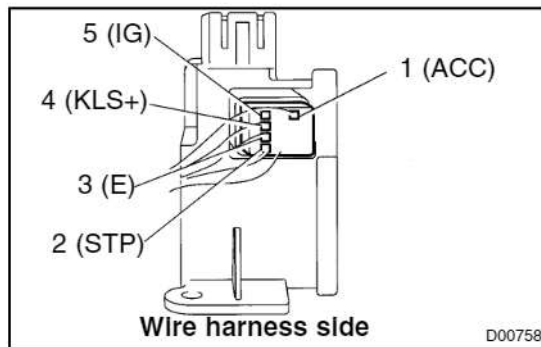
# SHIFT LOCK SYSTEM LOCATION

AX10Y-01



Y

D10026



## INSPECTION

### 1. LHD:

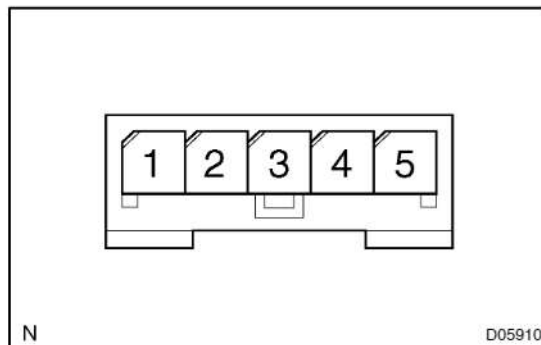
#### INSPECT SHIFT LOCK CONTROL COMPUTER

Using a voltmeter, measure the voltage at each terminal.

HINT:

Do not disconnect the shift lock control computer connector.

| Terminal                     | MeasuringCondition                                                  | Voltage (V) |
|------------------------------|---------------------------------------------------------------------|-------------|
| 1 – 3 (ACC – E)              | Ignition switch ACC                                                 | 10 – 14     |
| 5 – 3 (IG – E)               | Ignition switch ON                                                  | 10 – 14     |
| 2 – 3 (STP – E)              | Depressing brake pedal                                              | 10 – 14     |
| 4 – 3 (KLS <sup>+</sup> – E) | (1) Ignition switch ACC and P range                                 | 0           |
|                              | (2) Ignition switch ACC and except P range                          | 7.5 – 11    |
|                              | (3) Ignition switch ACC and except P range (After approx. 1 second) | 6 – 9.5     |



### 2. RHD:

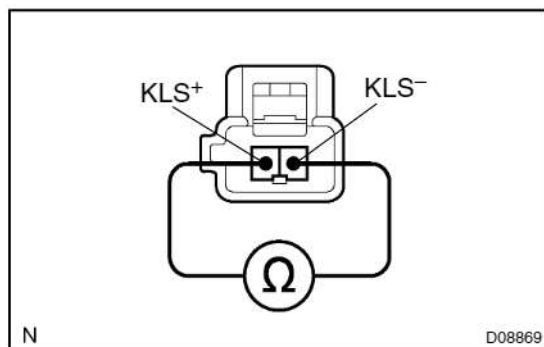
#### INSPECT SHIFT LOCK CONTROL COMPUTER

Using a voltmeter, measure the voltage at each terminal.

HINT:

Do not disconnect the shift control computer connector.

| Terminal                     | MeasuringCondition                                                  | Voltage (V) |
|------------------------------|---------------------------------------------------------------------|-------------|
| 2 – 3 (ACC – E)              | Ignition switch ACC                                                 | 10 – 14     |
| 4 – 3 (IG – E)               | Ignition switch ON                                                  | 10 – 14     |
| 5 – 3 (STP – E)              | Depressing brake pedal                                              | 10 – 14     |
| 1 – 3 (KLS <sup>+</sup> – E) | (1) Ignition switch ACC and P range                                 | 0           |
|                              | (2) Ignition switch ACC and except P range                          | 7.5 – 11    |
|                              | (3) Ignition switch ACC and except P range (After approx. 1 second) | 6 – 9.5     |

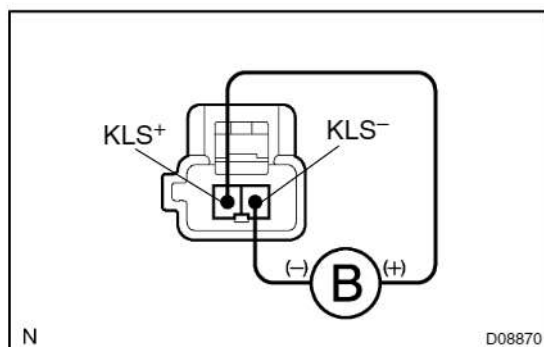


### 3. INSPECT KEY INTERLOCK SOLENOID

- (a) Disconnect the solenoid connector.
- (b) Using an ohmmeter, measure the resistance between the terminals.

**Standard resistance: 12.5 – 16.5  $\Omega$**

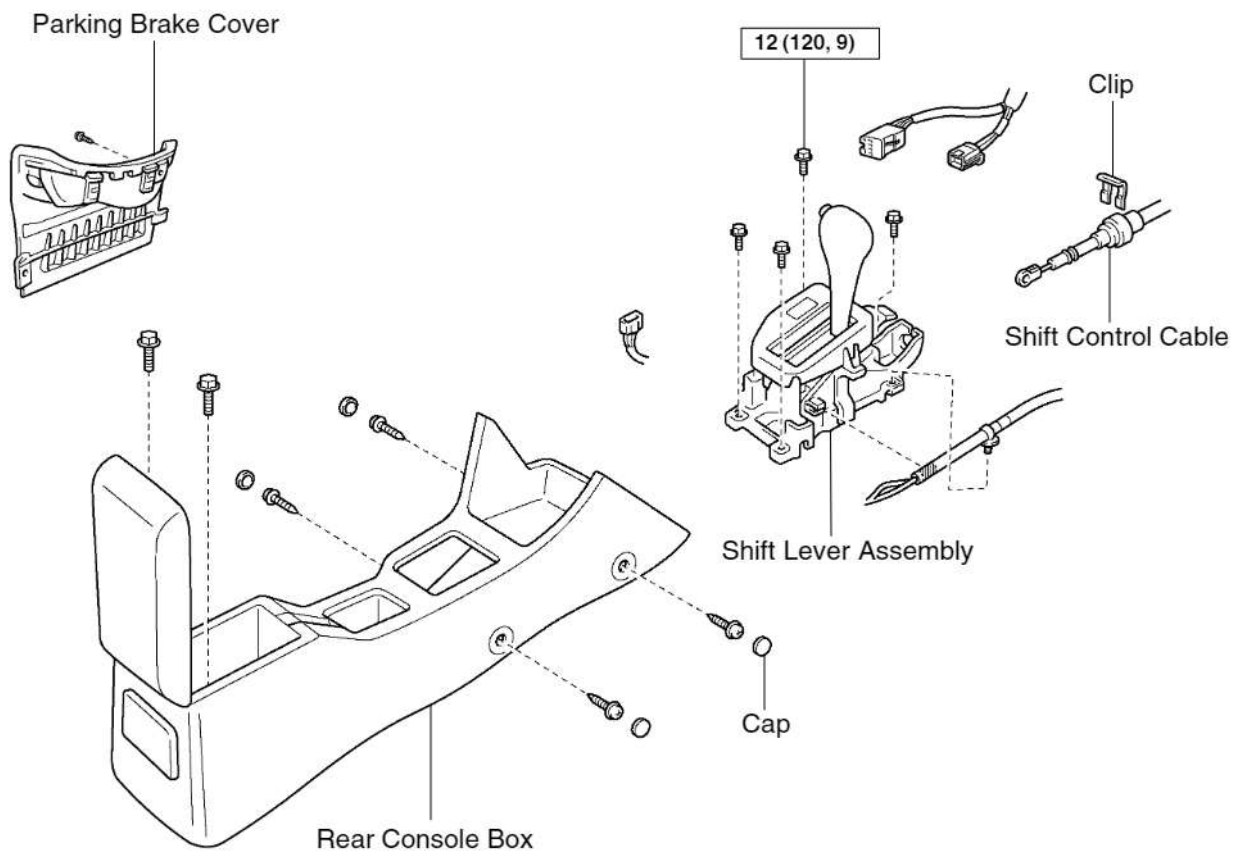
If the resistance value is not as specified, replace the solenoid.



