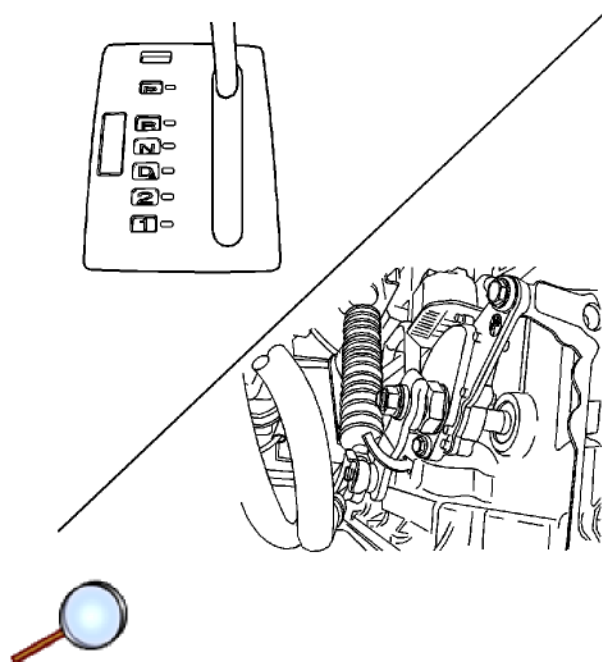


Range Selector Lever Cable Adjustment

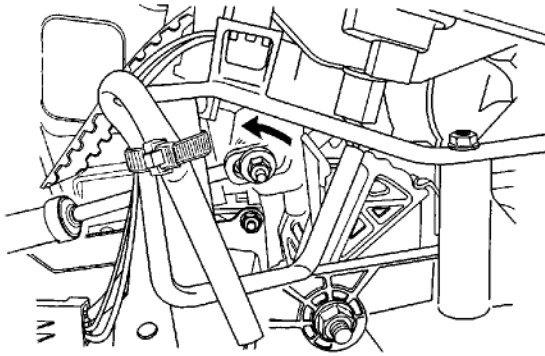
The various shift control cable positions must match at the shift control lever in the vehicle and at the selector lever on the transaxle to provide proper transaxle shifting.

Place the shift control lever in the park (P) position and check the selector lever connection to verify that it is in the forward most position. If it is not, the following adjustment must be performed.

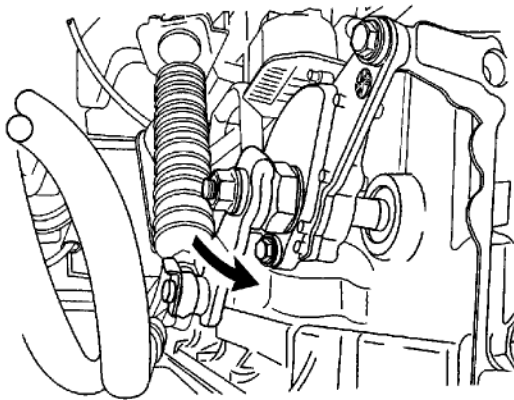
Warning: Refer to [Battery Disconnect Warning](#) in the Preface section.



1. Disconnect the negative battery cable.
2. Remove the trim panel from the floor console. Refer to [Front Floor Console Replacement](#).
3. Place the shift control lever in the park (P) position.

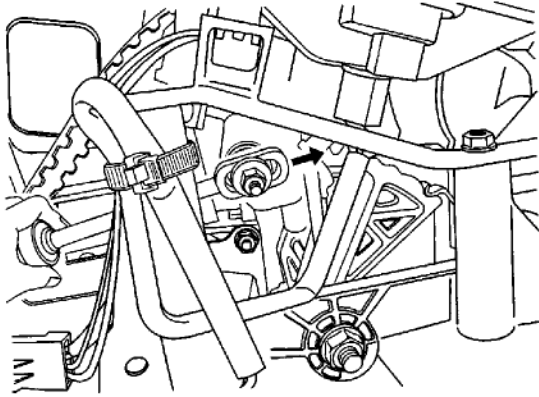


4. Loosen the control cable adjusting nut.



5. Move the park/neutral position (PNP) switch lever counterclockwise until the lever stops.

Caution: Refer to [Fastener Caution](#) in the Preface section.



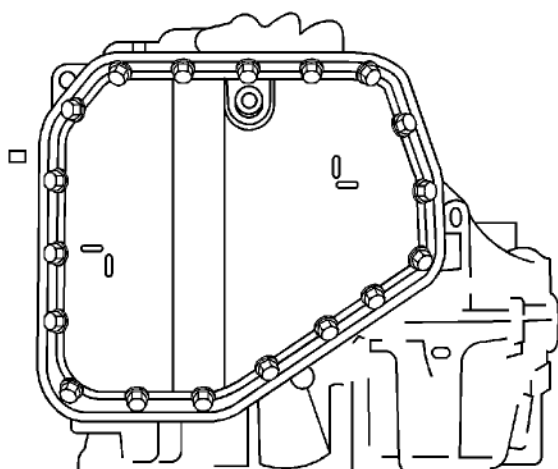
6. Pull the shift control cable until it is tight and tighten the control cable adjusting nut to **8 N·m (71 lb in)**.
7. Install the floor console trim panel. Refer to [Front Floor Console Replacement](#).
8. Connect the negative battery cable.

Transmission Fluid Temperature Sensor Replacement

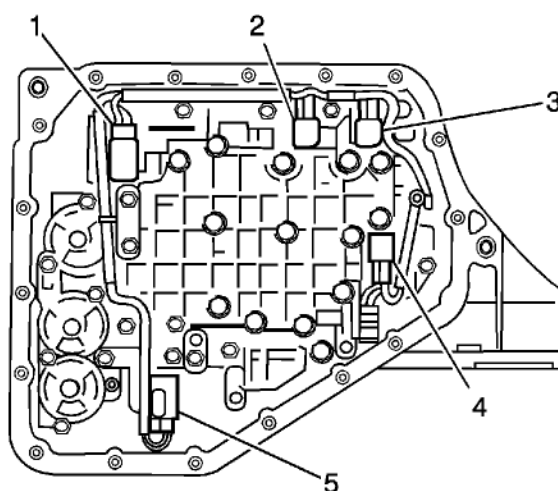
Removal Procedure

Note: The Transmission Fluid Temperature (TFT) sensor is incorporated into the wiring harness assembly. The harness and sensor have to be replaced as an assembly.

