

Oil Pan

Base Part Number: Base Part Number: 6675

Special Tool(s) / General Equipment

Plastic Scraper
Oil Drain Equipment
Vehicle/Axle Stands

Materials

Name	Specification
Motorcraft® Silicone Gasket Remover ZC-30-A	-
Motorcraft® Metal Surface Prep Wipes ZC-31-B	-
Motorcraft® Silicone Gasket and Sealant TA-30	WSE-M4G323-A4
Motorcraft® Metal Brake Parts Cleaner PM-4-A, PM-4-B	-

Removal

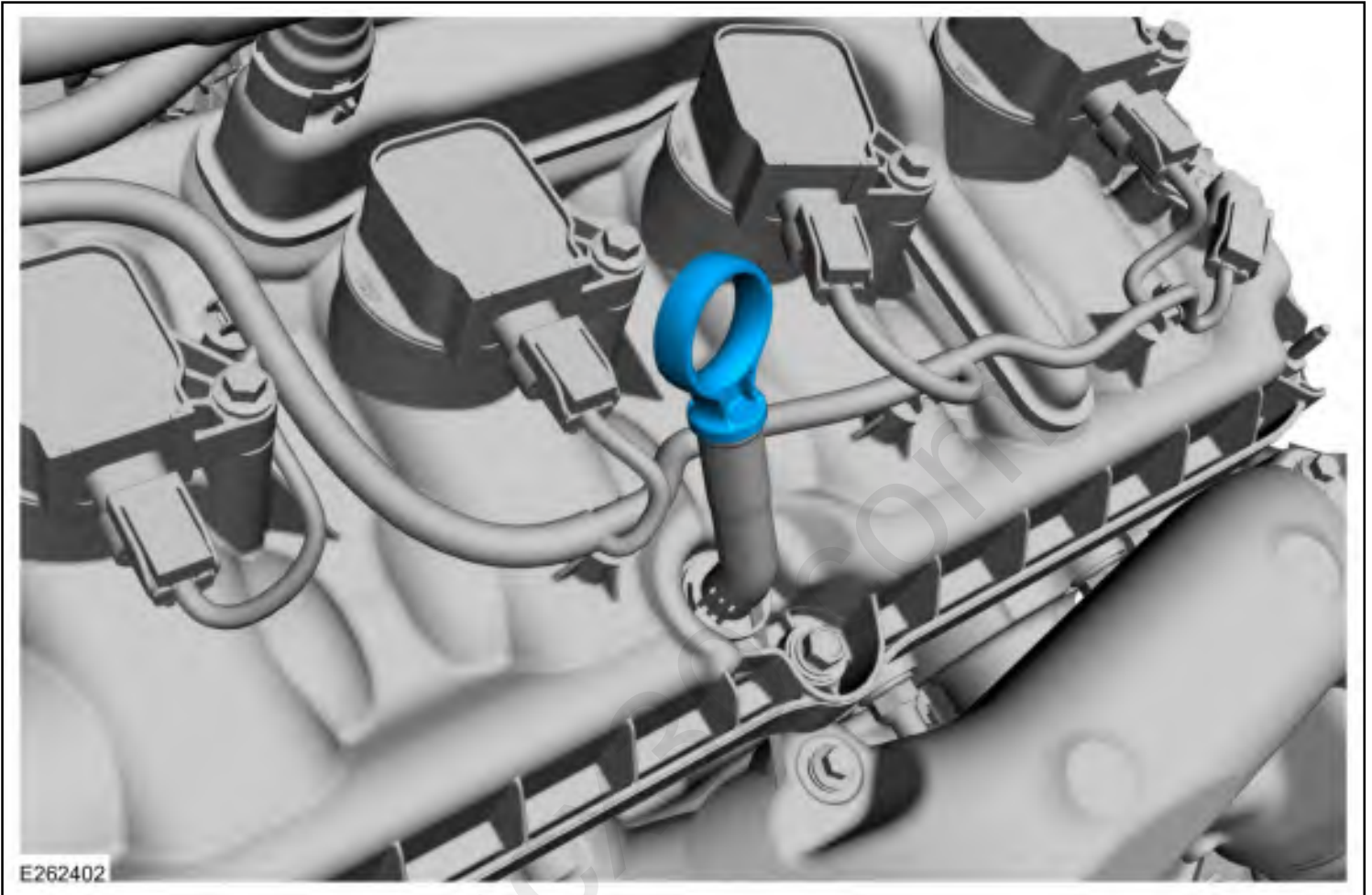
NOTICE: During engine repair procedures, cleanliness is extremely important. Any foreign material, including any material created while cleaning gasket surfaces, that enters the oil passages, coolant passages or the oil pan, can cause engine failure.

4x2/4x4

1. With the vehicle in NEUTRAL, position it on a hoist.

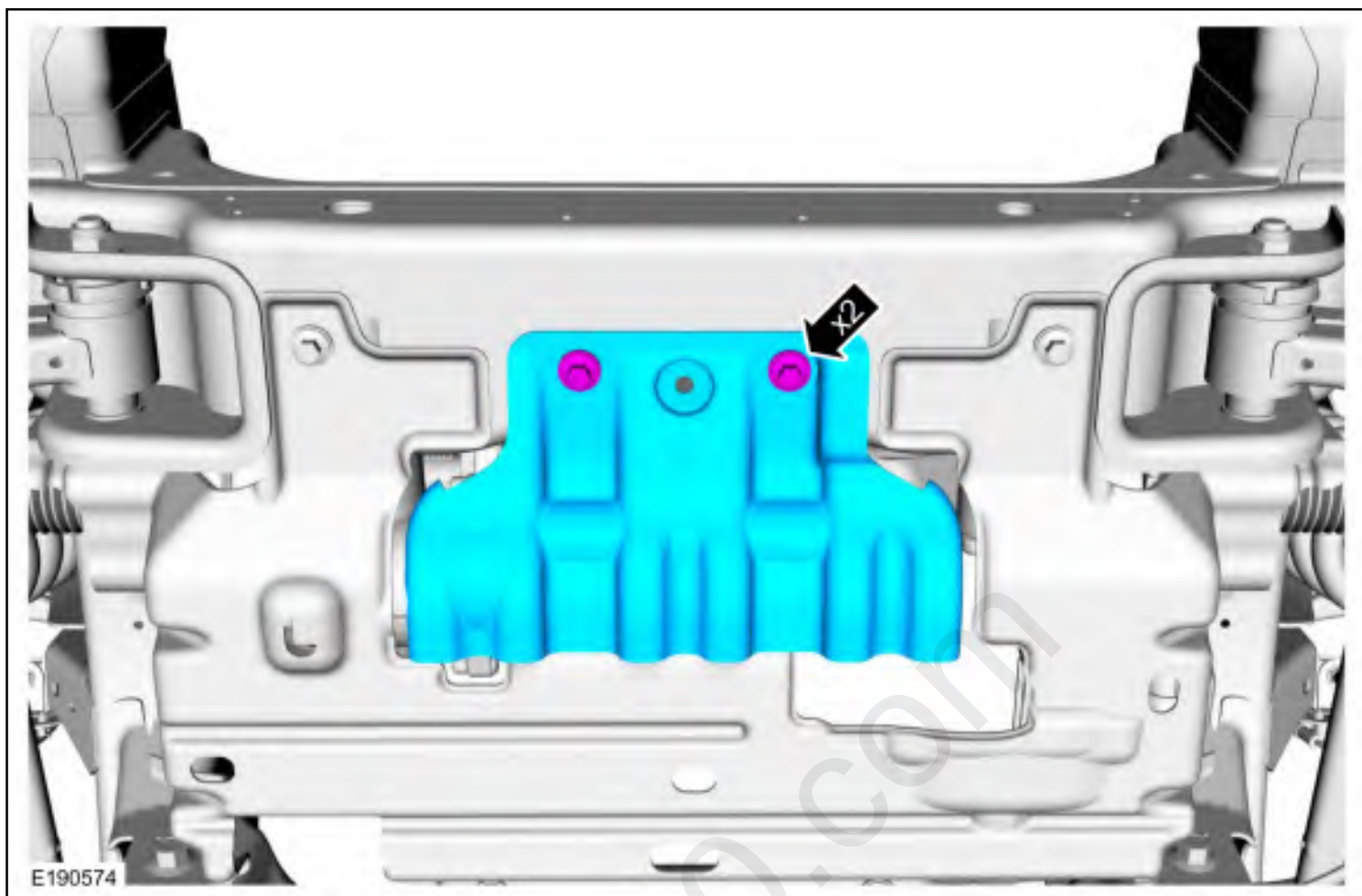
Refer to: [Jacking and Lifting - Overview](#) (100-02 Jacking and Lifting, Description and Operation).

2. Disconnect the battery ground cable.
Refer to: Battery Disconnect and Connect (414-01 Battery, Mounting and Cables) .
3. Remove the oil level indicator.



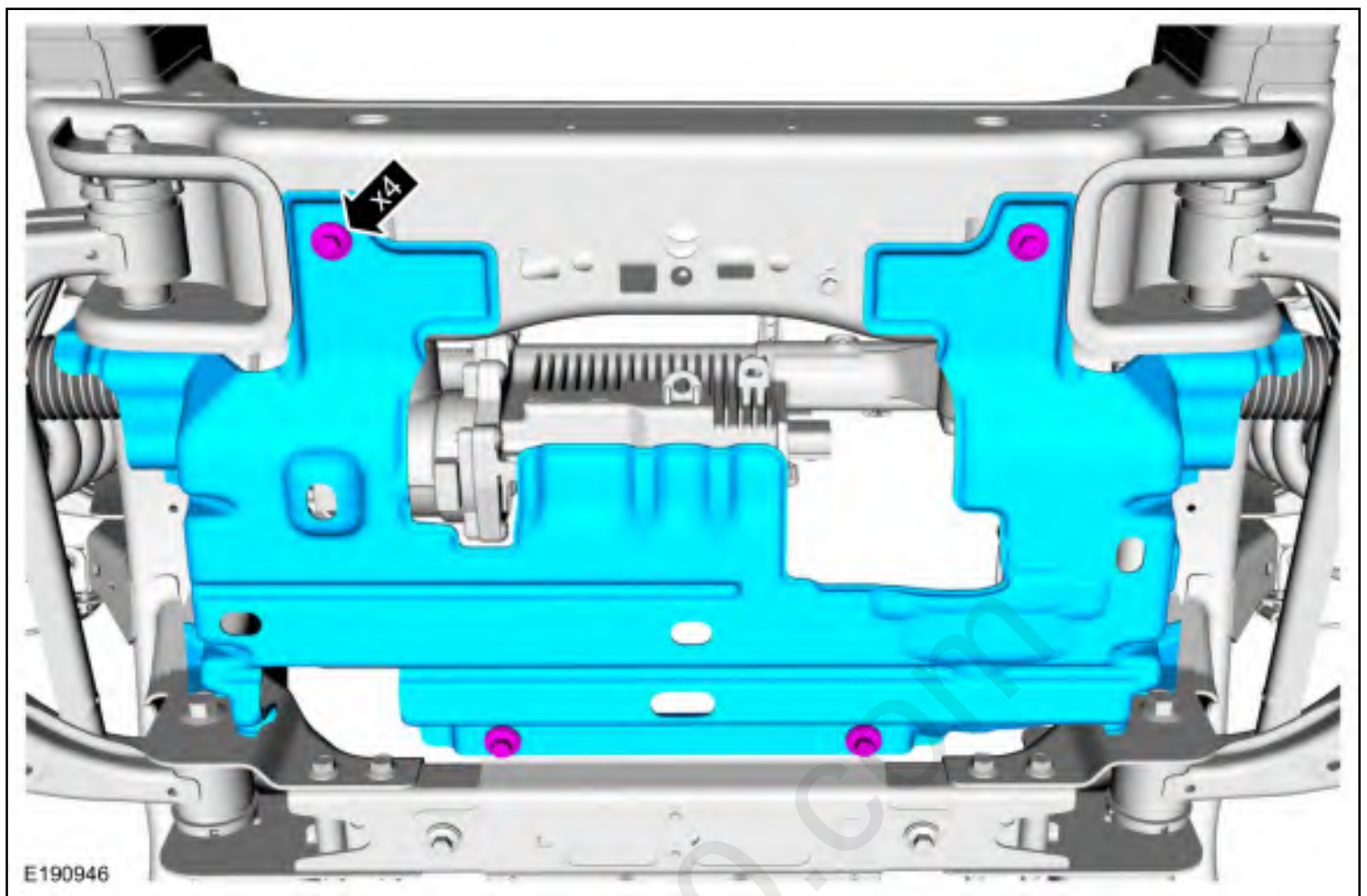
4. **NOTE:** *If equipped.*

Remove the bolts and the skid plate.



