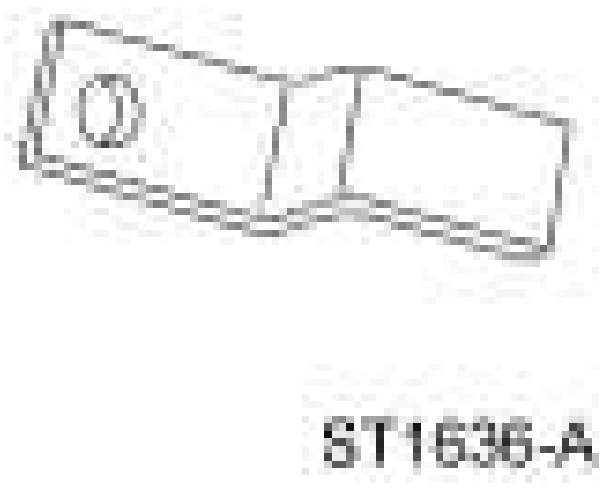


REMOVAL

TRANSMISSION - FOUR WHEEL DRIVE (4WD)

Special Tool(s)

SPECIAL TOOL SPECIFICATION

 <p>ST 1636-A</p>	<p>Retainer, Torque Converter 307-346 (T97T-7902-A)</p>
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Removal

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to **JACKING & LIFTING** .
2. Disconnect the battery ground cable. For additional information, refer to **BATTERY, MOUNTING AND CABLES** .
3. Remove the transmission fluid fill plug transmission fluid level indicator assembly located on the passenger side front portion of the transmission case. Removal of the transmission fluid fill plug will relieve any vacuum that might have built up in the transmission. This will aid in allowing the transmission fluid pan to be easily removed when the bolts are removed.

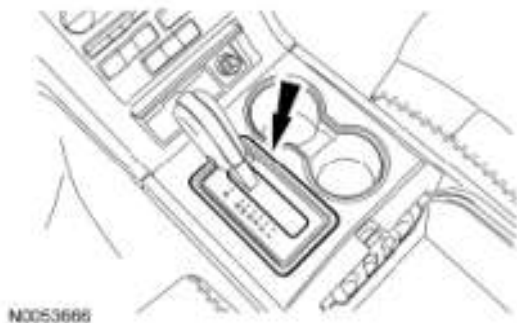


Fig. 246: Locating Transmission Fluid Fill Plug
Courtesy of FORD MOTOR CO.

4. **NOTE:** If transmission disassembly or installation of a new transmission is necessary, the transmission fluid will need to be drained.

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

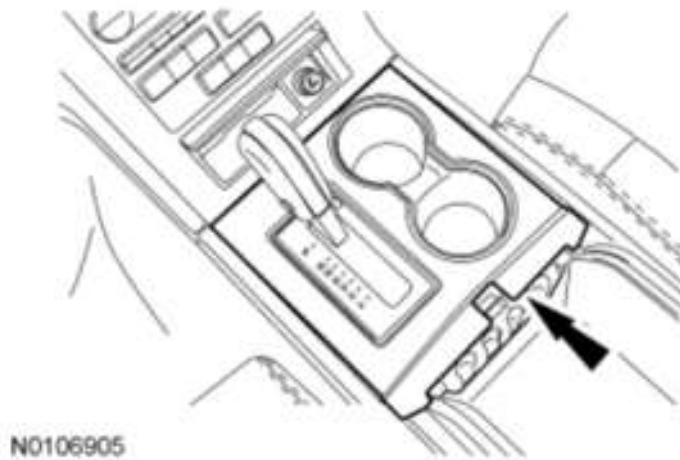


Fig. 247: Locating Transmission Fluid Pan Bolts
Courtesy of FORD MOTOR CO.

5. Install the transmission fluid pan and tighten the transmission fluid pan bolts in a crisscross pattern.
- Tighten to 12 Nm (106 lb-in).

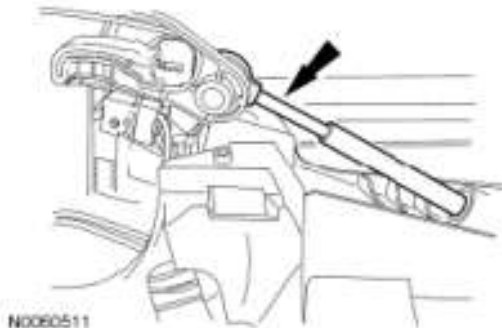


Fig. 248: Locating Transmission Fluid Pan Bolts
Courtesy of FORD MOTOR CO.

6. Remove the transfer case. For additional information, refer to **TRANSFER CASE** .

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

NOTE: Make sure that the transmission is securely fastened to the transmission jack.

Position a suitable high-lift transmission jack under the transmission and remove the jackstand.

8. **NOTE:** LH shown in illustration, RH similar.

Disconnect the RH and LH Heated Oxygen Sensor (HO2S) and the Catalyst Monitor Sensor (CMS) electrical connectors.

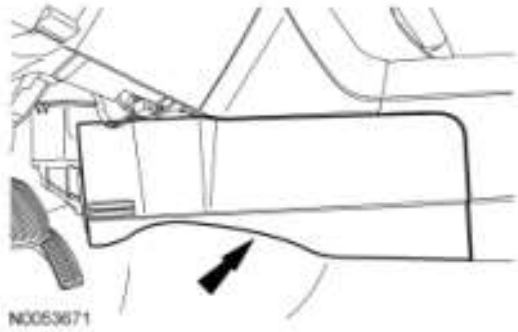


Fig. 249: Locating Heated Oxygen Sensor And Catalyst Monitor Sensor Electrical Connectors
Courtesy of FORD MOTOR CO.

9. **NOTE:** LH shown in illustration, RH similar.

Remove the RH and LH exhaust flange nuts.

