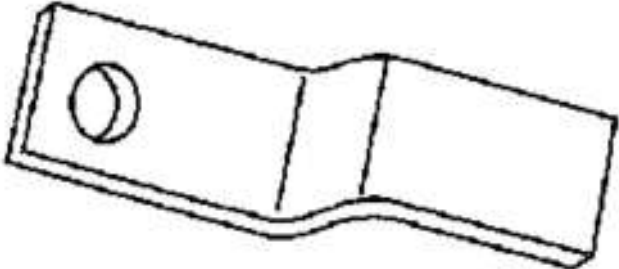


INSTALLATION

TRANSMISSION - 4X2

Special Tool(s)

SPECIAL TOOL(S) SPECIFICATION

 <p data-bbox="480 858 791 917">ST1636-A</p>	<p data-bbox="831 633 1406 701">Retainer, Torque Converter 307-346 (T97T-7902-A)</p>
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Material

MATERIAL SPECIFICATION

Item	Specification
MERCON® V Automatic Transmission Fluid XT-5-QM	MERCON® V

Installation

1. Install the special tool if not done in the assembly procedure.

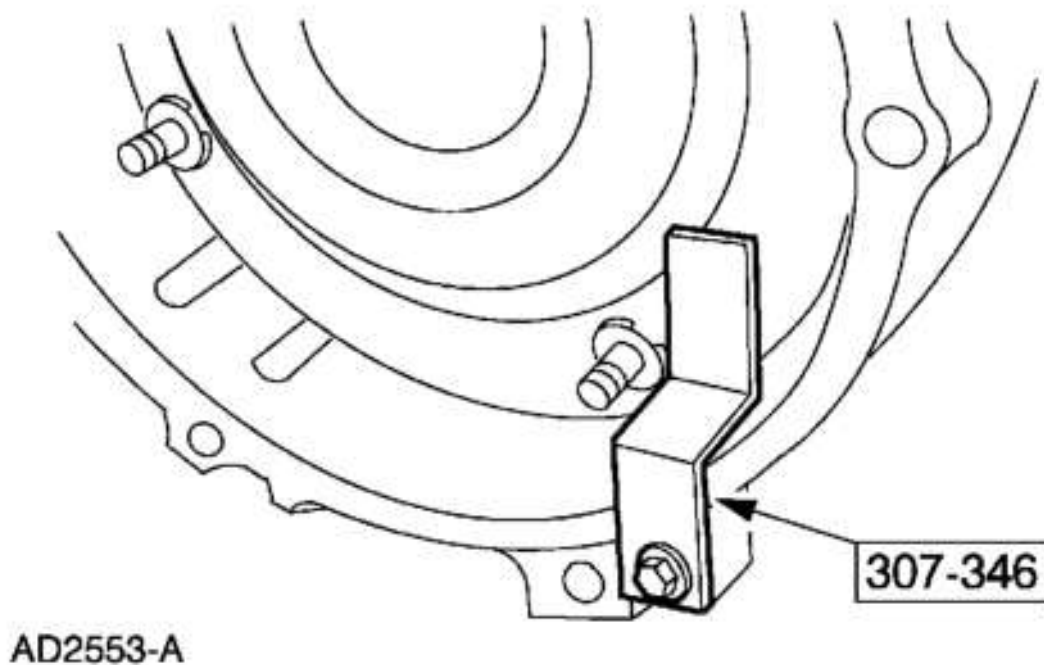


Fig. 489: Installing Special Tool
Courtesy of FORD MOTOR CO.

CAUTION: To position the transmission in the vehicle, put the transmission into a nose-down position on the transmission jack. This allows the tail shaft to go over the exhaust system. The 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 that the converter pilot is not binding in the engine crankshaft.

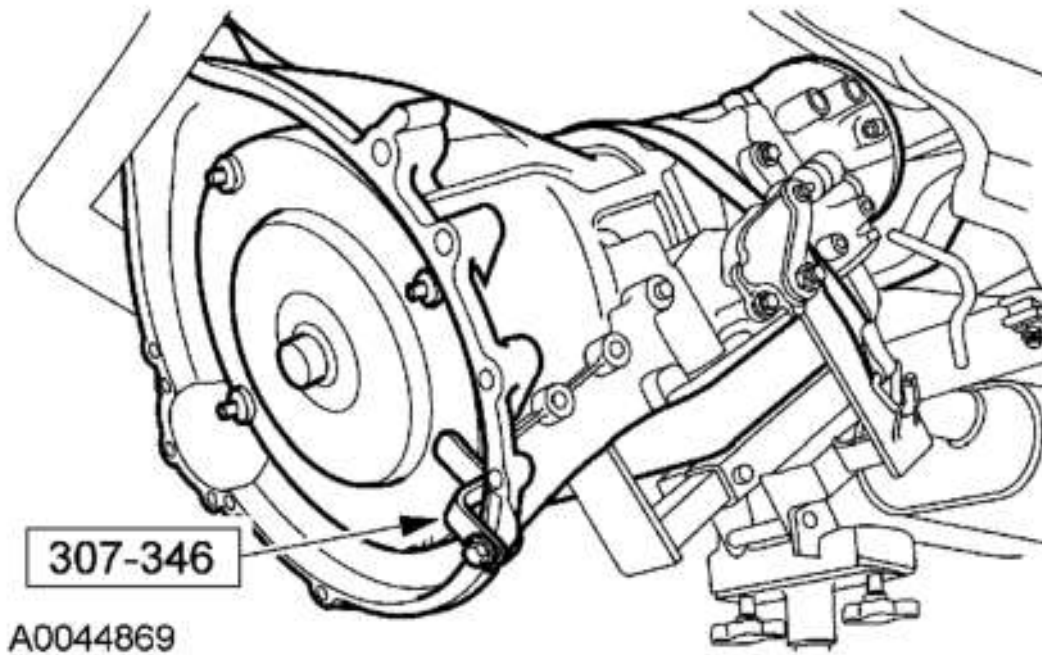


Fig. 490: Placing Transmission In Horizontal Position
Courtesy of FORD MOTOR CO.

2. Position and secure the transmission on the high-lift transmission jack. Raise and position the transmission into the vehicle. Once the transmission is in position, place the transmission in a horizontal position.

NOTE: Do not remove the special tool until the transmission is in a horizontal position.

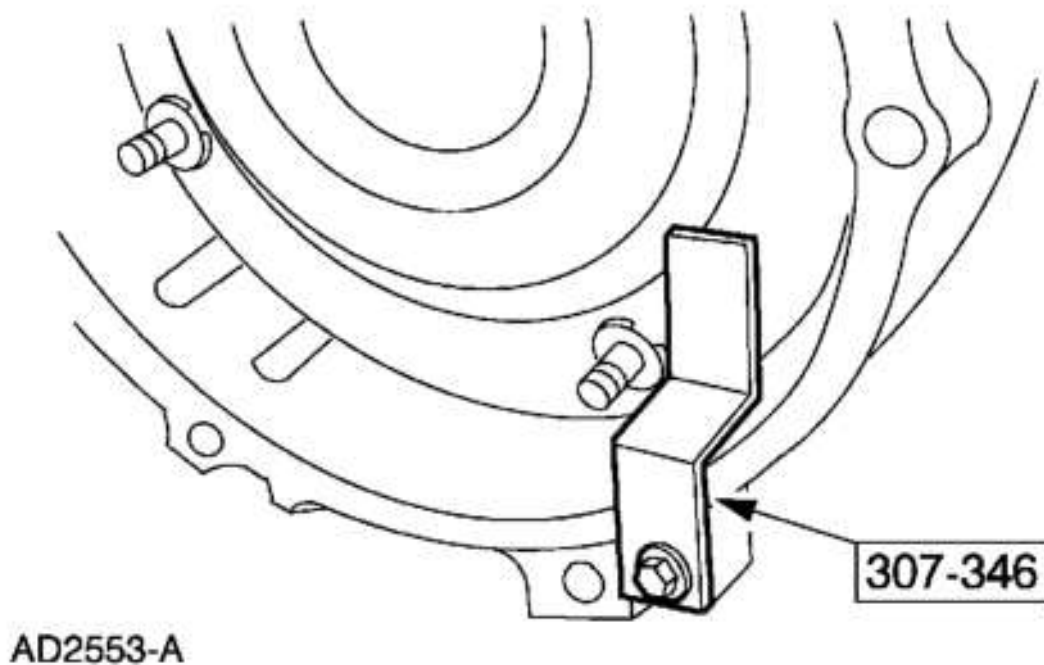


Fig. 491: Holding Torque Converter In Place With Special Tool
Courtesy of FORD MOTOR CO.

3. Remove the special tool.

NOTE: Make sure the torque converter is fully seated in the transmission before aligning the transmission to the engine.

4. With the transmission in a horizontal position move it toward the engine. Align the orange balancing marks between the torque converter studs and the flexplate bolt holes.

NOTE: Install the transmission retaining bolts in their correct locations made during removal.

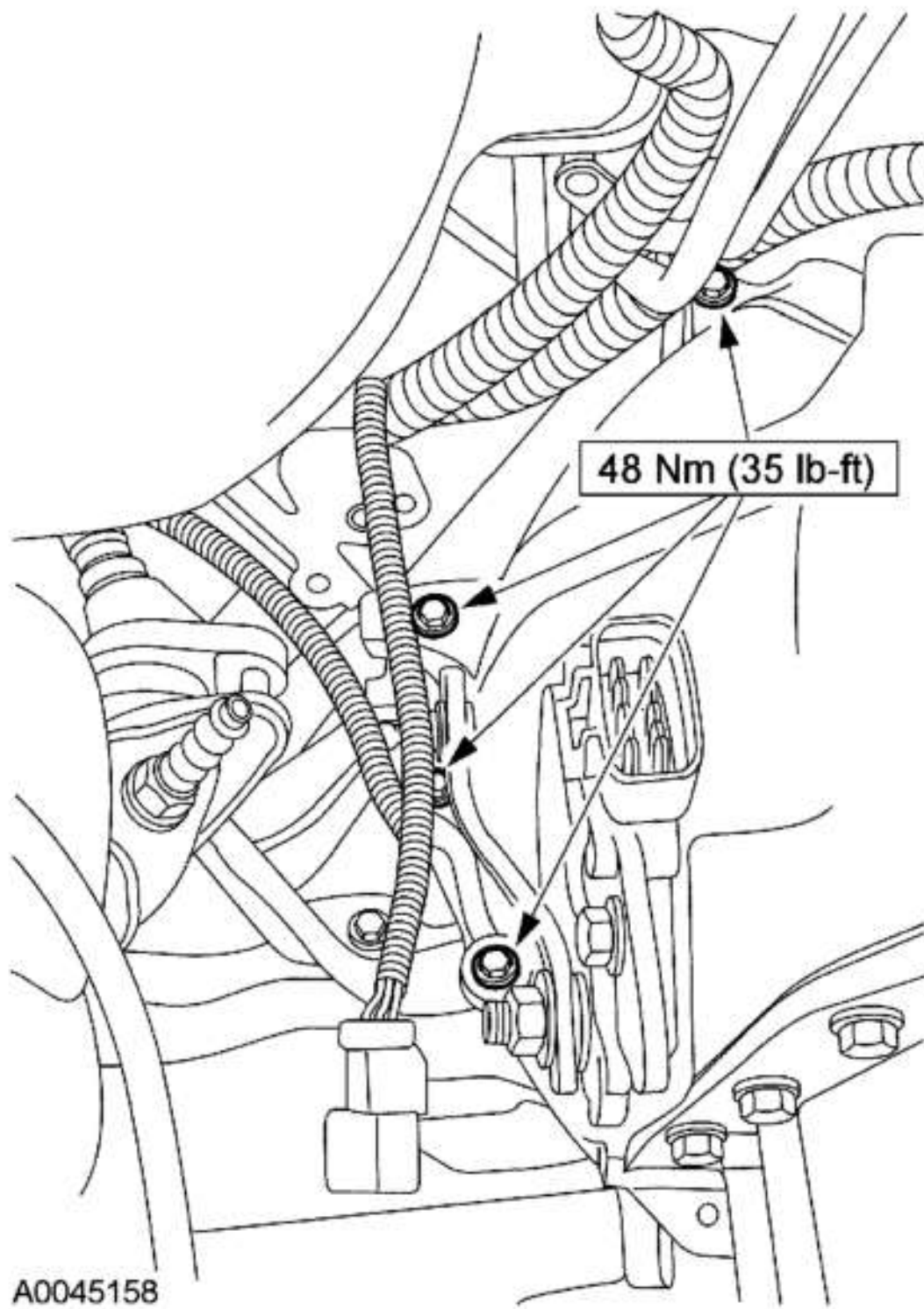


Fig. 492: Installing LH Transmission Retaining Bolts
Courtesy of FORD MOTOR CO.

5. Install the LH transmission retaining bolts.

NOTE: Install the transmission retaining bolts in their correct locations made during removal.

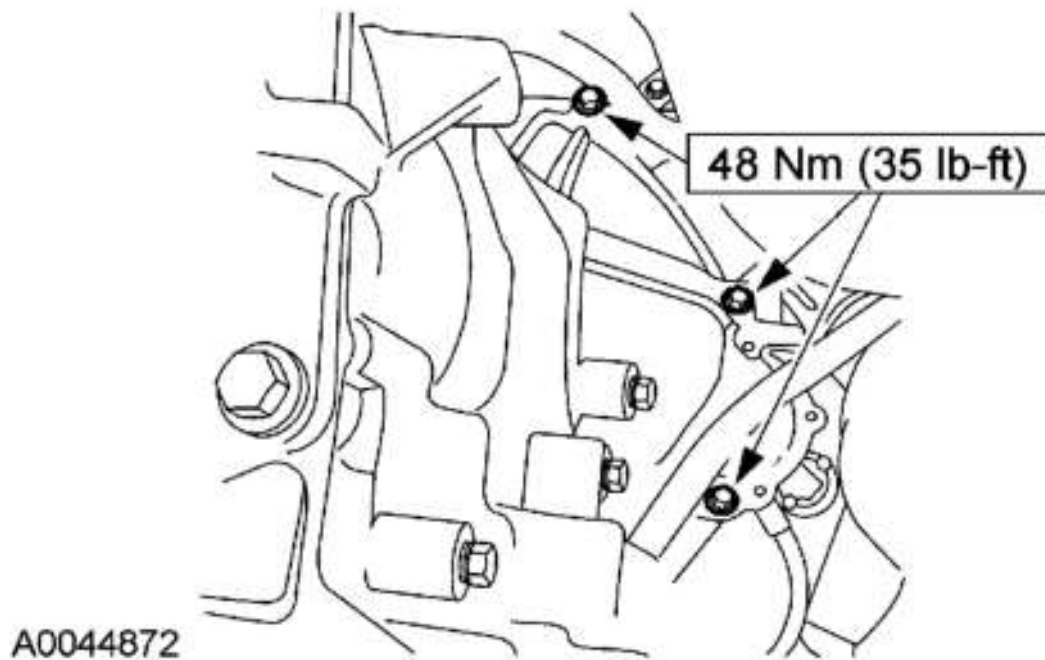


Fig. 493: Installing RH Transmission Retaining Bolts
Courtesy of FORD MOTOR CO.

