# ARTICLE BEGINNING

## APPLICATION

### TRANSAXLE/TRANSMISSION APPLICATION

| Application | Transmission Model |
|---|---|
| ES300 | |
| 2001 | U-140E |
| 2002 | U-150E |
| GS300 | A-650E |
| GS430 | A-650E |
| IS300 | A-650E |
| LS430 | A-650E |
| LX470 | A-343F |
| RX300 | U-140E & U-140F |
| SC430 (2002) | A-650E |

### TRANSFER CASE APPLICATION

| Application | Transfer Case |
|---|---|
| LX470 | No Designation |
| RX300 | MCU15 |

## IDENTIFICATION

### OIL PAN GASKET

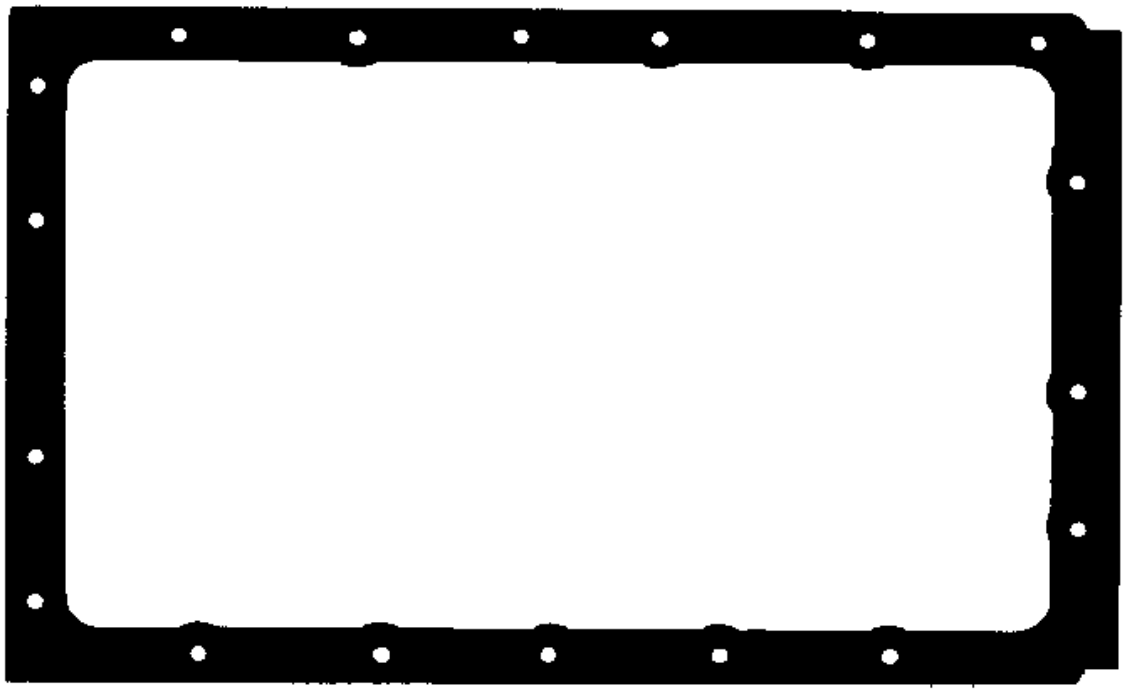

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**Fig. 1: Identifying Oil Pan Gasket (A-343F & A-650E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

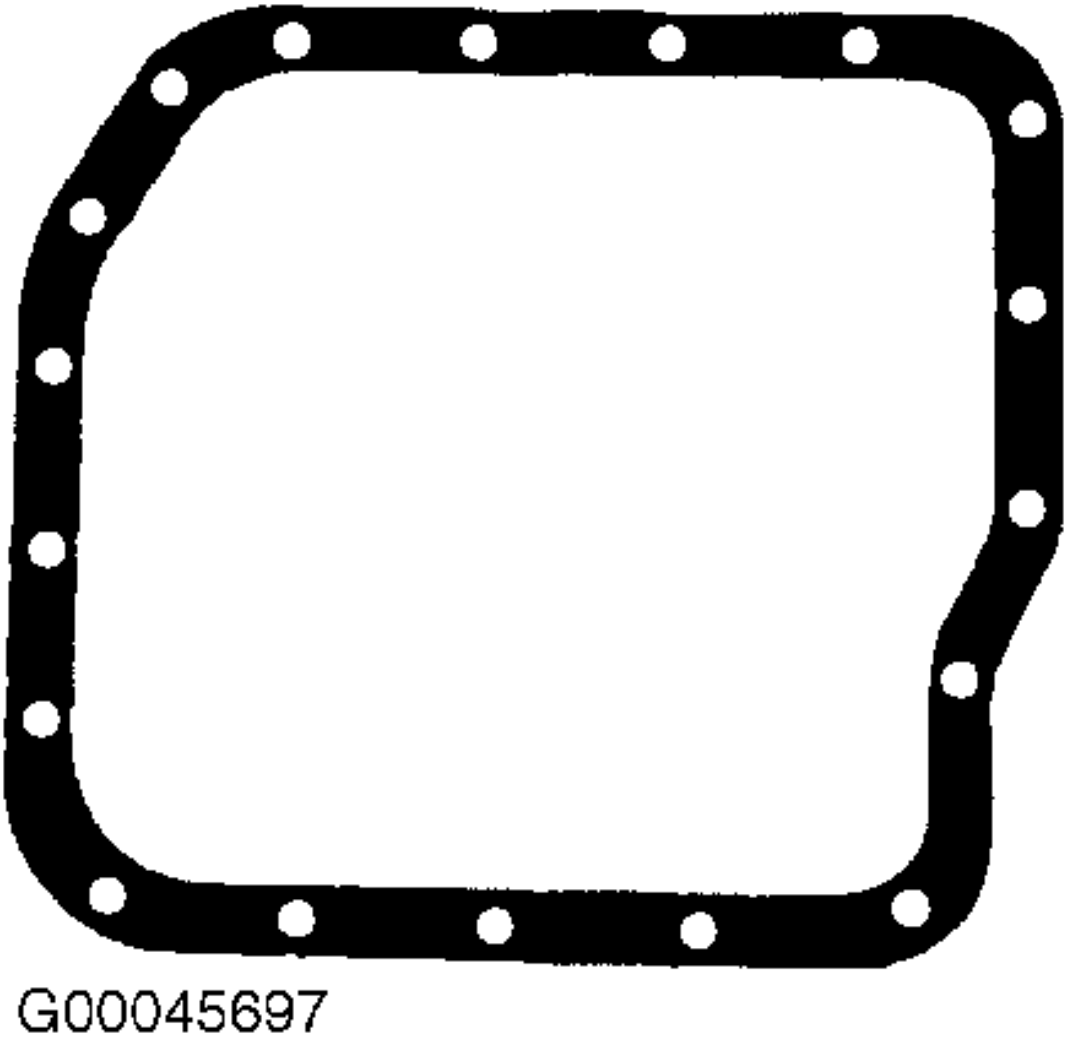



**Fig. 2: Identifying Oil Pan Gasket (U-140E, U-140F & U-150E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## TRANSAXLE/TRANSMISSION

**NOTE:** **Not all transaxle/transmission identification plate information was supplied by the manufacturer.**

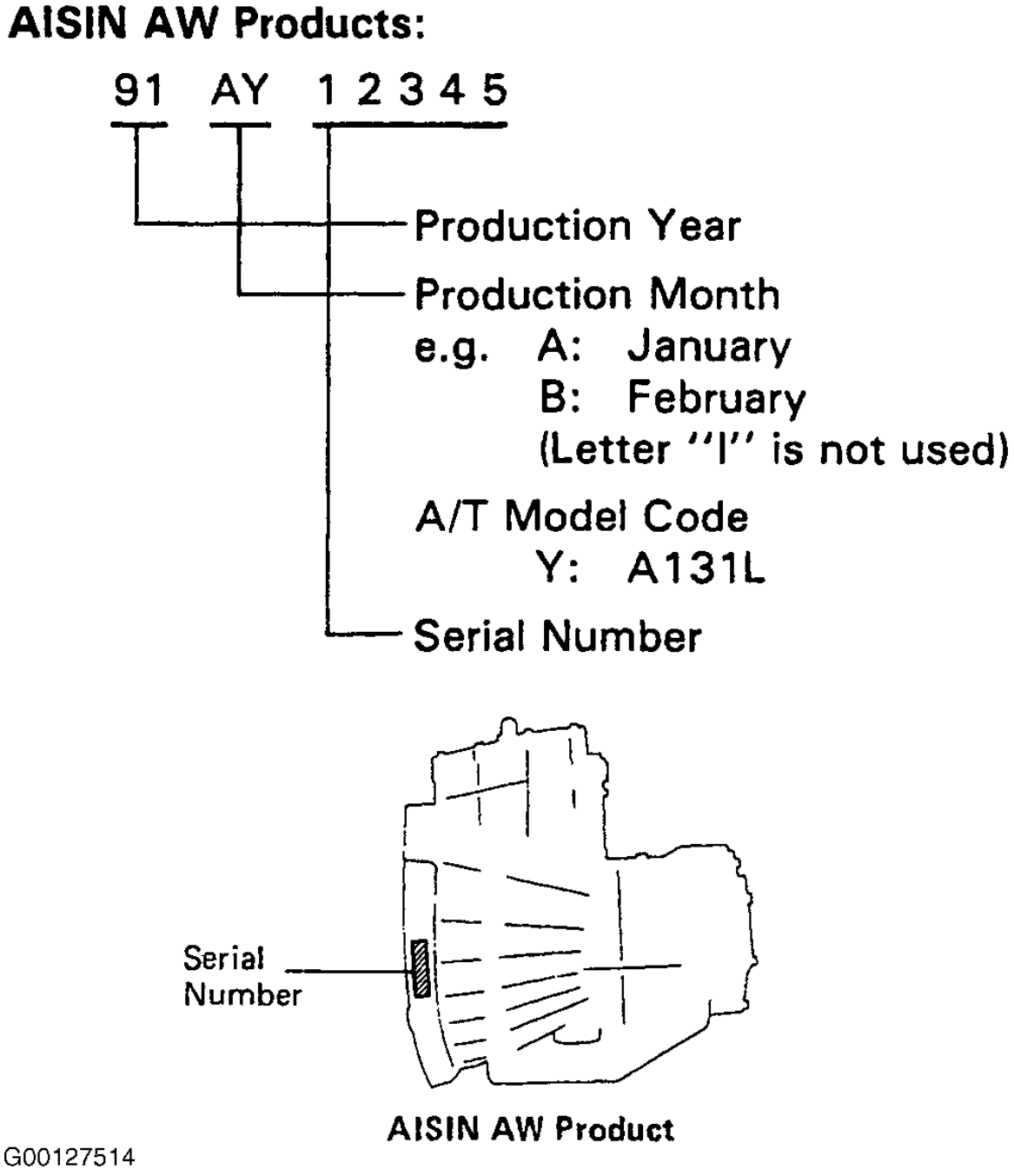
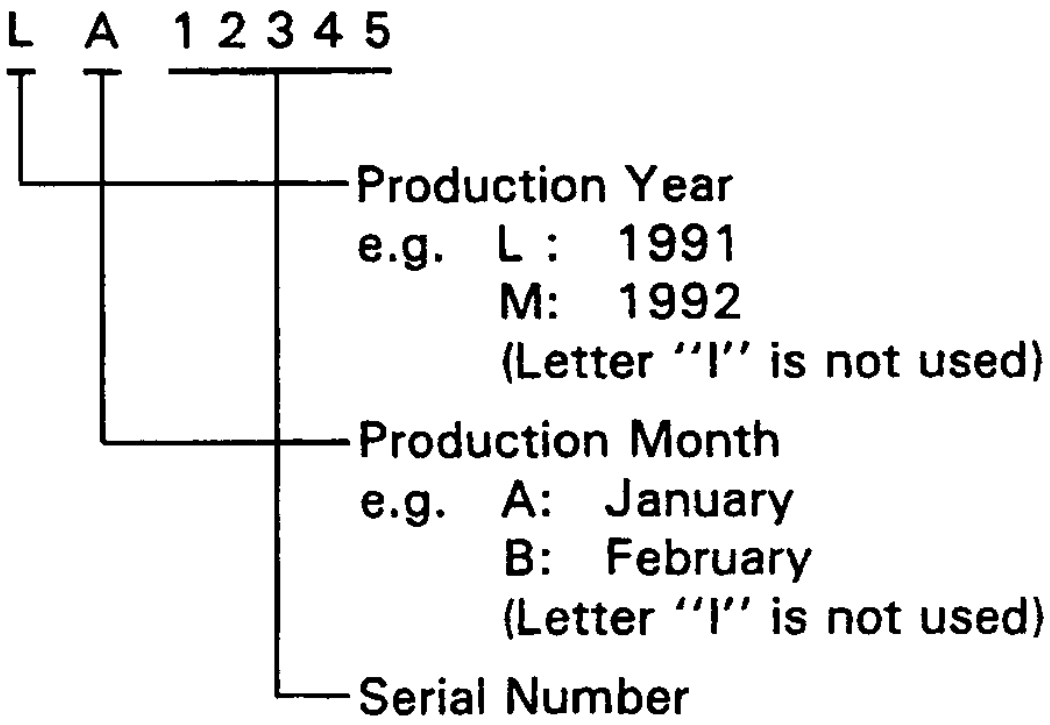
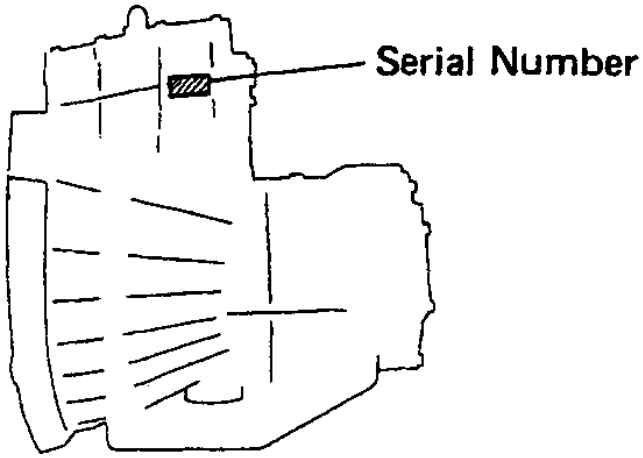



**Fig. 3: Transaxle Identification Information (AISIN)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

**TOYOTA Products:**




**TOYOTA Product**

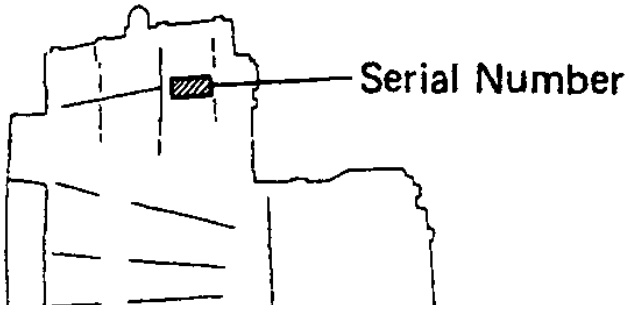


**Fig. 4: Transaxle Identification Information (Toyota)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

# LUBRICATION

## SERVICE INTERVALS

### Differential Fluid

Under normal driving conditions, inspect differential fluid every 15,000 miles or 12 months, whichever comes first. Under severe driving conditions, replace fluid every 15,000 miles or 12 months.

### Transfer Case Fluid

Under normal driving conditions, inspect transfer case fluid every 15,000 miles or 12 months, whichever comes first. Under severe driving conditions, replace fluid every 30,000 miles or 36 months.

### Transaxle & Transmission Fluid

Under normal driving conditions, inspect transmission fluid every 15,000 miles or 12 months, whichever comes first. Under severe driving conditions, on LX470 replace fluid every 30,000 miles or 36 months. Under severe driving conditions, on RX300 replace fluid every 15,000 miles or 12 months.

## CHECKING FLUID LEVELS

### Differential (LX470 & RX300)

Remove filler plug and ensure fluid level is at the bottom of the opening. See **Fig. 5** or **Fig. 6** . Add fluid as necessary. Install filler plug and tighten to specification. See **TORQUE SPECIFICATIONS** .

