

307-01 Automatic Transmission
Removal and Installation

2019 F-650-750 Super Duty
Procedure revision date: 08/15/2017

Transmission - 6.8L Triton-30V – V10



Special Tool(s) / General Equipment

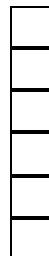
	<p>307-346 (T97T-7902-A) Retainer, Torque Converter TKIT-1998-LM (NavigatoR) TKIT-1997-F/FLM/LT</p>
<p>Transmission Jack</p>	

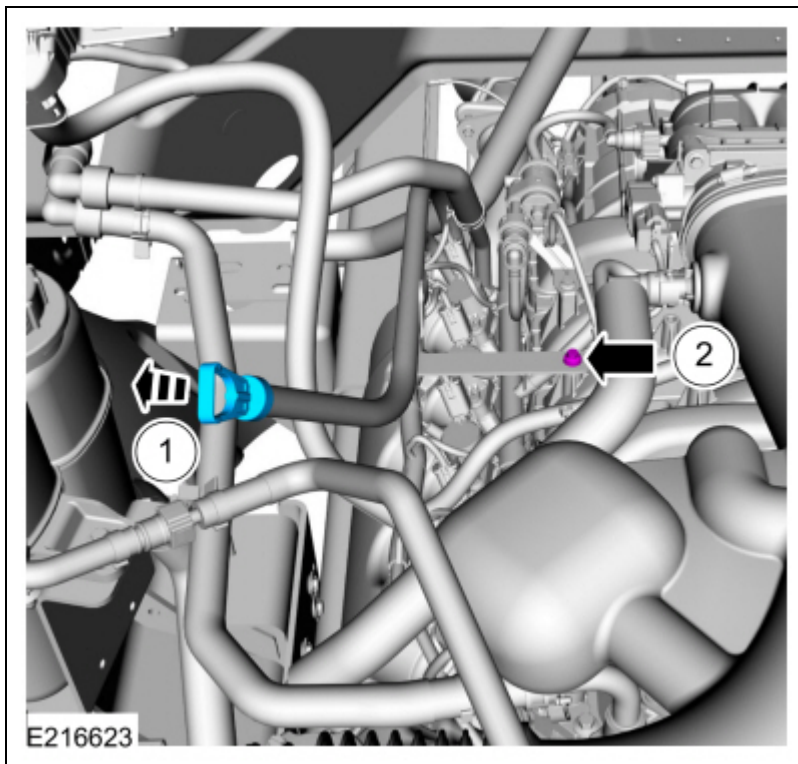
Materials

Name	Specification
<p>Motorcraft® Multi-Purpose Grease Spray XL-5-A</p>	<p>ESB-M1C93-B</p>
<p>Motorcraft® MERCON® LV Automatic Transmission Fluid XT-10-QLVC</p>	<p>WSS-M2C938-A MERCON® LV,</p>

Removal

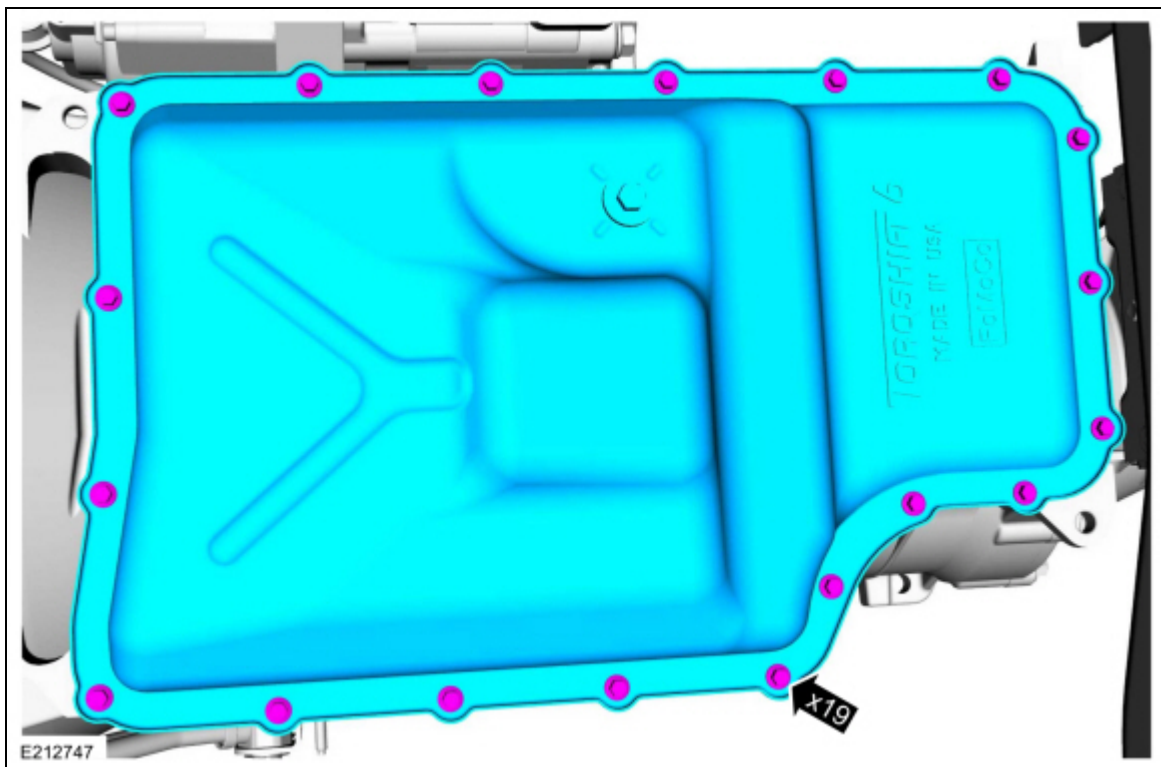
1. With the vehicle in NEUTRAL, position it on a hoist.
Refer to: [Jacking and Lifting - Overview](#) (100-02 Jacking and Lifting, Description and Operation).
2.
 1. Remove the transmission fluid level indicator.
 2. Remove the upper transmission fluid filler tube bolt.





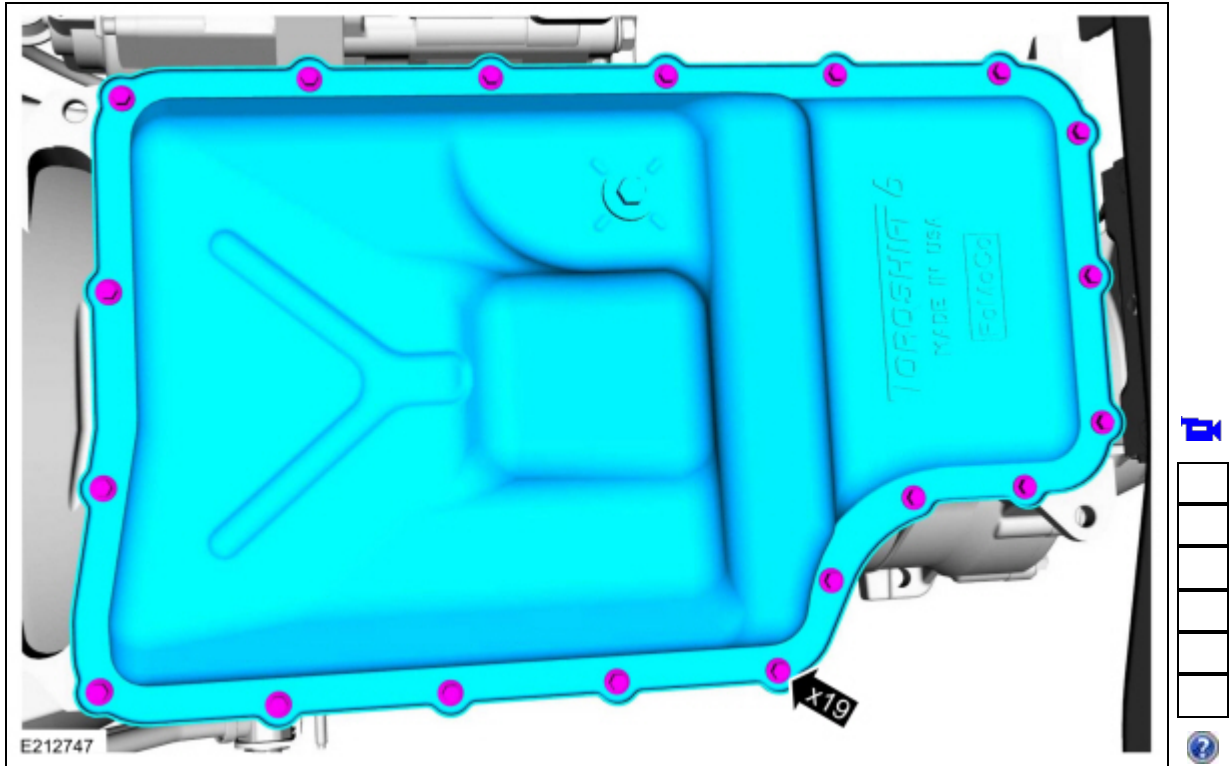
3. **NOTE:** If transmission disassembly or installation of a new transmission is necessary, drain the transmission fluid.

Remove the bolts and the transmission fluid pan and allow the transmission fluid to drain.



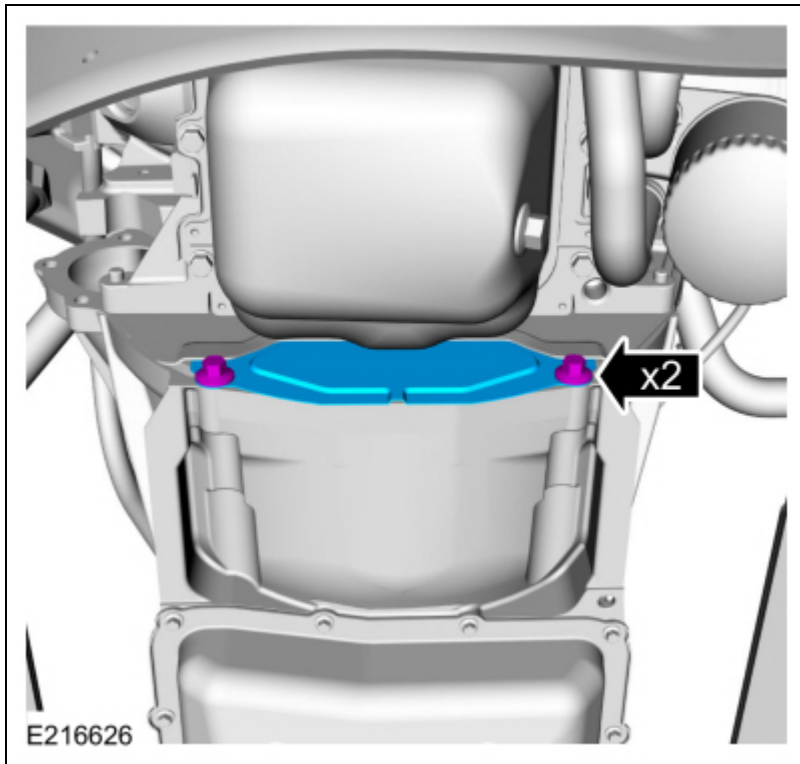
4. **NOTE:** It is not necessary to torque transmission fluid pan bolts at this time.

Install the transmission fluid pan and the bolts.

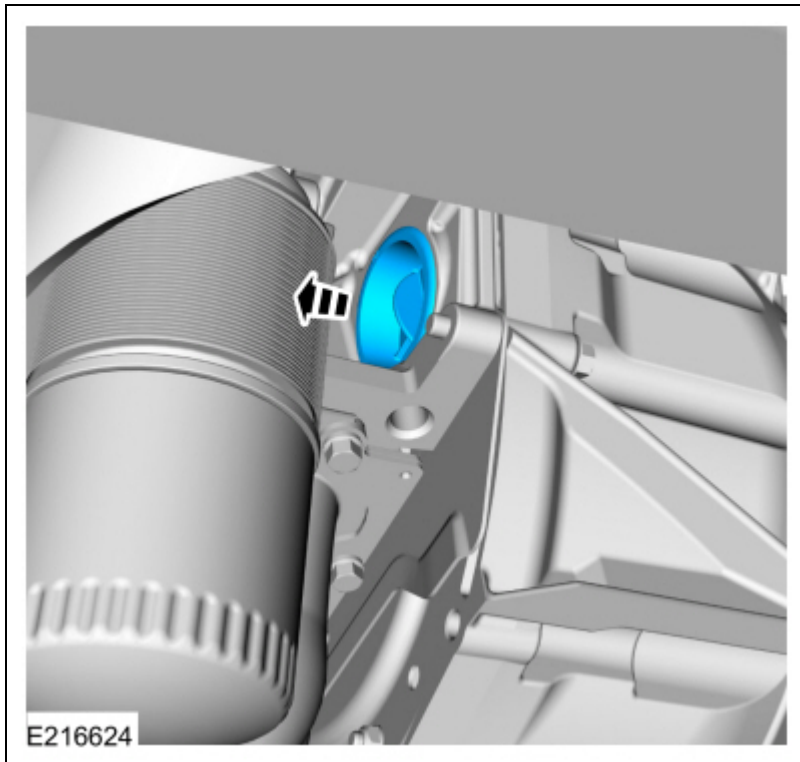


5. Remove the following items:
 1. Refer to: [Exhaust Y-Pipe](#) (309-00A Exhaust System - 6.8L Triton-30V – V10, Removal and Installation).
 2. Refer to: [Starter Motor](#) (303-06A Starting System - 6.8L Triton-30V – V10, Removal and Installation).
6. Remove the bolts and the flexplate inspection cover.