1. Drain the transaxle fluid from the transaxle. Refer to [Transmission Fluid Draining](#).

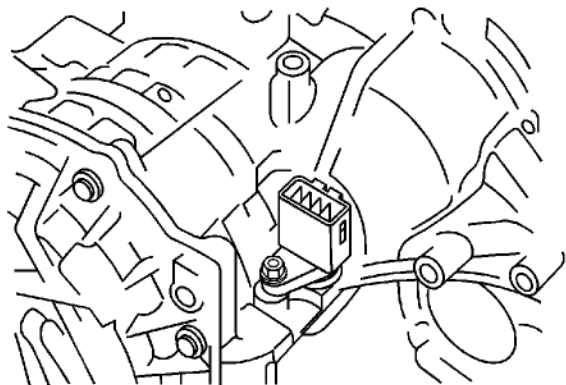


2. Remove the oil pan retaining bolts.
3. Remove the oil pan and gasket.



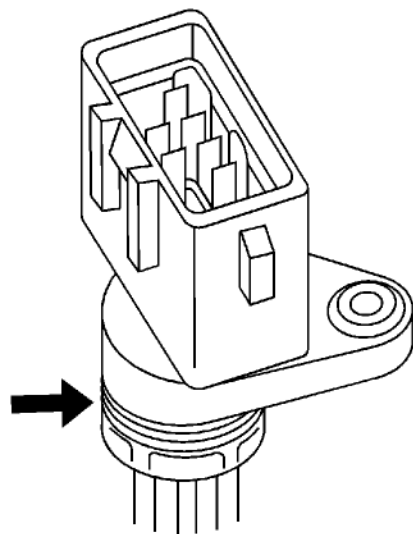
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4. Disconnect the wiring harness assembly from the five solenoids.



5. Remove the wiring harness retaining bolt, then remove the wiring harness and TFT sensor from the transaxle.

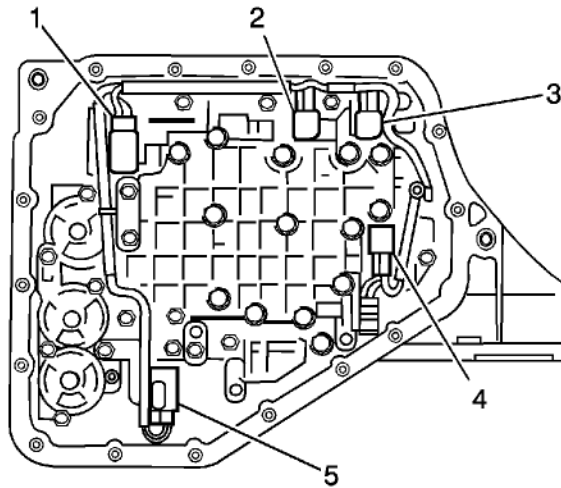
Installation Procedure



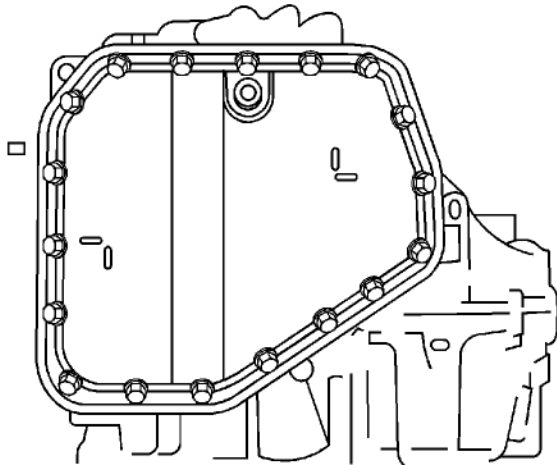
1. Coat a new O-ring with ATF and install it on the harness connector.
2. Install the TFT sensor and wiring harness into the transaxle case.

Caution: Refer to [Fastener Caution](#) in the Preface section.

3. Install the wiring harness retaining bolt and tighten to **6 N·m (53 lb in)**.



4. Connect the wiring harness to the five solenoids.

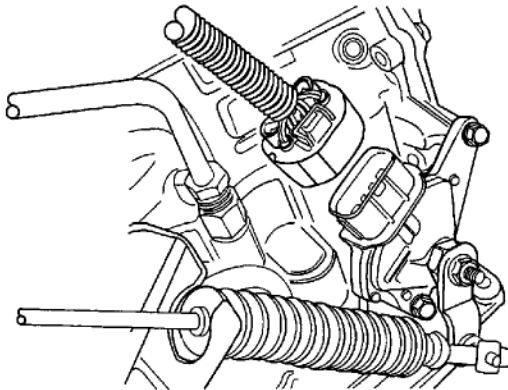


5. Install a new gasket on the oil pan.
6. Install the oil pan.
7. Install the oil pan bolts and tighten to **8 N·m (71 lb in)**.
8. Fill the transaxle with transmission fluid. Refer to [Transmission Fluid Draining](#).

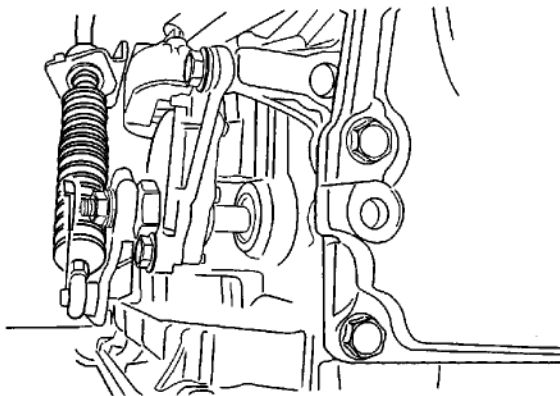
Park / Neutral Position Switch Replacement

Removal Procedure

Warning: Refer to [Battery Disconnect Warning](#) in the Preface section.

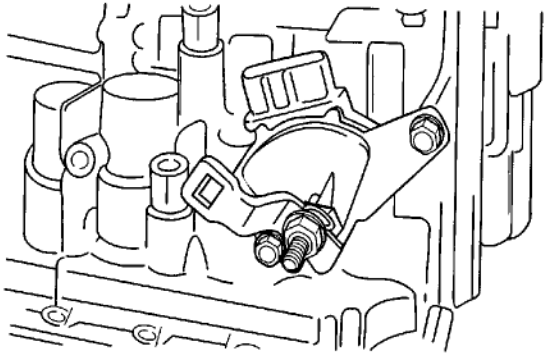


1. Disconnect the negative battery cable.
2. Disconnect the park/neutral position (PNP) switch electrical connector from the wiring harness.



