



Your Vehicle: 2012 Ford Truck F 150 4WD V6-3.5L Turbo

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Transmission Installation

Transmission - Four Wheel Drive (4WD)

Special Tool(s)	
 ST1636-A	Retainer, Torque Converter 307-346(T97T-7902-A)
 ST2834-A	Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool

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Material	
Item	Specification
Motorcraft [®] MERCON [®] LV Automatic Transmission Fluid XT-10-QLVC (US); CXT-10-LV12 (Canada)	MERCON [®] LV
Motorcraft [®] Multi-Purpose Grease XL-5	ESB-M1C93-B

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Installation

All vehicles

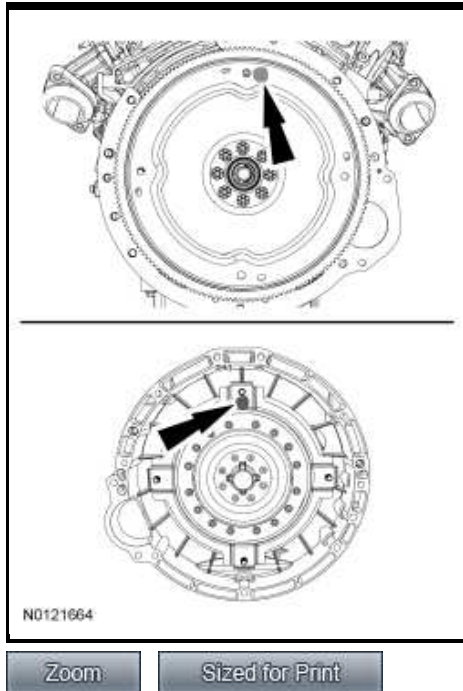
NOTE: Prior to installing a new transmission or an overhauled transmission with a new main control, record the **solenoid** strategy identification tag. If a new main control was installed, install the replacement solenoid body tag over the original identification tag. For additional information, refer to Solenoid Body Strategy [See: Testing and Inspection\Component Tests and General Diagnostics\Automatic Transaxle/Transmission - 6R80\Solenoid Body Strategy\Solenoid Body Identification Procedure](#).

- 1. NOTICE:** Prior to installation of the transmission, lubricate the **torque converter** pilot hub with multi-purpose grease or damage to the torque converter or engine crankshaft can occur.

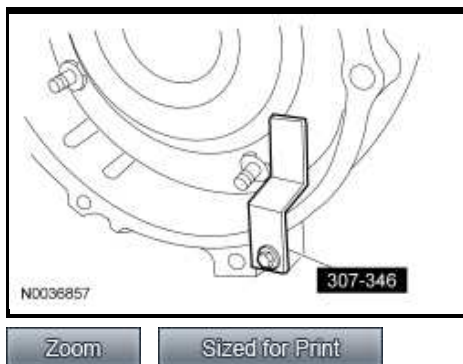
Lubricate the **torque converter** pilot hub with multi-purpose grease.



2. If equipped, align the [torque converter](#) stud and flexplate hole near the paint marks at the 12 o'clock position.



3. Install the [Torque Converter Retainer](#).



4. **WARNING:** Always secure transmission, [transfer case](#), and axle assemblies to their service jack. Avoid obstructions while lowering and raising the jack. Improperly secured assemblies or contact with obstructions may cause the assembly to fall off the jack, which could result in serious personal injury.

NOTICE: The torque converter housing is piloted into position by dowels in the rear of the engine block. The [torque converter](#) must rest squarely against the flexplate. This indicates the torque converter pilot is not binding in the engine crankshaft.

NOTE: Make sure the transmission jack contacts the outer ribs of the transmission fluid pan.

NOTE: If transmission was disassembled, follow the add transmission fluid to the transmission steps. If transmission is being replaced, remove the transmission fluid fill plug and verify transmission is filled with transmission fluid.

Add transmission fluid to the transmission.

