

GM 4T65E Installation Tips

WARNING: DO NOT operate vehicle without installing a new transmission oil cooler. We recommend installing a Hayden 1403 or 1404. Bypass the radiator and install the new cooler.

Your transmission will suffer catastrophic damage if not grounded to the chassis properly.

Pre-Installation: (10-12 quarts of OEM approved fluid will be needed)

Prior to install, you must determine the previous cause of failure.

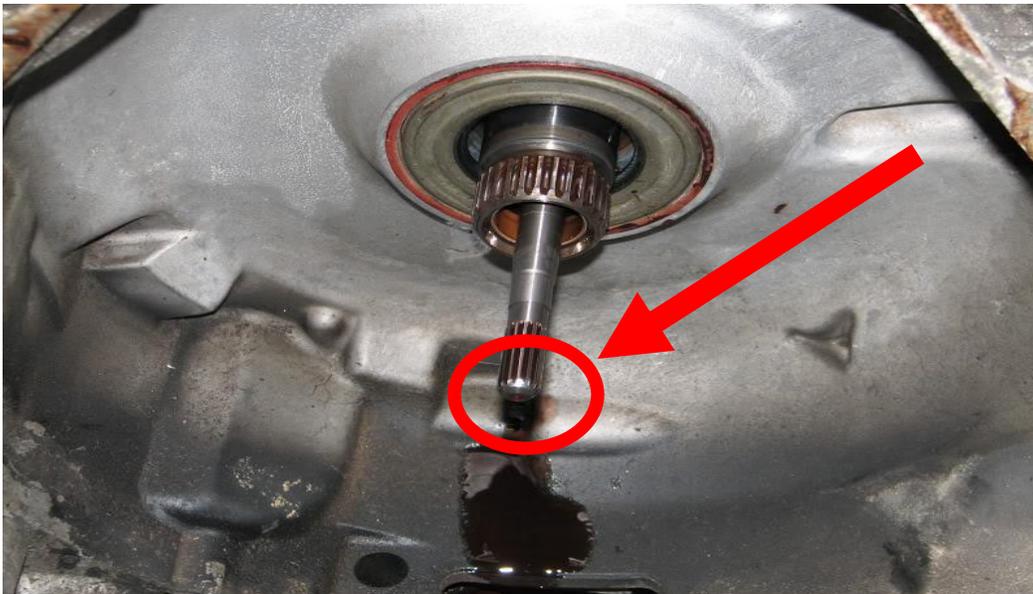
- Be sure to check for a damaged/busted trans cooler or coolant/water contamination. Transmission contamination and/or cooler failure is a primary cause of failure for this type of transmission.
- Scan and record any codes.

DO NOT take any chances. Go ahead and replace the cooler and/or radiator now. Flushing the cooler will not guarantee a quality install. Replace the cooler in order to validate your warranty.

1. Fill the torque converter with 1-2 quarts of fluid and engage properly into the pump. Fill the transmission with fluid after it has been mounted in the vehicle. Once mounted, turn the TC clock-wise, by hand, as you push it into the transmission. The forward drum will engage first. You may feel it clunk as it engages. Continue to turn and push. The pump stator shaft will engage next. Then the converter hub will engage into the pump gears. You may feel another clunk. To confirm proper engagement, you should have approximately $\frac{3}{4}$ of an inch clearance between the front of the bell housing and the back of the TC Hub. Be sure the TC stays in this position as you mate it to the engine.

WARNING: If the TC isn't seated into the pump gears, this will cause the TC to crush/damage pump gears when the transmission is seated against the engine and TC bolted to flex-plate. This damage is very obvious when the failed unit is inspected.

A catastrophic issue for the 4T65E is damaging or snapping the end of the Pump shaft. This is caused by incorrectly installing the torque converter. Please be 100% sure that you've engaged the torque converter correctly before bolting up the flex-plate.