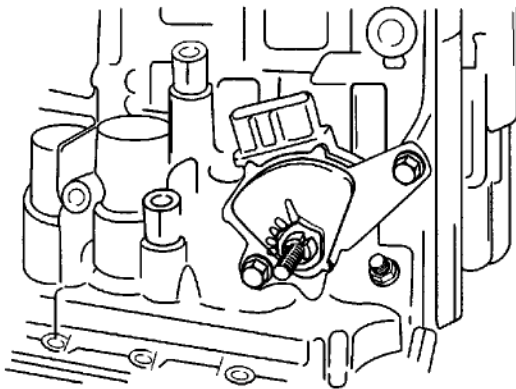


3. Remove the E-ring.
4. Disconnect the shift control cable from the PNP switch lever.



5. Remove the retaining nut, the washer, and the control lever.
6. Using a driver, unstake the lock washer and remove the nut.

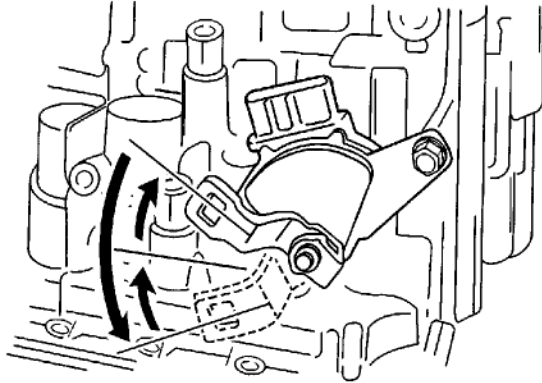
Installation Procedure



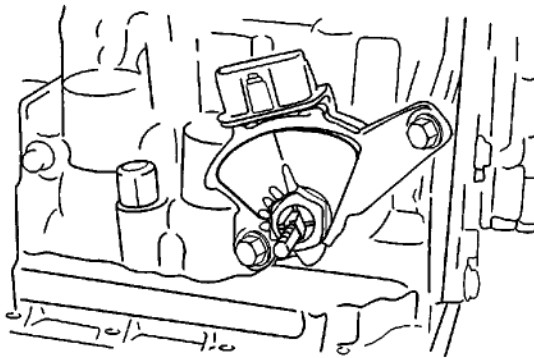
1. Install the PNP switch onto the manual valve lever shaft and temporarily install the 2 adjusting bolts.

Caution: Refer to [Fastener Caution](#) in the Preface section.

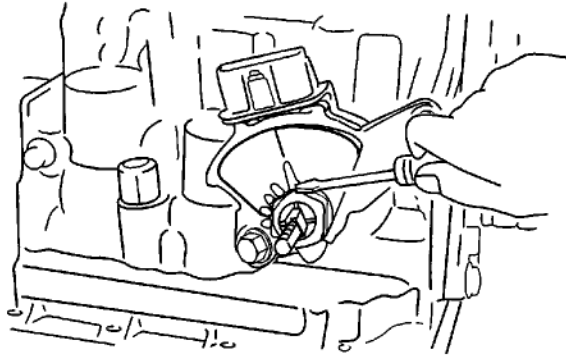
2. Install the new lock washer and nuts and tighten to **12 N·m (106 lb in)**.



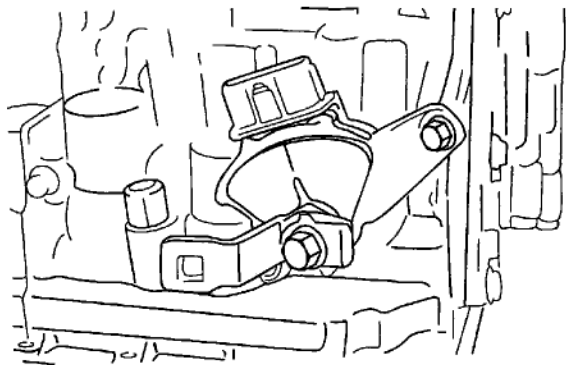
3. Temporarily install the control lever
4. Turn the lever counterclockwise until it stops, then turn it clockwise 2 notches.
5. Remove the control lever.



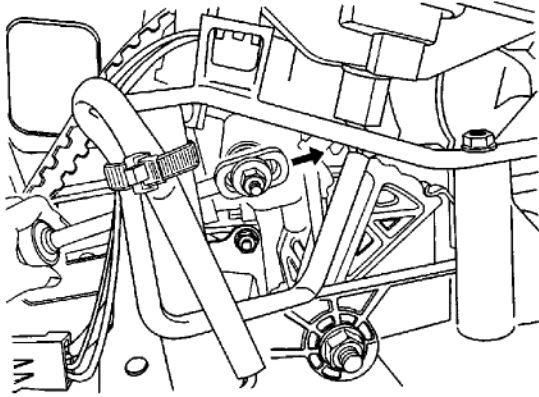
6. Align the groove with the neutral basic line, then install the bolts and tighten to **5 N·m (44 lb in)**.



7. Using a screwdriver, stake the nut with the lock washer.



8. Install the control lever, washer and nut and tighten to **12 N·m (106 lb in)**.

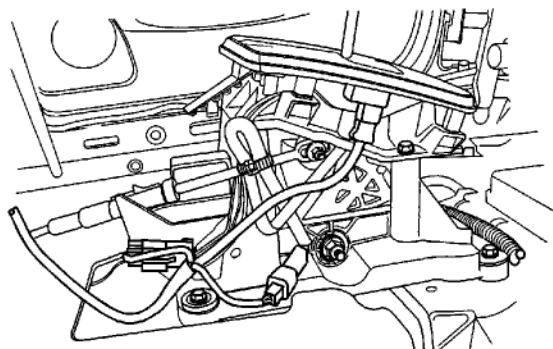


9. Connect the control cable to PNP switch.
10. Connect the PNP switch electrical connector.
11. Adjust the control cable. Refer to [Range Selector Lever Cable Adjustment](#).
12. Install the control cable adjusting nut and tighten to **8 N·m (71 lb in)**.
13. Connect the negative battery cable.