- (c) Provide the battery voltage between the terminals. Check that the solenoid can be heard its operating.
- If the operation is not as specified, replace the solenoid.

# FLOOR SHIFT ASSEMBLY (LHD) COMPONENTS

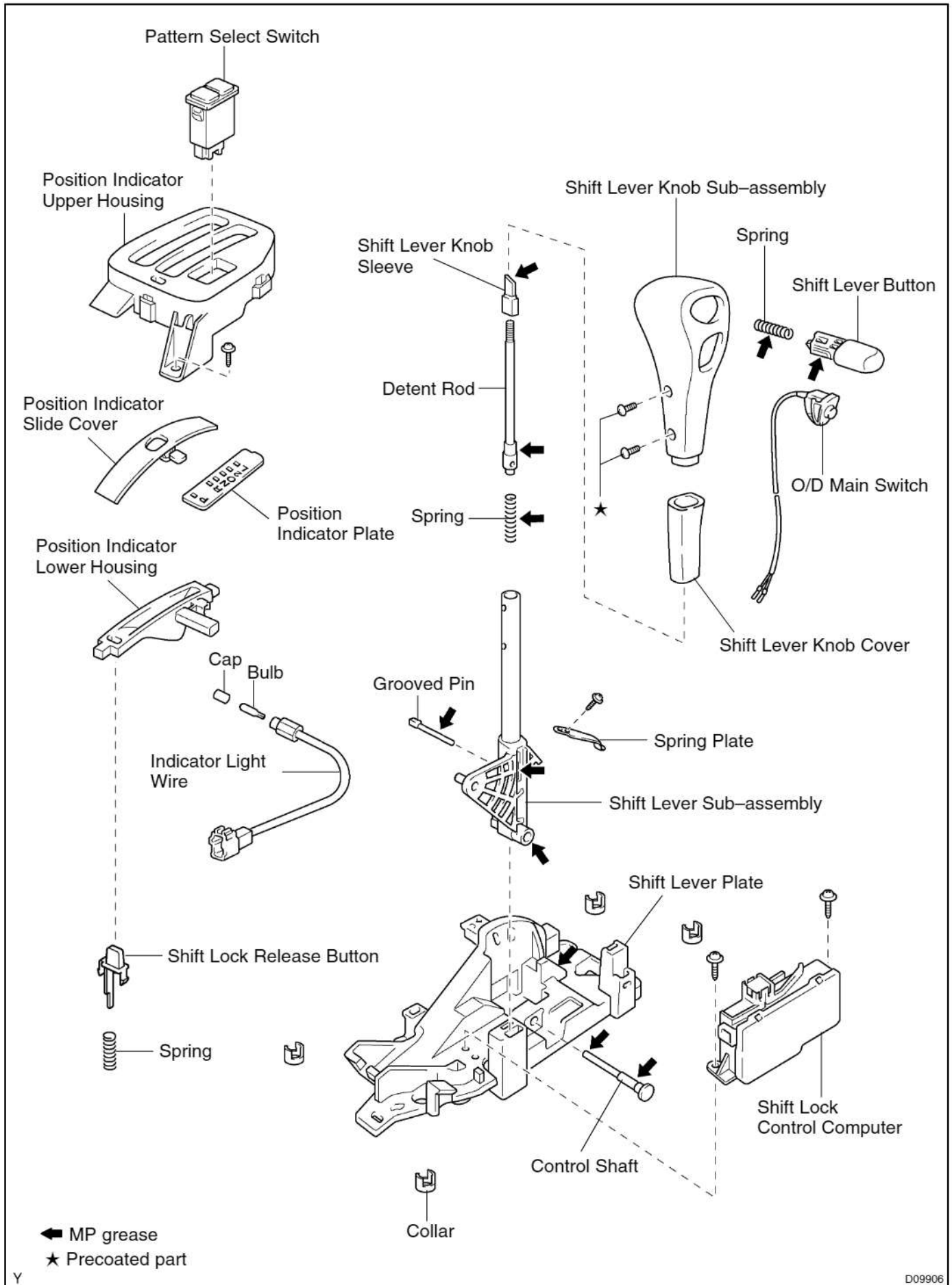
AX02U-08



N·m (kgf·cm, ft·lbf) : Specified torque

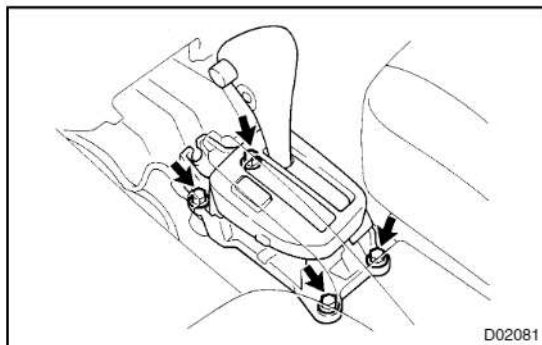
Y

D10190



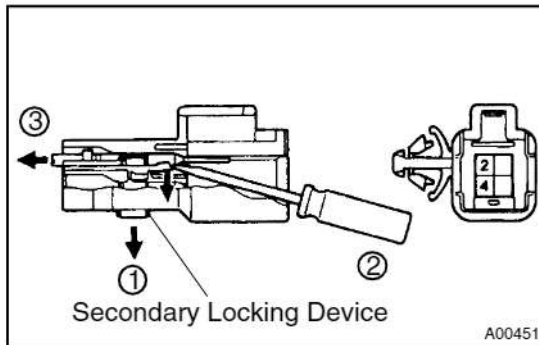
## REMOVAL

1. **REMOVE REAR CONSOLE** (See page BO-8)
2. **REMOVE SHIFT LEVER ASSEMBLY**
  - (a) Disconnect the 3 connectors and wire harness.
  - (b) Remove the clip and disconnect the shift control cable.



- 
- 
- (c) Remove the 4 bolts and floor shift assembly.

**Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)**



## DISASSEMBLY

### 1. REMOVE O/D MAIN SWITCH TERMINAL

- Remove the O/D main switch connector from the shift lever plate.
- Disengage the secondary locking device.
- Release the locking lug of the terminals 2 and 4, and pull the terminals out from the rear.

### 2. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY

- Remove the 2 screws and shift lever knob sub-assembly.

#### NOTICE:

Pay attention not to put unnatural load onto O/D main switch wire harness.

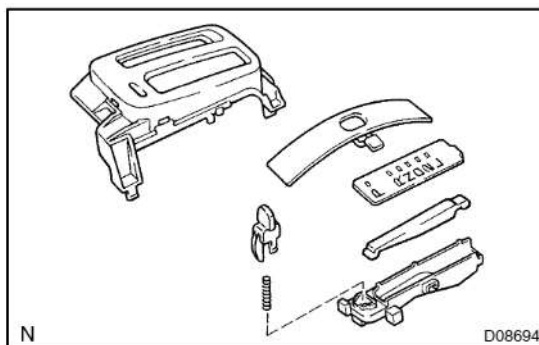
- Remove the shift lever knob cover.
- Remove the shift lever button and spring.
- Remove the O/D main switch.

### 3. REMOVE INDICATOR LIGHT WIRE

### 4. REMOVE CAP AND BULB FROM INDICATOR LIGHT WIRE

### 5. REMOVE INDICATOR HOUSING

Remove the screws and an indicator housing.



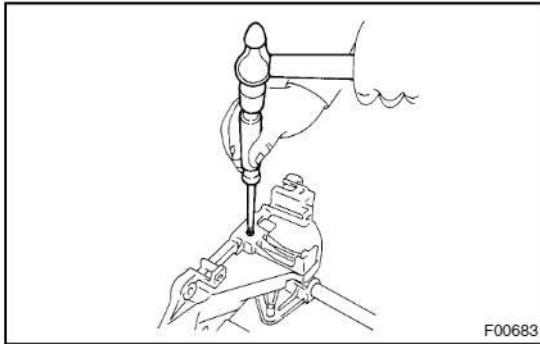
### 6. DISASSEMBLE INDICATOR HOUSING

- Remove the pattern select switch.
- Remove the position indicator lower housing.
- Remove the shift lock release button and spring.
- Remove the position indicator slide cover.
- Remove the position indicator plate.