6. Install the RH transmission retaining bolts.
7. Connect the solenoid body connector and connect the harness retainer to the transmission.

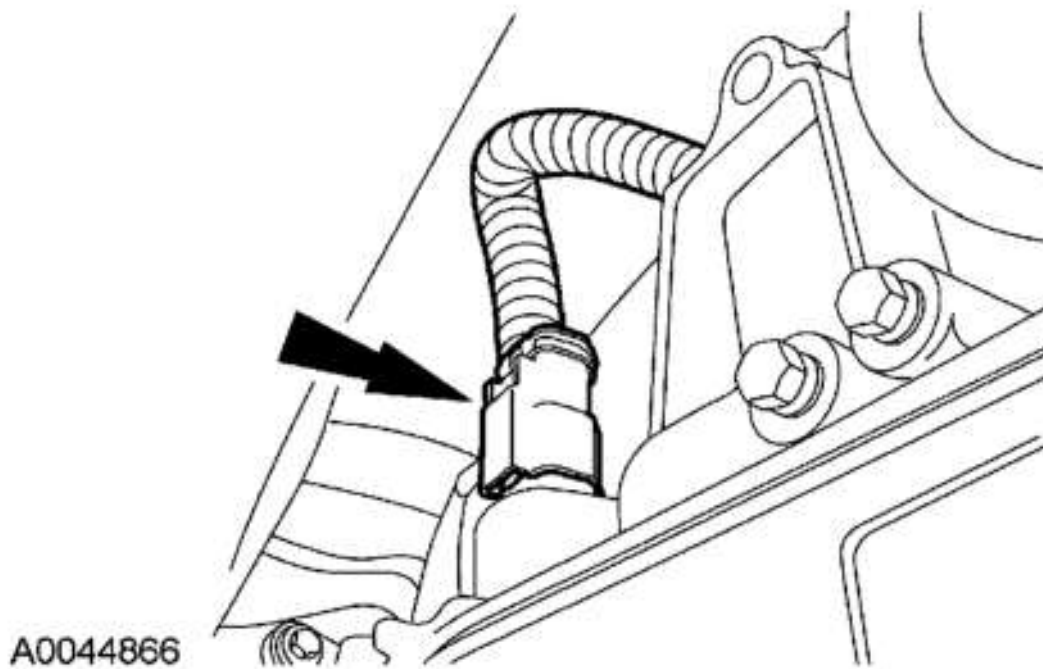


Fig. 494: Connecting Solenoid Body Connector
Courtesy of FORD MOTOR CO.

8. Connect the transmission electrical connectors.
 1. Connect the digital transmission range (TR) sensor.
 2. Connect the output shaft speed (OSS) sensor.
 3. Connect the turbine shaft speed (TSS) sensor.

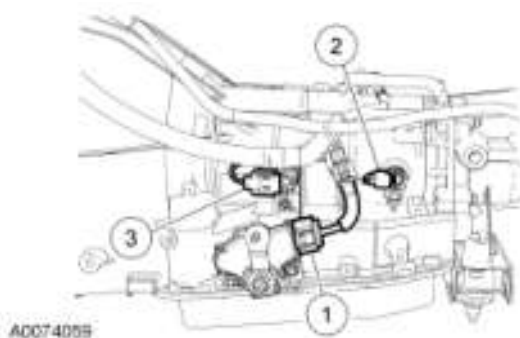


Fig. 495: Connecting Transmission Electrical Connectors
Courtesy of FORD MOTOR CO.

9. Install the rear transmission support.

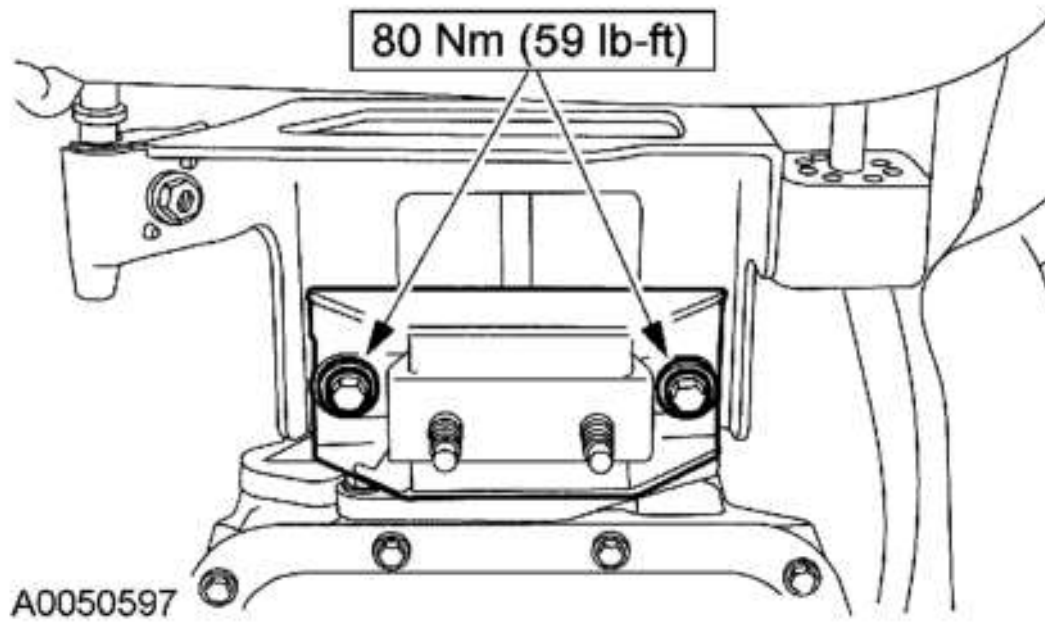


Fig. 496: Installing Rear Transmission Support
Courtesy of FORD MOTOR CO.

10. Position the rear crossmember in place and install the rear transmission support nuts.

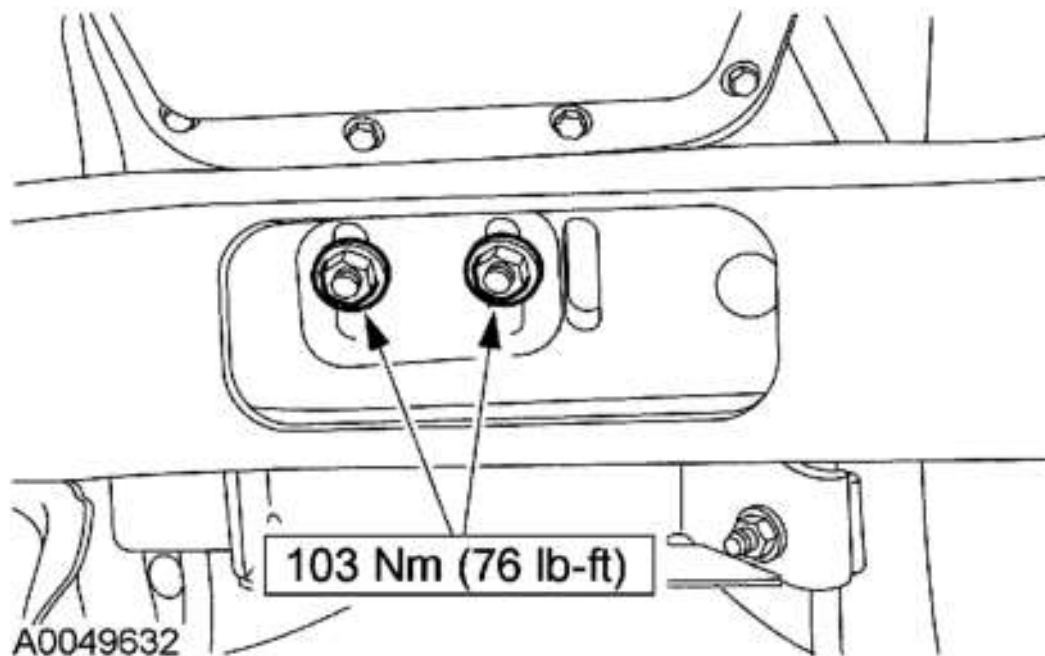


Fig. 497: Positioning Rear Crossmember & Installing Rear Transmission Support Nuts

Courtesy of FORD MOTOR CO.

11. Position the rear crossmember in place and install the bolts.

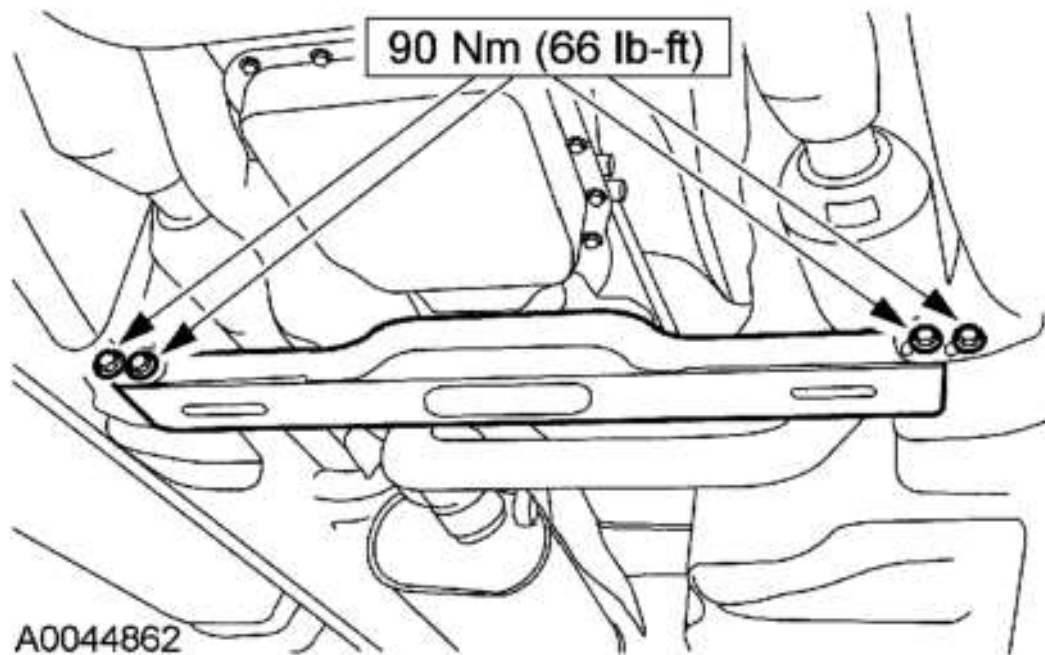


Fig. 498: Positioning Rear Crossmember & Installing Bolts
Courtesy of FORD MOTOR CO.

12. Remove the transmission jack.
13. Install the RH exhaust shield bolt.

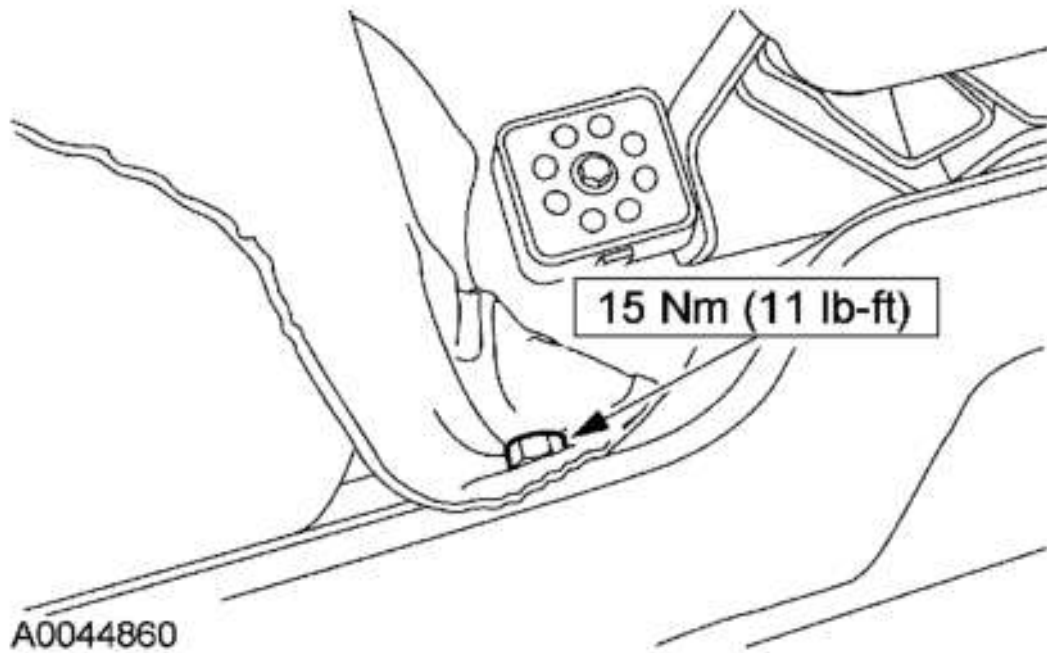


Fig. 499: Installing RH Exhaust Shield Bolt
Courtesy of FORD MOTOR CO.

14. Install the LH exhaust shield bolt.

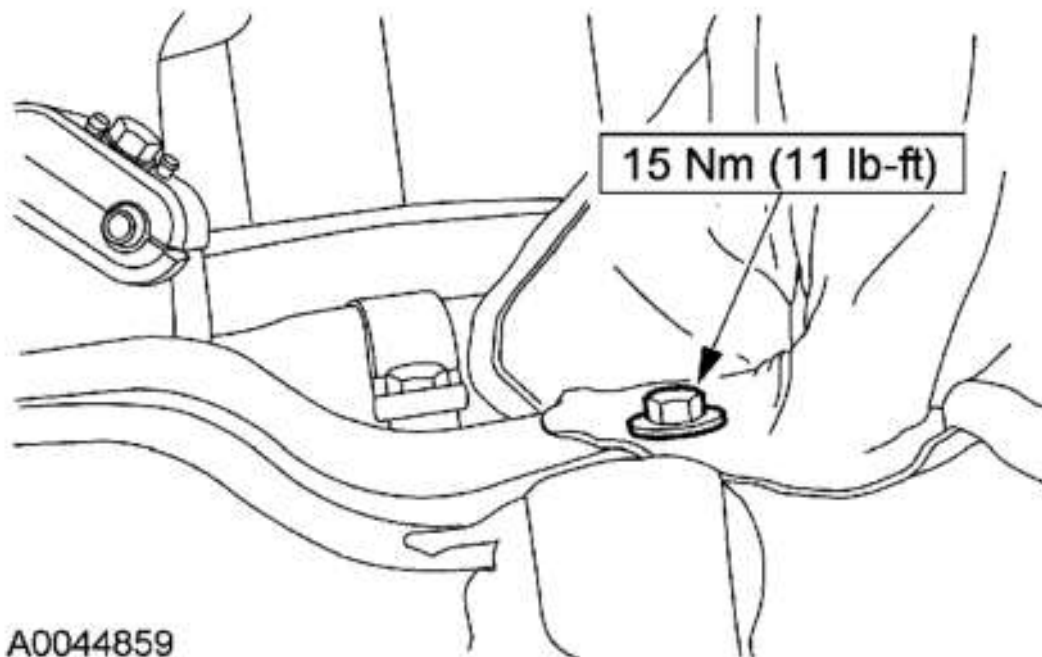


Fig. 500: Installing LH Exhaust Shield Bolt
Courtesy of FORD MOTOR CO.