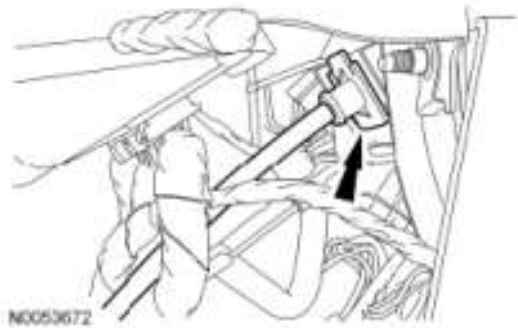


Fig. 250: Locating RH And LH Exhaust Flange Nuts
Courtesy of FORD MOTOR CO.

10. Remove the 2 dual converter Y-pipe bolts and the dual converter Y-pipe.

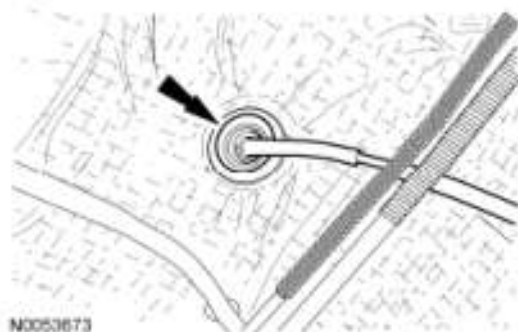


Fig. 251: Locating Dual Converter Y-Pipe Bolts
Courtesy of FORD MOTOR CO.

11. Remove the fuel line bracket bolt and position the fuel line bracket and lines aside.

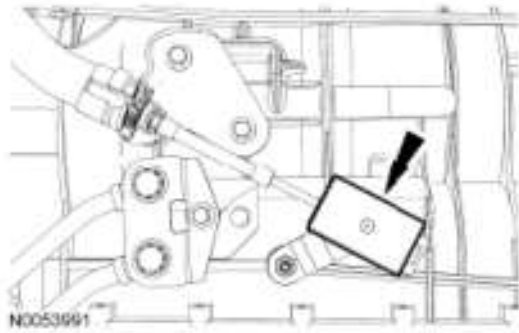


Fig. 252: Locating Fuel Line Bracket Bolt
Courtesy of FORD MOTOR CO.

12. If equipped, remove the heat shield from the selector lever cable.

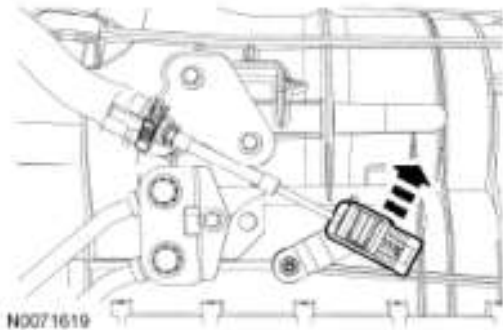


Fig. 253: Identifying Heat Shield
Courtesy of FORD MOTOR CO.

NOTE: To prevent selector lever cable damage, do not apply force to the selector lever cable between the manual control lever and the selector lever cable bracket.

- 13.

Move the locking tab up and disconnect the selector lever cable end from the manual control lever.

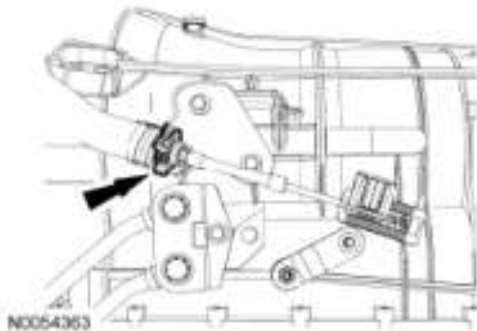


Fig. 254: Locating Transmission Selector Lever Cable End
Courtesy of FORD MOTOR CO.

14. Remove the selector lever bracket bolts and remove the selector lever bracket.

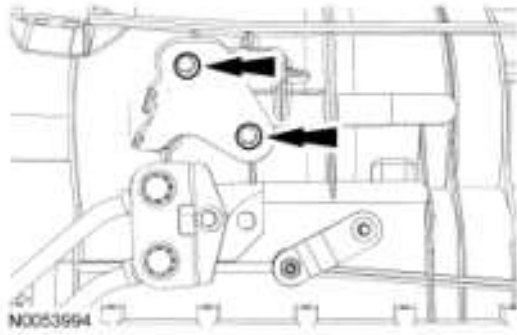


Fig. 255: Locating Selector Lever Bracket Bolts
Courtesy of FORD MOTOR CO.

15. Remove the flexplate inspection cover bolts and the flexplate inspection cover.

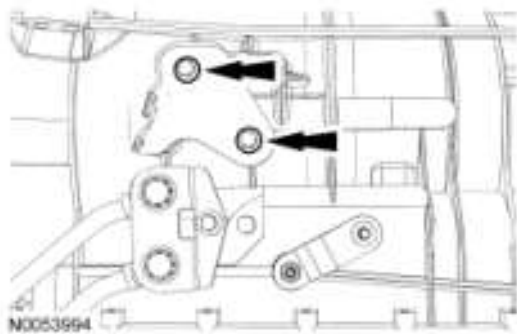


Fig. 256: Identifying Flexplate Inspection Cover Bolts
Courtesy of FORD MOTOR CO.

16. Remove the rubber torque converter nut access plug.

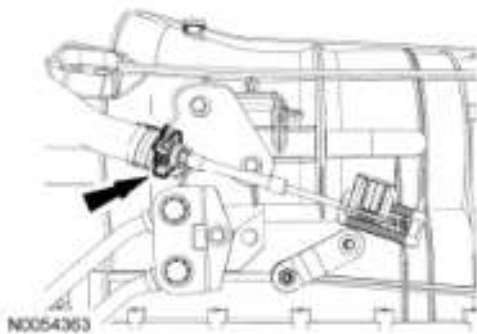


Fig. 257: Identifying Rubber Torque Converter Access Plug
Courtesy of FORD MOTOR CO.