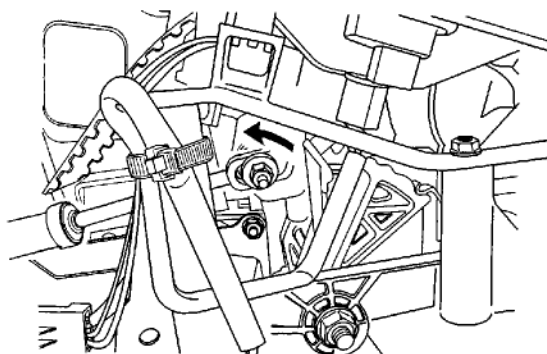
Gearshift Control Lever Replacement

Removal Procedure

Warning: Refer to [Battery Disconnect Warning](#) in the Preface section.

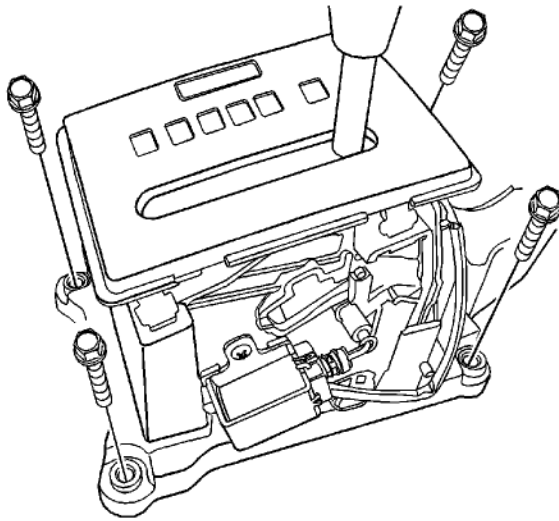


1. Disconnect the negative battery cable.
2. Remove the floor console. Refer to [Front Floor Console Replacement](#).
3. Disconnect the wiring harness connectors from the shift control lever.



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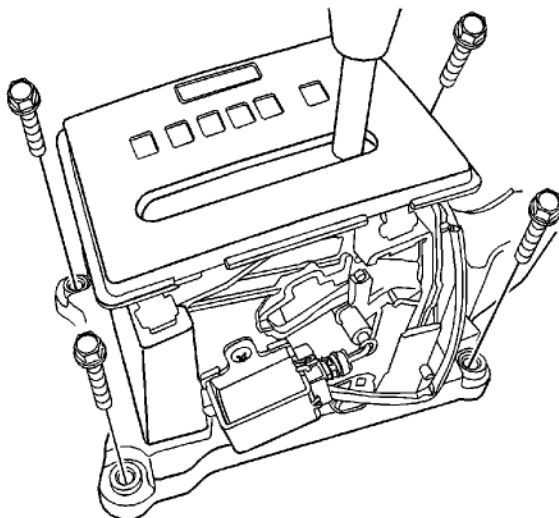
4. Loosen the control cable adjusting nut.
5. Disconnect the control cable from the shift control lever assembly.



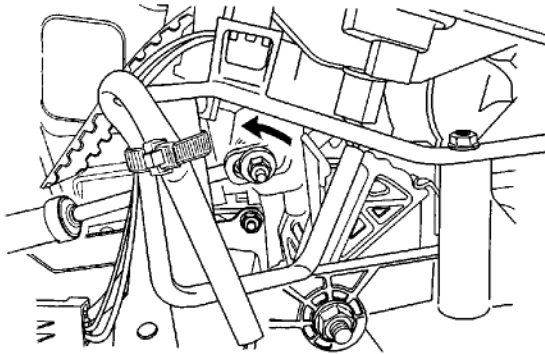
6. Remove the shift control lever assembly mounting bolts.
7. Remove the shift control lever assembly.

Installation Procedure

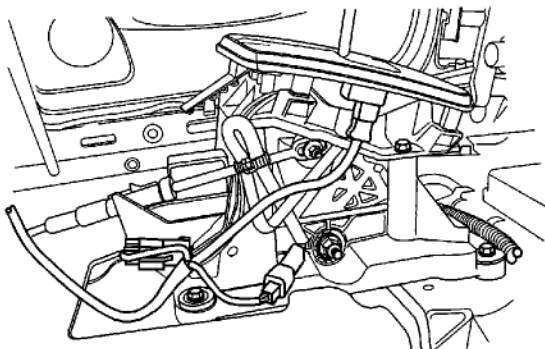
Caution: Refer to [Fastener Caution](#) in the Preface section.



1. Install the shift control lever assembly.
2. Install the shift control lever assembly bolts and tighten to 8 N·m (71 lb in).



3. Connect the control cable to the shift control lever assembly.
4. Tighten the control cable adjusting nut and tighten to **8 N·m (71 lb in)**.

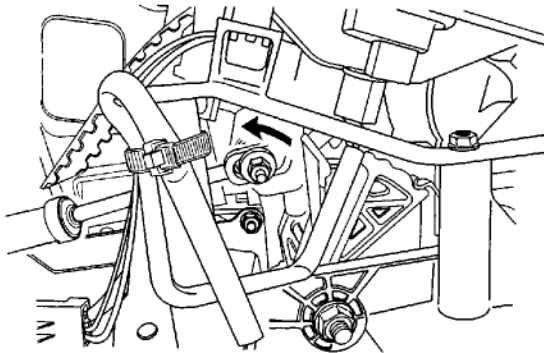


5. Connect the harness connector.
6. Adjust the control cable. Refer to [Range Selector Lever Cable Adjustment](#).
7. Install the floor console. Refer to [Front Floor Console Replacement](#).
8. Connect the negative battery cable.

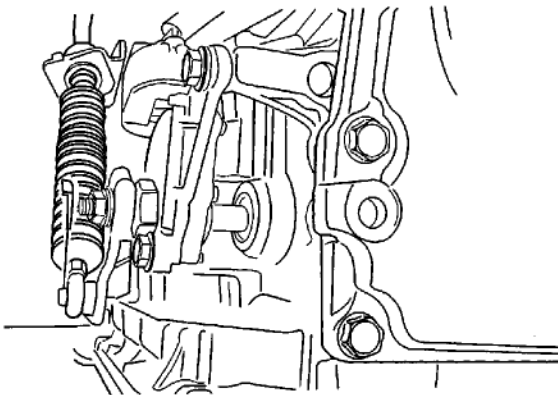
Floor Shift Control Cable Replacement

Removal Procedure

Warning: Refer to [Battery Disconnect Warning](#) in the Preface section.