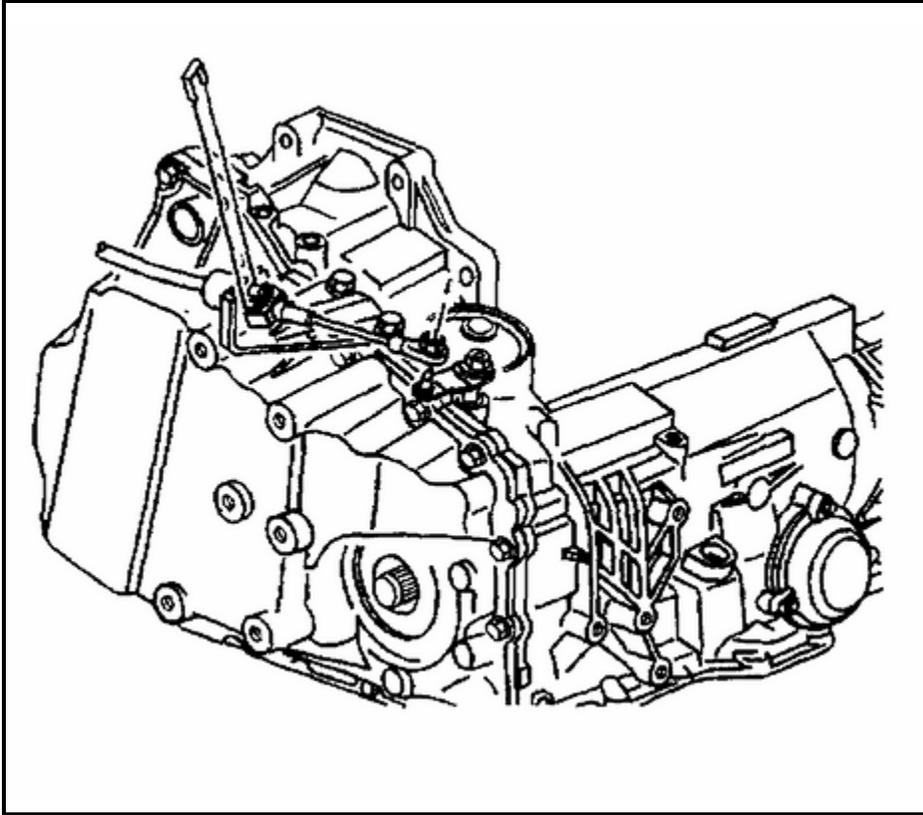


Notice the length in the two shafts. If TC is improperly mounted to flex-plate, it will bind the shaft causing it to snap. Most times, the alignment issue is caused due to cracked flex-plate or a slight misalignment of the bolt holes to the TC. **Do not** force the alignment or it will snap the pump shaft.



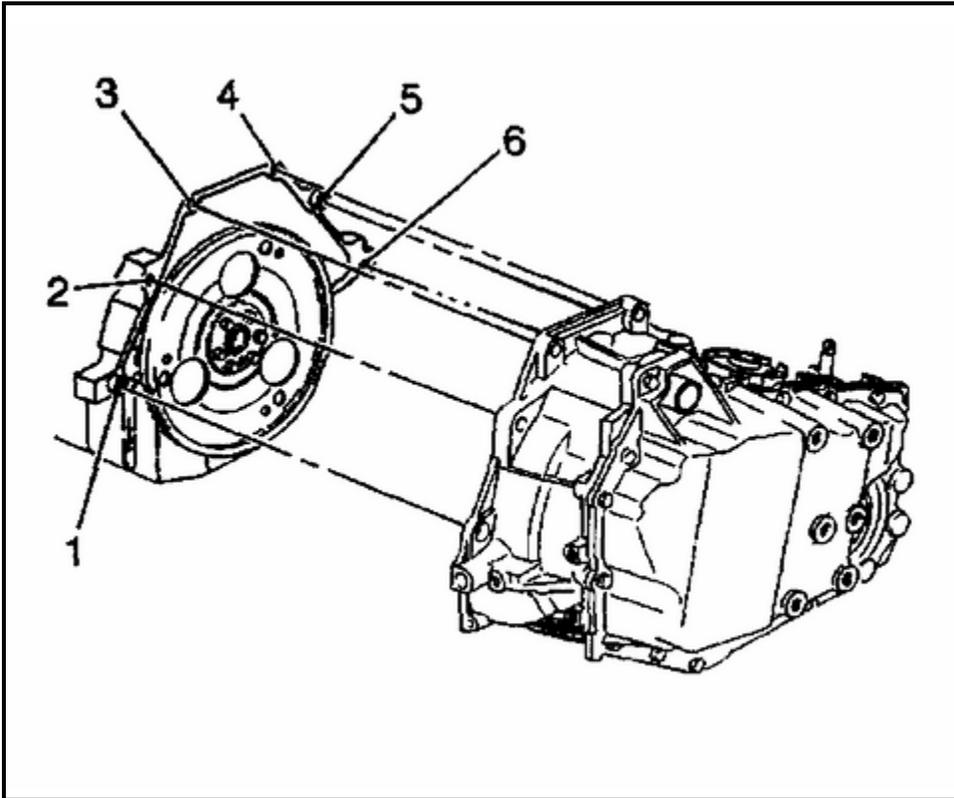
Transmission Replacement & Removal Procedure