17. Remove and discard the 4 flexplate-to-torque converter nuts.

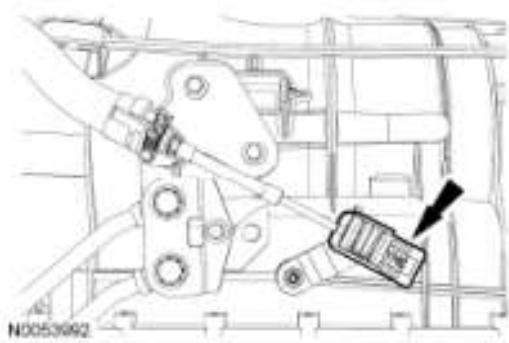


Fig. 258: Identifying Flexplate-To-Torque Converter Nuts
Courtesy of FORD MOTOR CO.

18. Remove the transmission fluid cooler tube bracket bolt.

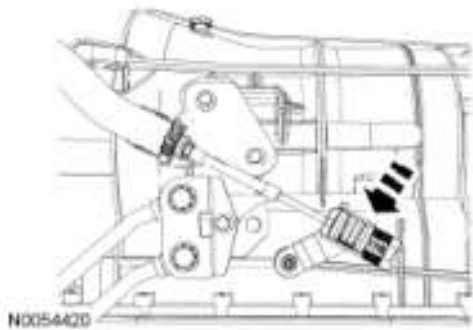


Fig. 259: Locating Transmission Fluid Cooler Tube Bracket Bolt
Courtesy of FORD MOTOR CO.

19. Remove the transmission case bolt.

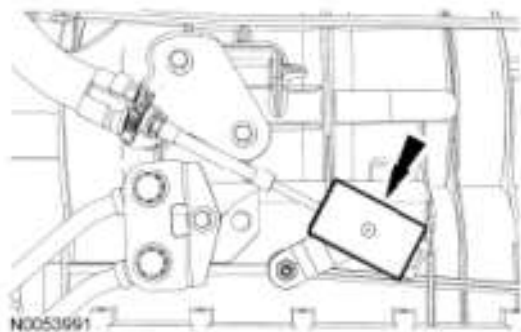


Fig. 260: Locating Transmission Case Bolt
Courtesy of FORD MOTOR CO.

20. Remove the transmission fluid cooler tube bracket nut and position the transmission fluid cooler tube bracket and tubes aside.

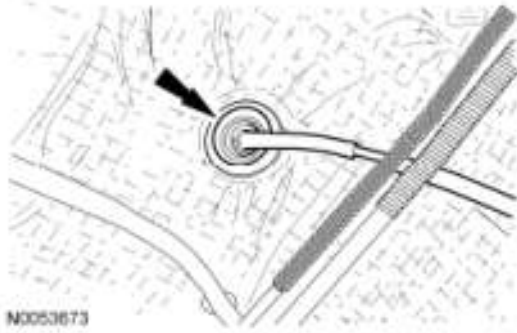


Fig. 261: Identifying Transmission Fluid Cooler Tube Bracket
Courtesy of FORD MOTOR CO.

21. Remove the plastic starter motor electrical connector cap.

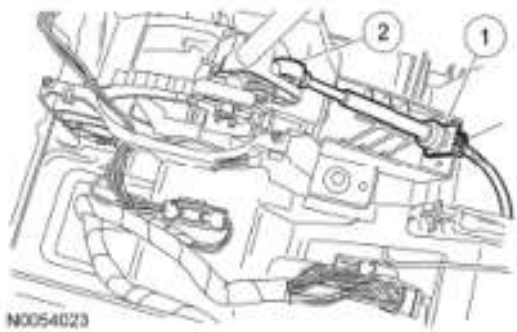


Fig. 262: Locating Plastic Starter Motor Electrical Connector Cap
Courtesy of FORD MOTOR CO.

22. Remove the starter motor electrical connectors.

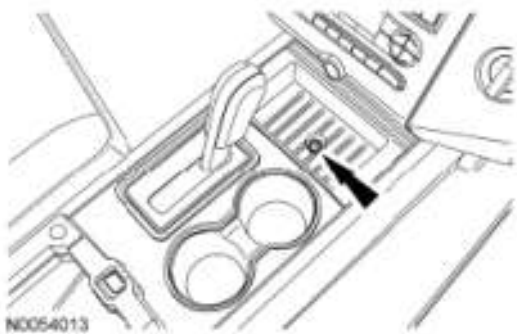


Fig. 263: Locating Starter Motor Electrical Connectors
Courtesy of FORD MOTOR CO.

23. Remove the ground wire from the stud.

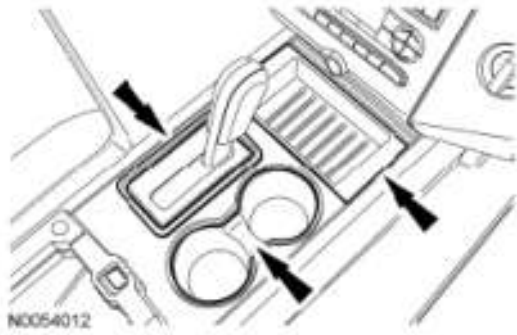


Fig. 264: Identifying Ground Wire
 Courtesy of FORD MOTOR CO.

24. Remove the 3 starter motor bolts and the starter motor.



Fig. 265: Identifying Starter Motor Bolts
 Courtesy of FORD MOTOR CO.

