

## 2002-03 AUTOMATIC TRANSMISSIONS

## Removal &amp; Installation - Aviator, Explorer &amp; Mountaineer

## APPLICATION

## TRANSMISSION APPLICATION

Application	Transmission Model
Explorer & Mountaineer (2002)	5R55W
Aviator, Explorer & Mountaineer (2003)	5R55S

## REMOVAL &amp; INSTALLATION

**WARNING:** Vehicle is equipped with Supplemental Inflatable Restraint (SIR) system. When servicing vehicle, use care to avoid accidental air bag deployment. SIR system-related components are located in various locations throughout interior and exterior of vehicle, depending on application. Do not use electrical test equipment on or near these circuits. If necessary, deactivate SIR system before servicing components. See appropriate AIR BAG DEACTIVATION PROCEDURES article in GENERAL INFORMATION.

**WARNING:** On Pickup and Econoline equipped with electronic air suspension, power to air suspension system must be shut OFF prior to hoisting, jacking or towing an air suspension vehicle. The air suspension switch is located behind right kick panel area. Failure to do so can result in inflation or deflation of air springs, which may cause vehicle to shift during servicing.

**WARNING:** When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. Before disconnecting battery, see COMPUTER RELEARN PROCEDURES article in GENERAL INFORMATION.

## 5R55W/S

## Removal

**WARNING:** Failure to secure the transmission to the transmission jack can result in personal injury.

1. Secure the transmission to the transmission jack with a safety chain.

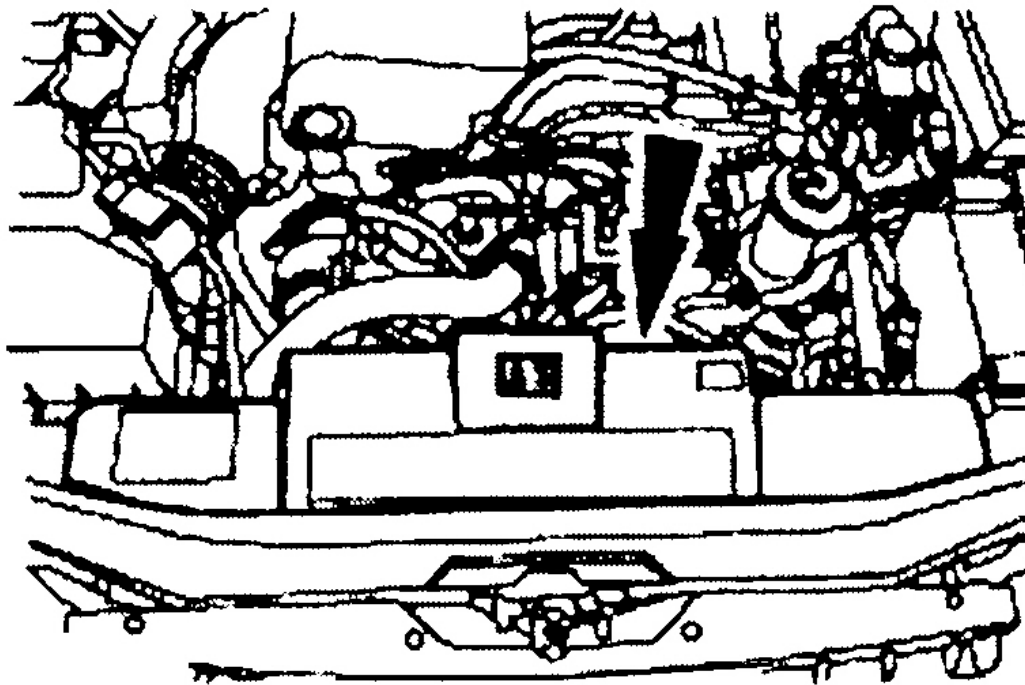
**NOTE:** When the battery has been disconnected and reconnected, some abnormal drive symptoms can occur while the vehicle relearns its adaptive

**strategy. The customer needs to be notified that they can experience slightly different upshifts (either soft or firm) and that this is a temporary condition and will eventually return to normal operating condition.**

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

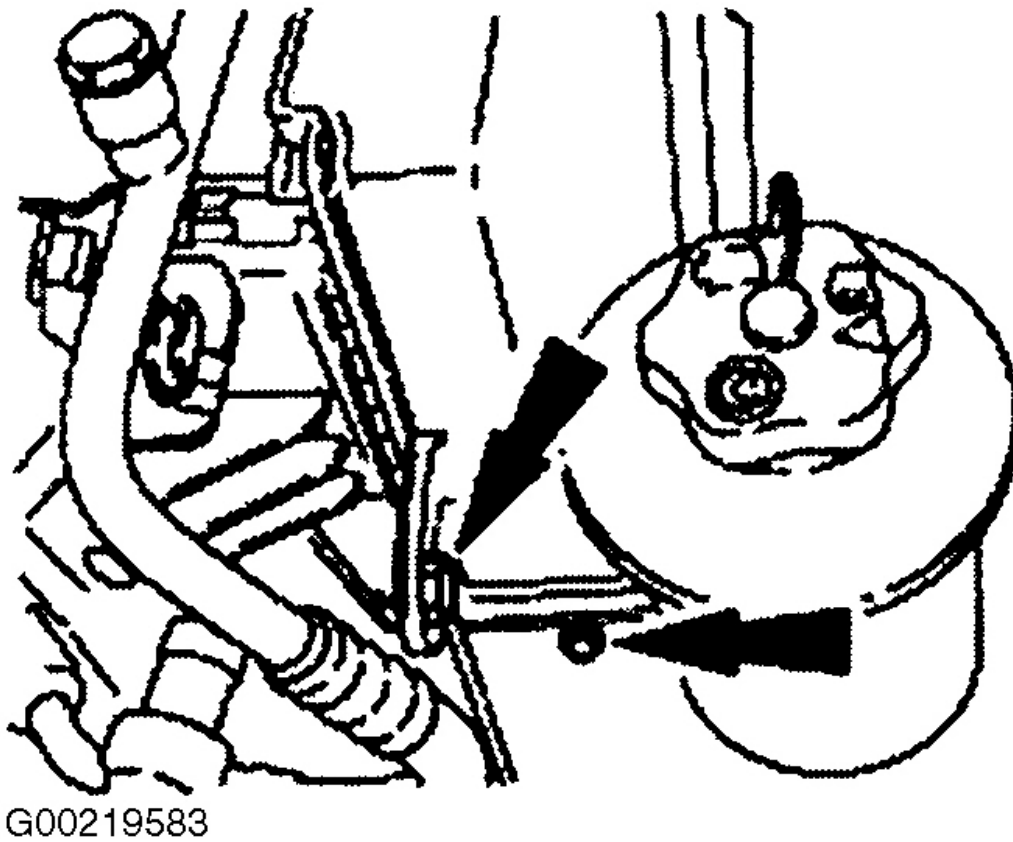
- **For 2002 fluid draining, see DRAINING & REFILLING under LUBRICATION in SERVICING - EXPLORER & MOUNTAINEER article.**
- **For 2003 fluid draining, see DRAINING & REFILLING under LUBRICATION in SERVICING - AVIATOR, EXPLORER & MOUNTAINEER article.**

2. With the vehicle in Neutral, position it on a hoist.
3. Disconnect the battery ground cable.
4. Remove the radiator appearance cover. See **Fig. 1**.
5. Remove the LH upper fan shroud bolt. See **Fig. 2**.
6. If equipped, remove and discard the assembly screws.
7. Remove the upper fan shroud bolts. See **Fig. 3**.
  - A. Remove the RH bolt.
  - B. If equipped, remove and discard the RH assembly screws.
  - C. If equipped, disconnect the A/C line retainer.
  - D. Remove the fan shroud.

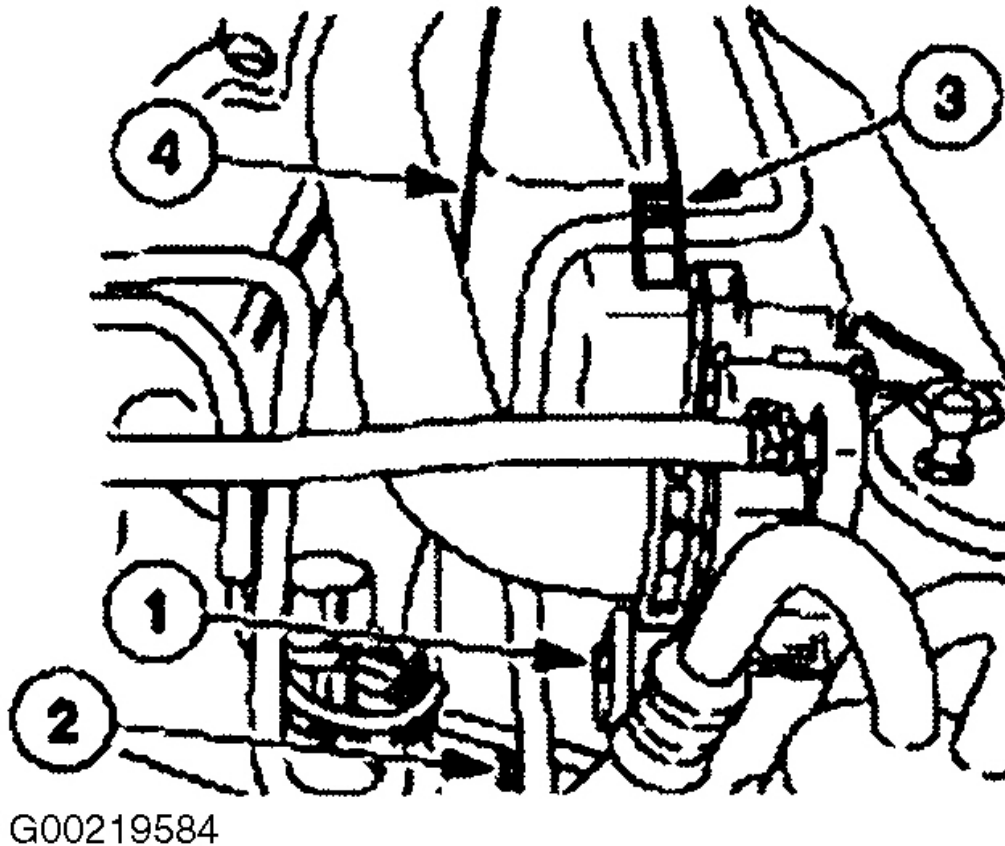


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**Fig. 1: Identifying Radiator Appearance Cover**  
Courtesy of FORD MOTOR CO.