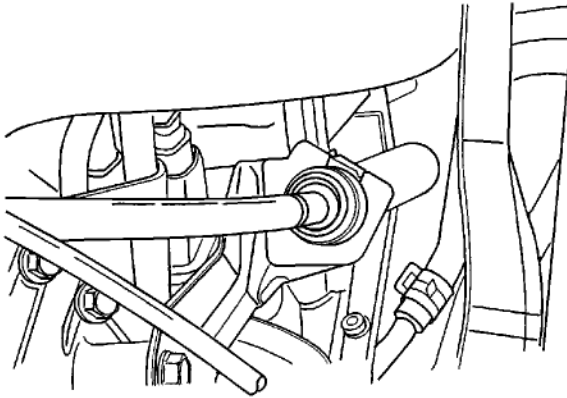


1. Disconnect the negative battery cable.
2. Remove the floor console. Refer to [Front Floor Console Replacement](#).
3. Remove the cable adjusting nut.
4. Disconnect the shift control cable from the shift control lever assembly.



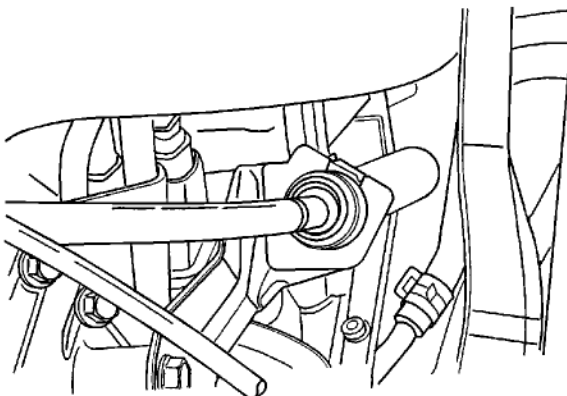


5. Remove the shift control cable retaining E-ring.
6. Disconnect the shift control cable from the park/neutral position (PNP) switch.



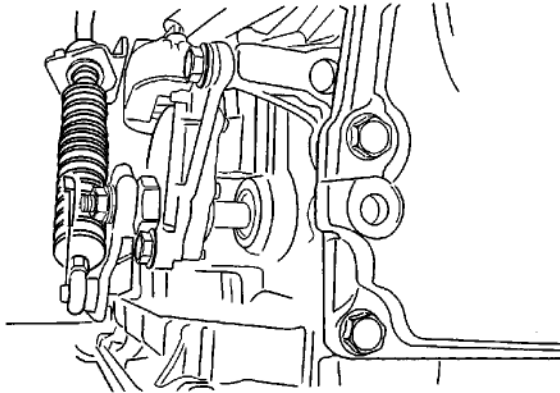
7. Remove the E-ring from the shift control cable bracket and disconnect the shift control cable.
8. Disconnect the shift control cable from the shift control cable fastener.
9. Remove the shift control cable from the vehicle.

Installation Procedure

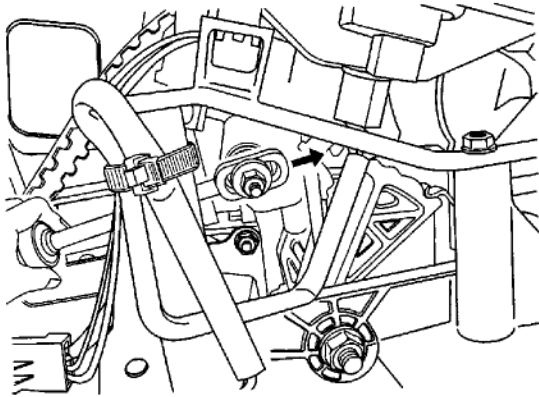


1. Install the shift control cable to the vehicle.

2. Connect the shift control cable to the shift control cable fastener.
3. Install the E-ring to the shift control cable bracket and connect the shift control cable.



4. Connect the shift control cable to the PNP switch.
5. Install the shift control cable retaining E-ring.



6. Connect the shift control cable to the shift control lever assembly.

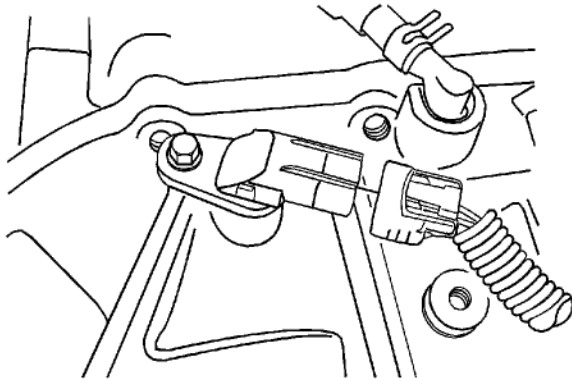
Caution: Refer to [Fastener Caution](#) in the Preface section.

7. Install the cable adjusting nut and tighten to 8 N·m (71 lb in).
8. Install the trim panel to the floor console. Refer to [Front Floor Console Replacement](#).
9. Connect the negative battery cable.

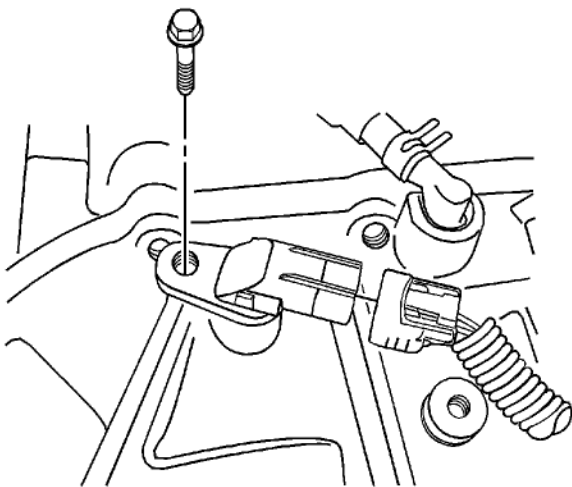
Input Speed Sensor Replacement

Removal Procedure

Warning: Refer to [Battery Disconnect Warning](#) in the Preface section.



