

SPECIFICATIONS

Torque Specifications

Description	Nm	lb-ft	lb-in
A/C line bracket nut	7	—	62
Crossmember brace nuts	48	35	—
Engine insulator nuts	55	41	—
Front crossmember nuts	115	85	—
Front stabilizer bar bracket nuts	70	52	—
Front subframe bolts (rear)	115	85	—
Front subframe brace nuts	48	35	—
Front subframe nuts (front)	115	85	—
Lower ball joint nuts and bolts	103	76	—

Torque Specifications (Continued)

Description	Nm	lb-ft	lb-in
Lower steering column shaft coupling bolt	25	18	—
Power steering bracket bolt	47	35	—
Power steering line support bracket bolt	11	—	97
Rear support brace bolts (convertible)	63	46	—
Rear support brace bolts (upper) (convertible)	25	18	—
Steering gear bolts	115	85	—
Transmission crossmember bolts	63	46	—
Transmission support insulator bolt	70	52	—

DESCRIPTION AND OPERATION

Subframe and Mounting Systems

Underbody misalignment can affect front and rear wheel alignment, the operation of the suspension parts and drivetrain operation. Window glass cracks, door and window opening concerns, and air or water leaks at the doors are often caused by improperly tightened bolts and body misalignment.

Every structural member and outer panel is designed to offer the maximum protection in the event of a collision.

The front subframe is bolted to the body and is used to:

- aid in structural support.
- provide mounting surfaces for the front suspension control arms.
- provide a mounting point for the engine isolators.
- provide a mounting surface for the steering gear.

The front crossmember is bolted to the body and is used to:

- aid in structural support.
- provide a mounting surface for the front stabilizer bar.
- support the radiator, cooling fan and evaporator.

The rear support braces are:

- used to aid in structural support.
- designed to aid in protection in the event of a collision.
- designed to aid stability in handling.
- equipped on convertible models only.

The transmission crossmember is bolted to the body and is used to:

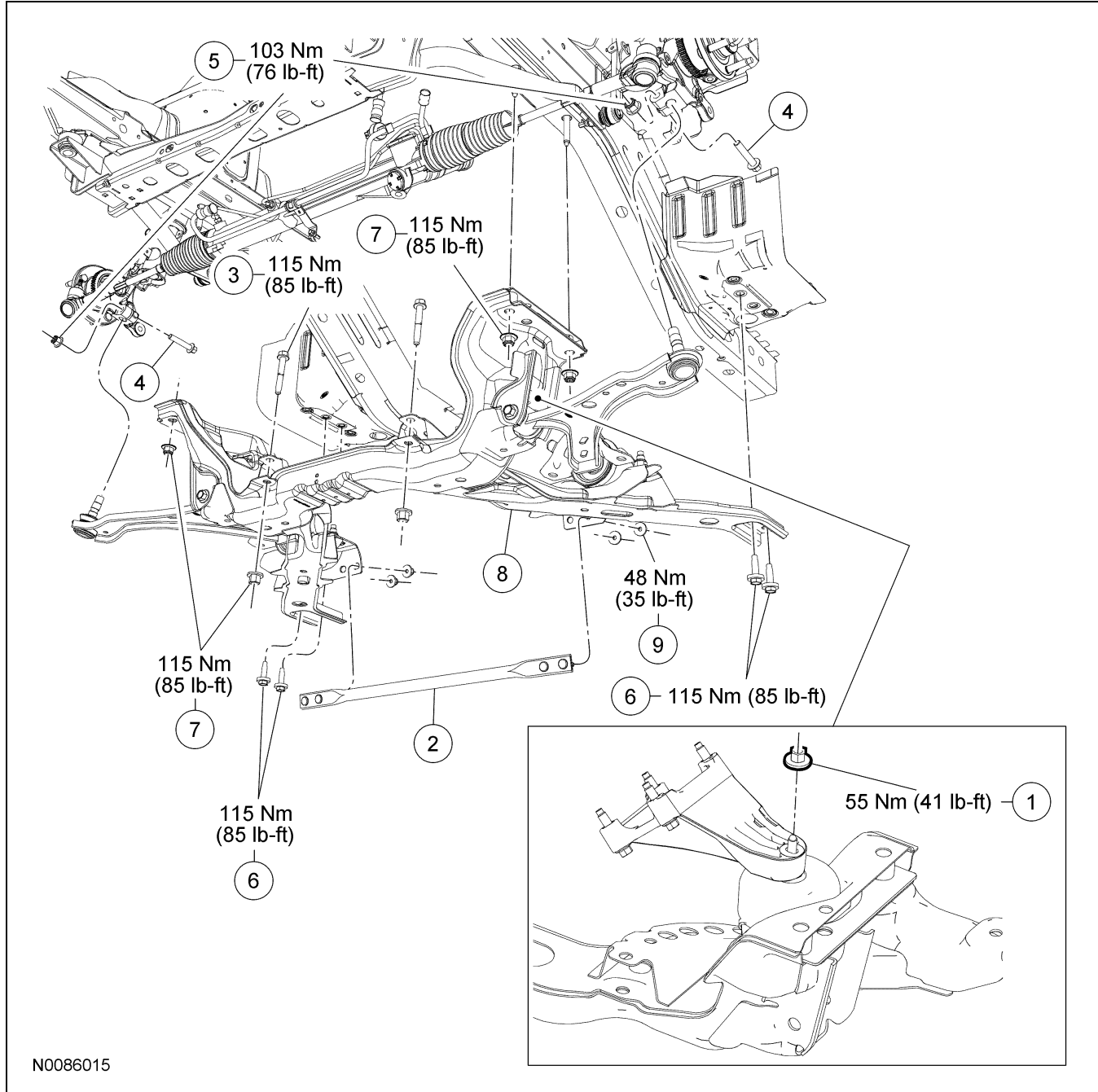
- aid in structural support.
- provide a mounting surface for the transmission support insulator.
- support the transmission.

For body dimension specifications, refer to Section 501-35.

REMOVAL AND INSTALLATION

Subframe and Components — Exploded View, Front

NOTE: 4.0L subframe shown, all others similar.