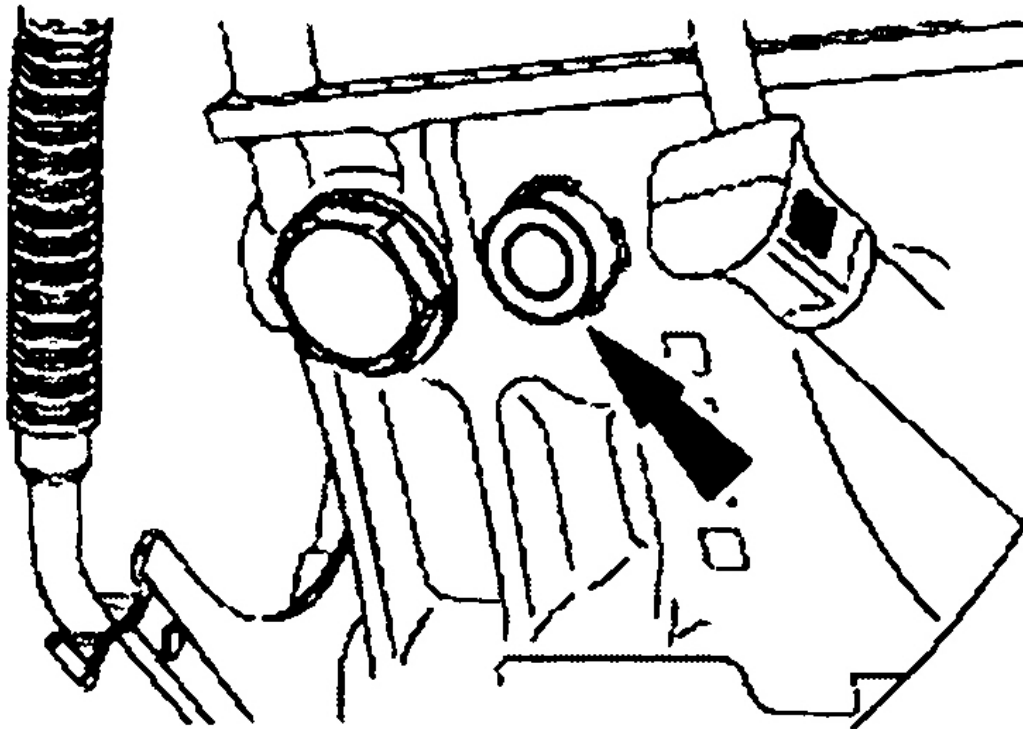


**Fig. 2: Removing/Installing Left Hand Upper Fan Shroud Bolt**  
Courtesy of FORD MOTOR CO.



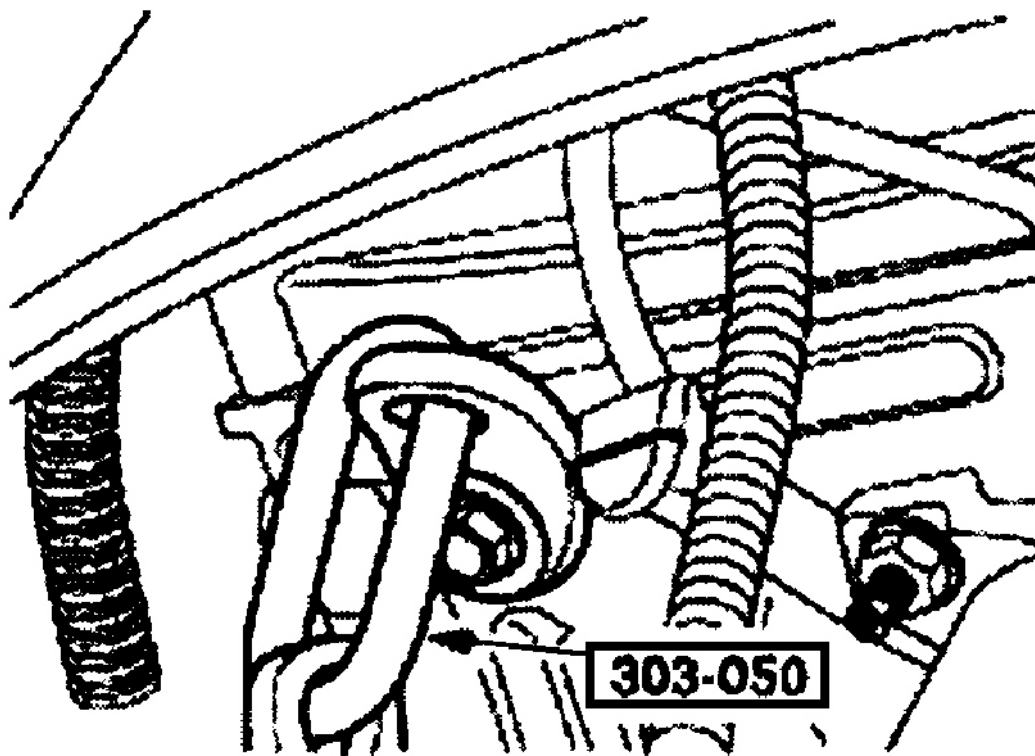
**Fig. 3: Removing/Installing Upper Fan Shroud Bolts**  
Courtesy of FORD MOTOR CO.

8. If equipped with a 4.0L engine, remove the exhaust manifold to Exhaust Gas Recirculation (EGR) valve tube.
9. If equipped with a 4.0L engine, tap the hole in the RH cylinder head in order to install the lifting hook. See **Fig. 4** . Use a 10 x 1.50 mm (0.06 in) tap to tap the hole.
10. If equipped with a 4.0L engine, install the lifting bracket in the previously tapped hole. See **Fig. 5** .
11. If equipped with a 4.6L engine, remove the engine appearance cover. See **Fig. 6** .
12. If equipped with a 4.6L engine, remove the battery ground cable and the bracket. See **Fig. 7** . Position the bracket and wire harness out of the way.



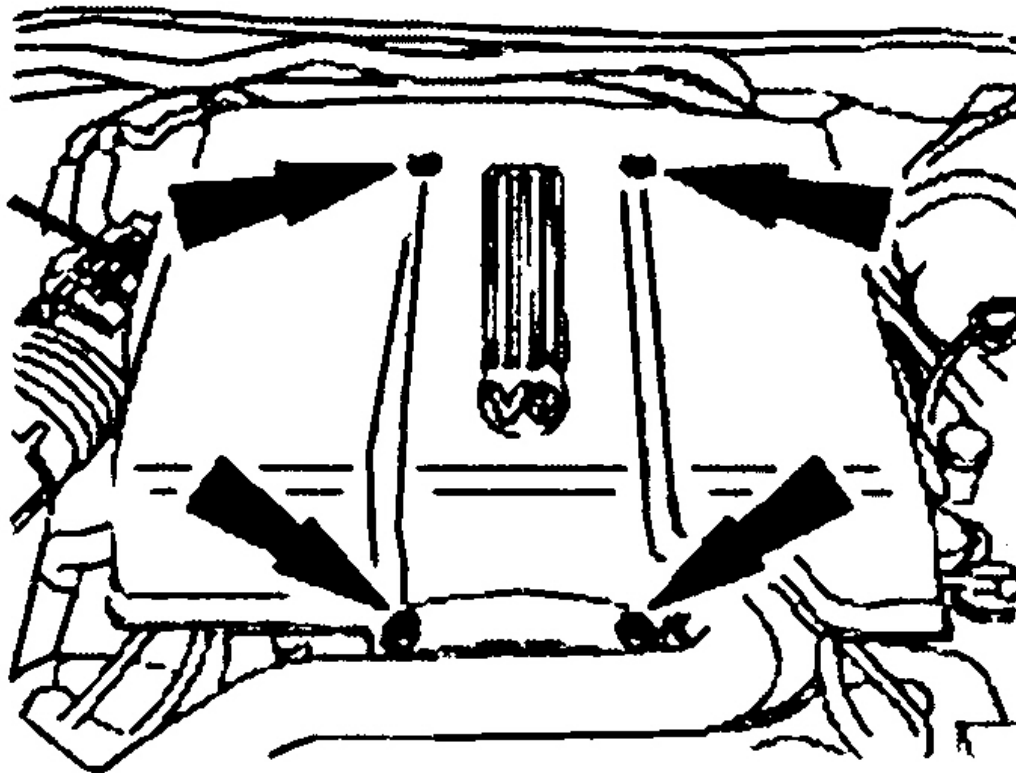
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**Fig. 4: Tapping Hole In RH Cylinder Head For Lifting**  
Courtesy of FORD MOTOR CO.



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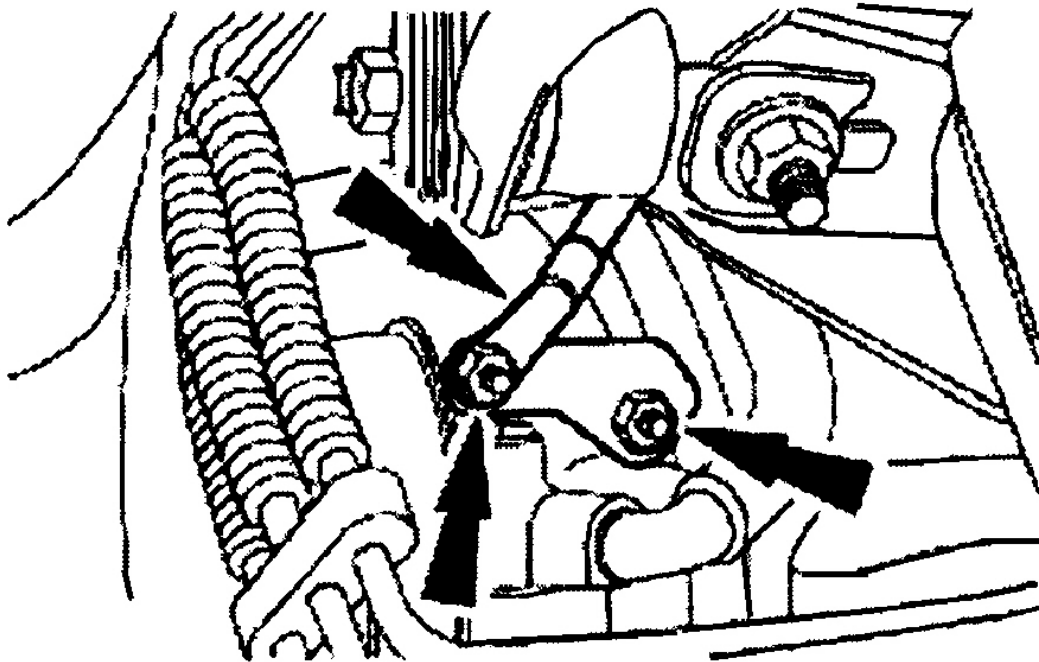
**Fig. 5: Removing/Installing Lifting Bracket**  
Courtesy of FORD MOTOR CO.



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**Fig. 6: Removing/Installing Engine Appearance Cover**  
Courtesy of FORD MOTOR CO.