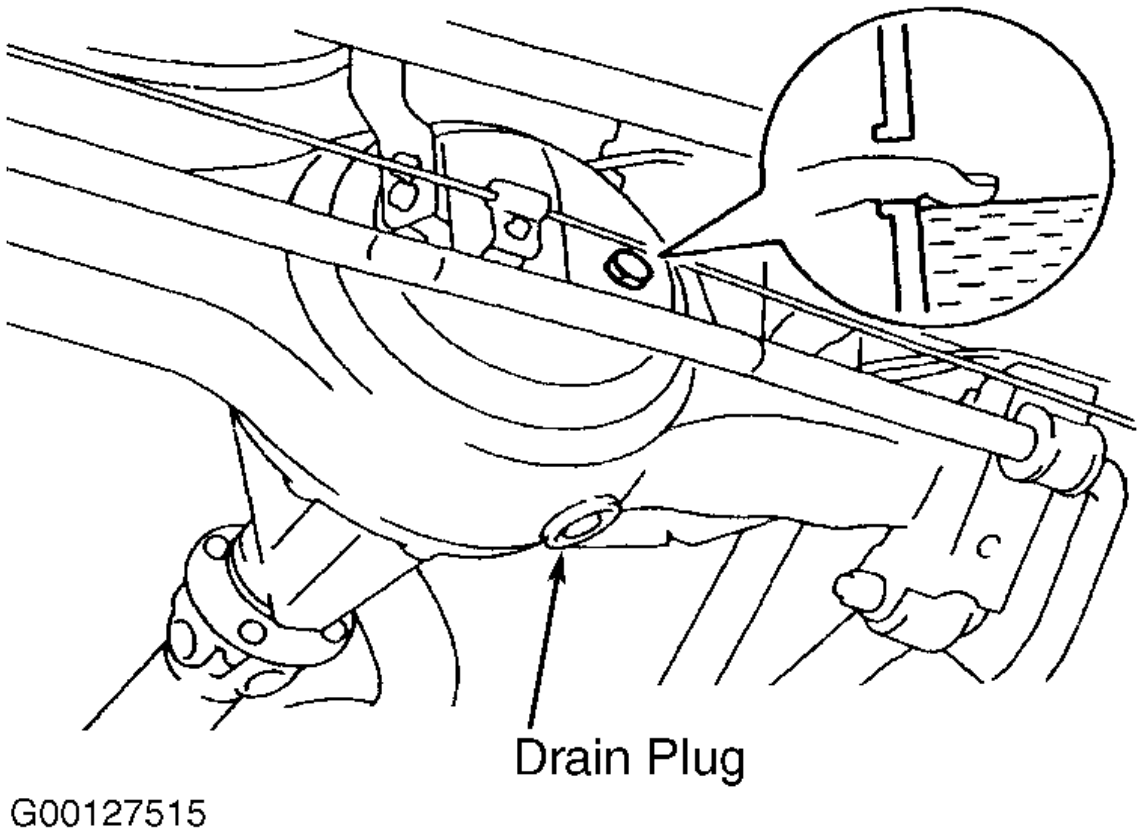



**Fig. 5: Checking Differential Fluid Level (LX470)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

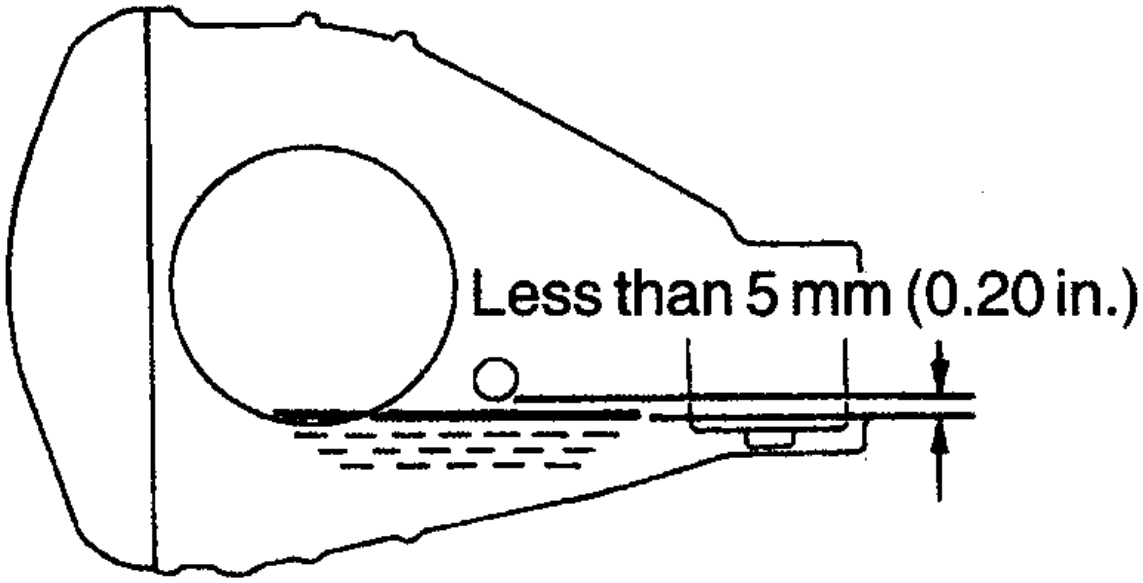



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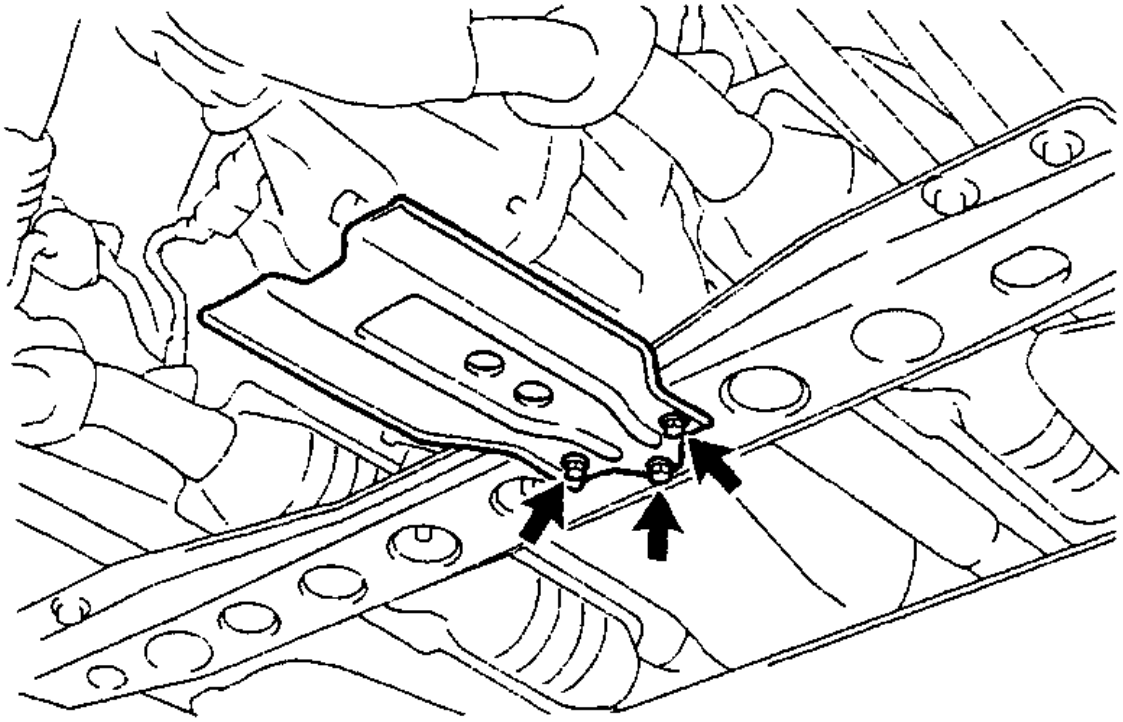
**Fig. 6: Checking Differential Fluid Level (RX300)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

### Transaxle & Transmission

1. Check transmission fluid with engine and transmission at 158-176°F (70-80°C). Park vehicle on a level surface and set parking brake.
2. With engine idling and parking brake engaged, move shift lever from Park to Low and return to Park. Remove and clean dipstick. Insert dipstick fully into oil filler tube. Remove dipstick and verify fluid level is in HOT range on dipstick. Add fluid as necessary.

### Transfer Case

Remove the transfer case protector plate. Remove filler plug and ensure fluid level is at the bottom of the opening. See **Fig. 7** . Add fluid as necessary. Install filler plug and tighten to specification. See **TORQUE SPECIFICATIONS** . Install protector plate.



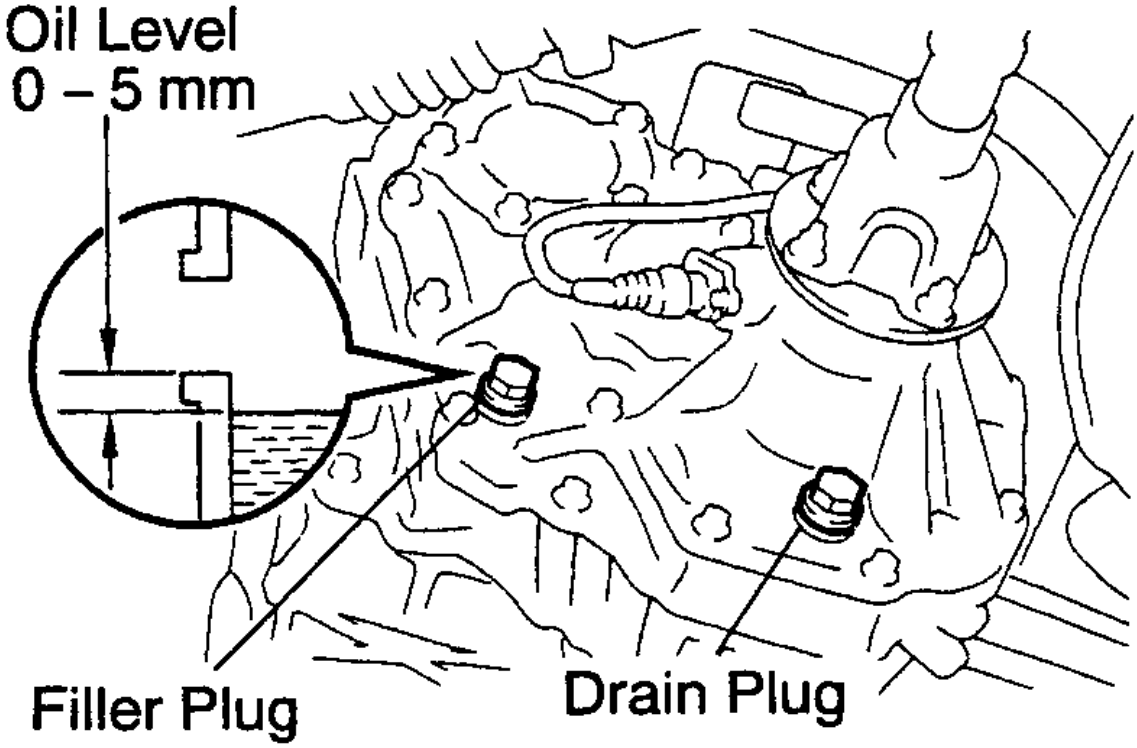



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**Fig. 7: Checking Transfer Case Fluid Level**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## RECOMMENDED FLUID

### Transaxle & Transmission

LX470 models use type Dexron-II or Dexron-III ATF. All other models use Lexus/Toyota Type T-IV ATF.

### Transfer Case

Transfer case uses SAE 75-90 APL GL-5 gear oil.

## FLUID CAPACITIES

**TRANSAXLE/TRANSMISSION FLUID CAPACITIES (1)**

| Application | Refill - Qts. (L) | Dry-Fill - Qts. (L) |
|---|---|---|
| ES300 | 3.7 (3.5) | 8.7 (8.2) |
| GS300, GS430 & LS430 | 2.0 (1.9) | 8.9 (8.4) |
| IS300 | 2.1 (2.0) | (2) |
| LX470 | 2.0 (1.9) | 12.4 (11.7) |
| RX300 | | |
| U-140E | 3.7 (3.5) | 8.7 (8.2) |
| U-140F | 4.3 (4.1) | 9.7 (9.2) |
| SC430 | 2.0 (1.9) | 8.9 (8.4) |

(1) Approximate capacity is listed.

(2) Dry fill information is not available.

**TRANSFER CASE FLUID CAPACITIES**

| Application | Qts. (L) |
|---|---|
| LX470 (A-343F) | 1.4 (1.32) |
| RX300 (MCU15) | 1.0 (.95) |

**FRONT DIFFERENTIAL FLUID CAPACITIES**

| Application | Qts. (L) |
|---|---|
| LX470 | 1.7 (1.6) |
| RX300 | 1.0 (.9) |

## DRAINING & REFILLING

**WARNING: On LS430 equipped with air suspension, ensure ignition switch is turned to OFF position before raising vehicle. If ignition switch is in ON position when vehicle is raised, vehicle automatic height adjustment will operate, resulting in possible damage to vehicle or personal injury. Air suspension HI indicator light will blink if a system malfunction exists.**

### Front Differential

Raise and support vehicle. Remove drain plug and drain fluid. See **Fig. 8** . Install drain plug and tighten to specification. Remove filler plug and fill with approved fluid to bottom of filler plug opening. Tighten filler plug to specification. See **TORQUE SPECIFICATIONS** .

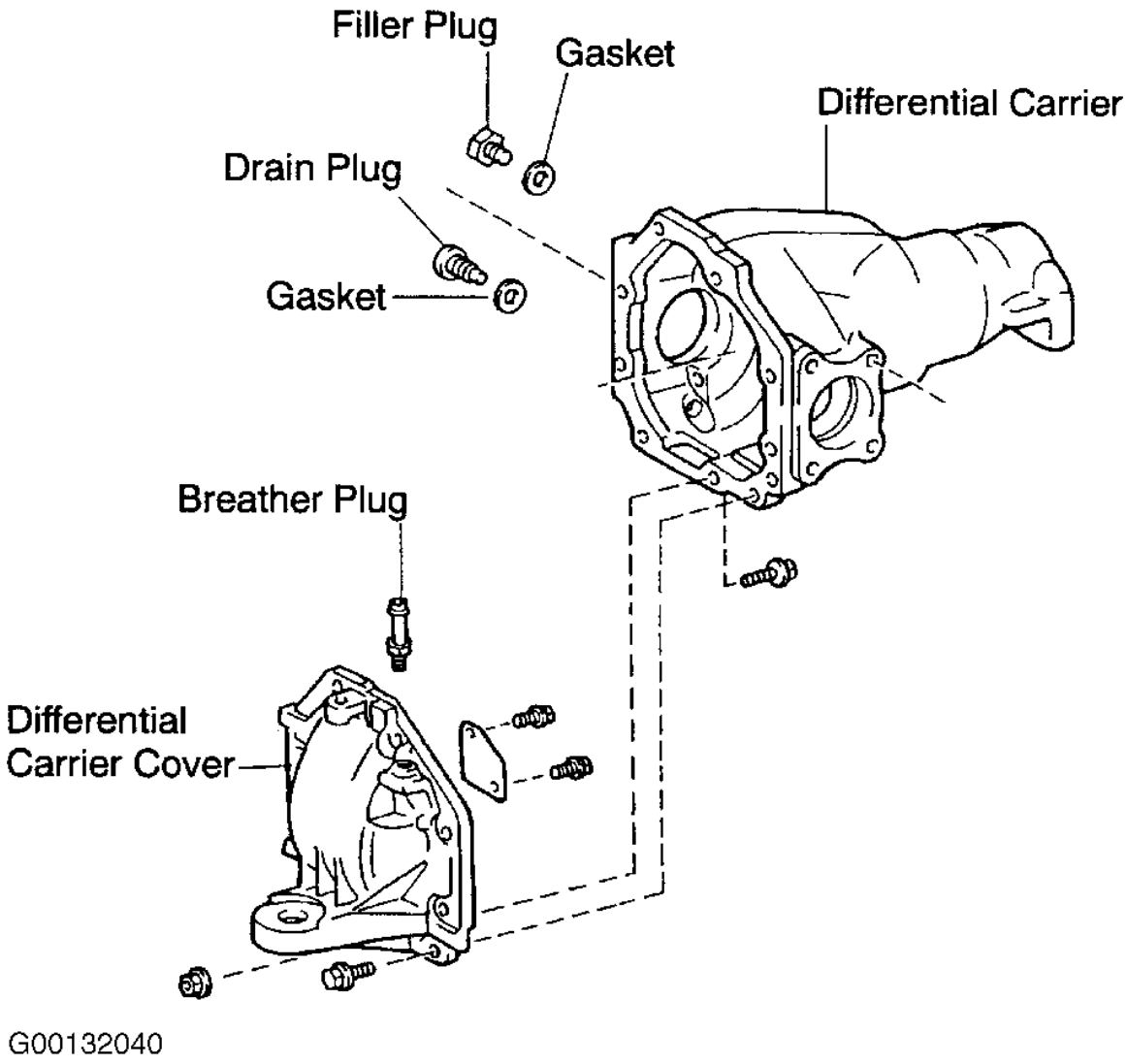


**Fig. 8: Locating Front Differential Drain & Filler Plugs**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

### Transmission (U-140E, U-140F & U-150E)

1. Remove drain plug to drain fluid. If transmission oil filter is to be changed, remove oil pan. See **Fig. 9** . Remove oil filter and seal.
2. Clean transmission oil pan. Remove and clean the magnet in the pan of all metal particles. Install oil filter and seal. Install NEW pan gasket. See **Fig. 10** . Install transmission oil pan. Tighten bolts to specification. Install drain plug and tighten to specification. See **TORQUE SPECIFICATIONS** . With engine off, add new fluid through oil filler tube.

3. Start engine and move gearshift lever through all positions. Place gearshift lever back into Park. Check fluid level. Add fluid to bring level up to COOL mark on dipstick.
4. Recheck fluid level when engine and transmission reaches operating temperature of 158-176°F (70-80°C). Add fluid up to HOT mark on dipstick. See **FLUID CAPACITIES** .