N0086015

Item	Part Number	Description
1	N621943	Engine insulator nut
2	5A095	Front crossmember brace
3	W705315	Steering gear bolt (2 required)
4	W711123	Lower ball joint bolts

(Continued)

Item	Part Number	Description
5	W520214	Lower ball joint nuts
6	W711075	Front subframe bolts (rear)
7	W707246	Front subframe nuts (4 required)
8	5025	Front subframe

(Continued)

REMOVAL AND INSTALLATION (Continued)

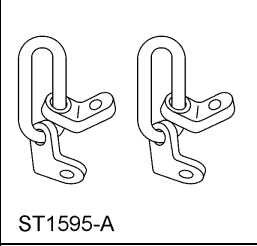
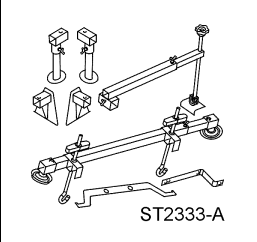
Item	Part Number	Description
9	W711553	Front subframe brace nuts (4 required)

1. For additional information, refer to the procedures in this section.

REMOVAL AND INSTALLATION

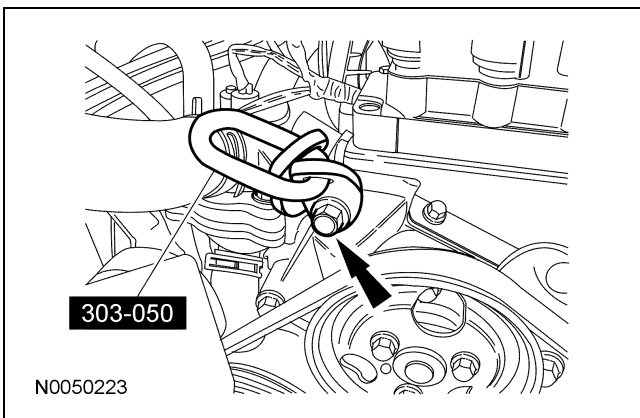
Subframe — Front, 4.0L

Special Tool(s)

 <p>ST1595-A</p>	<p>Lifting Bracket Set, Engine 303-050 (T70P-6000)</p>
 <p>ST2333-A</p>	<p>Support Bar, Engine 303-F072</p>

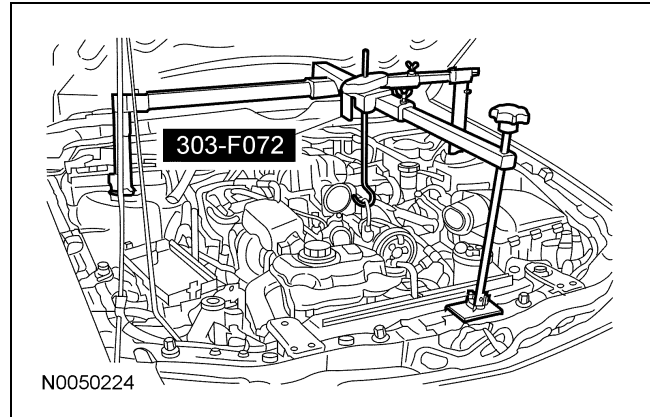
Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.
2. Remove the 6 pin-type retainers and the upper radiator sight shield.
3. Remove the Throttle Body (TB). For additional information, refer to Section 303-04A.
4. Remove the power steering bracket bolt and install the Engine Lifting Bracket Set.
 - To install, tighten to 47 Nm (35 lb-ft).



5. Remove the 2 engine insulator nuts.
 - To install, tighten to 55 Nm (41 lb-ft).

6. **NOTE:** Using the taller adapters, support the Engine Lifting Bracket Set on the shock towers. Install the Engine Support Bar.



7. Using the Engine Support Bar and the Engine Lifting Bracket Set, raise and support the engine.
8. Remove and discard the lower steering column shaft coupling bolt.
 - To install, tighten to 25 Nm (18 lb-ft).
9. Separate the lower steering column shaft from the steering gear.
10. Remove the power steering line support bracket bolt.
 - To install, tighten to 11 Nm (97 lb-in).
11. **NOTICE: Support the steering gear with safety wire or damage to the steering gear may occur.**
Remove the 2 steering gear bolts and position the steering gear aside.
 - To install, tighten to 115 Nm (85 lb-ft).
12. Remove the 2 lower ball joint nuts and bolts.
 - To install, tighten to 103 Nm (76 lb-ft).
13. Separate the 2 lower ball joints from the steering knuckles.
14. Support the subframe.
15. Remove the 4 front subframe bolts at the torque box.
 - To install, tighten to 115 Nm (85 lb-ft).

REMOVAL AND INSTALLATION (Continued)

16. Remove the 4 front subframe nuts.

- To install, tighten to 115 Nm (85 lb-ft).

17. **NOTE:** Two technicians are needed to carry out this step.

Lower and remove the front subframe.

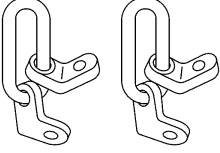
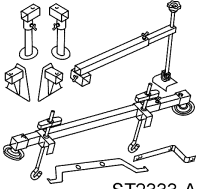
18. **NOTE:** Use a suitable alignment tool with a 15 mm (0.59 in) OD shaft that is long enough to go through the subframe and body. Align the subframe to the body before tightening the subframe bolts and nuts to specification.

To install, reverse the removal procedure.

REMOVAL AND INSTALLATION

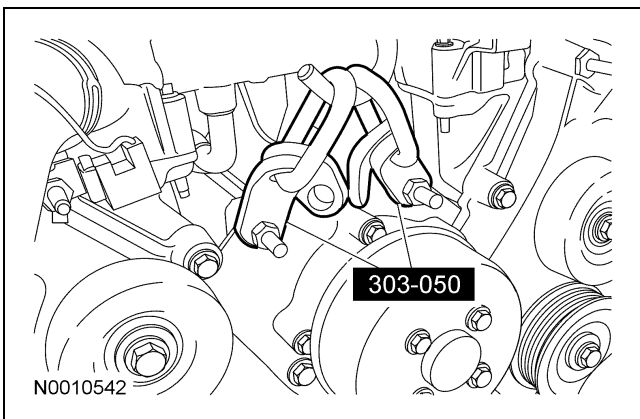
Subframe — Front, 4.6L

Special Tool(s)

 <p>ST1595-A</p>	<p>Lifting Bracket Set, Engine 303-050 (T70P-6000)</p>
 <p>ST2333-A</p>	<p>Support Bar, Engine 303-F072</p>

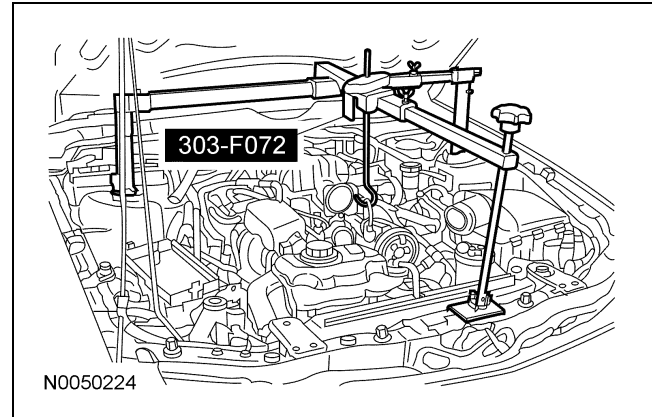
Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.
2. Remove the Throttle Body (TB). For additional information, refer to Section 303-04B.
3. Remove the generator. For additional information, refer to Section 414-00.
4. Install the Engine Lifting Bracket Set.



