

ON-VEHICLE REPAIR

Valve Body

REMOVAL OF VALVE BODY AND/OR SOLENOID VALVE

1. CLEAN TRANSAXLE EXTERIOR

To prevent contamination, clean the exterior of the transaxle.

2. DRAIN TRANSAXLE FLUID

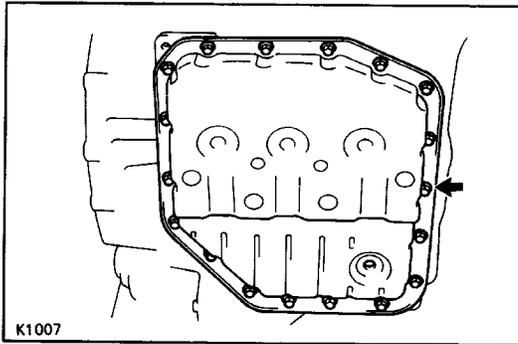
Remove the drain plug and drain the fluid into a suitable container.

3. REMOVE ENGINE UNDER COVER

4. REMOVE OIL PAN AND GASKET

NOTICE: Some fluid will remain in the oil pan.

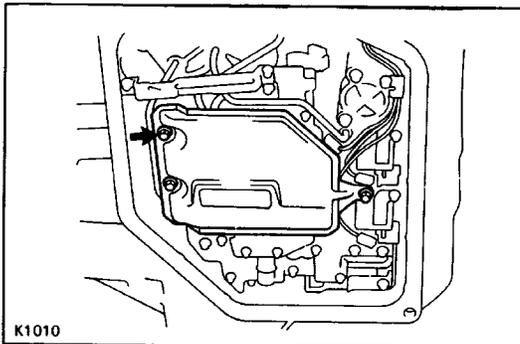
Remove all pan bolts, and carefully remove the pan assembly. Discard the gasket.



5. REMOVE OIL STRAINER

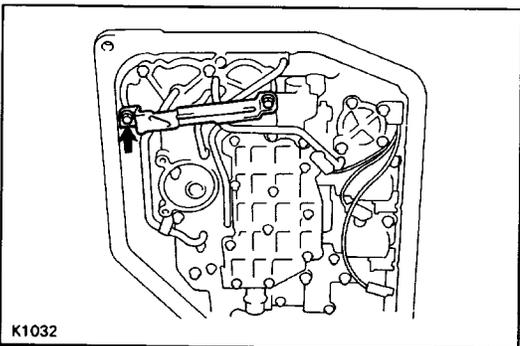
NOTICE: Be careful as some fluid will come out with the oil strainer.

Remove the three bolts, oil strainer and gasket.



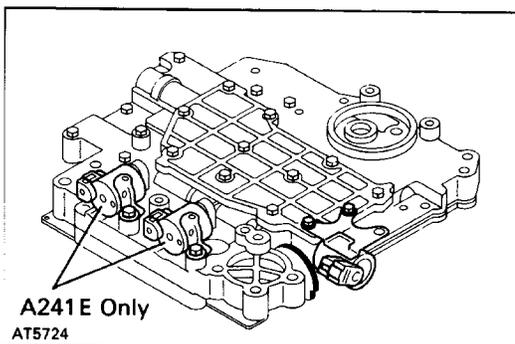
6. REMOVE APPLY TUBE BRACKET

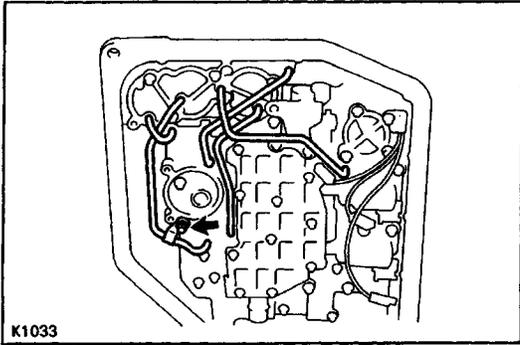
Remove the two bolts and apply tube bracket.



7. WHEN REPLACING SOLENOIDS

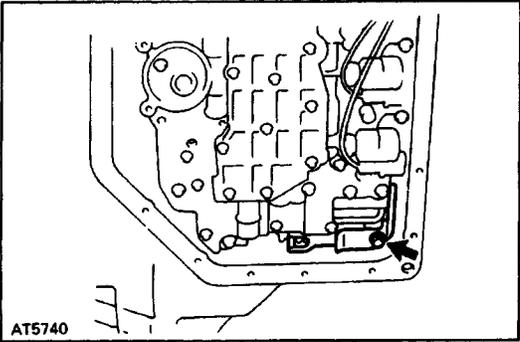
- (a) Disconnect the connectors from the solenoids.
- (b) Remove the solenoid mounting bolts.
- (c) Remove the solenoids.