1. Disconnect the negative battery cable.
2. Disconnect the input shaft speed (ISS) sensor electrical connector.

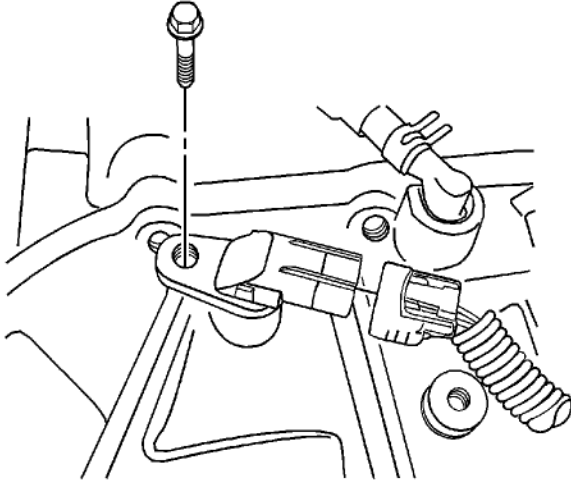


3. Remove the ISS sensor retaining bolt.

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4. Remove the ISS sensor from the transaxle.

Installation Procedure

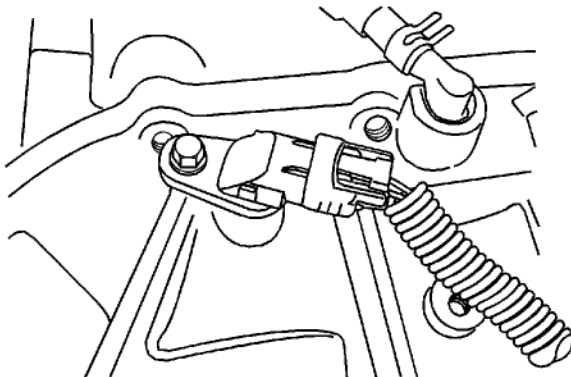


Note: Lubricate the O-ring with ISU DEXRON III.

1. Install a new O-ring on the ISS sensor.

Caution: Refer to [Fastener Caution](#) in the Preface section.

2. Install the ISS sensor.
3. Install the ISS sensor bolt and tighten to 5 N·m (44 lb in).



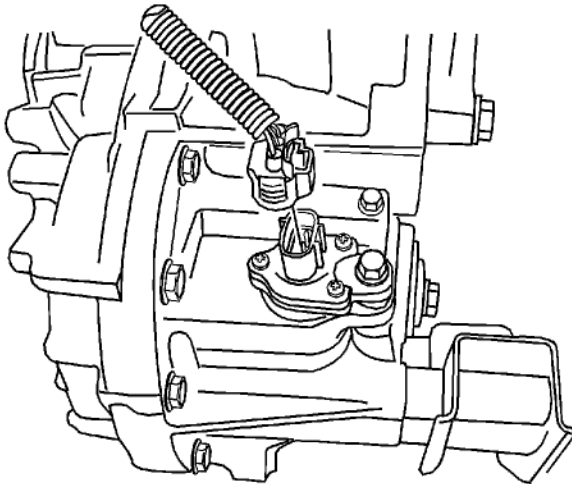


4. Connect the ISS sensor electrical connector.
5. Connect the negative battery cable.

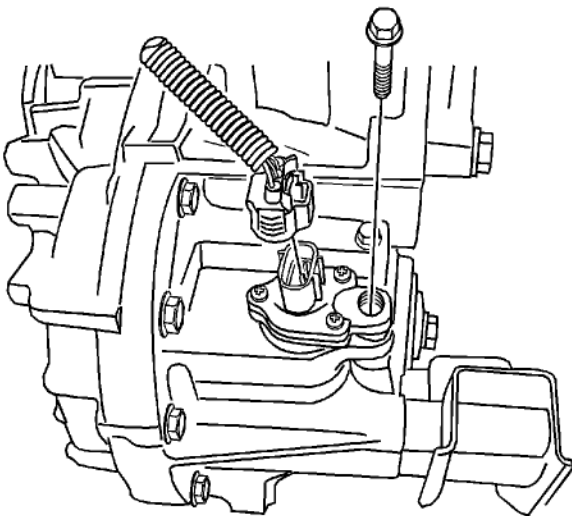
Output Speed Sensor Replacement

Removal Procedure

Warning: Refer to [Battery Disconnect Warning](#) in the Preface section.



1. Disconnect the negative battery cable.
2. Disconnect the output shaft speed (OSS) sensor electrical connector.

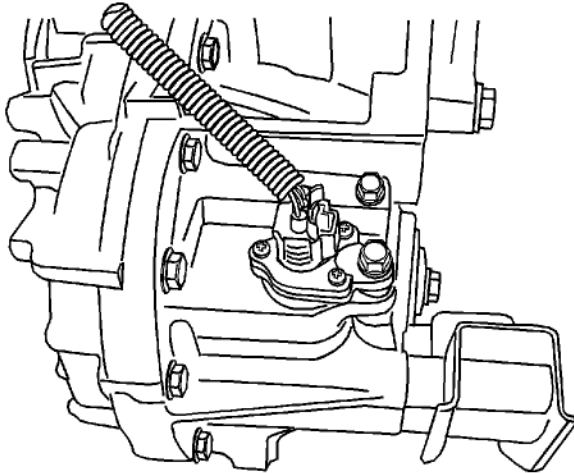


3. Remove the OSS sensor retaining bolt.

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4. Remove the OSS sensor from the transaxle.

Installation Procedure

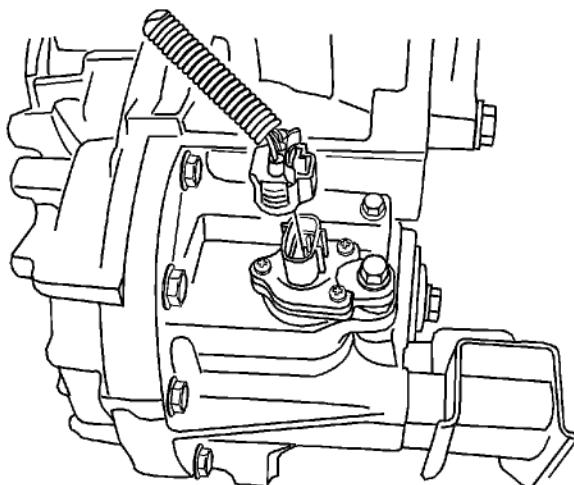


Note: Lubricate the O-ring with T-IV Automatic Transmission Fluid GM P/N 88900925 (Canadian P/N 22689186).

1. Install a new O-ring on the OSS sensor.

Caution: Refer to Fastener Caution in the Preface section.