1. Disconnect the negative battery cable.
2. Remove the air cleaner intake duct.



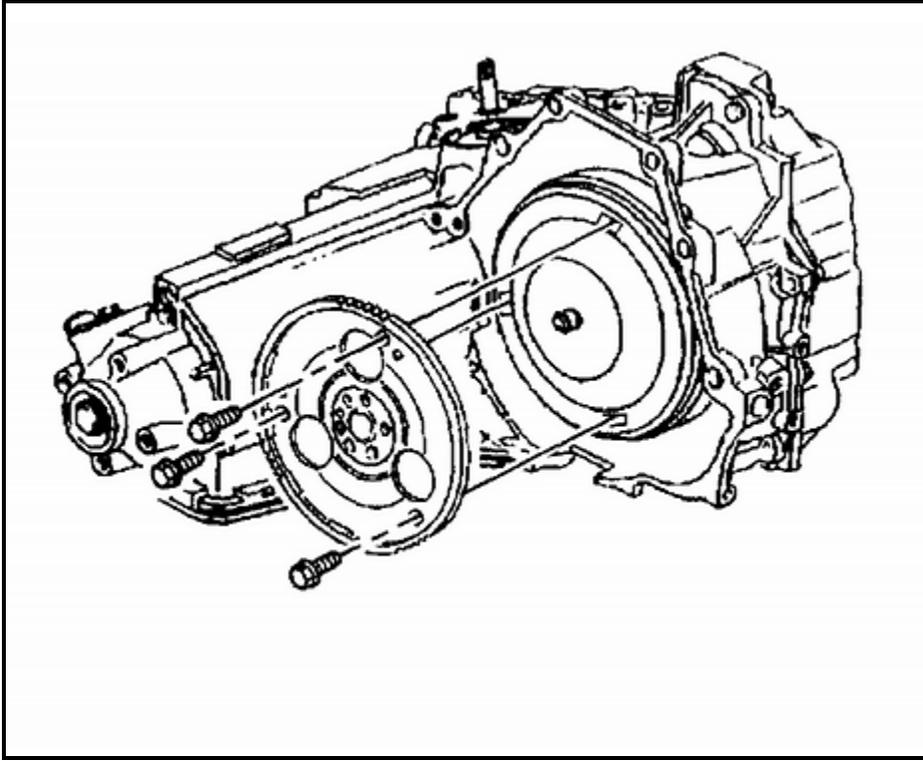
3. Disconnect the [wiring harness](#) electrical connectors.
4. Remove the transaxle range selector cable from the transaxle shift lever.
5. Remove the transaxle range selector cable retainer from the cable.

6. Remove the transaxle range selector cable from the transaxle.
7. Remove the transaxle wiring grounds from the transaxle.



8. Remove the upper transaxle bolts (3, 4, 5) and the stud (2).
9. Install the engine support fixture.
10. Raise and support the vehicle.
11. Remove the front wheels.
12. Remove the left and the right engine splash shields.
13. Remove the frame from the vehicle.
14. Remove the starter motor.