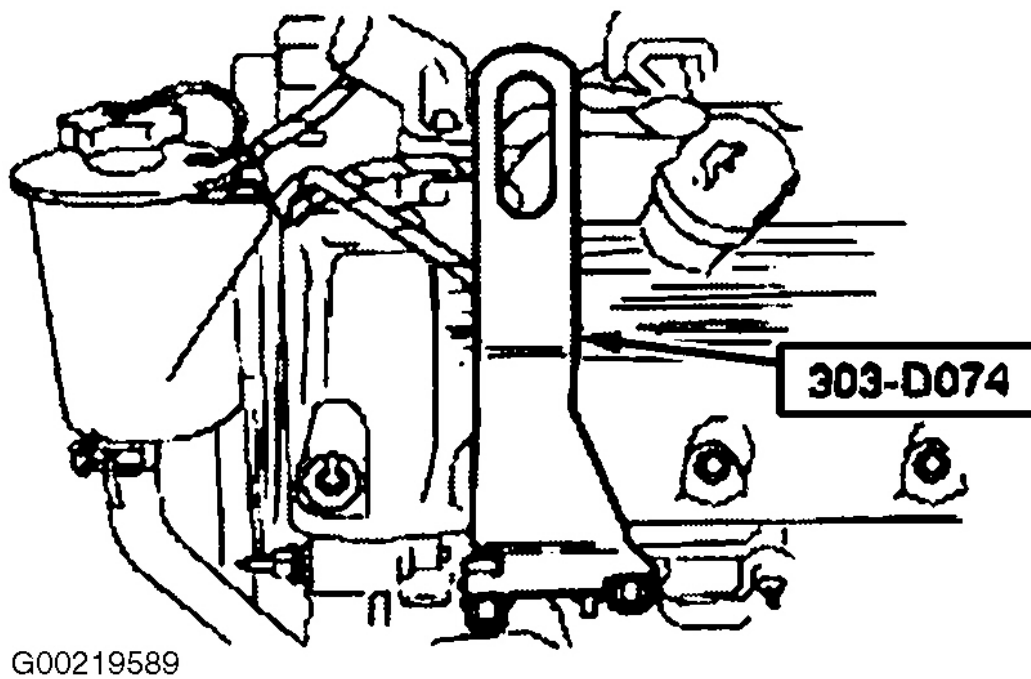




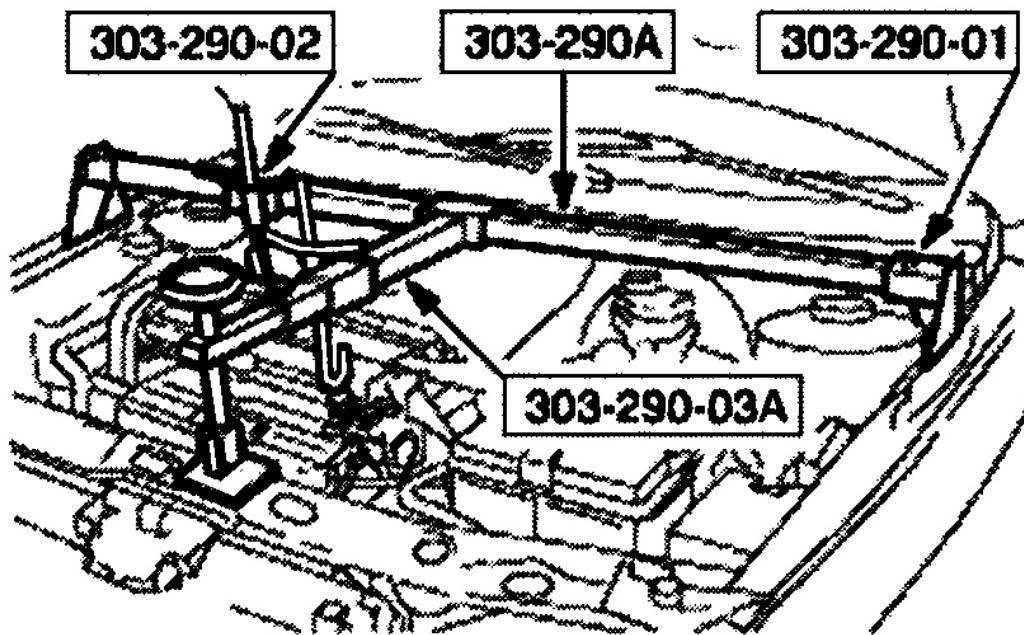
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**Fig. 7: Removing/Installing Battery Ground Cable & Bracket**  
Courtesy of FORD MOTOR CO.

13. If equipped with a 4.6L engine, install the Engine Lifting Bracket Set (303-D074). See **Fig. 8**.
14. Install appropriate 3-bar engine support. See **Fig. 9**.
15. Remove the drive shaft. See appropriate DRIVESHAFTS & UNIVERSAL JOINTS article in DRIVELINE/AXLES.
16. If equipped, remove the 2 bolts on the bracket and position aside. See **Fig. 10**.

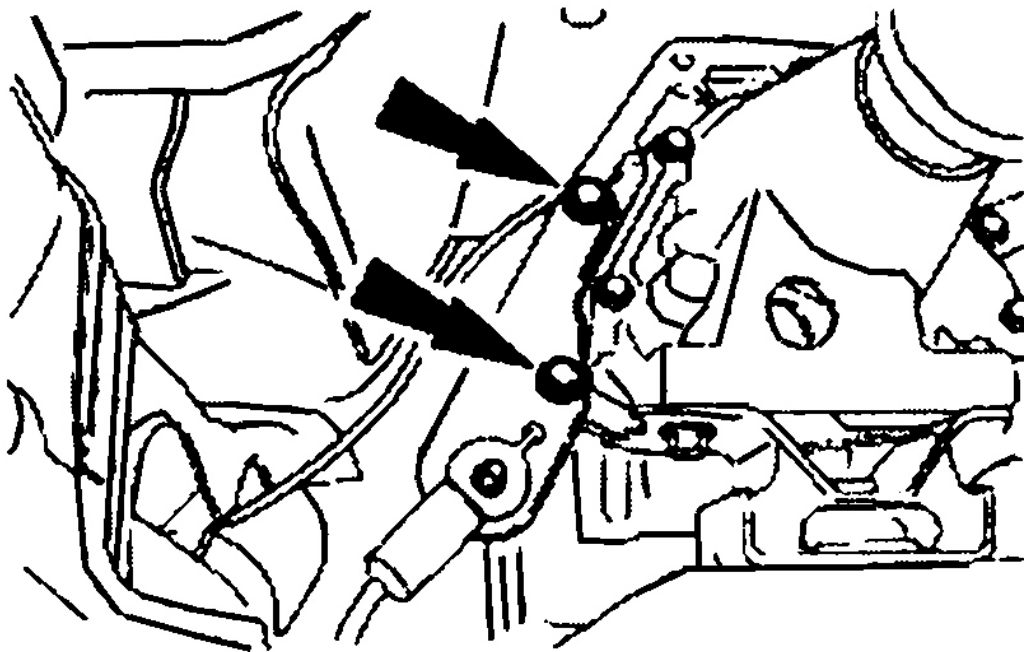


**Fig. 8: Removing/Installing Lifting Bracket**  
Courtesy of FORD MOTOR CO.



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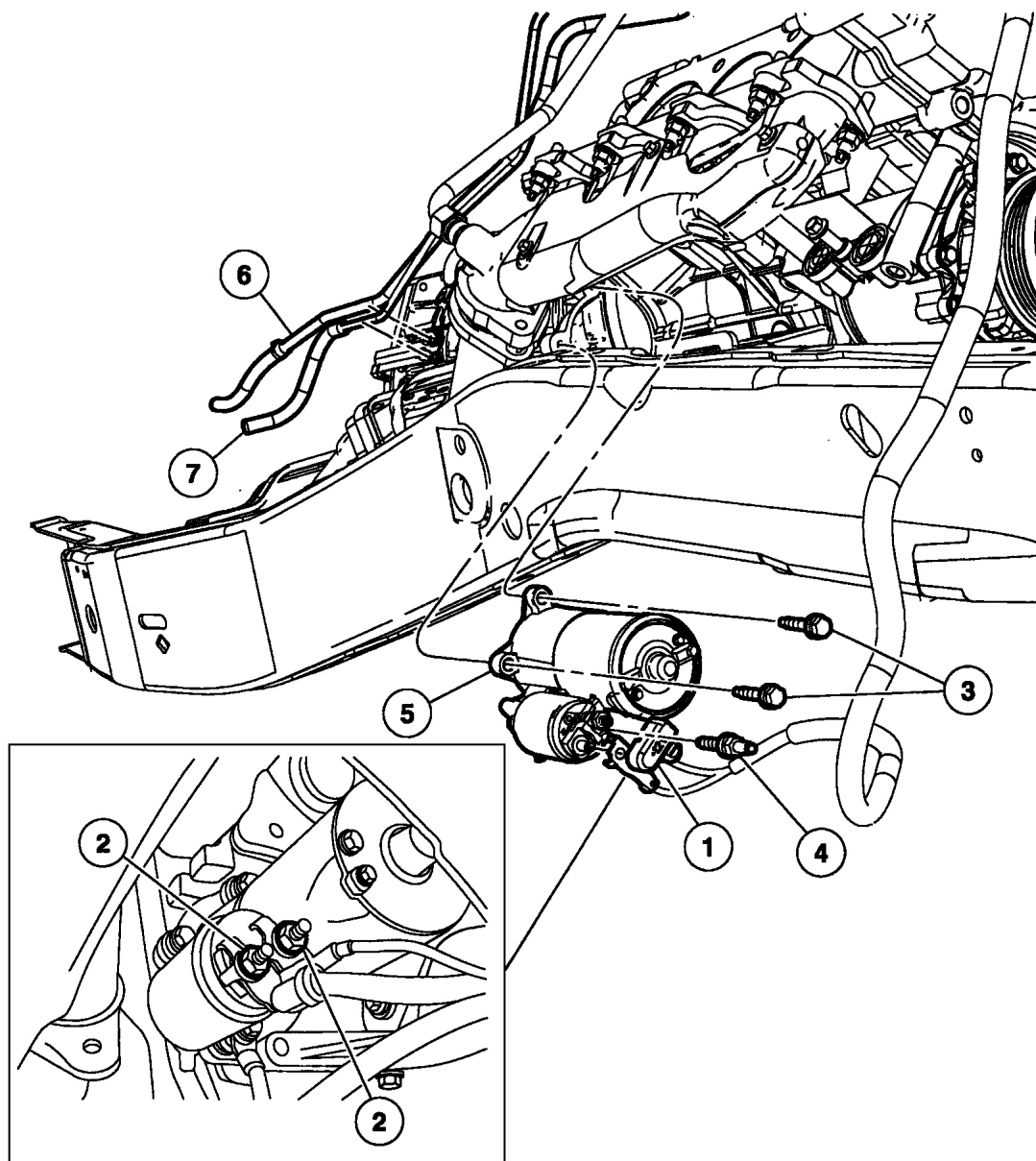
**Fig. 9: Removing/Installing Three-Bar Engine Support**  
Courtesy of FORD MOTOR CO.



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**Fig. 10: Removing/Installing Cable Bracket**  
Courtesy of FORD MOTOR CO.

17. Remove the components following the order indicated within the illustration. See **Fig. 11** .



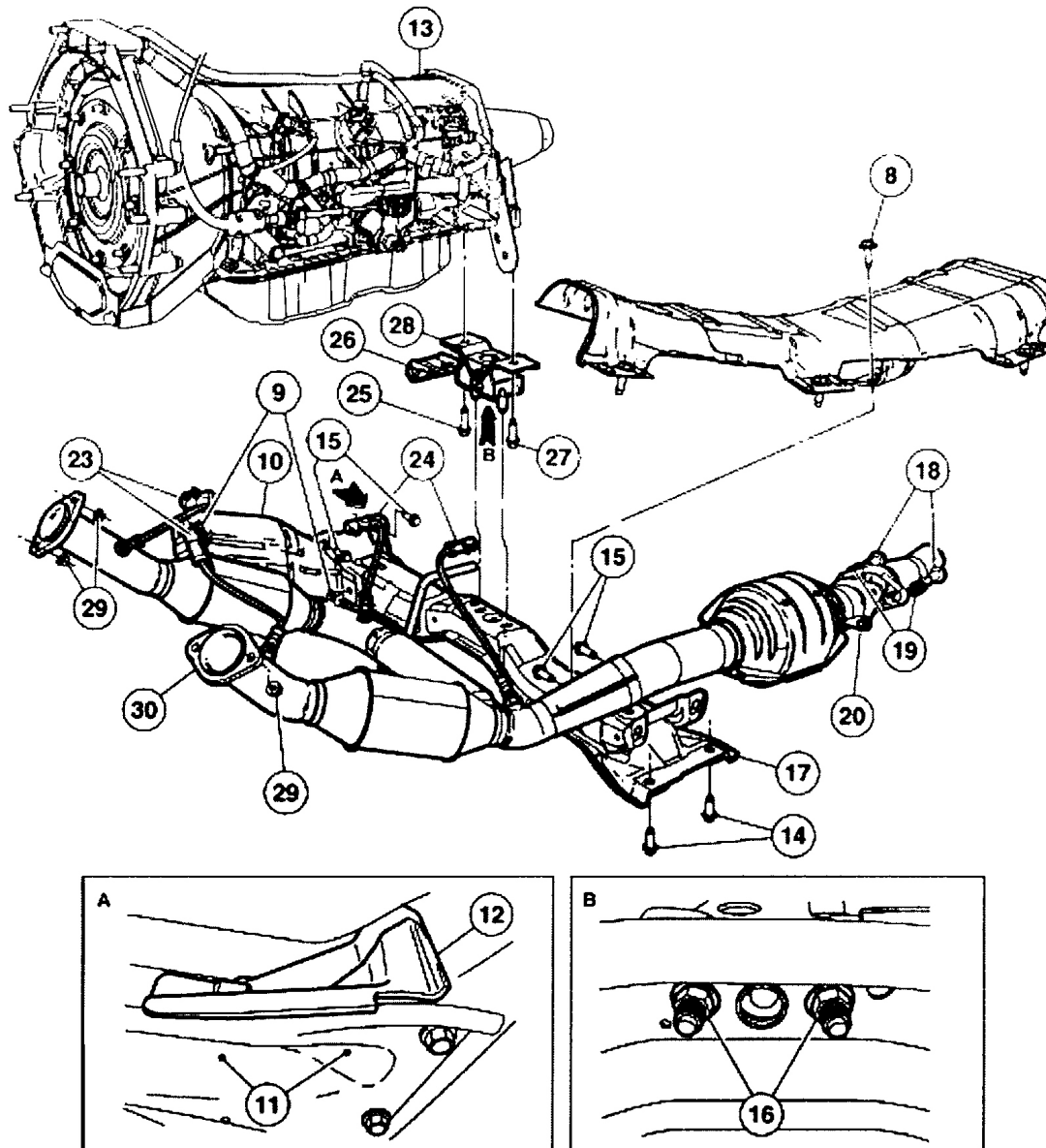
Item	Description
1	Terminal cover
2	Solenoid electrical connector
3	Starter motor screw
4	Starter motor screw

Item	Description
5	Starter motor
6	Evaporator line
7	Fuel line

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**Fig. 11: Identifying Component Removal Order (1 Of 3) & Component List (1 Of 3)**  
 Courtesy of FORD MOTOR CO.