### 7. REMOVE SHIFT LOCK CONTROL COMPUTER

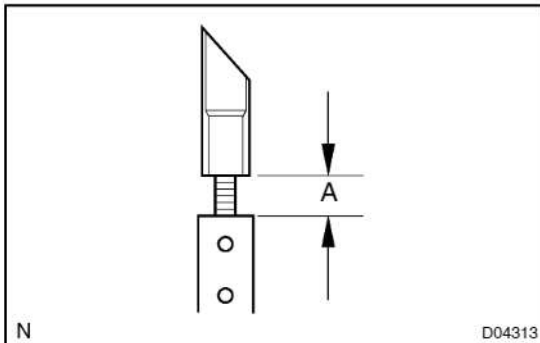
Remove the 2 screws and shift lock control computer.

### 8. REMOVE SPRING PLATE



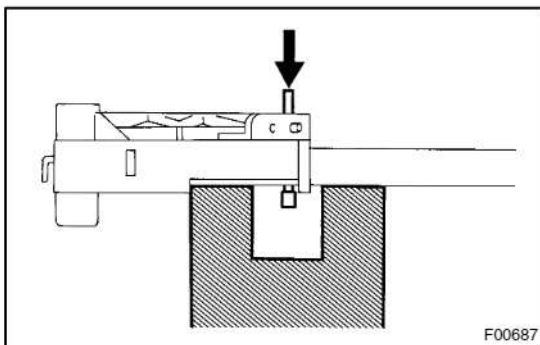
### 9. REMOVE SHIFT LEVER SUB-ASSEMBLY

- (a) Using a screwdriver and a hammer, remove the control shaft.
- (b) Remove the shift lever sub-assembly.



### 10. DISASSEMBLE SHIFT LEVER SUB-ASSEMBLY

- (a) Measure the distance "A" between the lower edge of the shift lever knob sleeve and the upper edge of the shift lever sub-assembly.

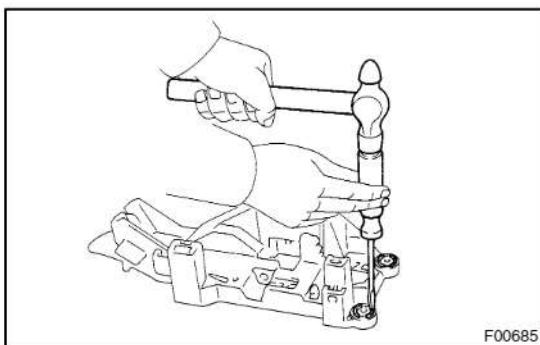


- (b) Using a hammer, remove the grooved pin.

#### NOTICE:

When pressing down the grooved pin, if doing it at the place other than the notch, there may be fear of damaging the shift lever sub-assembly.

- (c) Remove the detent rod and spring.
- (d) Remove the shift lever knob sleeve from the detent rod.

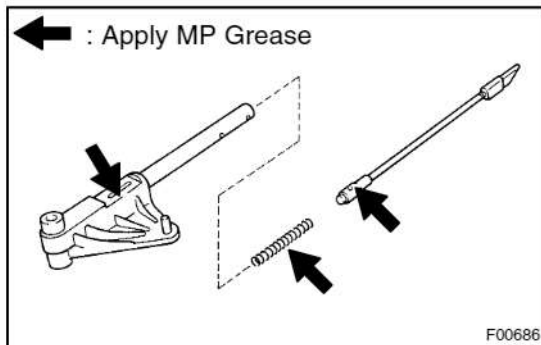


### 11. REMOVE COLLARS

Using a screwdriver and a hammer, remove the 4 collars.

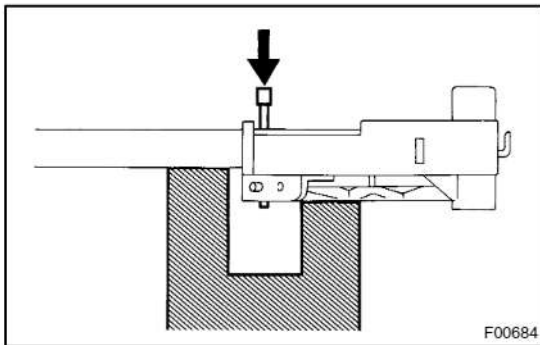
## REASSEMBLY

1. INSTALL COLLARS
2. INSTALL SHIFT LEVER KNOB SLEEVE TO DETENT ROD

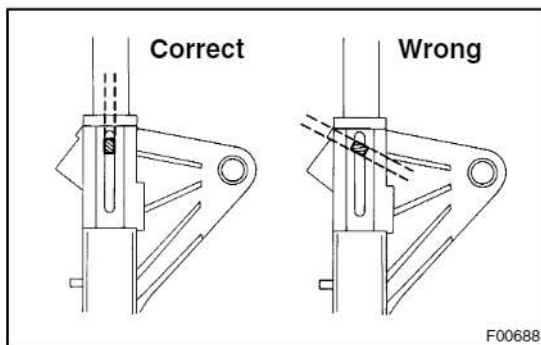


### 3. ASSEMBLE SHIFT LEVER SUB-ASSEMBLY

- (a) Apply MP grease on the compression spring, the detent rod and the shift lever sub-assembly.
- (b) Install the spring and the detent rod to shift lever sub-assembly.



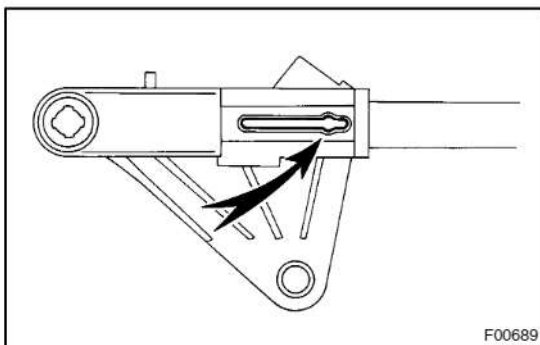
- (c) Place the shift lever sub-assembly as shown in the illustration.



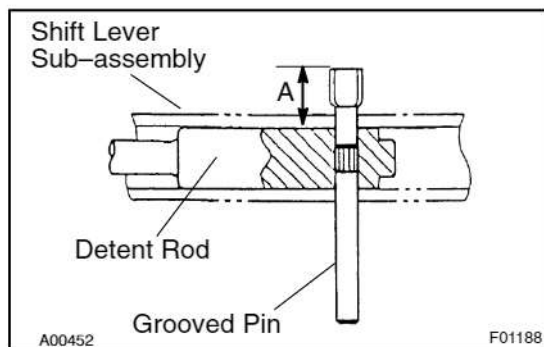
- (d) Insert the grooved pin in the detent rod pin hole.

#### NOTICE:

- Assemble the grooved pin to ensure that it fits into the guide hole of the shift lever sub-assembly in parallel.
- Take care not to insert the pin in the wrong direction of the detent rod.



- (e) Meet the grooved pin with the notch of the guide hole.

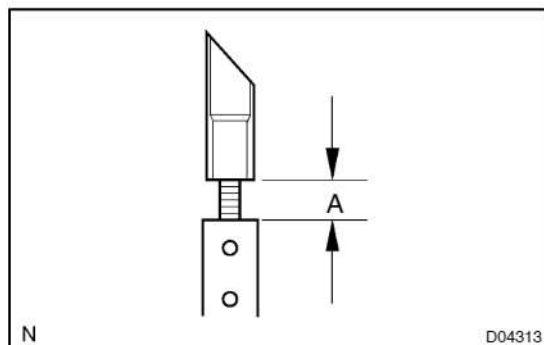


- (f) Press the pin with a hammer.  
**A: 10.0 – 10.4 mm (0.39 – 0.41 in.)**

**NOTICE:**

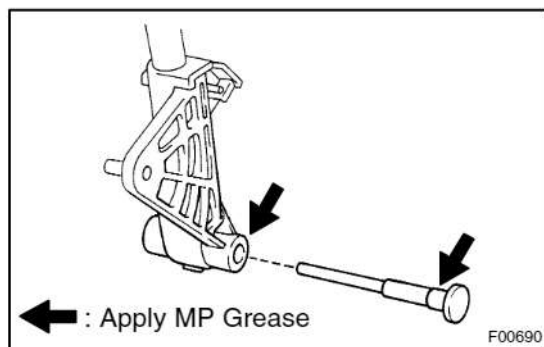
When pressing in the grooved pin, if doing it at the place other than the notch, the shift lever sub-assembly might be damaged.