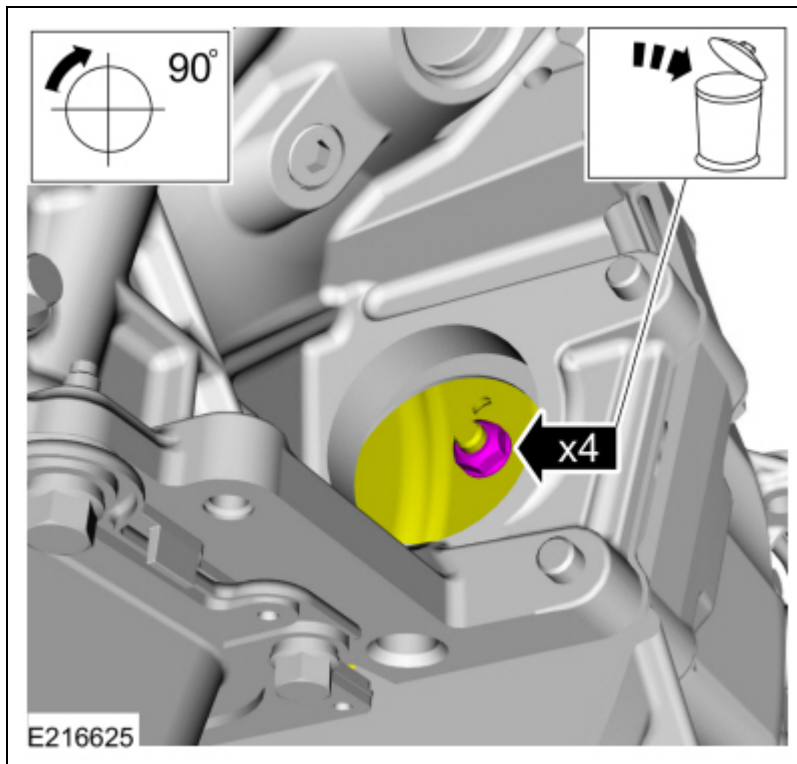
7. Remove the rubber torque converter nut access cover.



8. **NOTE:** Using the crankshaft pulley bolt, turn the engine clockwise.

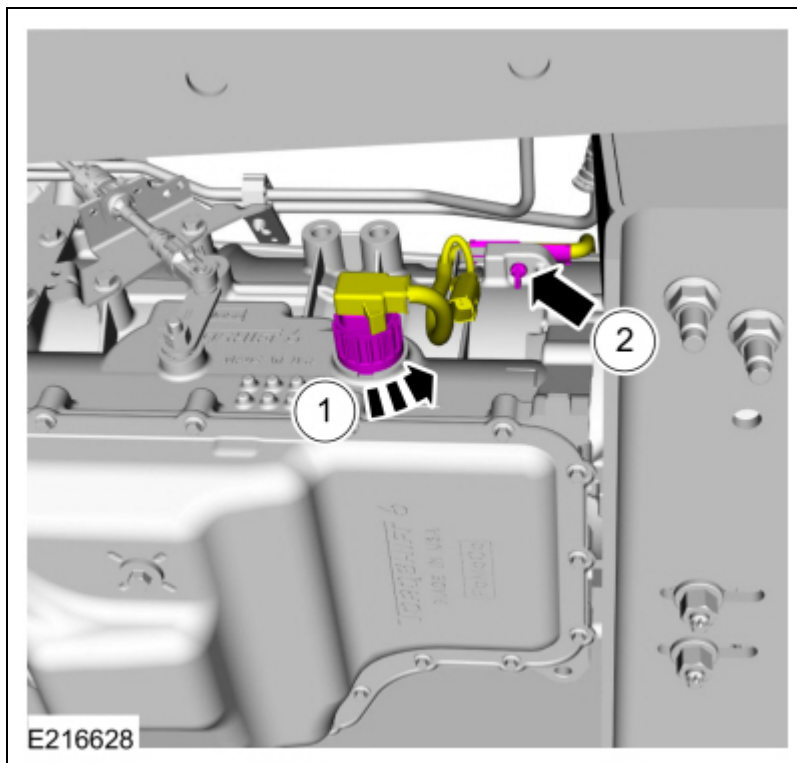
Remove and discard the torque converter nuts (W715234).





9.

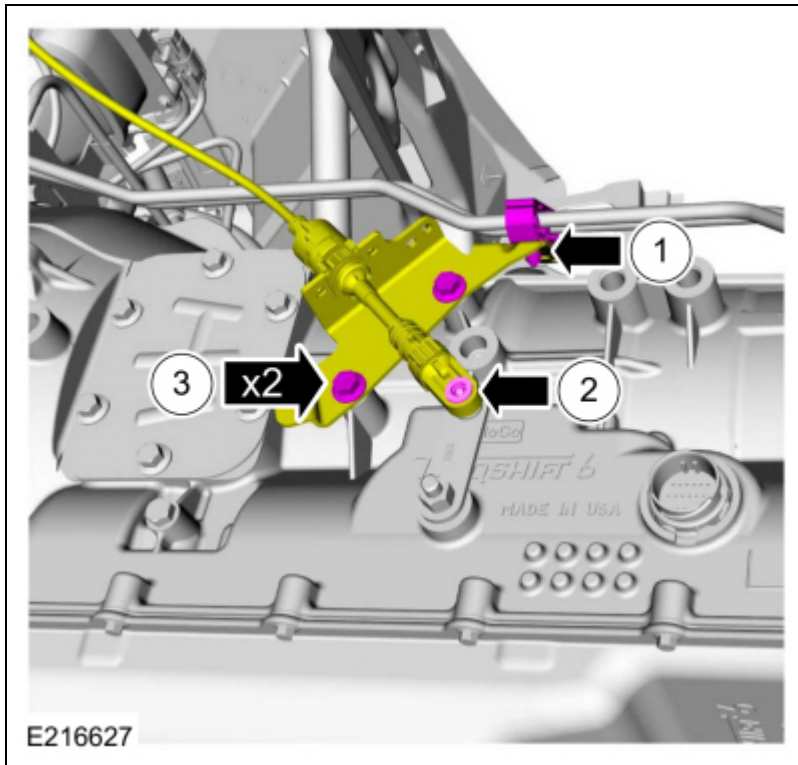
1. Disconnect the wiring harness retainer from the transmission case.
2. Rotate the shell of the transmission vehicle harness connector counterclockwise and disconnect the transmission vehicle harness connector.



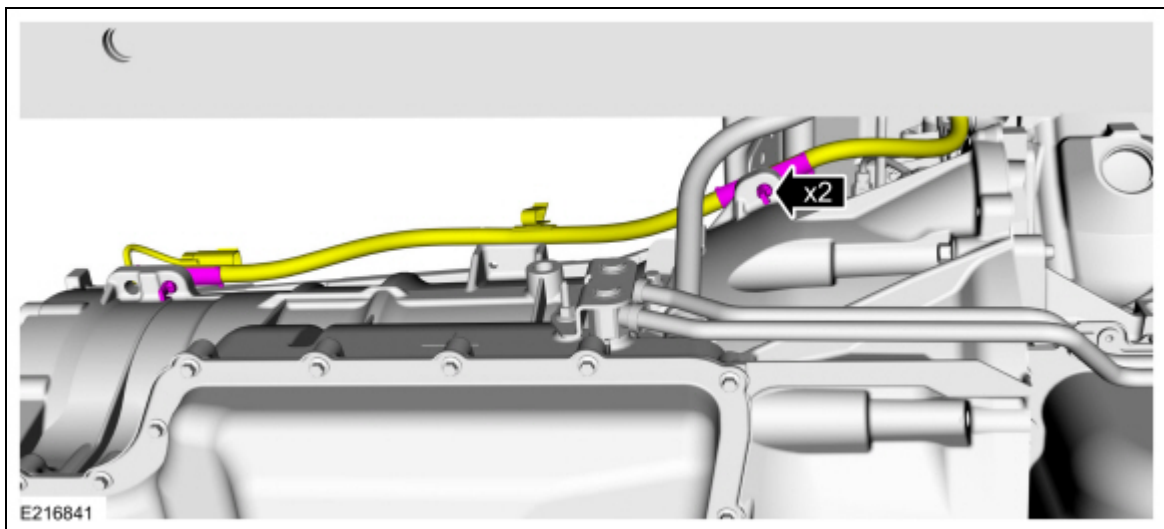
10.

1. Disconnect the fuel line retainer from the selector lever cable bracket.

2. Disconnect the selector lever cable from the manual control lever.
3. Remove the bolts and position the selector lever cable and bracket aside.