18. Install a suitable jack under the transmission.
19. Remove the components following the order indicated within the illustrations. See **Fig. 12** and **Fig. 13**.



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**Fig. 12: Identifying Component Removal Order (2 Of 3)**  
Courtesy of FORD MOTOR CO.

**2002 Ford Explorer**

2002-03 AUTOMATIC TRANSMISSIONS' Removal &amp; Installation - Aviator, Explorer &amp; Mountaineer

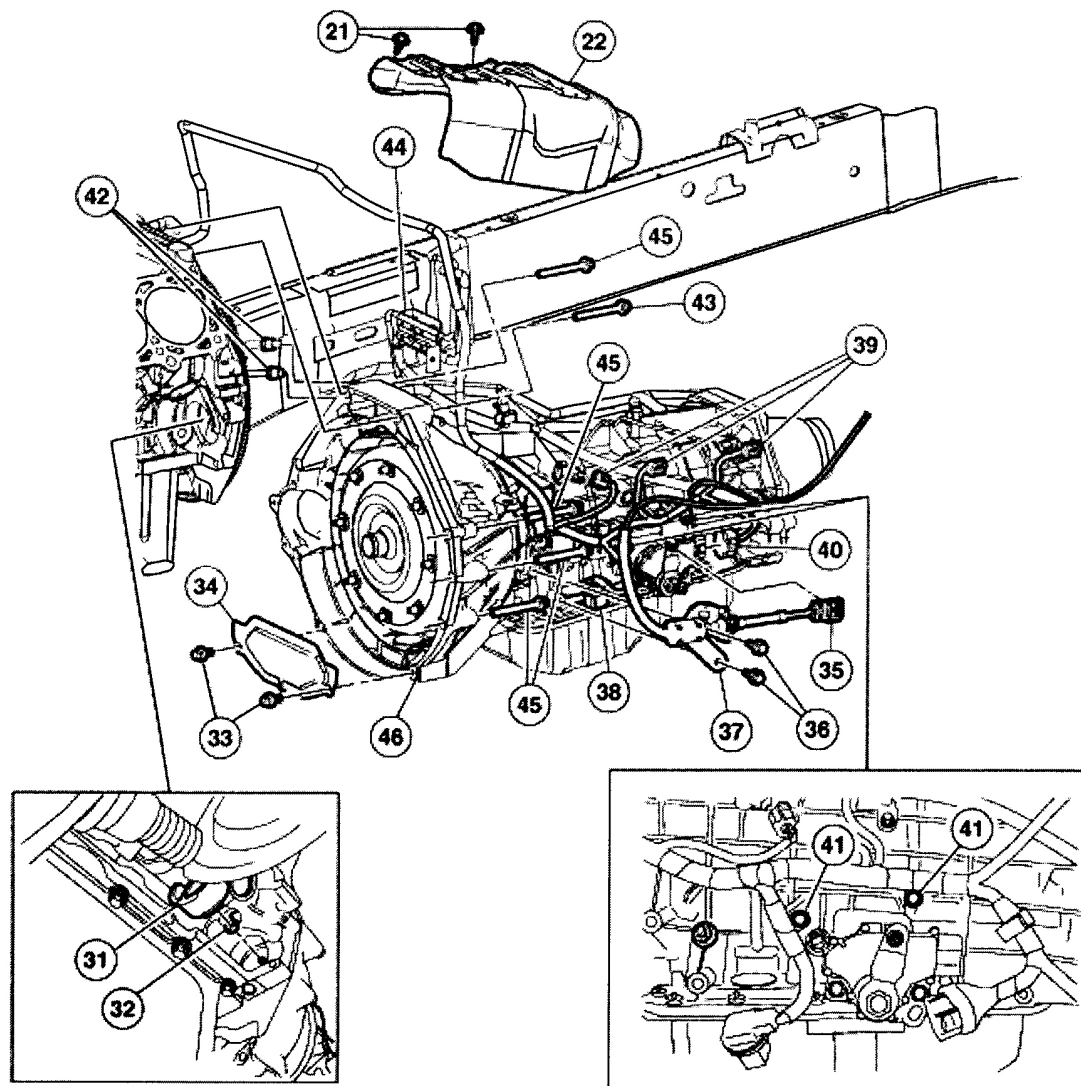
Item	Description
8	Heat shield screw
9	Heat shield screw
10	Heat shield
11	Fuel tank shield nuts
12	Fuel tank shield
13	Transmission assembly
14	Lower crossmember screws (4 req'd) (part of 5005)
15	Upper crossmember screws (part of 5005)
16	Rear transmission support nuts
17	Rear crossmember
18	Exhaust flange screws
19	Exhaust flange springs
20	Exhaust flag nuts
21	Heat shield screws
22	Heat shield
23	Heated oxygen sensor electrical connector
24	Catalyst monitor sensor electrical connector
25	Rear transmission mount screw
26	Exhaust hanger
27	Rear transmission mount screw
28	Rear transmission mount

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**Fig. 13: Identifying Removal Component List (2 Of 3)**

Courtesy of FORD MOTOR CO.

20. Remove the 2 heat shield screws and position the heat shield aside to gain access to the oxygen sensor connectors.
21. Remove the components following the order indicated within the illustrations. See **Fig. 14** and **Fig. 15**.



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**Fig. 14: Identifying Component Removal Order (3 Of 3)**  
 Courtesy of FORD MOTOR CO.



29	Upper exhaust flange nuts
30	Front exhaust crossover pipe
31	Torque converter access plug
32	Torque converter nuts
33	Inspection cover screws
34	Inspection cover
35	Shift cable eyelet (part of 7E395)
36	Shift cable screws
37	Shift cable and bracket
38	Solenoid body harness connector
39	Speed sensor connectors
40	Transmission range TR sensor connector
41	Wire harness retainer clips
42	Fluid cooler nuts
43	Bell housing screw
44	Fuel line bracket
45	Bell housing screws
46	Transmission assembly

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**Fig. 15: Identifying Component Removal List (3 Of 3)**  
 Courtesy of FORD MOTOR CO.

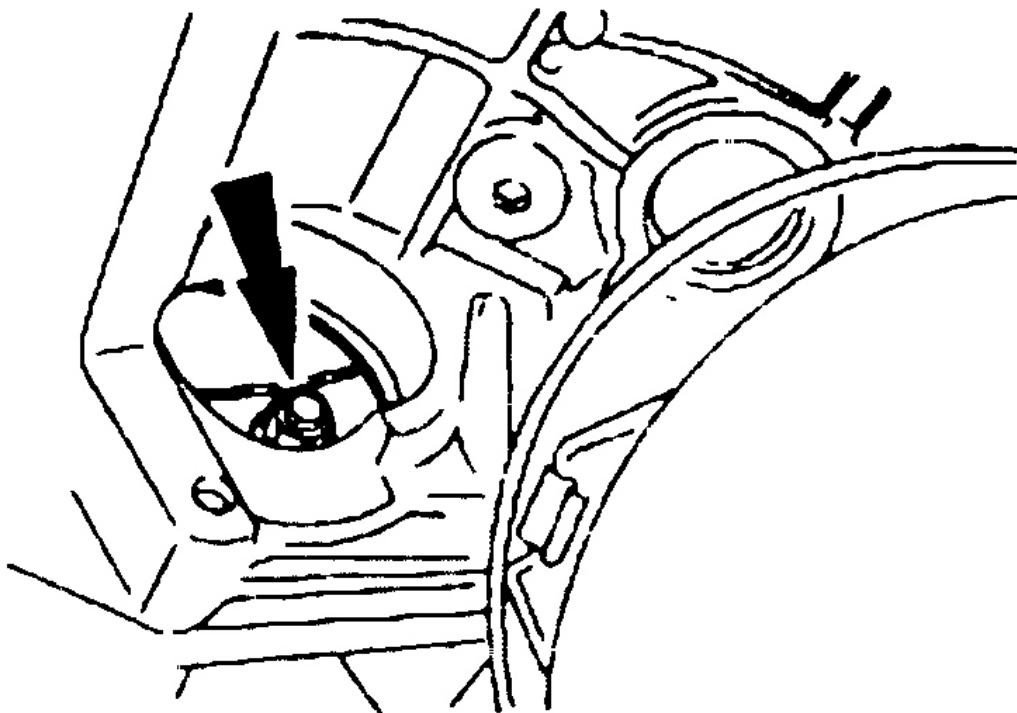
**NOTE:** Make an identifying mark on the nut, stud and flexplate to allow for correct installation.