**4. CHECK DETENT ROD OPERATION**



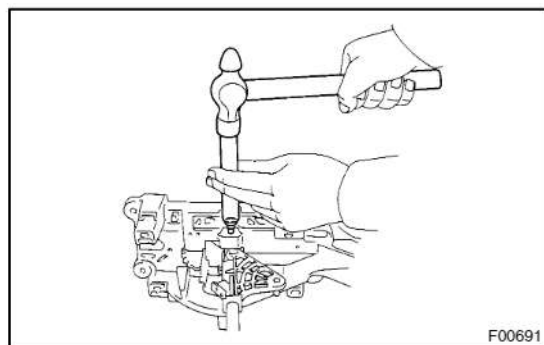
**5. INSTALL SHIFT LEVER KNOB SLEEVE DETENT ROD**

Drive the shift lever knob sleeve to the distance A measured before removal.



**6. INSTALL SHIFT LEVER SUB-ASSEMBLY**

- (a) Apply MP grease.

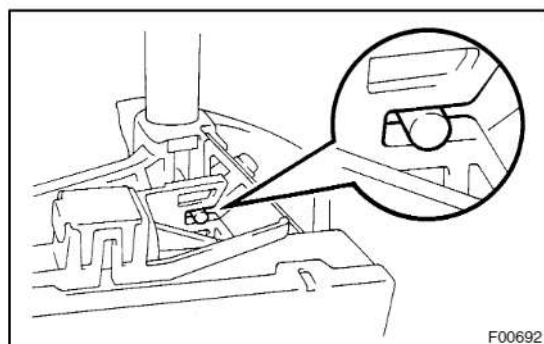


- (b) Using a brass bar and a hammer, install the control shaft and the shift lever sub-assembly to the shift lever plate.

**NOTICE:**

Take care not to install them in the wrong direction of the shift lever sub-assembly.

**7. INSTALL SPRING PLATE**



**8. INSTALL SHIFT LOCK CONTROL COMPUTER**

Install the shift control control computer and 2 screws.

**NOTICE:**

Install the grooved pin into the groove of the shift lock unit as shown in the illustration.

**9. ASSEMBLE INDICATOR HOUSING**

- (a) Install the position indicator plate.
- (b) Install the position indicator slide cover.
- (c) Install the spring and shift lock release button.
- (d) Install the position indicator lower housing.
- (e) Install the pattern select switch.

**NOTICE:**

**Do not make indicator housing dirty with MP grease.**

**10. INSTALL INDICATOR HOUSING**

Install the screws and an indicator housing.

**11. INSTALL CAP AND BULB TO INDICATOR LIGHT WIRE****12. INSTALL INDICATOR LIGHT WIRE****13. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY**

- (a) Install the O/D main switch.
- (b) Install the spring and shift lever button.
- (c) Install the shift lever knob cover.

**HINT:**

Apply MP grease to shift lever knob button.

- (d) Install the shift lever sub-assembly and 2 screws.

**HINT:**

Coat the threads of the screws with sealant.

**Sealant:**

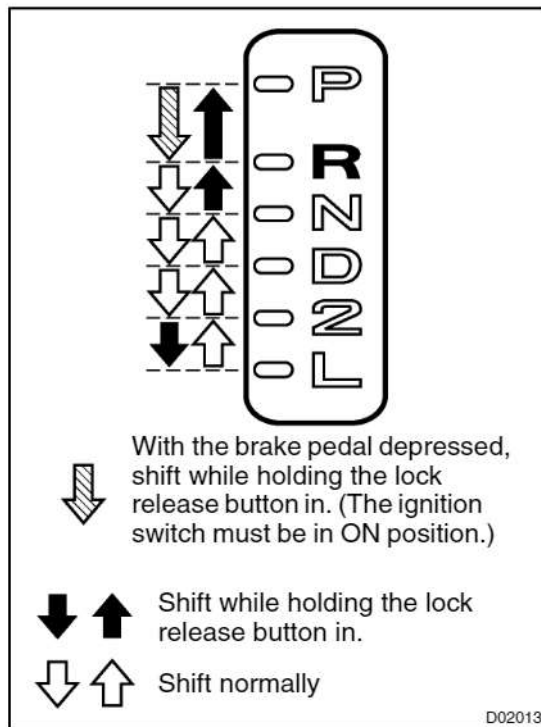
**Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent**

**NOTICE:**

**Make sure not to catch O/D main switch wire harness.**

- (e) Install the O/D main switch wire harness securely to hung on the hook of the shift lever sub-assembly.

**14. INSTALL O/D MAIN SWITCH TERMINAL**



## INSTALLATION

### INSTALL FLOOR SHIFT ASSEMBLY

Installation is in the reverse order of removal (See page AX-18).

HINT:

After installation, adjust shift lever ranges (See page DI-62) and inspect shift lever operation.

- When shifting it to each range, make sure that the shifting lever moves smoothly, can be moderately operated and the range indicator displays correctly.

**Ranges which can be operated without pressing the shift lever nob button**

**R → N → D → 2**

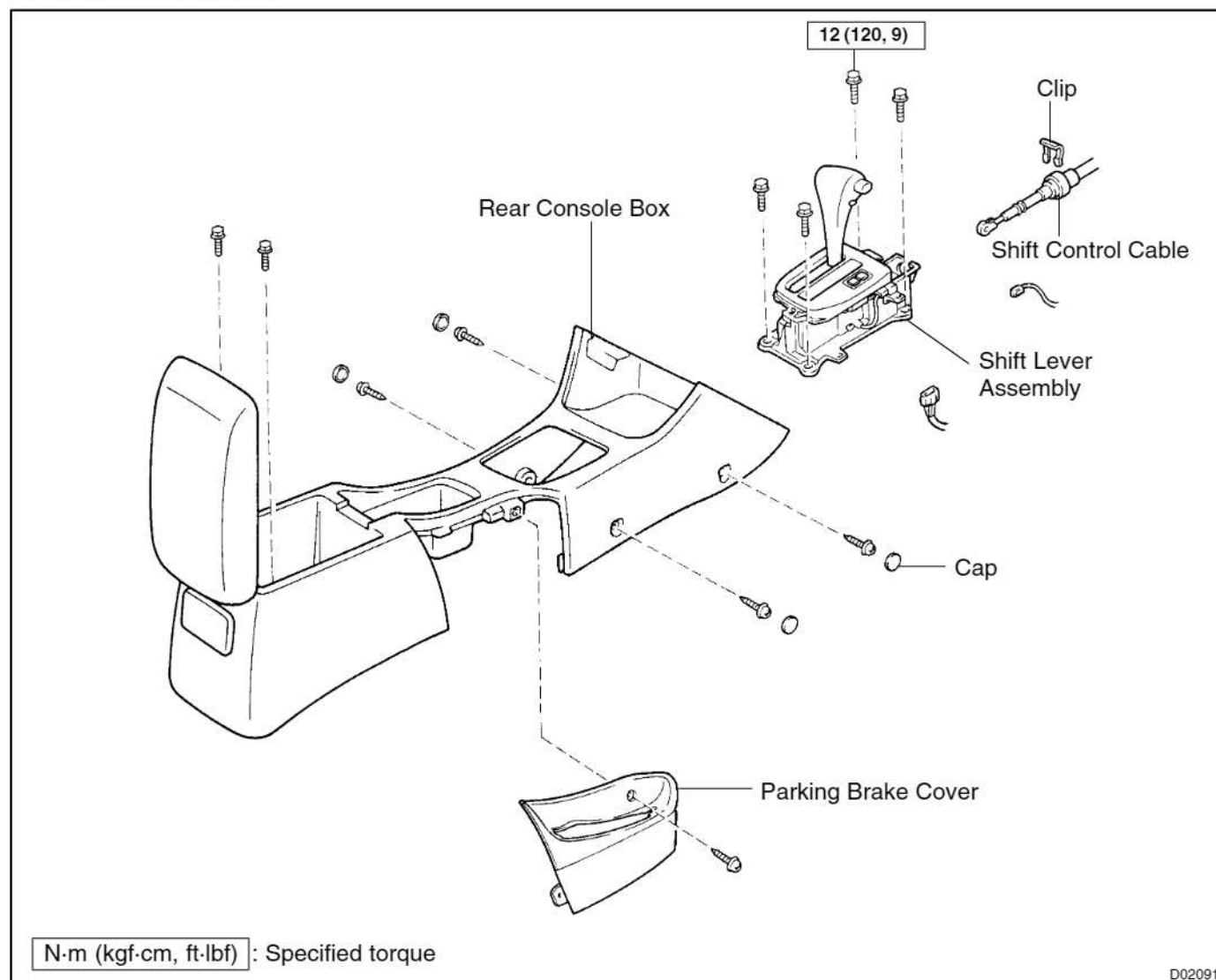
**Ranges which can be operated only with pressing the shift lever nob button**