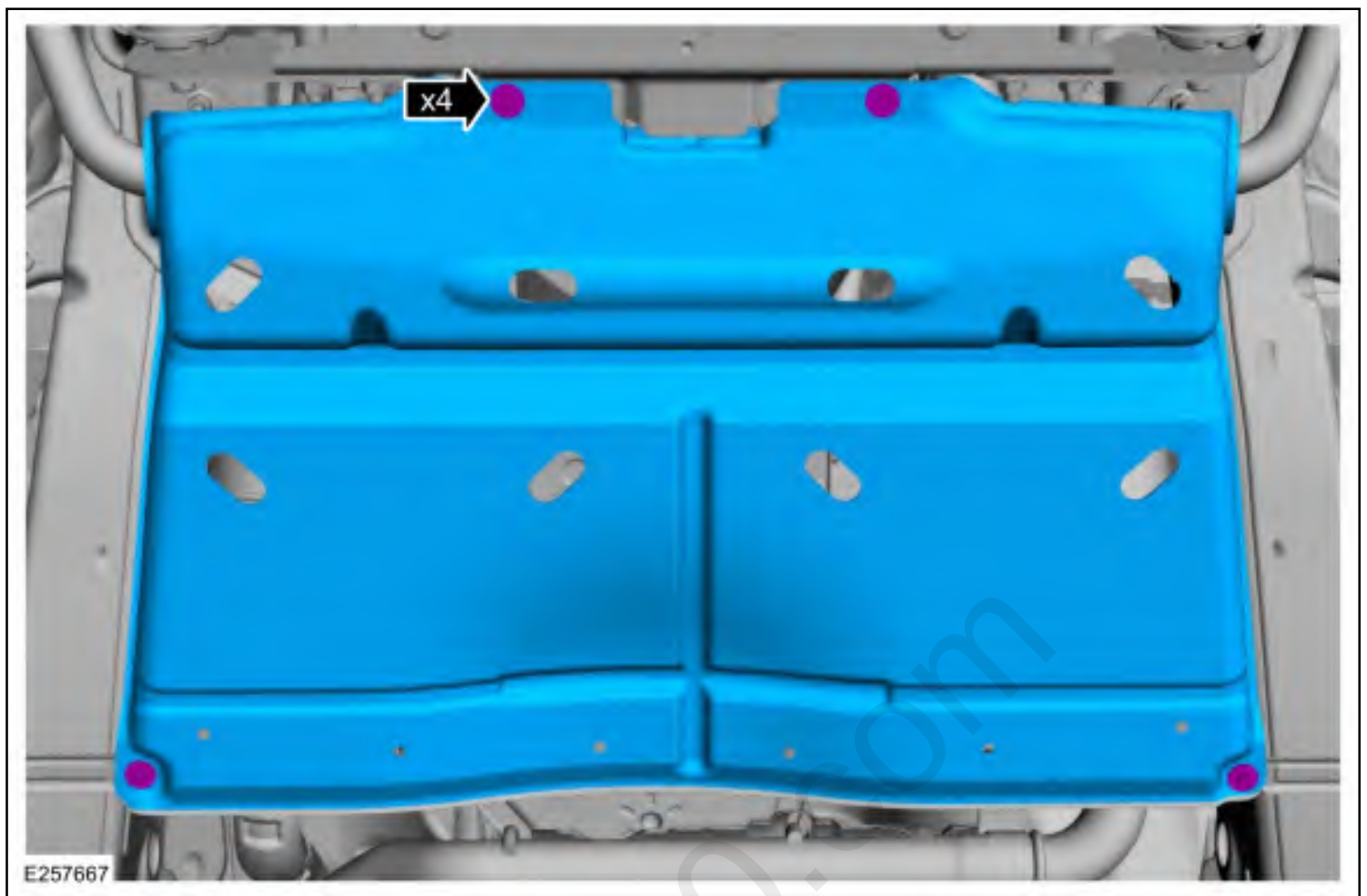
5. **NOTE:** *If equipped.*

Remove the fasteners and the underbody shield.



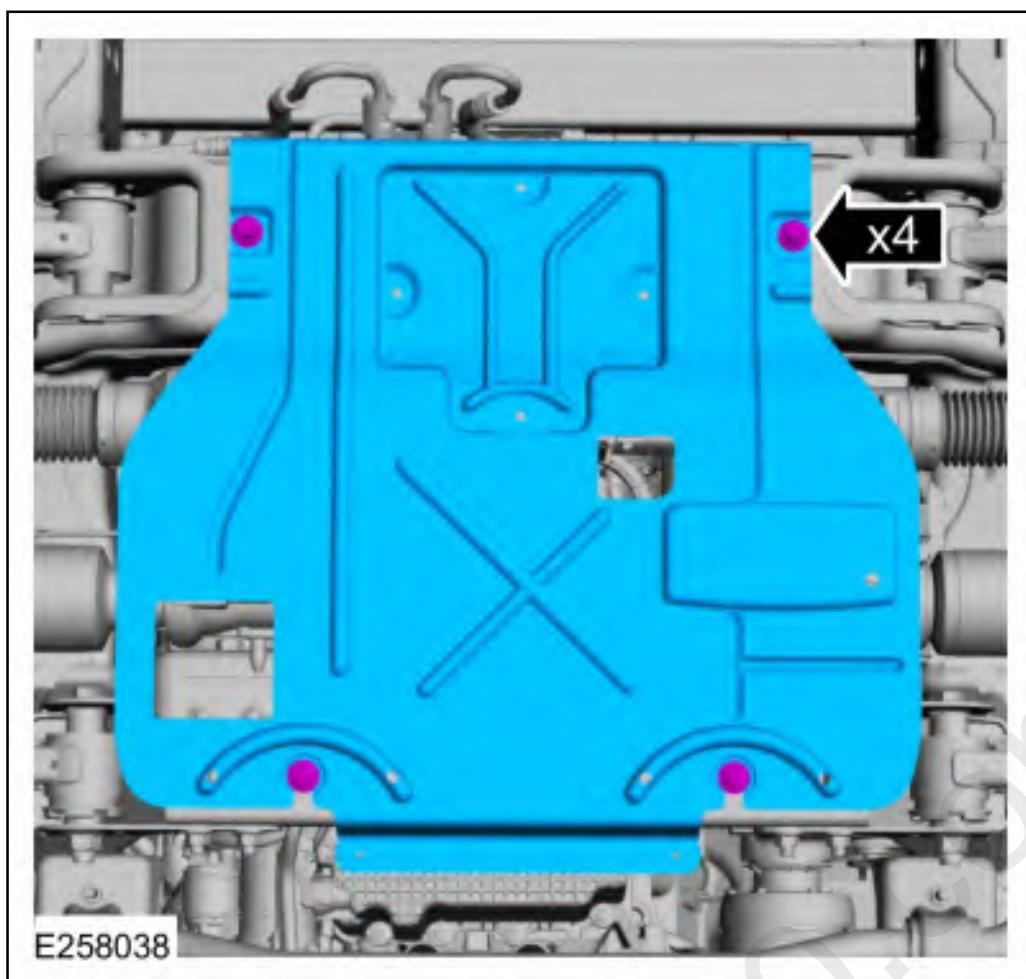
6. **NOTE:** *If equipped.*

Remove the bolts and the underbody shield.

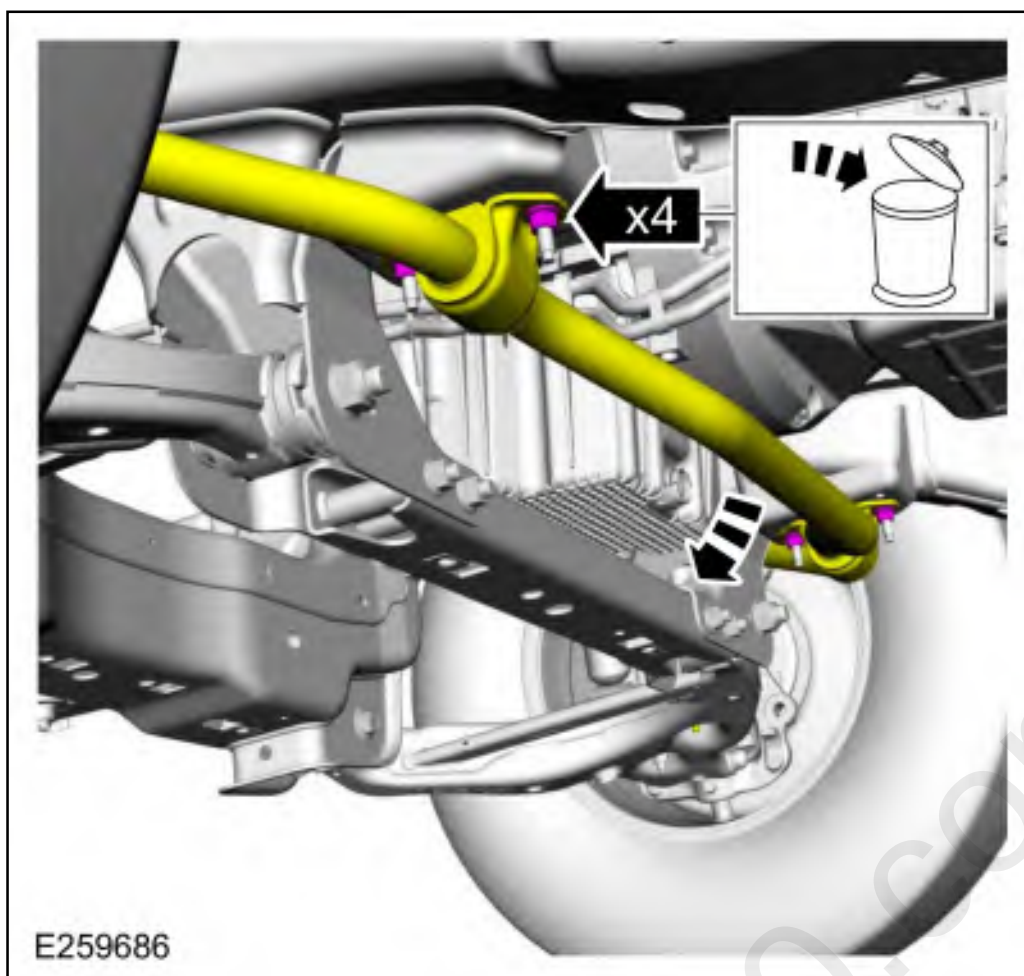


7. **NOTE:** *If equipped.*

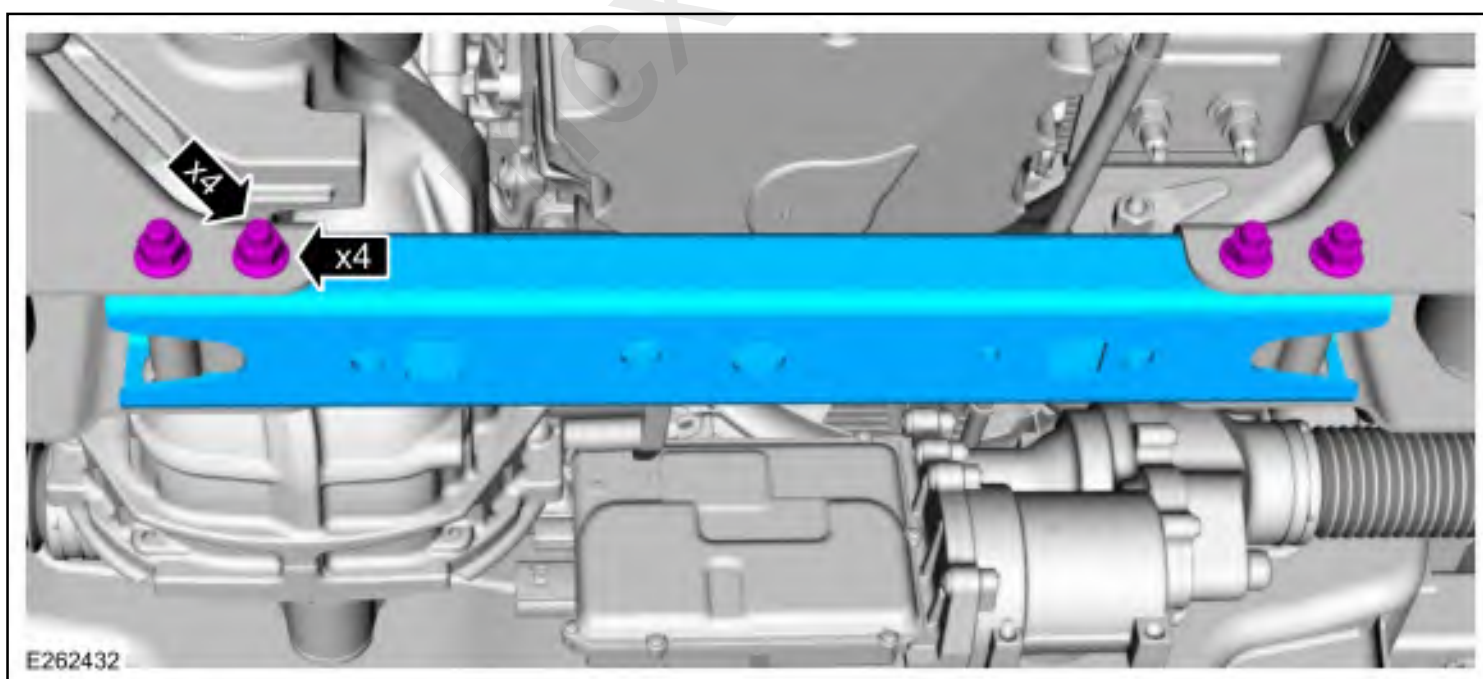
Remove the bolts and the skid plate.