15. Install the J 37096 in order to gain access to the [torque converter](#) bolts and to prevent the flywheel, from turning.



16. Remove the torque converter bolts.

17. Remove the transaxle oil cooler pipes from the transaxle.

Important: Position and secure the wheel drive shafts out of the way.

18. Remove the left and the right wheel drive shafts from the transaxle.

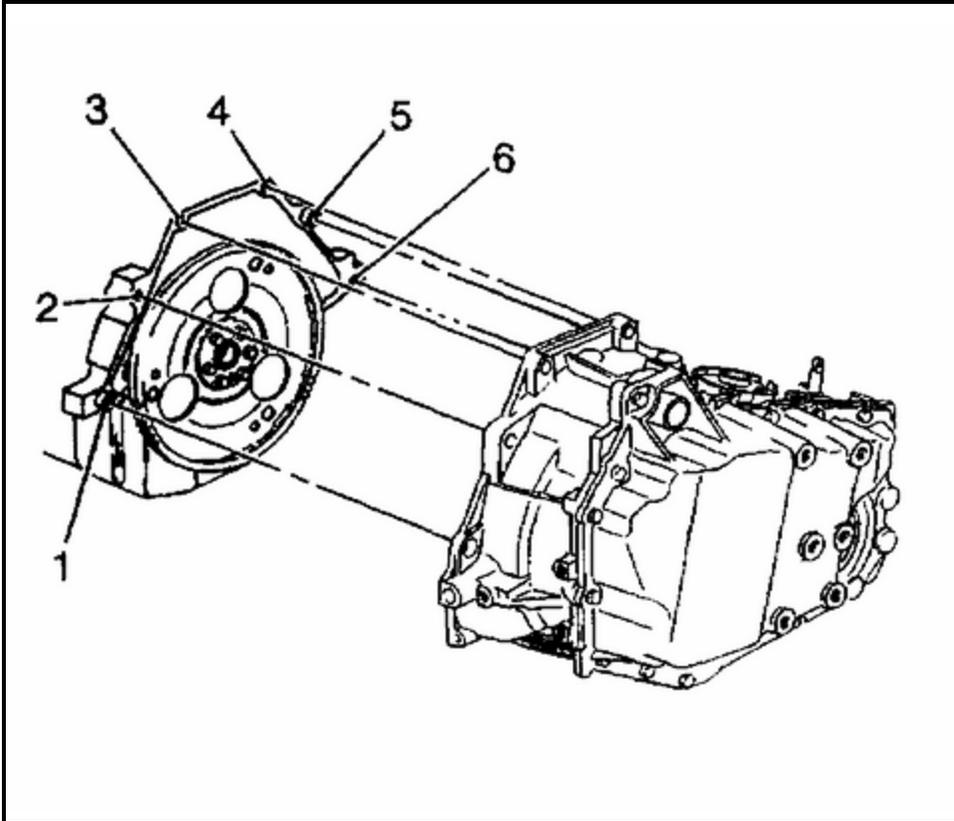
19. Secure the drive shafts to the steering knuckles.

20. Disconnect the vehicle speed sensor electrical connector.

Important: Ensure the transmission jack is properly secured to the transaxle.