**P → R, 2 → L, N → R → P**

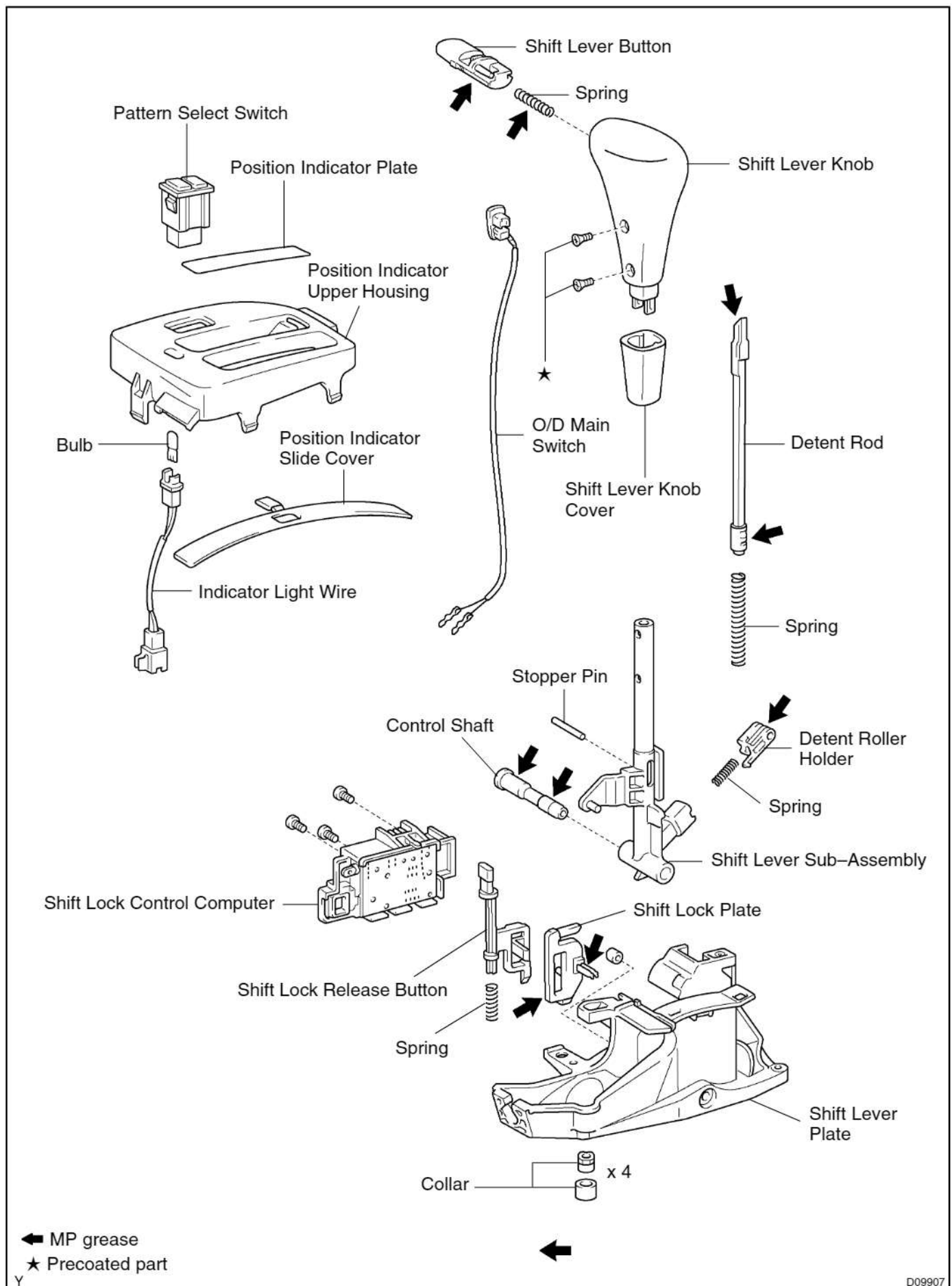
- When starting the engine, make sure that the vehicle moves forward when shifting from N to D range, and moves rearward when shifting to R range.

# FLOOR SHIFT ASSEMBLY (RHD) COMPONENTS

AX05N-02



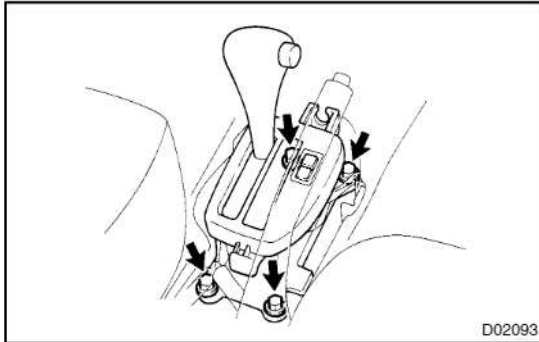
D02091



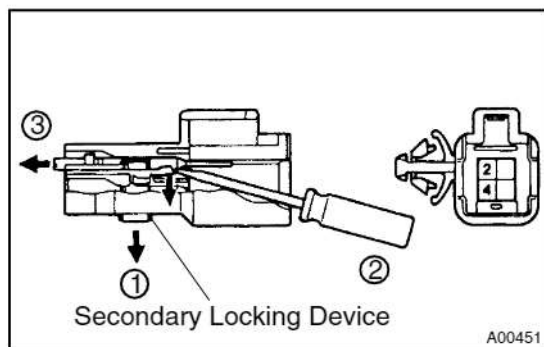
D09907

## REMOVAL

1. REMOVE REAR CONSOLE (See page BO-8)
2. REMOVE FLOOR SHIFT ASSEMBLY
  - (a) Disconnect the connectors.
  - (b) Remove the clip and disconnect the shift control cable.



- (c) Remove the 4 bolts and shift lever assembly.  
**Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)**



## DISASSEMBLY

### 1. REMOVE O/D MAIN SWITCH TERMINAL

- Remove O/D main switch connector from the shift lever plate.
- Disengage the secondary locking device.
- Disengage the locking lug of the terminals 2 and 4, and pull the terminals out from the rear.

### 2. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY

- Remove the 2 screws and shift lever knob sub-assembly.

#### NOTICE:

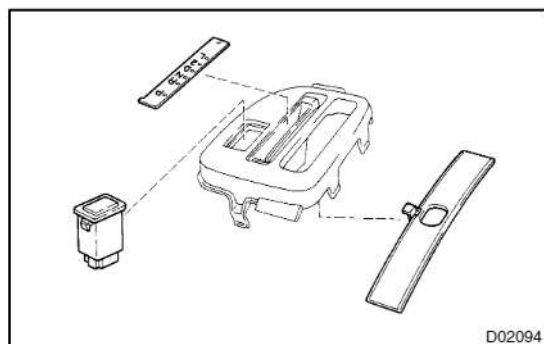
Pay attention not to apply unnatural load onto O/D main switch wire harness.

- Remove the Shift lever knob cover.
- Remove the Shift lever button and spring.
- Remove the O/D main switch.