15. Install the bolts retaining the exhaust hanger to the crossmember.

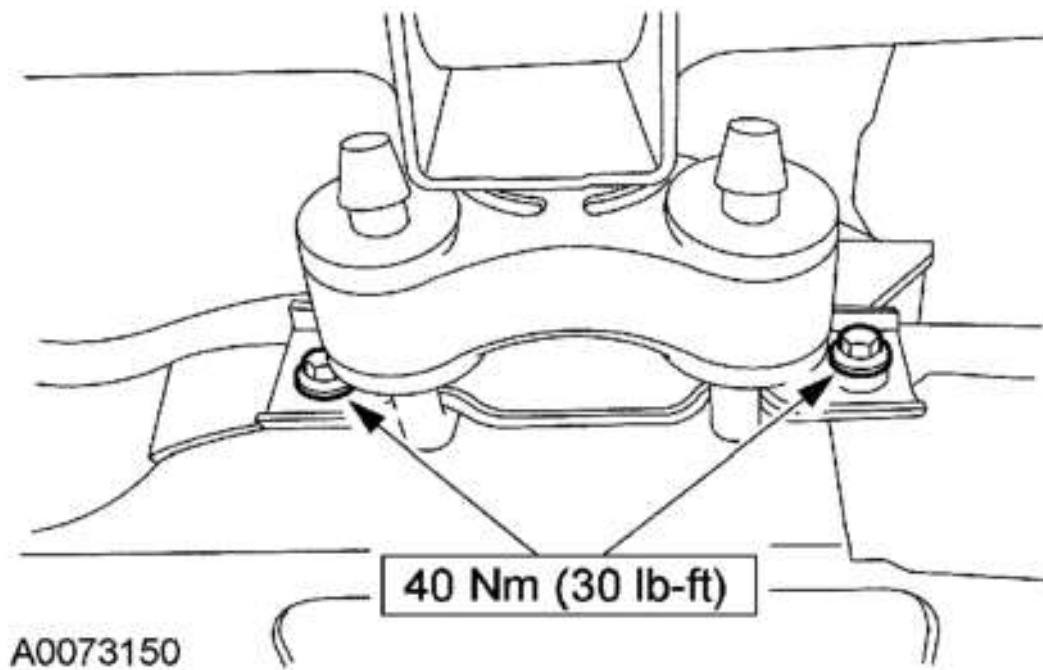


Fig. 501: Installing Exhaust Hanger To Crossmember
Courtesy of FORD MOTOR CO.

16. Position the transmission fluid fill tube into the transmission and install the retaining bolt on the RH cylinder head.

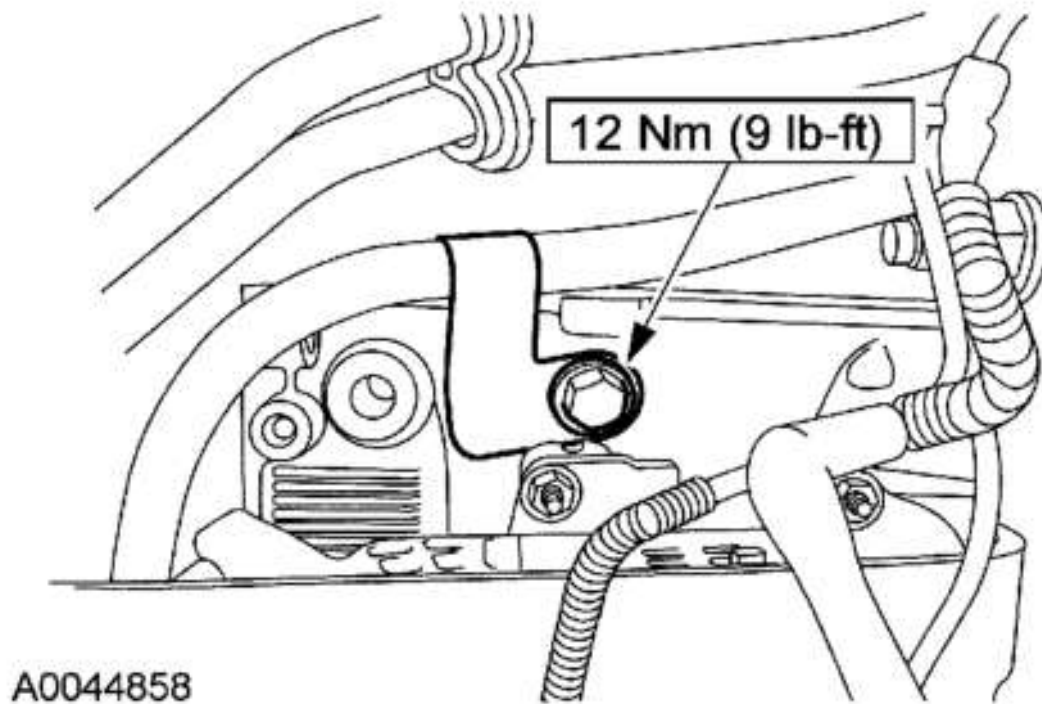


Fig. 502: Installing Retaining Bolt On RH Cylinder Head
Courtesy of FORD MOTOR CO.

17. Connect the transmission fluid cooler tubes.

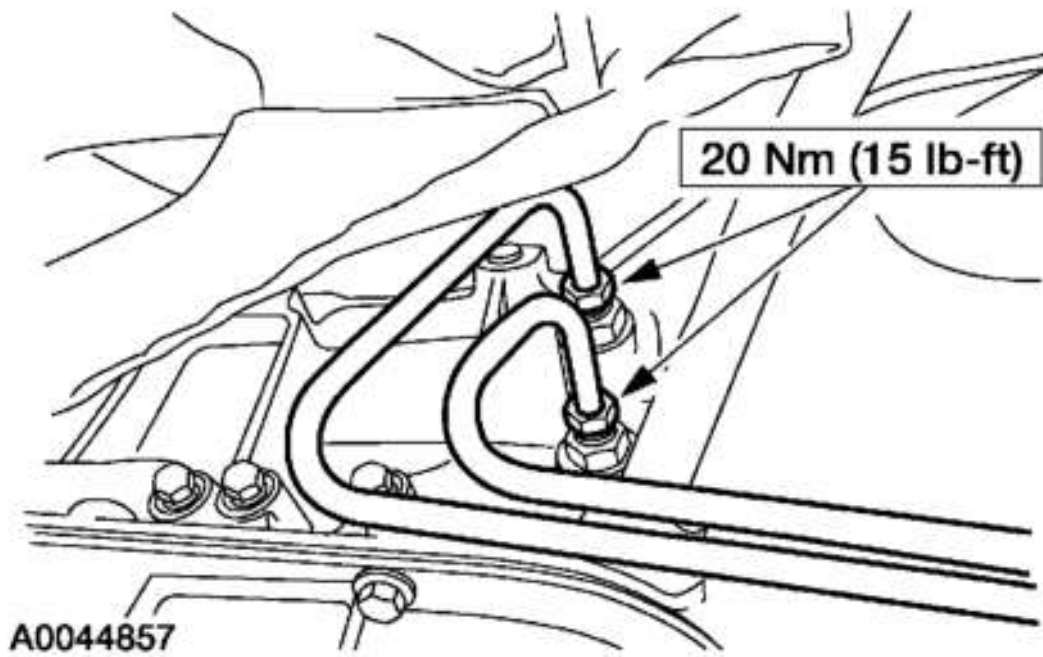


Fig. 503: Connecting Transmission Fluid Cooler Tubes
Courtesy of FORD MOTOR CO.

18. Install the starter motor and install 3 bolts.

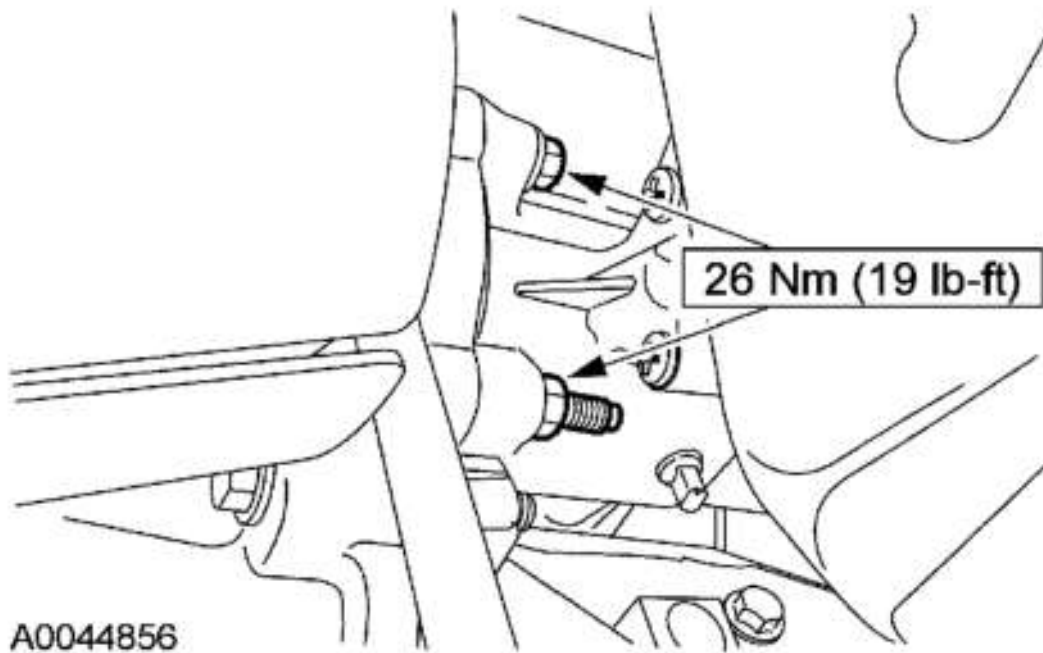


Fig. 504: Installing Starter Motor

Courtesy of FORD MOTOR CO.

19. Install the starter motor electrical connectors and the ground wire.

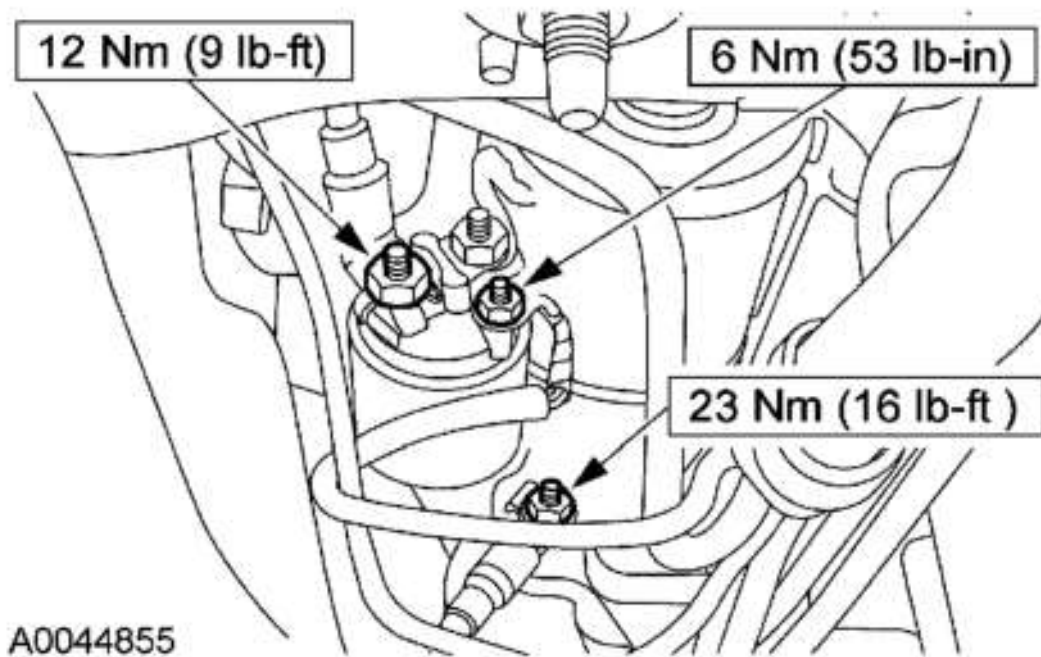


Fig. 505: Installing Starter Motor Electrical Connectors And The Ground Wire
Courtesy of FORD MOTOR CO.

20. Install the plastic starter motor electrical connector cap.

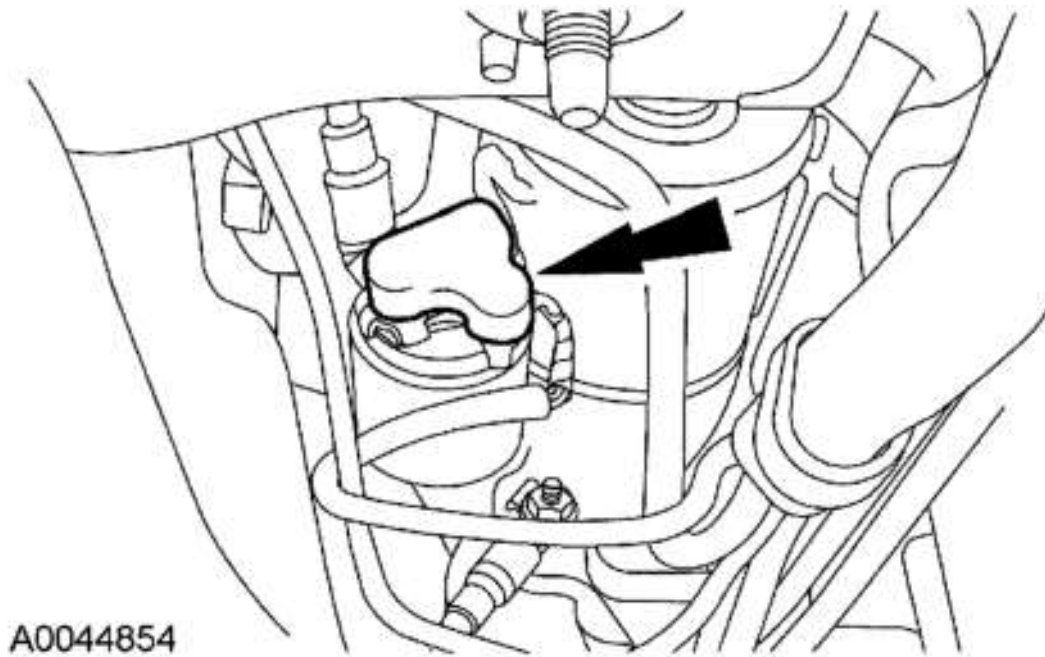


Fig. 506: Installing Plastic Starter Motor Electrical Connector Cap
Courtesy of FORD MOTOR CO.