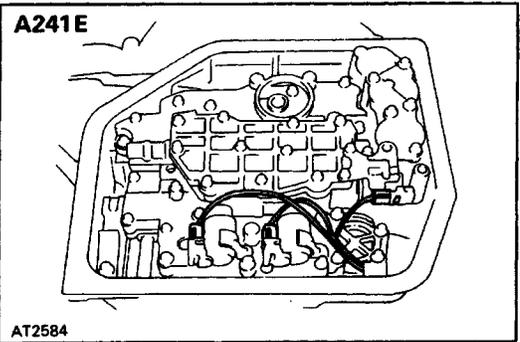


8. REMOVE OIL TUBES

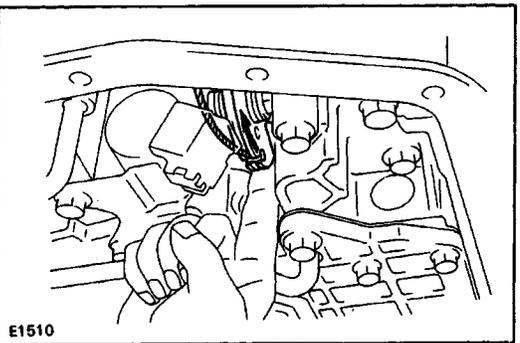
- (a) Remove the tube clamp bolt and clamp.
- (b) Pry up both ends with a large screwdriver and remove the five tubes.



9. REMOVE MANUAL DETENT SPRING

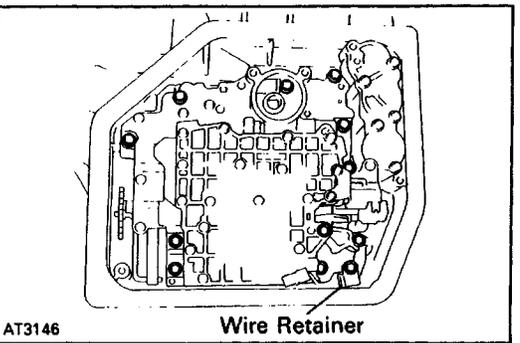


10. DISCONNECT SOLENOID CONNECTORS

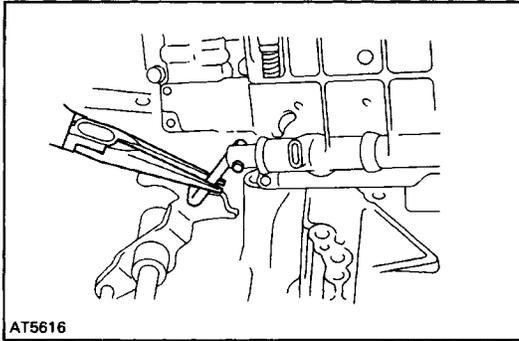


11. REMOVE VALVE BODY

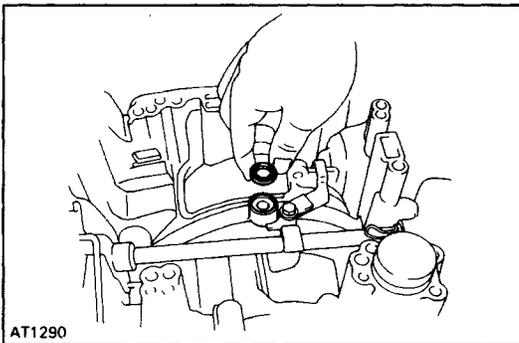
- (a) Disconnect the throttle cable from the cam.



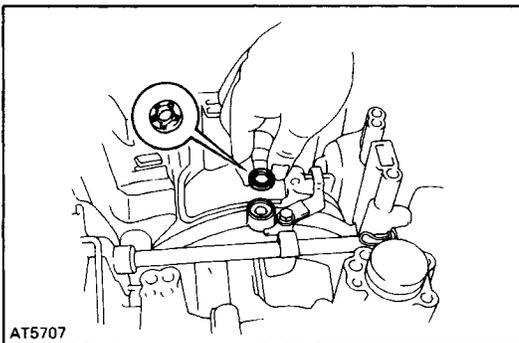
- (b) Remove the twelve bolts and wire retainer.



- (c) While disconnecting the manual valve connecting rod from the manual valve lever, remove the valve body.