25. Disconnect the wiring harness from the top of the transmission.

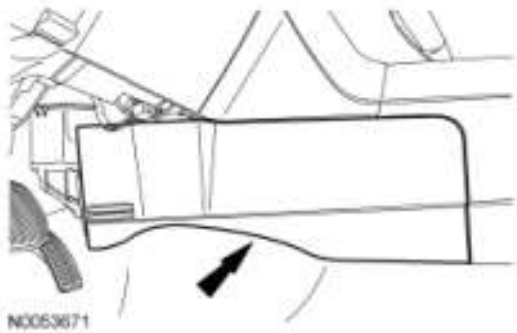


Fig. 266: Locating Transmission Wiring Harness
 Courtesy of FORD MOTOR CO.

NOTE: Do not pull on the wire harness to disconnect the connector or damage to the connector will occur.

26. Disconnect the transmission vehicle harness connector by twisting the outer shell and pulling back on the connector.

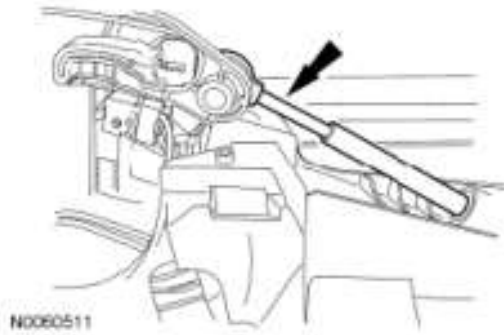


Fig. 267: Locating Transmission Vehicle Harness Connector
 Courtesy of FORD MOTOR CO.

27. **NOTE:** The top 2 transmission case bolts need to be removed prior to removing the remaining bolts.

NOTE: The top left bolt secures the fuel line bracket to the transmission case.

Remove the 6 remaining transmission case bolts.

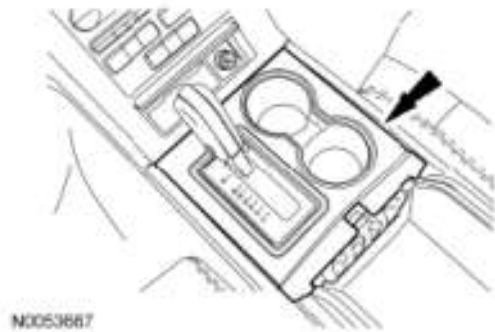


Fig. 268: Locating Transmission Case Bolts
 Courtesy of FORD MOTOR CO.

28. Slide the transmission back enough to install the Torque Converter Retainer.

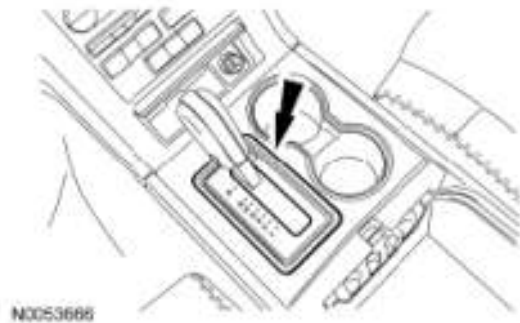


Fig. 269: Identifying Torque Converter Retainer
 Courtesy of FORD MOTOR CO.

29. Remove the transmission from the vehicle.


30. If the transmission is to be overhauled or if installing a new transmission, carry out the Transmission

Fluid Cooler Backflushing and Cleaning procedure. For additional information, refer to **TRANSMISSION FLUID COOLER BACKFLUSHING AND CLEANING.**

TRANSMISSION - REAR WHEEL DRIVE (RWD)

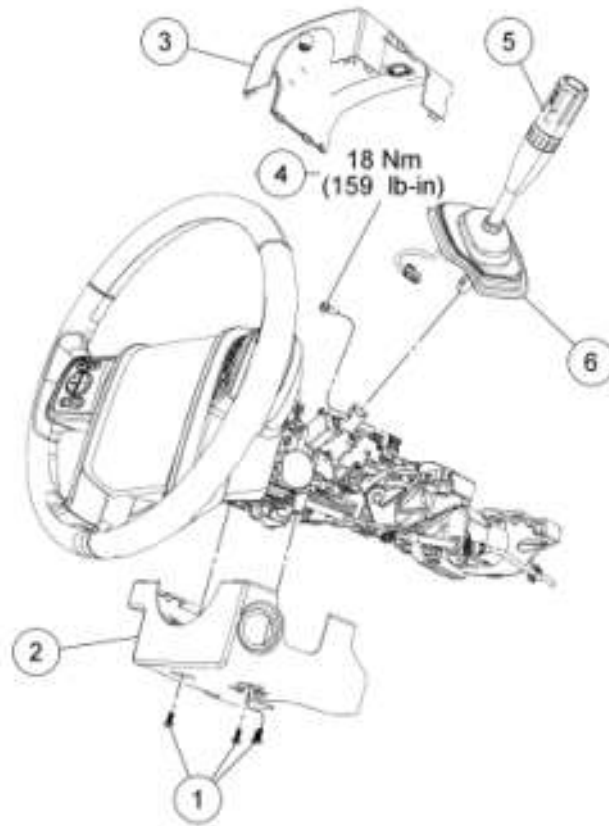
Special Tool(s)

SPECIAL TOOL SPECIFICATION

 <p>ST1636-A</p>	<p>Retainer, Torque Converter 307-346 (T97T-7902-A)</p>
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Removal

1. Disconnect the battery ground cable. For additional information, refer to **BATTERY, MOUNTING AND CABLES** .
2. Remove the driveshaft. For additional information, refer to **DRIVESHAFT** .
3. Remove the transmission fluid fill plug transmission fluid level indicator assembly located on the passenger side front portion of the transmission case. Removal of the transmission fluid fill plug will relieve any vacuum that might have built up in the transmission. This will aid in allowing the transmission fluid pan to be easily removed when the bolts are removed.



N0105419

Fig. 270: Locating Transmission Fluid Fill Plug
 Courtesy of FORD MOTOR CO.

4. **NOTE:** If transmission disassembly or installation of a new transmission is necessary, the transmission fluid will need to be drained.