8. Remove and discard the stabilizer bar bracket nuts.
 - Allow the stabilizer bar to swing downward.



9. Remove the nuts, bolts and the crossmember.



10. Remove the following items:
1. Transmission fluid cooler.

Refer to: [Transmission Fluid Cooler - 2.7L EcoBoost \(238kW/324PS\)/3.5L EcoBoost \(272kW/370PS\)/5.0L 32V Ti-VCT \(307-02 Transmission Cooling, Removal and Installation\)](#).

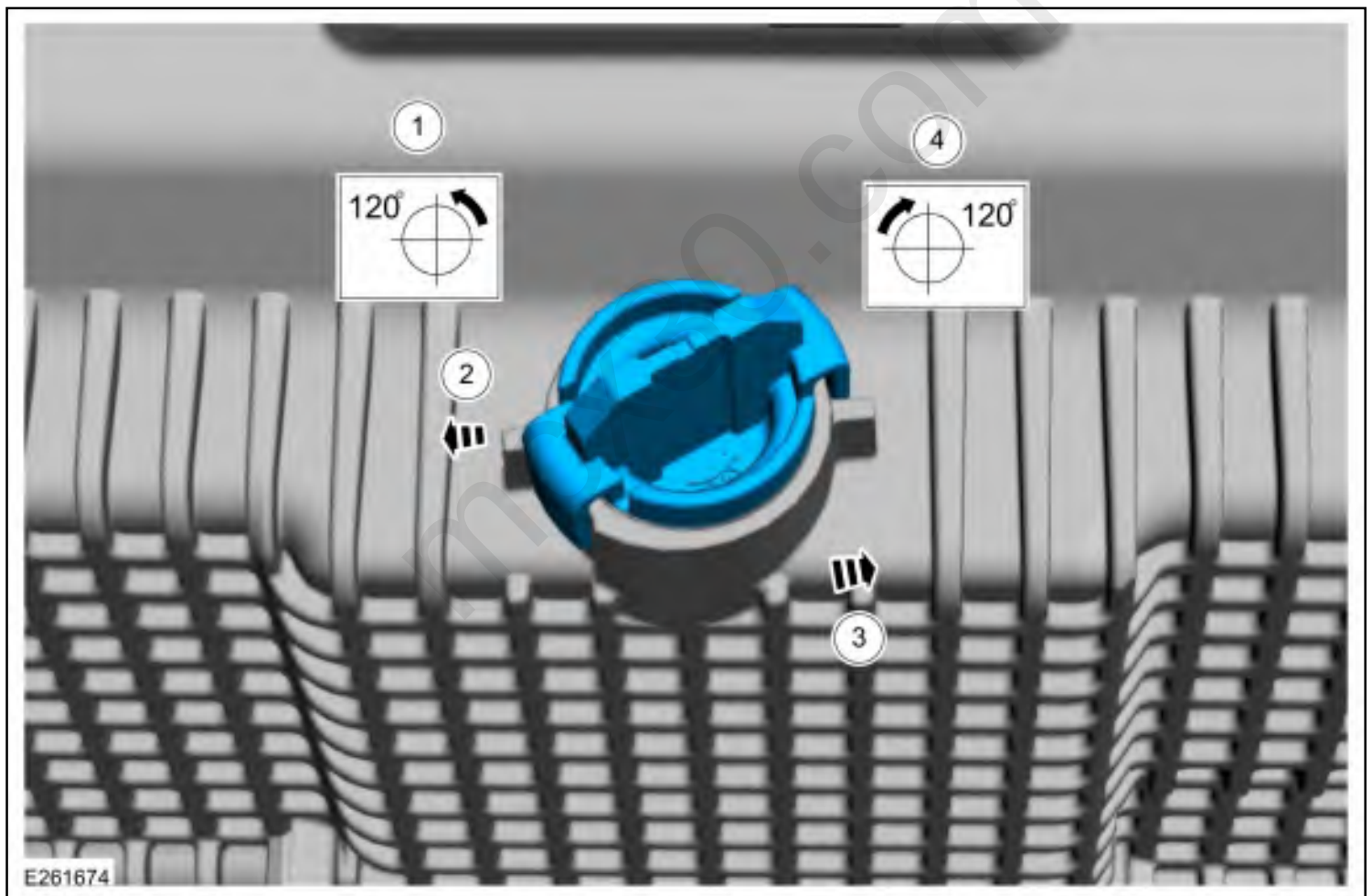
2. Engine oil cooler.

Refer to: [Oil Cooler](#) (303-01D Engine - 5.0L 32V Ti-VCT, Removal and Installation).

11. **NOTE:** *The drain plug should be removed and installed by hand, do not use tools.*

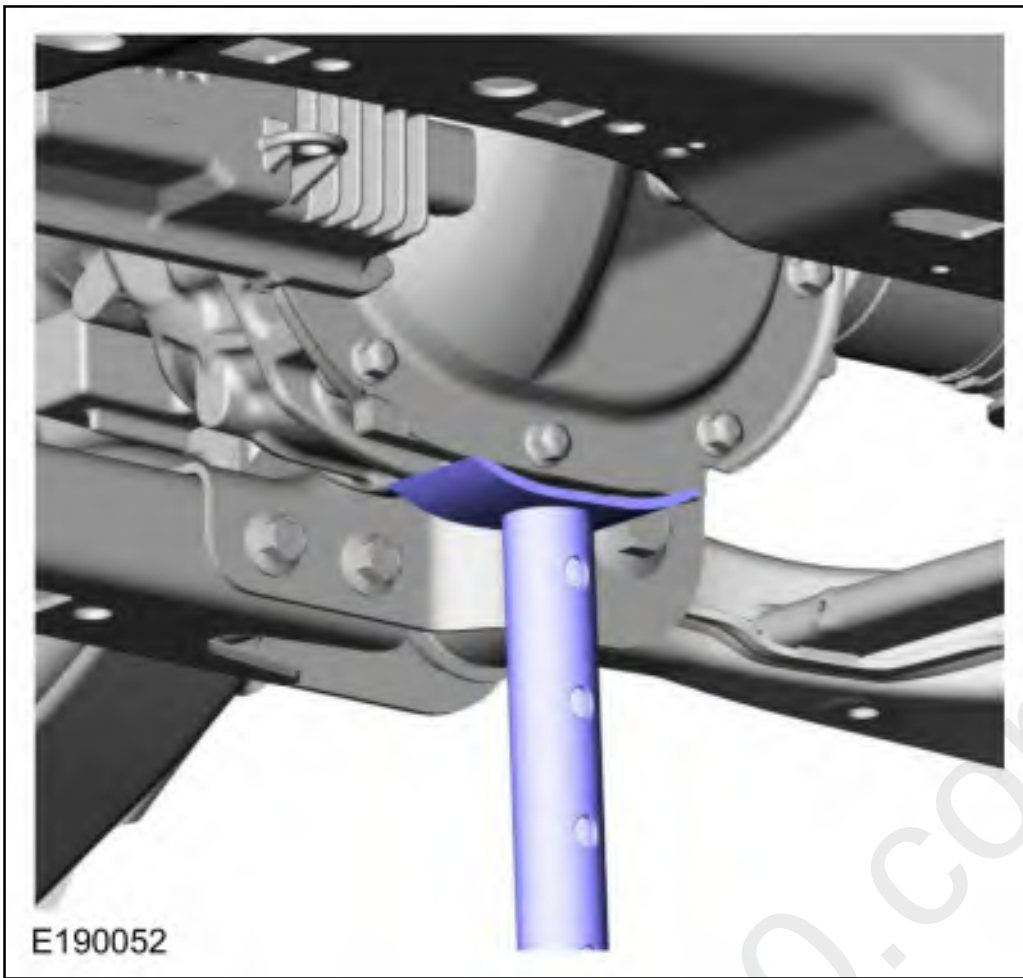
1. Turn the oil drain plug by hand counterclockwise 120 degrees.
Use the General Equipment: Oil Drain Equipment
2. Pull the oil drain plug out of the oil pan.
3. After the oil has drained, push the oil drain plug into the oil pan.
4. **NOTICE: Overtightening will damage the oil drain plug and possibly the oil pan.**

Turn the oil drain plug by hand clockwise 120 degrees.