5. Remove the 2 engine insulator nuts.
 - To install, tighten to 55 Nm (41 lb-ft).

6. **NOTE:** Using the taller adapters, support the Engine Lifting Bracket Set on the shock towers. Install the Engine Support Bar.



7. Using the Engine Lifting Bracket Set, raise and support the engine.
8. Remove and discard the lower steering column shaft coupling bolt.
 - To install, tighten to 25 Nm (18 lb-ft).
9. Separate the lower steering column shaft from the steering gear.
10. Remove the power steering line support bracket bolt.
 - To install, tighten to 11 Nm (97 lb-in).
11. **NOTICE: Support the steering gear with safety wire or damage to the steering gear may occur.**
Remove the 2 steering gear bolts and position the steering gear aside.
 - To install, tighten to 115 Nm (85 lb-ft).
12. Remove the 2 lower ball joint nuts and bolts.
 - To install, tighten to 103 Nm (76 lb-ft).
13. Separate the 2 lower ball joints from the steering knuckles.
14. Support the subframe.
15. Remove the 4 front subframe bolts at the torque box.
 - To install, tighten to 115 Nm (85 lb-ft).

REMOVAL AND INSTALLATION (Continued)

16. Remove the 4 front subframe nuts.

- To install, tighten to 115 Nm (85 lb-ft).

17. **NOTE:** Two technicians are needed to carry out this step.

Lower and remove the front subframe.

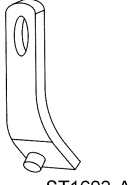
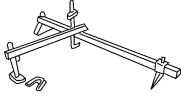
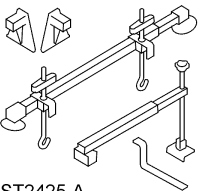
18. **NOTE:** Using a suitable alignment tool with a 15 mm (0.59 in) outside diameter shaft that is long enough to go through the subframe and body. Align the subframe to the body before tightening the subframe bolts and nuts to specification.

To install, reverse the removal procedure.

REMOVAL AND INSTALLATION

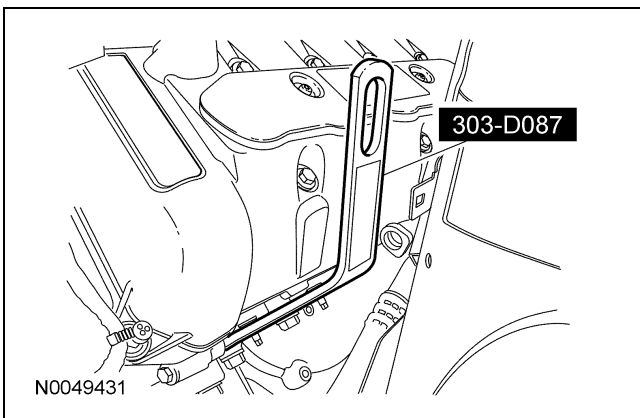
Subframe — Front, 5.4L

Special Tool(s)

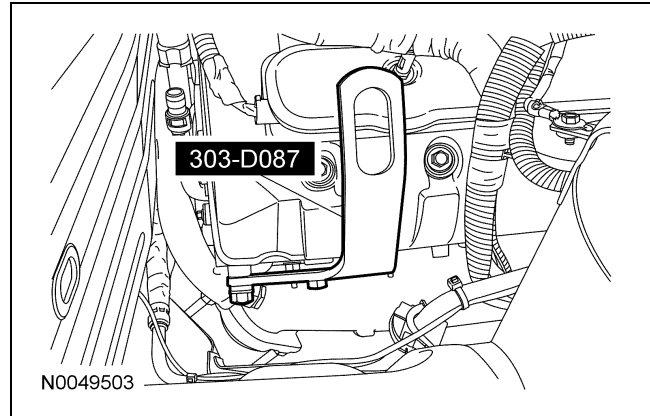
 <p>ST1603-A</p>	<p>Lifting Bracket, Engine (2 required) 303-D087 (D93P-6001-A1)</p>
 <p>ST2176-B</p>	<p>Support Bar, Engine 303-F070</p>
 <p>ST2425-A</p>	<p>Support Bar, Engine 303-F072</p>

Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.
2. Remove the battery and tray. For additional information, refer to Section 414-01.
3. Remove the air cleaner outlet pipe. For additional information, refer to Section 303-12.
4. Install the Engine Lifting Bracket.



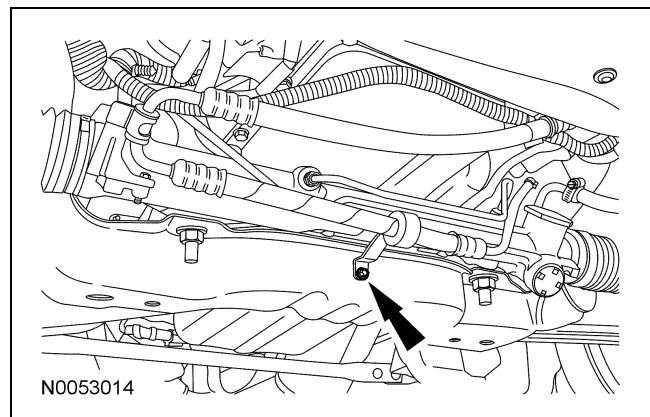
5. Install the Engine Lifting Bracket.



6. Remove the LH and RH engine insulator nuts.
 - To install, tighten to 55 Nm (41 lb-ft).
7. **NOTE:** The heavy duty Engine Support Bar (303-F072) must be used with the draw screws from the light duty Engine Support Bar (303-F070). This will provide enough clearance between the supercharger (SC311) and the Engine Support Bar (303-F072) and enough clearance between the draw screw and the vehicle hood.

Install the Engine Support Bar and raise the engine.

8. Remove and discard the lower steering column coupling bolt.
 - To install, tighten to 25 Nm (18 lb-ft).
9. Remove the power steering line support bracket bolt.
 - To install, tighten to 11 Nm (97 lb-in).