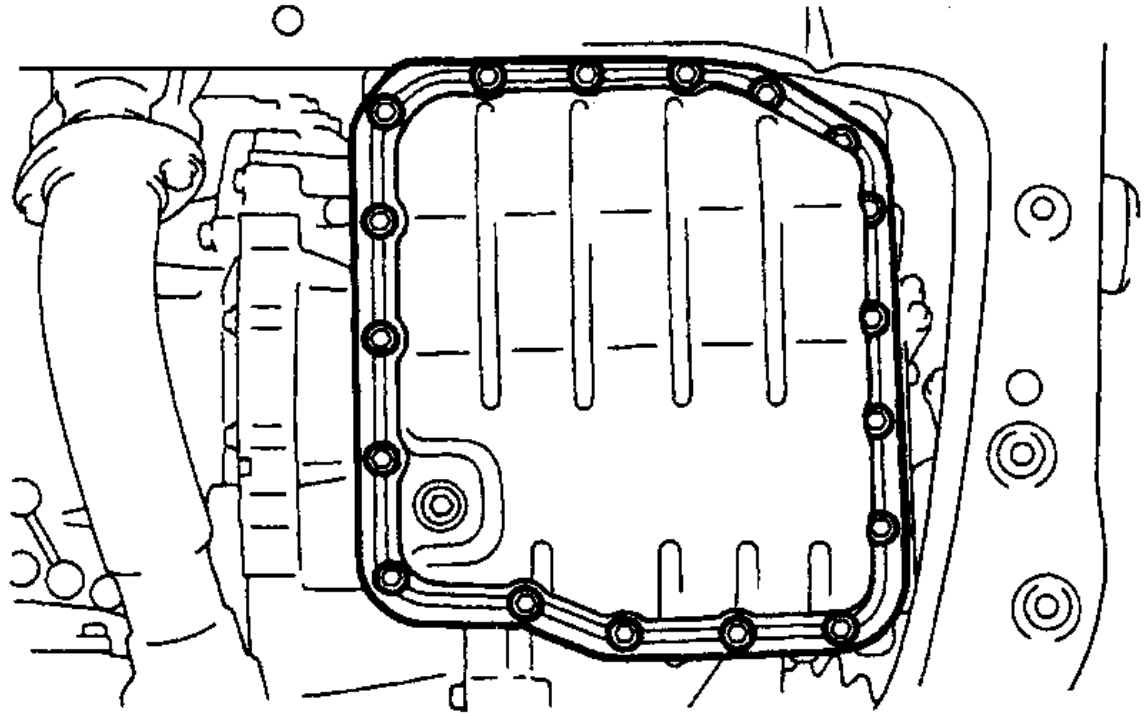


**Fig. 9: Locating Oil Pan Bolts & Drain Plug (U-140E, U140-F & U-150E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

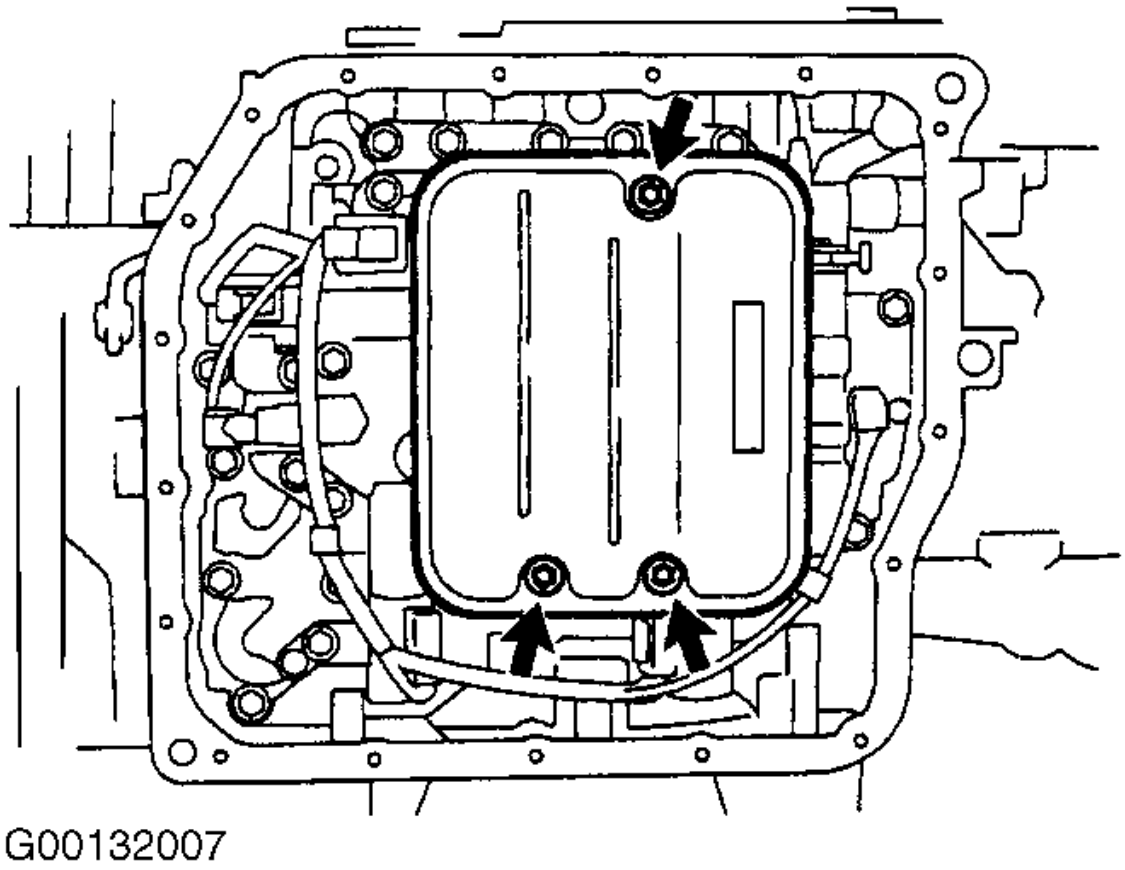


**Fig. 10: Removing & Installing Oil Filter (U-140E, U140-F & U-150E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

### Transmission (A-343E & A-650E)

**CAUTION: When removing the oil pan, be careful not to damage oil pan or sealing surface of transmission case.**

**NOTE: When installing oil pan, replace the one bolt indicated by the letter "A". See Fig. 14**

1. Remove drain plug to drain fluid. See **Fig. 14** . If transmission oil filter is to be changed, remove oil pan. To remove oil pan, remove all 19 bolts, and install gasket cutter in space between pan and transmission body. Carefully cut old sealer around entire surface of pan. See **Fig. 11** . Remove oil filter and seal.

2. Clean transmission oil pan. Remove and clean the magnet in the pan of all metal particles. Install oil filter and seal. See **Fig. 12** . Install a bead of FIPG. Part No. 08826-00090, (Three Bond 1281) or equivalent to oil pan. See **Fig. 13** . Reinstall transmission oil pan. Replace the one bolt "A" only. See **Fig. 14** . Tighten bolts to specification. Install drain plug and tighten to specification. See **TORQUE SPECIFICATIONS** . With engine off, add new fluid through oil filler tube.
3. Start engine and move gearshift lever through all positions. Place gearshift lever back into Park. Check fluid level. Add fluid to bring level up to COOL mark on dipstick.
4. Recheck fluid level when engine and transmission reaches operating temperature of 158-176°F (70-80°C). Add fluid up to HOT mark on dipstick. See **FLUID CAPACITIES** .

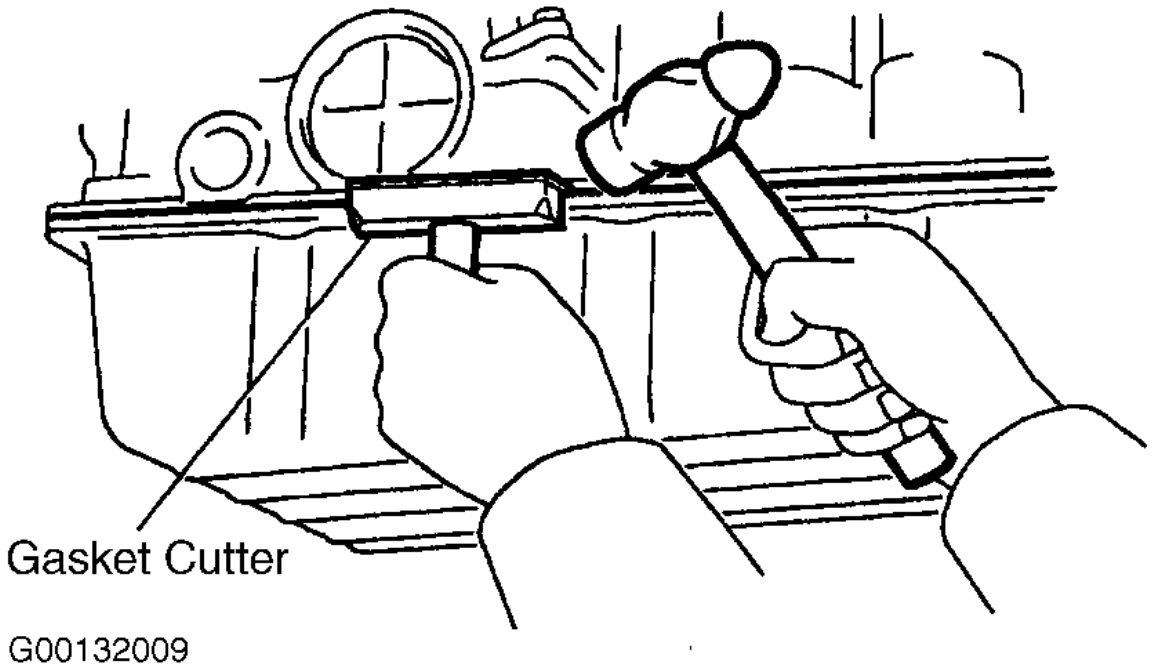


**Fig. 11: Removing Oil Pan Sealer Using Gasket Cutter**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

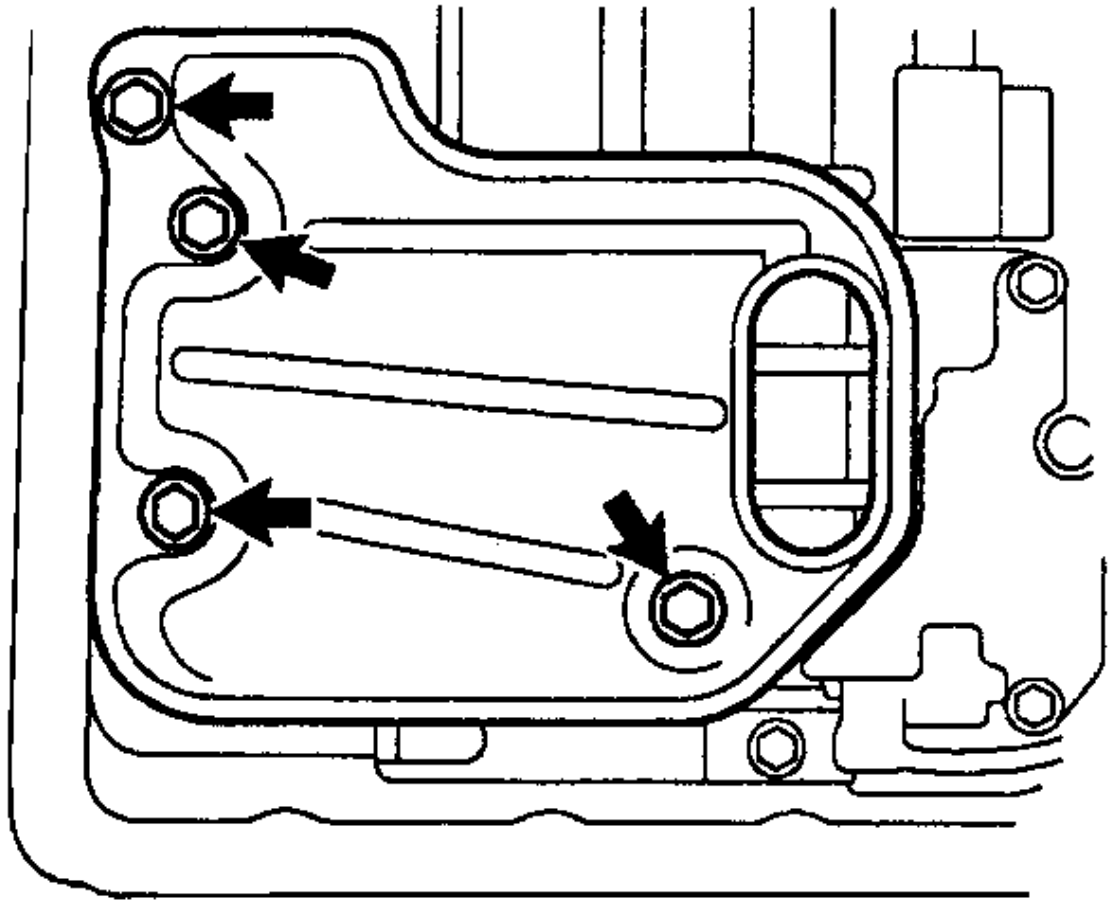

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**Fig. 12: Removing & Installing Transmission Oil Filter**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

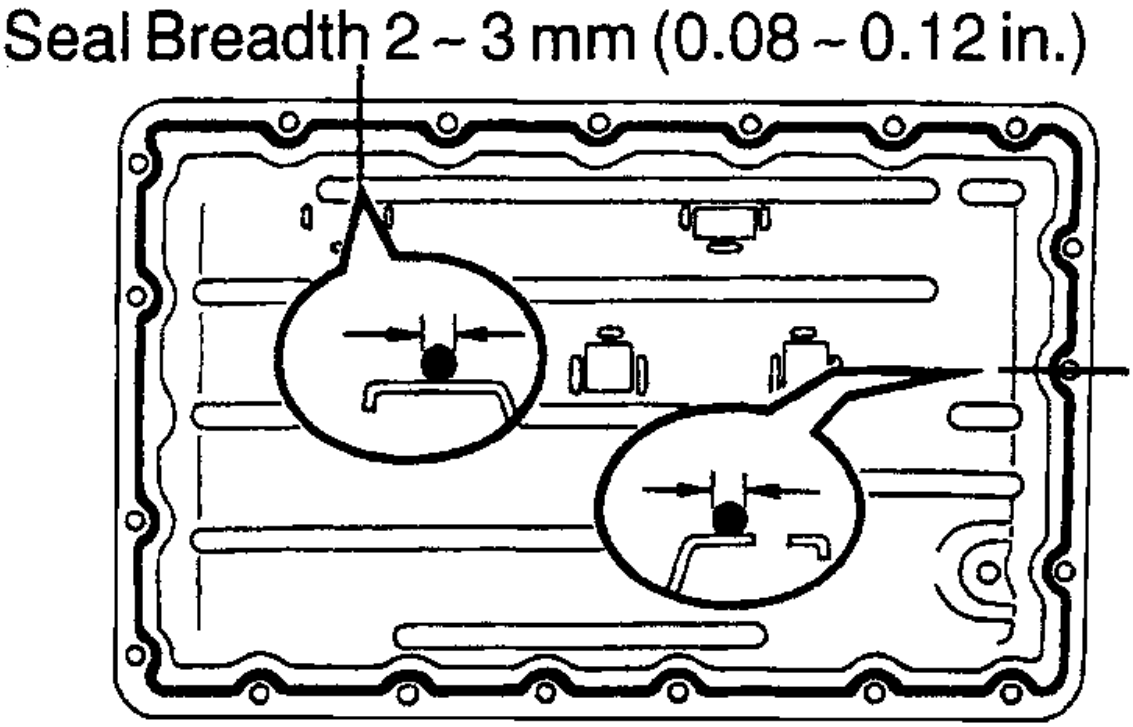


**Fig. 13: Installing Bead Of Sealer To Transmission Oil Pan**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

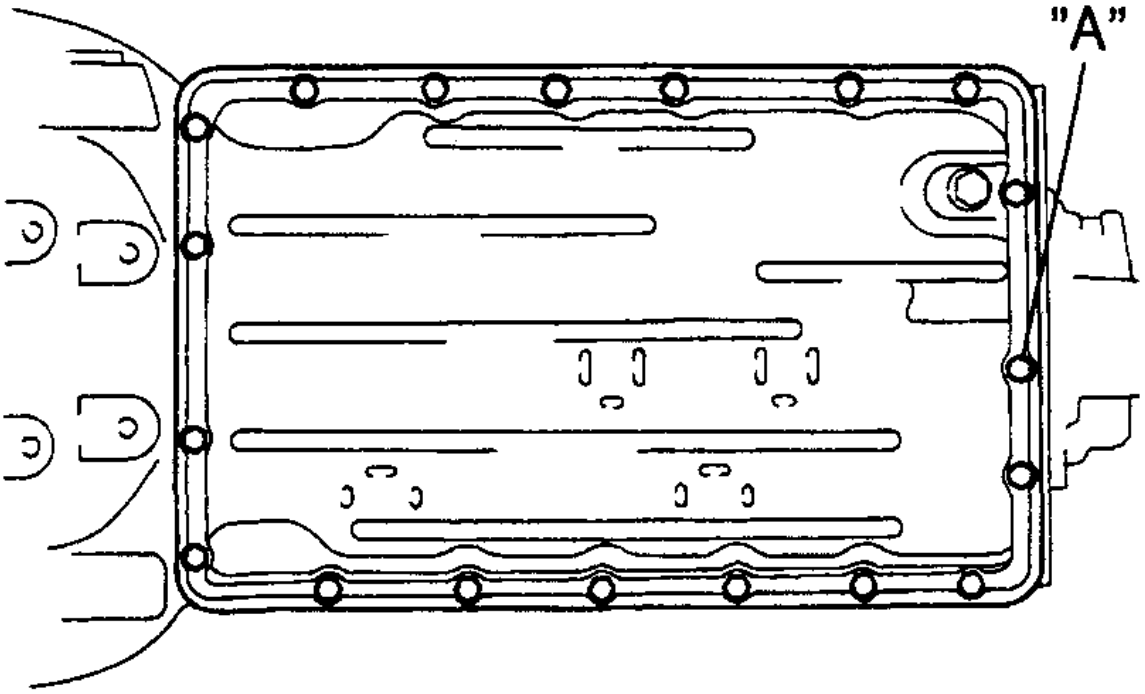


**Fig. 14: Replacing Bolt Marked ("A") On Transmission Oil Pan**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

### Transfer Case

Raise and support vehicle. Remove the transfer case protector plate. Remove drain plug and drain fluid. Install drain plug and tighten to specification. See **Fig. 7** . Remove filler plug and fill to specification. See **FLUID CAPACITIES** Install protector plate.

## ON-VEHICLE REPAIRS

Various components may be serviced without transmission removal, depending on application. For servicing of these components, see appropriate component under **ADJUSTMENTS** and/or **REMOVAL & INSTALLATION** . For additional information on testing electrical components, see appropriate DIAGNOSIS article.