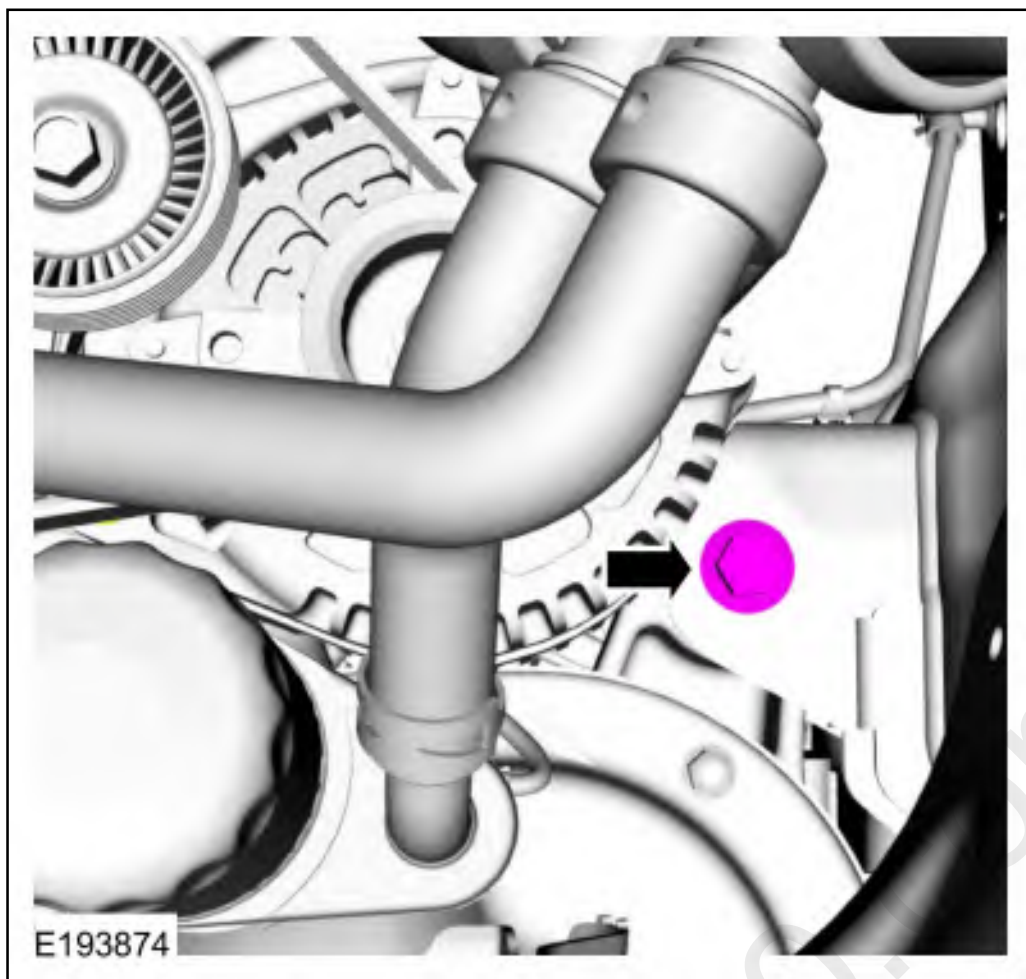


4x4

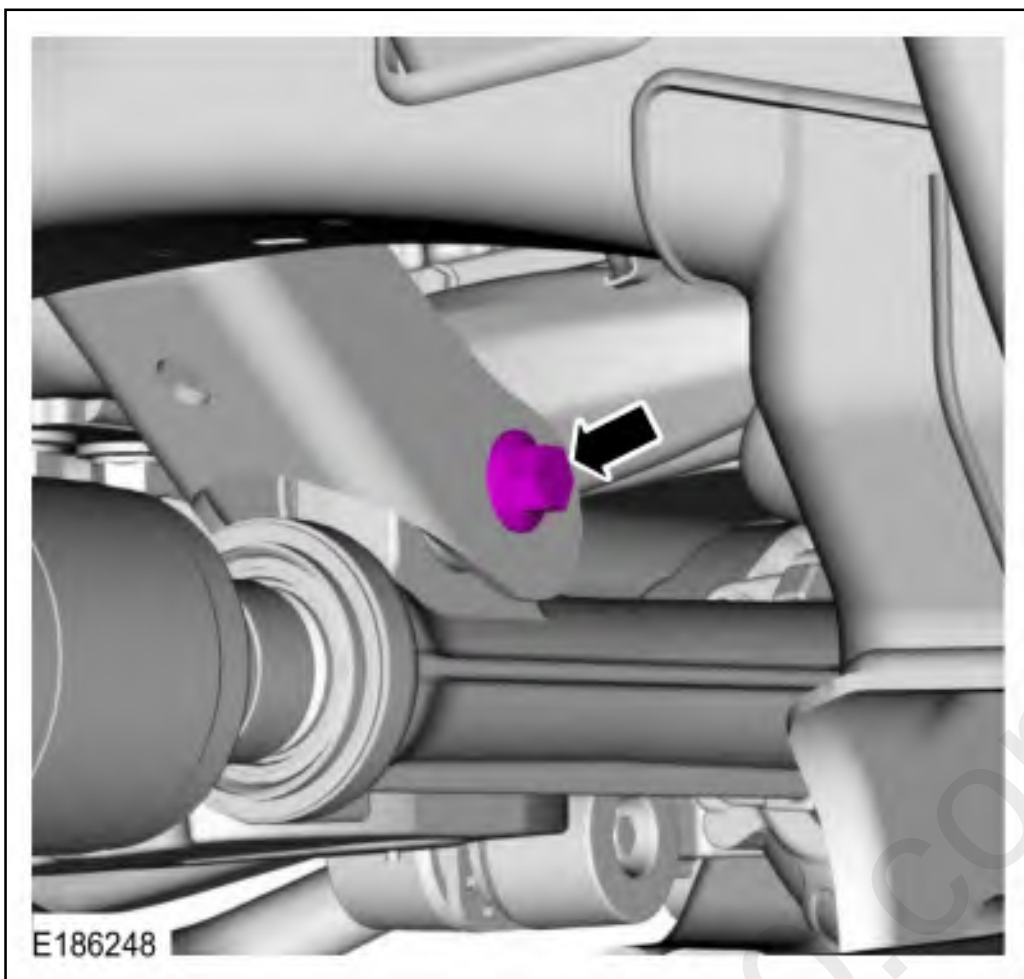
12. Using an adjustable stand, support the front axle.
Use the General Equipment: Vehicle/Axle Stands



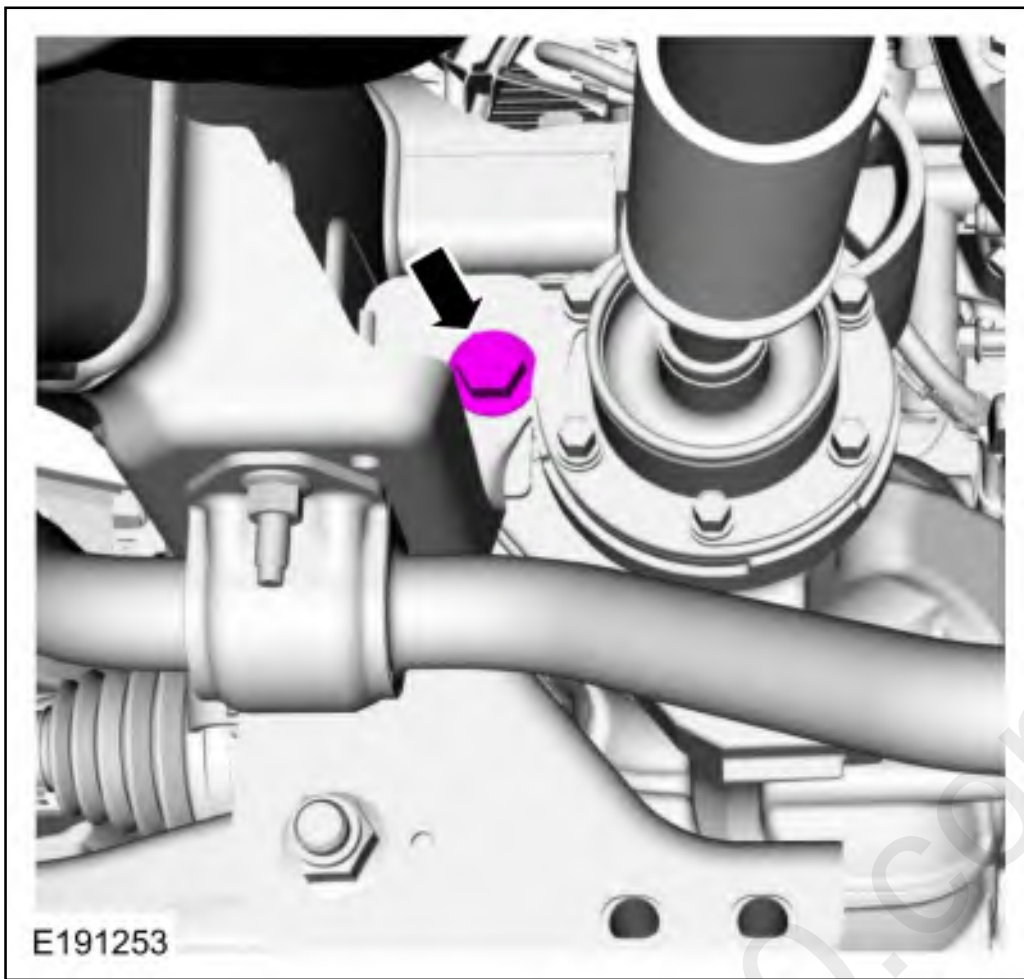
13. Remove the upper front axle carrier mounting bushing bolt.



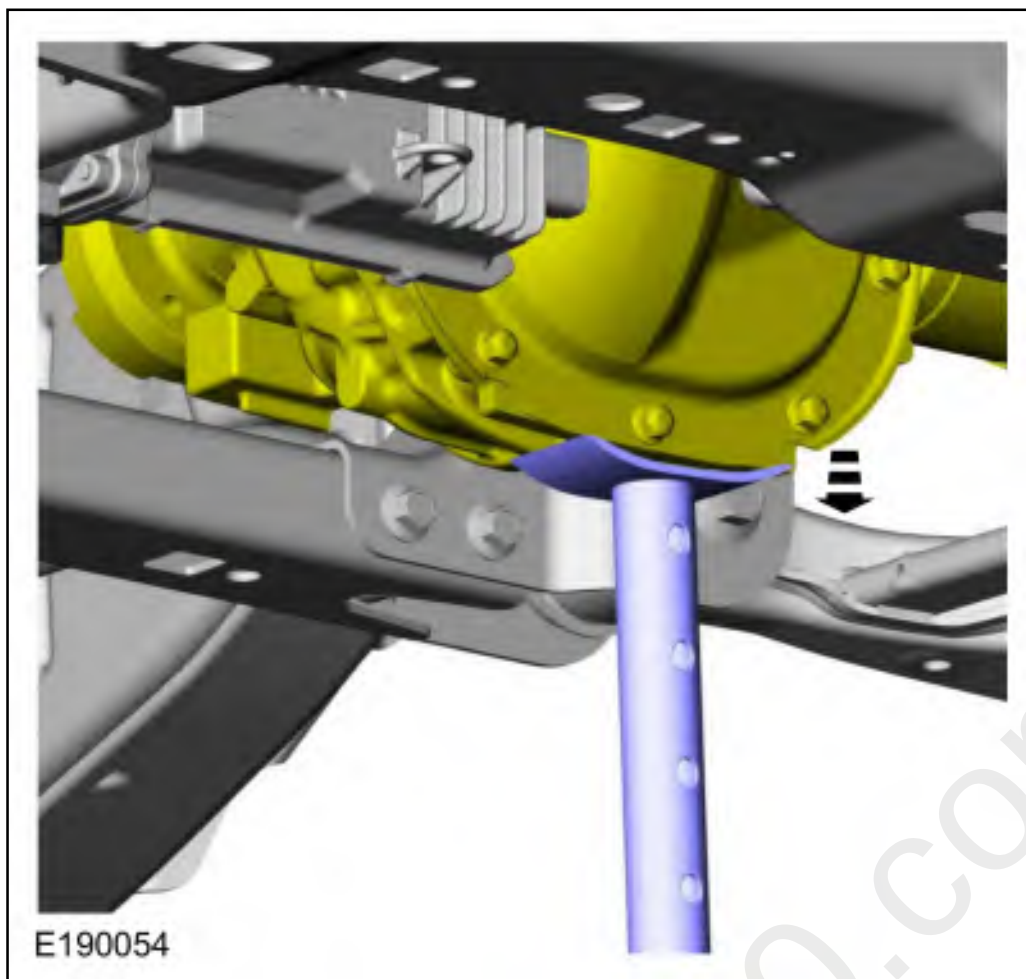
14. Remove the axle shaft housing carrier bushing bolt.



15. Remove the lower front axle carrier mounting bushing bolt.

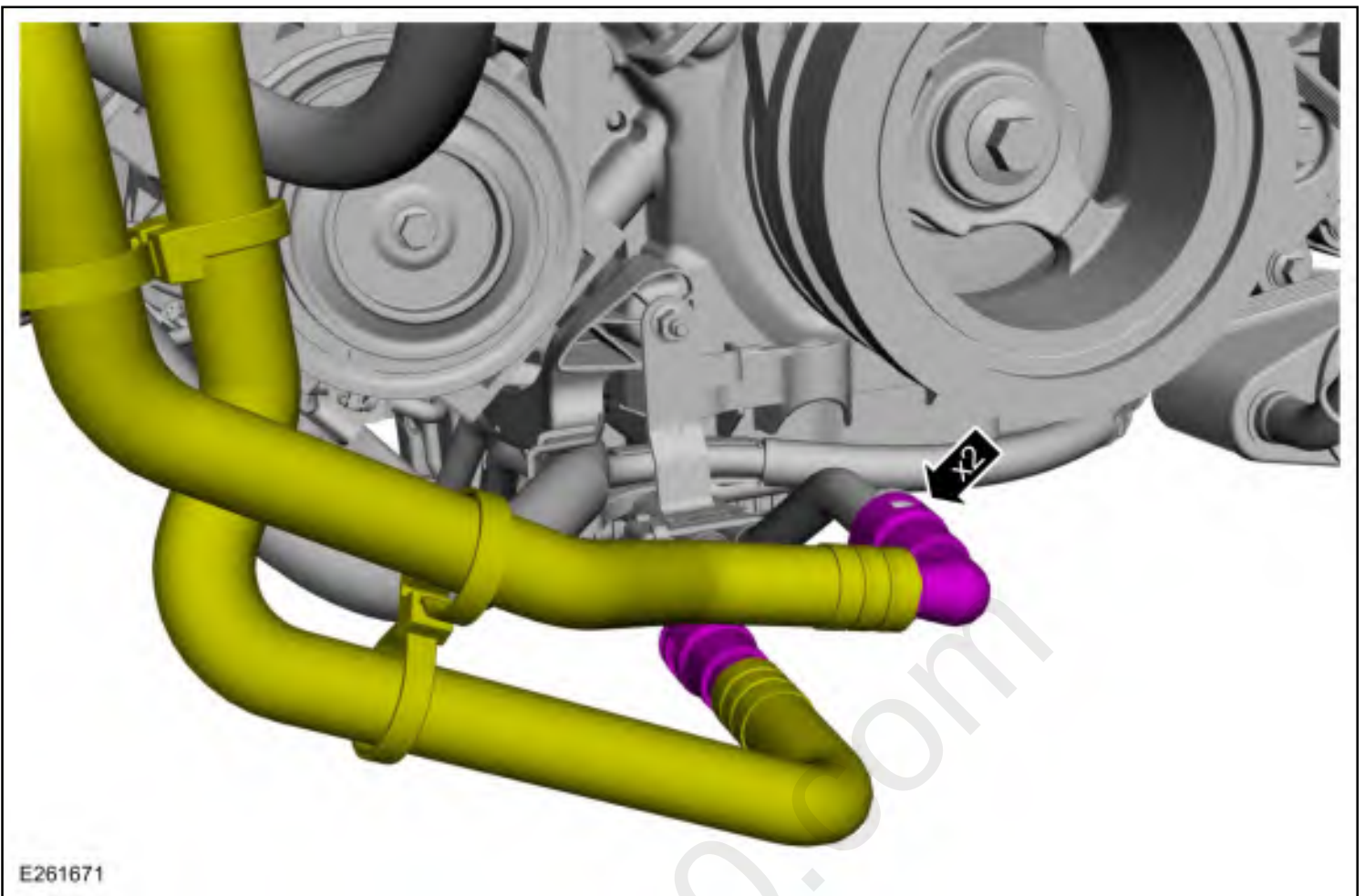


16. Using an adjustable stand, lower the axle to allow clearance for the oil pan to be removed.
Use the General Equipment: Vehicle/Axle Stands