REMOVAL AND INSTALLATION (Continued)

10. **NOTICE:** Support the steering gear with safety wire or damage to the steering gear may occur.

NOTE: The engine must be lifted enough to allow the LH bolt to be removed.

NOTE: The steering gear must be secured loosely with safety wire to allow subframe removal.

Remove the 2 steering gear bolts and position the steering gear aside.

- To install, tighten to 115 Nm (85 lb-ft).

11. Remove the 2 lower ball joint nuts and bolts.

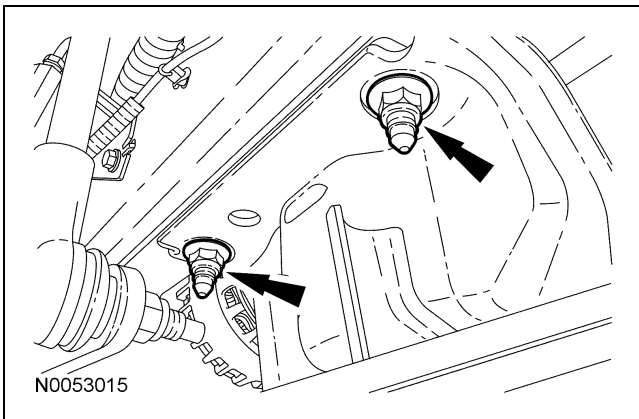
- To install, tighten to 103 Nm (76 lb-ft).

12. Separate the 2 lower ball joints from the steering knuckles.

13. Support the subframe.

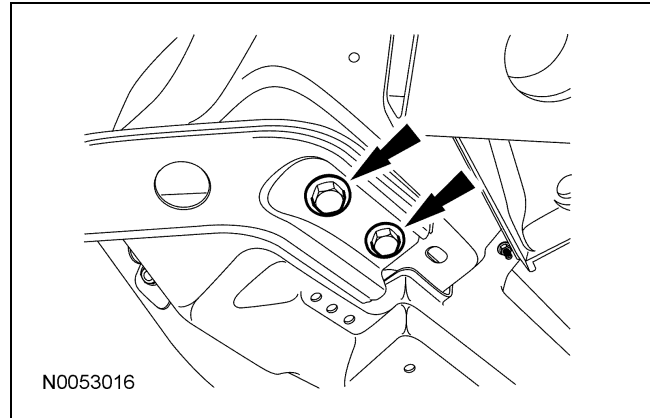
14. Remove the 4 front subframe bolts.

- To install, tighten to 115 Nm (85 lb-ft).



15. Remove the 4 front subframe nuts.

- To install, tighten to 115 Nm (85 lb-ft).



16. **NOTE:** Two technicians are required to carry out this step.

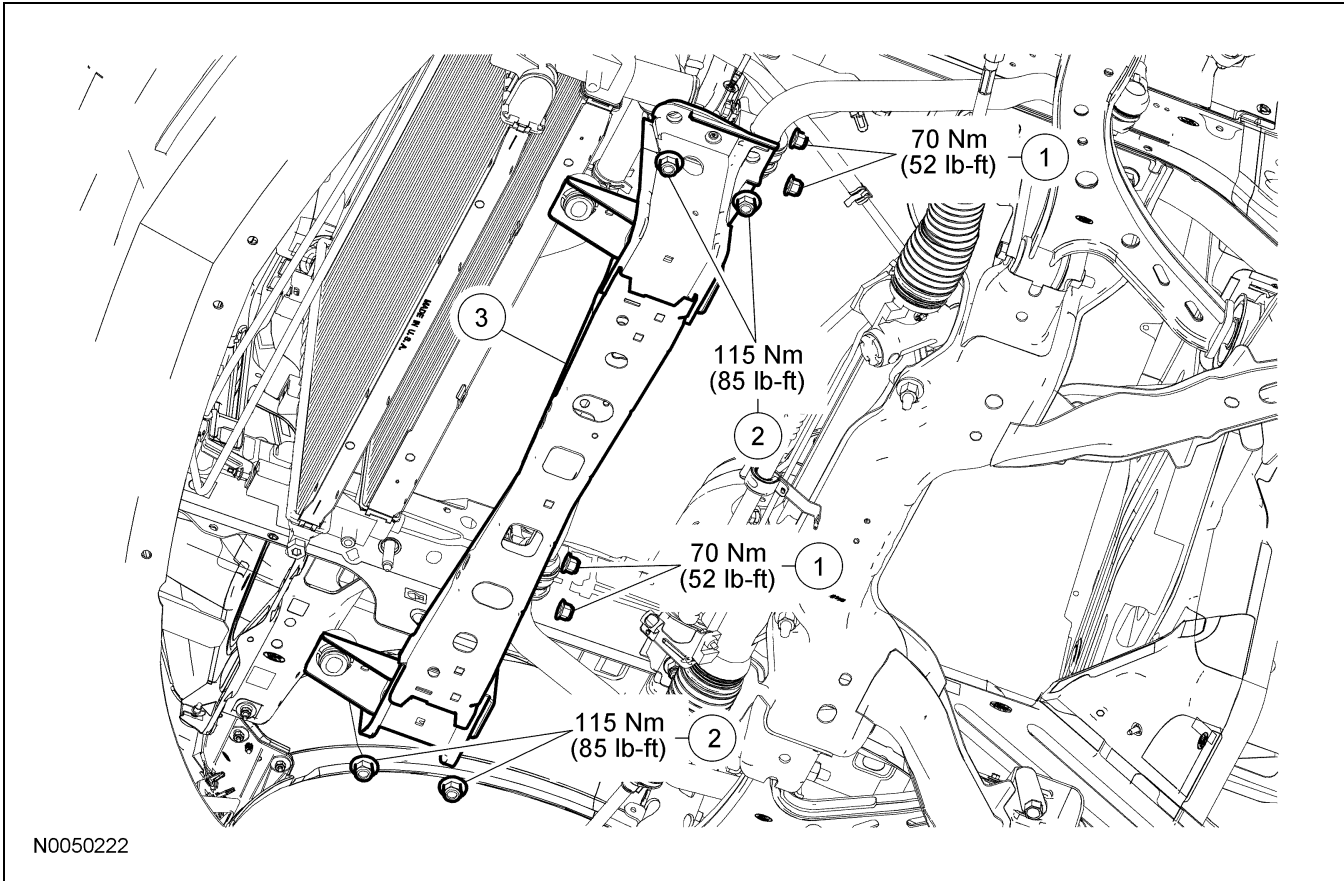
Lower and remove the front subframe.