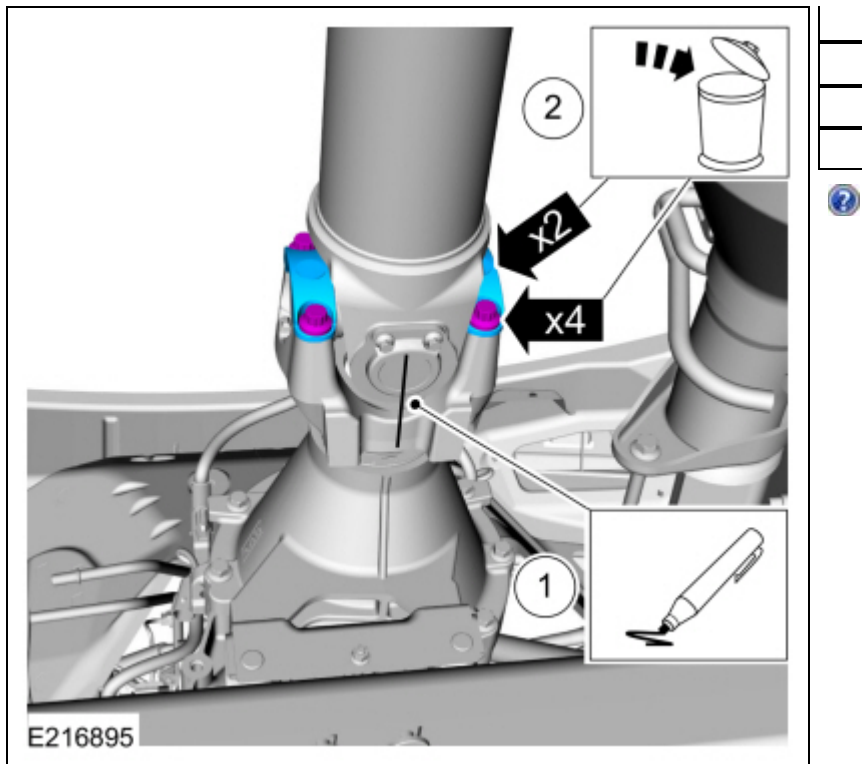


11. Disconnect the wiring harness retainers from the transmission case and position the wiring harness aside.

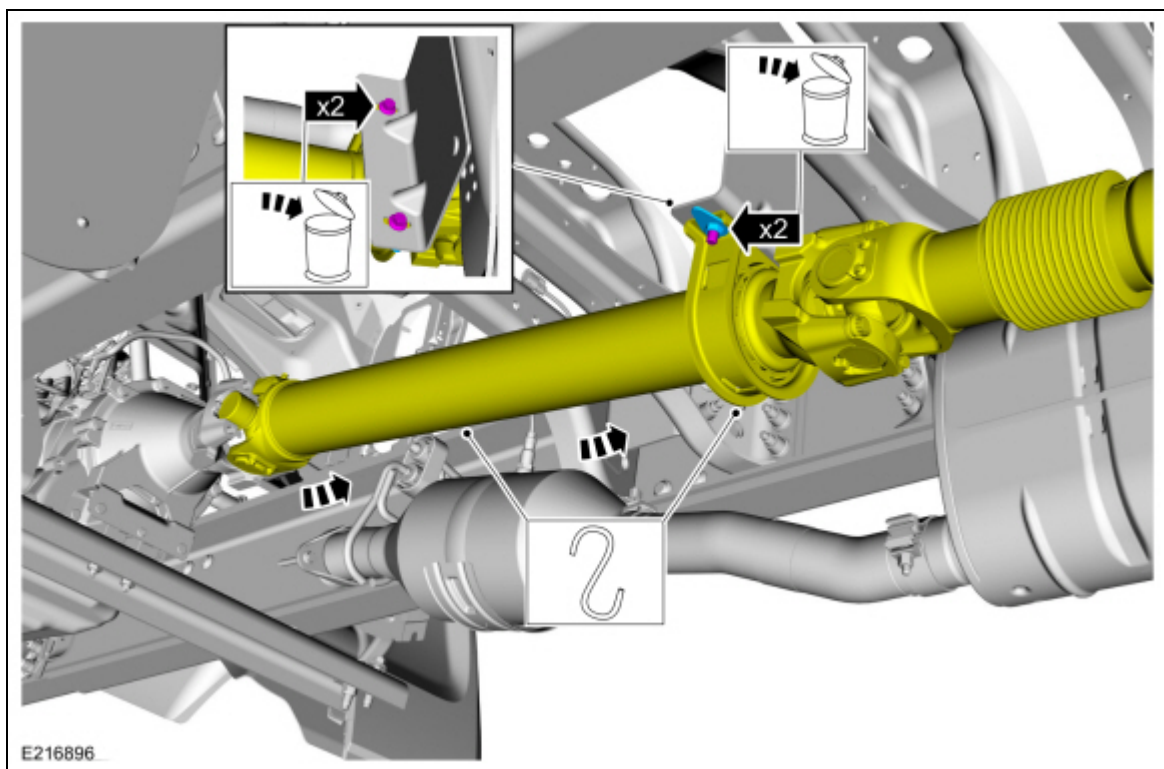


12.
 1. Index mark the rear driveshaft.
 2. Remove and discard the driveshaft to output shaft flange bolts and straps (4A254).

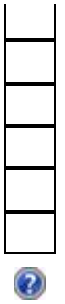
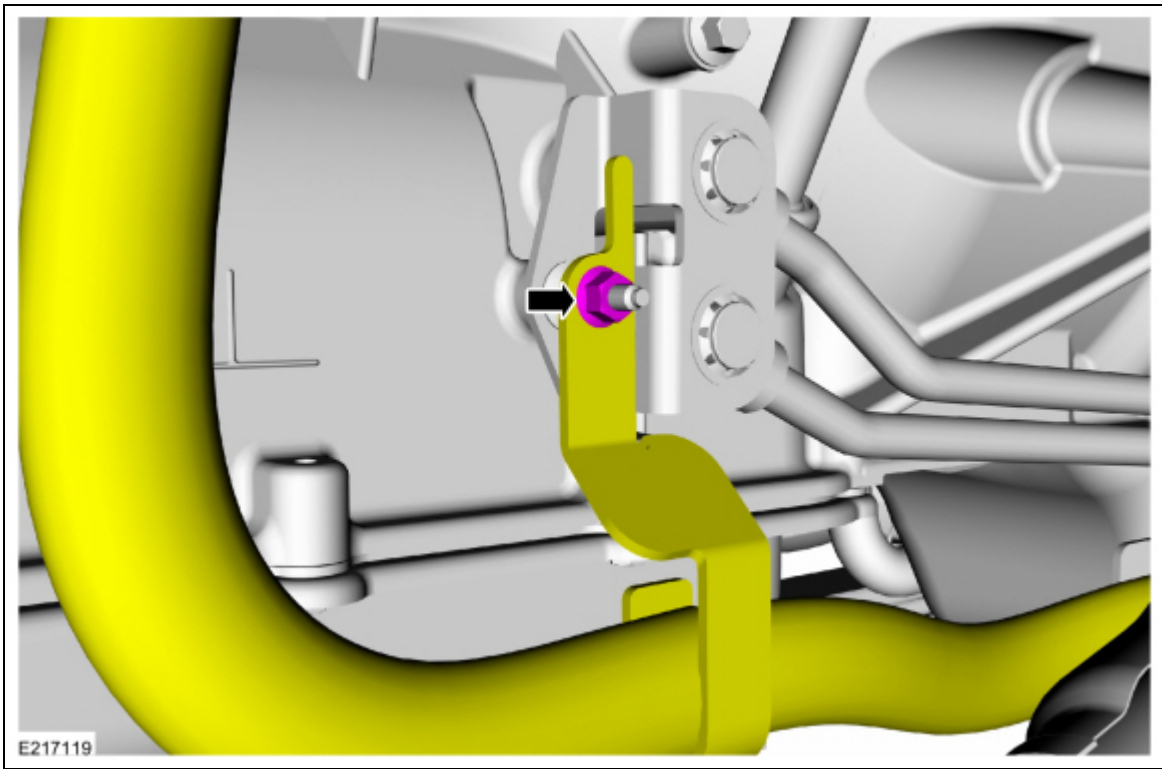




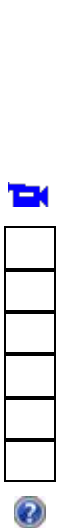
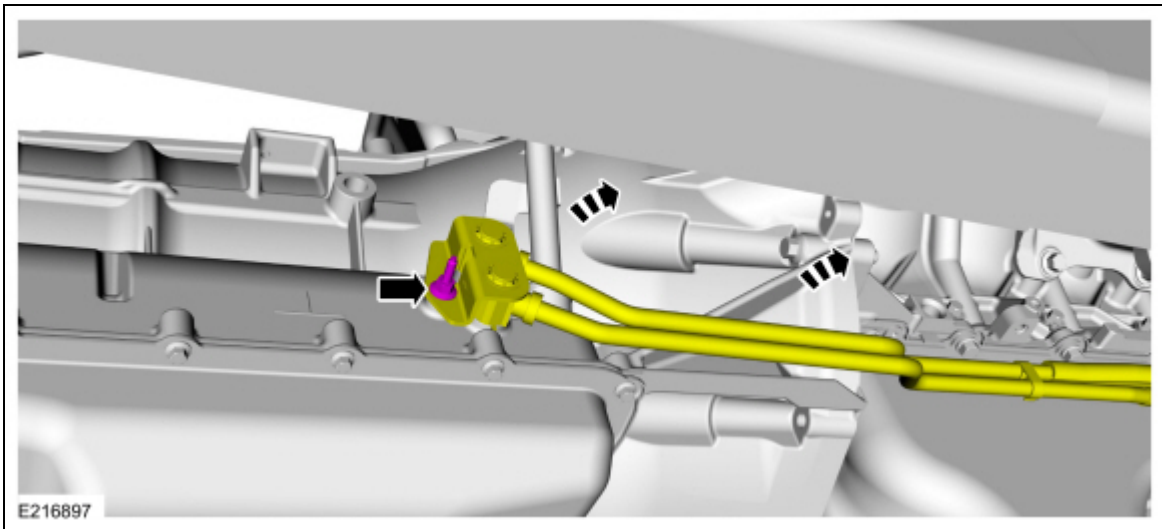
13. Remove and discard the center bearing mounting bolts from the center bearing bracket. Position aside and support the driveshaft.