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

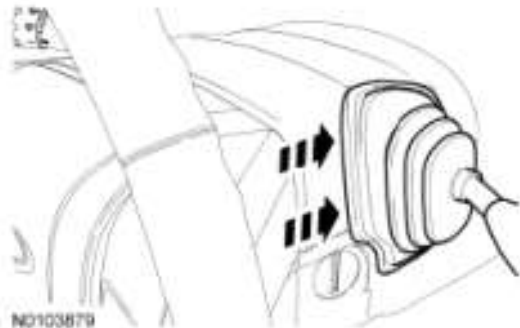


Fig. 271: Locating Transmission Fluid Pan Bolts
 Courtesy of FORD MOTOR CO.

5. Install the transmission fluid pan and tighten the transmission fluid pan bolts in a crisscross pattern.
- Tighten to 12 Nm (106 lb-in).

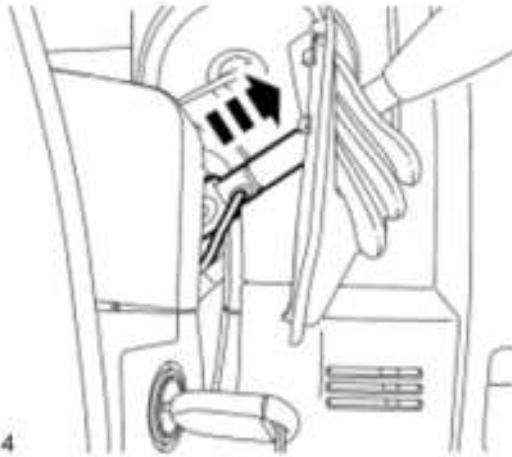


Fig. 272: Locating Transmission Fluid Pan Bolts
 Courtesy of FORD MOTOR CO.

6. If equipped, remove the heat shield from the selector lever cable.



Fig. 273: Identifying Heat Shield
 Courtesy of FORD MOTOR CO.

NOTE: To prevent selector lever cable damage, do not apply force to the selector lever cable between the manual control lever and the selector lever cable bracket.

- 7.

Move the locking tab up and disconnect the selector lever cable end from the manual control lever.

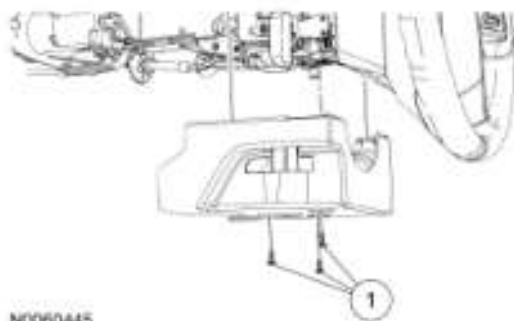


Fig. 274: Locating Transmission Selector Lever Cable End
Courtesy of FORD MOTOR CO.

8. Remove the selector lever cable bracket bolts and remove the selector lever cable bracket.

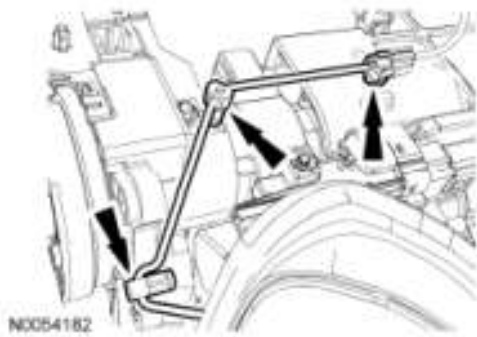


Fig. 275: Locating Selector Lever Bracket Bolts
Courtesy of FORD MOTOR CO.

9. Remove the flexplate inspection cover bolts and the flexplate inspection cover.

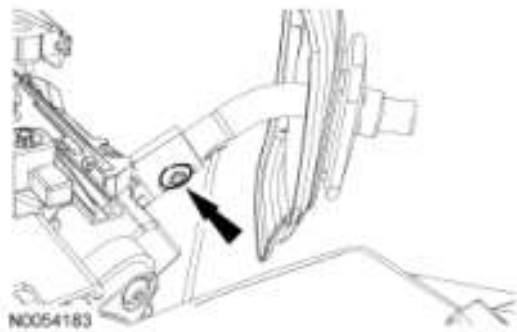


Fig. 276: Identifying Flexplate Inspection Cover Bolts
Courtesy of FORD MOTOR CO.