22. Remove the 4 torque converter nuts. See **Fig. 16** .

**NOTE:** Clean the area around the connector to prevent contamination of the solenoid body connector.

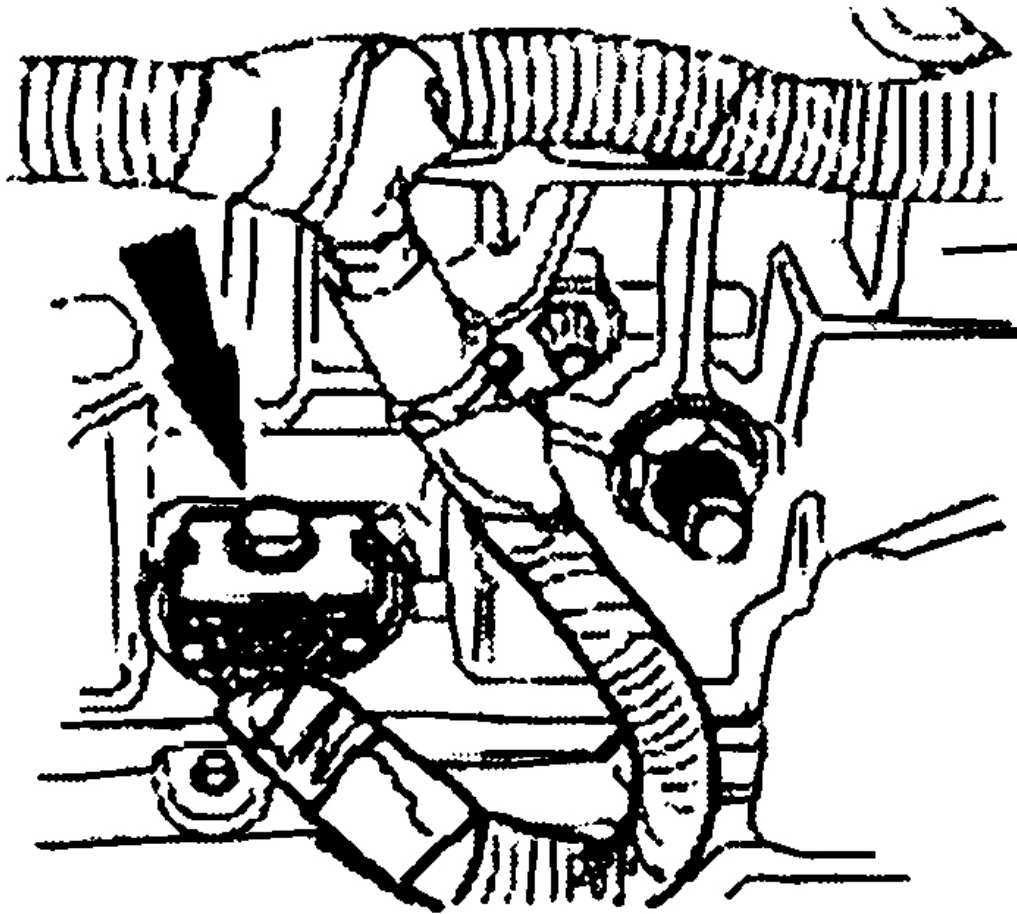
23. Remove the screw from the solenoid body connector and disconnect the connector. See **Fig. 17** .

**CAUTION:** Do not damage the cooler tubes.



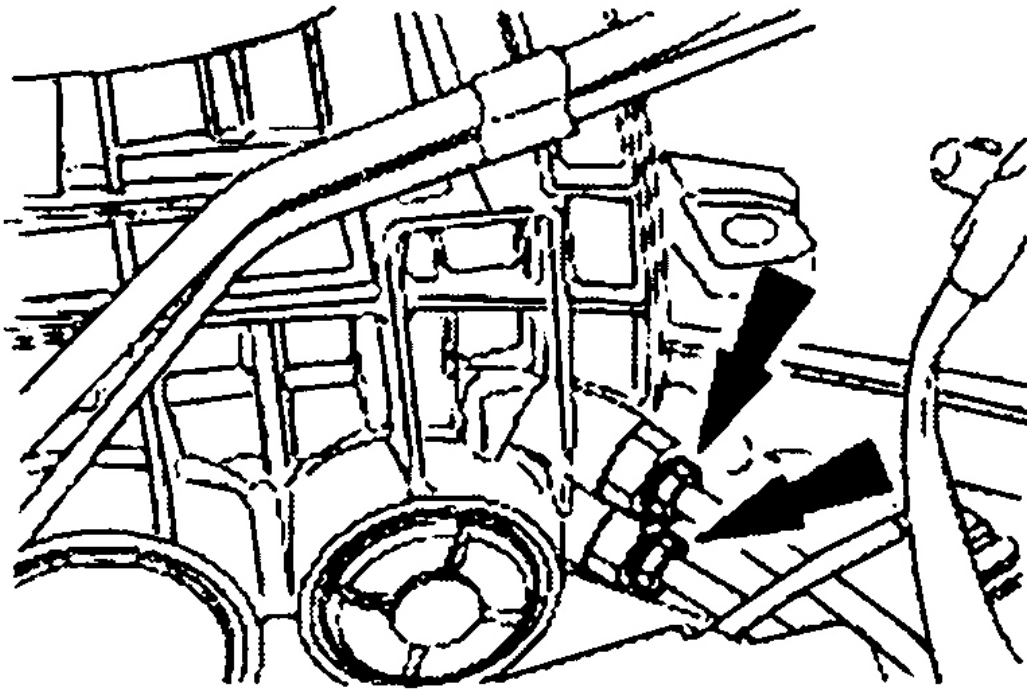
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**Fig. 16: Removing/Installing 4 Torque Converter Nuts**  
Courtesy of FORD MOTOR CO.



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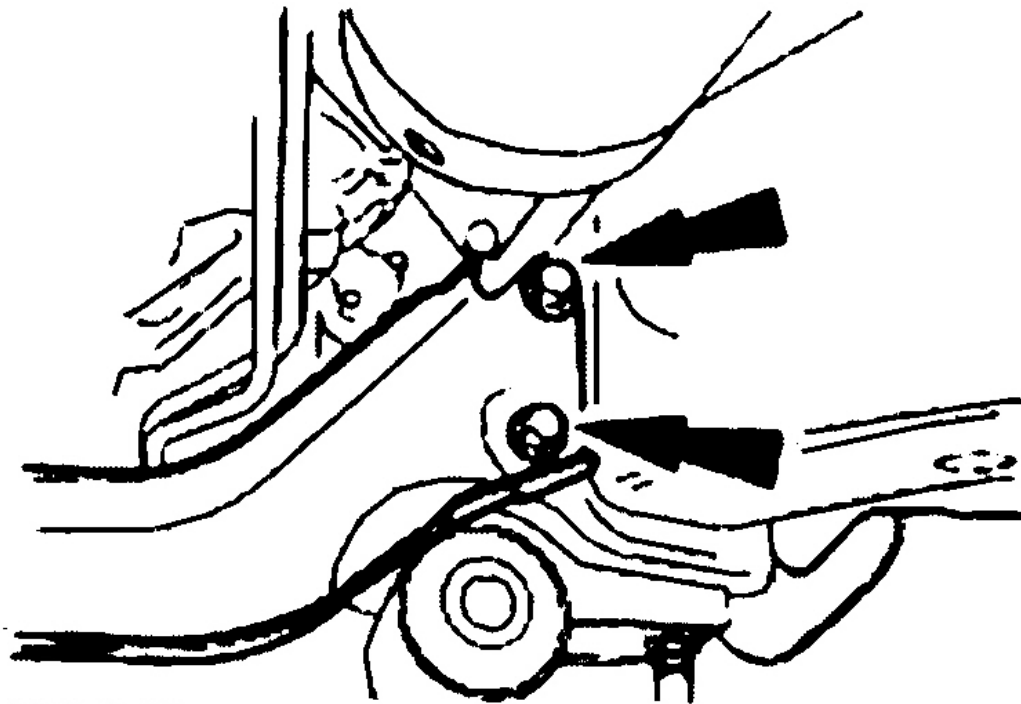
**Fig. 17: Removing/Installing Solenoid Body Connector Screw**  
Courtesy of FORD MOTOR CO.



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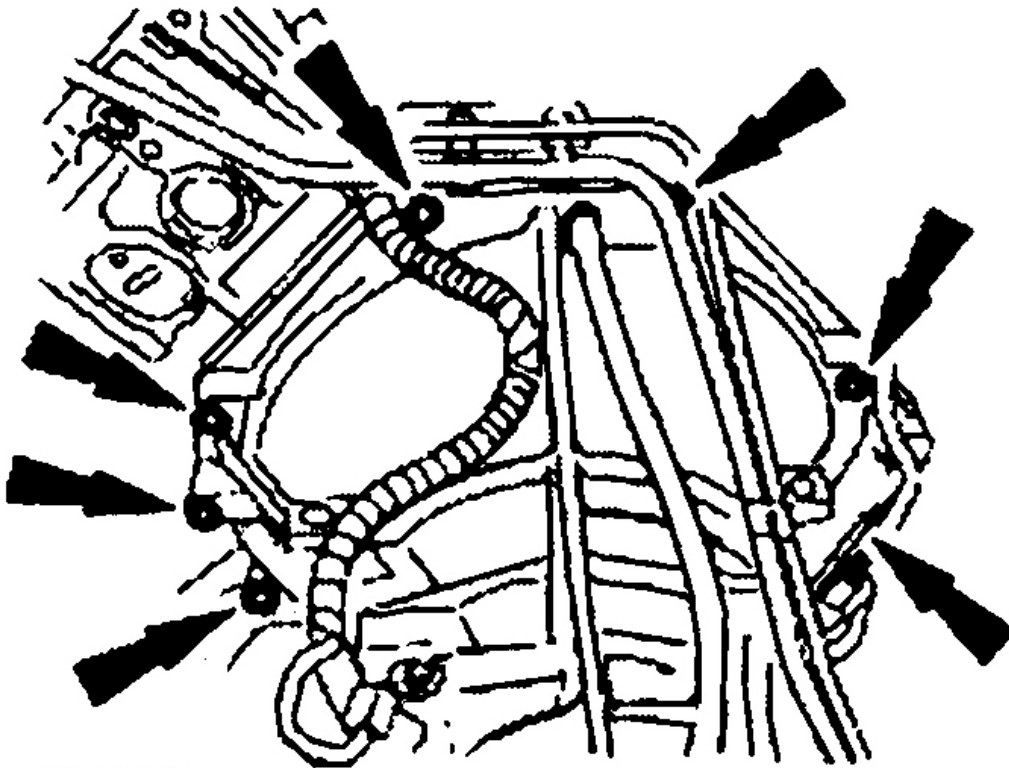
**Fig. 18: Disconnecting/Connecting Transmission Cooler Tubes**  
Courtesy of FORD MOTOR CO.

24. Hold the transmission case fittings with a wrench and disconnect the transmission cooler tubes. See **Fig. 18**.
25. Position the bracket and fuel lines out of the way to gain access to the other transmission retaining screws.
26. If equipped with a 4.6L engine, remove the front crossmember. See **Fig. 19**.
27. If equipped with a 4.6L engine, remove the 7 engine-to-transmission retaining bolts. See **Fig. 20**.
28. If equipped with a 4.0L engine, remove the 6 engine-to-transmission retaining bolts and position the fuel line bracket out of the way. See **Fig. 21**.
29. Install the torque converter retainer tool.
30. If equipped, remove transfer case. See appropriate REMOVAL & INSTALLATION article in TRANSFER CASES.



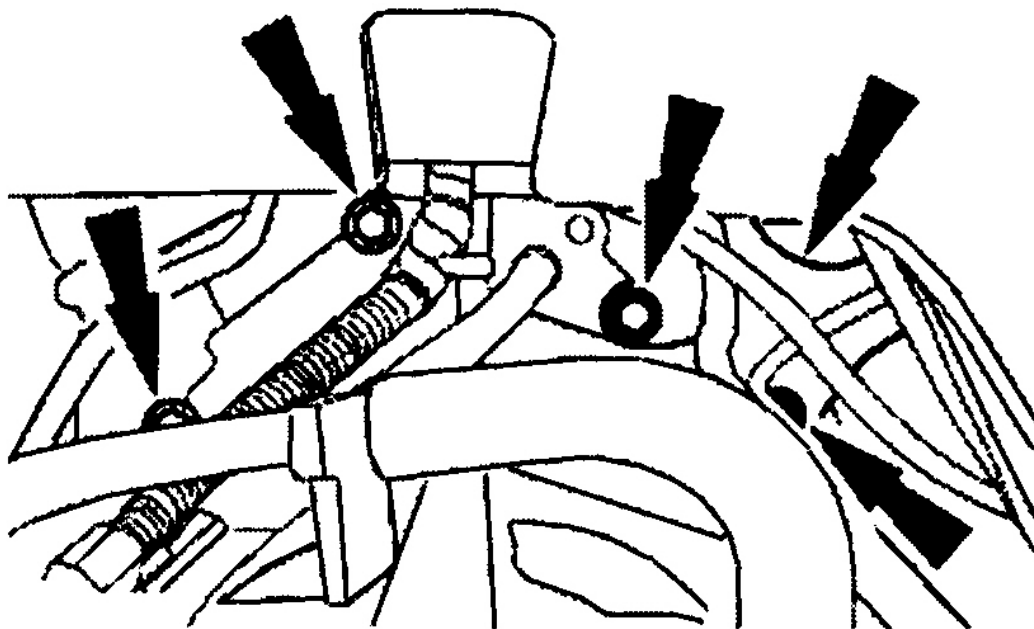
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**Fig. 19: Removing/Installing Front Cross Member**  
Courtesy of FORD MOTOR CO.