21. Position a transmission jack under the transaxle and secure the transmission jack to the transaxle.

22. Remove the transaxle brace.



23. Remove the lower transaxle bolt (6) and the stud (1).
24. Remove the transaxle from the vehicle.

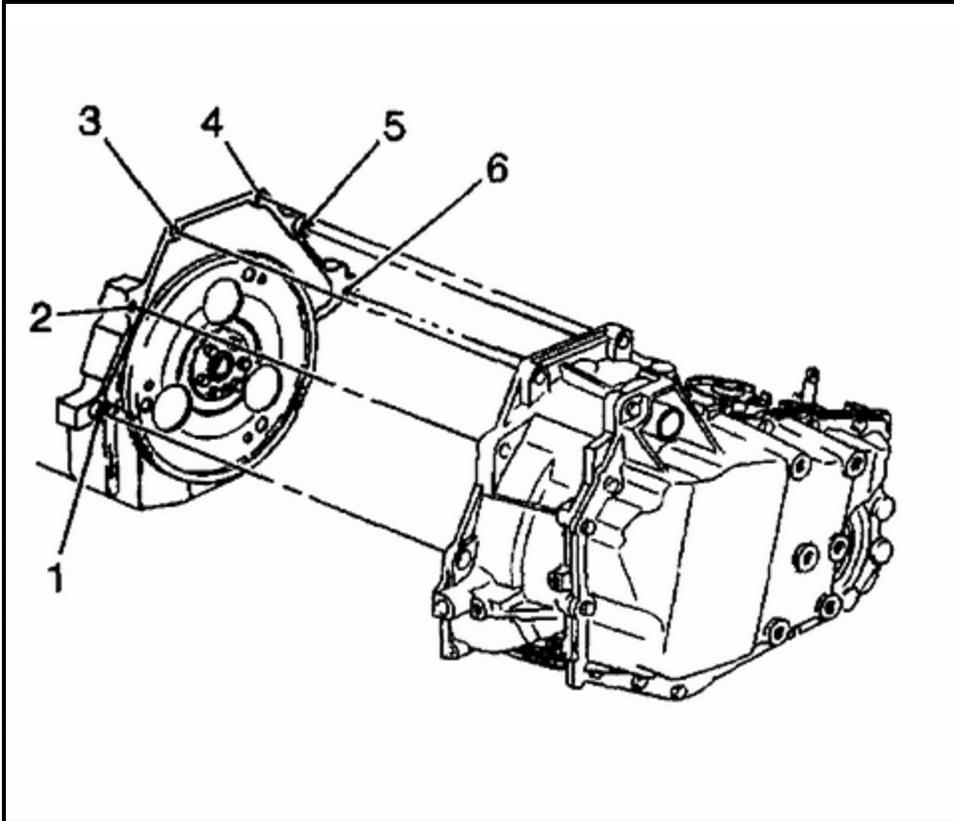
Important: Use J 35944-A or equivalent to flush the transaxle cooling system whenever the transaxle is removed for o

25. Use the J 35944-A to flush the transaxle oil cooler pipes and the transaxle oil cooler.
26. Transfer all necessary parts as needed.

Installation Procedure

Important: Ensure the transaxle is secured properly to the transmission jack.

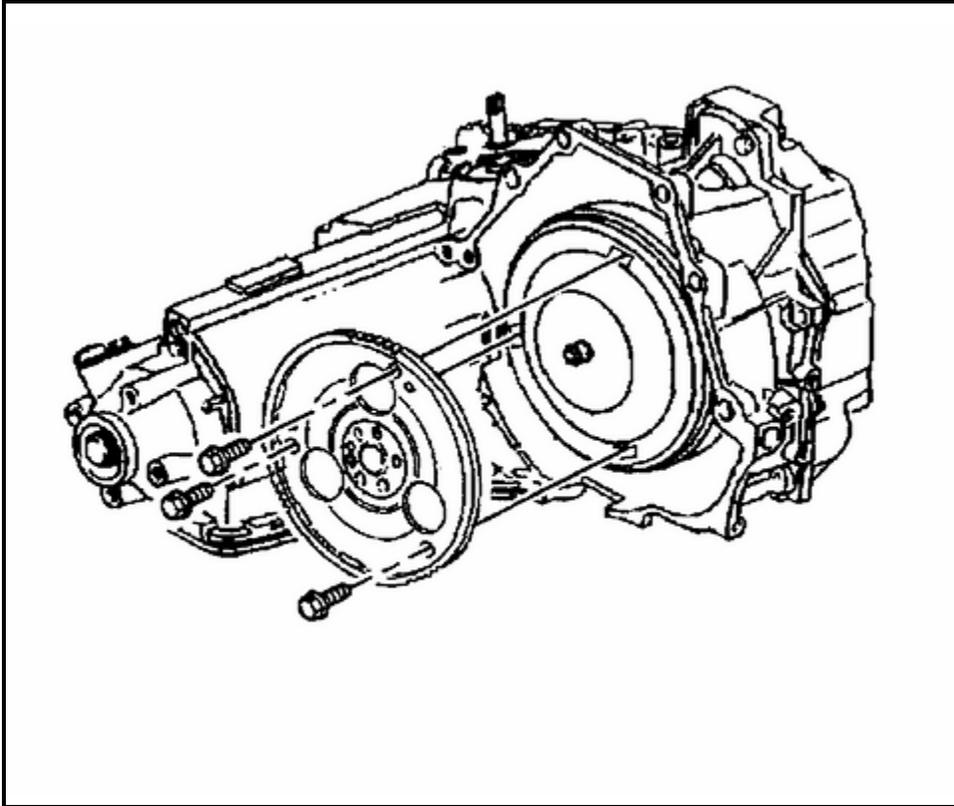
1. Position the transaxle onto a transmission jack and secure the transaxle to the transmission jack.
2. Install the transaxle into the vehicle.