## ADJUSTMENTS

**WARNING: Vehicles are equipped with Supplemental Inflatable**

**Restraint (SIR) system. When servicing vehicles, use care to avoid accidental air bag deployment. SIR system-related components are located in various locations throughout interior and exterior of vehicles, depending on application. Do not use electrical test equipment on or near these circuits. If necessary, deactivate SIR system before servicing components. See appropriate AIR BAG DEACTIVATION PROCEDURES article in GENERAL INFORMATION.**

## CONTROL SHAFT LEVER

Loosen nut on control rod. See **Fig. 15** . Push control rod fully rearward. Return transmission control shaft 2 notches to Neutral position. Place gearshift lever in Neutral. Hold gearshift lever lightly toward Reverse position, and tighten control rod nut to 115 INCH lbs. (13 N.m). Start engine and ensure adjustment is correct.

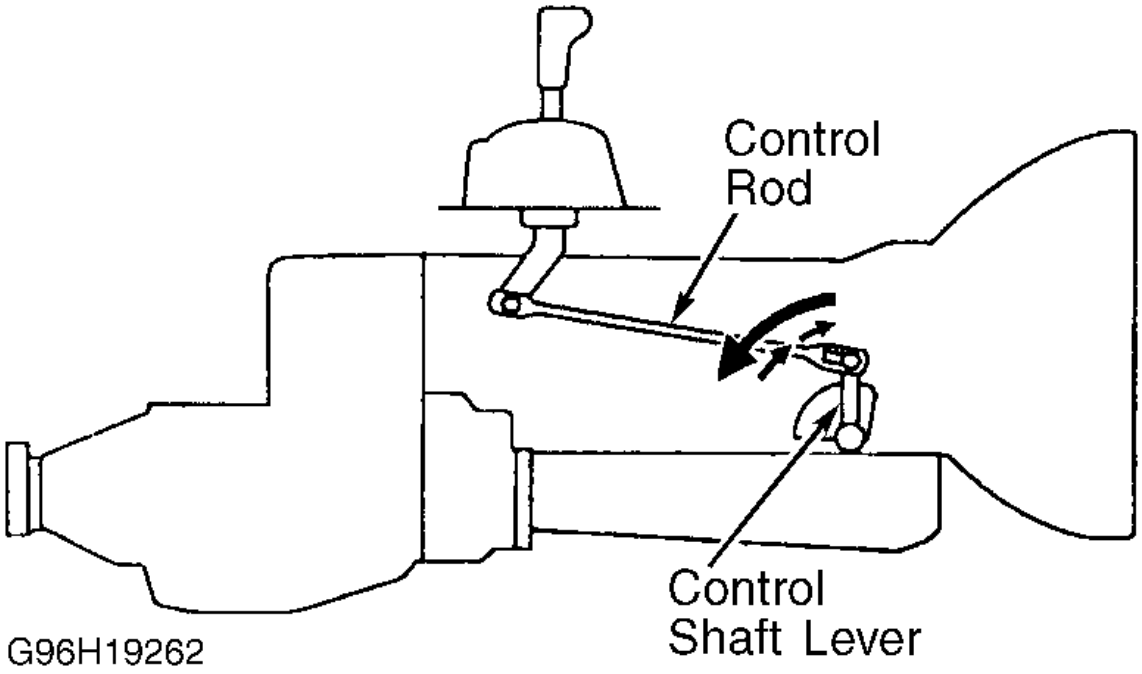


**Fig. 15: Adjusting Control Shaft Lever (LX470)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

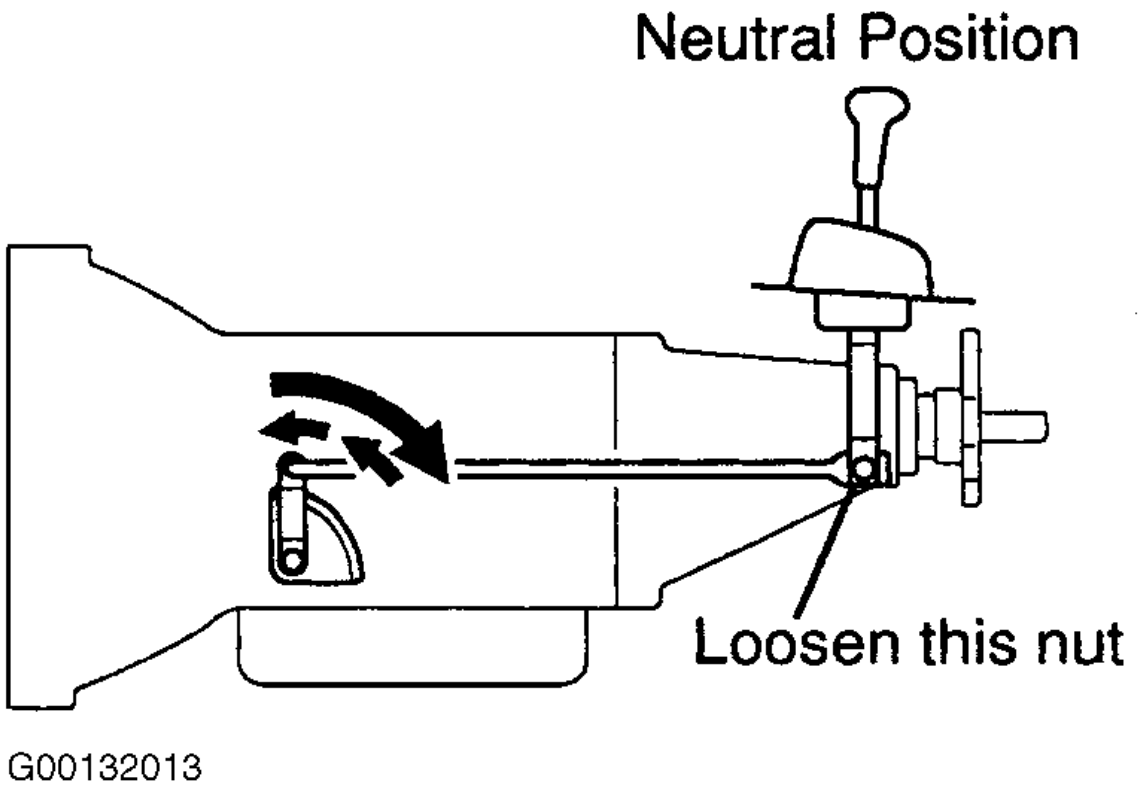


**Fig. 16: Adjusting Control Shift Lever (Except LX470)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## PARK/NEUTRAL POSITION SWITCH

If vehicle starts in positions other than Neutral and Park, adjust PNP switch. Loosen PNP switch bolt and set shift lever in "N" position. Align groove and neutral base line on PNP switch. See **Fig. 17** or **Fig. 18** . Hold switch in position and tighten bolt to 48 INCH lbs. (5.4 N.m) on ES300, RX300 and SC430, or 115 INCH lbs. (13 N.m) on all other models.

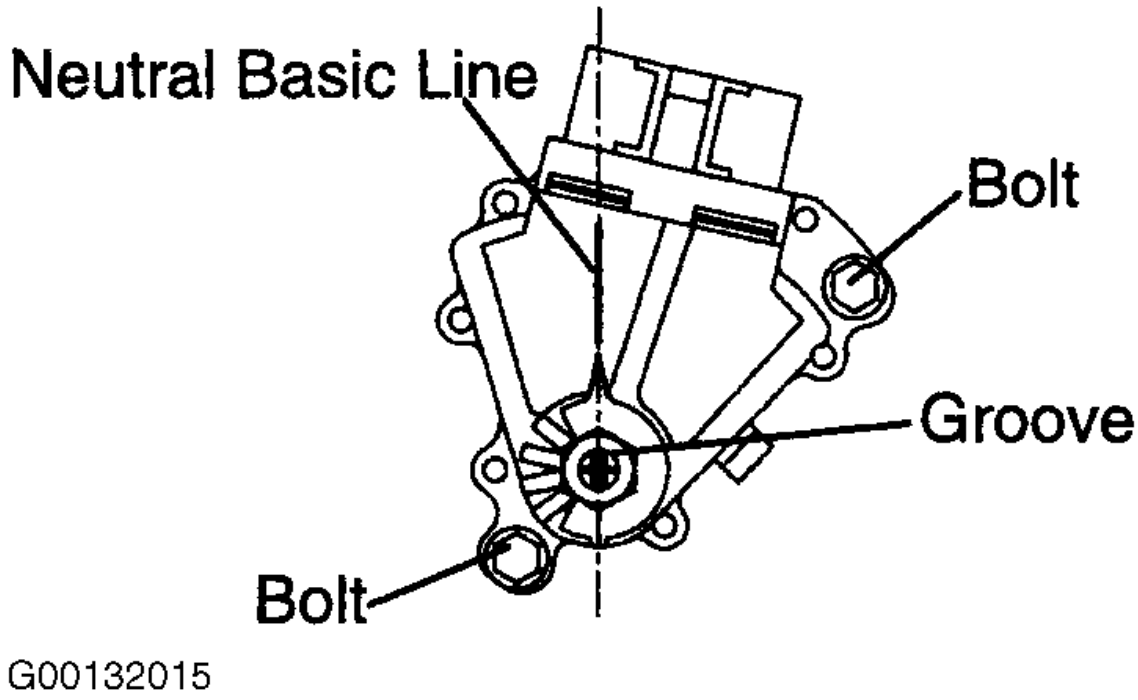


**Fig. 17: Adjusting PNP Switch**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

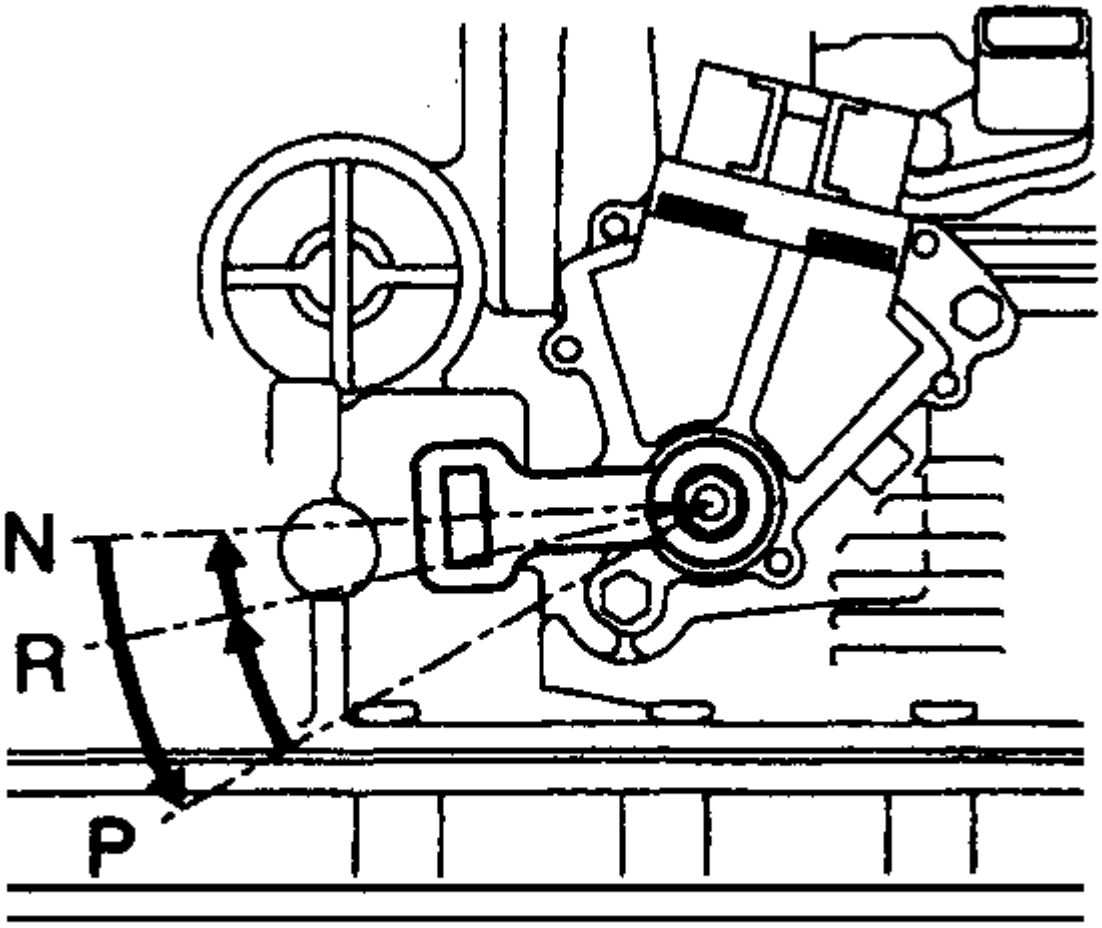


**Fig. 18: Adjusting PNP Switch Lever Assembly (U-140 Series)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## SHIFT CONTROL CABLE

Loosen swivel nut on transmission shift lever linkage under vehicle. Rotate shift lever on transmission fully to rear. Return lever 2 notches to the Neutral position. Place gearshift lever in the Neutral position. With gearshift lever in the Neutral position, lightly hold lever toward the Reverse position, and tighten swivel nut on transmission shift lever. See **Fig. 19** .

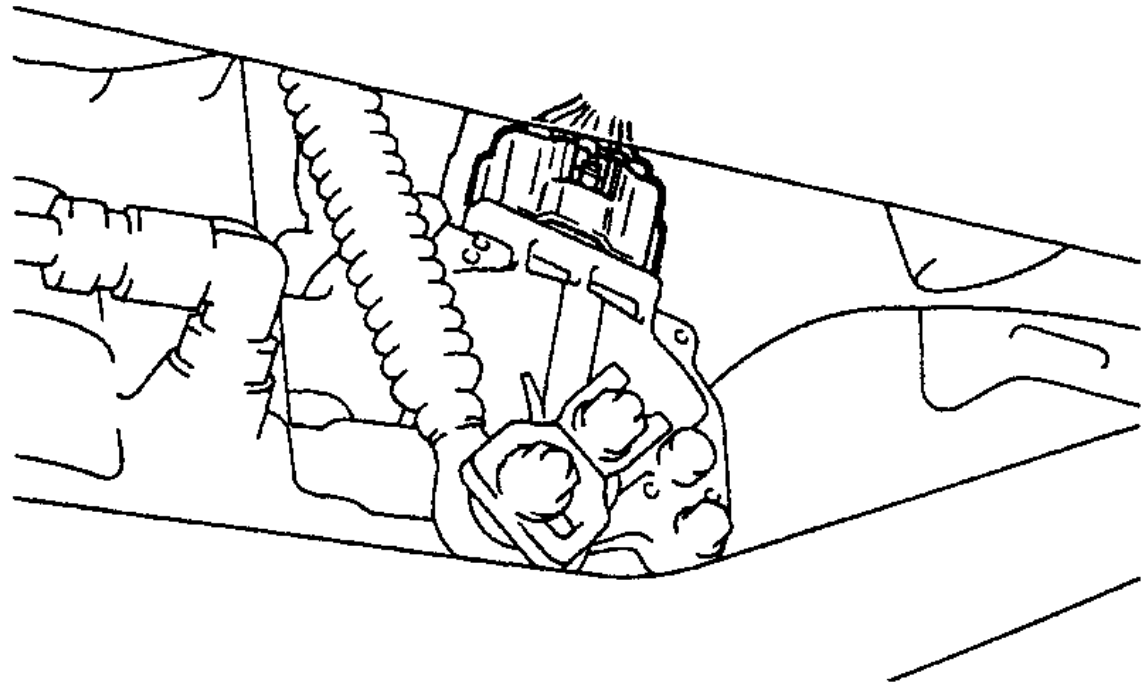

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**Fig. 19: Adjusting Shift Control Cable**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## REMOVAL & INSTALLATION

**WARNING: Vehicles are equipped with Supplemental Inflatable Restraint (SIR) system. When servicing vehicles, use care to avoid accidental air bag deployment. SIR system-related components are located in various locations throughout interior and exterior of vehicles, depending on application. Do not use electrical test equipment on or near these circuits. If necessary, deactivate SIR system before servicing components. See appropriate AIR BAG DEACTIVATION PROCEDURES article in GENERAL INFORMATION.**

**CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have**

**completed a relearn cycle. Before disconnecting battery, see appropriate COMPUTER RELEARN PROCEDURES article in GENERAL INFORMATION.**

## PARK/NEUTRAL POSITION SWITCH

### Removal

Remove front exhaust pipe (depending on model). Disconnect PNP switch connector. Remove the nut and control shaft lever. Remove the bolt and remove the PNP switch. See **Fig. 20** .

### Installation

Install the PNP switch and bolt. Install a NEW lock washer and the nut. Tighten to specification. See **TORQUE SPECIFICATIONS** . Stake the nut with the lock washer. Install the control shaft lever and nut. Tighten lever nut to specification. Install front exhaust pipe.