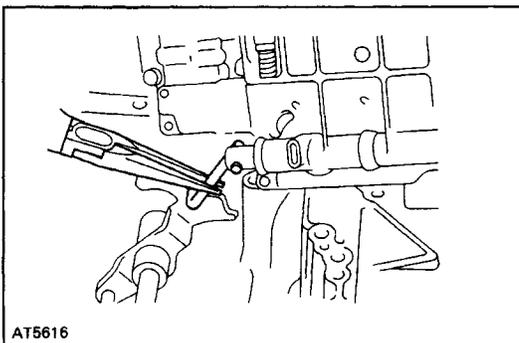


12. REMOVE SECOND BRAKE APPLY GASKET



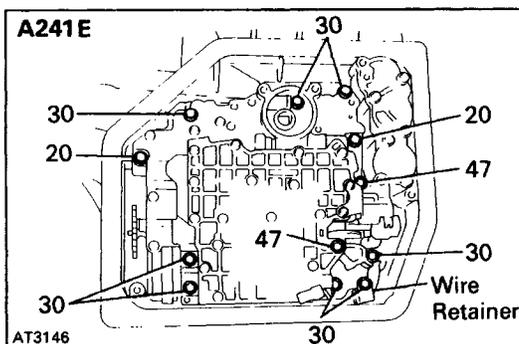
INSTALLATION OF VALVE BODY AND/OR SOLENOID VALVE

1. INSTALL NEW SECOND BRAKE APPLY GASKET

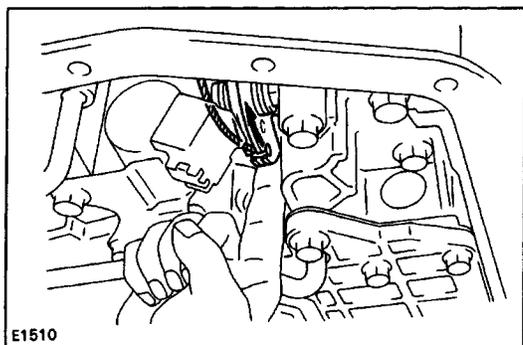


2. INSTALL VALVE BODY

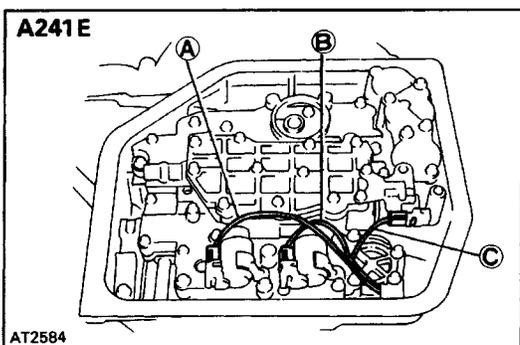
- (a) Connect the connecting rod to the manual valve lever.



- (b) Install the twelve bolts and wire retainer, and hand tighten all the bolts first. Then tighten them with a torque wrench.
HINT: Each bolt length (mm) is indicated in the illustration.
Torque: 10 N-m (100 kgf-cm, 7 ft-lbf)



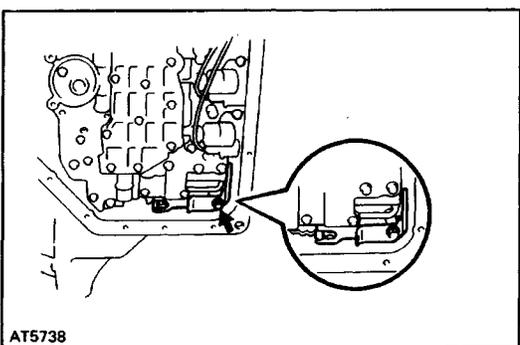
(c) Connect the throttle cable to the cam.



3. CONNECT SOLENOID CONNECTOR

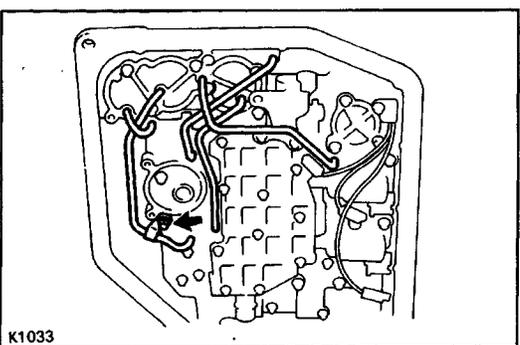
HINT: Wire color

- (A) White
- (B) Black
- (C) Yellow



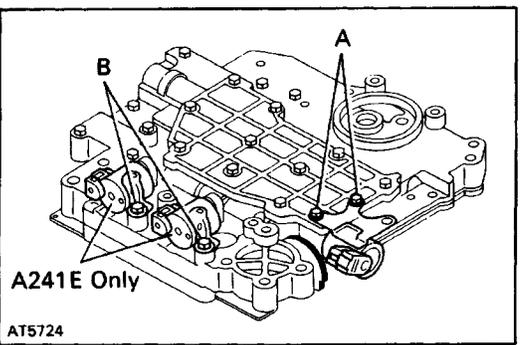
4. INSTALL MANUAL DETENT SPRING

- (a) Install the detent spring and cover in place, and install the bolt (length: 16 mm).
 - (b) Hand tighten the bolt first, then tighten the bolt with a torque wrench.
- Torque: 10 N-m (700 kgf-cm, 7 ft-lbf)**
- (c) Check that the manual valve lever is in contact with the center of the roller at the tip of the detent spring.



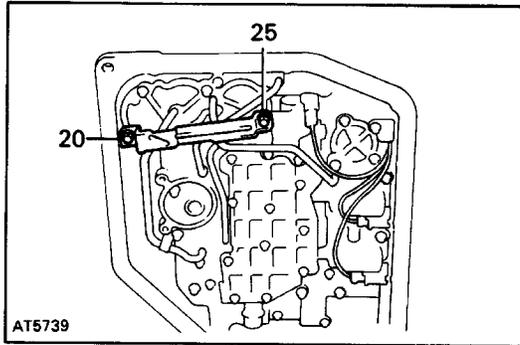
5. INSTALL OIL TUBES

- (a) Tap the tubes with a plastic hammer to install them into the positions indicated in the illustration.
- NOTICE: Be careful not to bend or damage the tubes.**
- (d) Install the oil tube clamp.
- HINT: The bolt length (mm) is indicated in the illustration. Hand tighten a bolt first, then tighten them with a torque wrench.**
- Torque: 10 N-m (100 kgf-cm, 7 ft-lbf)**



6. WHEN REPLACING SOLENOID

- (a) Install a new O-ring to the solenoid.
 - (b) Install the solenoid and torque the bolt.
- Torque: A 6.4 N-m (65 kgf-cm, 56in-lbf)**
B 10 N-m (100 kgf-cm, 7 ft-lbf)
- (c) Connect the connector to the solenoid.
 - (d) Clamp the solenoid wire.