- Slightly tilt the transmission rearward.
- Remove the transmission fluid fill plug transmission fluid level indicator assembly.
- Add 11.35L (12 qt) of transmission fluid to the transmission through the transmission fluid fill hole.
- Install the transmission fluid fill plug.
- Tighten to 26 Nm (19 lb-ft).

5. **NOTICE:** The torque converter housing is piloted into position by dowels in the rear of the engine block. The **torque converter** must rest squarely against the flexplate. This indicates the torque converter pilot is not binding in the engine crankshaft.

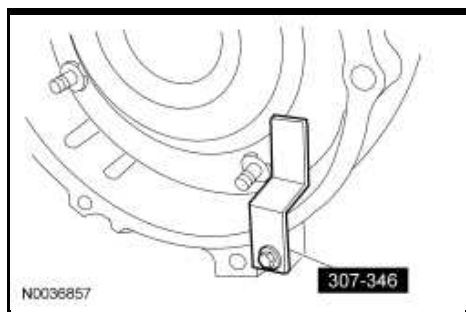
Position and secure the transmission on the high-lift transmission jack. Raise and position the transmission into the vehicle behind the engine.



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6. Remove the **Torque Converter** Retainer.



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7. **NOTICE:** Make sure the transmission **wiring harness** is not between the engine block and transmission prior to moving the transmission toward the engine or damage can occur.

NOTE: Make sure the **torque converter** is fully seated in the transmission before aligning the transmission to the engine. With the transmission in a horizontal position, move it toward the engine and position it on the dowel pins.

Vehicles equipped with a 5.0L or 6.2L engine

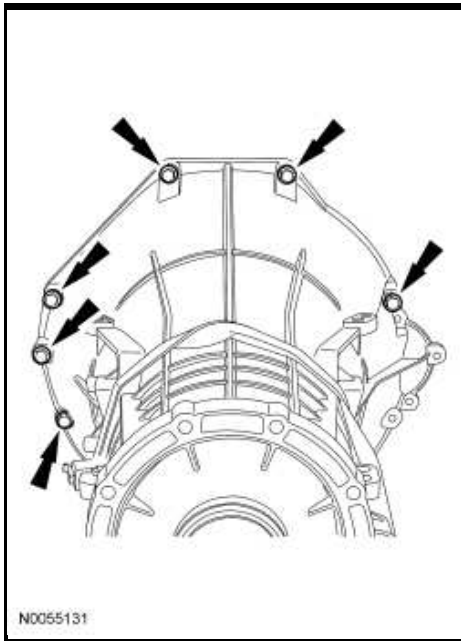
8. **WARNING:** Always secure transmission, **transfer case**, and axle assemblies to their service jack. Avoid obstructions while lowering and raising the jack. Improperly secured assemblies or contact with obstructions may cause the assembly to fall off the jack, which could result in serious personal injury.

NOTE: Install the top 2 transmission-to-engine bolts before installing the rest of the bolts.

NOTE: Install the top left transmission-to-engine bolt through the fuel line bracket first, then through the transmission case.

Install 6 of the 7 transmission-to-engine bolts.

- Tighten to 48 Nm (35 lb-ft).

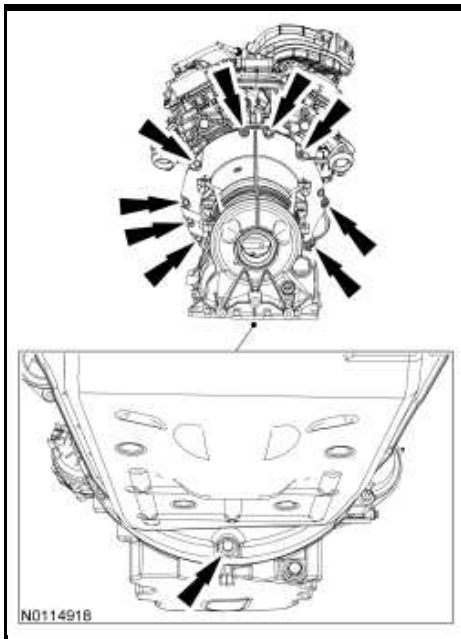
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Vehicles equipped with a 3.5L or 3.7L engine

9. **NOTE:** Install the top 2 transmission-to-engine bolts through the fuel line bracket first, then through the transmission case.