17. **NOTE:** Using a suitable alignment tool with a 15 mm (0.59 in) OD shaft that is long enough to go through the subframe and body. Align the subframe to the body before tightening the subframe bolts and nuts to specification.

To install, reverse the removal procedure.

REMOVAL AND INSTALLATION

Crossmember — Front



Item	Part Number	Description
1	W520213	Front stabilizer bar bracket nuts
2	W707246	Front crossmember nuts
3	5019	Front crossmember

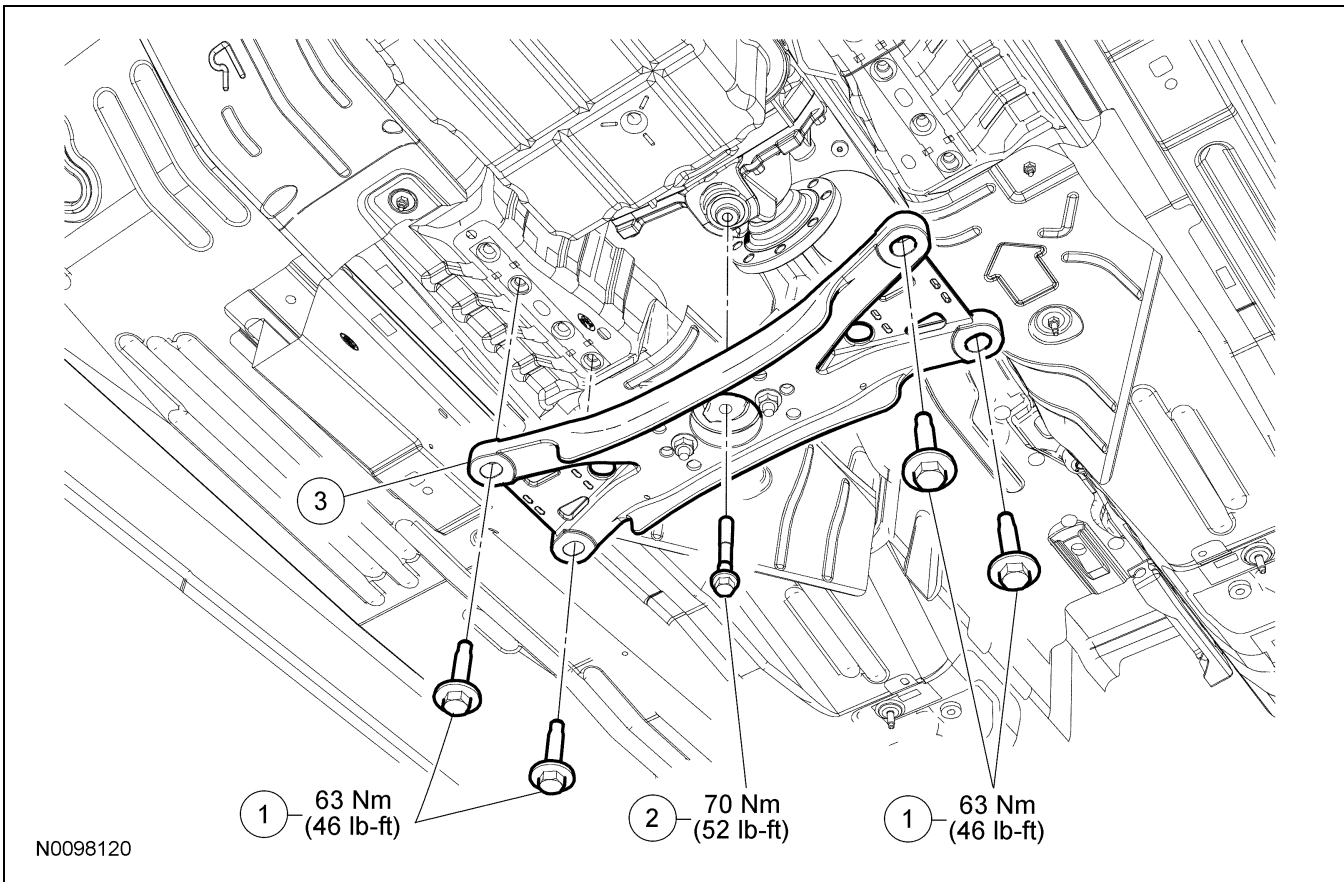
Removal and Installation

- With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.
- Release the brake line from the 2 clips on the front crossmember.
- Loosen the A/C line bracket nut and release the A/C line bracket from the front crossmember.
 - To install, tighten to 7 Nm (62 lb-in).
- Release the power steering line locator from the crossmember.
- Using a suitable tool, support the radiator.
- Remove the 4 front stabilizer bar bracket nuts.
 - To install, tighten to 70 Nm (52 lb-ft).
- NOTE:** Two technicians are needed to carry out this step.
Remove the 4 nuts and the front crossmember.
 - To install, tighten to 115 Nm (85 lb-ft).
- To install, reverse the removal procedure.