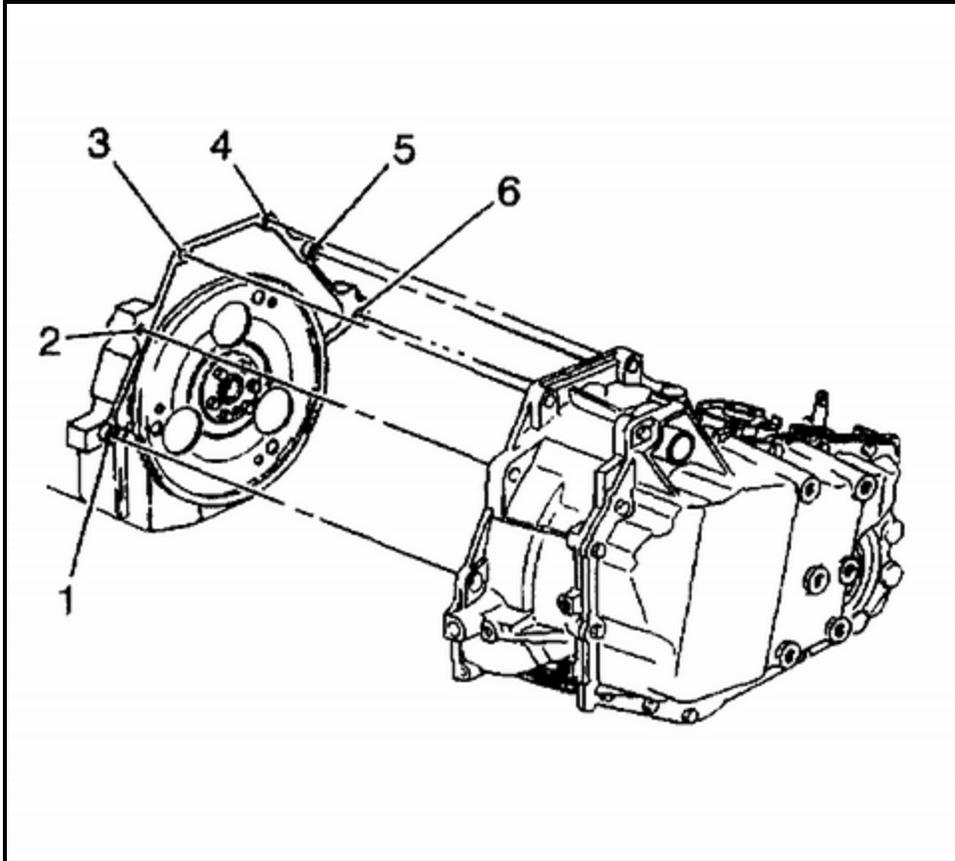
Notice: Refer to Fastener Notice in Service Precautions.

3. Install the lower transaxle bolt (6) and the stud (1).
Tighten the bolt and the stud to **75 Nm (55 ft. lbs.)**.
4. Install the transaxle brace.