21. Install the 4 torque converter nuts.
 - Rotate the crankshaft to access all the torque converter nuts.

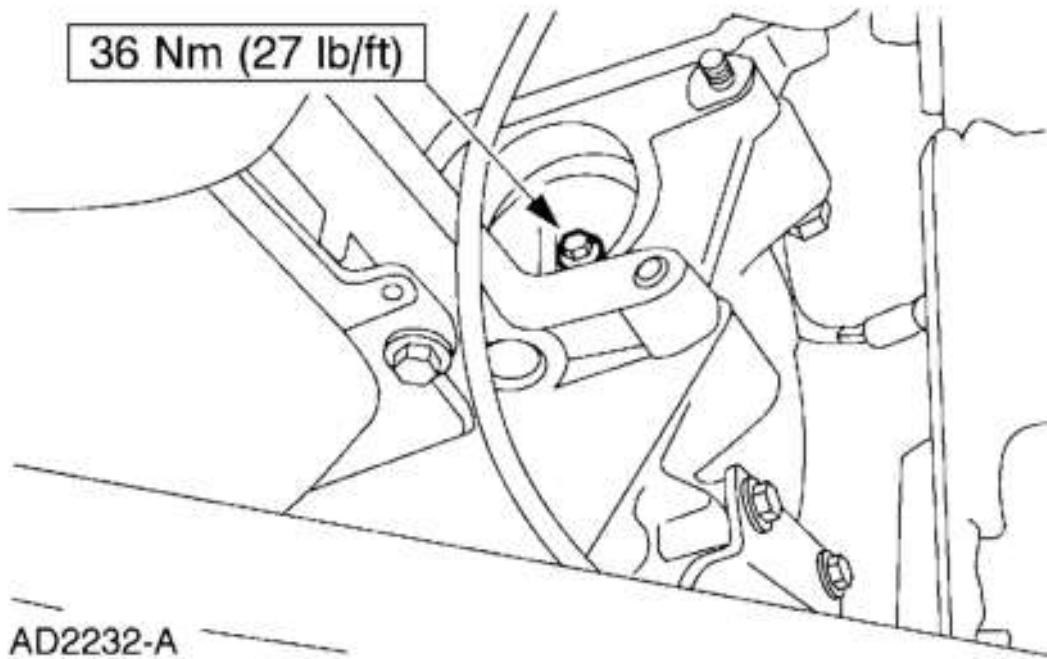


Fig. 507: Installing Torque Converter Nuts
Courtesy of FORD MOTOR CO.

22. Install the rubber access plug.

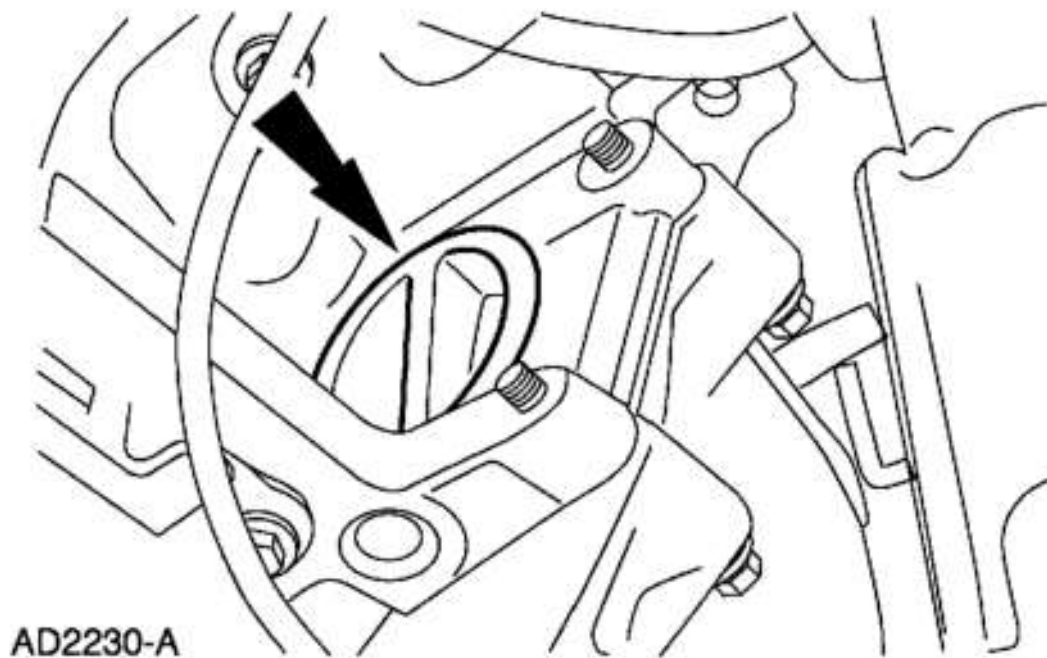


Fig. 508: Identifying Rubber Access Plug
Courtesy of FORD MOTOR CO.

23. Install the flexplate inspection cover

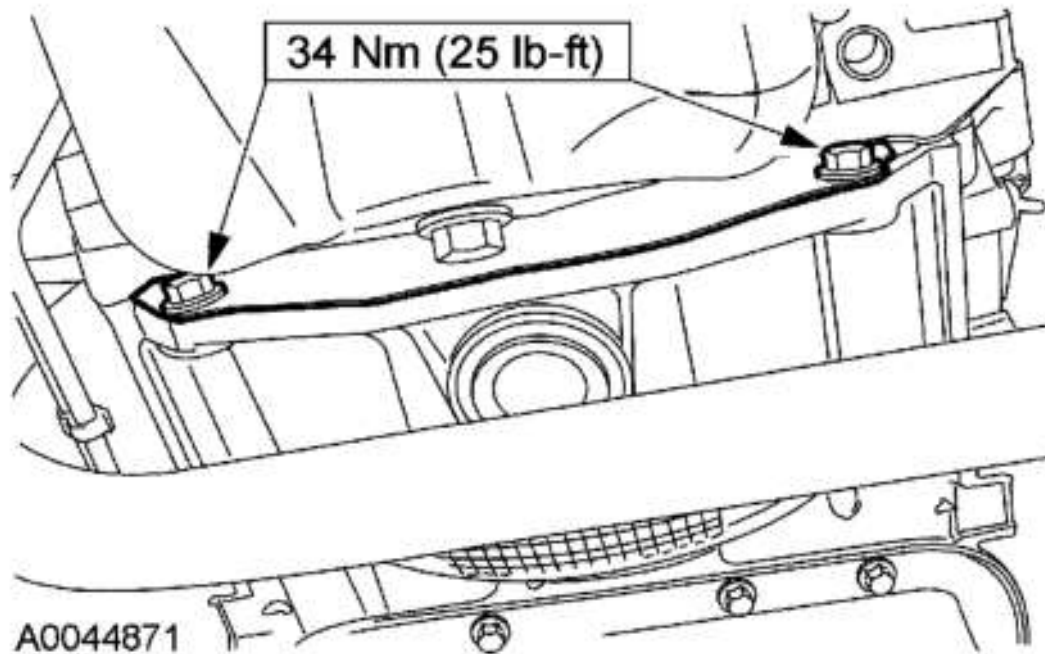


Fig. 509: Installing Flexplate Inspection Cover
Courtesy of FORD MOTOR CO.

24. Install the shift cable end and the bracket.

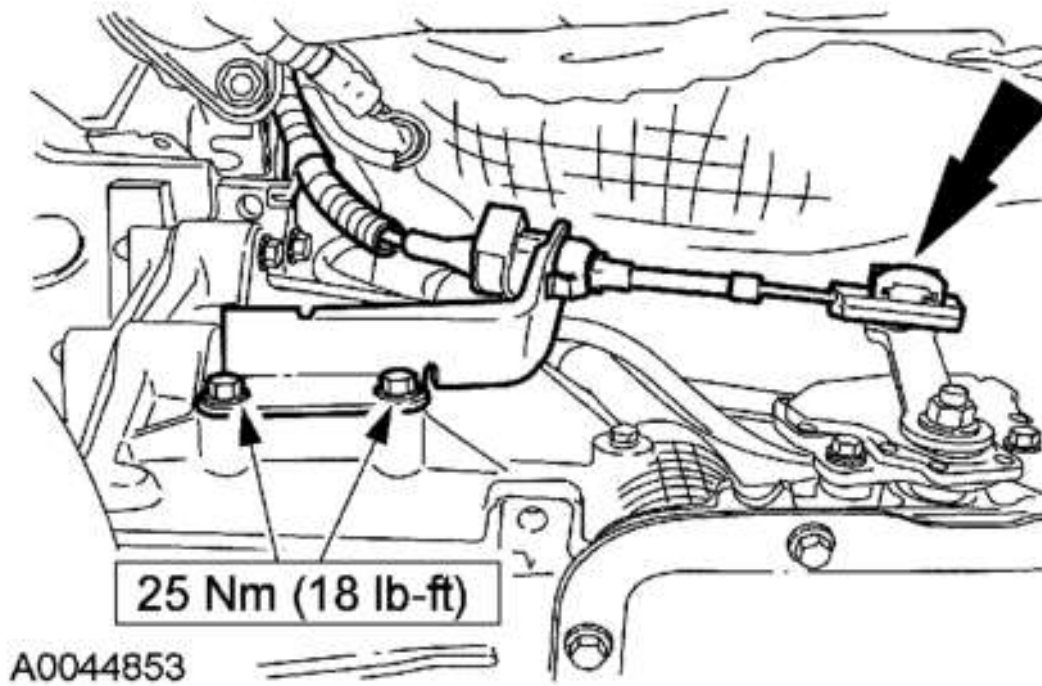


Fig. 510: Installing Shift Cable End And Bracket
Courtesy of FORD MOTOR CO.

25. Install the fuel line bracket.

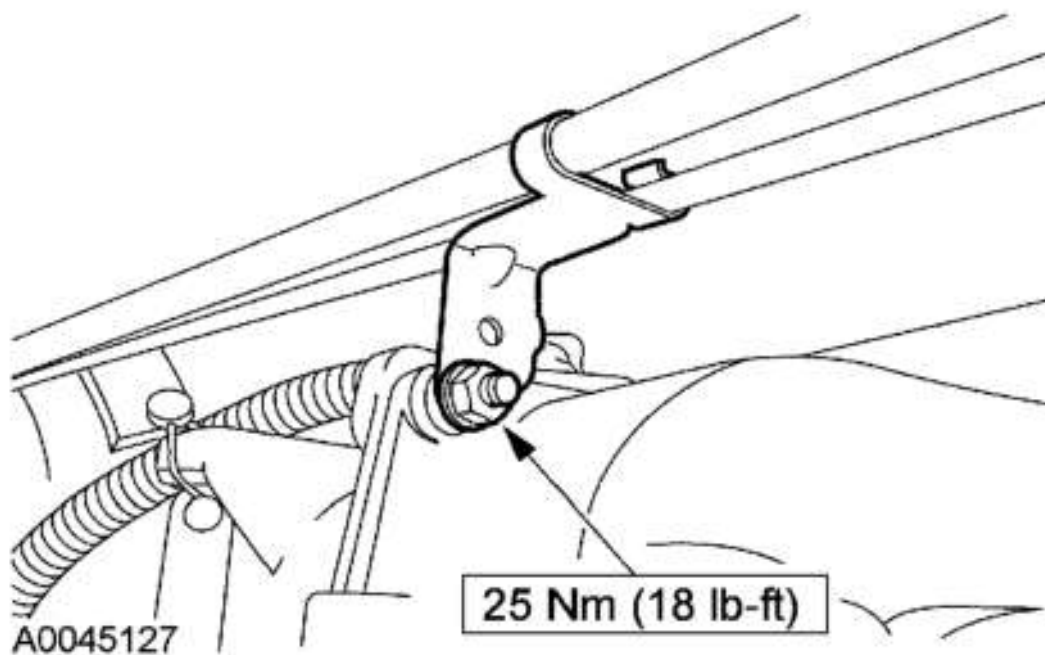
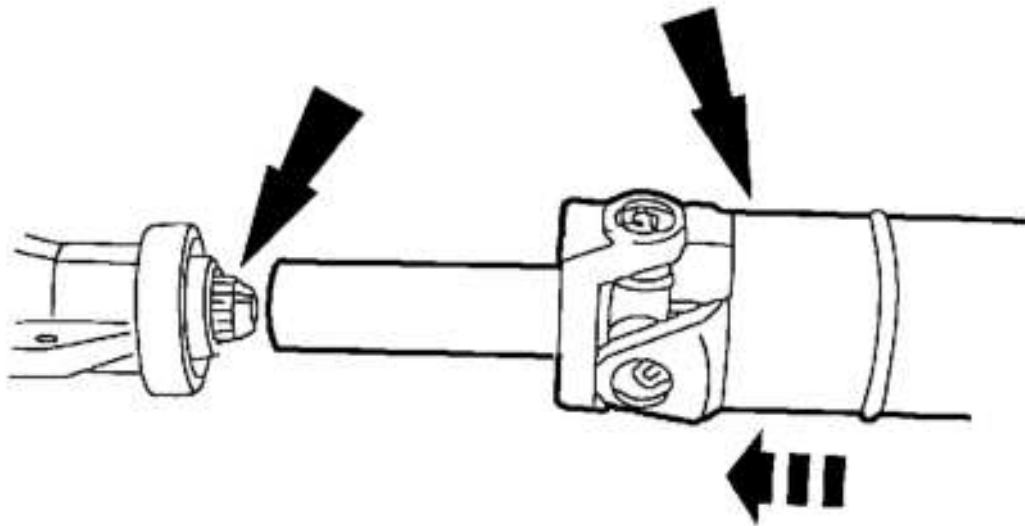


Fig. 511: Installing Fuel Line Bracket
Courtesy of FORD MOTOR CO.

NOTE: The output shaft and the driveshaft are a balanced assembly.

26. Install the driveshaft.

- Align the yellow dots and position the driveshaft on the transmission.
- Position the driveshaft to the rear differential.



AD1953-A

Fig. 512: Installing Driveshaft
Courtesy of FORD MOTOR CO.

NOTE: To maintain initial driveshaft balance, align the index marks made during removal.