14. Remove the battery cable bracket nut from the transmission tube fitting and detach the bracket.

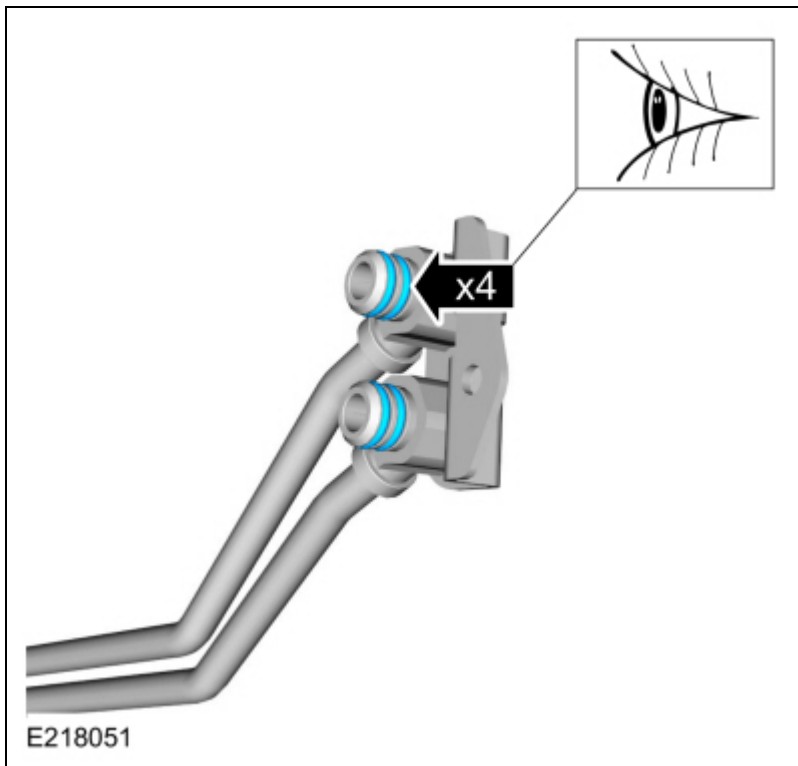


15. Remove the bolt and position the transmission fluid cooler tubes aside.

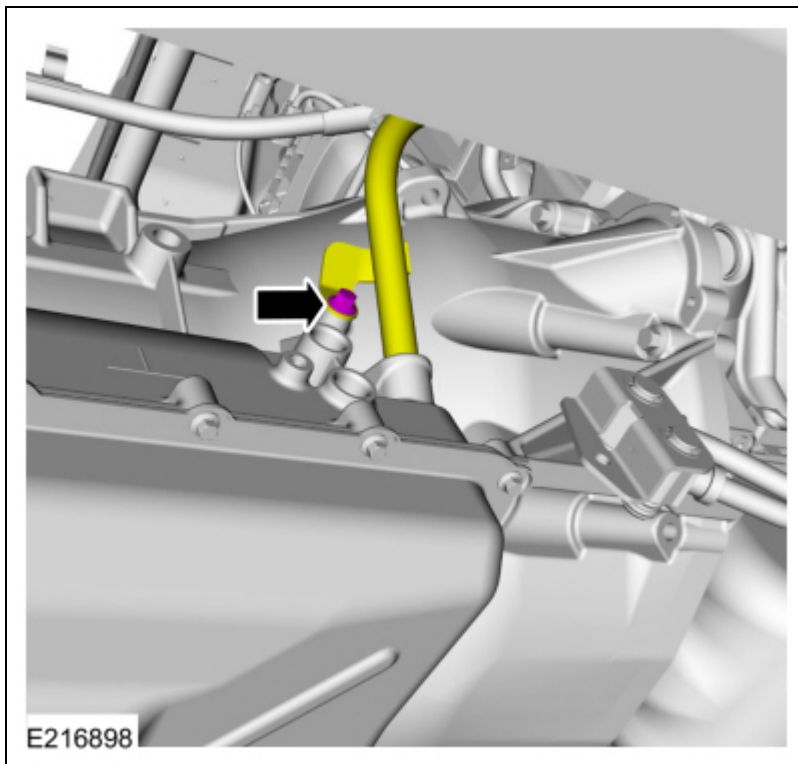


16. Inspect the transmission fluid cooler tube O-rings for damage and install new O-rings as necessary.

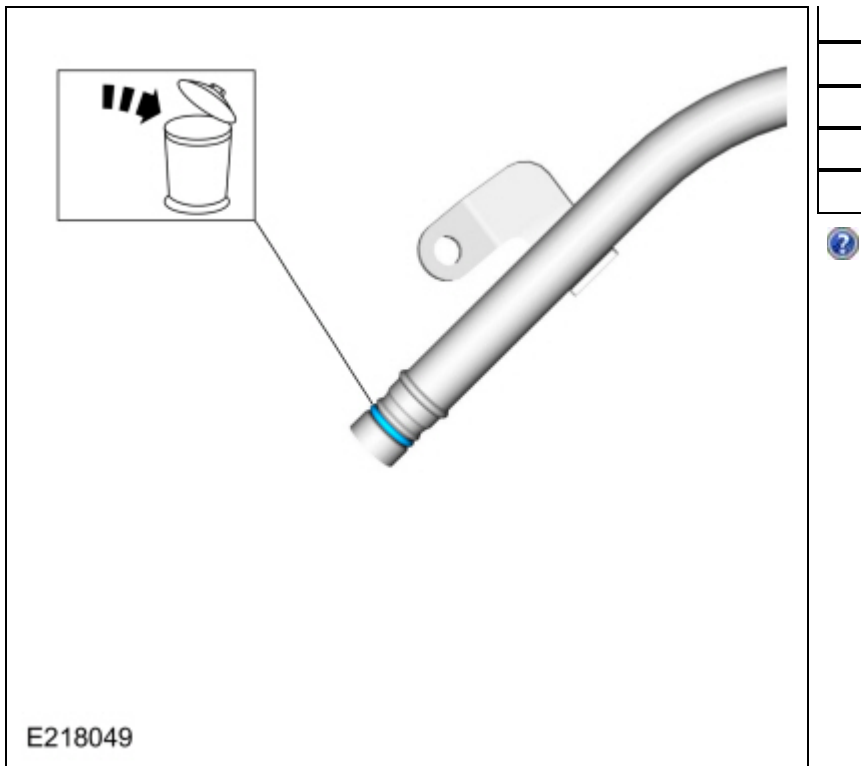




17. Remove the lower transmission fluid filler tube bolt and position the transmission fluid filler tube aside.



18. Remove and discard the transmission fluid filler tube O-ring (391308).

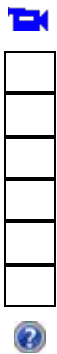


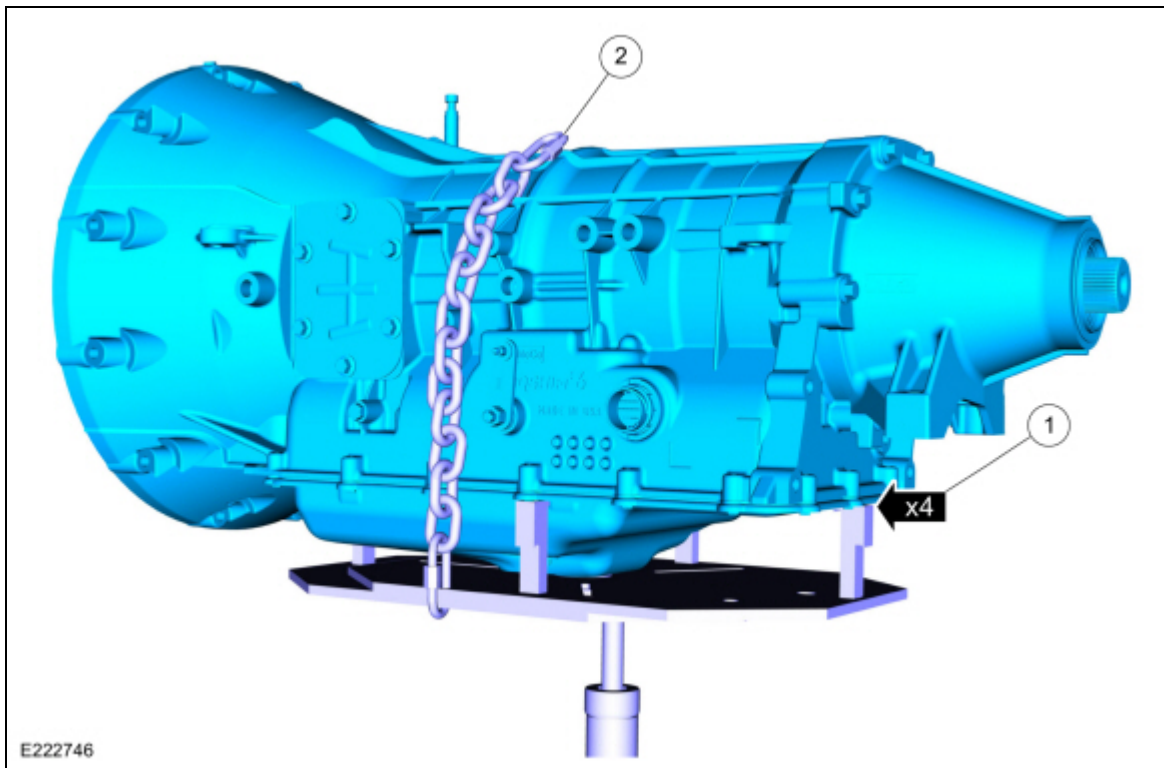
19. **NOTICE:** Secure the transmission to the transmission jack with a safety strap or chain.

NOTE: Make sure the transmission jack makes contact on the outer ribs of the transmission fluid pan.

Using a high-lift transmission jack, support the transmission.

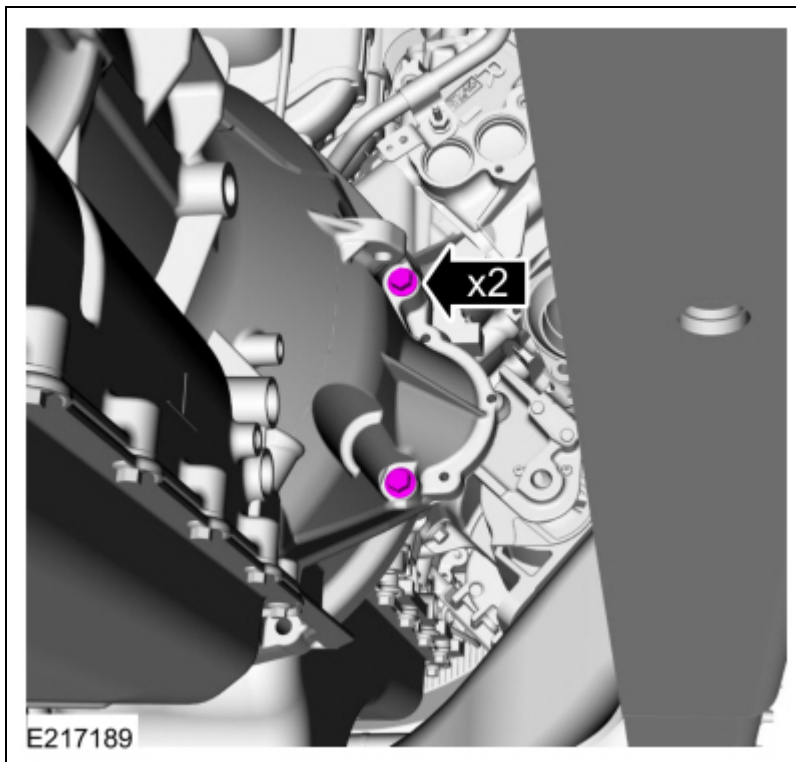
1. Outer ribs of the transmission fluid pan
Use the General Equipment: Transmission Jack
2. Safety chain





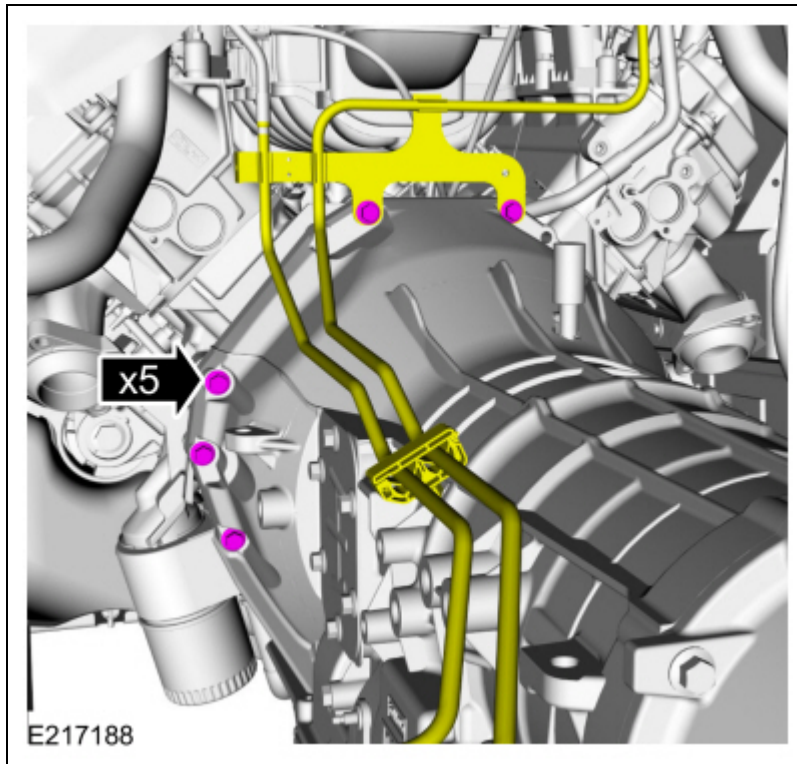
20. Remove the transmission support crossmember.
Refer to: [Transmission Support Crossmember](#) (502-02 Full Frame and Body Mounting, Removal and Installation).
21. **NOTE:** Note the location of the longer bolt for installation.

Remove the RH transmission-to-engine bolts.

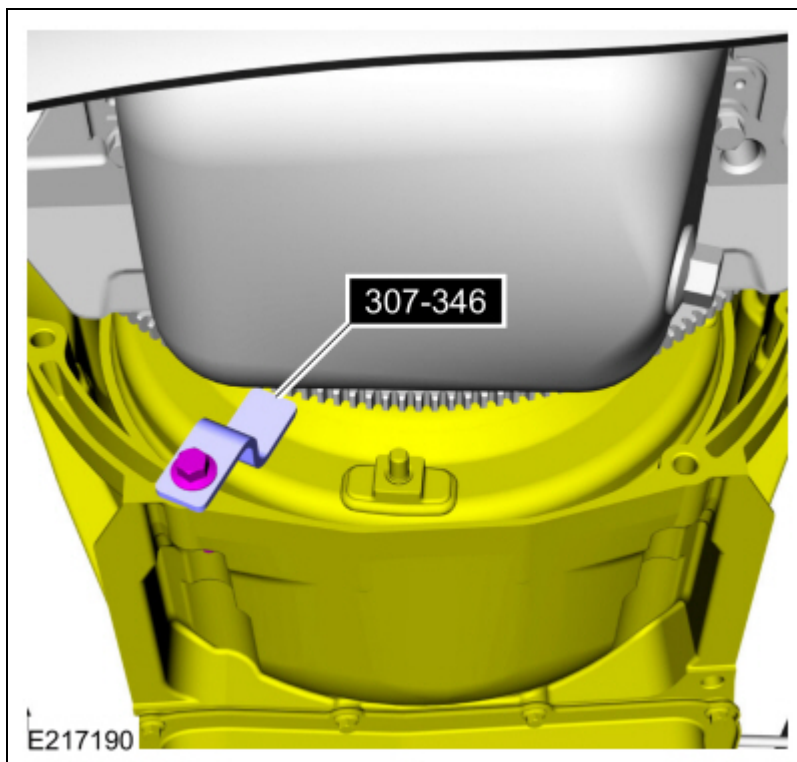


22. **NOTE:** Note the location of the longer bolt for installation.

Remove the transmission-to-engine bolts, position aside the fuel line bracket and remove the transmission from the dowel pins.



23. Slide the transmission back enough to install the special tool and remove the transmission. Use Special Service Tool: [307-346 \(T97T-7902-A\) Retainer, Torque Converter.](#)



24. **NOTICE: Failure to flush the transmission fluid cooler and transmission fluid cooler tubes can result in metallic contamination of the transmission.**

If installing a new, remanufactured or overhauled transmission, clean and backflush the transmission fluid cooler tubes to prevent repeat repairs.

Refer to: [Transmission Fluid Cooler and Tubes - Backflushing and Cleaning](#) (307-02 Transmission Cooling, General Procedures).