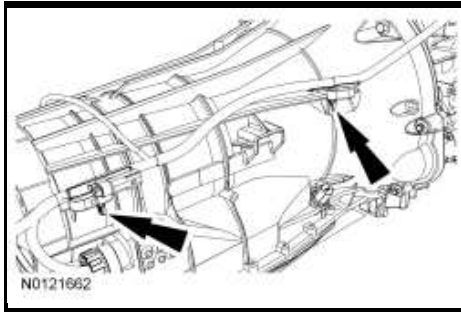
Install the 10 transmission-to-engine bolts.

- Tighten to 48 Nm (35 lb-ft).

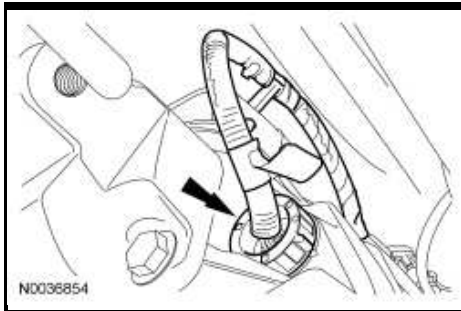
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All vehicles

10. Connect the [wiring harness](#) retainers to the top of the transmission.

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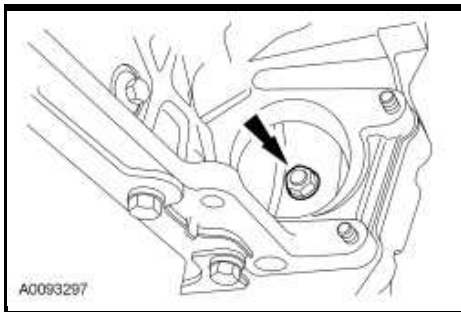
11. Connect the transmission electrical connector by pushing it in and twisting the outer shell to lock it in place.

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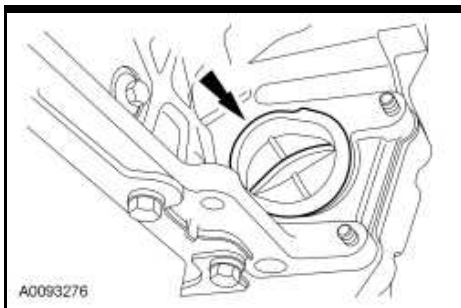
Vehicles equipped with a 5.0L or 6.2L engine

12. Install 4 new flexplate-to-[torque converter](#) nuts.

- Tighten to 40 Nm (30 lb-ft).

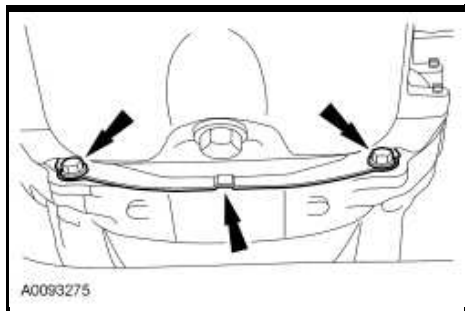
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13. Install the rubber [torque converter](#) nut access cover.

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14. Install the flexplate inspection cover and the flexplate inspection cover bolts.

- Tighten to 48 Nm (35 lb-ft).