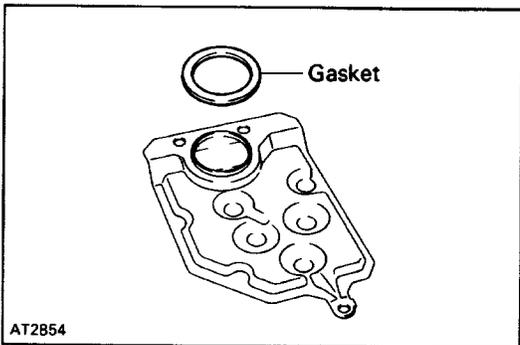


7. INSTALL APPLY TUBE BRACKET

Install the apply tube bracket.

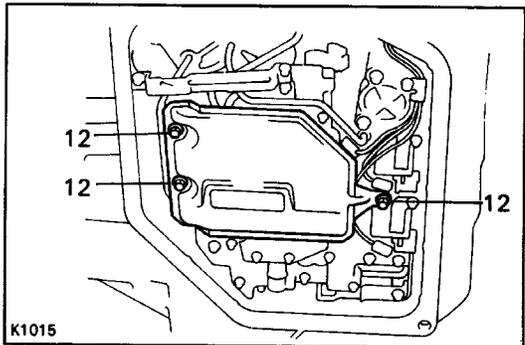
HINT: Each bolt length (mm) is indicated in the illustration.

Torque: 10 N-m (100 kgf-cm, 7 ft-lbf)



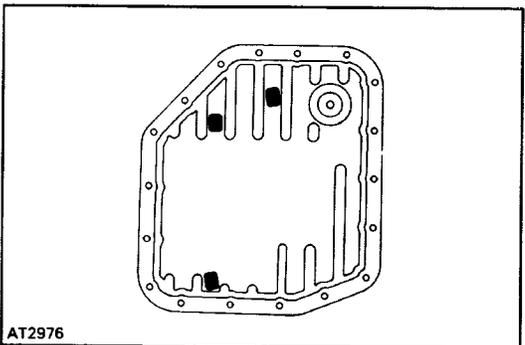
8. INSTALL OIL STRAINER

(a) Install the new gasket to the oil strainer.



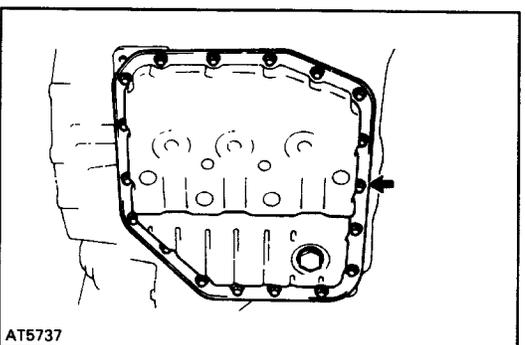
(b) Install the oil strainer with the three bolts.

HINT: Each bolt length (mm) is indicated in the illustration.



9. INSTALL THREE MAGNETS IN OIL PAN

NOTICE: Make sure that the magnets do not interfere with the oil tubes.



10. INSTALL OIL PAN

(a) Install a new gasket to the oil pan and install them to the transmission.

(b) Tighten the eighteen bolts.

Torque: 4.9 N-m (50 kgf-cm, 43 in.-lbf)

11. INSTALL OIL PAN DRAIN PLUG

Torque the drain plug.

Torque: 17 N-m (175 kgf-cm, 13 ft.-lbf)

12. INSTALL ENGINE UNDER COVER

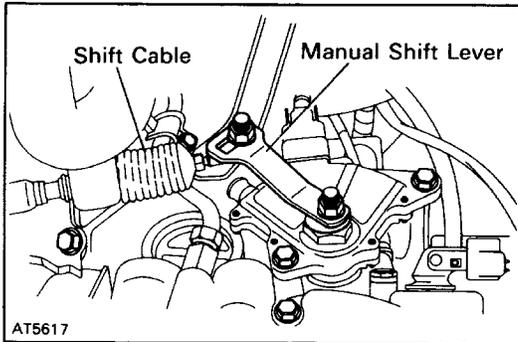
13. FILL TRANSAXLE WITH ATF

(See page [AT-17](#))

NOTICE: Do not overfill.