25. **NOTICE: Failure to install a new auxiliary transmission fluid cooler can result in metallic contamination of the transmission.**

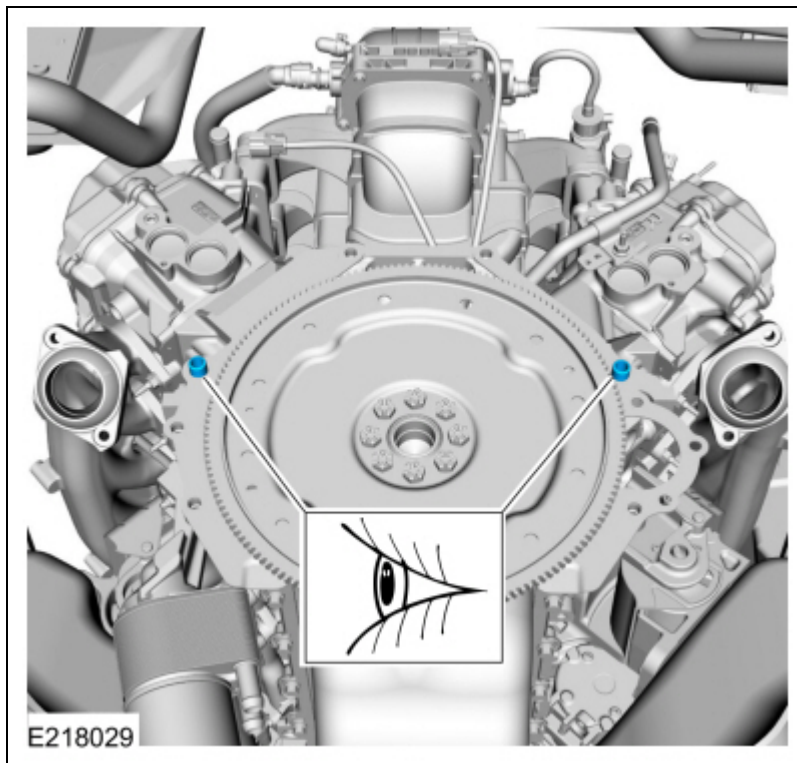
If installing a new, remanufactured or overhauled transmission install a new auxiliary transmission fluid cooler (7H189) if equipped.

26. **NOTICE: Failure to clean the PTO can result in metallic contamination of the transmission.**

For vehicles equipped with a PTO assembly, prior to installing the transmission, flush and clean the PTO assembly to remove any foreign material. Failure to remove foreign material from the PTO assembly may result in subsequent transmission concerns.

Installation

1. Inspect the back of the engine to be sure both dowel pins are in the engine. If the dowel pins are not in the engine, install new dowel pins as needed. If installing the same transmission that was removed, remove the dowel pins from the transmission and install them in the engine.

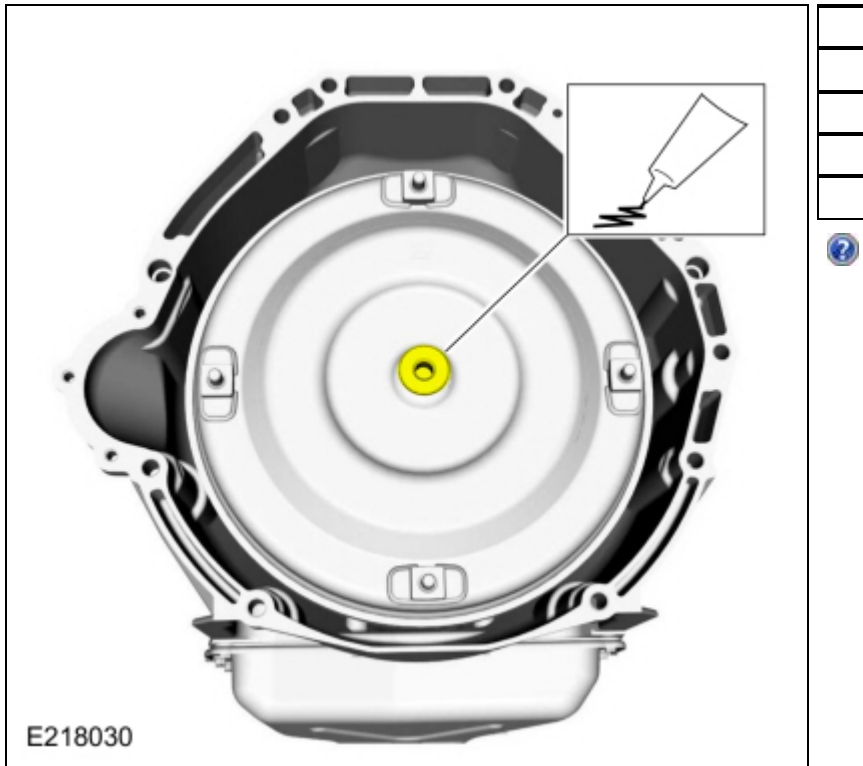


2. **NOTICE: Prior to installation of the transmission, lubricate the torque converter pilot hub or damage to the torque converter or the engine crankshaft can occur.**

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

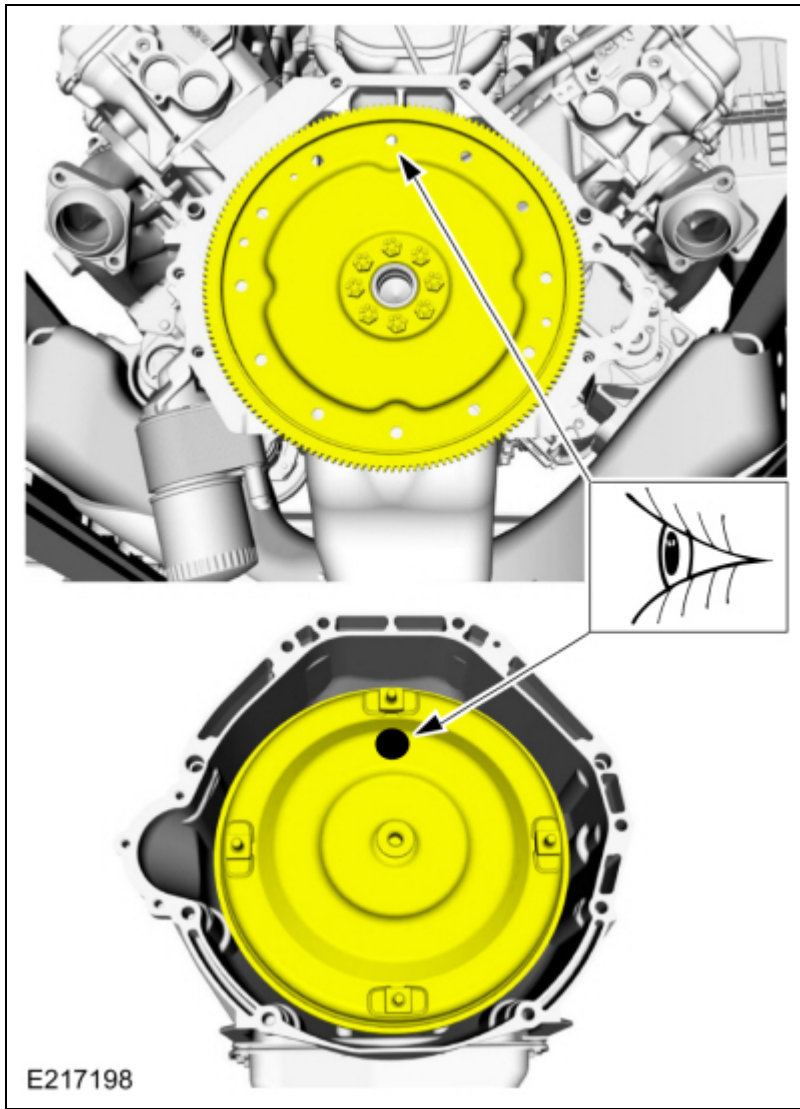
Material: Motorcraft® Multi-Purpose Grease Spray / XL-5-A (ESB-M1C93-B)





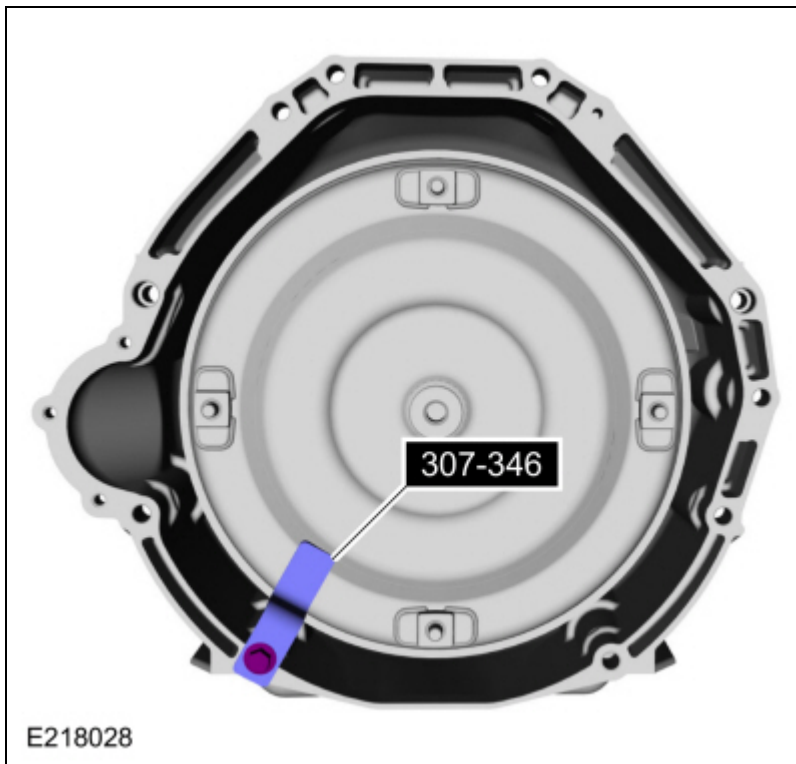
3. Align the paint dot on the torque converter in the 12 o'clock position.





- 4. Install the special tool.
Use Special Service Tool: [307-346 \(T97T-7902-A\) Retainer, Torque Converter.](#)



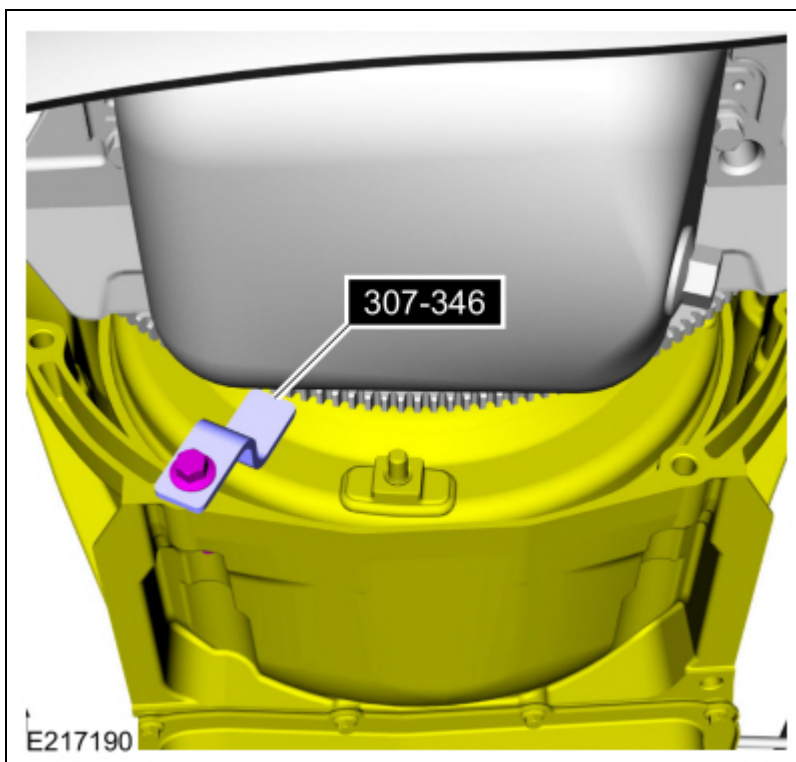


5. **NOTICE:** Secure the transmission to the transmission jack with a safety strap.