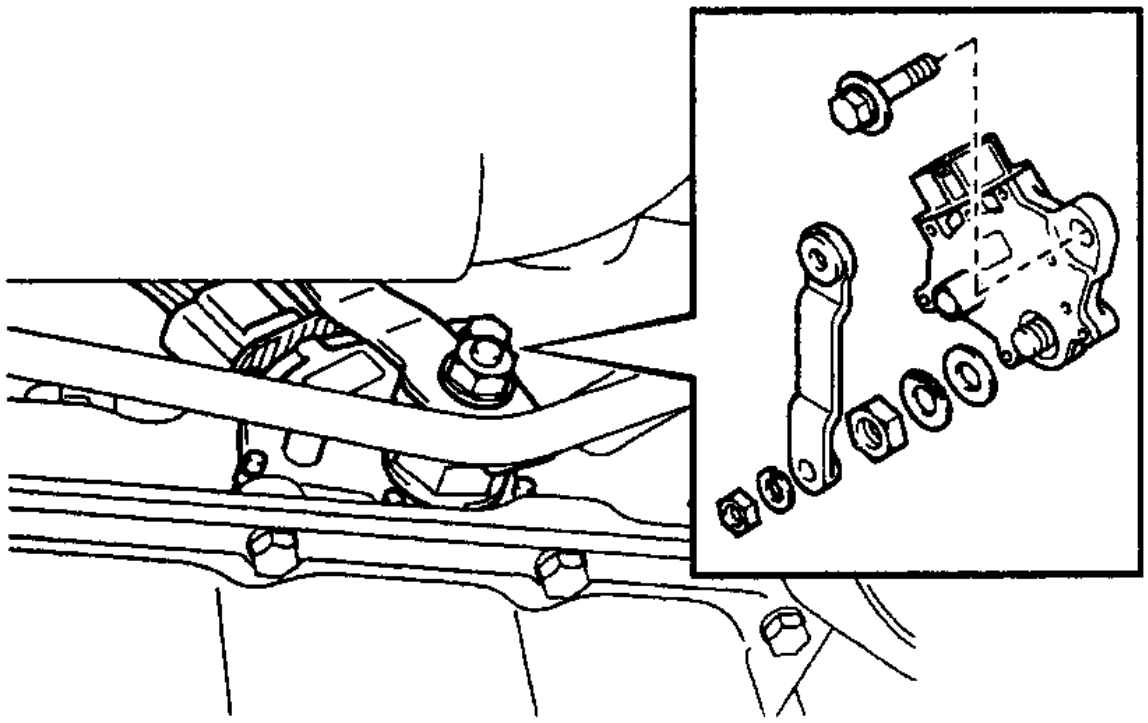

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**Fig. 20: Removing & Installing PNP Switch Assembly**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## TRANSMISSION FLUID TEMPERATURE SENSOR (A-343F)

### Removal & Installation

Remove engine cover No. 2. Disconnect ATF temperature sensor wiring connector. See **Fig. 21** . Remove the ATF temperature sensor. Remove the "O" ring. To install, coat a NEW "O" ring with ATF and install onto the sensor. Install the sensor into the transmission. Install and tighten the bolt to specification. See **TORQUE SPECIFICATIONS** . Install engine cover No. 2.

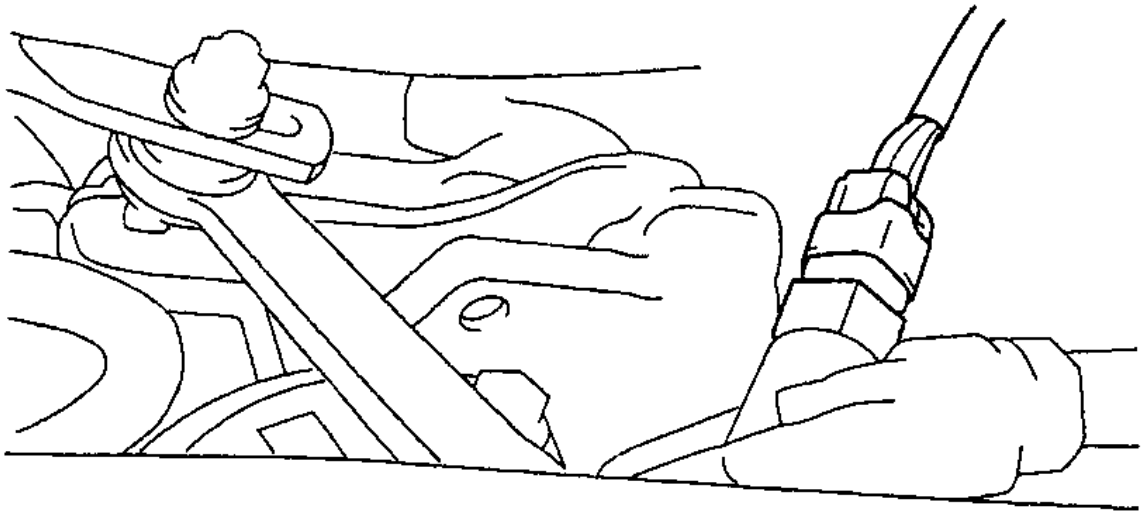

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**Fig. 21: Removing & Installing ATF Temperature Sensor (A-650E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## TRANSMISSION FLUID TEMPERATURE SENSOR (A-343F & A-650E - EXCEPT LX470)

### Removal

1. Raise and support the vehicle. Remove the oil pan. See **DRAINING & REFILLING** .
2. Disconnect the ATF temperature sensor. Remove the bolt and the clamp.

Disconnect the 7 connectors from the solenoids.

3. Remove the bolt and pull out the solenoid wiring connector. Remove the sensor bolt and the sensor.

### Installation

1. Install the sensor and the solenoid wiring connector and bolt. Tighten to specification. See **TORQUE SPECIFICATIONS** .
2. Install the 7 connectors to the solenoid. Install the clamp with the bolt and tighten to specification.
3. Install the connector to the ATF temperature sensor. Install the oil pan. See **DRAINING & REFILLING** under LUBRICATION.

## TRANSMISSION FLUID TEMPERATURE SENSOR & HARNESS (U-140E, U-140F & U-150E)

### Removal

1. Raise and support vehicle. Drain fluid. Remove oil pan. See **DRAINING & REFILLING** .
2. Disconnect the 7 shift solenoid connectors. See **Fig. 22** . Remove the bolt and lock plate, and disconnect the ATF temperature sensor.
3. Disconnect the transaxle wire connectors and remove the bolt and the wire. See **Fig. 23** .

### Installation

1. Coat the "O" ring with ATF. See **Fig. 24** . Install the ATF temperature sensor with the lock plate and bolt. Tighten to specification. See **TORQUE SPECIFICATIONS** .
2. Connect the 7 shift solenoid valve connectors. Install the oil pan. See **DRAINING & REFILLING** under LUBRICATION.

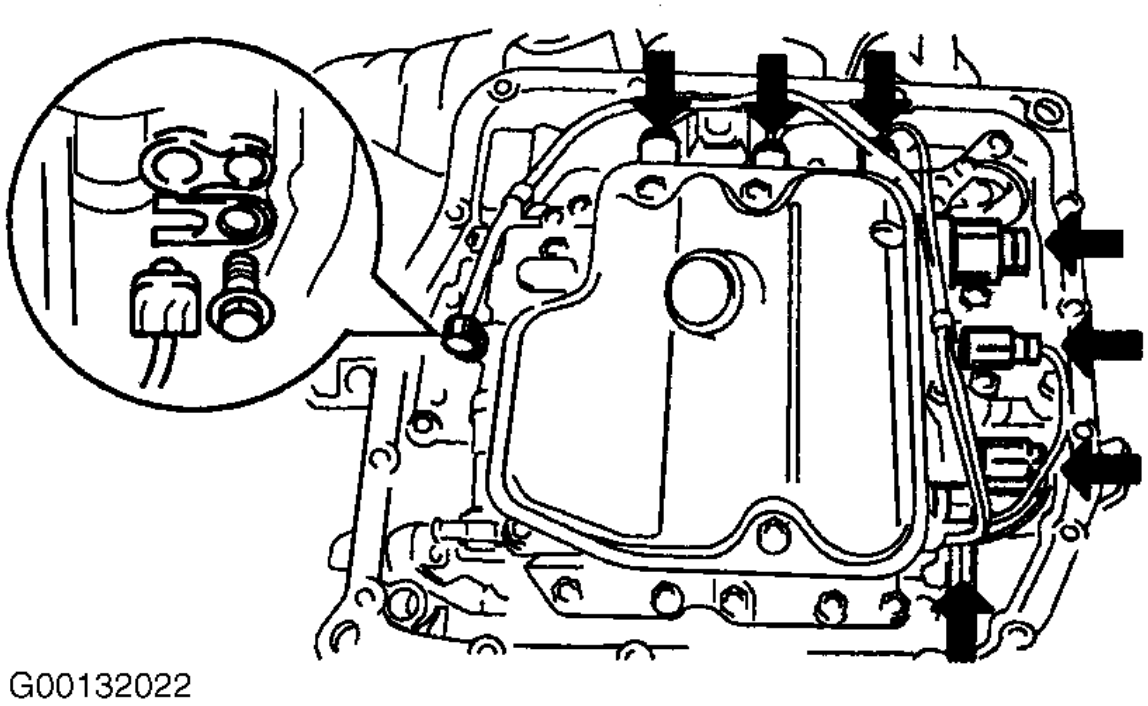


**Fig. 22: Disconnecting Shift Solenoid Connectors (U-140E, U-140F & U-150E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

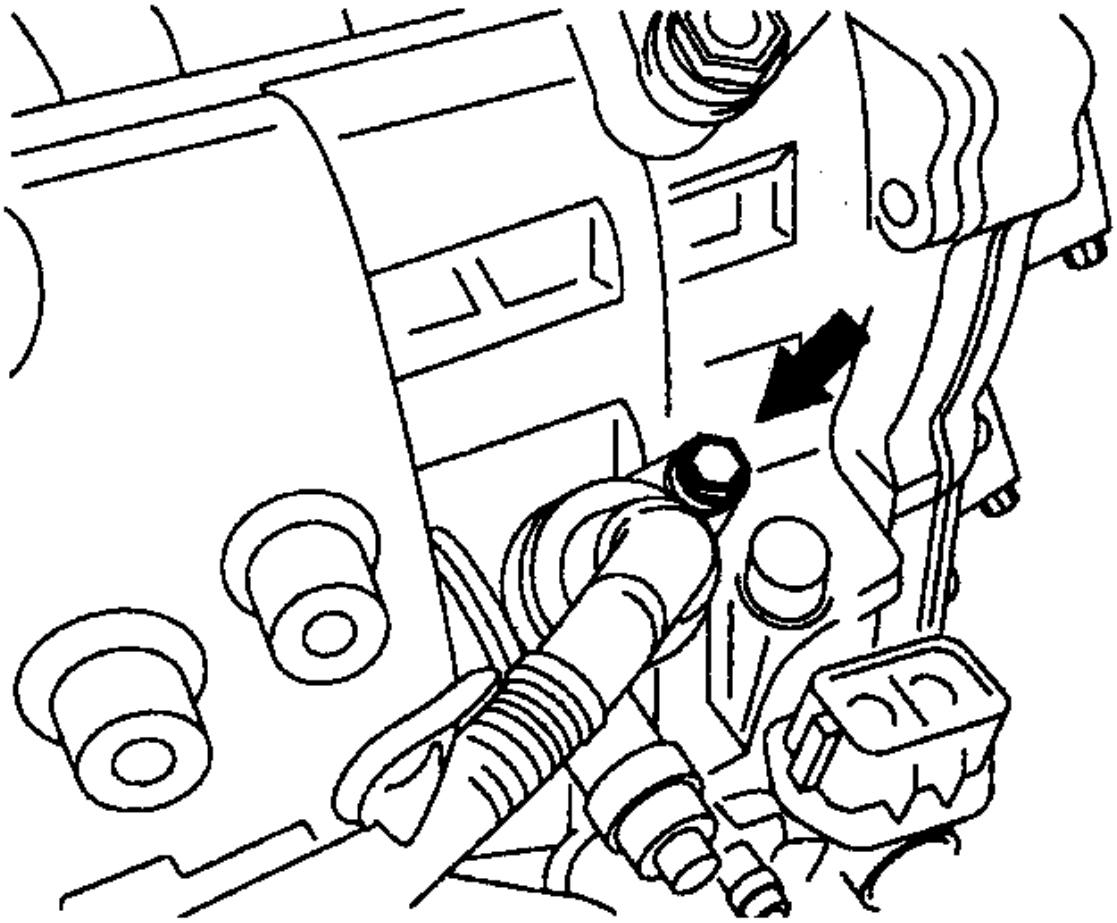

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**Fig. 23: Removing & Installing Transaxle Wiring Harness Bolt (U-140E, U-140F & U-150E)**

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

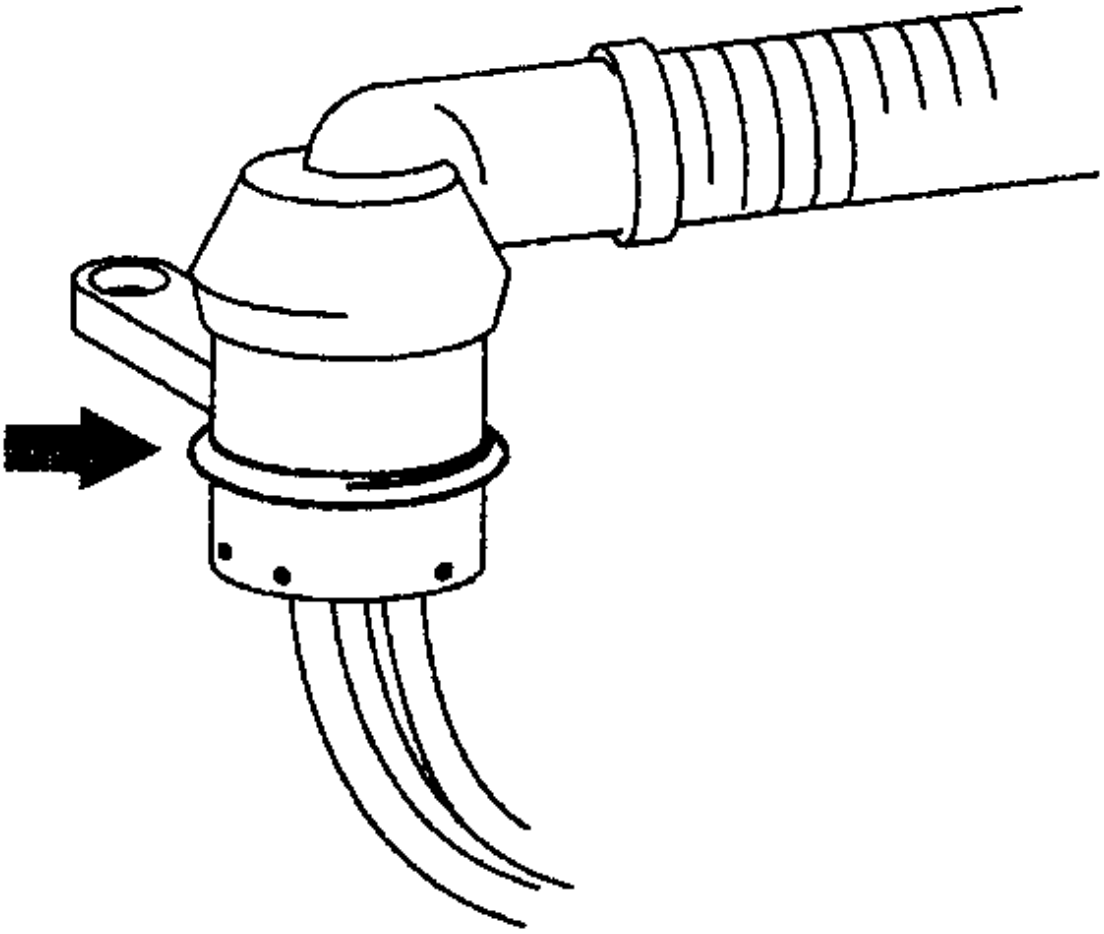



**Fig. 24: Removing & Installing Wiring Harness "O" Ring (U-140E, U-140F & U-150E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## VALVE BODY & SOLENOIDS (A-343F & A-650E)

### Removal

1. Raise and support the vehicle. Remove the oil pan. See **LUBRICATION** . Remove oil filter.
2. Remove the shift solenoid and wiring harness. See **TRANSMISSION FLUID TEMPERATURE SENSOR A-343F & A-650E** .

3. Remove the 21 valve body bolts and lower the valve body being careful not to dislodge the check balls and spring.
4. Remove the 4 bolts and the shift solenoid valves No. 1, 2, 3 and 4. Remove the bolt, lock plate and linear solenoid valve SLN. Remove the 2 "O" rings from shift solenoids No. 2 and 4.
5. Remove the bolt, lock plate and linear solenoid valves SLU and SLT.