Fluid type: ATF DEXRON®II

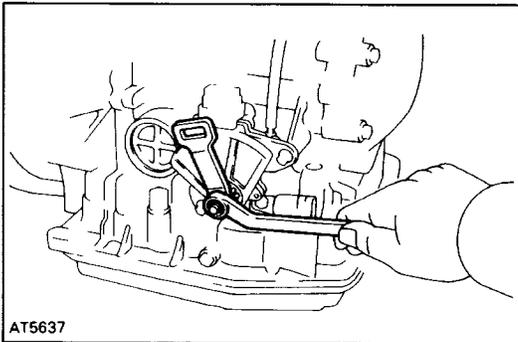
14. CHECK FLUID LEVEL



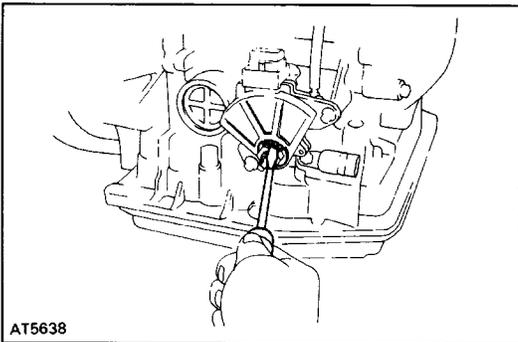
Park/Neutral Position Switch

REMOVAL OF PARK/NEUTRAL POSITION SWITCH

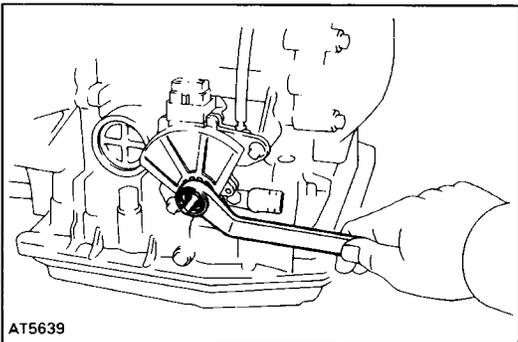
1. REMOVE ENGINE UNDER COVER
2. DISCONNECT SHIFT CABLE FROM MANUAL SHIFT LEVER



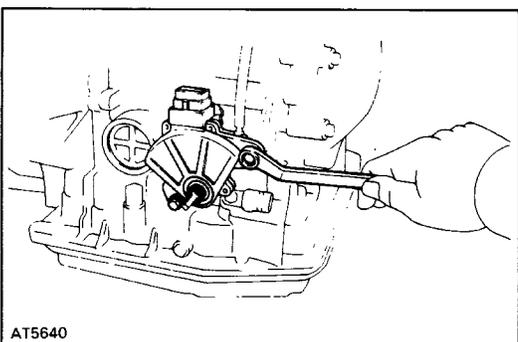
3. REMOVE MANUAL SHIFT LEVER



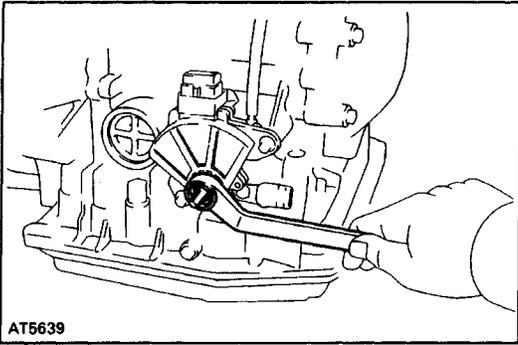
4. REMOVE PARK/NEUTRAL POSITION SWITCH
 - (a) Using a screwdriver, pry off the lock washer.



- (b) Remove the nut and lock washer.
- (c) (A241 E)
Remove the packing.



- (d) Remove the two bolts and pull out the park/neutral position switch from manual valve shaft.
- INSPECT PARK/NEUTRAL POSITION SWITCH**
A240E: See page [AT-30](#)



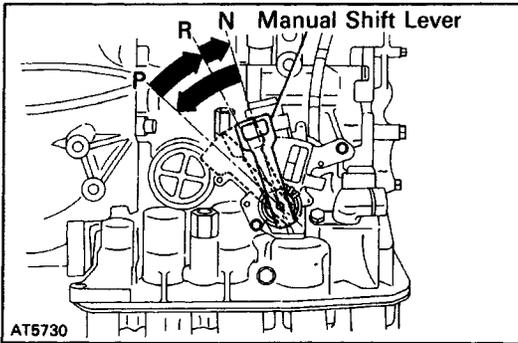
INSTALLATION OF PARK/NEUTRAL POSITION SWITCH

7. INSTALL PARK/NEUTRAL POSITION SWITCH

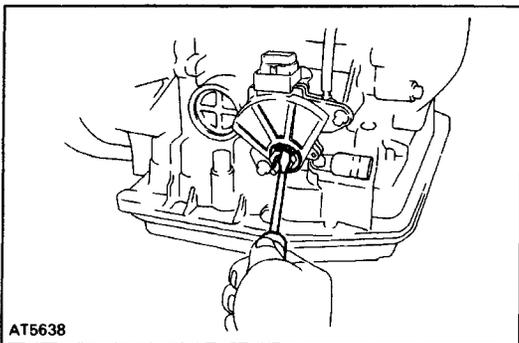
- (a) Install the park/neutral position switch to the manual valve shaft.
- (b) (A241 E)
Install the packing.
- (e) Install the nut and lock stopper.
- (d) Tighten the nut.