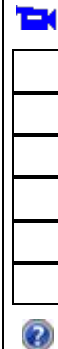
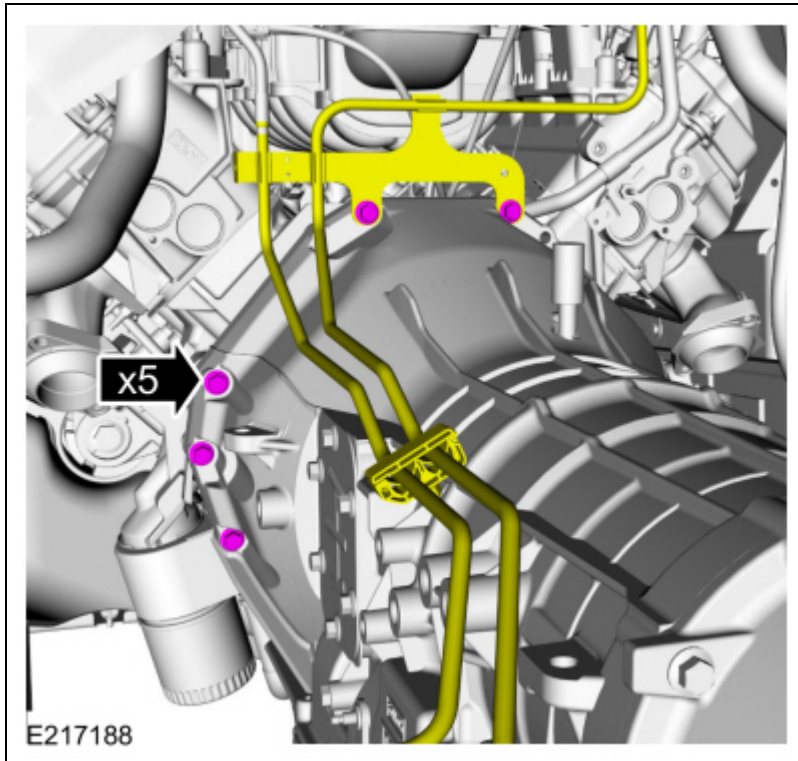
NOTE: Make sure the transmission jack makes contact on the outer ribs of the transmission fluid pan.

Using a high-lift transmission jack, position the transmission into the vehicle behind the engine and remove the special tool.

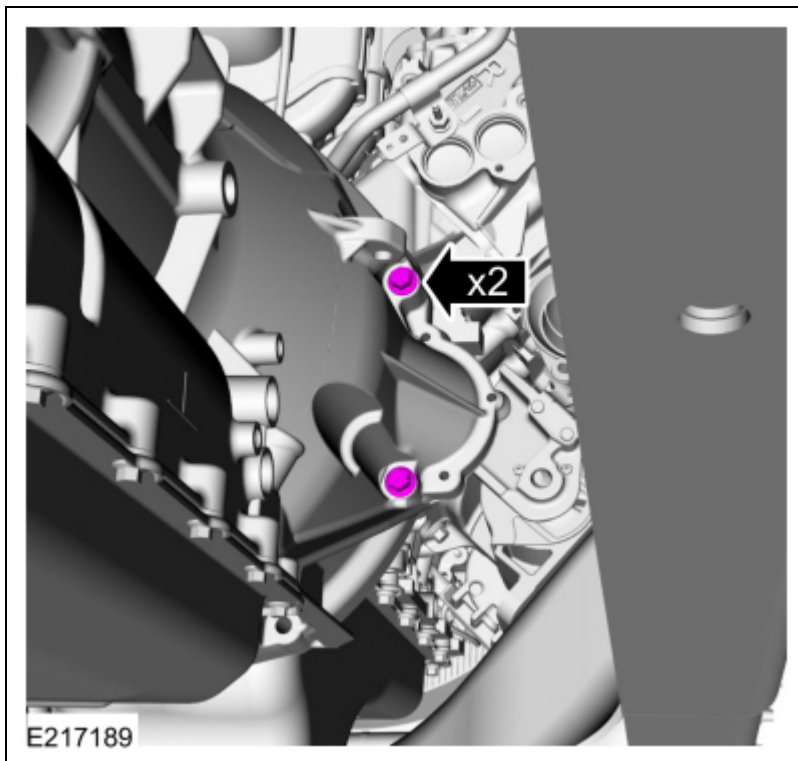
Use Special Service Tool: [307-346 \(T97T-7902-A\) Retainer, Torque Converter.](#)



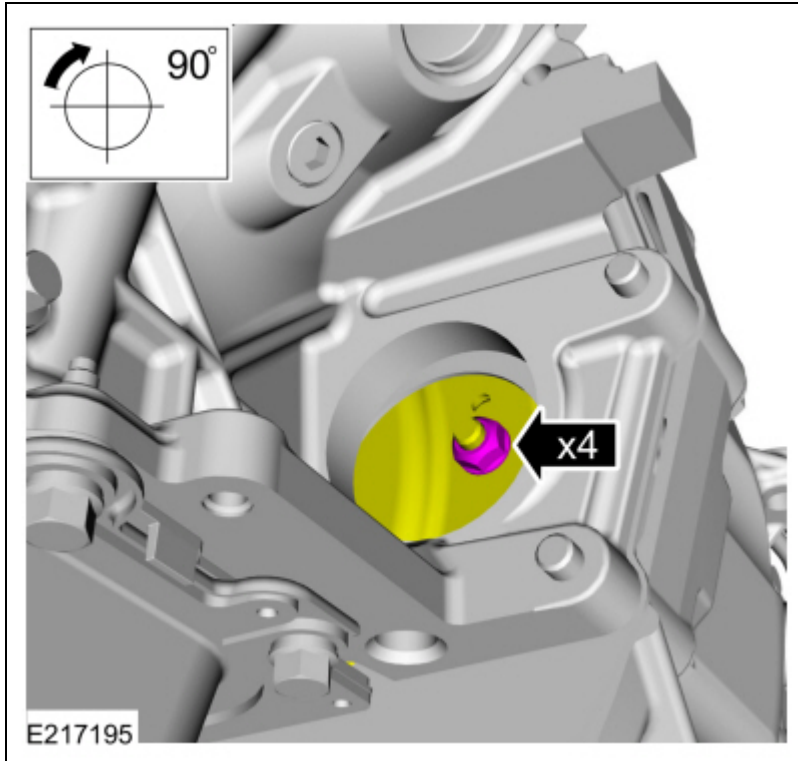
6. Position the fuel line bracket over the torque converter housing and install the transmission on the dowel pins on the back of the engine. Install the transmission-to-engine bolts.
Torque: 35 lb.ft (48 Nm)



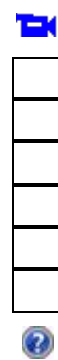
7. Install the RH transmission-to-engine bolts.
Torque: 35 lb.ft (48 Nm)

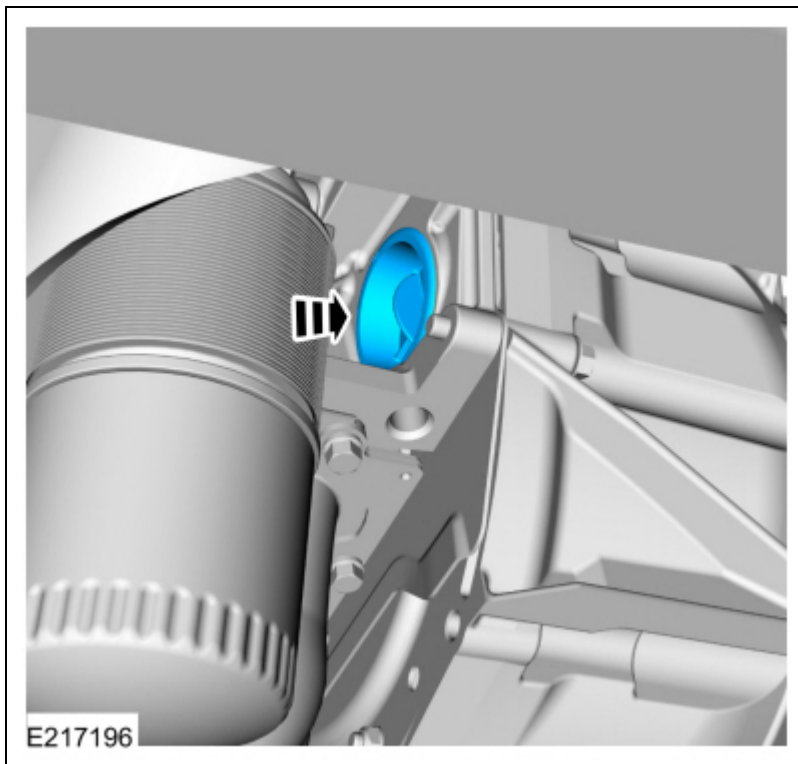


- 8. Install the transmission support crossmember.
Refer to: [Transmission Support Crossmember](#) (502-02 Full Frame and Body Mounting, Removal and Installation).
- 9. Install the new torque converter nuts.
Torque: 26 lb.ft (35 Nm)

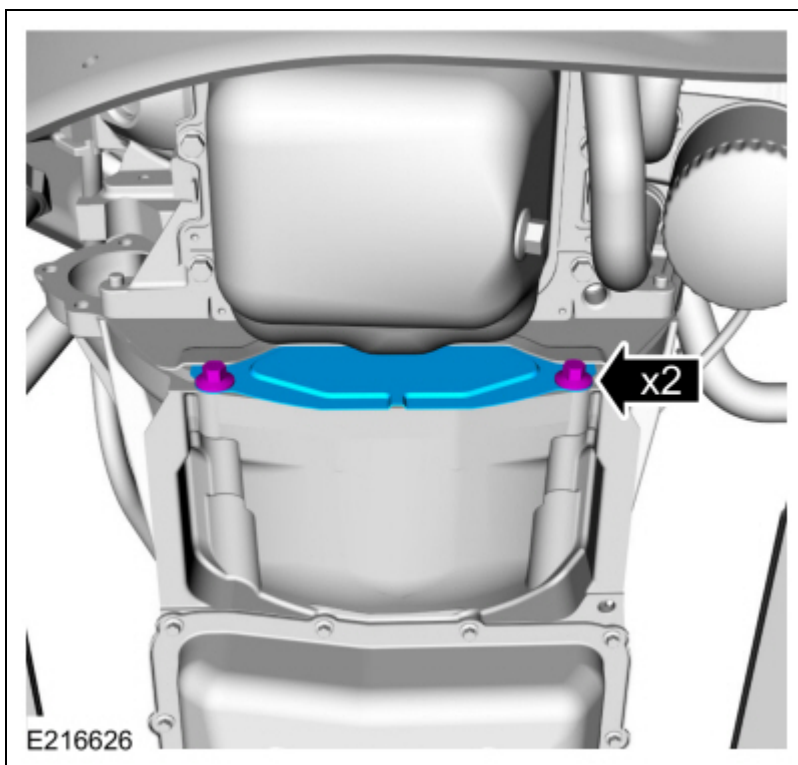


- 10. Install the rubber torque converter nut access cover.