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**Fig. 20: Removing/Installing Engine-To-Transmission Bolts (4.6 Liter)**  
Courtesy of FORD MOTOR CO.



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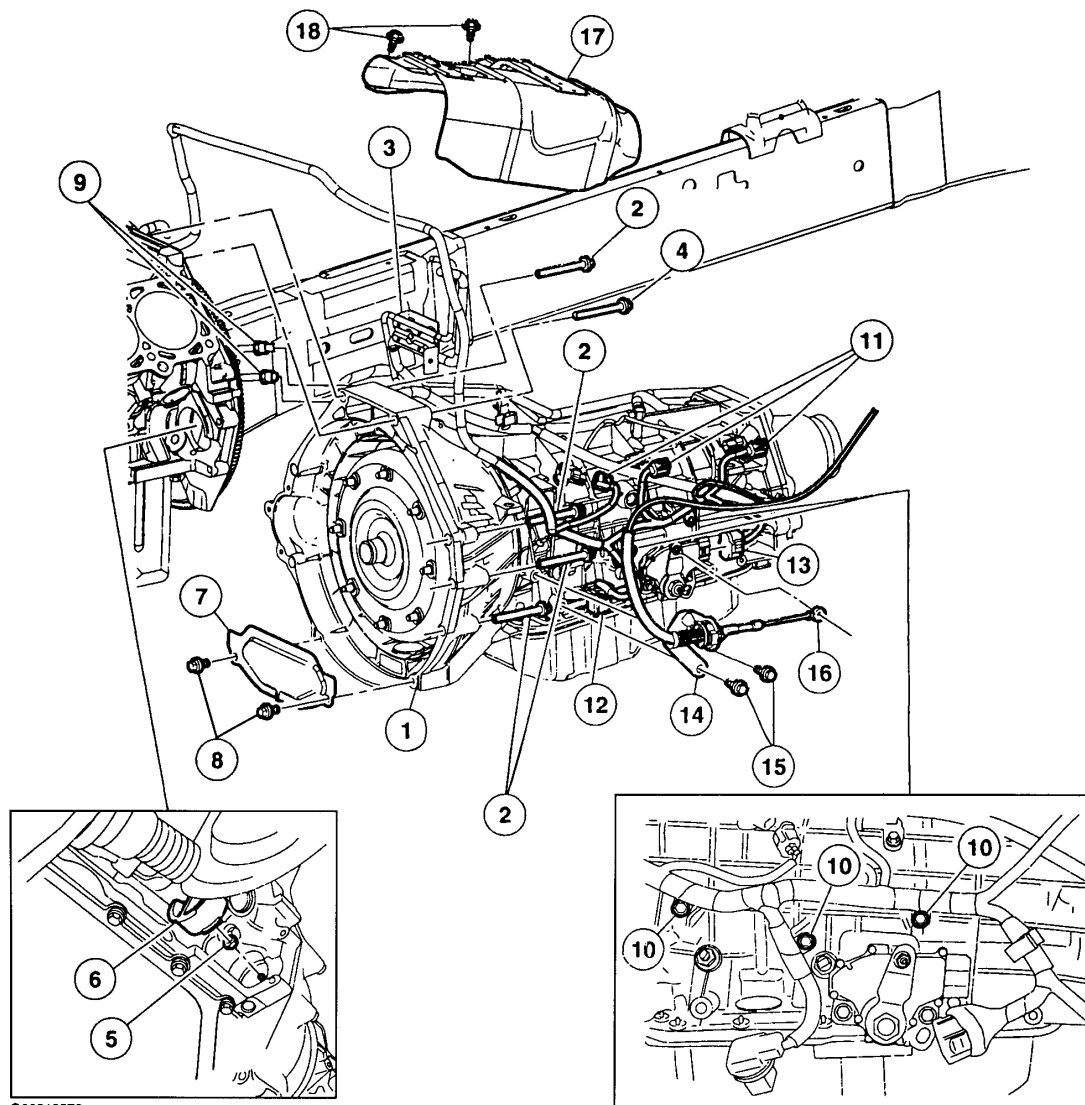
**Fig. 21: Removing/Installing Engine-To-Transmission Bolts (4.0 Liter)**  
Courtesy of FORD MOTOR CO.

31. If the transmission is to be overhauled or if installing a NEW or remanufactured transmission, carry out transmission backflushing and cleaning.

#### Installation

**WARNING:** Secure the transmission to the transmission jack with a safety chain. Failure to follow these instructions can result in personal injury.

1. If equipped, install the transfer case. See appropriate REMOVAL & INSTALLATION article in TRANSFER CASES.
2. Secure the transmission to the transmission jack with a safety chain.
3. Install the components following the order within the illustrations. See **Fig. 22** and **Fig. 23** . Tighten to specification. See **TORQUE SPECIFICATIONS** .



**Fig. 22: Identifying Component Installation Order (1 Of 3)**  
 Courtesy of FORD MOTOR CO.



Item	Description
1	Transmission assembly
2	Bell housing screws
3	Fuel line bracket
4	Bell housing screw
5	Torque converter nuts
6	Torque converter access plug
7	Inspection cover
8	Inspection cover screws
9	Fluid cooler nuts
10	Wire harness retainer clips
11	Speed sensor connectors
12	Solenoid body harness connector
13	Transmission range (TR) sensor connector
14	Shift cable and bracket
15	Shift cable screws
16	Shift cable eyelet (part of 7E395)
17	Heat shield
18	Heat shield screws

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**Fig. 23: Identifying Component Installation List (1 Of 3)**

Courtesy of FORD MOTOR CO.

4. Install the torque converter retention tool.

**NOTE:**        **Align the flexplate-to-converter marks made during the removal procedure.**

5. Raise and position the transmission to the back of the engine. Remove the torque converter retention tool prior to attaching the transmission to the engine.
6. On 4.6L models, install the engine-to-transmission retaining bolts. See **Fig. 20** . Tighten to specification. See **TORQUE SPECIFICATIONS** .
7. On 4.0L models, position fuel line bracket in place and install 6 retaining bolts. See **Fig. 21** . Tighten to specification. See **TORQUE SPECIFICATIONS** .
8. Install the front crossmembers. See **Fig. 19** .
9. Position the fuel line bracket into place prior to installing the transmission retaining screws.

**CAUTION:** Use care not to bend or force the cooler tubes. Otherwise damage to the cooler tubes and the transmission can result.

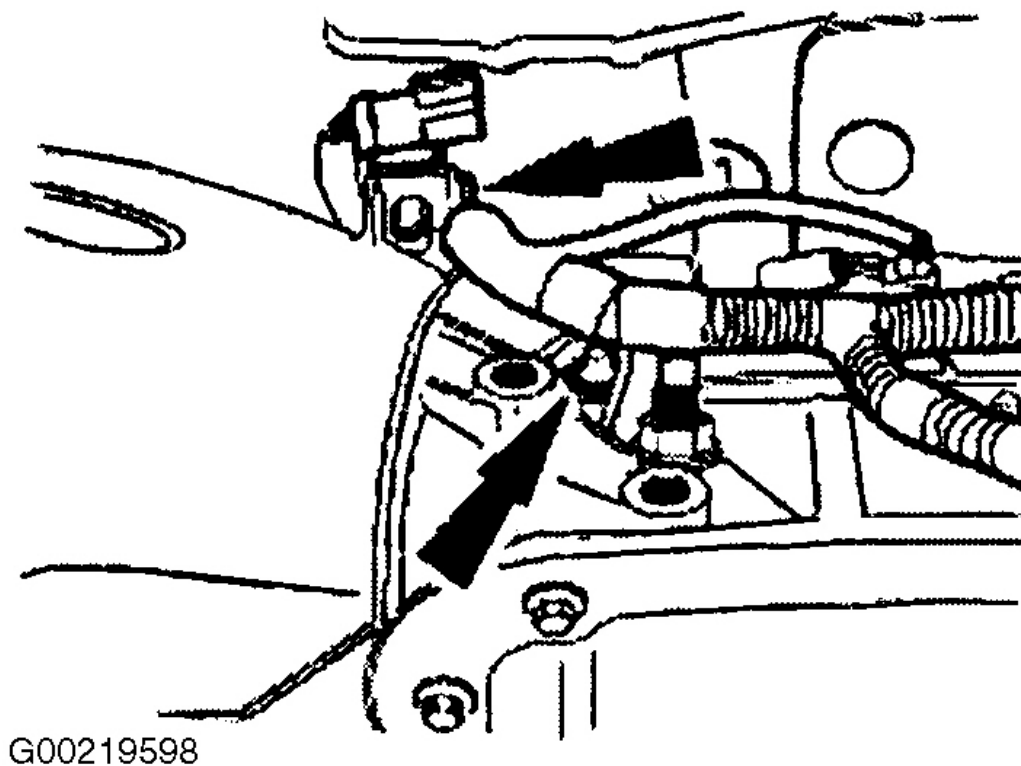
10. Install the transmission fluid cooler tubes. See **Fig. 18** . Tighten to specification. See **TORQUE SPECIFICATIONS** .
11. Use the following guidelines for the in-line transmission fluid filter:
  - If the transmission was overhauled and the vehicle was equipped with an in-line fluid filter, install 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 NEW or 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.
12. Connect the LH Heated Oxygen Sensor (HO2S) to the transmission and install the wire harness. See **Fig. 24** .
13. Connect the LH catalyst monitor connector to the transmission. See **Fig. 25** .

**CAUTION:** Damage will occur to the solenoid body assembly if the screw is tightened above the specification.

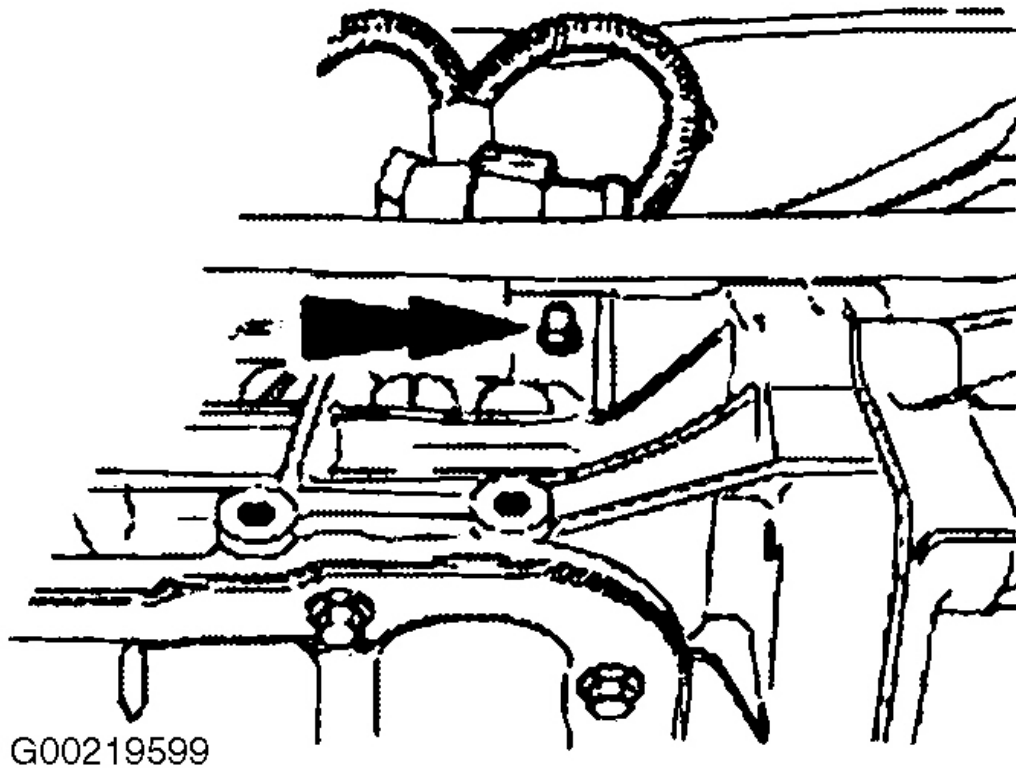
**NOTE:**        **Always install NEW "O" ring seals on the vehicle harness connector.**