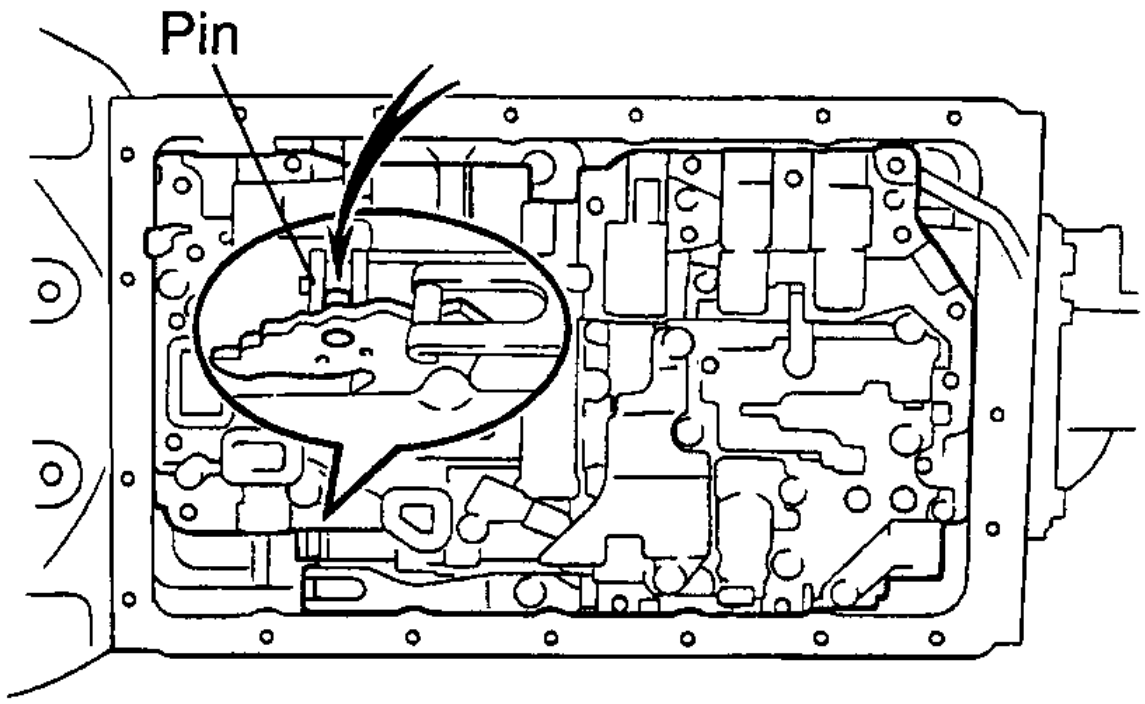



**Fig. 25: Removing & Installing Valve Body Assembly (A-343F & A-650E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

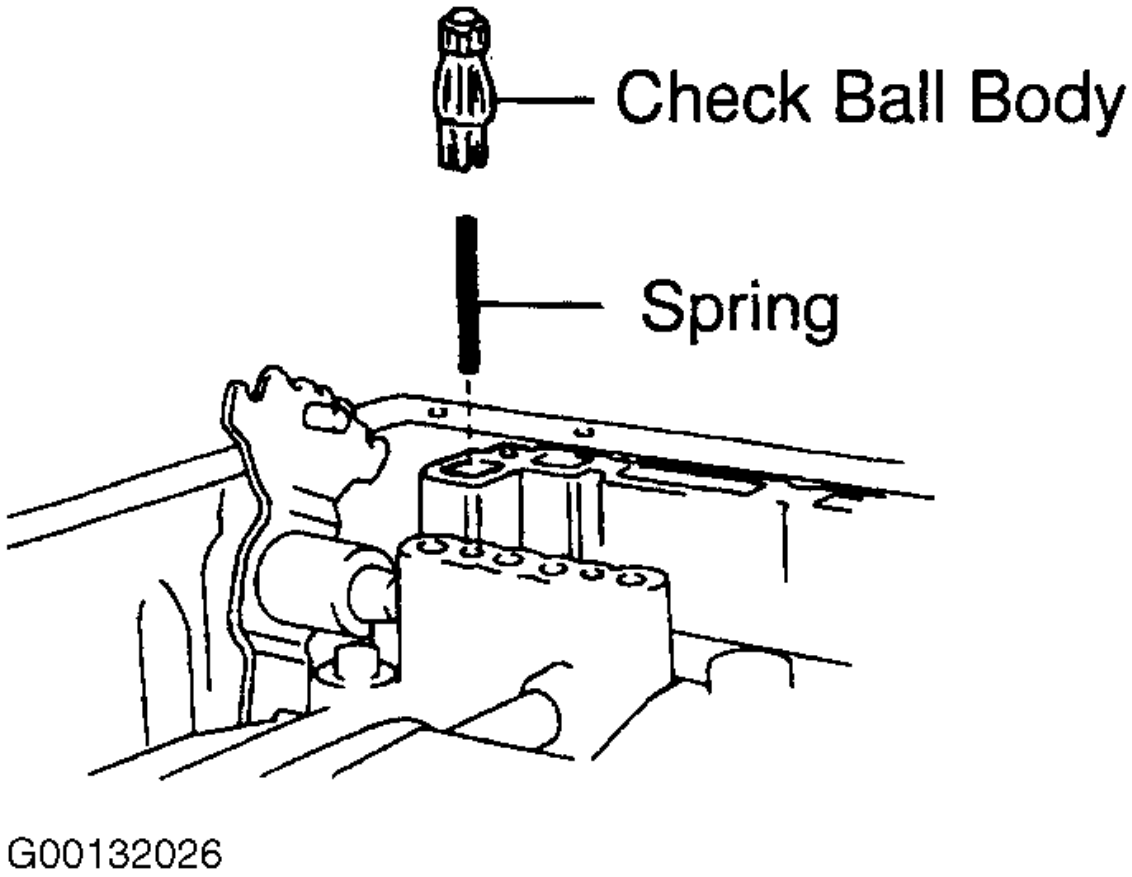



**Fig. 26: Removing & Installing Check Ball body & Spring (A-343F & A-650E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

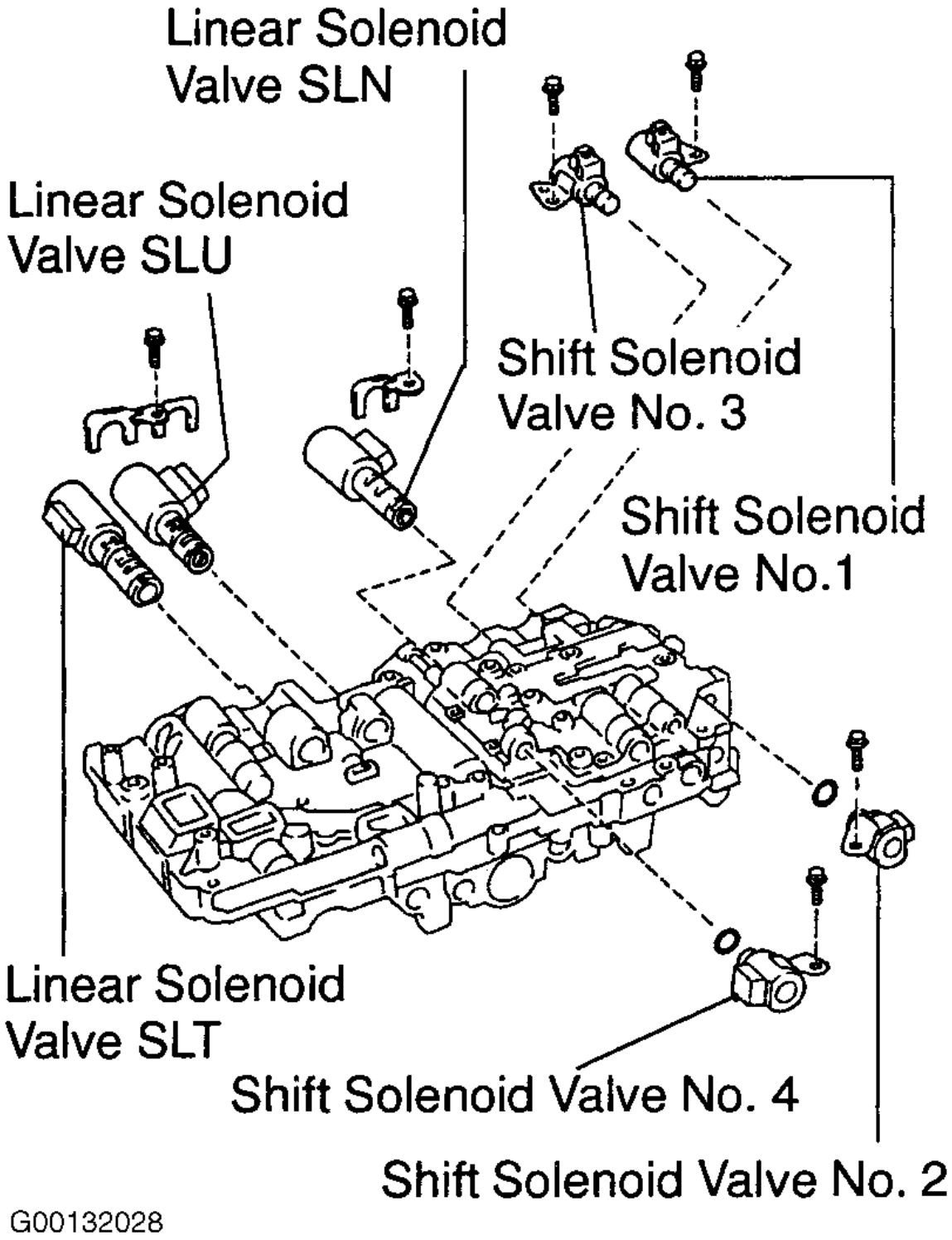
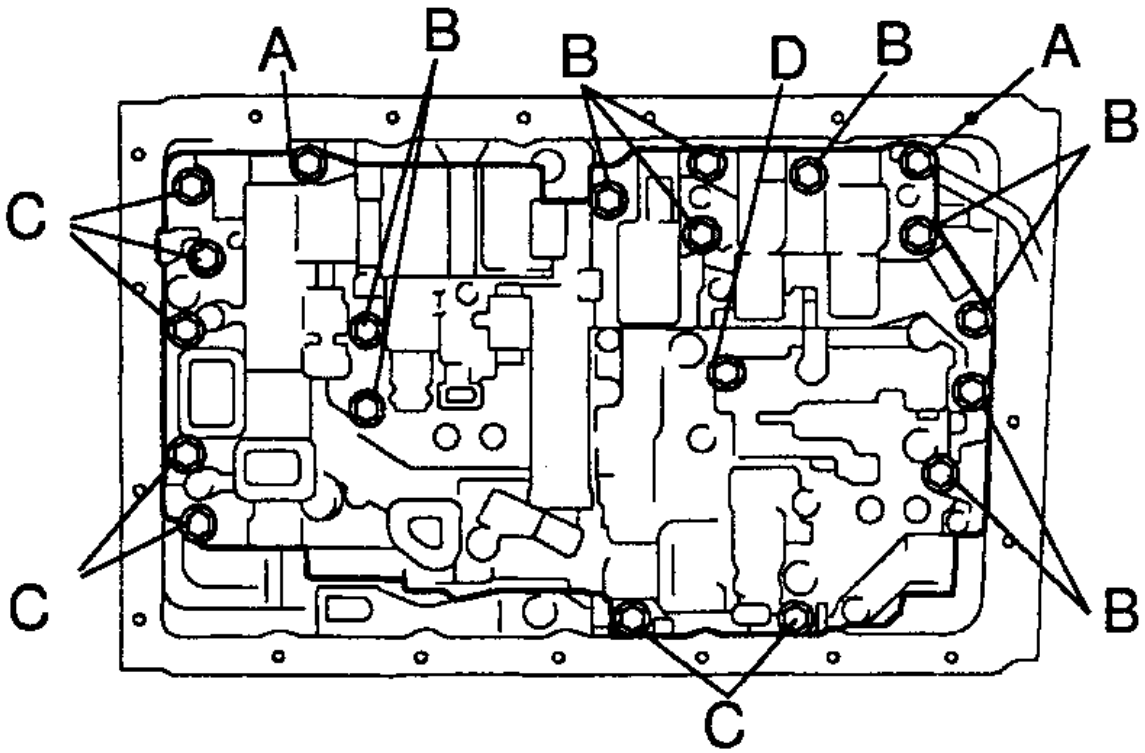



**Fig. 27: Removing & Installing Solenoids In Valve Body (A-343F & A-650E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

### Installation

1. Install the linear solenoid valves SLU and SLT and the lock plate with the bolt. Tighten to specification.
2. Coat 2 NEW "O" rings to the shift solenoid valve No. 2 and 4. Install the linear solenoid valve SLN with the bolt. Tighten to specification. See **TORQUE SPECIFICATIONS** .
3. Install the shift solenoid valves No. 1, 2, 3, and No. 4 with the 4 bolts. Tighten all solenoid bolts to specification. Install valve body being careful to align the groove of the manual valve to the pin of the lever. See **Fig. 25** . Install the 21 bolts and tighten to specification. See **Fig. 28** . Install oil filter and oil pan. See **DRAINING & REFILLING** .




A: 0.91" (23 mm)
B: 1.10" (28 mm)
C: 1.42" (36 mm)
D: 2.17" (55 mm)

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**Fig. 28: Removing & Installing Valve Body & Lengths & Locations Of Bolts (A-343F & A-650E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

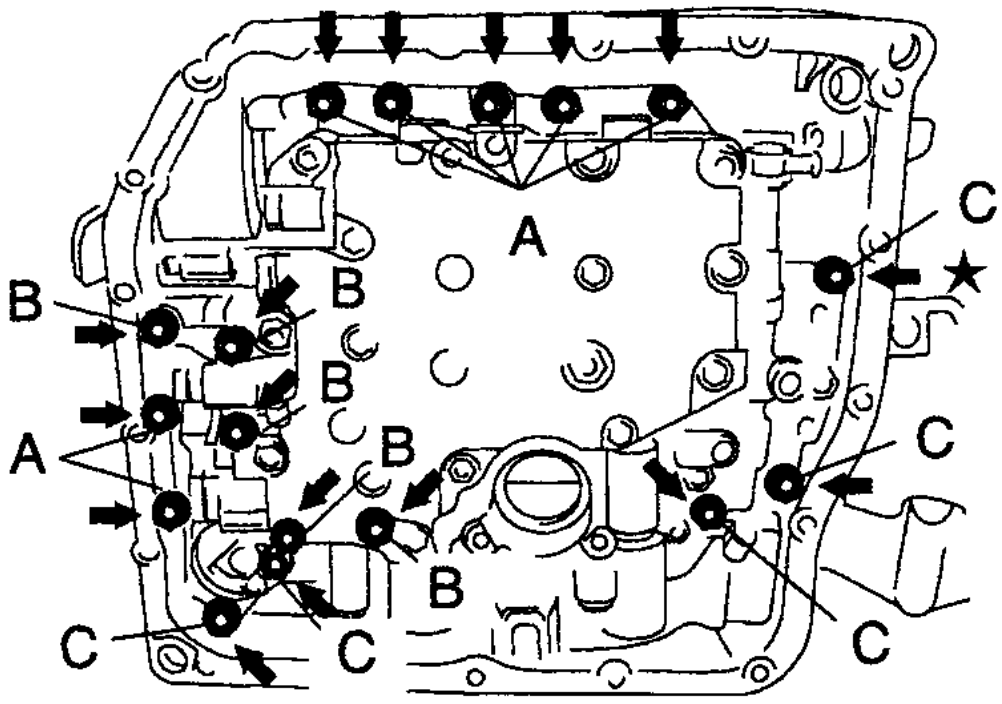
## VALVE BODY & SOLENOIDS (U-140E, U-140F & U-150E)

### Removal

1. Raise and support the vehicle. Remove the engine under cover. Remove the oil pan. See **DRAINING & REFILLING** . Remove oil filter.
2. Disconnect the shift solenoid valve connectors. Remove the ATF lock plate and remove the ATF temperature sensor. Remove the 17 valve body bolts and valve body being careful not to drop the check valve body, spring or accumulator. See **Fig. 29** or **Fig. 30** .
3. Remove the check valve body and spring. See **Fig. 31** or **Fig. 32** . Remove the apply gaskets. See **Fig. 33** . Remove the bolts and all the shift solenoids. See **Fig. 34** or **Fig. 35** .

### Installation

1. Install all the shift solenoids and the bolts into the valve body. See **Fig. 34** or **Fig. 35** . Tighten to specification. See **TORQUE SPECIFICATIONS** .
2. Coat NEW apply gaskets with ATF. Install apply gaskets to the case. Install spring and check valve body. See **Fig. 31** or **Fig. 32** .
3. Tighten all bolts to specification. See **TORQUE SPECIFICATIONS** .
4. Align the groove of the manual valve with the pin of lever. Install the 17 valve body bolts, by correct length, and install the valve body. See **Fig. 29** and **Fig. 30** .
5. Install oil filter and oil pan. See **DRAINING & REFILLING** .




NOTE:
Push the valve body against the accumulator piston spring and the check ball body to install it.
Tighten those bolts marked by ★ in the illustration first temporarily because they are positioning bolts.