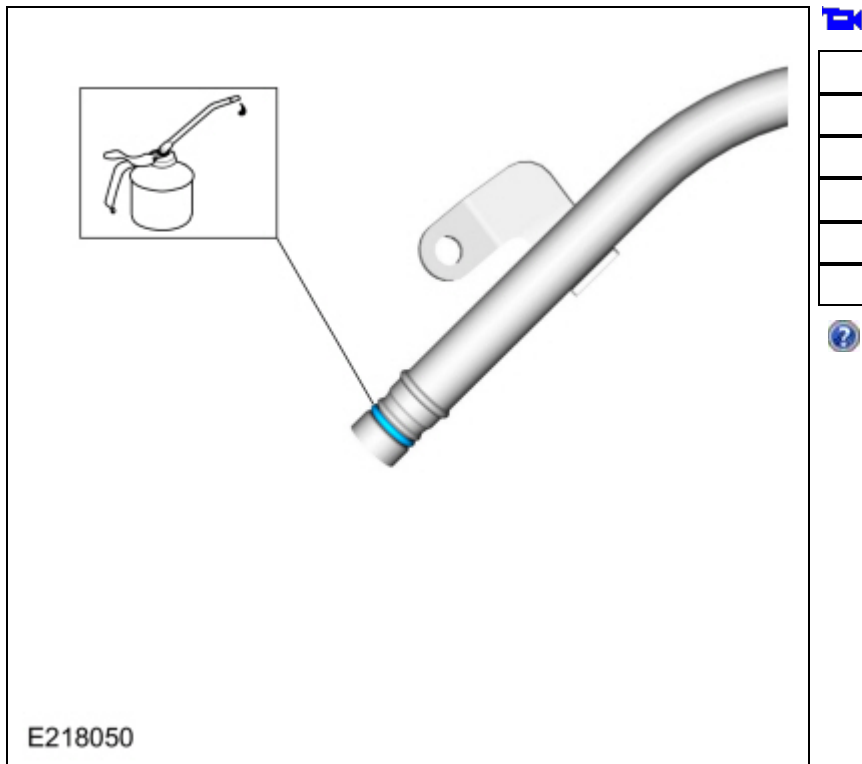




11. Install the flexplate inspection cover and bolts.
Torque: 26 lb.ft (35 Nm)

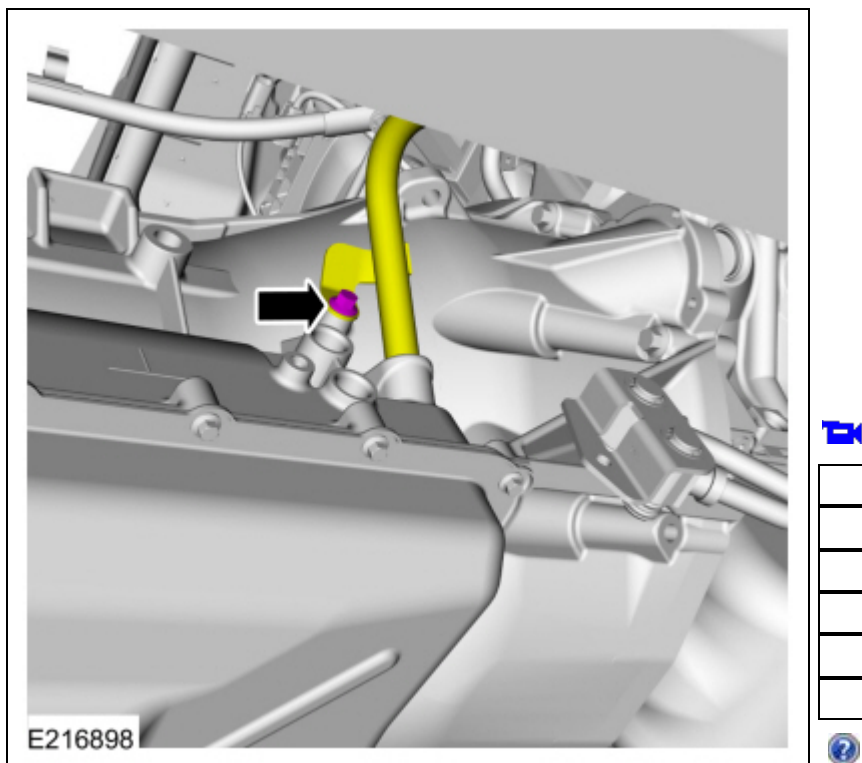


12. Install a new transmission fluid filler tube O-ring. Lubricate it with clean transmission fluid.
Material: Motorcraft® MERCON® LV Automatic Transmission Fluid / XT-10-QLVC (WSS-M2C938-A) (MERCON® LV,)



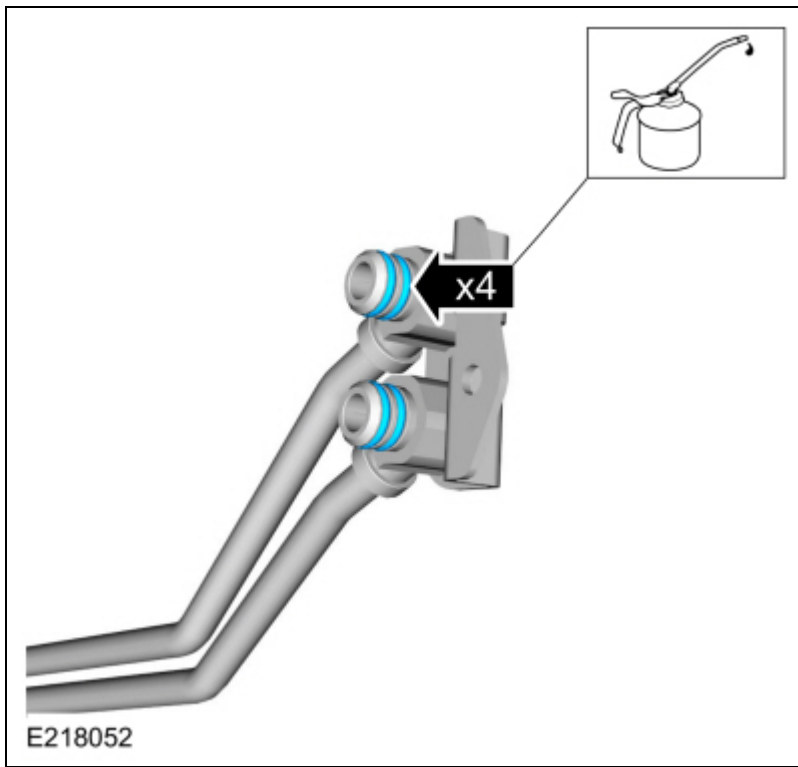
13. Install the transmission fluid filler tube in the transmission and install the lower transmission fluid filler tube bolt.

Torque: 18 lb.ft (25 Nm)

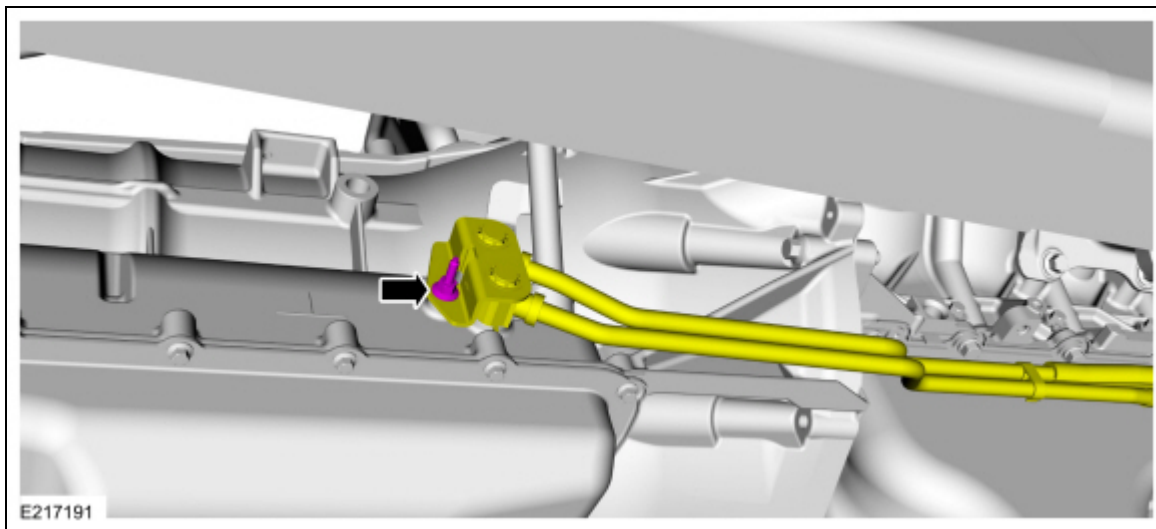


14. Lubricate the O-rings with clean transmission fluid.

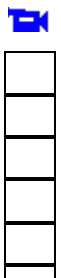
Material: Motorcraft® MERCON® LV Automatic Transmission Fluid / XT-10-QLVC (WSS-M2C938-A) (MERCON® LV,)

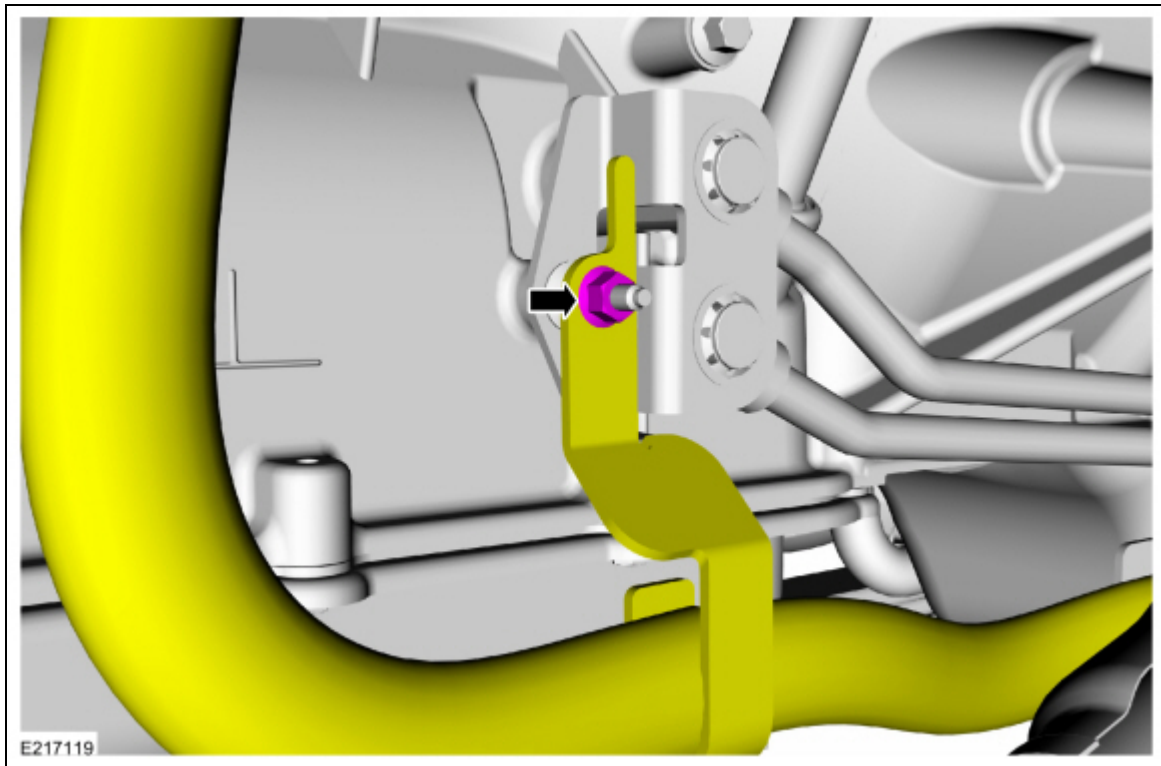


- 15. Position the transmission fluid cooler tubes in the transmission case and install the bolt.
Torque: 18 lb.ft (25 Nm)



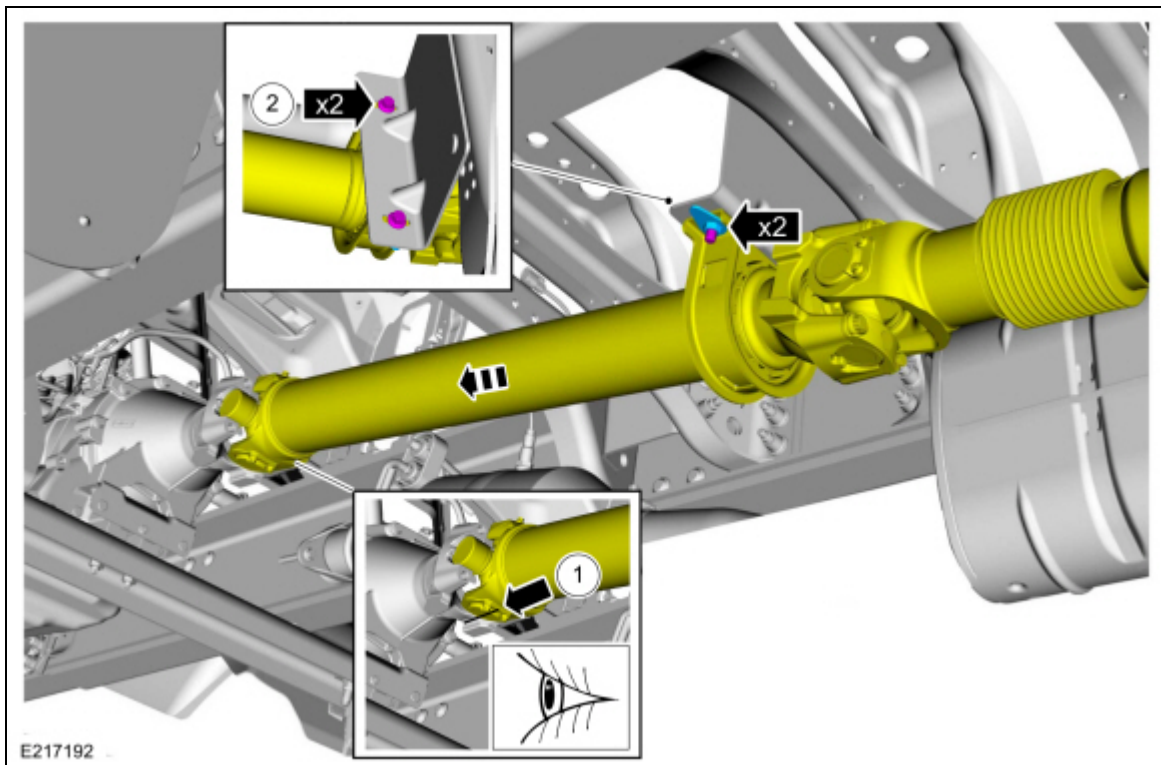
- 16. Attach the battery cable bracket to the transmission tube fitting and install the nut.
Torque: 80 lb.in (9 Nm)





17.