10. Remove the rubber torque converter nut access plug.

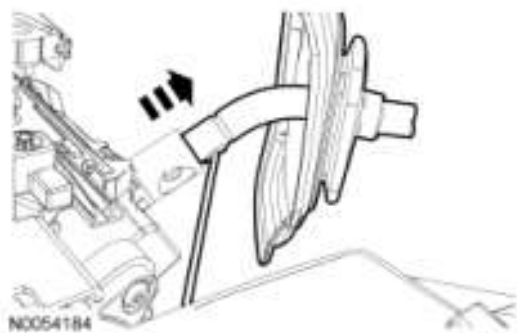
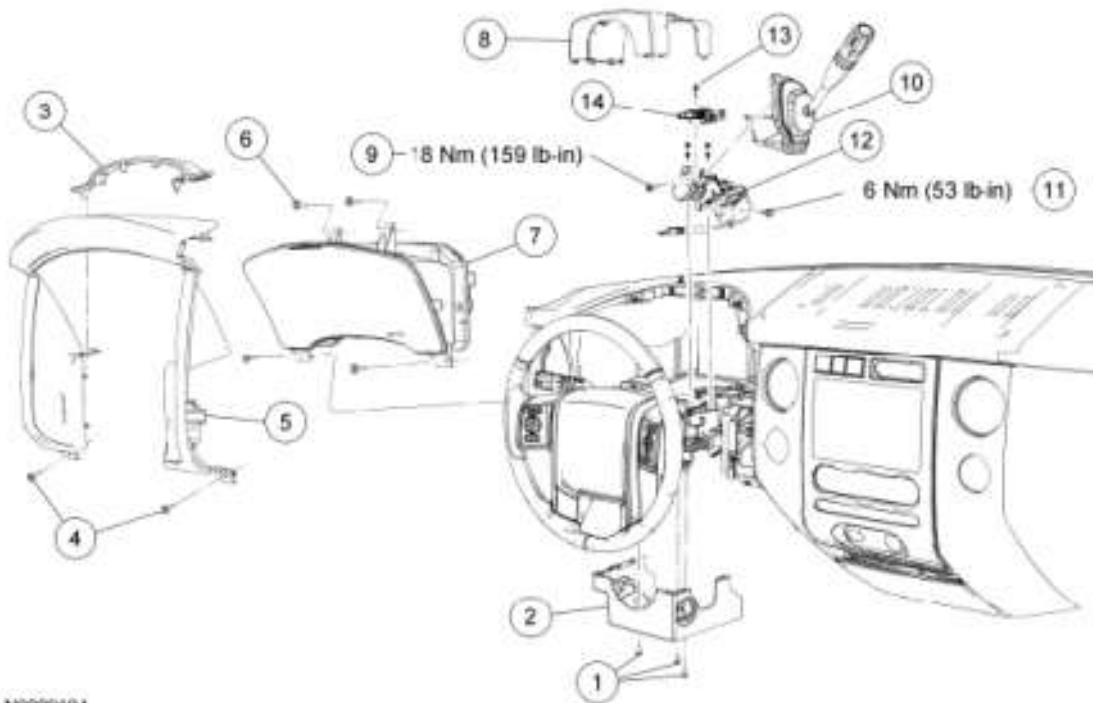


Fig. 277: Identifying Rubber Torque Converter Nut Access Plug
Courtesy of FORD MOTOR CO.

11. Remove and discard the 4 flexplate-to-torque converter nuts.



N0089104

Fig. 278: Identifying Flexplate-To-Torque Converter Nuts
 Courtesy of FORD MOTOR CO.

12. Remove the transmission fluid cooler tube bracket bolt.

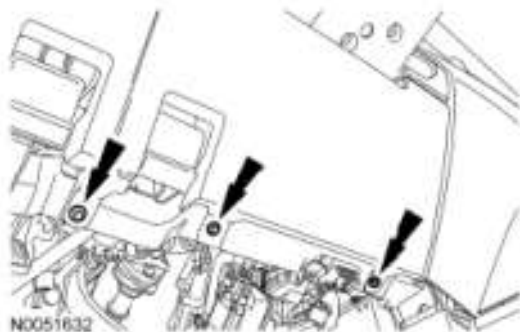


Fig. 279: Locating Transmission Fluid Cooler Tube Bracket Bolt
 Courtesy of FORD MOTOR CO.

13. Remove the transmission case bolt.

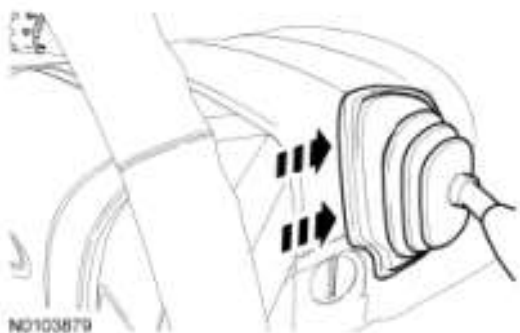


Fig. 280: Locating Transmission Case Bolt
Courtesy of FORD MOTOR CO.

14. Remove the transmission fluid cooler tube bracket nut and position the transmission fluid cooler tube bracket and tubes aside.

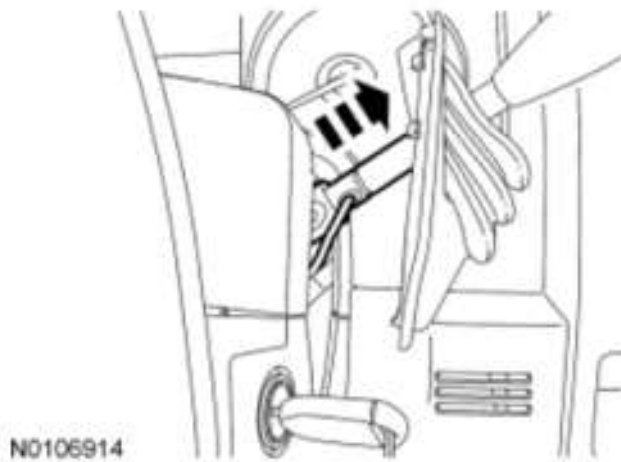


Fig. 281: Identifying Transmission Fluid Cooler Tube Bracket
Courtesy of FORD MOTOR CO.

15. Remove the plastic starter motor electrical connector cap.

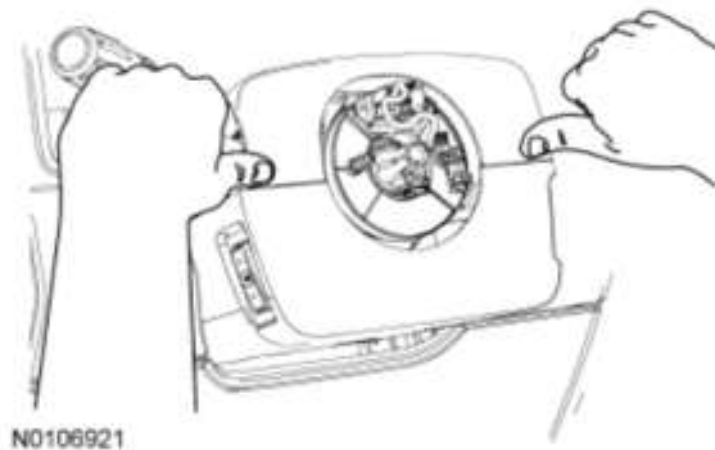
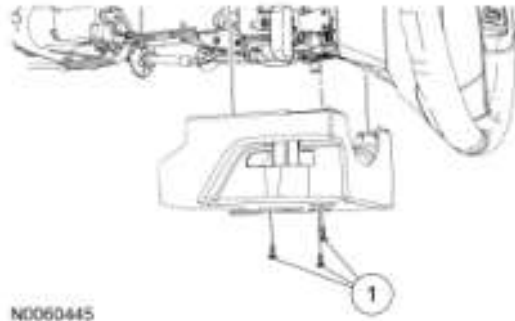


Fig. 282: Locating Plastic Starter Motor Electrical Connector Cap
Courtesy of FORD MOTOR CO.