A: 0.984" (25 mm)
B: 2.244" (57 mm)
C: 1.614" (41 mm)

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**Fig. 29: Removing & Installing Valve Body & Lengths & Locations Of Bolts (U-150E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

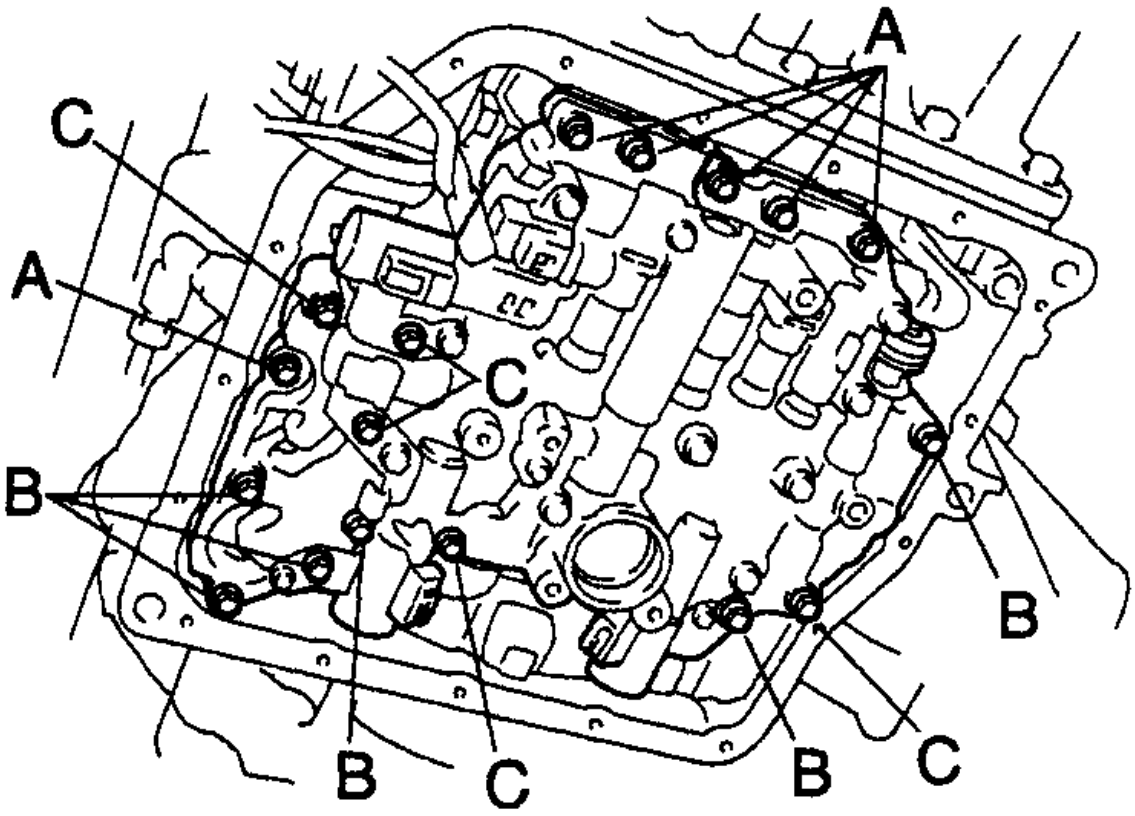


**Fig. 30: Removing & Installing Valve Body & Lengths & Locations Of Bolts (U-140 Series)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

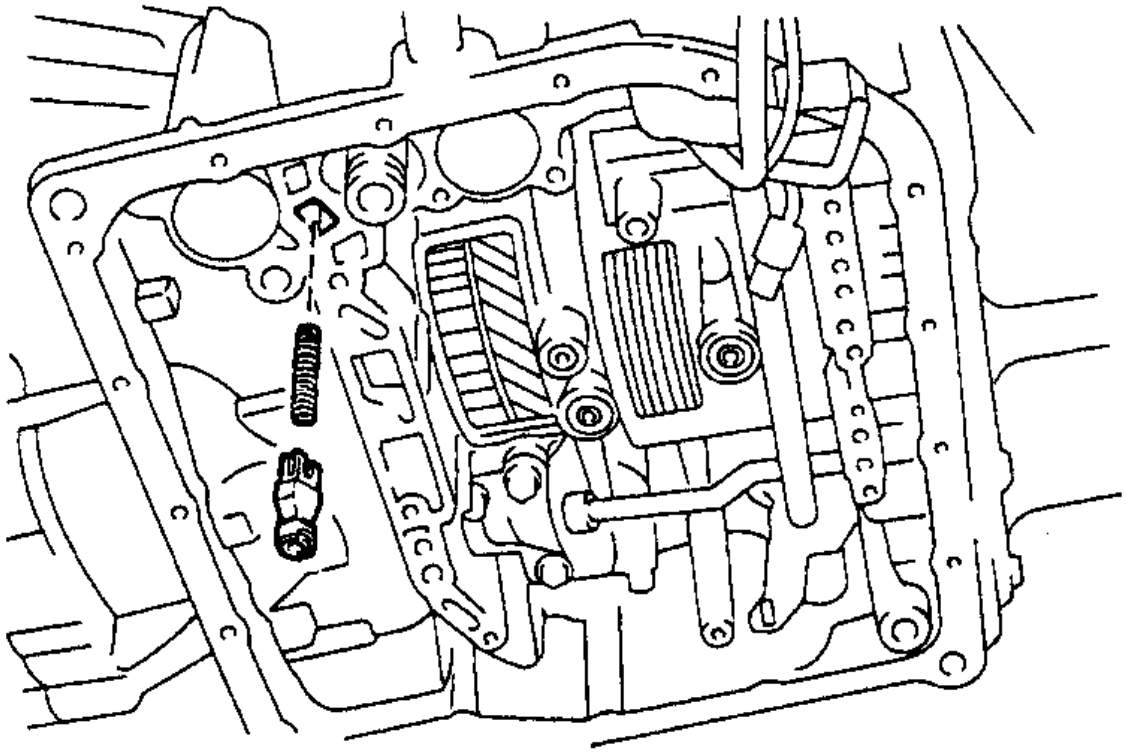

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**Fig. 31: Removing & Installing Check Valve Body Ball & Spring (U-140 Series)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

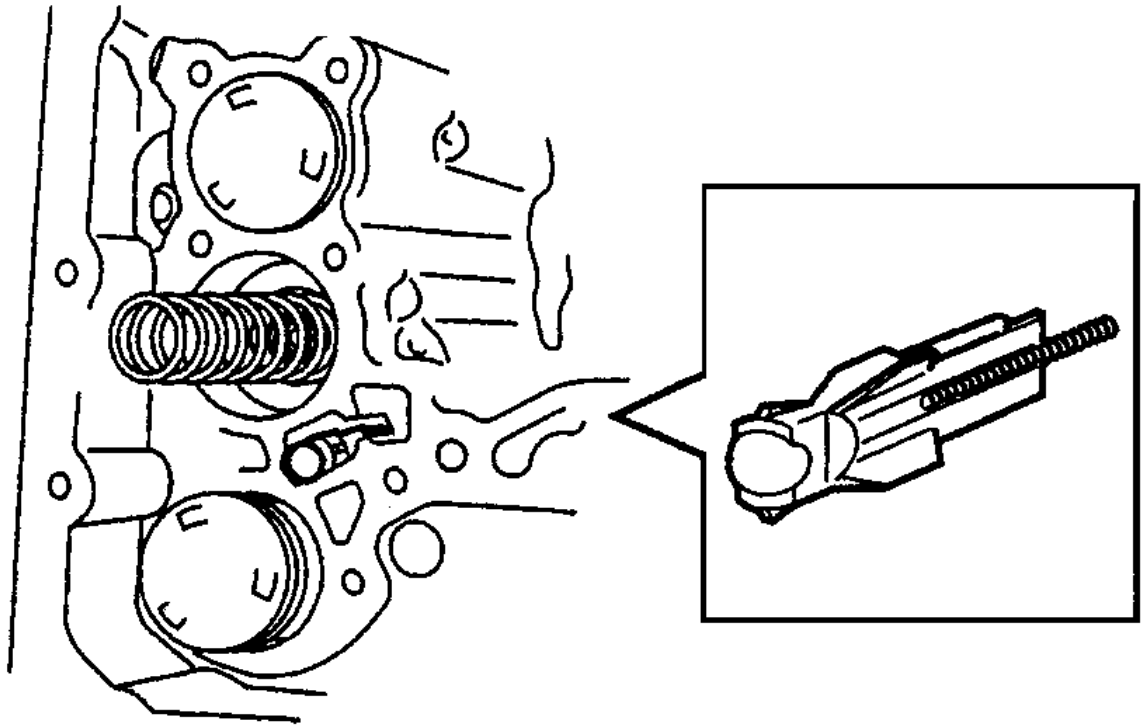


**Fig. 32: Removing & Installing Check Valve Body Ball & Spring (U-150E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

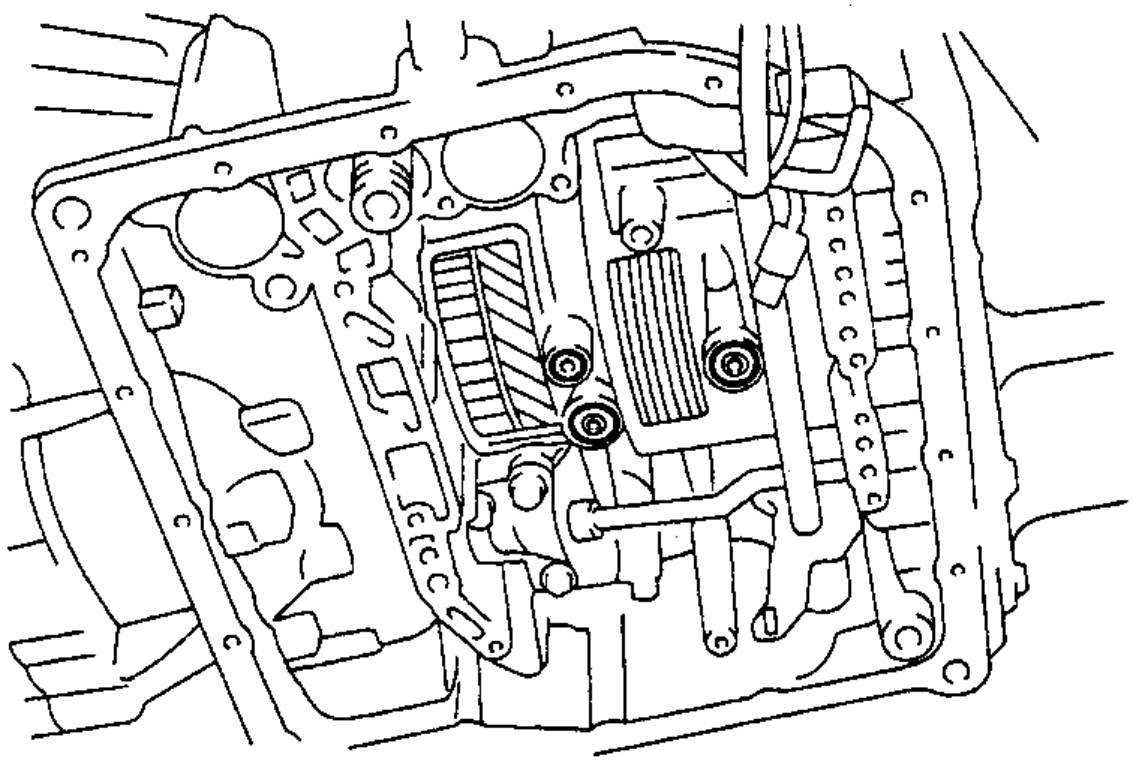

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**Fig. 33: Removing & Installing Apply Gaskets (U-140 Series)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

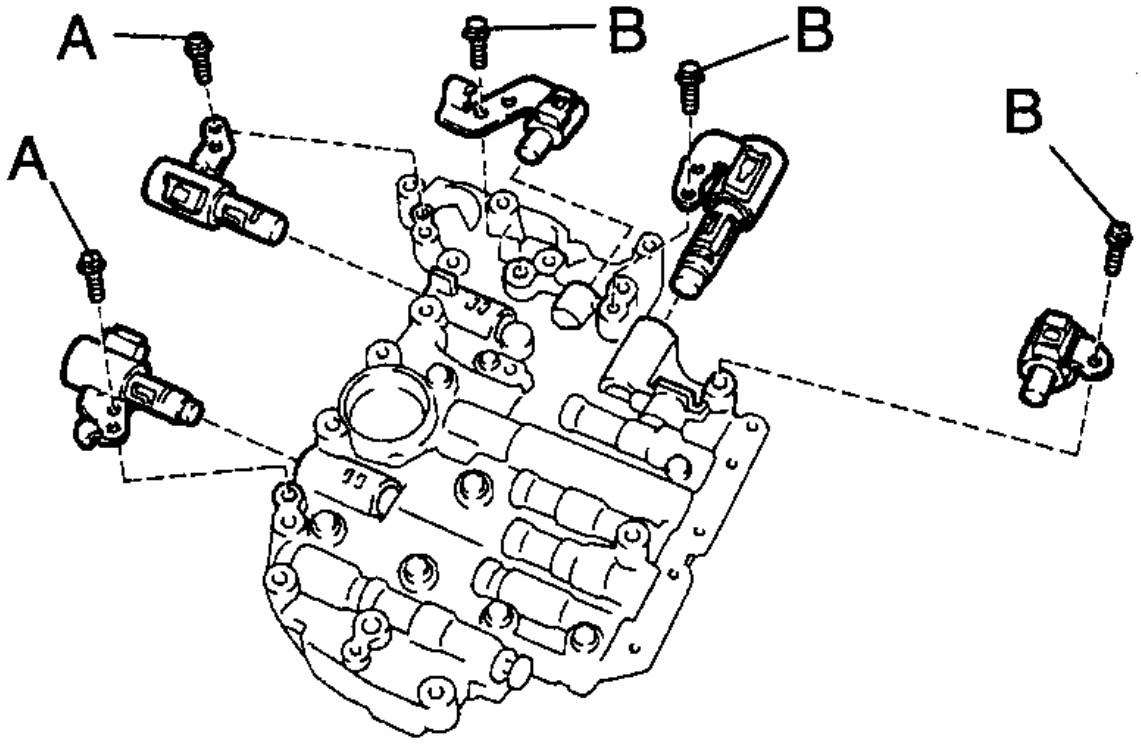
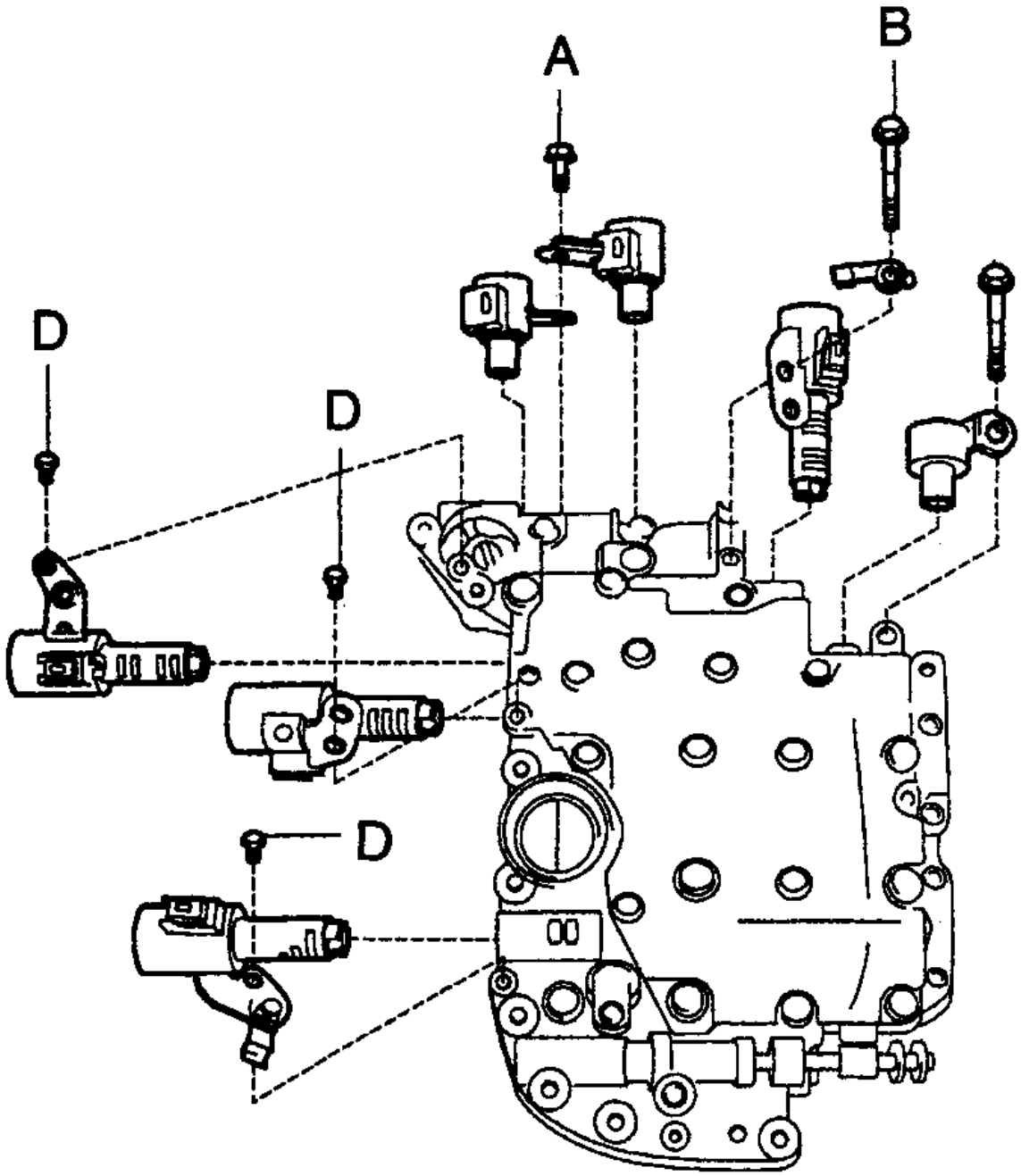



**Fig. 34: Removing & Installing Shift Solenoids (U-140 Series)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**




A: 0.63" (16 mm)
B: 2.2" (57 mm)
C: 0.47" (12 mm)

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**Fig. 35: Removing & Installing Shift Solenoids (U-150E)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## VEHICLE SPEED SENSORS (A-343F & A-650E)

### Removal & Installation

Remove VSS wiring harness connector and retaining bolt. See **Fig. 36** or **Fig. 38** . Remove the VSS assembly and remove the "O" ring and discard. Remove the driven gear and clip from the sleeve. See **Fig. 37** or **Fig. 39** . Assemble the driven gear and clip into the sleeve. Coat a NEW "O" ring with ATF and install onto sleeve. Install the assembly into the transmission and install the connector. See **Fig. 39** .