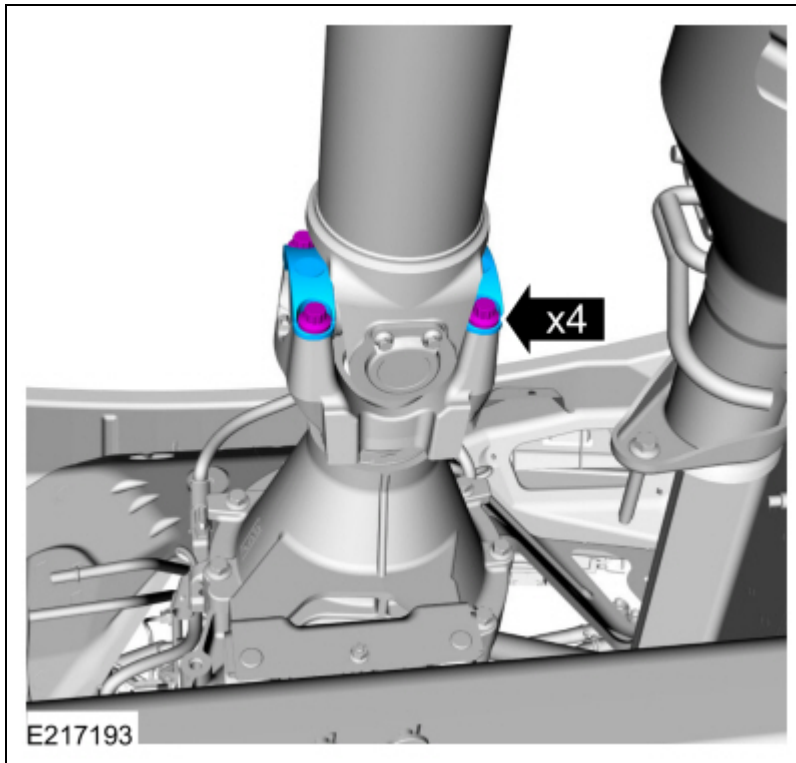
1. Align the driveshaft flange yoke index mark made during removal.
2. Install the new center bearing mounting bolts.
Torque: 98 lb.ft (133 Nm)



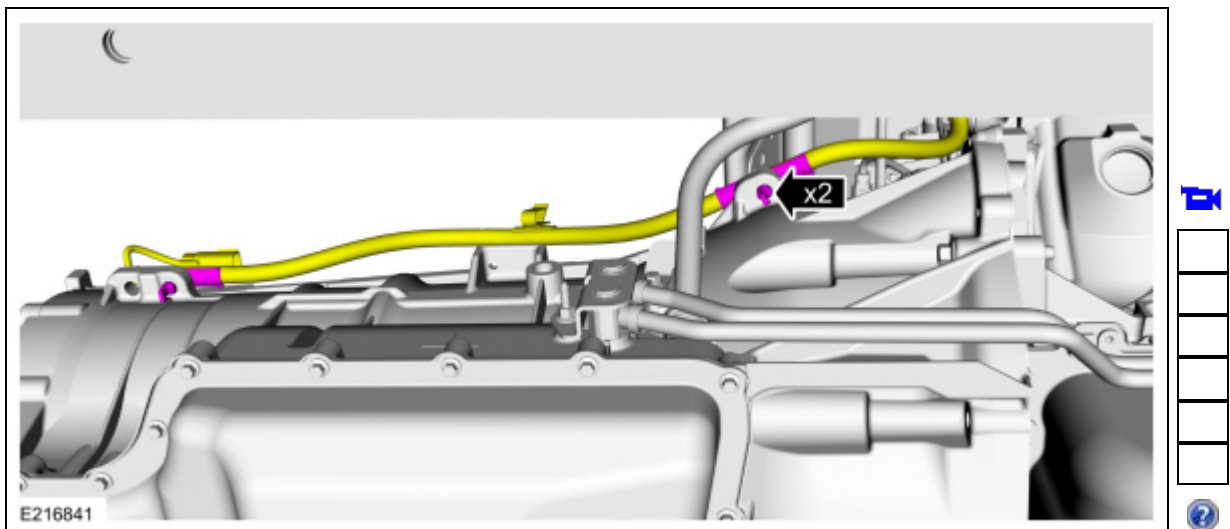
18. Install the new bearing straps and the new bolts.
Torque:

Vehicles with stamped steel U-joint straps : 52 lb.ft (70 Nm)

Vehicles with cast steel U-joint straps : 111 lb.ft (150 Nm)



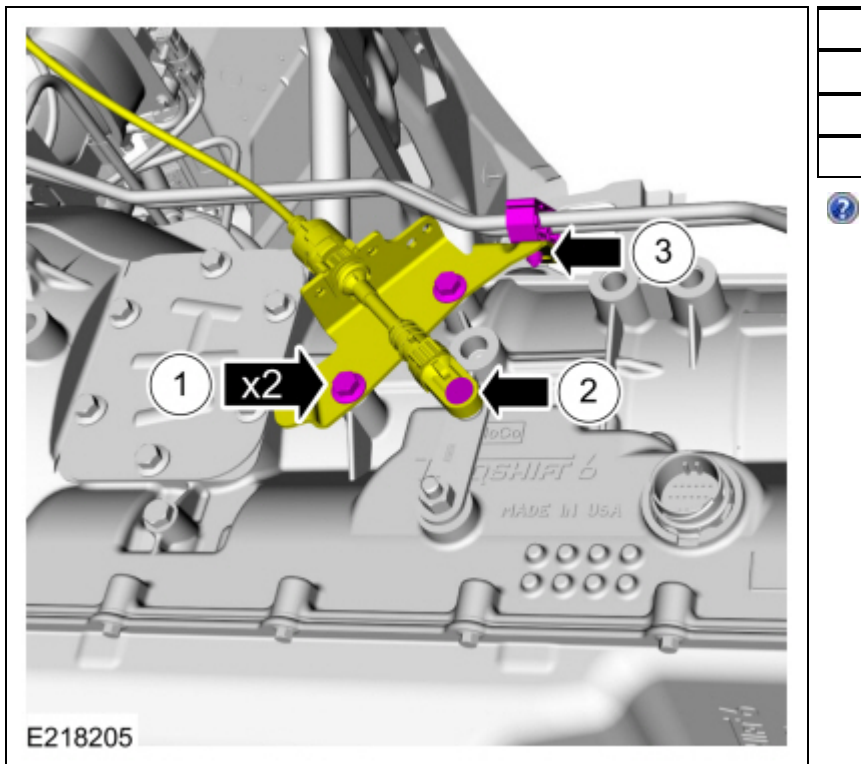
19. Connect the wiring harness retainers to the transmission case.



- 20.

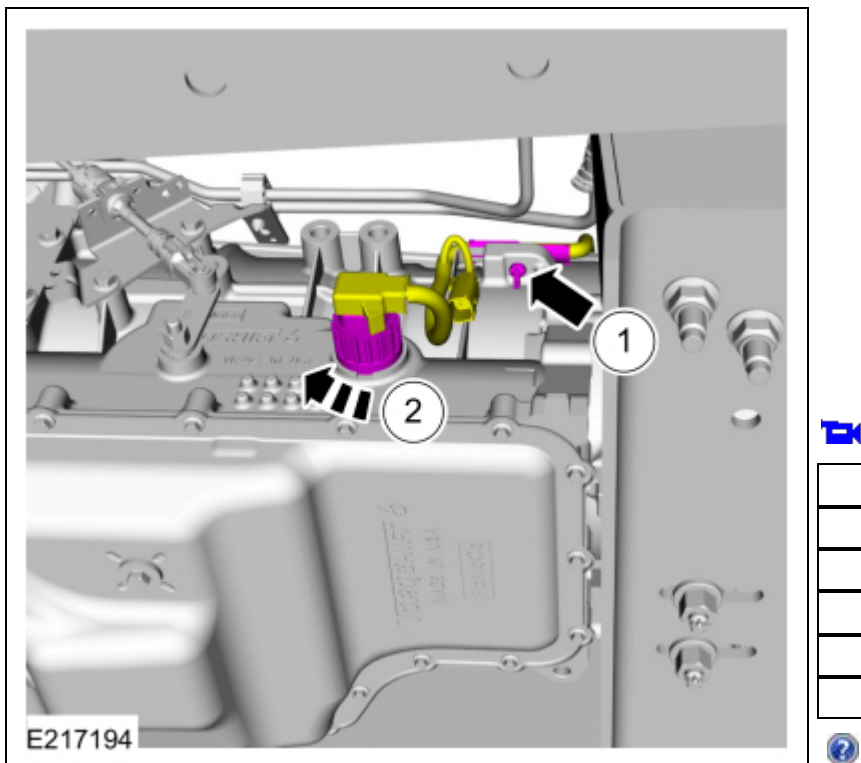
1. Position the selector lever cable bracket and install the bolts.
Torque: 35 lb.ft (48 Nm)
2. Connect the selector lever cable to the manual control lever.
3. Connect the fuel line retainer to the selector lever cable bracket.





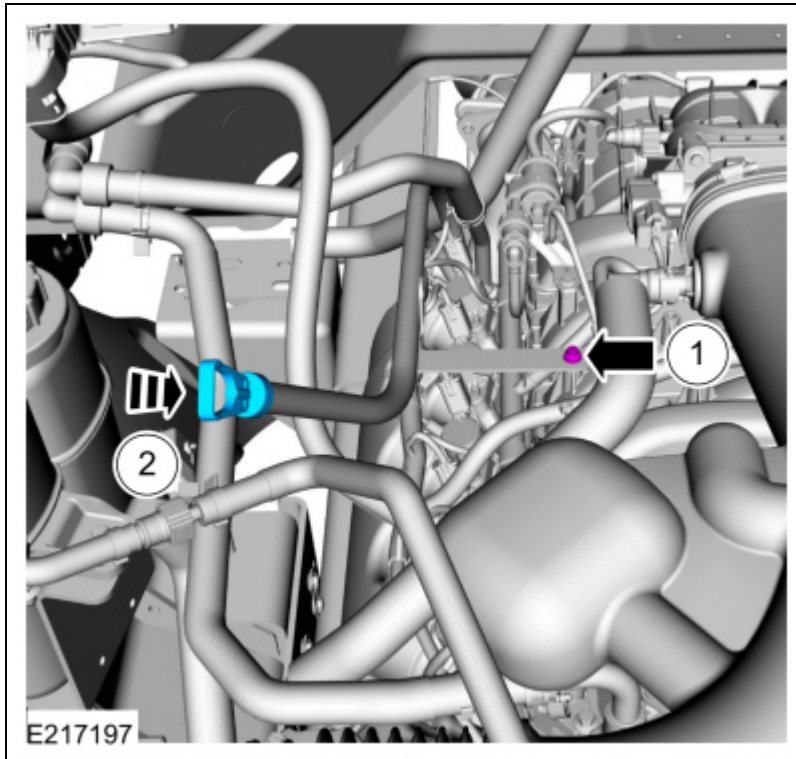
21.

1. Connect the wiring harness retainer to the transmission case.
2. Connect the transmission vehicle harness connector and lock the transmission vehicle harness connector by rotating the outer shell clockwise.



22. Install the following items:

1. Refer to: [Exhaust Y-Pipe](#) (309-00A Exhaust System - 6.8L Triton-30V – V10, Removal and Installation).
 2. Refer to: [Starter Motor](#) (303-06A Starting System - 6.8L Triton-30V – V10, Removal and Installation).
23. Adjust the selector lever cable.
Refer to: [Selector Lever Cable Adjustment](#) (307-05 Automatic Transmission External Controls, General Procedures).
- 24.
1. Install the upper transmission fluid filler tube bolt.
Torque: 97 lb.in (11 Nm)
 2. Install the transmission fluid level indicator.



25. Fill the transmission with clean transmission fluid.
Refer to: [Transmission Fluid Drain and Refill](#) (307-01 Automatic Transmission, General Procedures).
26. If a new main control was installed, the solenoid body strategy will need to be updated.
Refer to: [Transmission Strategy Download](#) (307-01 Automatic Transmission, General Procedures).
27. After completing the repairs perform the Misfire Monitor Neutral Profile Correction procedure.