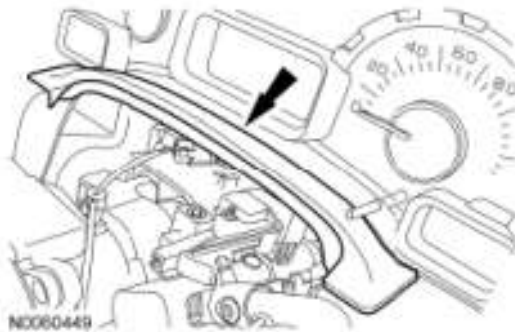
16. Remove the starter motor electrical connectors.



N0060445

Fig. 283: Removing Starter Motor Electrical Connectors
Courtesy of FORD MOTOR CO.

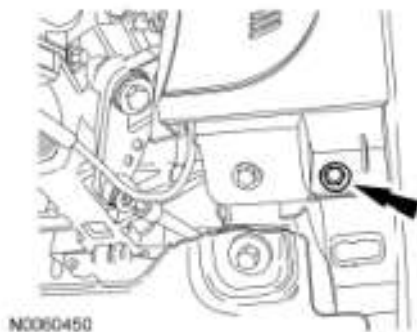
17. Remove the ground wire nut from the stud and remove the ground wire.



N0060449

Fig. 284: Identifying Ground Wire
Courtesy of FORD MOTOR CO.

18. Remove the 3 starter motor bolts and the starter motor.



N0060450

Fig. 285: Identifying Starter Motor Bolts
Courtesy of FORD MOTOR CO.

19. Remove the RH exhaust heat shield bolt.



Fig. 286: Locating Exhaust Heat Shield Bolt
Courtesy of FORD MOTOR CO.

20. Remove the LH exhaust heat shield and Evaporative Emission (EVAP) canister bolts.

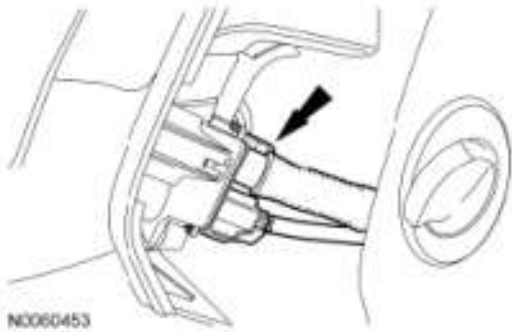


Fig. 287: Locating Evaporative Emission Canister Bolts
Courtesy of FORD MOTOR CO.

21. **NOTE:** LH shown in illustration, RH similar.

Disconnect the RH and LH Heated Oxygen Sensor (HO2S) and the Catalyst Monitor Sensor (CMS) electrical connectors.

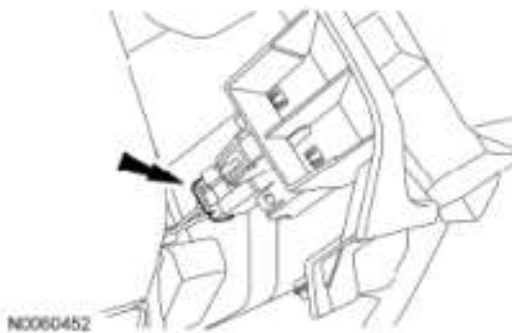


Fig. 288: Locating Heated Oxygen Sensor And Catalyst Monitor Sensor Electrical Connectors
Courtesy of FORD MOTOR CO.

22. Remove the fuel line bracket bolt and position the fuel line bracket and fuel lines aside.

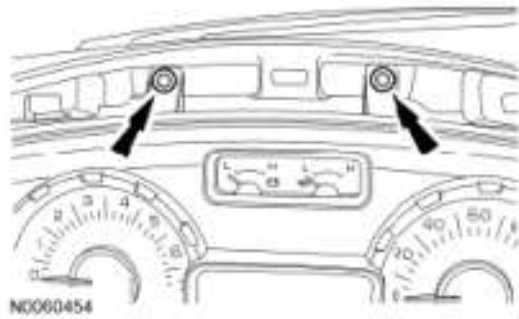


Fig. 289: Locating Fuel Line Bracket Bolt
 Courtesy of FORD MOTOR CO.

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

NOTE: Make sure that the transmission is securely fastened to the transmission jack.

Position a suitable high-lift transmission jack under the transmission.

24. Remove the 2 transmission insulator and retainer nuts.

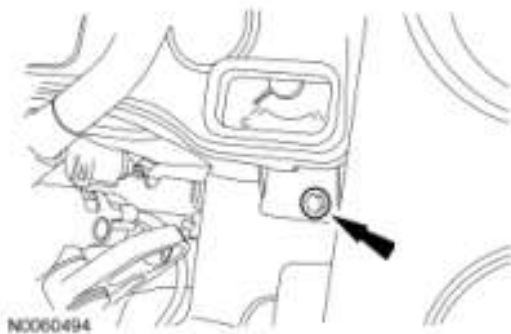


Fig. 290: Locating Transmission Insulator And Retainer Crossmember Nuts
 Courtesy of FORD MOTOR CO.