### 3. REMOVE INDICATOR LIGHT WIRE

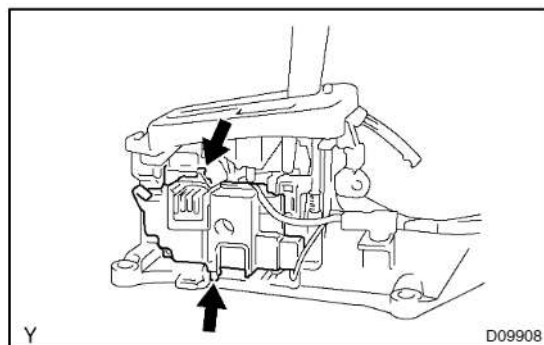
### 4. REMOVE BULB FROM INDICATOR LIGHT WIRE

### 5. REMOVE INDICATOR HOUSING SUB-ASSEMBLY



### 6. DISASSEMBLE INDICATOR HOUSING SUB-ASSEMBLY

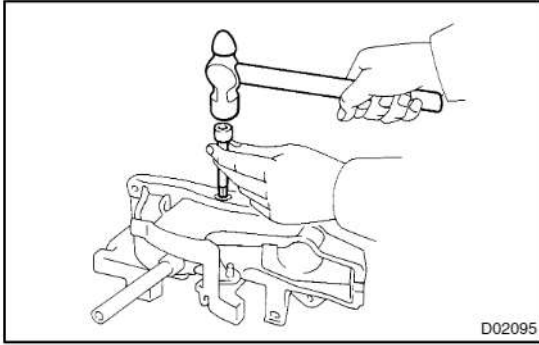
- Remove the position indicator side cover.
- Remove the position indicator plate.
- Remove the pattern select switch.



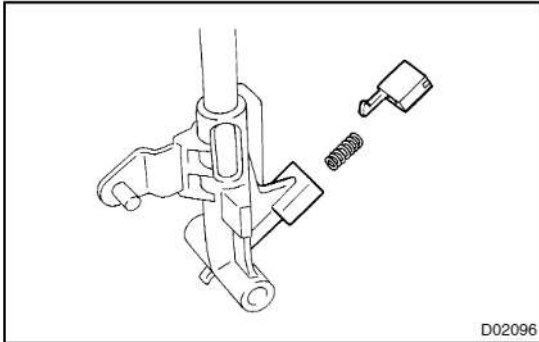
### 7. REMOVE SHIFT LOCK CONTROL COMPUTER

Remove the 3 screws and shift lock control computer.

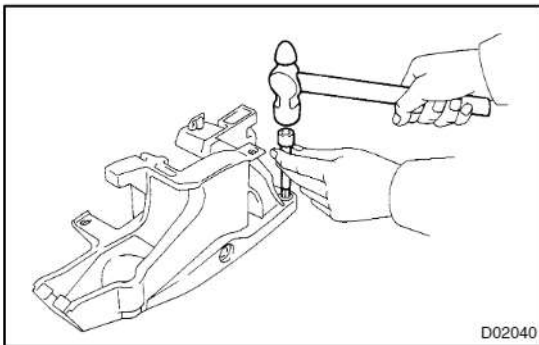
### 8. REMOVE STOPPER PIN, DETENT ROD AND SPRING

**9. REMOVE SHIFT LEVER SUB-ASSEMBLY**

- (a) Using an extension bar and hammer, remove the control shaft.
- (b) Remove the shift lever sub-assembly.

**10. DISASSEMBLE SHIFT LEVER SUB-ASSEMBLY**

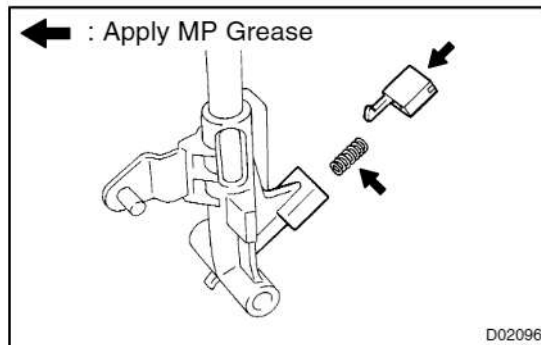
- (a) Remove the Detent roller holder.
- (b) Remove the Compression spring.

**11. REMOVE COLLARS**

Using an extension bar and hammer, remove the 4 collars.

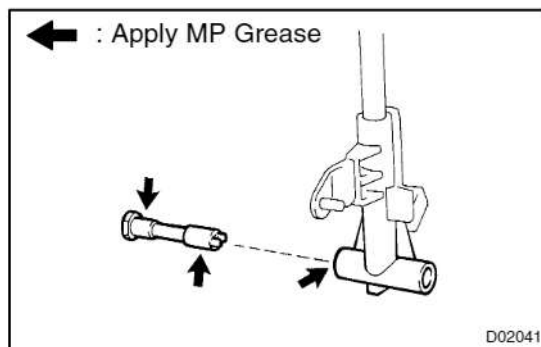
## REASSEMBLY

### 1. INSTALL COLLARS



### 2. ASSEMBLE SHIFT LEVER SUB-ASSEMBLY

- Apply the MP grease to the detent roller holder, compression spring and shift lever sub-assembly.
- Install the compression spring to the detent roller holder.
- Install the detent roller holder with the compression spring to the shift lever sub-assembly.



### 3. INSTALL SHIFT LEVER SUB-ASSEMBLY

- Apply the MP grease to the control shaft and shift lever sub-assembly.
- Using an extension bar and hammer, install the control shaft and shift lever sub-assembly to the shift lever plate.

### 4. INSTALL SPRING, DETENT ROD AND STOPPER PIN

- Apply the MP grease to the detent rod and stopper pin.
- Install the compression spring and detent rod to the shift lever sub-assembly.
- Insert the stopper pin in the stopper pin hole.

#### NOTICE:

Take care not to insert the pin in the wrong direction against the detent rod.

### 5. INSTALL SHIFT LOCK CONTROL COMPUTER

Install the shift lock control computer with 3 screws.

### 6. CHECK SHIFT LEVER OPERATION

### 7. ASSEMBLE INDICATOR HOUSING SUB-ASSEMBLY

- Install the pattern select switch.
- Install the position indicator plate.
- Install the position indicator slide plate.

### 8. INSTALL INDICATOR HOUSING SUB-ASSEMBLY

### 9. INSTALL BULB TO INDICATOR LIGHT WIRE

### 10. INSTALL INDICATOR LIGHT WIRE

**11. INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY****HINT:**

Apply MP grease to the shift lever knob button.

- (a) Install the O/D main switch.
- (b) Install the shift lever button and spring.
- (c) Install the shift lever knob cover.
- (d) Install the shift lever knob sub-assembly and 2 screws.

**HINT:**

Coat the threads of the screws with sealant.

**Sealant:**

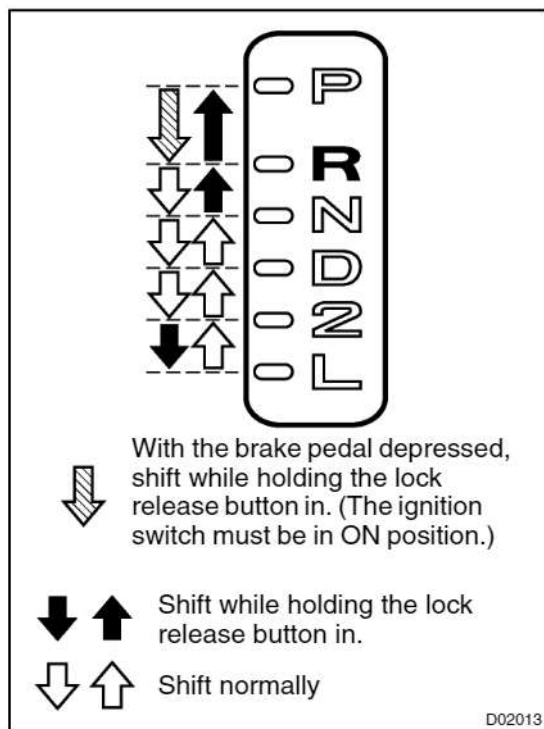
**Part No. 08833-00080, THREE BOND 1344, LOCTITE 242 or equivalent**

**NOTICE:**

**Make sure not to catch O/D main switch wire harness.**

- (e) Install the O/D main switch wire harness securely and hang it on the hook of the shift lever sub-assembly.

**12. INSTALL O/D MAIN SWITCH TERMINAL**



## INSTALLATION

### INSTALL FLOOR SHIFT ASSEMBLY

Installation is in the reverse order of removal (See page AX-27).

HINT:

After installation, adjust shift lever ranges (See page DI-62) and inspect shift lever operation.

- When shifting it to each range, make sure that the shifting lever moves smoothly, can be moderately operated and the range indicator displays correctly.