2. Install the OSS sensor.
3. Install the OSS sensor bolt and tighten to 7 N·m (62 lb in).





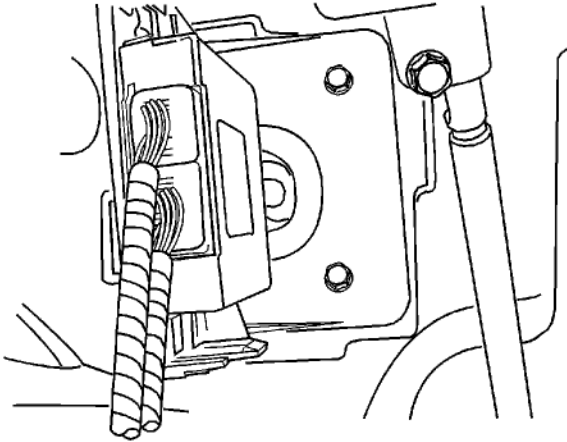
4. Connect the OSS sensor electrical connector.
5. Connect the negative battery cable.

Transmission Control Module Replacement

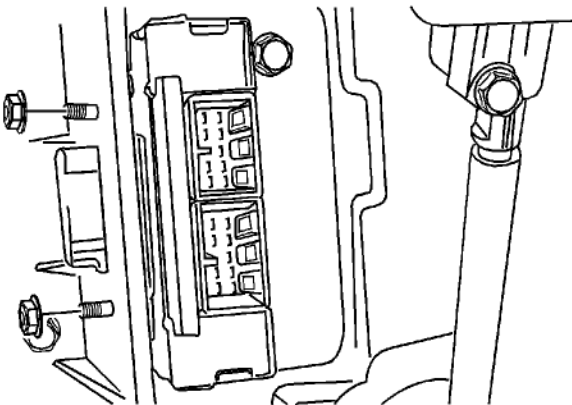
Removal Procedure

Warning: Refer to [Battery Disconnect Warning](#) in the Preface section.

1. Disconnect the negative battery cable.



2. Locate the transmission control module (TCM) electrical connector next to the brake pedal assembly.
3. Disconnect the TCM electrical connector.

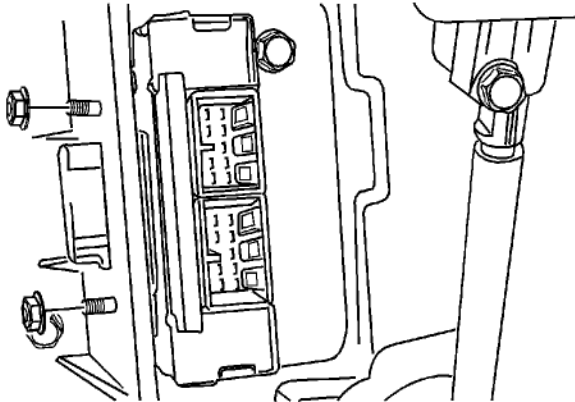


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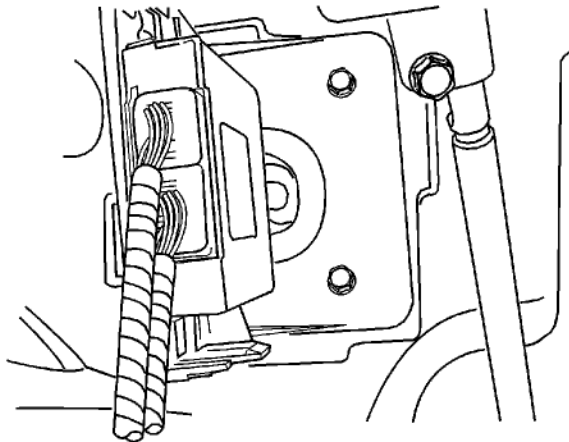
4. Remove the TCM retaining bolts.
5. Remove the TCM.

Installation Procedure

Caution: Refer to [Fastener Caution](#) in the Preface section.



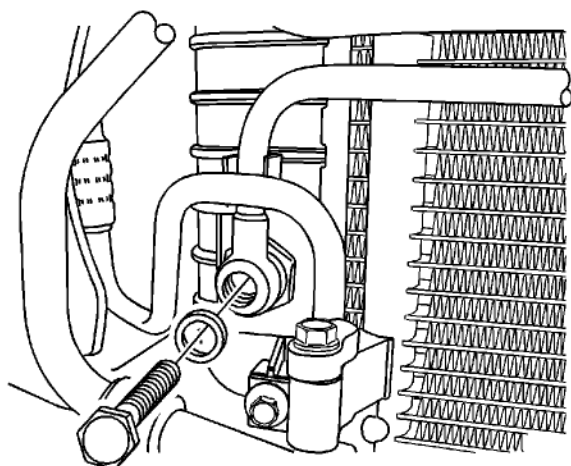
1. Install the TCM.
2. Install the TCM bolts and tighten to **5 N·m (44 lb in)**.



3. Connect the TCM electrical connector.
4. Connect the negative battery cable.
5. Refer to [Control Module References](#) for programming and setup information.

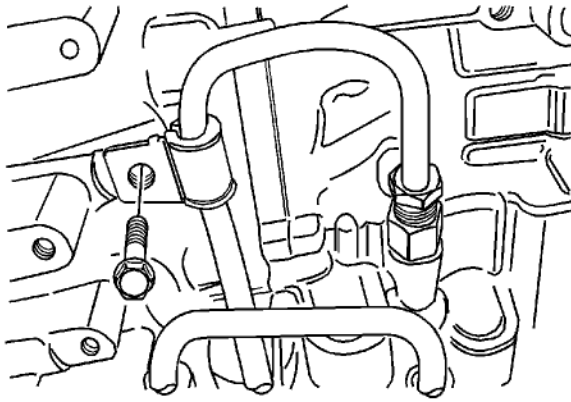
Transmission Cooler Pipes and Hoses Replacement (Inlet)

Removal Procedure



Danger: To avoid any vehicle damage, serious personal injury or death when major components are removed from the vehicle and the vehicle is supported by a hoist, support the vehicle with jack stands at the opposite end from which the components are being removed and strap the vehicle to the hoist.