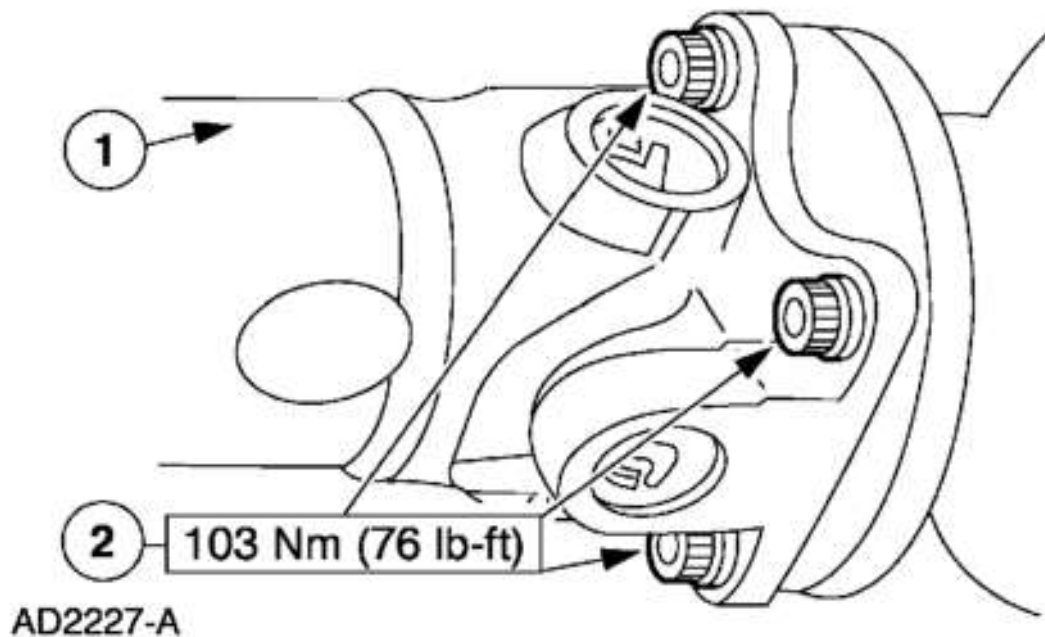


Fig. 513: Installing Rear Driveshaft
 Courtesy of FORD MOTOR CO.

27. Install the rear driveshaft.
 1. Position the driveshaft.
 2. Install the 4 bolts.
28. Use the following guidelines for the in-line transmission fluid filter:
 - If the transmission was overhauled and the vehicle was equipped with an in-line fluid filter, install a new in-line fluid filter.
 - If the transmission was overhauled and the vehicle was not equipped with an in-line fluid filter, install a new in-line fluid filter kit.
 - If the transmission is being installed for a non-internal repair, do not install an in-line filter or filter kit.
 - If installing a Ford authorized remanufactured transmission, install the in-line transmission fluid filter that is supplied

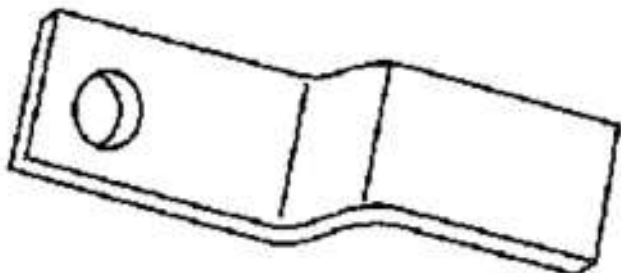
Prior to lowering the vehicle, install a new in-line transmission filter or a filter kit. For additional information, refer to **TRANSMISSION FILTER - In Line** .

29. Connect the battery ground cable.
30. Fill the transmission with clean automatic transmission fluid and inspect for correct operation. For additional information, refer to **Transmission Fluid Drain and Refill** .

TRANSMISSION - 4X4

Special Tool(s)

SPECIAL TOOL(S) SPECIFICATION



ST1636-A

Retainer, Torque Converter 307-346 (T97T-7902-A)

Material

MATERIAL SPECIFICATION

Item	Specification
Motorcraft MERCON® Multi-Purpose (ATF) Transmission Fluid XT-2-QDX	MERCON®

Installation

1. Install the special tool if not done during the assembly process.

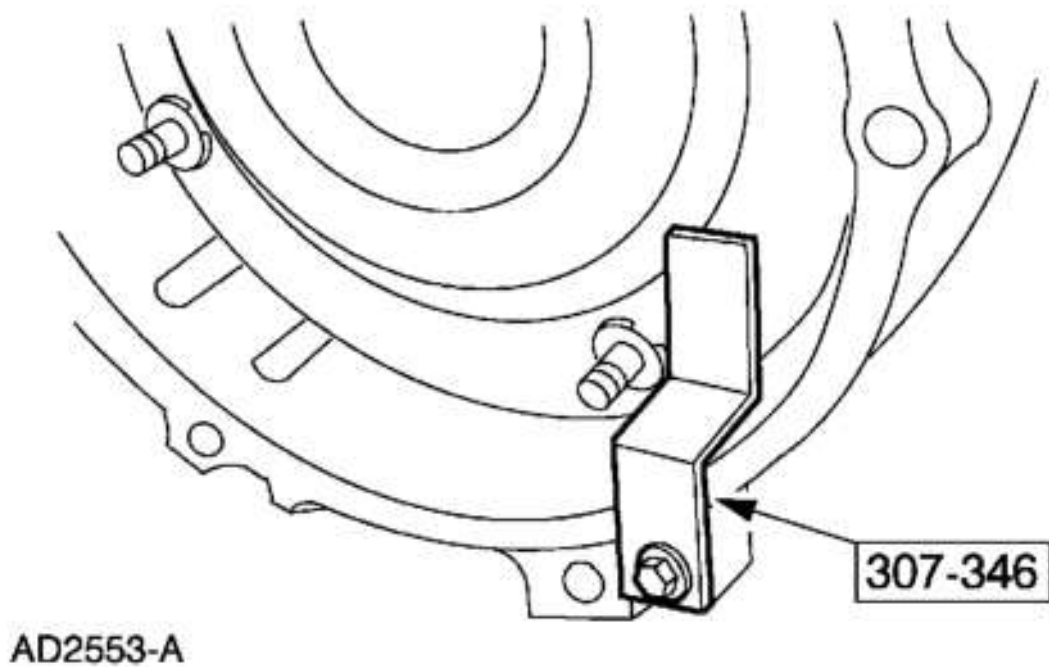


Fig. 514: Installing Special Tool
Courtesy of FORD MOTOR CO.

2. Position the vent tube on the top of the transmission.

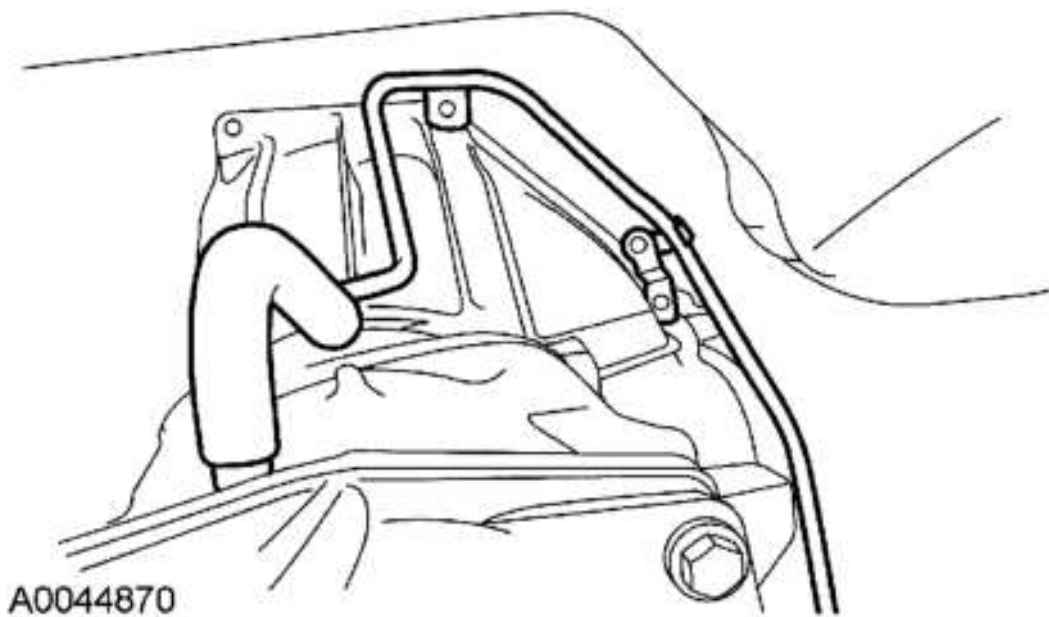


Fig. 515: Positioning Vent Tube On Top Of Transmission

Courtesy of FORD MOTOR CO.

CAUTION: To position the transmission in the vehicle, put the transmission into a nose-down position to get the tail shaft over the exhaust system. The 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 that the converter pilot is not binding in the engine crankshaft.

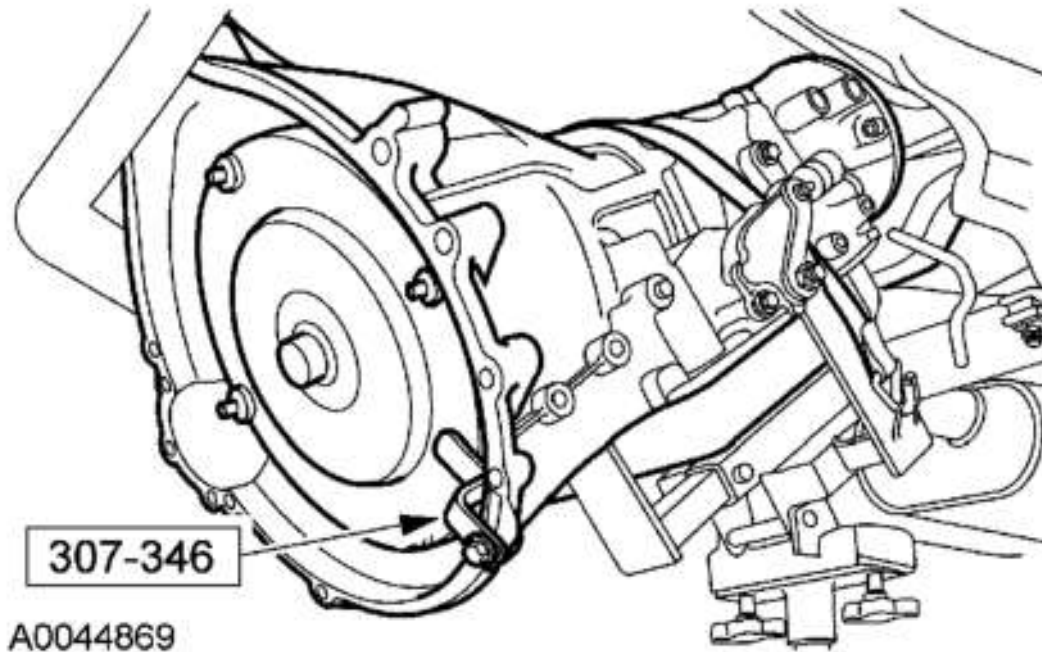


Fig. 516: Placing Transmission In Horizontal Position
Courtesy of FORD MOTOR CO.

3. Position and secure the transmission on the high-lift transmission jack. Raise and position the transmission into the vehicle. Once the transmission is in position, place the transmission in a horizontal position.

NOTE: Do not remove the special tool until the transmission is in a horizontal position.

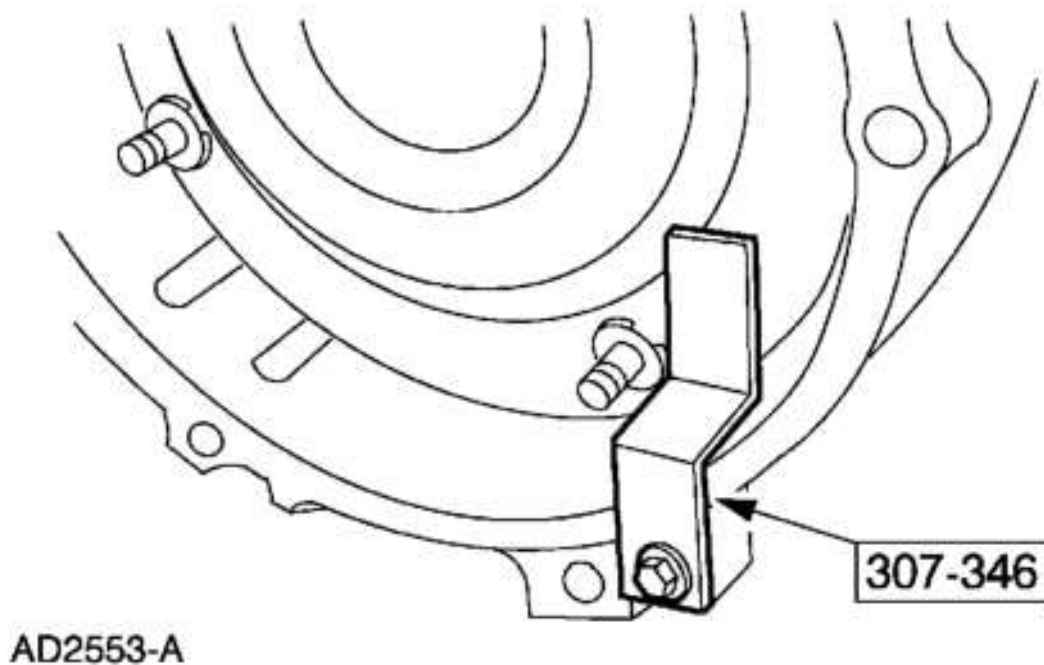


Fig. 517: Removing Special Tool
Courtesy of FORD MOTOR CO.

4. Remove the special tool.

NOTE: Make sure that the torque converter is fully seated in the transmission before aligning the transmission to the engine.

5. With the transmission in a horizontal position move it toward the engine. Align the orange balancing marks between the torque converter and the flexplate bolt holes.

NOTE: Install the transmission retaining bolts in their correct locations made during removal.