REMOVAL AND INSTALLATION

Crossmember — Transmission

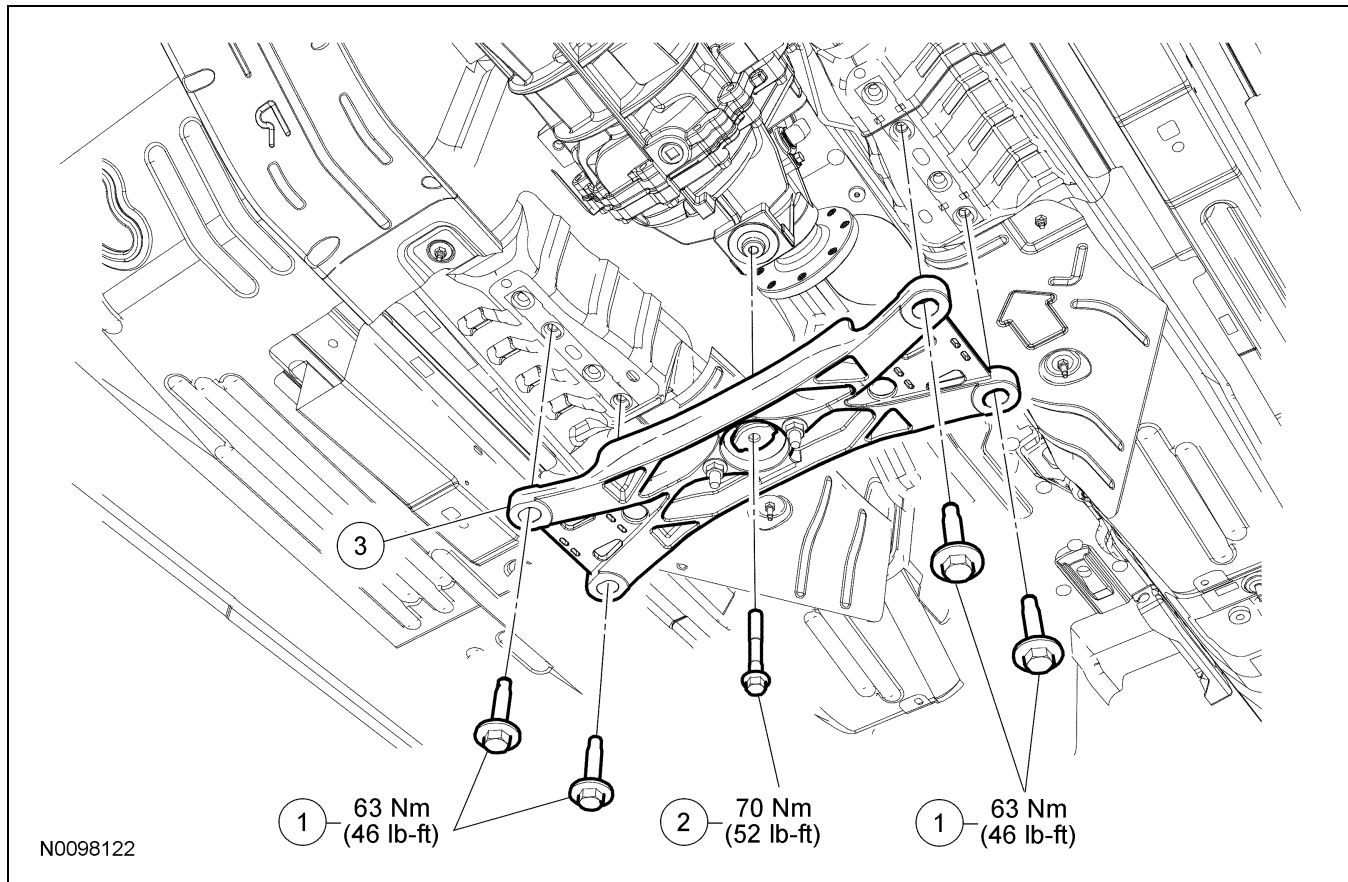
V6



Item	Part Number	Description
1	W505466	Transmission crossmember bolts
2	N804518	Transmission support insulator bolt
3	6A023	Transmission crossmember

REMOVAL AND INSTALLATION (Continued)

V8



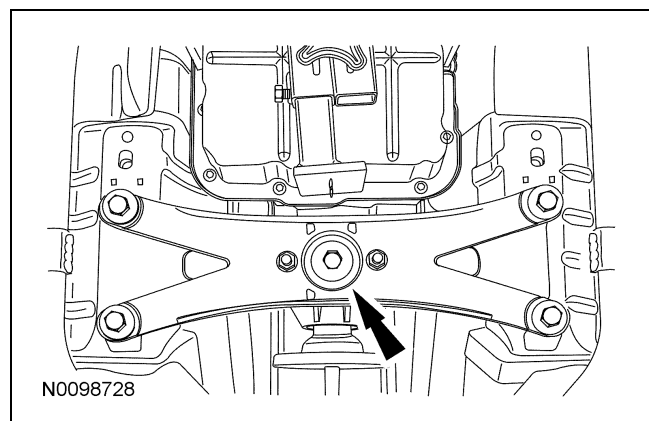
Item	Part Number	Description
1	W505466	Transmission crossmember bolts
2	N804518	Transmission support insulator bolt
3	6A023	Transmission crossmember

Removal

NOTICE: The transmission crossmember must be installed in the same orientation as it was removed. An incorrectly installed crossmember will change the driveline angle and cause a shudder when accelerating from a stop or above average engine presence.

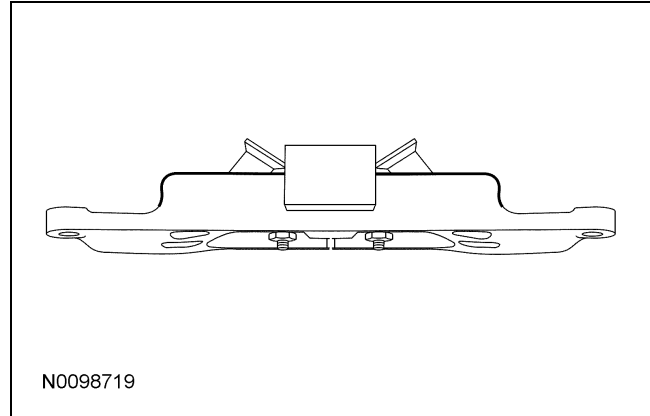
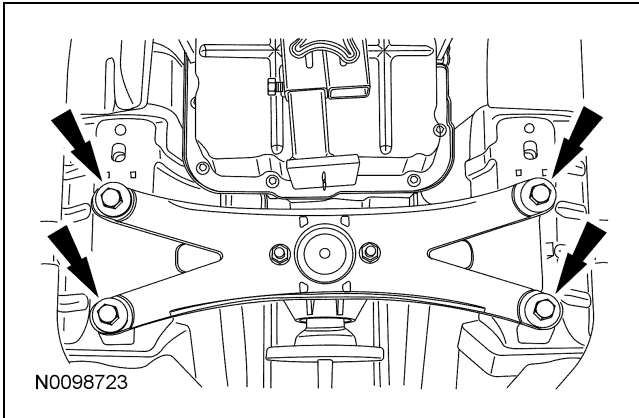
1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.