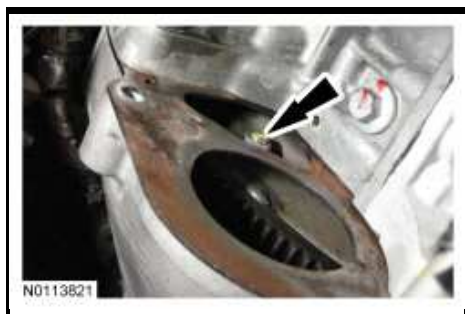
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Vehicles equipped with a 3.5L or 3.7L engine

15. Install 4 new flexplate-to-torque converter nuts.

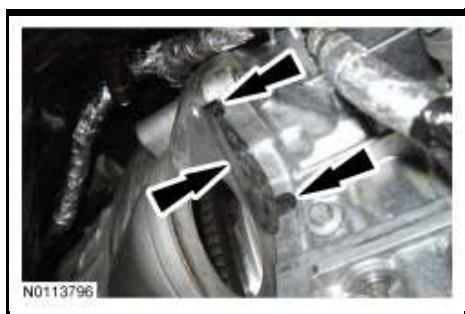
- Tighten to 40 Nm (30 lb-ft).



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16. Install the access cover and the 2 pin-type retainers.



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All vehicles

17. Install the starter motor. For additional information, refer to Section 303-06 [See: Specifications\Mechanical\Starting System](#).

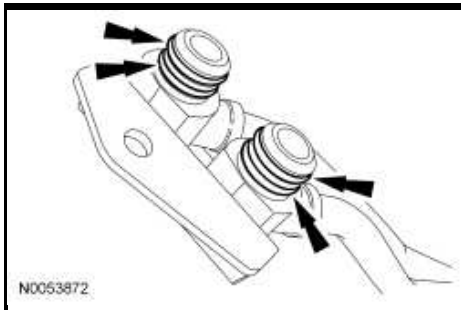
18. Reposition the transmission fluid cooler tubes and bracket and install the transmission fluid cooler tube bracket nut.

- Tighten to 12 Nm (106 lb-in).

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19. **NOTE:** Inspect the case to make sure the old transmission fluid cooler tube O-rings are not stuck in the case.

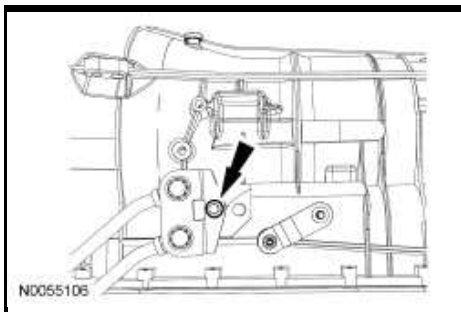
Install new transmission fluid cooler tube O-rings on the transmission fluid cooler tubes.

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20. **NOTICE:** Install a new transmission fluid cooler tube bracket bolt.

Install the transmission fluid cooler tubes and a new transmission fluid cooler tube bracket bolt.

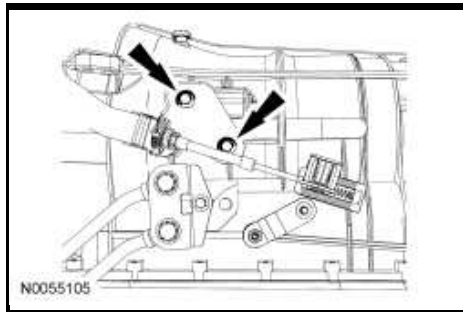
- Tighten to 30 Nm (22 lb-ft).

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21. **NOTE:** The column shift is shown, the floor shift similar.

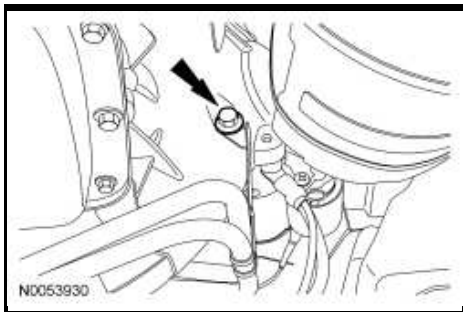
Install the selector lever cable bracket and selector lever cable bracket bolts.