25. Remove the LH isolator cap bolt.



Fig. 291: Locating LH Isolator Cap Bolt
 Courtesy of FORD MOTOR CO.

26. Remove the Evaporative Emission (EVAP) canister front bracket bolt from the transmission crossmember.
27. Remove the transmission crossmember.
 1. Remove the 4 transmission crossmember bolts and nuts.
 2. Remove the transmission crossmember.

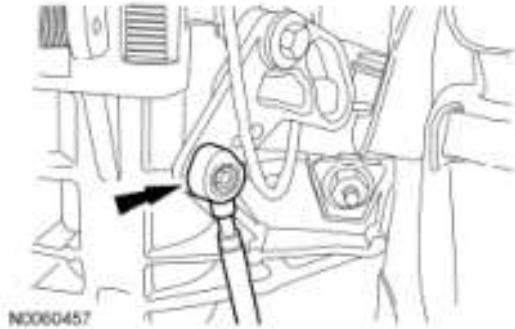


Fig. 292: Identifying Transmission Crossmember Bolts And Nuts
Courtesy of FORD MOTOR CO.

28. Remove the 3 transmission insulator and retainer bolts and remove the transmission insulator and retainer.



Fig. 293: Locating Transmission Insulator And Retainer Bolts
Courtesy of FORD MOTOR CO.

29. **NOTE:** LH shown in illustration, RH similar.

Remove the RH and LH exhaust flange nuts.

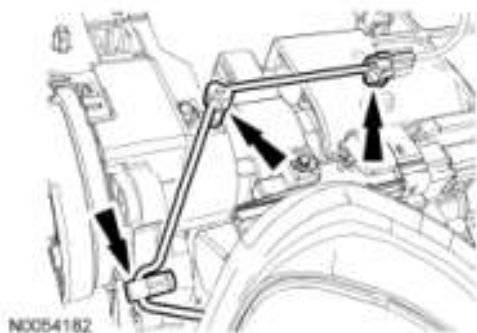


Fig. 294: Locating RH And LH Exhaust Flange Nuts
Courtesy of FORD MOTOR CO.

30. Remove the 2 dual converter Y-pipe bolts and the dual converter Y-pipe.

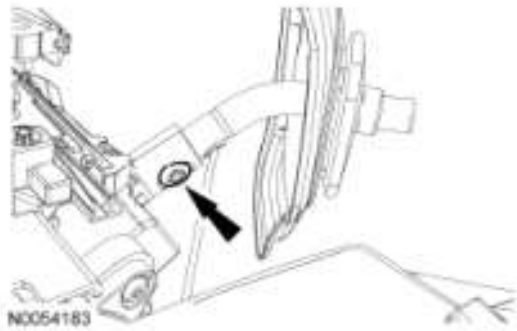


Fig. 295: Locating Dual Converter Y-Pipe Bolts
Courtesy of FORD MOTOR CO.

31. Disconnect the wire harness from the top of the transmission.

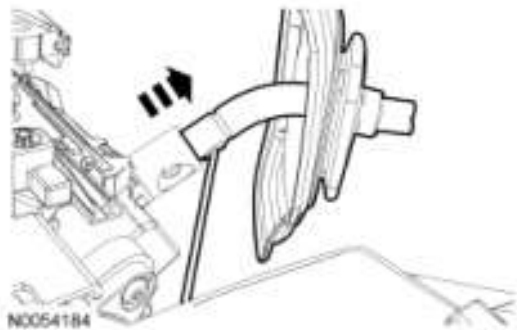


Fig. 296: Locating Transmission Wire Harness
Courtesy of FORD MOTOR CO.

32. **NOTE:** Do not pull on the wire harness to disconnect the connector or damage to the connector will occur.

Disconnect the transmission vehicle harness connector by twisting the outer shell and pulling back on the connector.



Fig. 297: Locating Transmission Vehicle Harness Connector

Courtesy of FORD MOTOR CO.

33. **NOTE:** The top 2 transmission-to-engine bolts need to be removed prior to removing the remaining bolts.

NOTE: The top left bolt secures the fuel line bracket to the transmission case.

Remove the 6 remaining transmission case bolts.

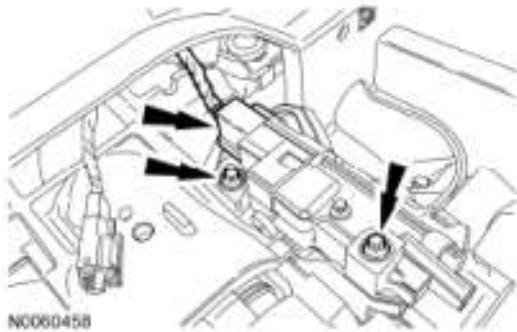


Fig. 298: Locating Transmission Case Bolts
Courtesy of FORD MOTOR CO.

34. Slide the transmission back far enough to install the Torque Converter Retainer.

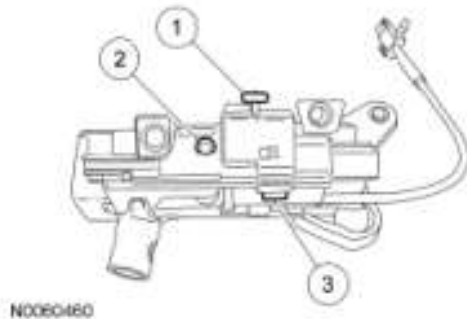


Fig. 299: Identifying Torque Converter Retainer
Courtesy of FORD MOTOR CO.

35. Remove the transmission from the vehicle.
36. If the transmission is to be overhauled or if installing a new transmission, carry out the Transmission Fluid Cooler Backflushing and Cleaning procedure. For additional information, refer to **TRANSMISSION FLUID COOLER BACKFLUSHING AND CLEANING.**