**Ranges which can be operated without pressing the shift lever nob button**

**R → N → D → 2**

**Ranges which can be operated only with pressing the shift lever nob button**

**P → R, 2 → L, N → R → P**

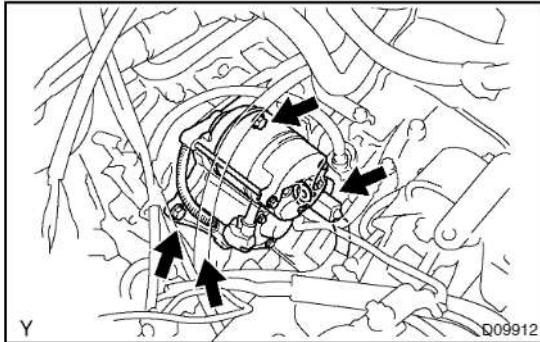
- When starting the engine, make sure that the vehicle moves forward when shifting from N to D range, and moves rearward when shifting to R range.

## AX064-02

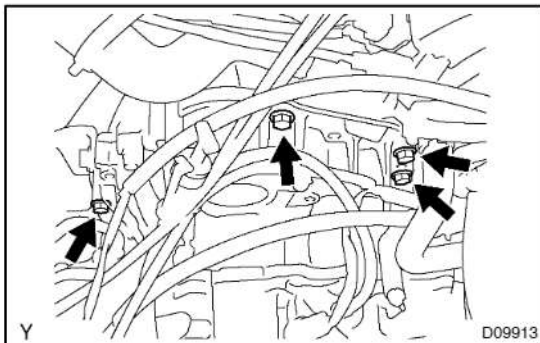


## REMOVAL

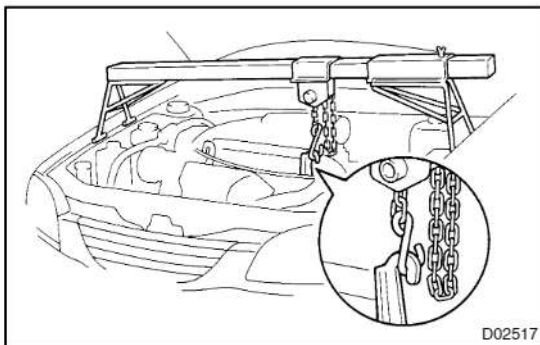
1. REMOVE BATTERY
2. REMOVE AIR CLEANER ASSEMBLY



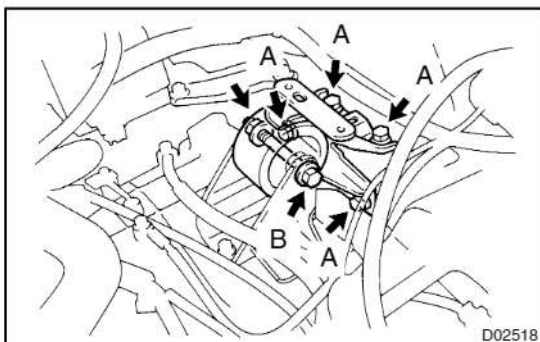
3. REMOVE STARTER
  - (a) Remove the nut and disconnect the connector.
  - (b) Remove the 2 bolts, bracket and starter.
 Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)
4. DISCONNECT GROUND CABLE
 Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)



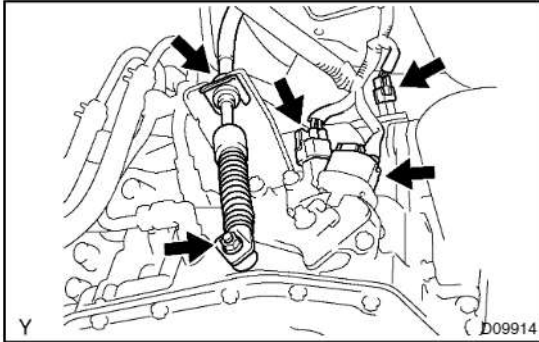
5. REMOVE 4 UPPER SIDE TRANSAXLE MOUNTING BOLTS
 Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)



6. INSTALL ENGINE SUPPORT FIXTURE
7. REMOVE ENGINE UNDER COVERS

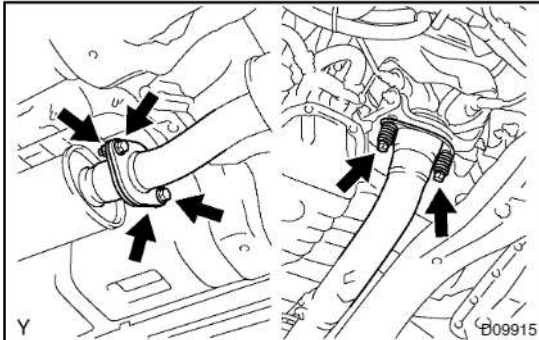


8. REMOVE LH SIDE ENGINE MOUNTING
 Remove the 5 bolts, nut and LH engine mounting.
 Torque:
  - A: 52 N·m (530 kgf·cm, 38 ft·lbf)
  - B: 87 N·m (890 kgf·cm, 64 ft·lbf)
9. REMOVE LH AND RH DRIVE SHAFTS (See page SA-3)

**10. DISCONNECT SHIFT CONTROL CABLE**

Remove the nut, clip and disconnect the shift control cable.

**Torque: 12 N·m (120 kgf·cm, 9 ft·lbf)**

**11. DISCONNECT NEUTRAL START SWITCH CONNECTOR AND SOLENOID CONNECTOR****12. DISCONNECT VEHICLE SPEED SENSOR CONNECTOR****13. REMOVE EXHAUST FRONT PIPE**

(a) Disconnect the oxygen sensor connector.

(b) Remove the 2 nuts from the exhaust manifold.

**Torque: 62 N·m (630 kgf·cm, 46 ft·lbf)**

**HINT:**

At the time of installation, please refer to the following item.

Replace the used nuts with new ones.

(c) Remove the 2 bolts, nuts and exhaust front pipe with 2 gaskets.

**Torque: 43 N·m (440 kgf·cm, 32 ft·lbf)**

**HINT:**

At the time of installation, please refer to the following item.

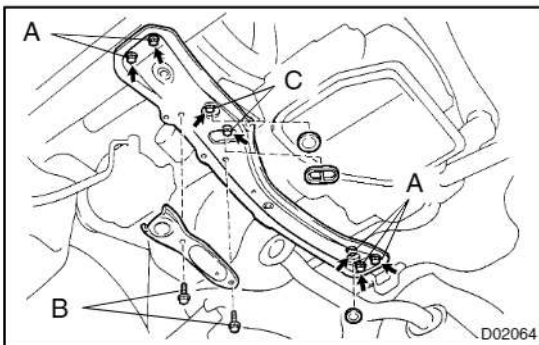
Replace the used nuts with new ones.

(d) Remove the 2 gaskets from the exhaust front pipe.

**HINT:**

At the time of installation, please refer to the following item.

Replace the used gaskets with new ones.

**14. REMOVE FRONT CENTER MEMBER**

(a) RHD:

Remove the nut and disconnect the suction hose from the front center member.

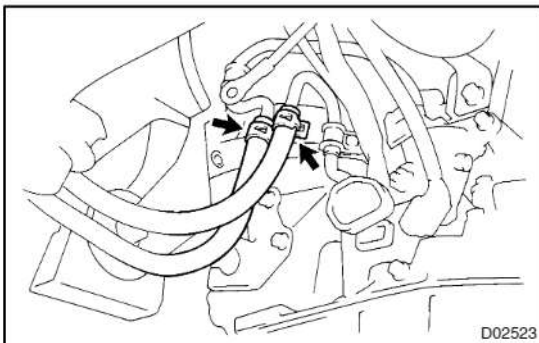
(b) Remove the 9 bolts, 3 grommets, front center member protector and front center member.