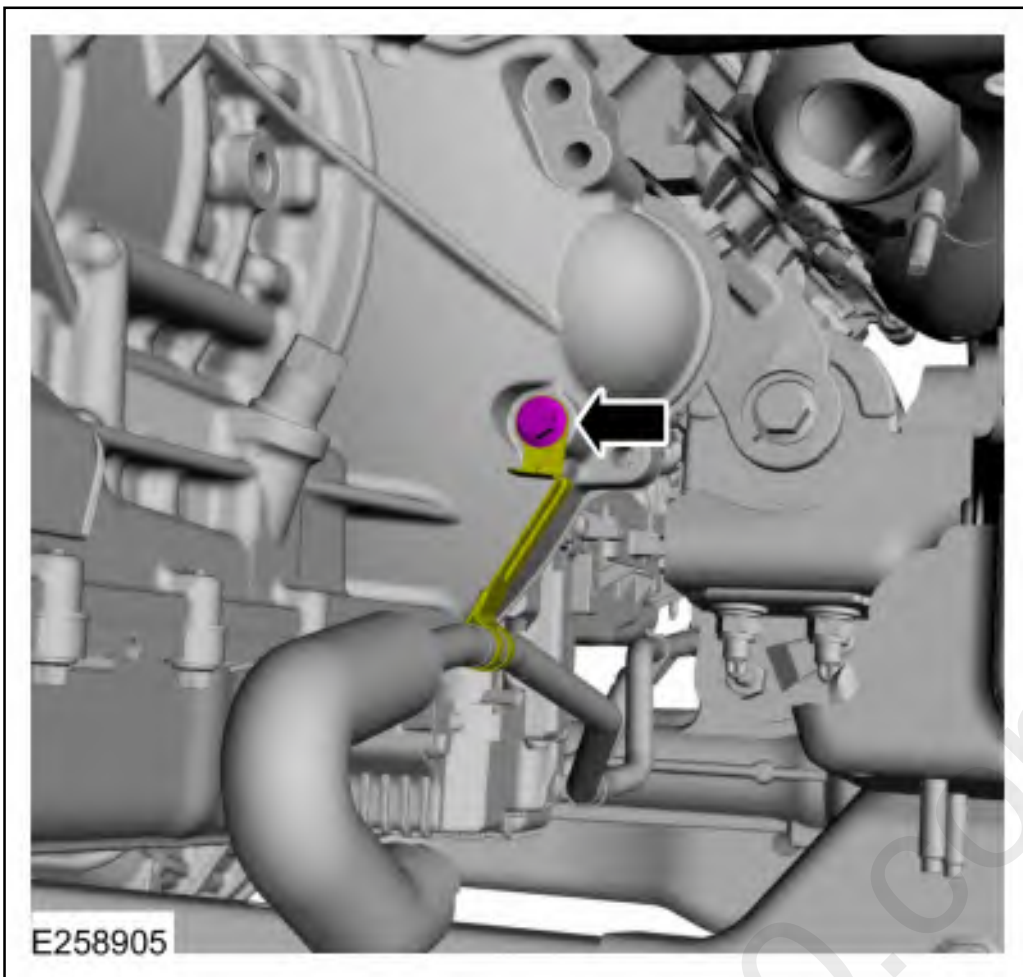


4x2/4x4

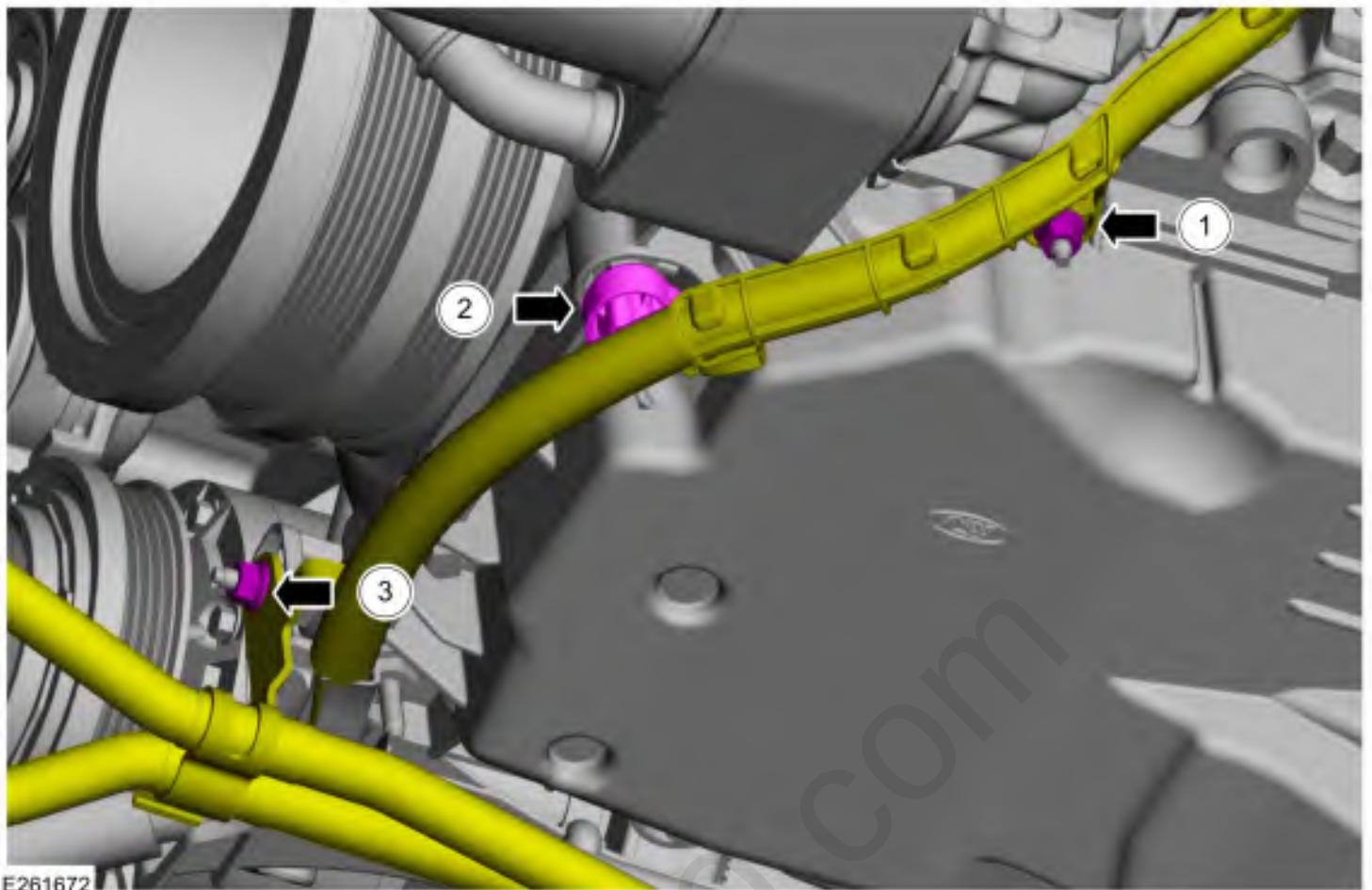
17. Disconnect the coolant hose quick release couplings.



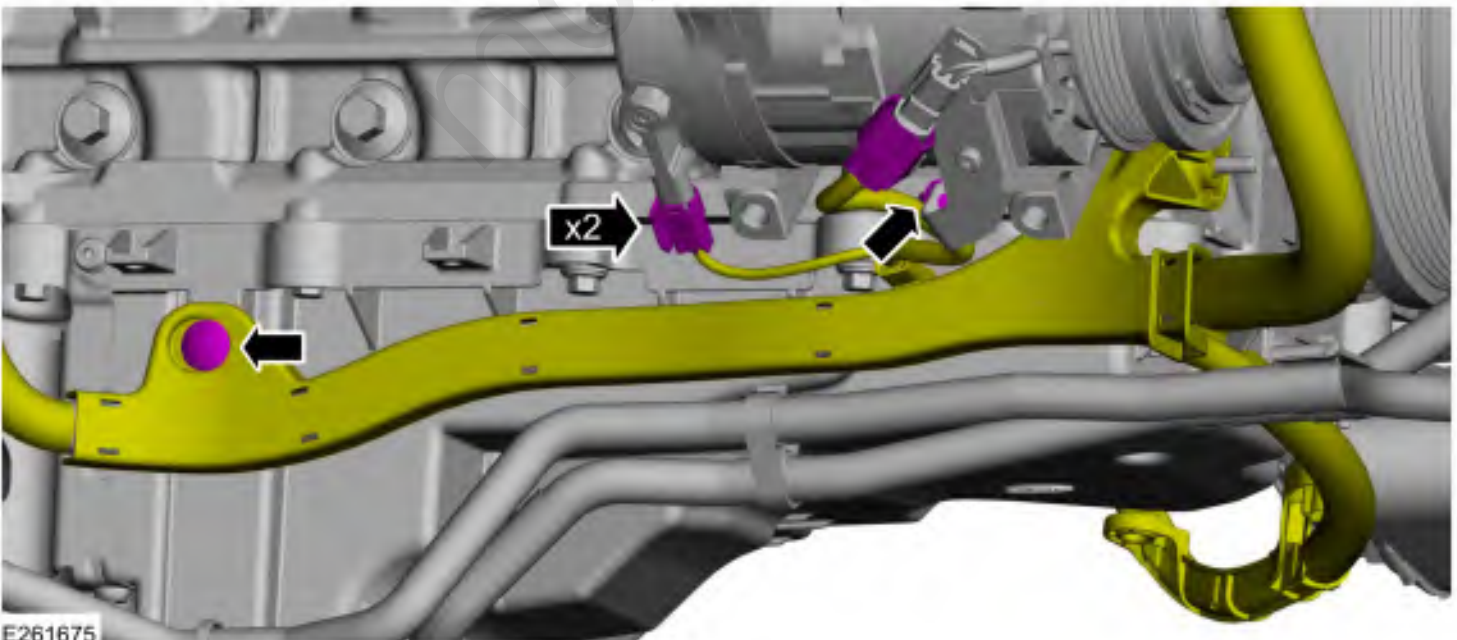
18. Remove the transmission-to-engine bolt and transmission cooler tube support bracket.