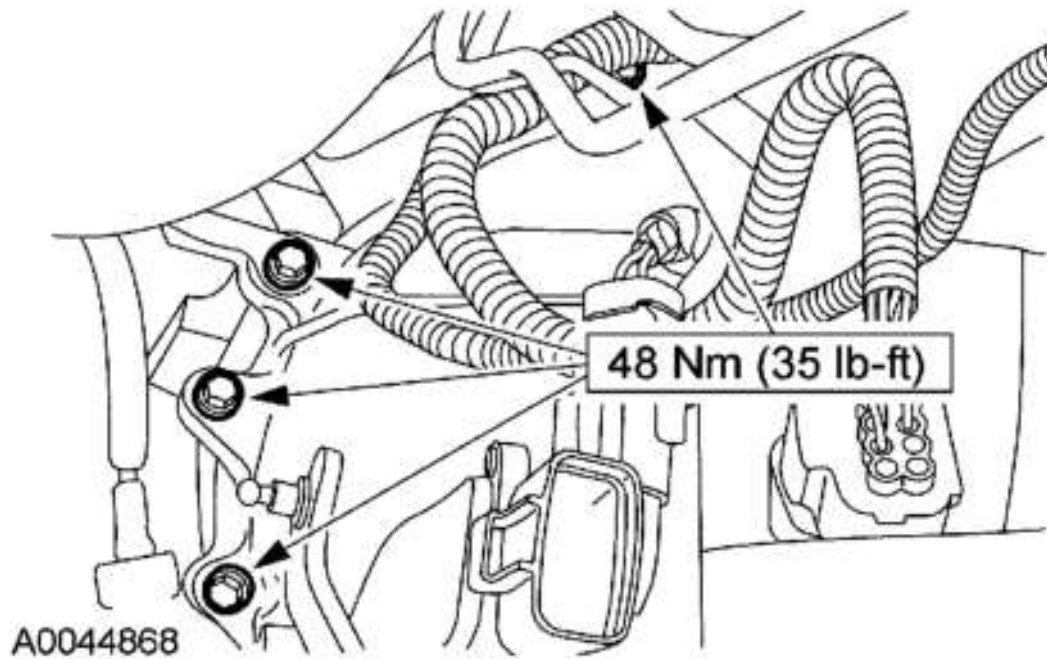


Fig. 518: Installing Shift Cable Bracket And LH Transmission Retaining Bolts
Courtesy of FORD MOTOR CO.

6. Install the shift cable bracket and the LH transmission retaining bolts.

NOTE: Install the transmission retaining bolts in their correct locations made during removal.

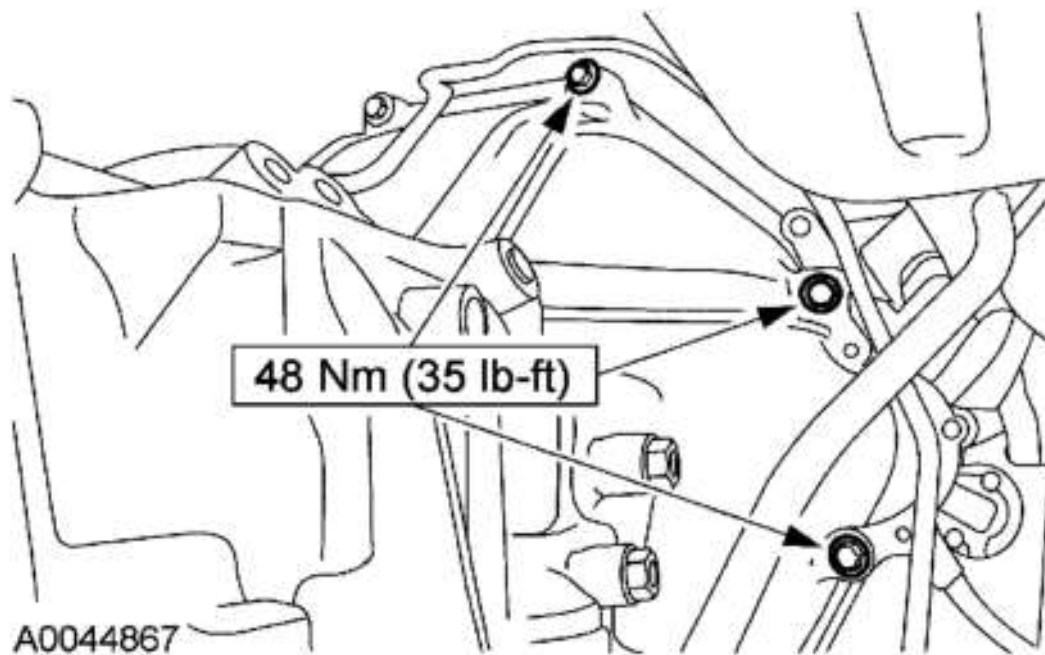


Fig. 519: Installing RH Transmission Retaining Bolts
Courtesy of FORD MOTOR CO.

7. Position the vent tube in its correct location and install the RH transmission retaining bolts.

NOTE: It may be necessary to disconnect the rubber vent hose in order to route the wire harness under the vent hose.

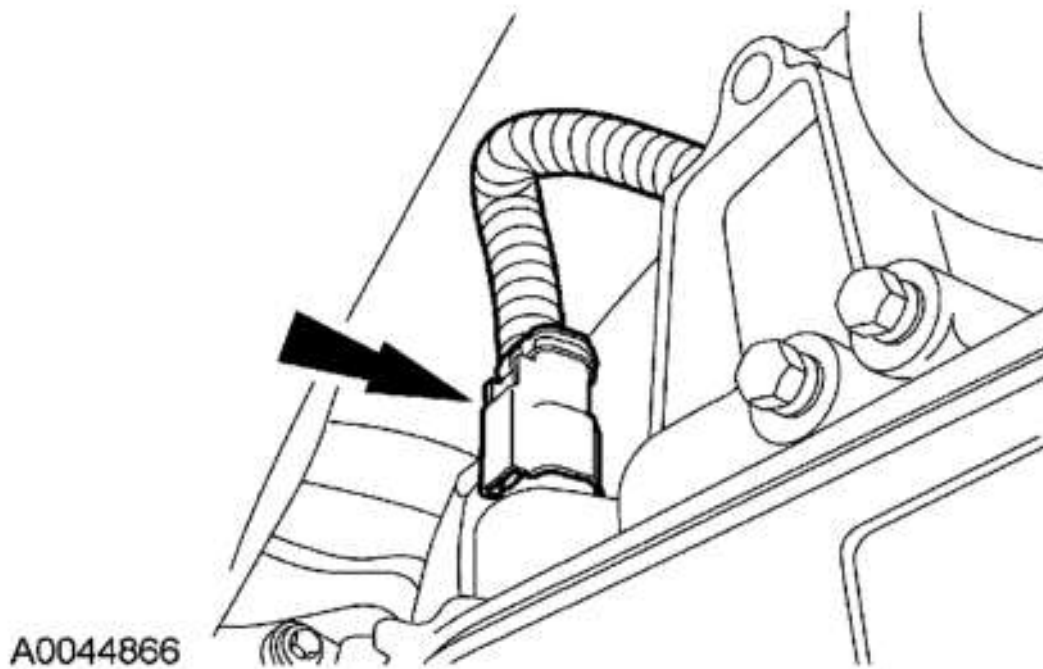


Fig. 520: Connecting Solenoid Body Connector & Connecting Harness Retainer To Transmission
 Courtesy of FORD MOTOR CO.

8. Route the harness under the vent hose, connect the solenoid body connector and connect the harness retainer to the transmission.
9. Connect the transmission electrical connectors.
 1. Connect the digital transmission range (TR) sensor.
 2. Connect the output shaft speed (OSS) sensor.
 3. Connect the turbine shaft speed (TSS) sensor.

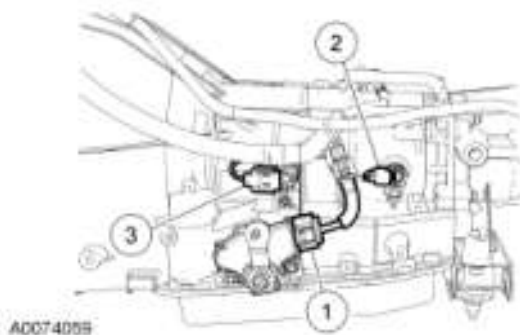


Fig. 521: Connecting Transmission Electrical Connectors
 Courtesy of FORD MOTOR CO.

10. Install the rear transmission support.

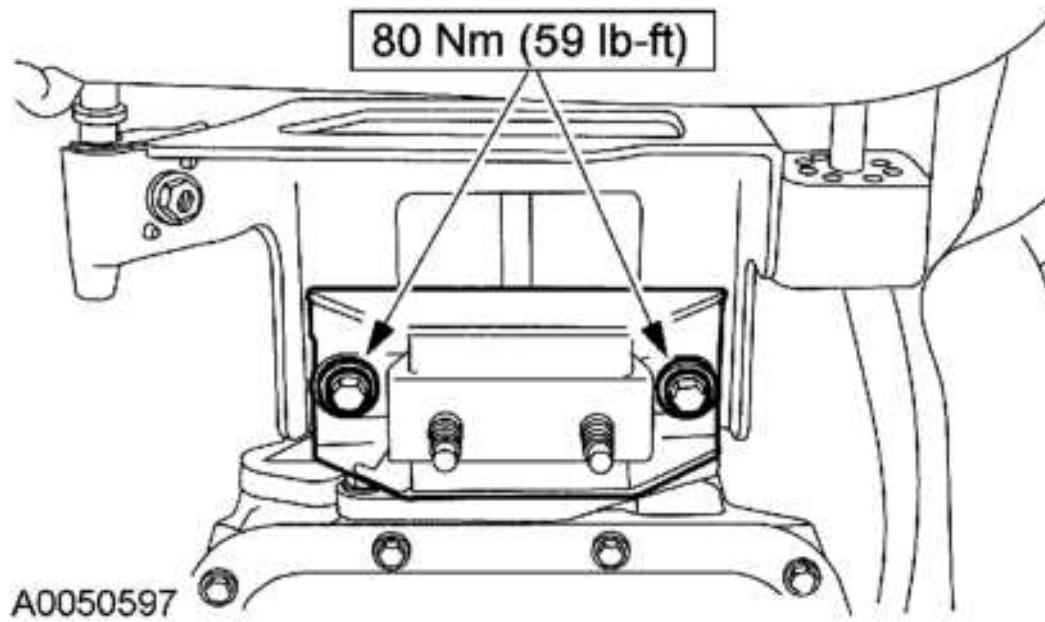


Fig. 522: Installing Rear Transmission Support
Courtesy of FORD MOTOR CO.

11. Position the rear crossmember in place and install the nuts.

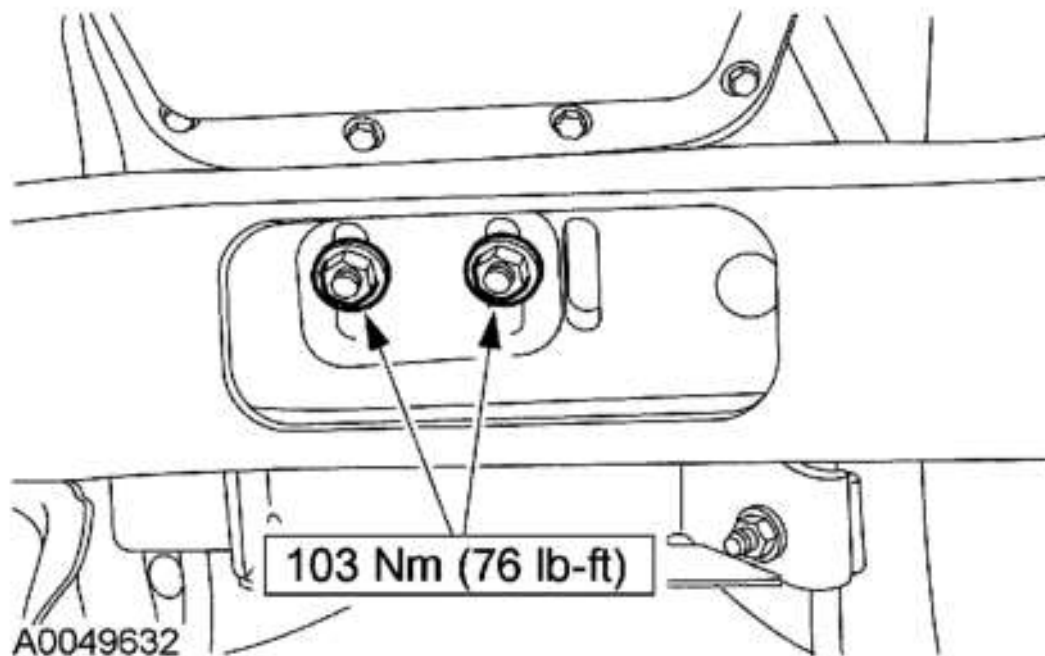


Fig. 523: Positioning Rear Crossmember

Courtesy of FORD MOTOR CO.

12. Position the rear crossmember in place and install the bolts and nuts.

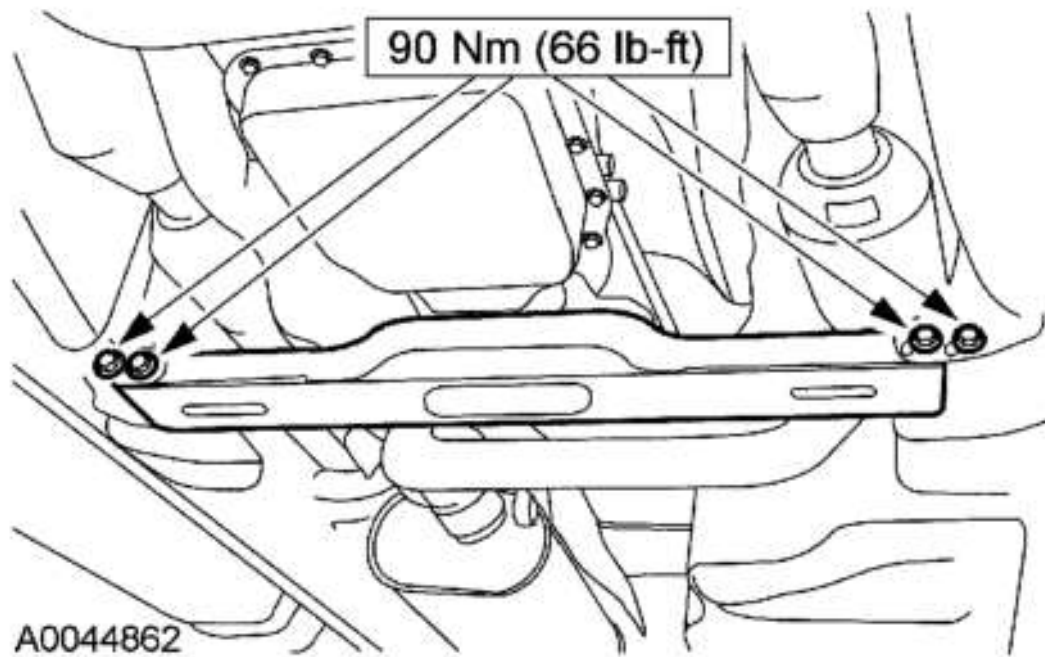


Fig. 524: Tightening Rear Crossmember Bolts
Courtesy of FORD MOTOR CO.