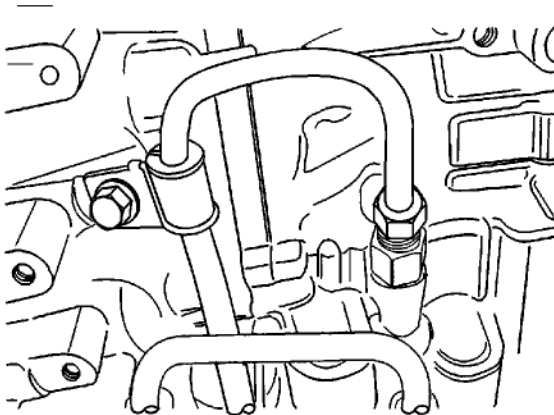
1. Raise and support the vehicle.
2. Drain the transaxle fluid.
3. Remove the inlet pipe union bolt and washers from the radiator.
4. Remove the inlet and outlet pipes retaining bolt.



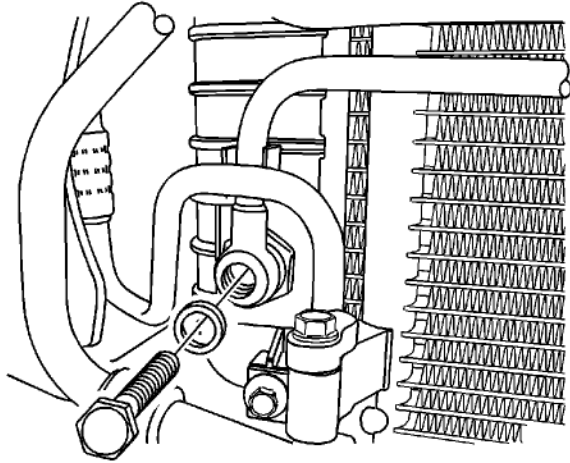
5. Remove the fluid cooler inlet pipe bolt from the transaxle.
6. Remove the inlet pipe fitting nut from the transaxle.
7. Remove the fluid cooler inlet pipe and hoses.

Installation Procedure

Caution: Refer to [Fastener Caution](#) in the Preface section.



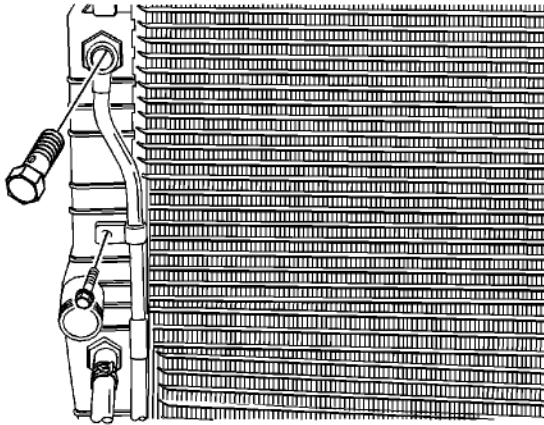
1. Install the fluid cooler inlet pipe fitting nut into the transaxle and tighten to **35 N·m (26 lb ft)**.
2. Install the fluid cooler inlet pipe bolt into the transaxle and tighten to **9 N·m (80 lb in)**.



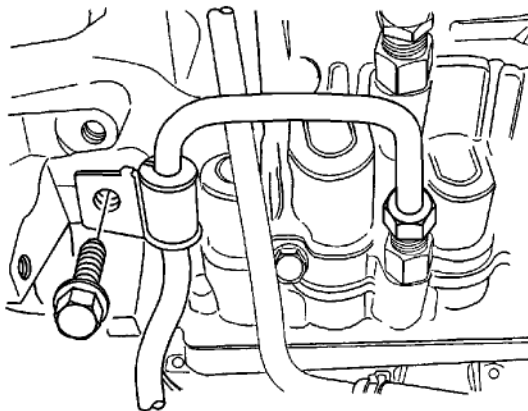
3. Install the inlet and outlet pipes retaining bolt and tighten to **9 N·m (80 lb in)**.
4. Install the inlet pipe union bolt and new washers into the radiator and tighten to **35 N·m (26 lb ft)**
5. Lower the vehicle.
6. Fill the transaxle with the fluid.

Transmission Cooler Pipes and Hoses Replacement (Outlet)

Removal Procedure



1. Drain the transaxle fluid.
2. Remove the front outlet pipe union bolt from the radiator.
3. Remove the front outlet pipe clip bolt from the radiator.

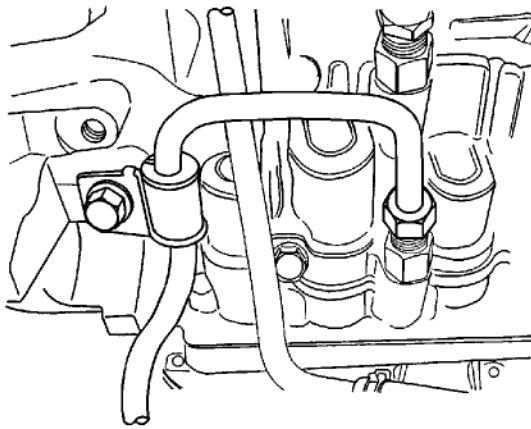


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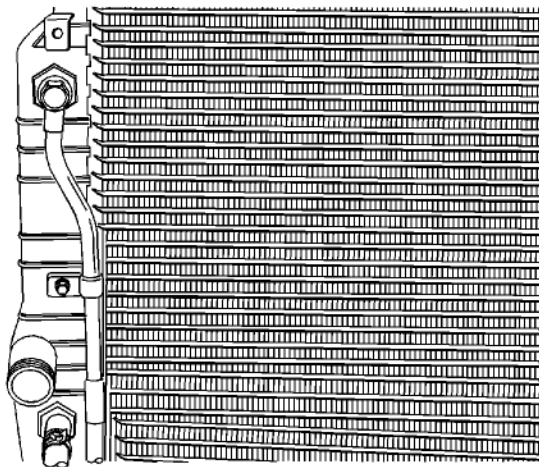
4. Remove the rear outlet pipe clip bolt from the transaxle.
5. Remove the rear outlet pipe fitting nut from the transaxle.
6. Remove the fluid cooler outlet pipe and hoses.

Installation Procedure

Caution: Refer to Fastener Caution in the Preface section.



1. Install the fluid cooler rear outlet pipe fitting nut and tighten to **35 N·m (26 lb ft)**.
2. Install the fluid cooler rear outlet pipe clip bolt and tighten to **9 N·m (80 lb in)**.



3. Install the front outlet pipe union bolt and tighten to **35 N·m (26 lb ft)**.
4. Install the front outlet pipe clip bolt and tighten to **9 N·m (80 lb in)**.

5. Fill the transaxle with the fluid.