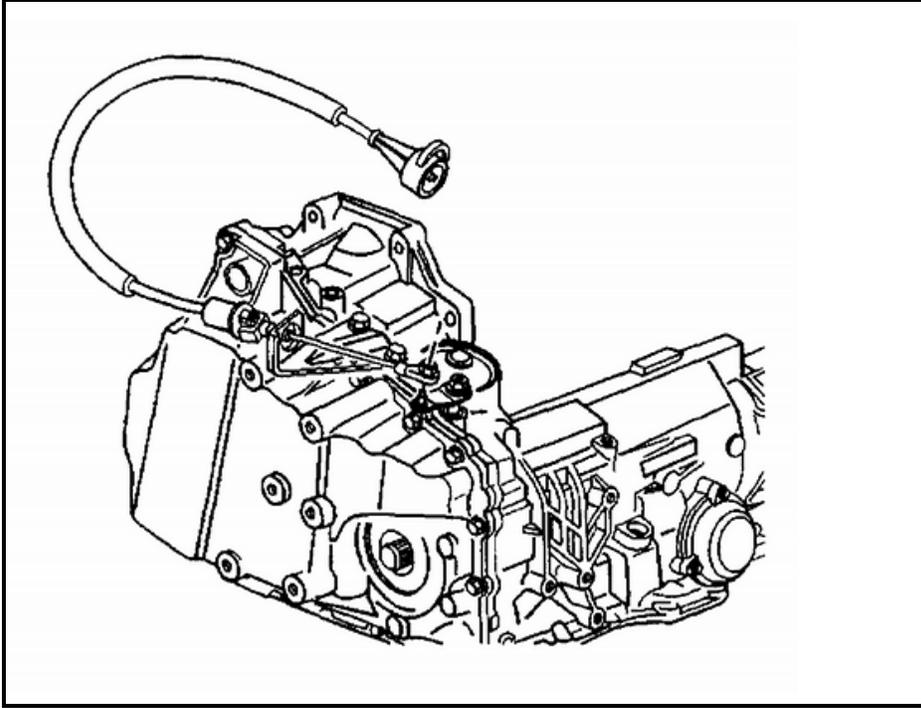
5. Install the J 37096 in order to gain access to the torque converter bolts and to prevent the flywheel from turning.



6. Install the torque converter bolts.
Tighten the bolts to **63 Nm (46 ft. lbs.)**.
7. Install the wheel drive shafts into the transaxle.
8. Install the transaxle oil cooler pipes to the transaxle.
9. Install the starter motor.
10. Install the frame to the vehicle.
11. Connect the vehicle speed sensor electrical connector.
12. Install the left and the right engine splash shield.
13. Install the front wheels.
14. Lower the vehicle.
15. Remove the engine support fixture.



16. Install the upper transaxle bolts (3, 4, 5) and the stud (2).
Tighten the bolts and the stud to **75 Nm (55 ft. lbs.)**.
17. Install the transaxle wiring grounds and the nuts.
Tighten the nuts to **25 Nm (18 ft. lbs.)**.
18. Connect the transaxle harness electrical connectors.



19. Install the transaxle range selector cable to the transaxle range selector cable bracket.
20. Install the automatic transaxle range selector cable retainer to the cable.
21. Install the transaxle range selector cable to the transaxle shift lever.
22. Install the air cleaner intake duct.
23. Connect the negative battery cable.

Notice: Refer to Transmission Overfill Notice.

24. Fill the transaxle with automatic transmission fluid.
25. Inspect for automatic transmission fluid leaks.

INSTALLATION CHECKLIST:

Inspect flex plate for cracks or any damage

Compare bolt pattern on flex plate to bolt pattern on new torque converter

Inspect crankshaft pilot bore for wear and apply grease to aid with installation

Compare replacement transmission and torque converter to original before installation

Verify all dowel pins are present, clean, and in good condition – these are critical for proper alignment!

Verify torque converter is properly and completely installed onto input shaft (common mistake)

Do not tighten bell housing bolts with force, torque converter may have shifted

Inspect transmission mounts, carrier bearing, driveshaft, yoke and U-joints (main causes of broken cases/vibration)