13. Install the RH exhaust bolts.

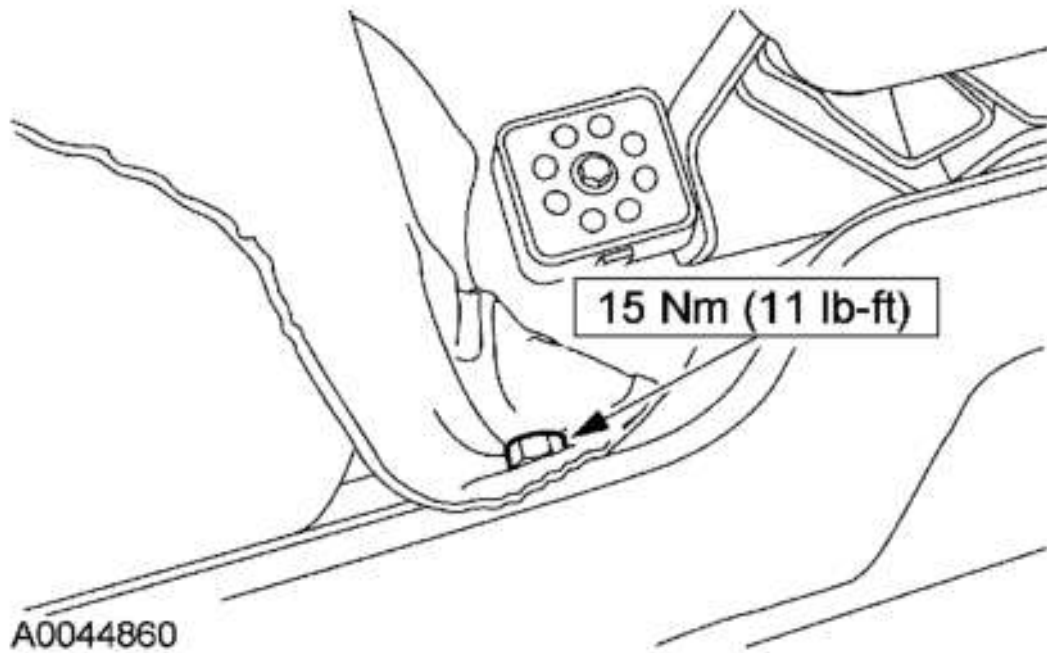


Fig. 525: Installing RH Exhaust Bolts
Courtesy of FORD MOTOR CO.

14. Install the LH exhaust bolts.

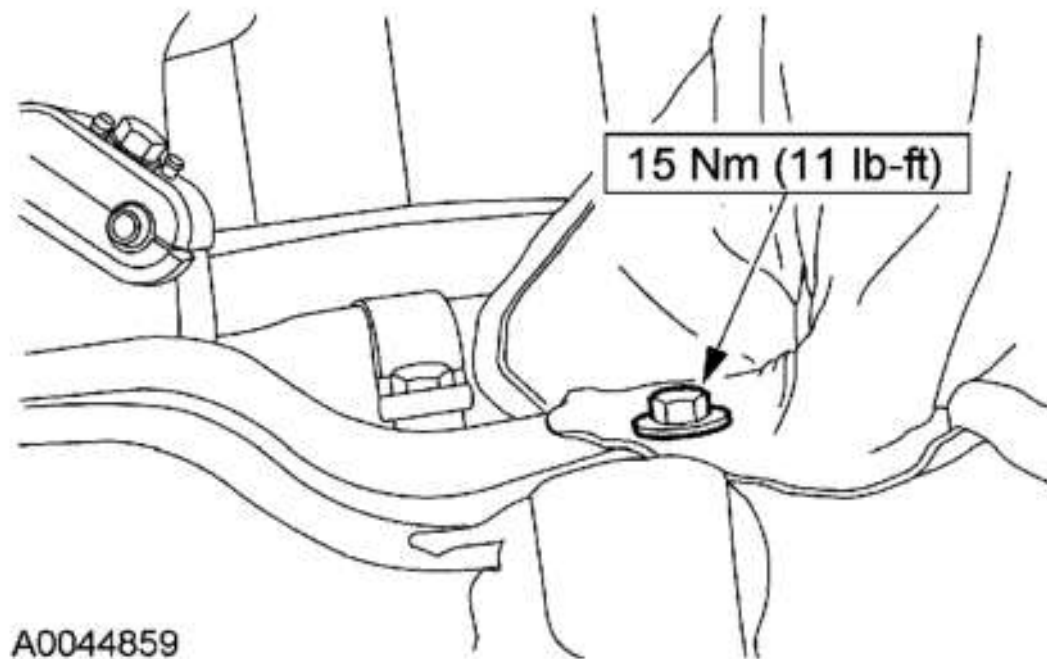


Fig. 526: Installing LH Exhaust Bolts
Courtesy of FORD MOTOR CO.

15. Install the bolts retaining the exhaust hanger to the crossmember.

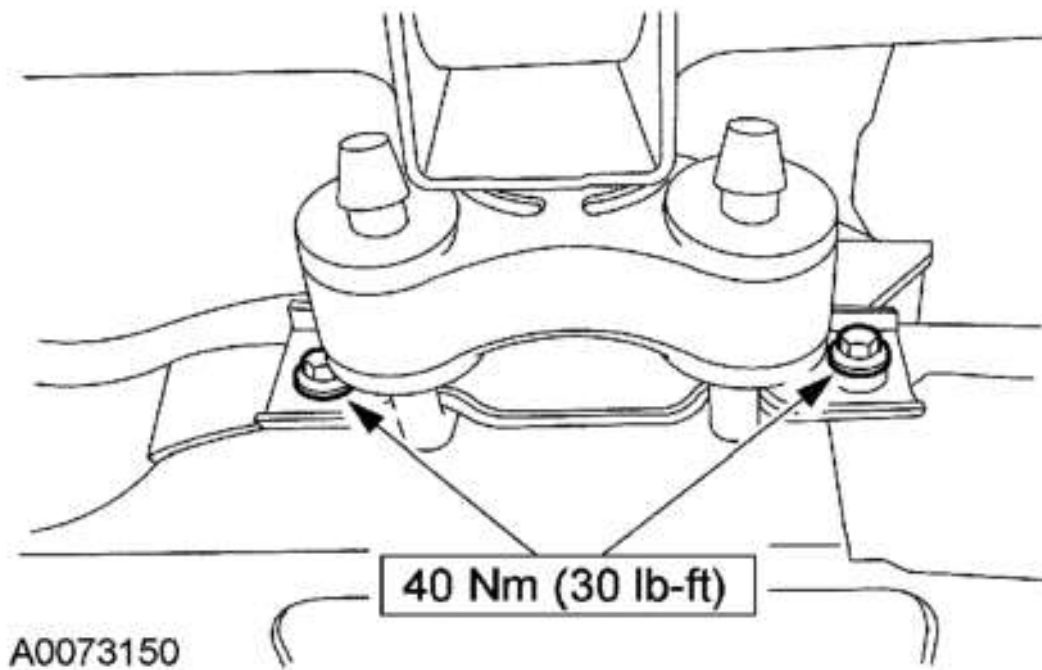


Fig. 527: Installing Exhaust Hanger To Crossmember
Courtesy of FORD MOTOR CO.

16. Position the transmission fluid fill tube into the transmission and install the retaining bolt on the RH cylinder head.

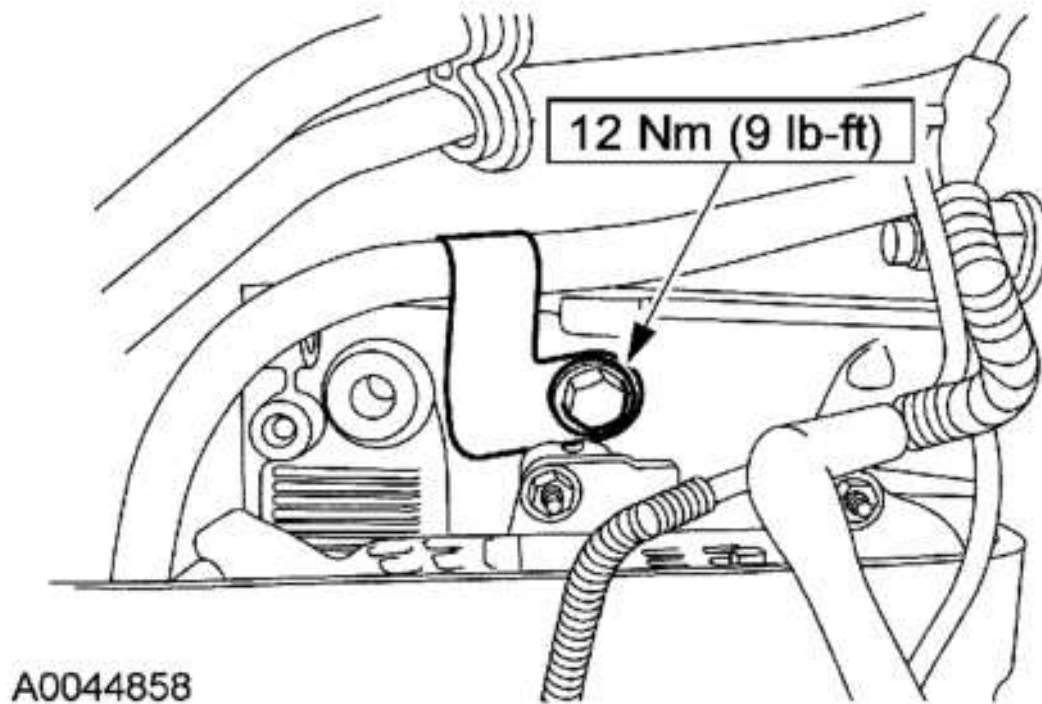


Fig. 528: Identifying Retaining Bolt On RH Cylinder Head
Courtesy of FORD MOTOR CO.

17. Connect the transmission fluid cooler tubes.

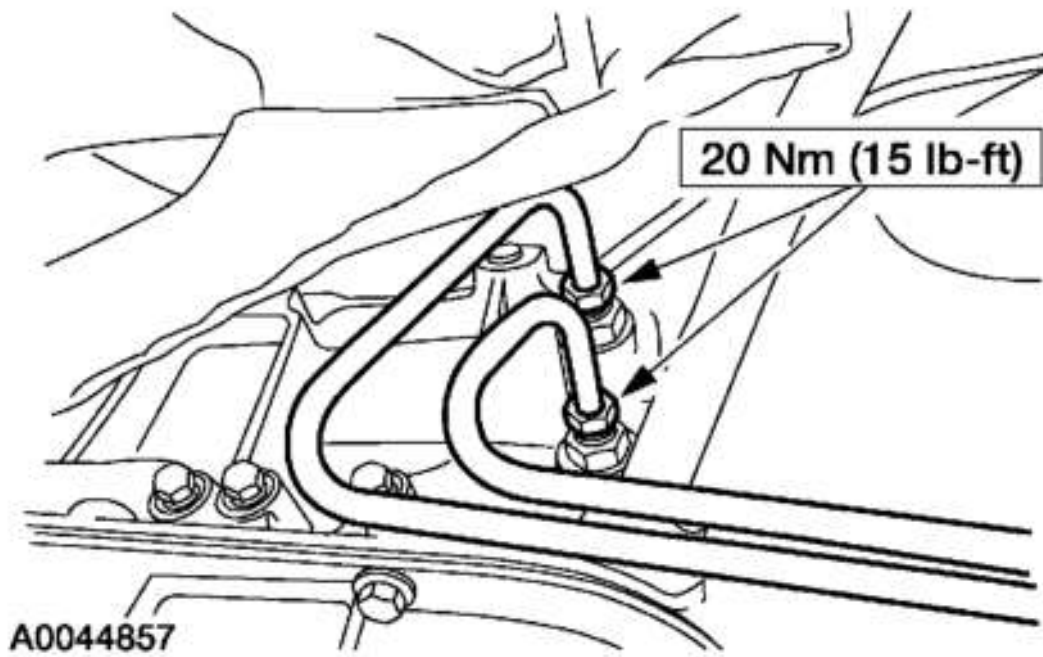


Fig. 529: Connecting Transmission Fluid Cooler Tubes
Courtesy of FORD MOTOR CO.

18. Install the starter motor and 3 bolts.

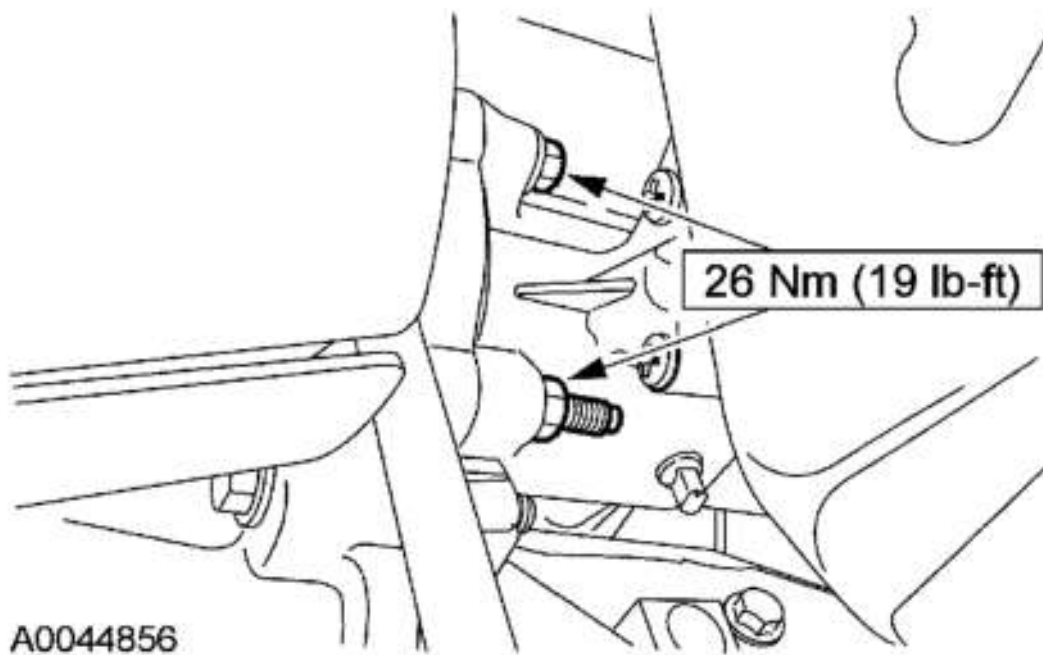


Fig. 530: Installing Starter Motor And Bolts

Courtesy of FORD MOTOR CO.