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

- (e) Temporarily install the manual shift lever.
- (f) Turn the lever counterclockwise until it stops, then turn it clockwise two notches.
- (g) Remove the manual shift lever.



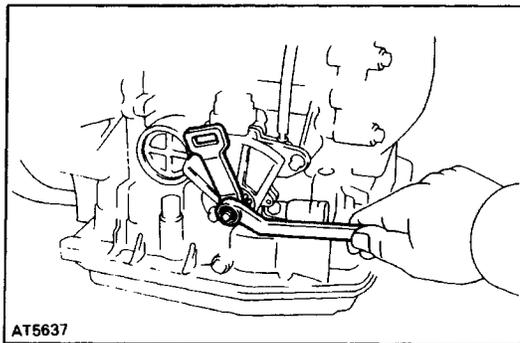
- (h) Using a screwdriver, stake the nut with the nut stopper.



- (i) Install the manual shift lever with the washer, and tighten the nut.

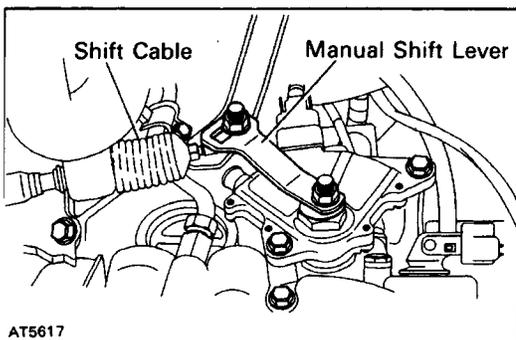
2. ADJUST PARK/NEUTRAL POSITION SWITCH

(See page [AT-18](#))



3. CONNECT SHIFT CABLE TO MANUAL SHIFT LEVER

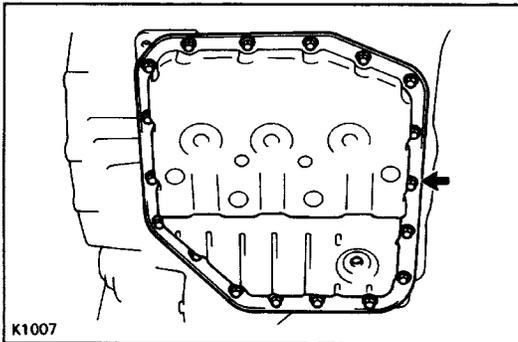
4. INSTALL ENGINE UNDER COVER



Throttle Cable

REMOVAL OF THROTTLE CABLE

1. DISCONNECT THROTTLE CABLE FROM ENGINE



2. DRAIN TRANSAXLE FLUID

Remove the drain plug and drain the fluid into a suitable container.

3. REMOVE ENGINE UNDER COVER

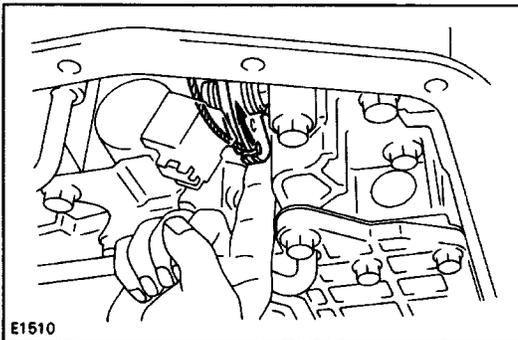
4. REMOVE PARK/NEUTRAL POSITION SWITCH

(See page [AT-51](#))

5. REMOVE OIL PAN AND GASKET

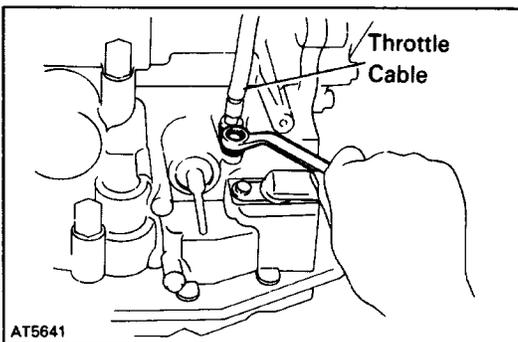
NOTICE: Some fluid will remain in the oil pan.

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



6. DISCONNECT THROTTLE CABLE FROM VALVE BODY

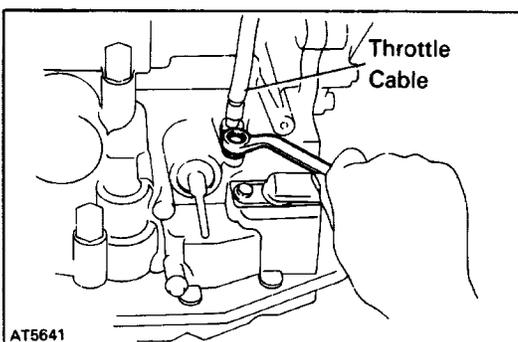
Disconnect the throttle cable from the cam.



7. REMOVE THROTTLE CABLE

(a) Remove the retaining bolt and plate.

(b) Pull out the cable from the transmission case.