- Tighten to 25 Nm (18 lb-ft).

[Zoom](#)[Sized for Print](#)**Vehicles equipped with a 5.0L or 6.2L engine**

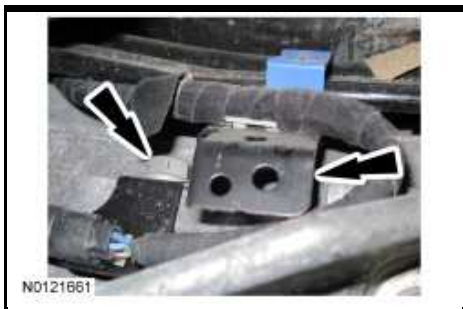
22. Align the transmission fluid cooler tube bracket and install the remaining transmission-to-engine bolt.

- Tighten to 48 Nm (35 lb-ft).

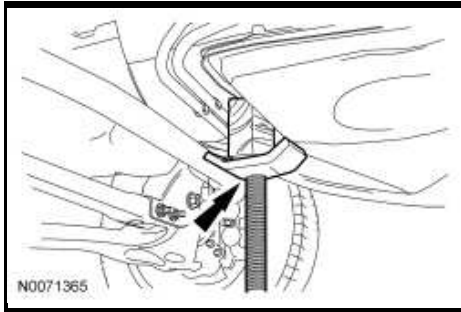
[Zoom](#)[Sized for Print](#)**All vehicles**

23. Install the fuel line bracket and the fuel line bracket bolt.

- Tighten to 25 Nm (18 lb-ft).

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24. Position a jack stand under the transmission, and remove the high-lift transmission jack.

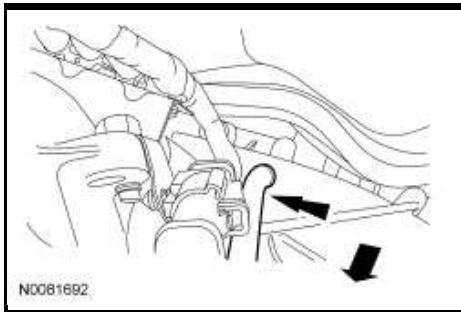
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25. **NOTE:** Do not reuse the old [transfer case](#)-to-transmission bolts.

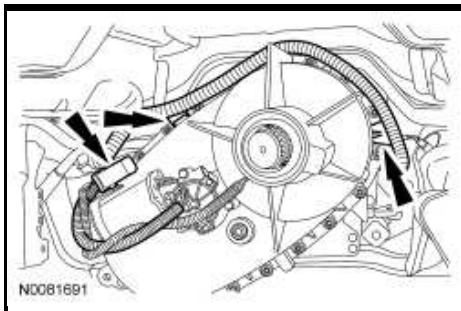
If the [transfer case](#) was removed from the transmission during removal, install the transfer case using a high-lift transmission jack. Install 9 new transfer case-to-transmission bolts.

- Tighten the bolts evenly in a cross pattern to 17 Nm (150 lb-in).

26. Connect the vent hose to the [transfer case](#).

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27. Connect the electrical connector and attach the 2 harness retainer clips to the [transfer case](#).

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28. Install the [shift cable](#) mounting bracket and the 2 nuts.

- Tighten to 28 Nm (21 lb-ft).

29. Connect the cable end to the shift lever.

30. Install the front and rear driveshafts. For additional information, refer to Section 205-01 [See: Drive/Propeller Shafts, Bearings and Joints](#).

31. Install the exhaust Y-pipe.

32. Connect the battery ground cable. For additional information, refer to Section 414-01 [See: Starting and Charging\Battery](#).

33. Adjust the selector lever cable and install the selector lever cable end on the manual control lever. Verify the selector lever cable is correctly adjusted. For additional information, refer to Section 307-05 [See: Automatic Transmission/Transaxle](#).