19. Install the starter motor electrical connectors and the ground wire.

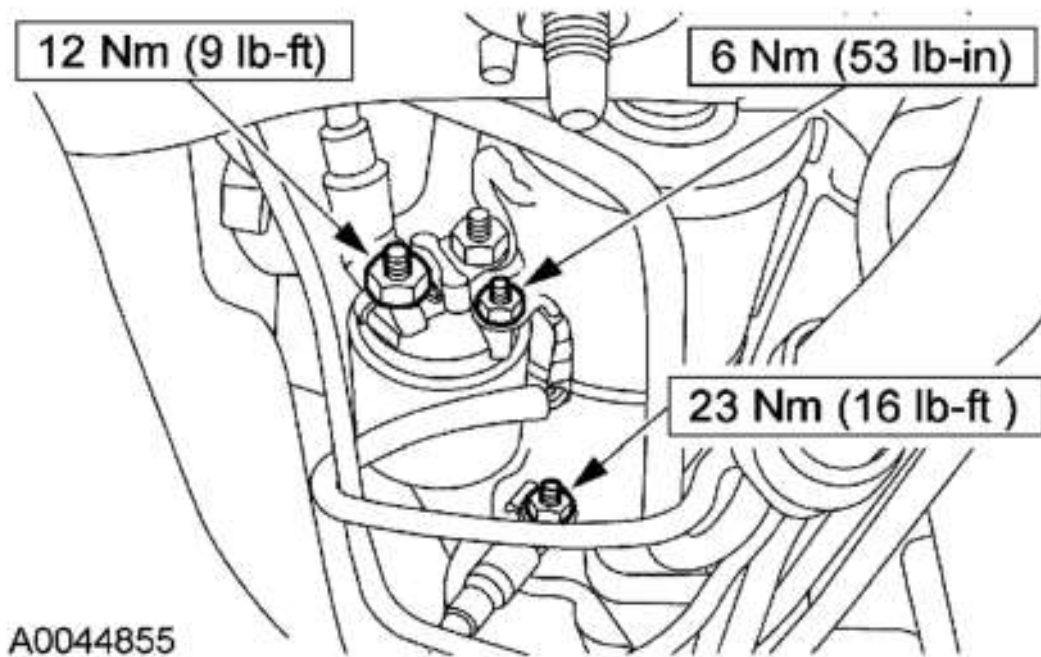


Fig. 531: Installing Starter Motor Electrical Connectors And Ground Wire
Courtesy of FORD MOTOR CO.

20. Install the plastic starter motor electrical connector cap.

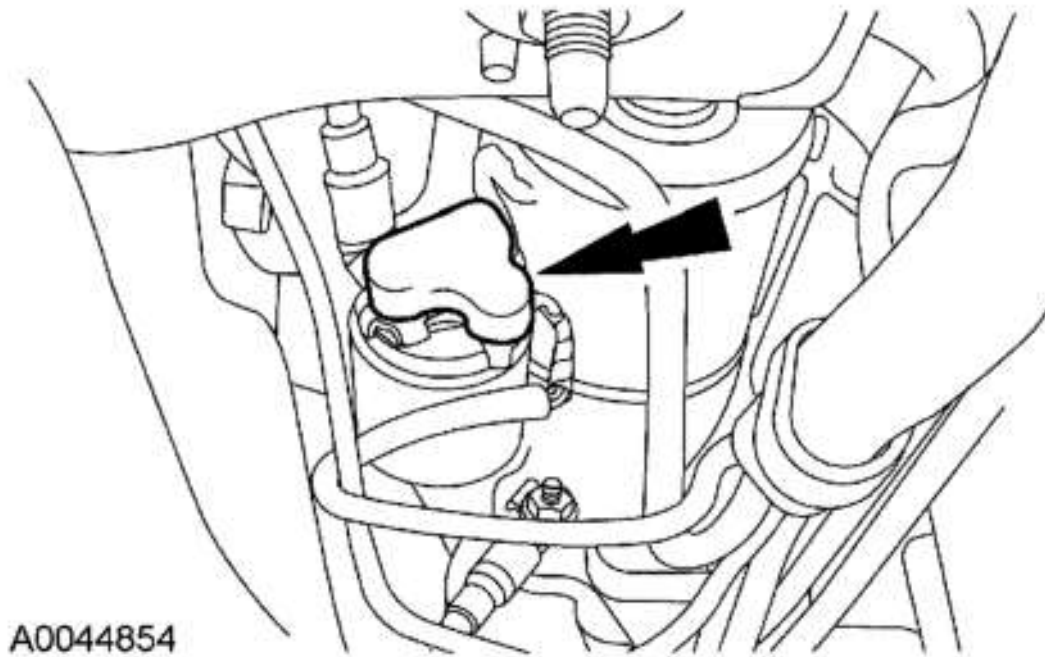


Fig. 532: Installing Plastic Starter Motor Electrical Connector Cap
Courtesy of FORD MOTOR CO.

21. Install the 4 torque converter nuts.

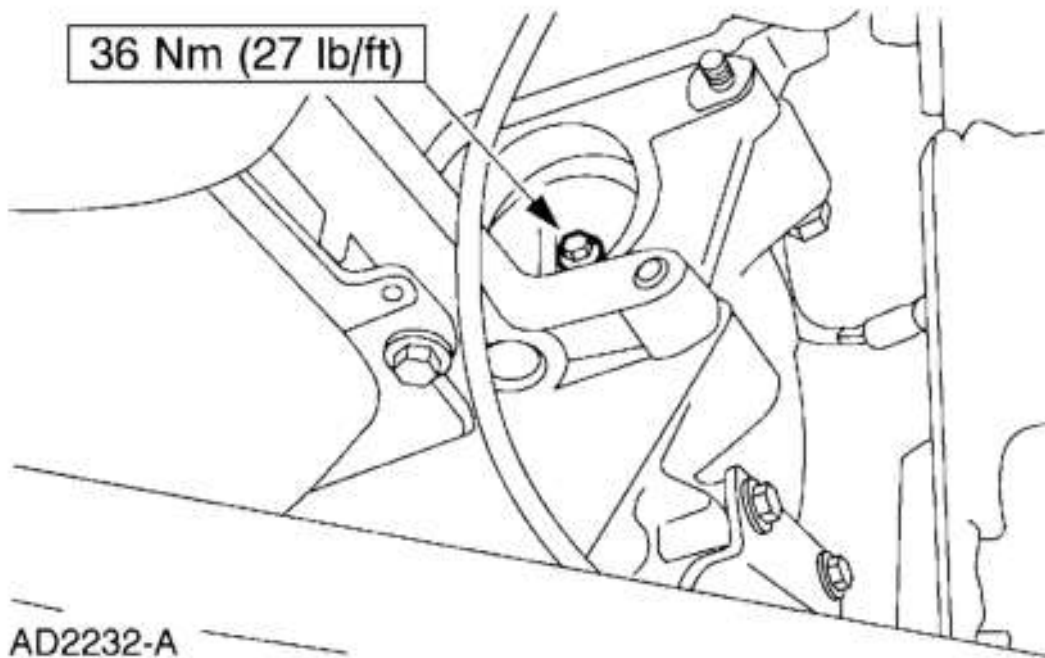


Fig. 533: Tightening Torque Converter Nuts
Courtesy of FORD MOTOR CO.

22. Install the rubber access plug.

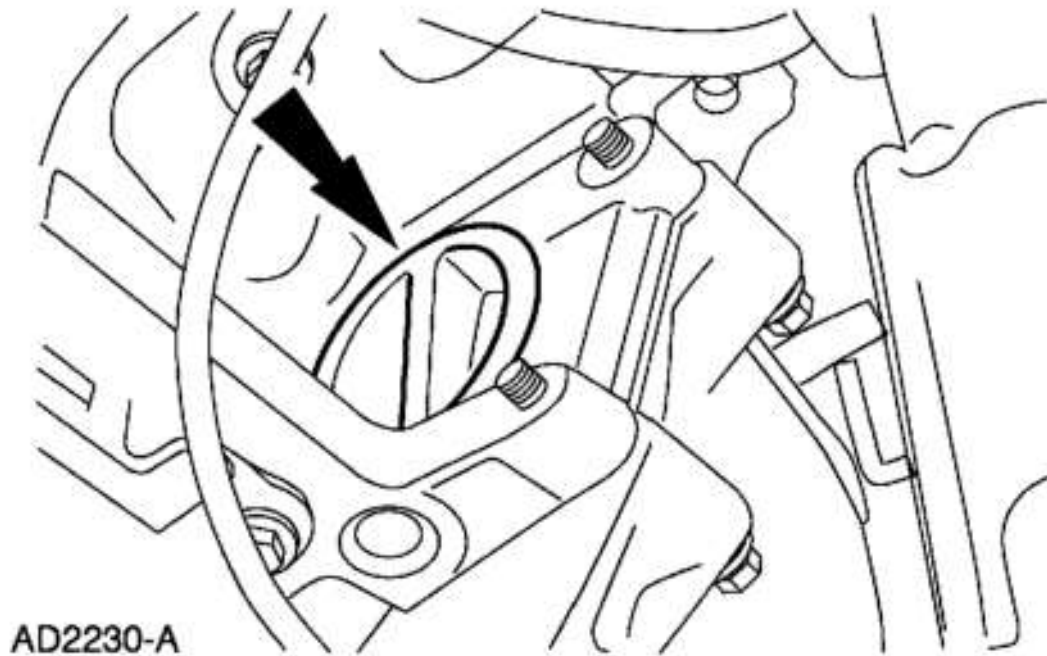


Fig. 534: Installing Rubber Access Plug
Courtesy of FORD MOTOR CO.

23. Install the flexplate inspection cover.

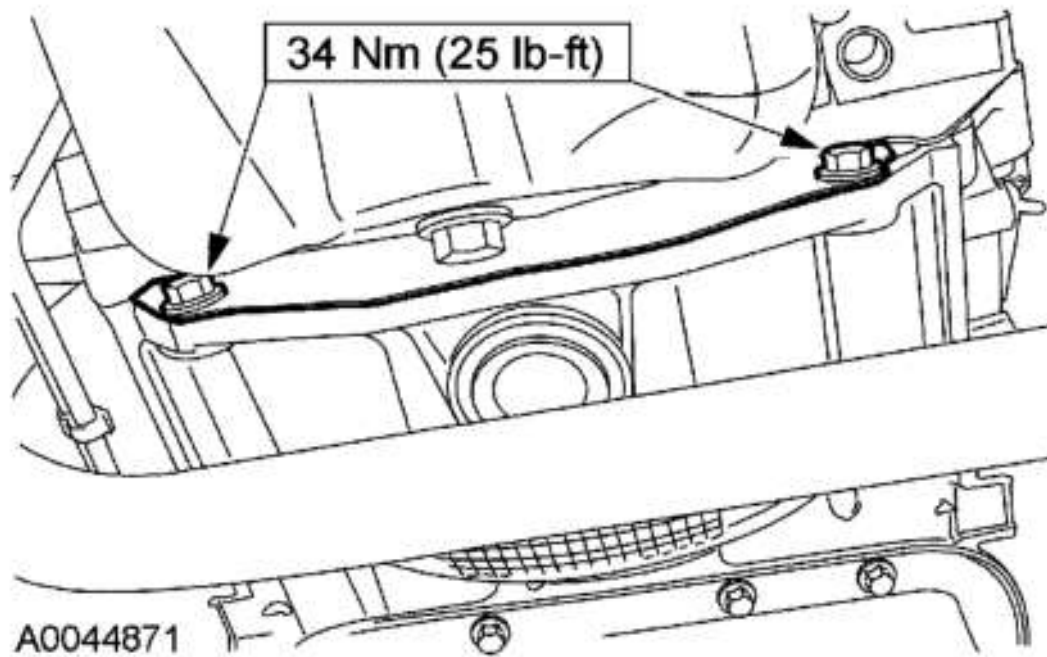


Fig. 535: Installing Flexplate Inspection Cover
Courtesy of FORD MOTOR CO.

24. Install the shift cable end and the bracket.

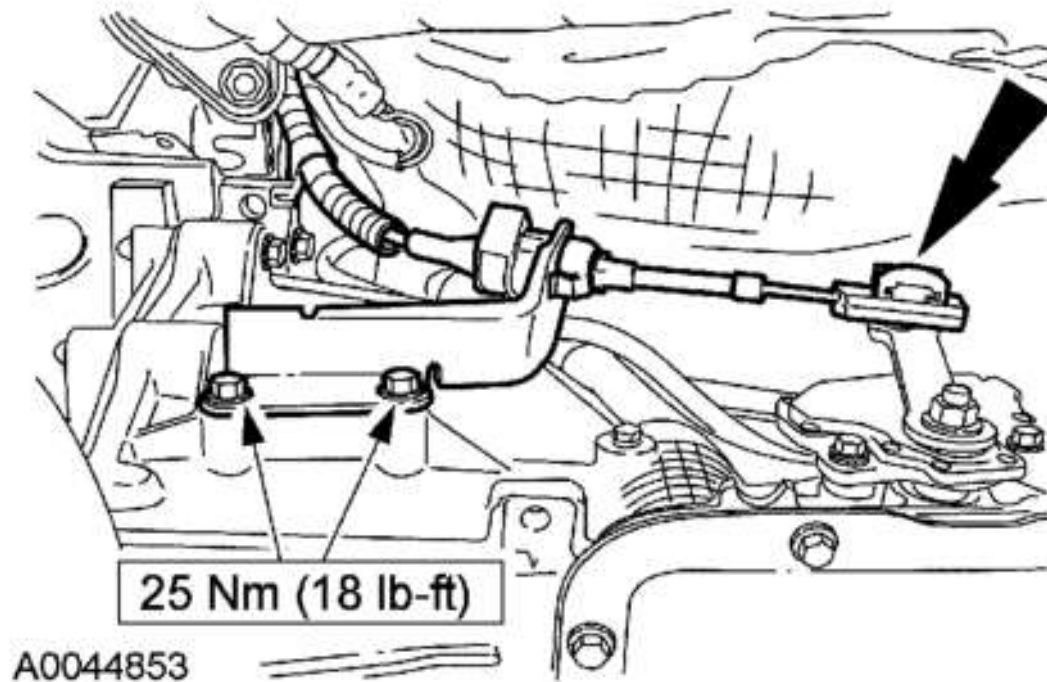


Fig. 536: Installing Shift Cable End And Bracket
Courtesy of FORD MOTOR CO.

25. Install the transfer case. For additional information, refer to **TRANSFER CASE - AUTOMATIC SHIFT** .
26. Use the following guidelines for the in-line transmission fluid filter:
 - If the transmission was overhauled and the vehicle was equipped with an in-line fluid filter, install a new in-line fluid filter.
 - If the transmission was overhauled and the vehicle was not equipped with an in-line fluid filter, install a new in-line fluid filter kit.
 - If the transmission is being installed for a non-internal repair, do not install an in-line filter or filter kit.
 - If installing a Ford-authorized remanufactured transmission, install the in-line transmission fluid filter that is supplied.

Prior to lowering the vehicle, install a new in-line transmission filter or a filter kit. For additional information, refer to **TRANSMISSION FILTER - In Line** .

27. Fill to correct level with clean automatic transmission fluid. For additional information, refer to **Transmission Fluid Drain and Refill** .