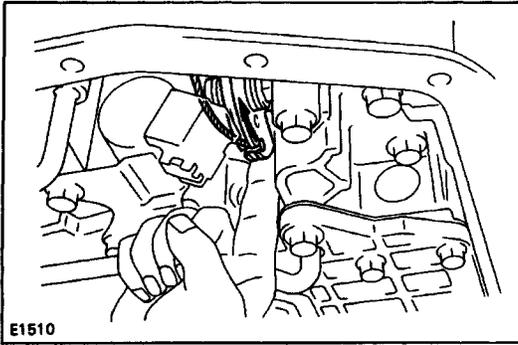


INSTALLATION OF THROTTLE CABLE

1. INSTALL CABLE INTO TRANSMISSION CASE

(a) Be sure to push it in all the way.

(b) Install the retaining plate and bolt.



2. CONNECT THROTTLE CABLE TO VALVE BODY

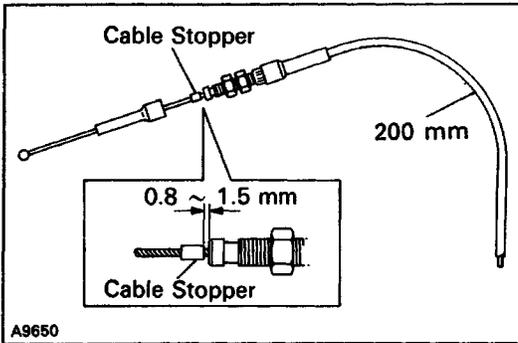
Connect the throttle cable to the cam.

3. INSTALL OIL PAN AND OIL PAN DRAIN PLUG

(See page [AT-50](#))

4. INSTALL AND ADJUST PARK/NEUTRAL POSITION SWITCH

(See page [AT-18](#))



5. INSTALL ENGINE UNDER COVER

6. IF THROTTLE CABLE IS NEW, STAKE STOPPER ON INNER CABLE

HINT: New cable do not have a cable stopper staked.

- (a) Bend the cable so there is a radius of about 200 mm (7.87 in.).
- (b) Pull the inner cable lightly until a slight resistance is felt, and hold it.
- (c) Stake the stopper, 0.8 –1.5 mm (0.031 – 0.059 in.) from the end of outer cable.

7. CONNECT THROTTLE CABLE TO ENGINE

8. ADJUST THROTTLE CABLE

(See page [AT-18](#))

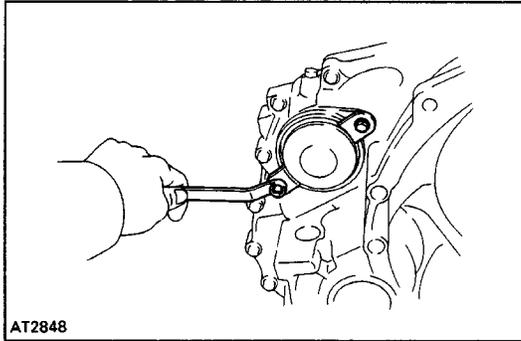
9. FILL TRANSAXLE WITH ATF

(See page [AT-17](#))

NOTICE: Do not overfill.

Fluid type: ATF DEXRON®II

10. CHECK FLUID LEVEL

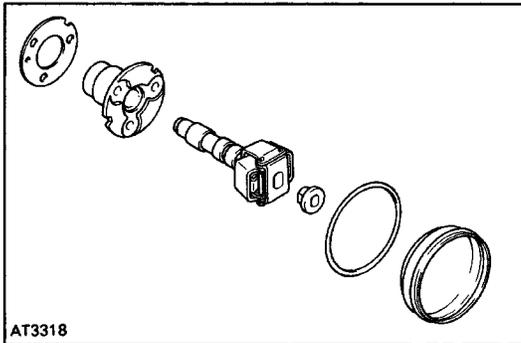


AT2848

Governor Valve (A240L)

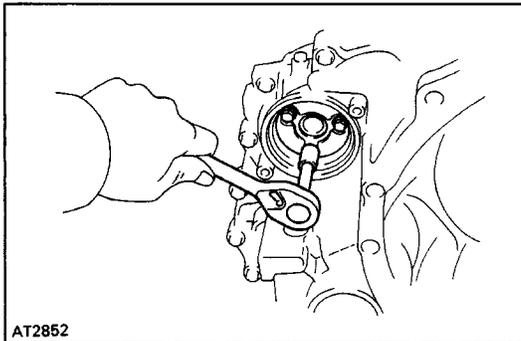
REMOVAL OF GOVERNOR VALVE

1. DISCONNECT SPEEDOMETER CABLE
2. REMOVE GOVERNOR COVER AND O-RING



AT3318

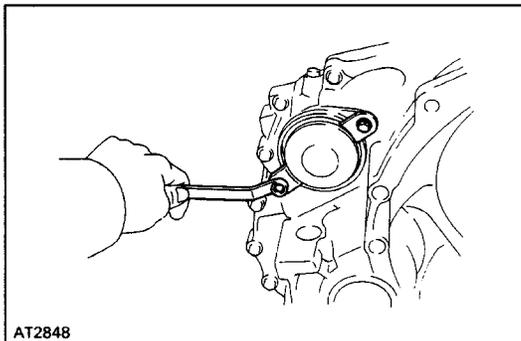
3. REMOVE GOVERNOR BODY WITH THRUST WASHER
4. REMOVE GOVERNOR BODY ADAPTOR
5. REMOVE GASKET