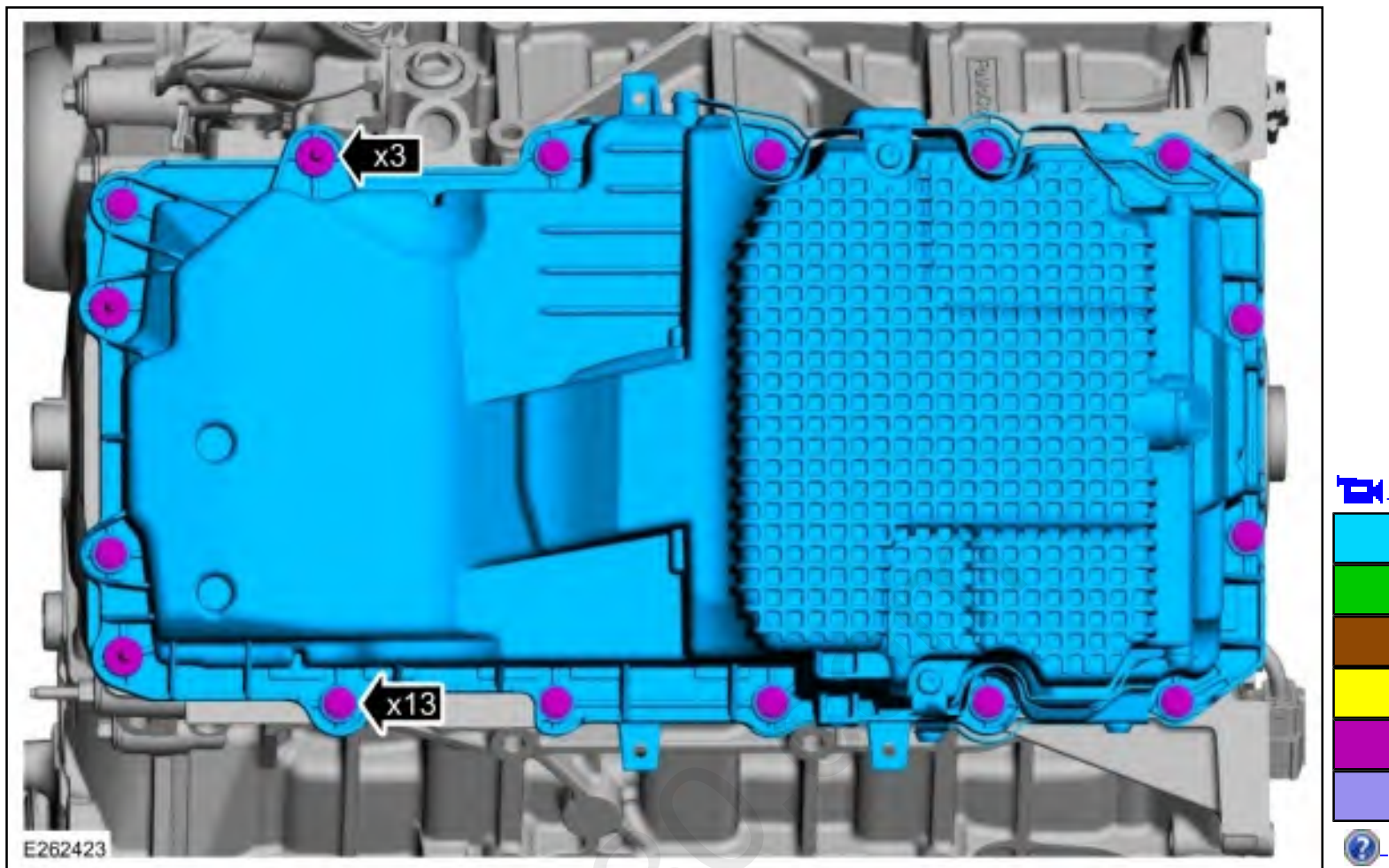
1. Remove the nut.
2. Detach the wiring harness retainer.
3. Remove the nut and position the coolant tube and wiring harness brackets aside.



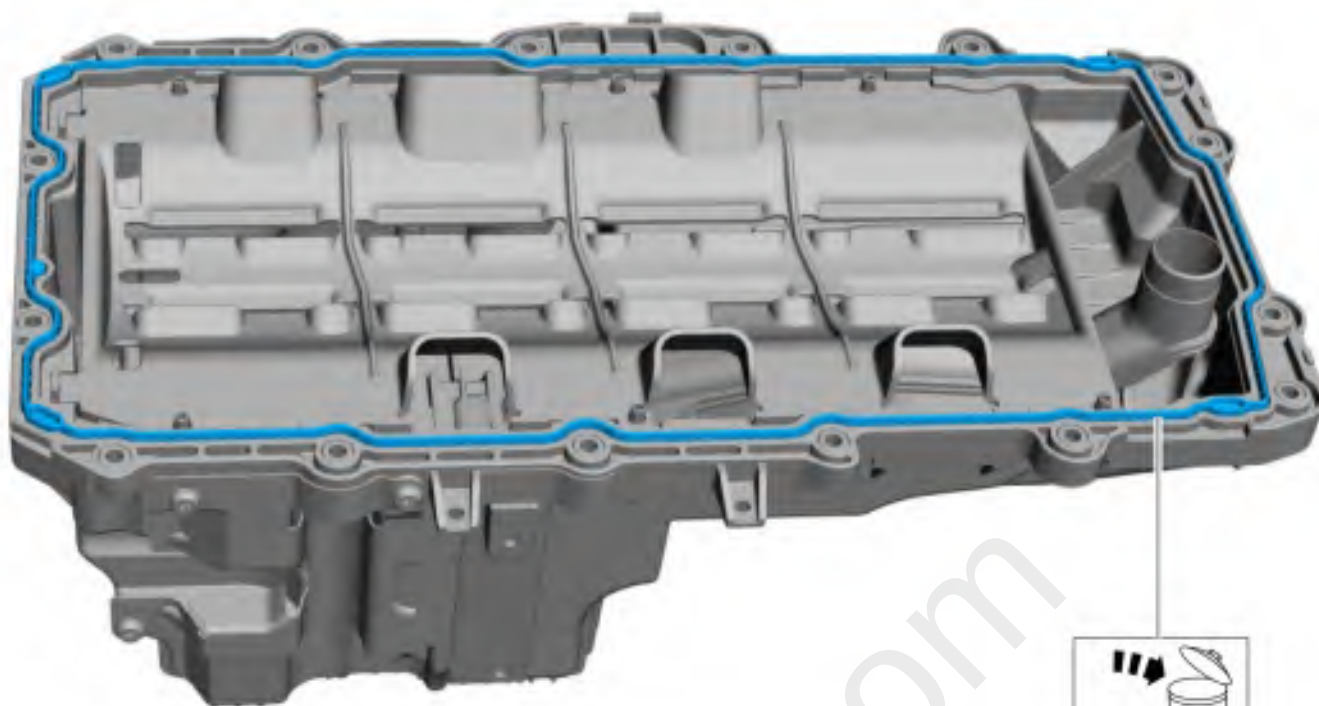
1. Disconnect the A/C compressor electrical connectors.
2. Detach the wiring harness retainers.



21. Remove the bolts, stud bolts and the oil pan.



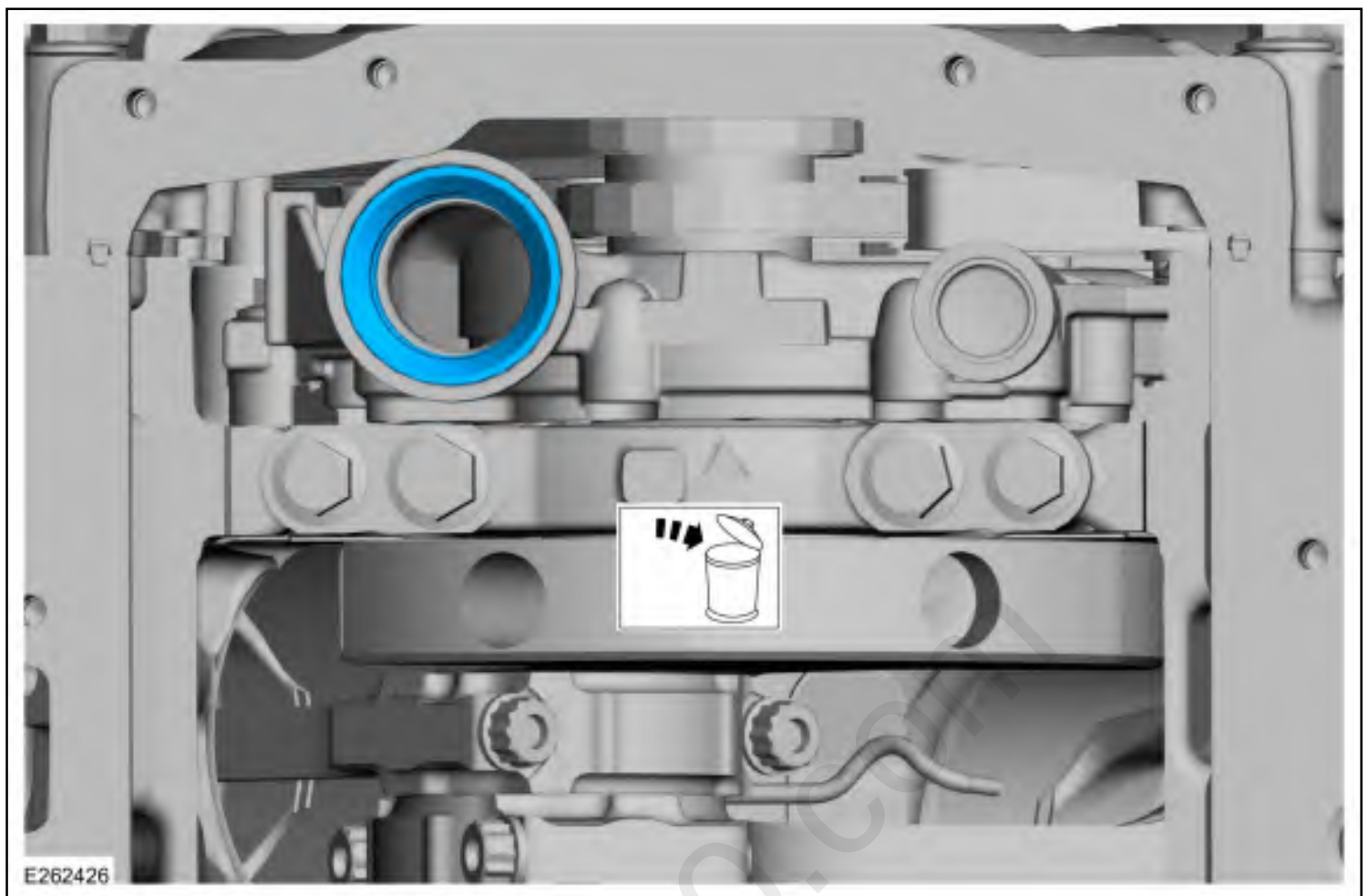
22. Remove and discard the oil pan gasket.



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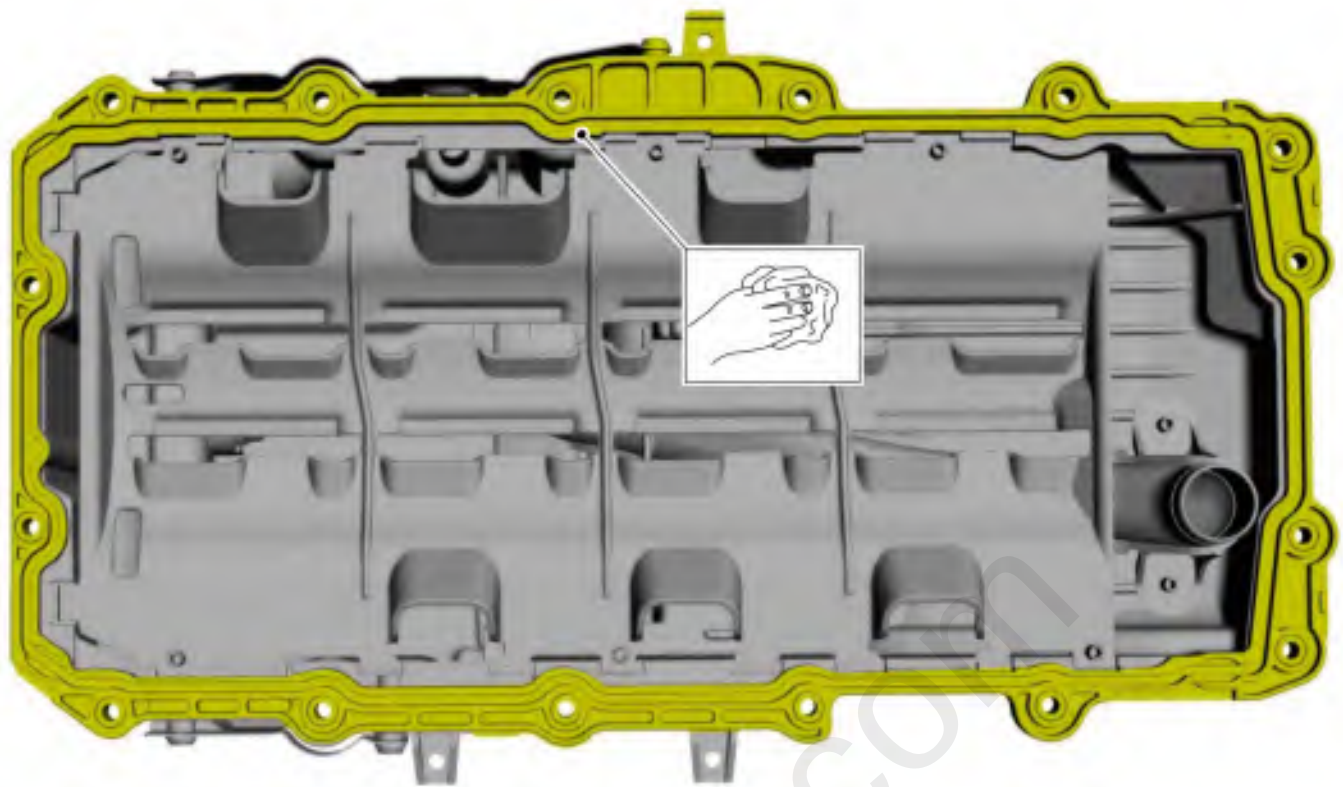
23. Remove and discard the oil pump pickup seal.