2. Using a suitable transmission jack, support the transmission.
3. Remove the transmission support insulator bolt.

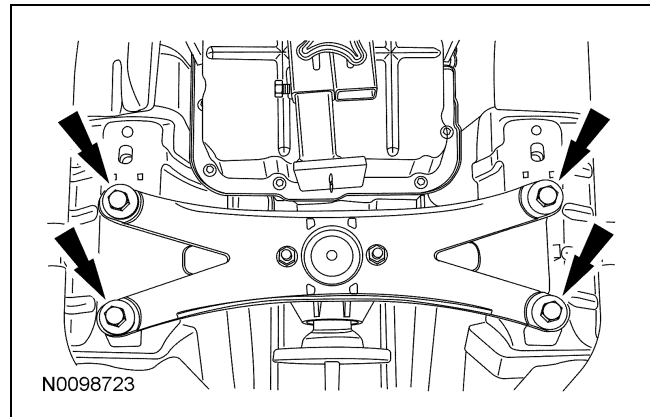


REMOVAL AND INSTALLATION (Continued)

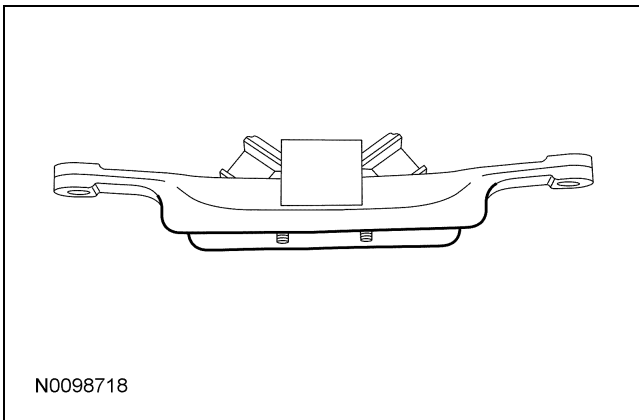
- Remove the transmission crossmember bolts and remove the transmission crossmember.

**All vehicles**

- Loosely install the transmission crossmember bolts.

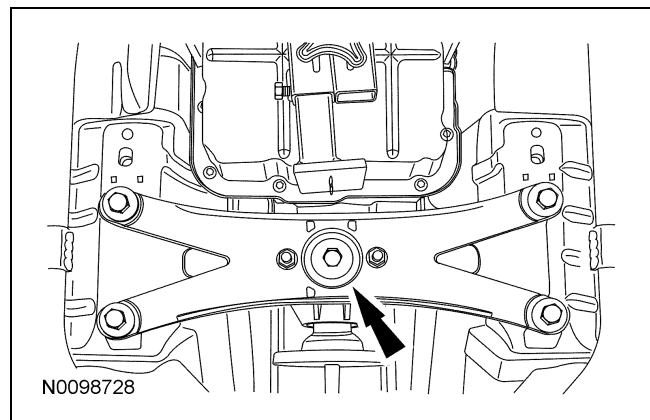
**Installation****V6 only**

- NOTE:** The crossmember hump side on the crossmember is positioned down.
Position the crossmember to the vehicle.

**V8 only**

- NOTE:** The crossmember hump side of the crossmember is positioned up.
Position the crossmember to the vehicle.

- Loosely install the transmission support insulator bolt.



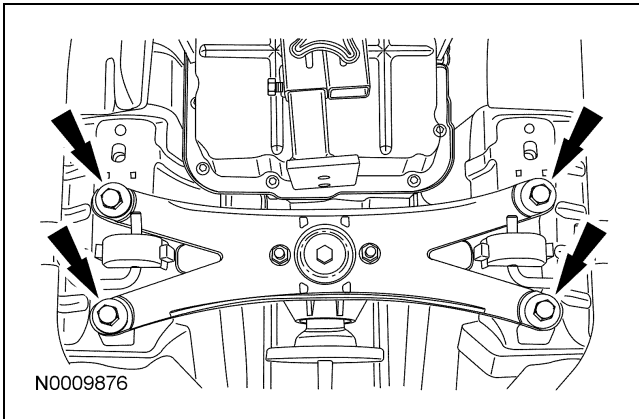
REMOVAL AND INSTALLATION (Continued)

5. **NOTE:** The transmission support insulator must be neutralized.

Slide the transmission support insulator forward, rearward and side-to-side until the gaps between the transmission support insulator and the transmission crossmember are equal.

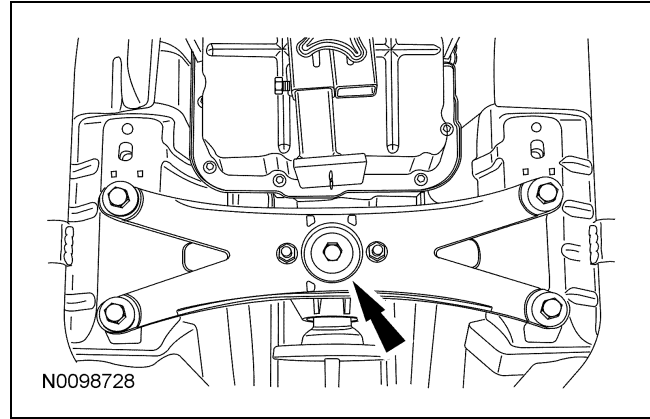
6. With the transmission support insulator neutralized, tighten the transmission crossmember bolts.

- Tighten to 63 Nm (46 lb-ft).



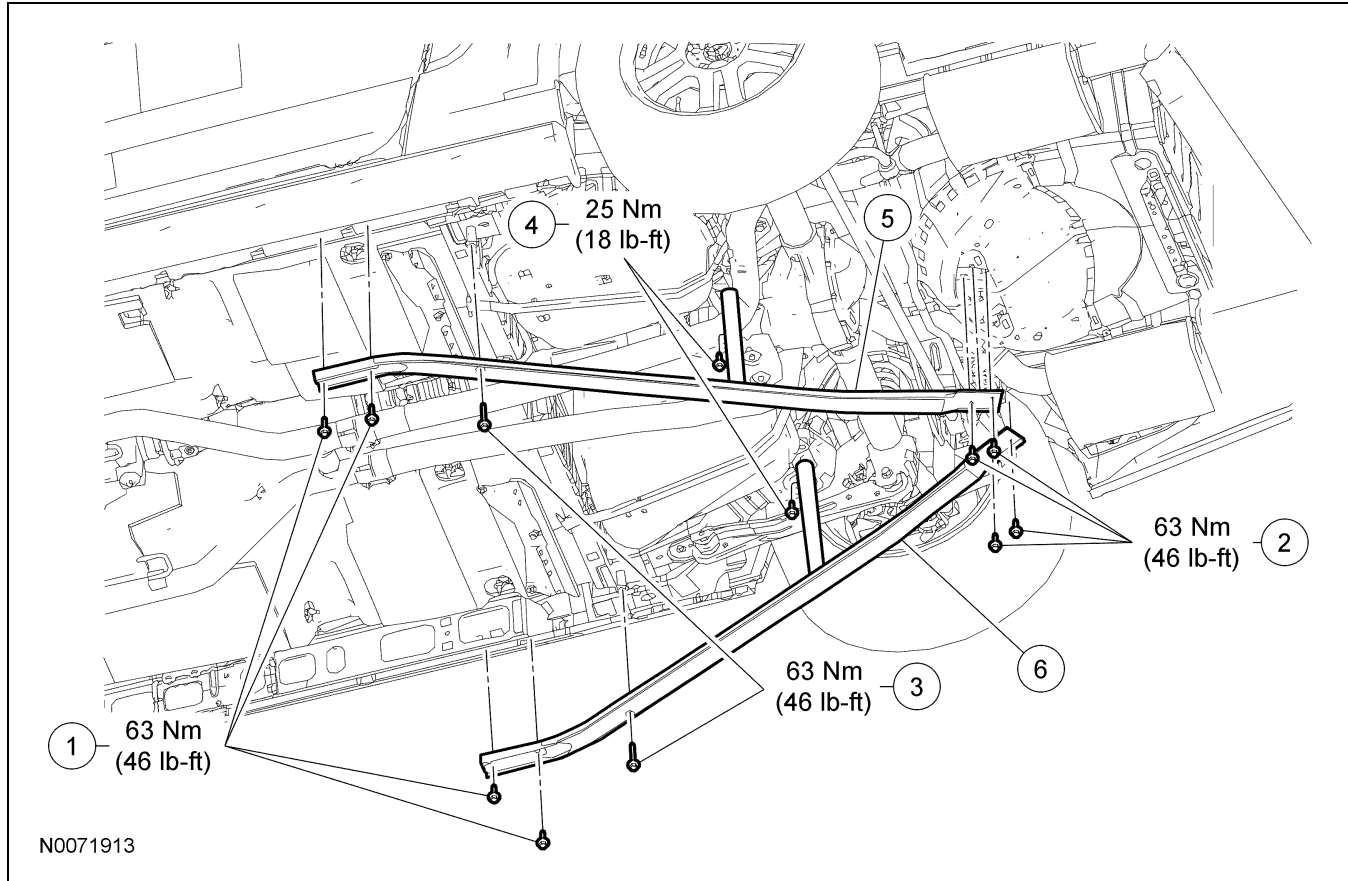
7. With the transmission support insulator neutralized, tighten the transmission support insulator bolt.