**NOTE:**        **Clean the area around the connector to prevent contamination of the solenoid body connector.**

**NOTE:** Use petroleum jelly to lubricate the "O" ring seals to aid in the installation process.



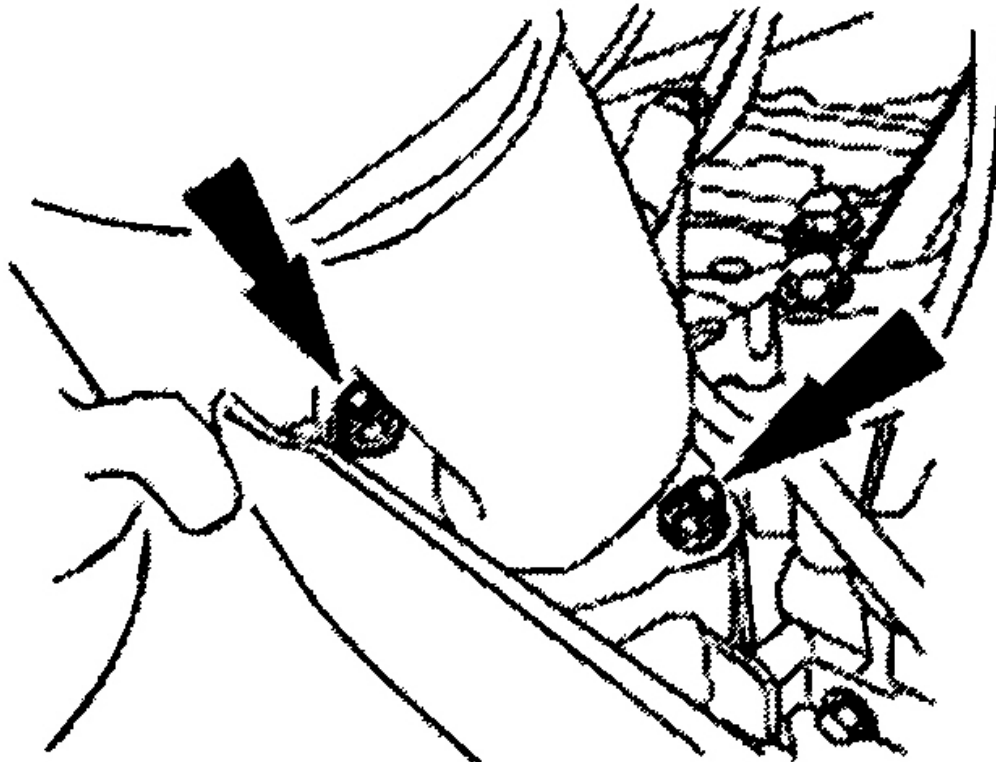
**Fig. 24: Removing/Installing Oxygen Sensor & Wiring Harness**  
Courtesy of FORD MOTOR CO.



**Fig. 25: Removing/Installing LH Catalyst Monitor**  
Courtesy of FORD MOTOR CO.

14. Install and lubricate NEW "O" ring seals on the transmission connector and connect the connector. See **Fig. 17** . Tighten to specification. See **TORQUE SPECIFICATIONS** .
15. Install a jackstand under the bell housing of the transmission.
16. Remove the transmission jack.
17. If equipped, install the cable bracket and the 2 bolts. See **Fig. 10** . Tighten to specification. See **TORQUE SPECIFICATIONS** .

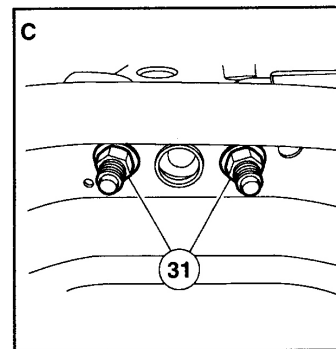
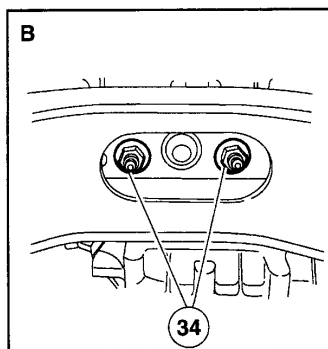
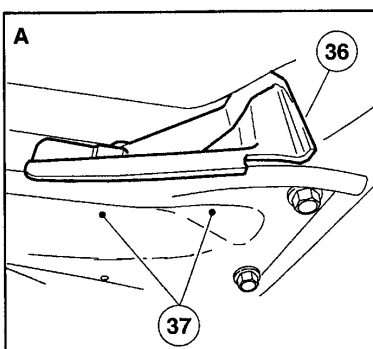
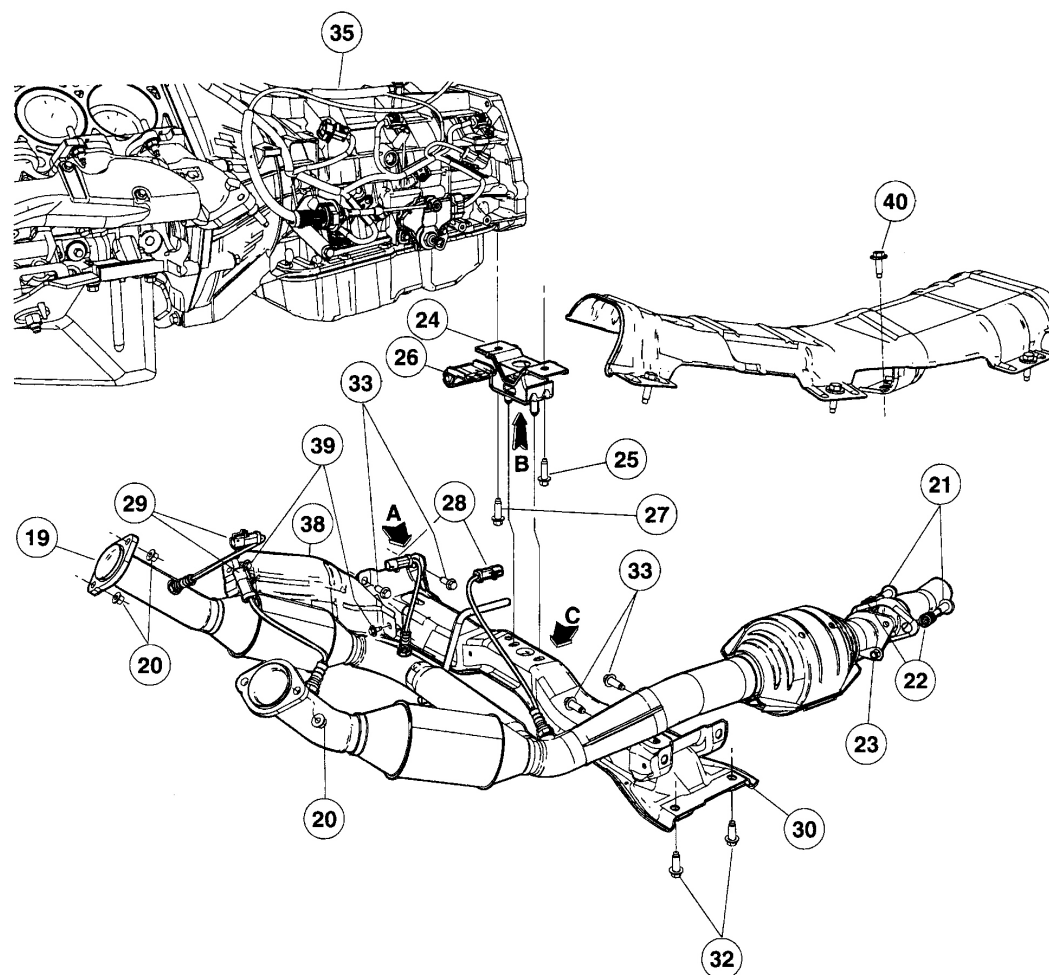
**NOTE:** This step may require an assistant.



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**Fig. 26: Removing/Installing Catalytic Converter Assembly**  
Courtesy of FORD MOTOR CO.

18. Position the catalytic converter assembly with the heat shield and loosely install the 4 converter-to-manifold nuts. See **Fig. 26** . Tighten to specification. See **TORQUE SPECIFICATIONS** .
19. Install the components following the order within the illustrations. See **Fig. 27** and **Fig. 28** . Tighten to specification. See **TORQUE SPECIFICATIONS** .



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**Fig. 27: Identifying Component Installation Order (2 Of 3)**  
 Courtesy of FORD MOTOR CO.

**2002 Ford Explorer**

2002-03 AUTOMATIC TRANSMISSIONS' Removal &amp; Installation - Aviator, Explorer &amp; Mountaineer

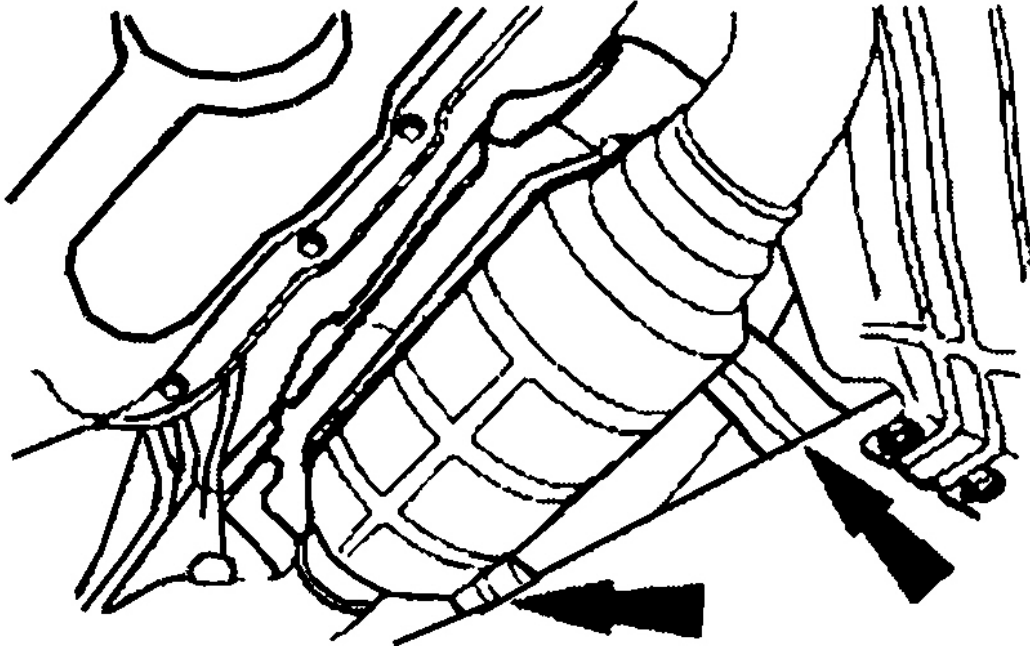
<b>Item</b>	<b>Description</b>
19	Front exhaust crossover pipe
20	Upper exhaust flange nuts
21	Exhaust flange screws
22	Exhaust flange springs
23	Exhaust flag nuts
24	Rear transmission mount
25	Rear transmission mount screw
26	Exhaust hanger
27	Rear transmission mount screw
28	Catalyst monitor sensor electrical connector
29	Heated oxygen sensor electrical connector
30	Rear crossmember
31	Rear transmission support nuts
32	Lower crossmember screws (4 req'd) (part of 5005)
33	Upper crossmember screws (part of 5005)
34	Rear transmission support nuts
35	Transmission assembly
36	Fuel tank shield
37	Fuel tank shield nuts
38	Heat shield
39	Heat shield screw
40	Heat shield screw

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**Fig. 28: Identifying Component Installation List (2 Of 3)**

Courtesy of FORD MOTOR CO.