24. **NOTICE:** Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges, which make leak paths.

Make sure that the mating faces are clean and free of foreign material.



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25. **NOTICE:** Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges, which make leak paths. Use a plastic scraping tool to remove traces of sealant.

Make sure that the oil pan mating faces of the cylinder block, engine front cover and rear seal retaining plate are clean and free of foreign material.

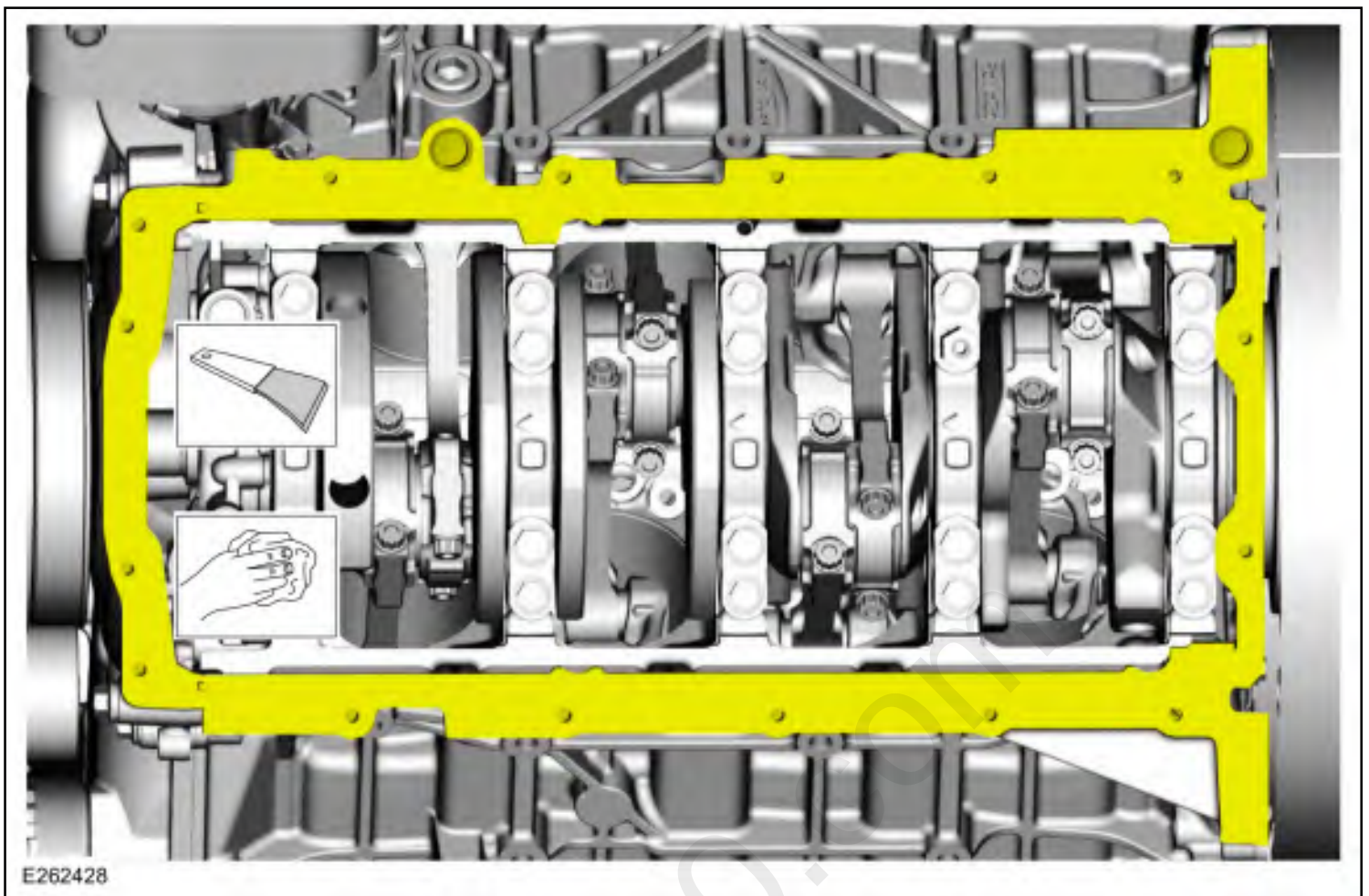
Refer to: [RTV Sealing Surface Cleaning and Preparation](#) (303-00 Engine System - General Information, General Procedures).

Use the General Equipment: Plastic Scraper

Material: Motorcraft® Silicone Gasket Remover / ZC-30-A

Material: Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B

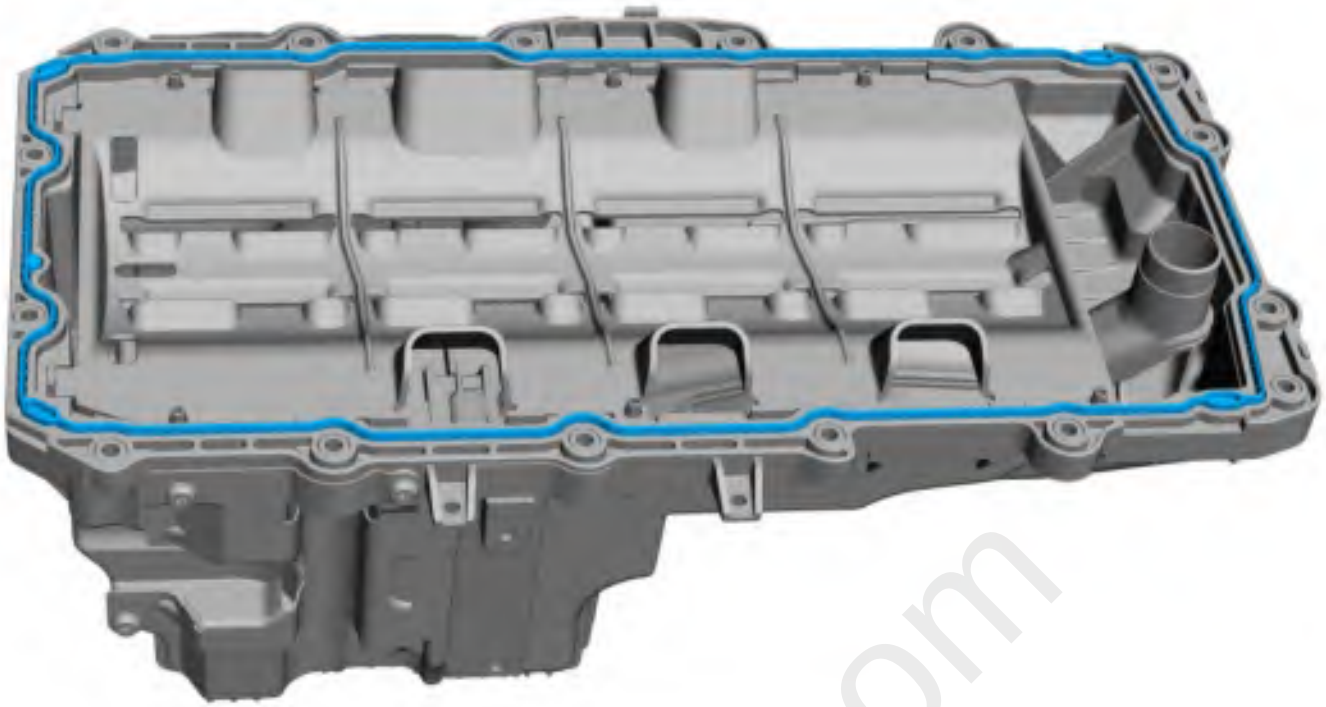
Material: Motorcraft® Metal Surface Prep Wipes / ZC-31-B



Installation

4x2/4x4

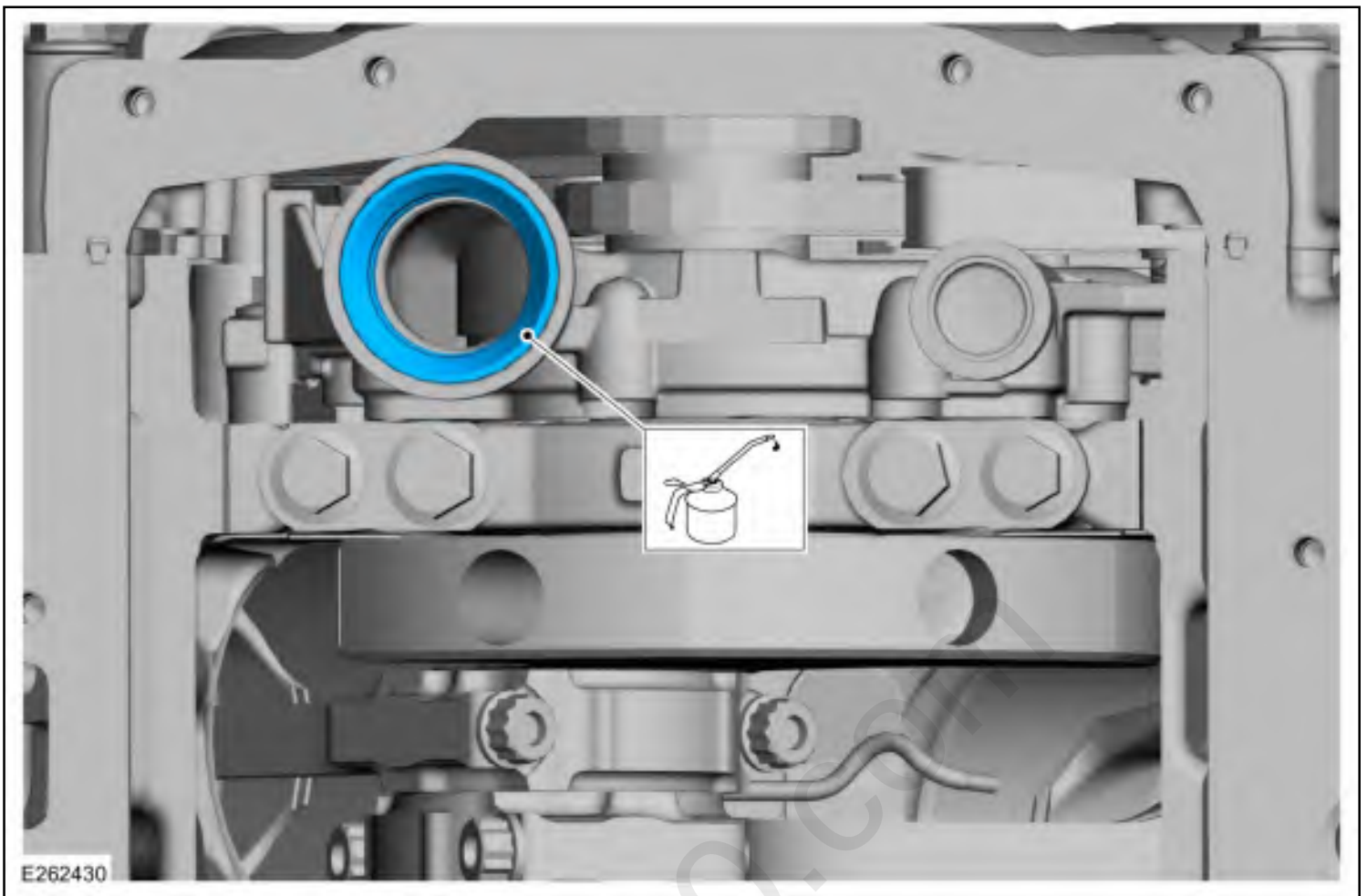
1. Install a new oil pan gasket.