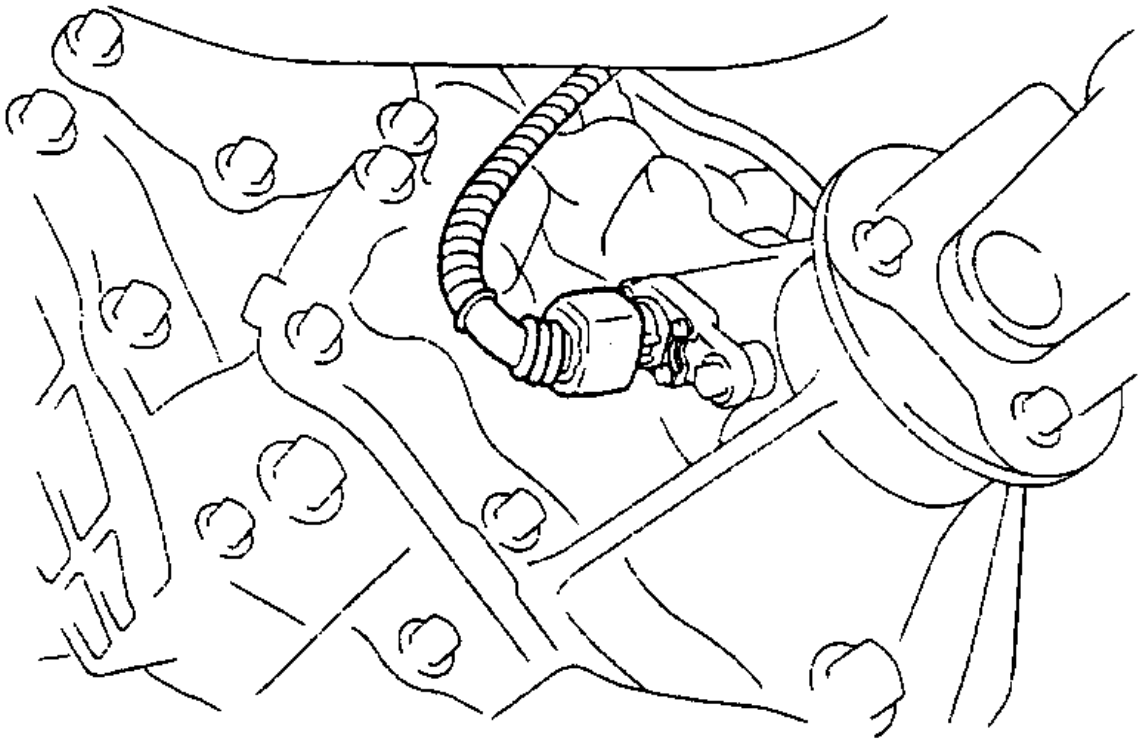


**Fig. 36: Locating VSS No. 1 Connector**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

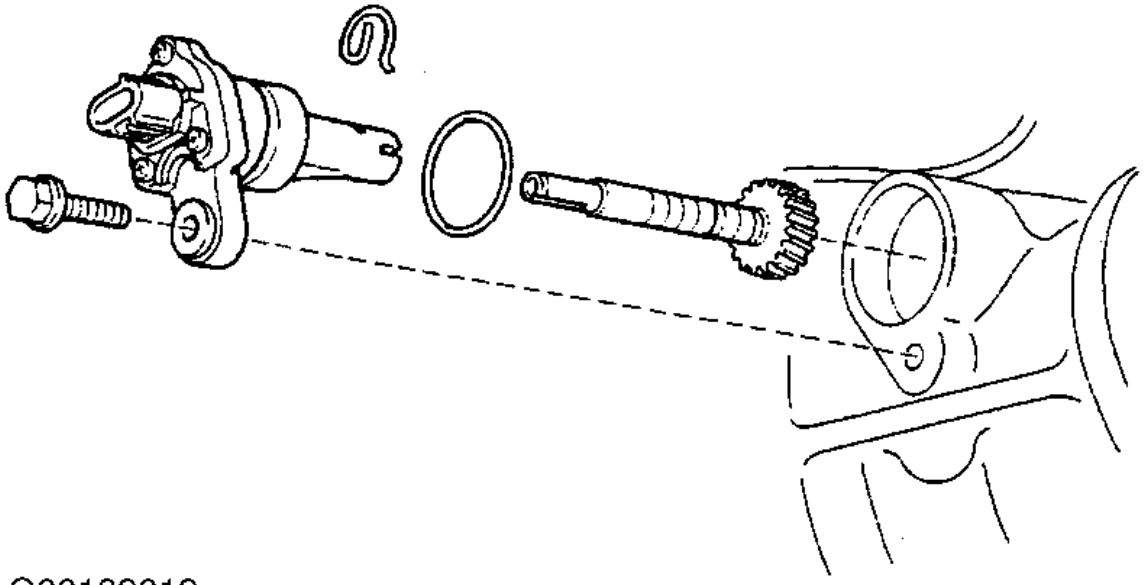


**Fig. 37: Removing & Installing VSS No. 1**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

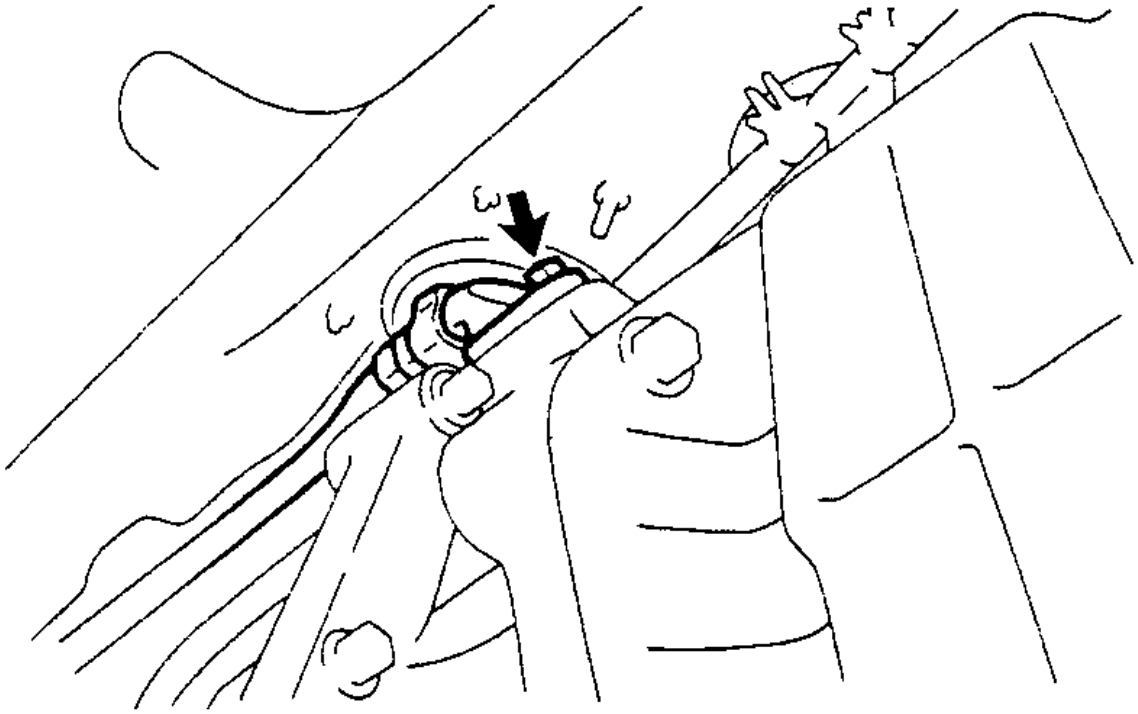

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**Fig. 38: Locating VSS No. 2 & Retaining Bolt**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

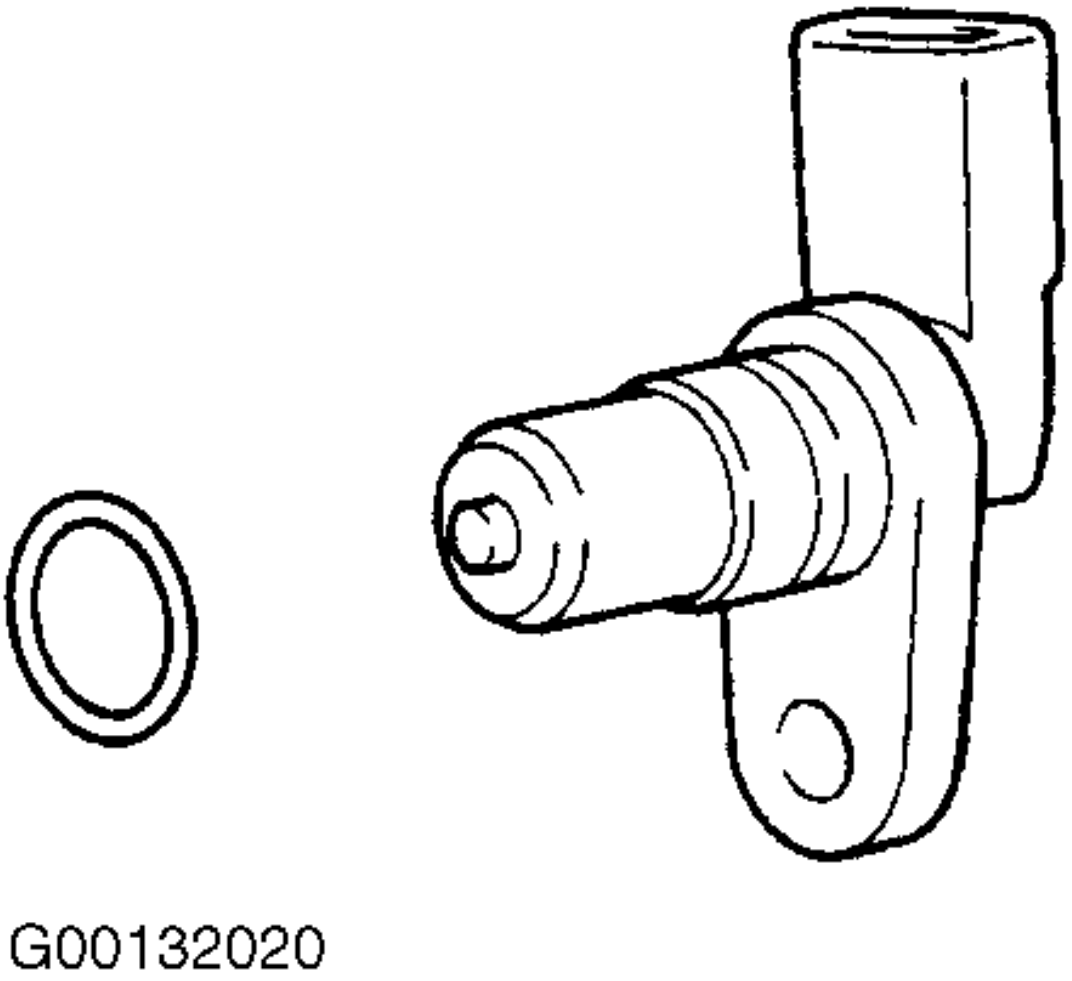



**Fig. 39: Removing & Installing VSS No. 2**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

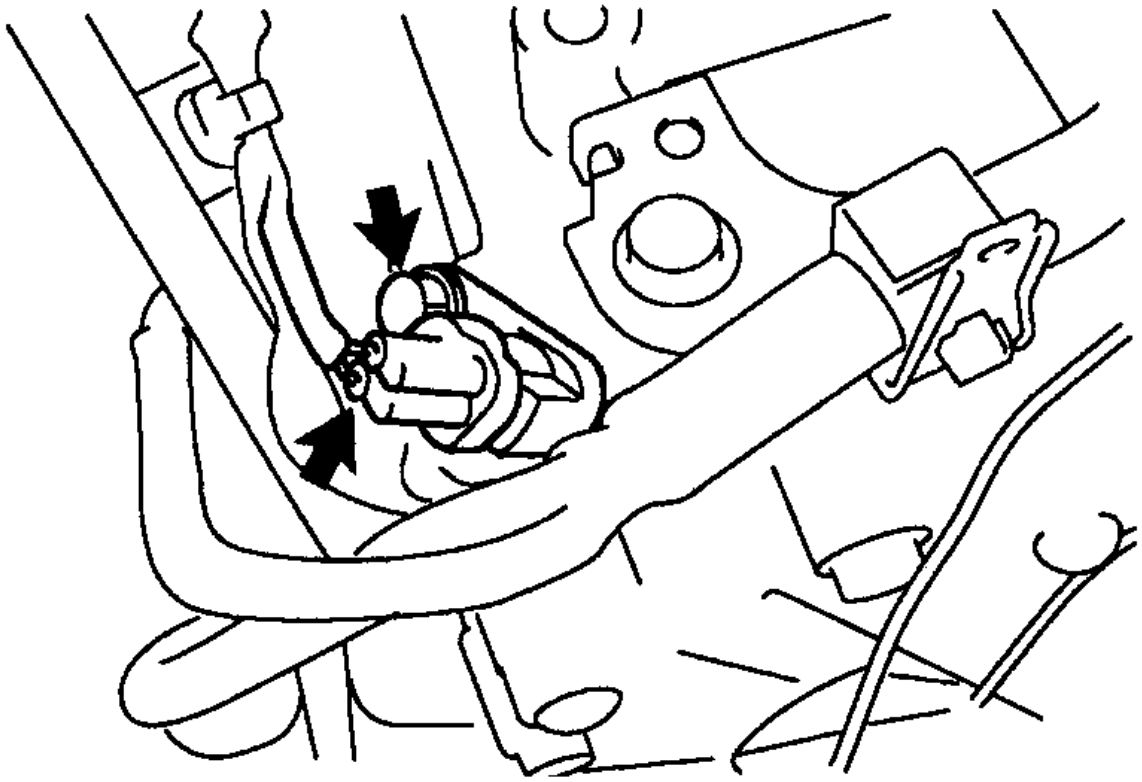
### VEHICLE SPEED SENSORS NT & NC (U-140E, U-140F & U-150E)

#### Removal

Remove battery, air cleaner and air cleaner hose. Disconnect the speed sensor connector. Remove the bolt and the speed sensor(s). See **Fig. 40** or **Fig. 41** .

#### Installation

Coat NEW "O" ring with ATF. Install speed sensor(s) with bolt. Tighten bolt to specification. See **TORQUE SPECIFICATIONS** . Install the wiring connector, air cleaner hose, air cleaner and battery.



G00132037

**Fig. 40: Removing & Installing Speed Sensor (NT)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

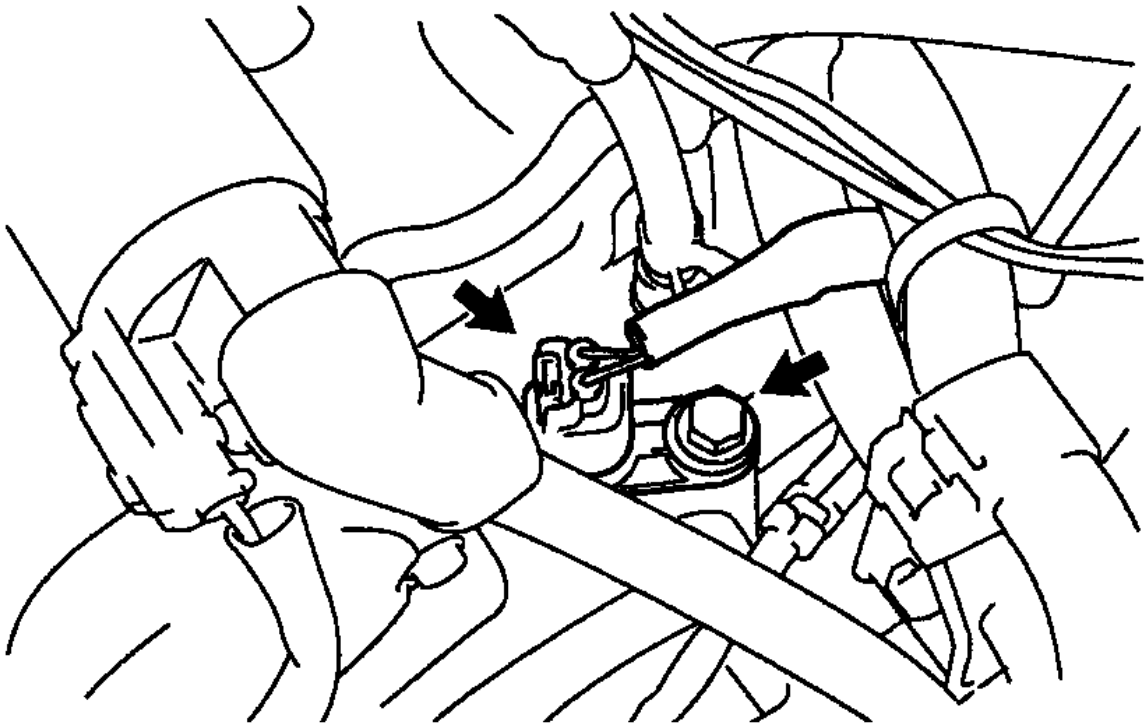



**Fig. 41: Removing & Installing Speed Sensor (NC)**
**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

## TORQUE SPECIFICATIONS

**TORQUE SPECIFICATIONS**

| **Application** | **Ft. Lbs. (N.m)** |
|---|---|
| Control Shaft Lever Nut | 12 (16) |
| Differential Plug | 36 (49) |
| Drain & Fill Plug | |
| ES300 & RX300 | 36 (49) |
| Except ES300 & RX300 | 15 (20) |
| Transfer Case | 27 (37) |
| No. 1 VSS | 12 (16) |
| | **INCH Lbs. (N.m)** |
| ATF Temperature Sensor | 133 (15) |
| Filter Bolt | |
| | |

| | |
|---|---|
| ES300 & RX300 | 97 (11) |
| Except ES300 & RX300 | 89 (10) |
| Internal Wiring Harness Bolt | 58 (6.6) |
| NC & NT Sensor Bolt (U-140 & U-150 Series) | 97 (11) |
| No. 2 Speed Sensor | 48 (5.4) |
| Oil Pan Bolt | |
| ES300 & RX300 | 69 (7.8) |
| Except ES300 & RX300 | 65 (7.4) |
| PNP Switch | |
| Retaining Bolt | 48 (5.4) |
| Lock Nut | 61 (6.9) |
| Shift Lever Nut | 115 (13) |
| Shift Solenoid Valves No. 1 & 3 | 57 (6.4) |
| Shift Solenoid Valves No. 2 & 4 | 89 (10) |
| Shift Solenoid Valves SLT & SLU | 57 (6.4) |
| Valve Body Bolt (Except U-140 & U-150 Series) | 89 (10) |
| Valve Body Bolt (U140 7 U-150 Series) | 97 (11) |