20. Install the 2 RH heat shield bolts. See **Fig. 29** . Tighten to specification. See **TORQUE SPECIFICATIONS** .



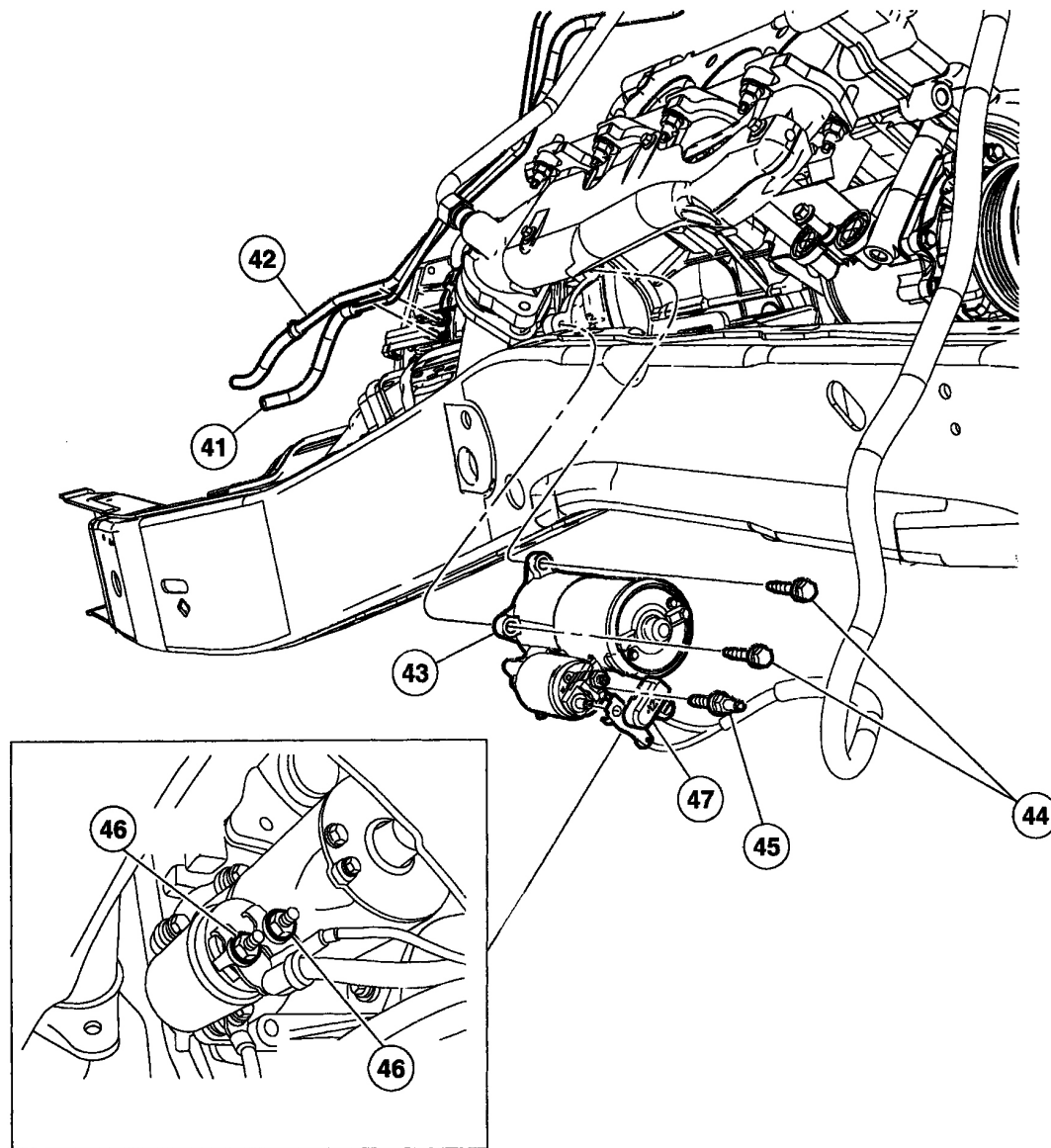
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**Fig. 29: Removing/Installing Heat Shield Bolts**

Courtesy of FORD MOTOR CO.

21. Loosely install the rear transmission support nuts. Tighten to specification. See **TORQUE SPECIFICATIONS** .
22. Remove the jackstand from under the bell housing.
23. Install the components following the order within the illustration. See **Fig. 30** . Tighten to specification. See **TORQUE SPECIFICATIONS** .





Item	Description
41	Fuel line
42	Evaporator line
43	Starter motor
44	Starter motor screw
45	Starter motor screw

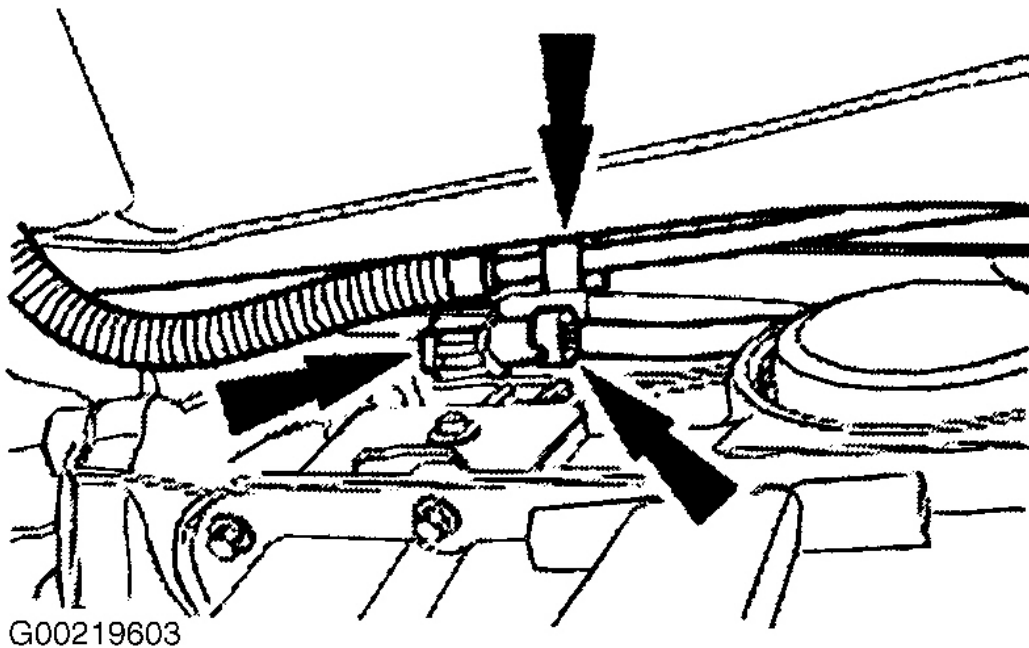
Item	Description
46	Solenoid electrical connector
47	Terminal cover

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**Fig. 30: Identifying Component Installation Order & List (3 Of 3)**

Courtesy of FORD MOTOR CO.

24. Connect the fuel lines and the RH catalyst monitor connector to the bracket. See **Fig. 31** . Tighten to specification. See **TORQUE SPECIFICATIONS** .



**Fig. 31: Removing/Installing Fuel Lines & Right Hand Catalyst Monitor**  
Courtesy of FORD MOTOR CO.

25. Install the drive shaft. See appropriate DRIVESHAFTS & UNIVERSAL JOINTS article in DRIVELINE/AXLES.

**NOTE:** When the battery has been disconnected and reconnected, some abnormal drive symptoms can occur while the vehicle relearns its adaptive strategy. The customer needs to be notified that they can experience slightly different upshifts (either soft or firm) and that this is a temporary condition and will eventually return to normal operating condition.

26. Connect the battery ground cable. See **Fig. 7**.
27. Carry out the fluid level check.
- For 2002 fluid level check, see **CHECKING FLUID LEVEL** under LUBRICATION in SERVICING - EXPLORER & MOUNTAINEER article.
  - For 2003 fluid level check, see **CHECKING FLUID LEVEL** under LUBRICATION in SERVICING - AVIATOR, EXPLORER & MOUNTAINEER article.
28. Verify that the shift cable is correctly adjusted.
- For 2002 shift cable adjustment, see **SHIFT CABLE** under ADJUSTMENTS in SERVICING - EXPLORER & MOUNTAINEER article.
  - For 2003 shift cable adjustment, see **SHIFT CABLE** under ADJUSTMENTS in SERVICING -

AVIATOR, EXPLORER & MOUNTAINEER article.

29. Check the operation of the transmission and inspect for leaks.

## TORQUE SPECIFICATIONS

### TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Band Adjustment Screw Lock Nut	40 (54)
Drive Shaft Bolts & Nuts	76 (103)
Exhaust Flange Nuts	30 (40)
Extension Housing Screws	18 (24)
Fill Plug	15 (20)
Fluid Pan Drain Plug	19 (26)
Fluid Pump Housing Screws	18 (25)
Front Crossmember Bolts	62 (70)
Heat Shield Screws	15 (20)
Inspection Cover Screws	26 (34)
Lower & Upper Crossmember Screws	62 (70)
Manual Control Lever Shaft Nut	35 (48)
Rear Transmission Support Nuts	66 (90)
Shift Cable Bracket Bolts	30 (40)
Shift Cable Screws	35 (40)
Starter Motor Screw	18 (24)
Torque Converter Adapter Plate-To-Converter Nuts	28 (38)
Torque Converter Adapter Plate-To-Flexplate Nuts	28 (38)
Transmission Cooler Fitting-To-Case Retainer	35 (47)
Transmission Cooler Tube Nut-To-Case Fitting	22 (30)
Transmission Mount-To-Crossmember Nuts	66 (90)
Transmission Mount-To-Extension Housing Screws	66 (90)
Transmission-To-Engine Bolts	35 (48)
<b>INCH Lbs. (N.m)</b>	
Band Adjustment Screw	124 (14)
Case-To-Center Support Screw	97 (11)
Converter Drain Plug	89 (10)
Digital Transmission Range Sensor Screws	89 (10)
Fluid Level Indicator Plug-To-Drain Pipe Assembly Retainer	89 (10)
Fuel Tank Shield Nuts	80 (9)
Main Control-To-Case Screws	89 (10)
Manual Control Valve Detent Spring Screw	89 (10)
Pressure Tap Plug-To-Case Retainer	124 (14)
Reverse Servo Assembly Bolts	97 (11)

## 2002 Ford Explorer

2002-03 AUTOMATIC TRANSMISSIONS' Removal & Installation - Aviator, Explorer & Mountaineer

Separator-To-Main Control Bolts	89 (10)
Solenoid Body Bolts	71 (8)
Solenoid Electrical Connector Left Bolt <sup>(1)</sup>	115 (13)
Solenoid Electrical Connector Right Bolt <sup>(1)</sup>	44 (5)
Speed Sensor Screws	124 (14)
Transmission Fluid Filter Bolts	89 (10)
Transmission Fluid Pan-To-Case Screws	97 (11)
Vehicle Harness-To-Solenoid Body Screw	44 (5)
(1) To identify proper bolt, see <b>Fig. 30</b> .	