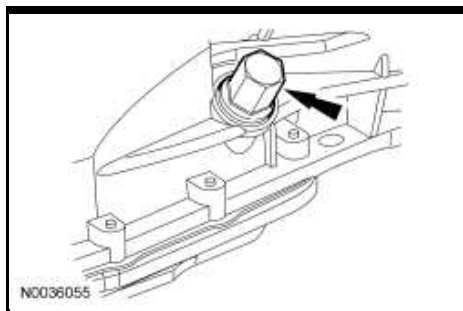
34. After completing the repairs, use the scan tool to perform the Misfire Monitor Neutral Profile Correction procedure, following the on-screen instructions.

35. If a new transmission or a new main control was installed, the solenoid body strategy must be updated. For additional information, refer to

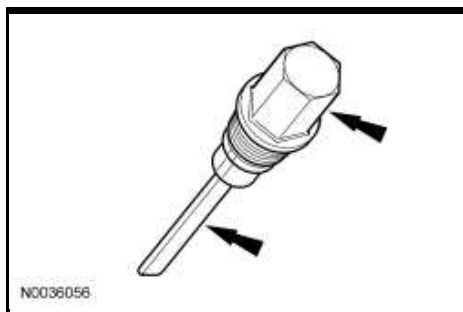
Solenoid Body Strategy [See: Testing and Inspection\Component Tests and General Diagnostics\Automatic Transaxle/Transmission - 6R80\Solenoid Body Strategy\Solenoid Body Identification Procedure.](#)

36. If the transmission was overhauled, the adaptive drive cycle must be updated. For additional information, refer to Shift Point Road Test [See: Testing and Inspection\Component Tests and General Diagnostics\Automatic Transaxle/Transmission - 6R80\Shift Point Road Test.](#)
37. While driving the vehicle, use the scan tool to verify that the Transmission Fluid Temperature (TFT) has reached a temperature of 91°C (195°F). This will circulate the transmission fluid through the [torque converter](#) and the transmission fluid cooling system, eliminating any trapped air in the transmission fluid cooling system.
 - With the engine idling (600-750 rpm) in PARK, verify that the TFT (Transmission Fluid Temperature) is between 91°C-102°C (195°F-215°F).

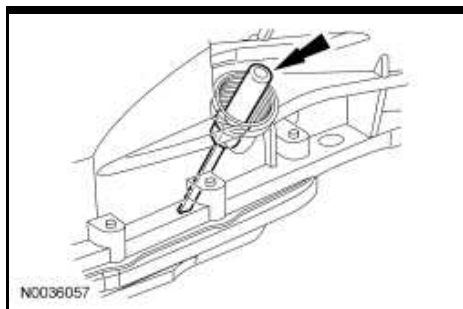
38. Remove the transmission fluid fill plug transmission fluid level indicator assembly located on the passenger side front portion of the transmission case.

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39. Separate the transmission fluid level indicator from the transmission fluid fill plug.

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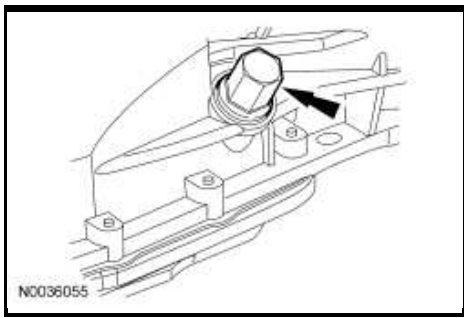
40. Wipe the transmission fluid level indicator clean. Reinstall the transmission fluid level indicator only back into the transmission fluid fill plug hole to check the transmission fluid level. Repeat this until a consistent reading is established.

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41. **NOTE:** If the transmission fluid is not at the correct level, follow the steps for Adding Additional Transmission Fluid or Removing Transmission Fluid. For additional information, refer to Transmission Fluid Drain and Refill [See: Procedures\Transmission Fluid Drain and Refill.](#)

Install the transmission fluid fill plug.

- Tighten to 35 Nm (26 lb-ft).



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