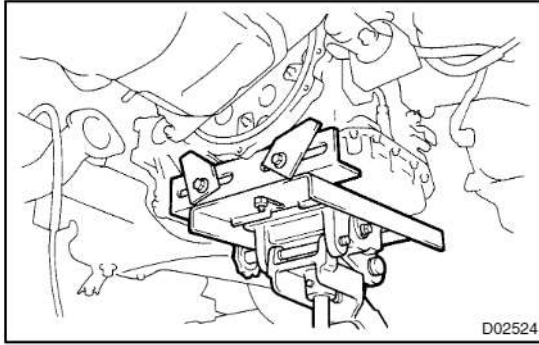
**Torque:**

**A: 73 N·m (740 kgf·cm, 54 ft·lbf)**

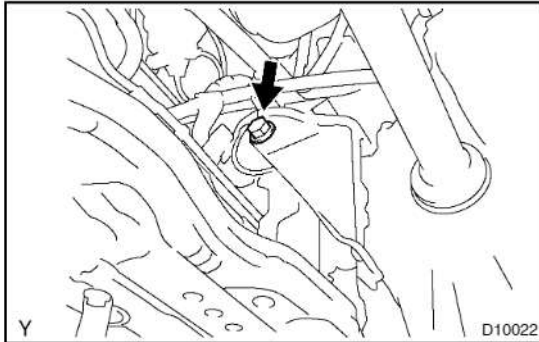
**B: 39 N·m (400 kgf·cm, 29 ft·lbf)**

**C: 72 N·m (740 kgf·cm, 53 ft·lbf)**

**15. DISCONNECT OIL COOLER HOSES**

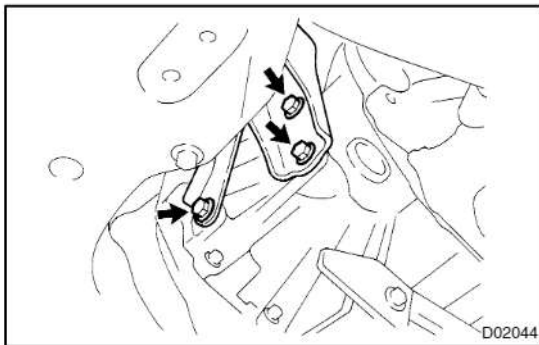


## 16. SUPPORT TRANSAXLE



## 17. REMOVE ENGINE REAR MOUNTING BOLT

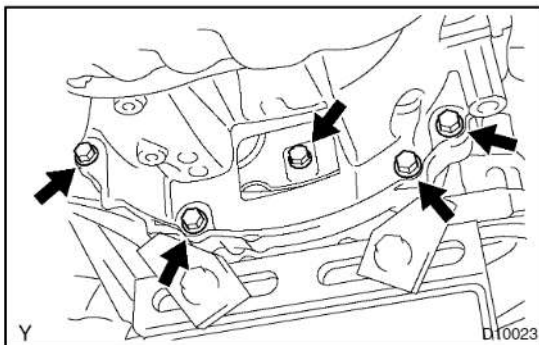
Torque: 87 N·m (890 kgf·cm, 64 ft·lbf)



## 18. REMOVE ENGINE REAR MOUNTING BRACKET

Remove the 3 bolts and engine rear mounting bracket.

Torque: 64 N·m (650 kgf·cm, 47 ft·lbf)



## 19. REMOVE TRANSAXLE

- (a) Turn the crankshaft to gain access and remove the 6 bolts with holding the crankshaft pulley bolt by a wrench.

Torque: 41 N·m (420 kgf·cm, 30 ft·lbf)

### HINT:

At the time of installation, please refer to the following item.  
First, install the gray bolt. Then install 5 black bolts.

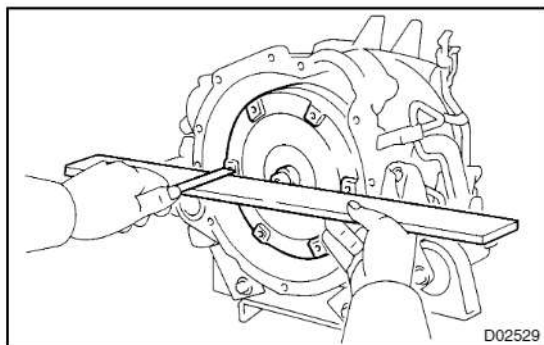
- (b) Remove the 4 bolts.

Torque: 46 N·m (470 kgf·cm, 34 ft·lbf)

- (c) Lower the left side of the engine and remove the transaxle from the engine.

### HINT:

At the time of installation, please refer to the following item.  
Temporarily tighten the transaxle mounting bolts.



## INSTALLATION

### 1. CHECK TORQUE CONVERTER INSTALLATION

Using a scale and a straight edge, measure the distance from the installation surface to the front surface of the transaxle housing.

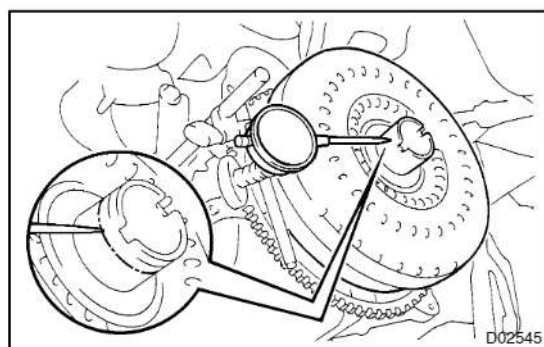
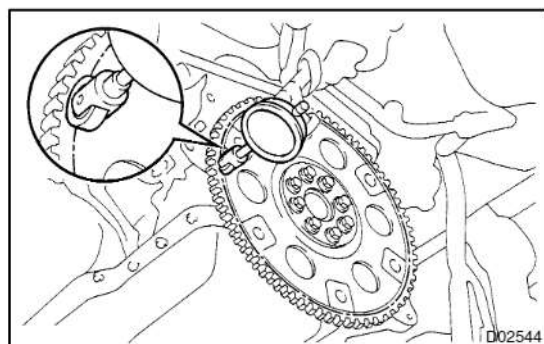
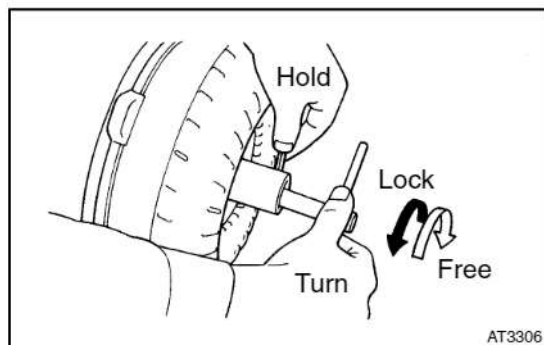
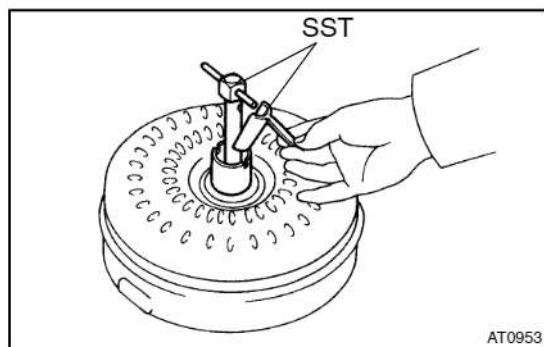
**Correct distance: More than 12.75 mm (0.502 in.)**

### 2. TRANSAXLE INSTALLATION

Installation is in the reverse order of removal (See page AX-34).

HINT:

- After installation, adjust the shift control cable and neutral start switch (See page DI-62).
- Fill ATF and check fluid level (See page DI-62).
- Perform the test drive of the vehicle (See page DI-62).



## TORQUE CONVERTER AND DRIVE PLATE INSPECTION

AX067-02

### 1. INSPECT ONE-WAY CLUTCH

- Install SST into the inner race of the one-way clutch.  
SST 09350-32014 (09351-32010)
- Install SST so that it fits in the notch of the converter hub and outer race of the one-way clutch.  
SST 09350-32014 (09351-32020)
- With the torque converter set up on its side, check that the clutch locks when it is turned counterclockwise, and rotates smoothly clockwise.

If necessary, clean the converter and retest the clutch.  
Replace the converter if the clutch still fails the test.

### 2. MEASURE DRIVE PLATE RUNOUT AND INSPECT RING GEAR

- Set up a dial indicator and measure the drive plate runout.
- Check the damage of the ring gear.

**Maximum runout: 0.20 mm (0.0079 in.)**

If the runout is not within the specification or ring gear is damaged, replace the drive plate.

**Torque: 98 N·m (1,000 kgf·cm 72 ft·lbf)**

### 3. MEASURE TORQUE CONVERTER SLEEVE RUNOUT

Temporarily mount the torque converter to the drive plate. Set up a dial indicator and measure the torque converter sleeve runout.

**Maximum runout: 0.30 mm (0.0118 in.)**

If the runout is not within the specification, try to correct by reorienting the installation of the converter.

**HINT:**

Mark the position of the converter to ensure the correct installation.