AT2852

INSTALLATION OF GOVERNOR VALVE

1. INSTALL NEW GASKET TO GOVERNOR BODY
ADAPTOR
2. INSTALL GOVERNOR BODY ADAPTOR



AT2848

3. INSTALL GOVERNOR BODY WITH THRUST WASHER
4. INSTALL GOVERNOR COVER WITH NEW O-RING
5. CONNECT SPEEDOMETER CABLE

Differential Oil Seal

REMOVAL OF DIFFERENTIAL OIL SEALS

1. DRAIN TRANSAXLE FLUID

Remove the drain plug and drain the fluid into a suitable container.

2. REMOVE ENGINE UNDER COVER

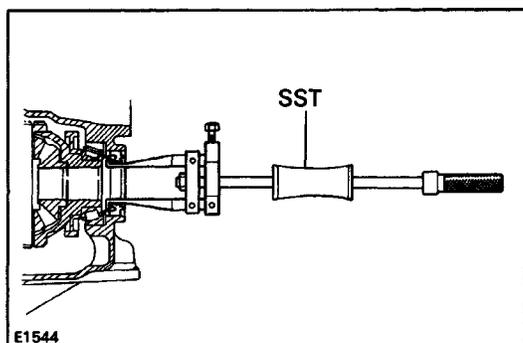
3. REMOVE LH AND RH DRIVE SHAFTS

(See page [SA-20](#))

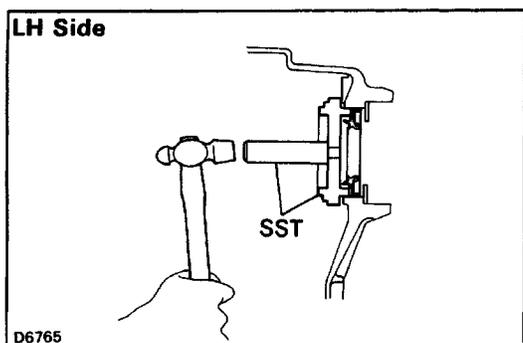
4. REMOVE LH AND RH SIDE OIL SEALS

Using SST, drive out the both side oil seals.

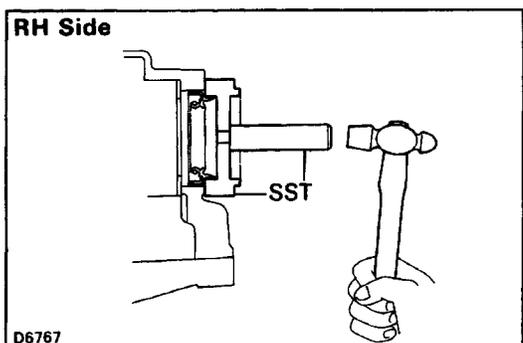
SST 09308-00010



E1544



D6765



D6767

INSTALLATION OF DIFFERENTIAL OIL SEALS

1. INSTALL LH SIDE OIL SEAL

(a) Using SST, drive in a new oil seal until SST makes contact with the case surface.

SST 09350-32014 (09351-32111, 09351-32130)

Oil seal drive in depth: 5.3 mm (0.209 in.)

(b) Coat the oil seal lip with MP grease.

2. INSTALL RH SIDE OIL SEAL

(a) Using SST, drive in a new oil seal until SST makes contact with the case surface.

SST 09350-32014 (09351-32150, 09351-32130)

Oil seal drive in depth: 0 ± 0.5 mm (0.020 in.)

(b) Coat the oil seal lip with MP grease.

3. INSTALL LH AND RH DRIVE SHAFT

(See page [SA-38](#))

4. INSTALL ENGINE UNDER COVER

5. FILL TRANSMISSION WITH ATF

(See page [AT-17](#))

NOTICE: Do not overfill.

Fluid type: ATF DEXRON[®] II

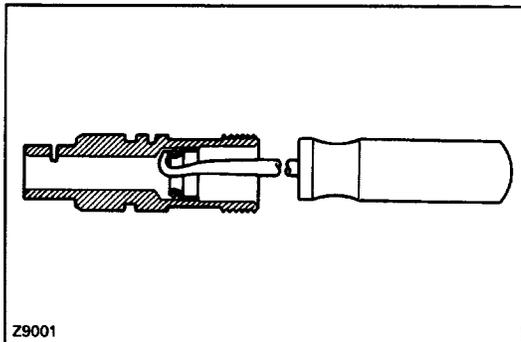
6. CHECK FLUID LEVEL

Speedometer Driven Gear

REPLACEMENT OF SPEEDOMETER DRIVEN GEAR OIL SEAL

1. REMOVE SPEEDOMETER DRIVEN GEAR OIL SEAL

Using SST, pull
out the oil seal.
SST 09921-00010



2. INSTALL SPEEDOMETER DRIVEN GEAR OIL SEAL

Using SST, drive in the oil seal.
SST 09201-60011
Drive in depth: 19 mm (0.75 in.)