- Tighten to 70 Nm (52 lb-ft).



REMOVAL AND INSTALLATION

Support Braces — Rear



Item	Part Number	Description
1	W712145	Rear support brace bolts (front)
2	W712145	Rear support brace bolts (rear)
3	W710156	Rear support brace bolts (center-to-frame)
4	W709390	Rear support brace bolts (upper)
5	76102B55	LH rear support brace
6	76102B54	RH rear support brace

- Remove and discard the 4 rear support brace bolts (rear).
- Remove and discard the 2 rear support brace bolts (upper).
- Remove and discard the 4 rear support brace bolts (front).
- Remove and discard the 2 rear support brace bolts (center to frame), and remove the 2 rear support braces.

Removal

NOTE: The 2 rear support braces must be removed and installed at the same time.

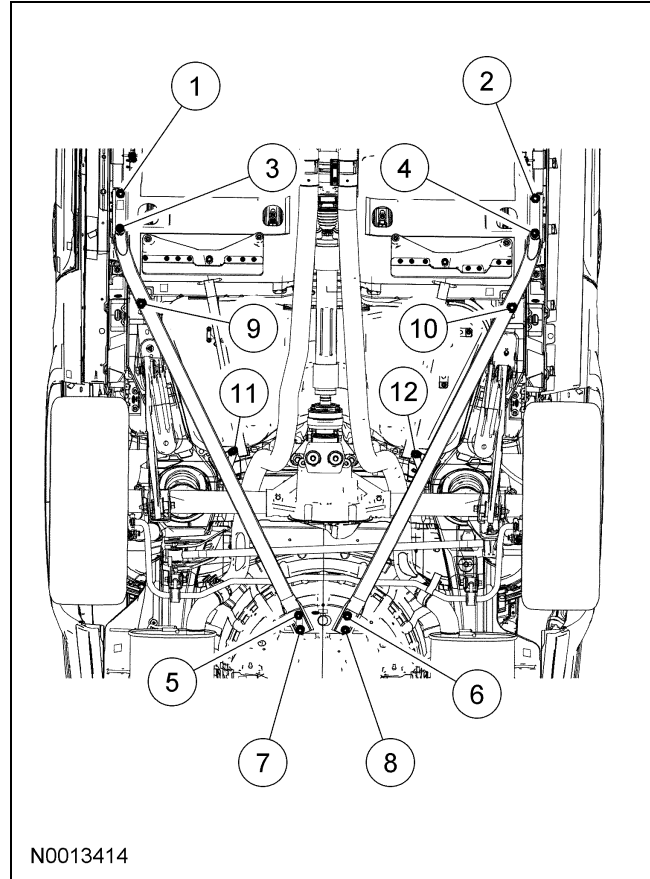
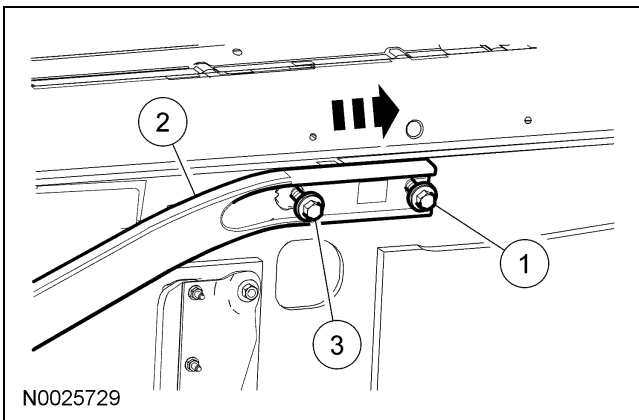
- With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.

REMOVAL AND INSTALLATION (Continued)**Installation**

NOTE: The 2 rear support braces must be removed and installed at the same time.

NOTE: All bolts must be started by hand before final tightening.

1. Position the LH and RH rear support braces.
 - 1 Install the 2 rear support brace bolts (front).
 - 2 Position the LH and RH rear support braces.
 - 3 Install the 2 rear support brace bolts (front).



2. Install the 4 rear support brace bolts.
3. Install the 2 rear support brace bolts (center to frame).
4. Install the 2 rear support brace bolts (upper).
5. Tighten the bolts in the sequence shown.
 - Tighten the 4 rear support brace bolts (front) to 63 Nm (46 lb-ft).
 - Tighten the 4 rear support brace bolts (rear) to 63 Nm (46 lb-ft).
 - Tighten the 2 rear support brace bolts (center-to-frame) to 63 Nm (46 lb-ft).
 - Tighten the 2 rear support brace bolts (upper) to 25 Nm (18 lb-ft).