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2. Install a new oil pump pickup seal and lubricate with clean engine oil.

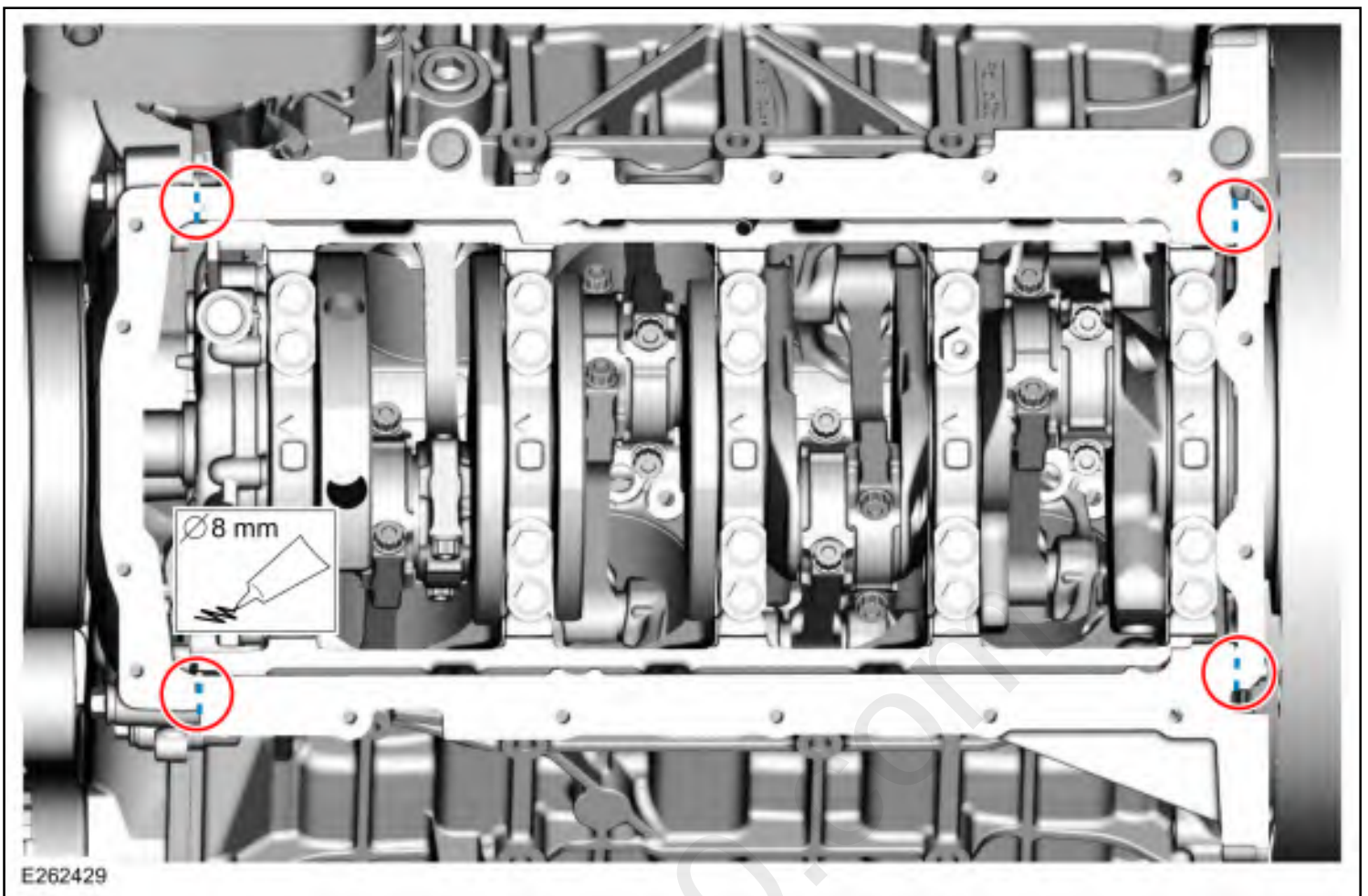


3. **NOTE:** *If the oil pan is not installed and the fasteners tightened within 5 minutes, the sealant must be removed and the sealing area cleaned. Failure to follow this procedure can cause future oil leakage. If this timing cannot be met, tighten fasteners 7, 8, 9 and 10 to 8 Nm (71 lb-in) within 5 minutes of applying the sealer and final torque all of the fasteners within 1 hour of applying the sealer.*

NOTE: *If the engine front cover has been removed, it is only necessary to apply sealant to the crankshaft rear seal retainer plate-to-cylinder block sealing surfaces.*

Apply an 8 mm (0.31 in) bead of silicone gasket and sealant to the crankshaft rear seal retainer plate-to-cylinder block sealing surfaces and the engine front cover-to-cylinder block sealing surfaces.

Material: Motorcraft® Silicone Gasket and Sealant / TA-30 (WSE-M4G323-A4)



4. **NOTE:** Fastener locations 7, 13 and 16 are stud bolts.

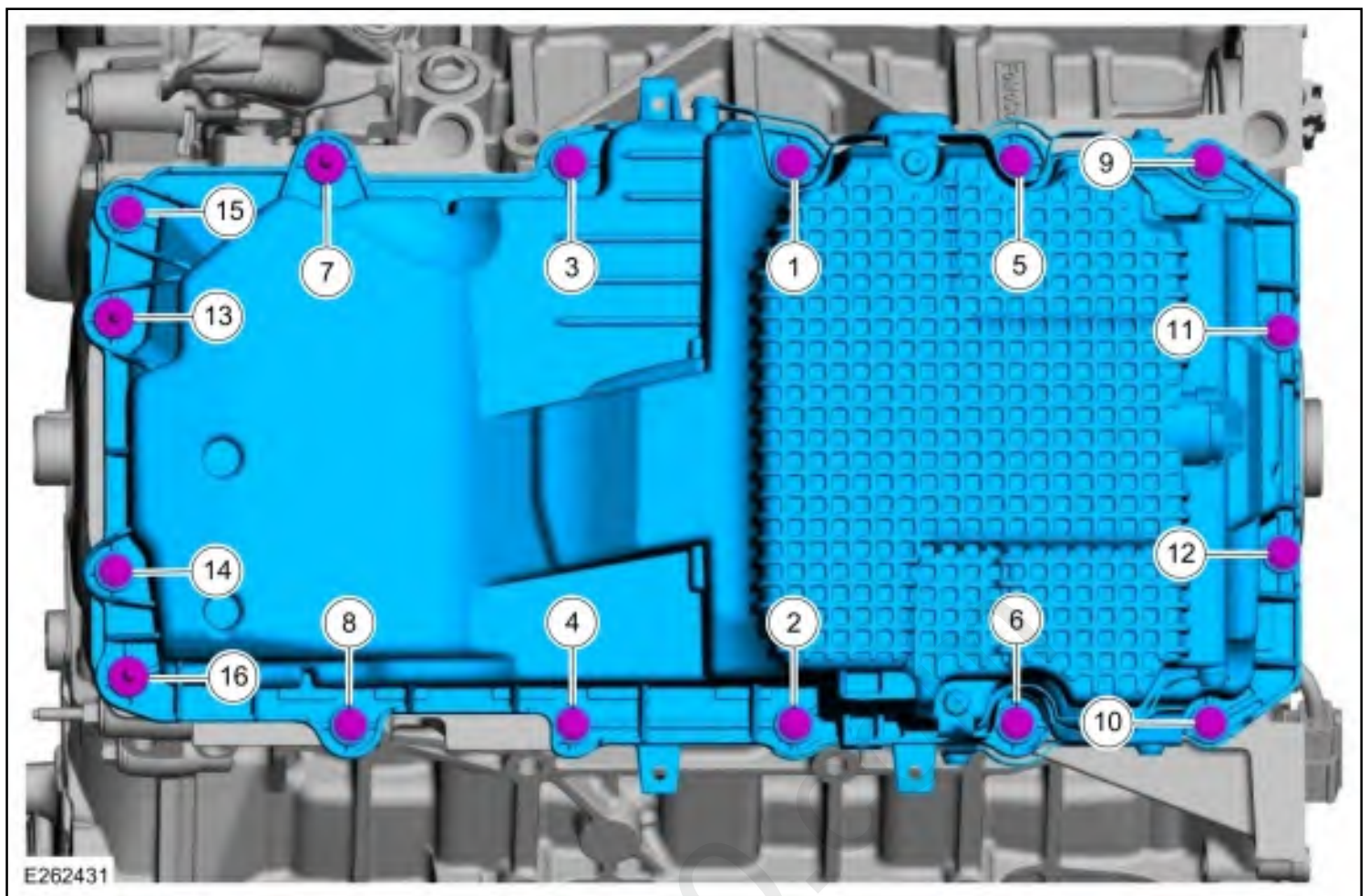
Using a new gasket, install the oil pan and the bolts.

Torque:

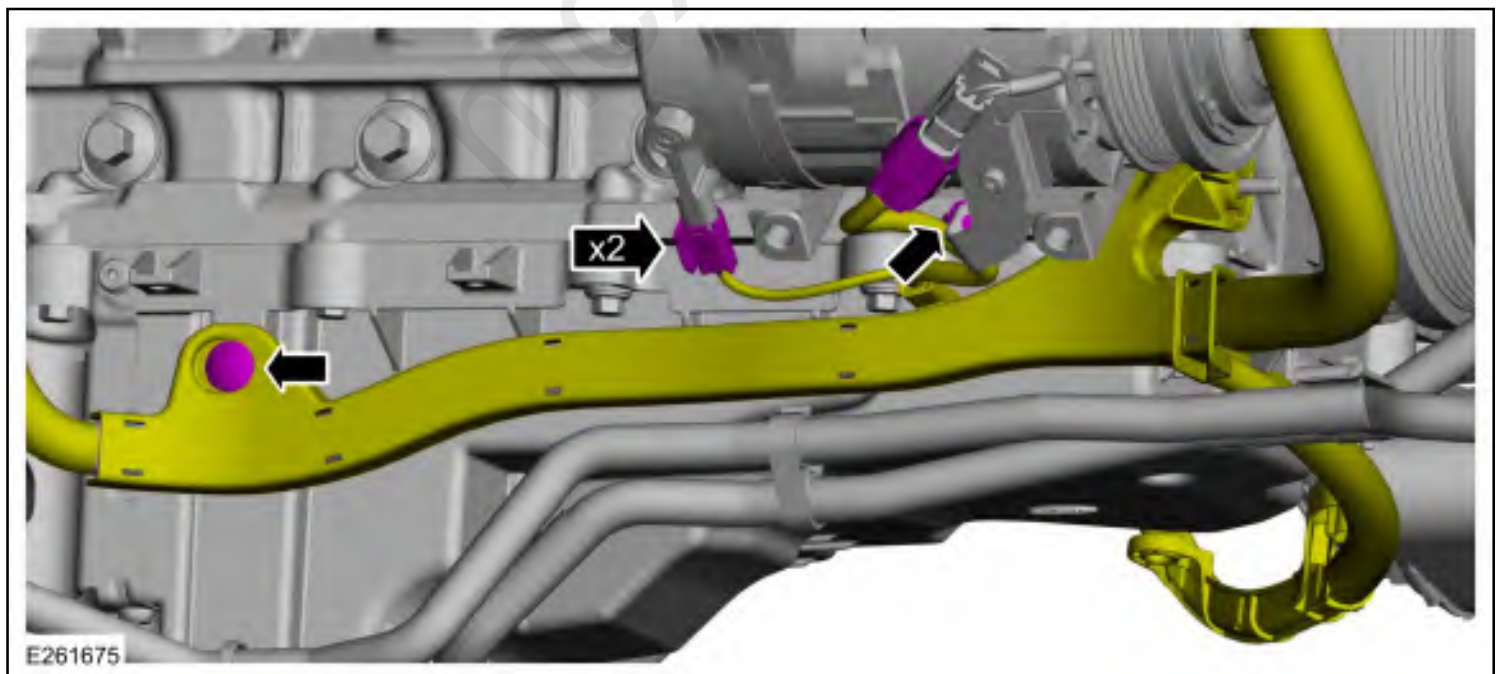
Stage 1: 18 lb.in (2 Nm)

Stage 2: 89 lb.in (10 Nm)

Stage 3: 45°



1. Connect the A/C compressor electrical connectors.
2. Attach the wiring harness retainers.

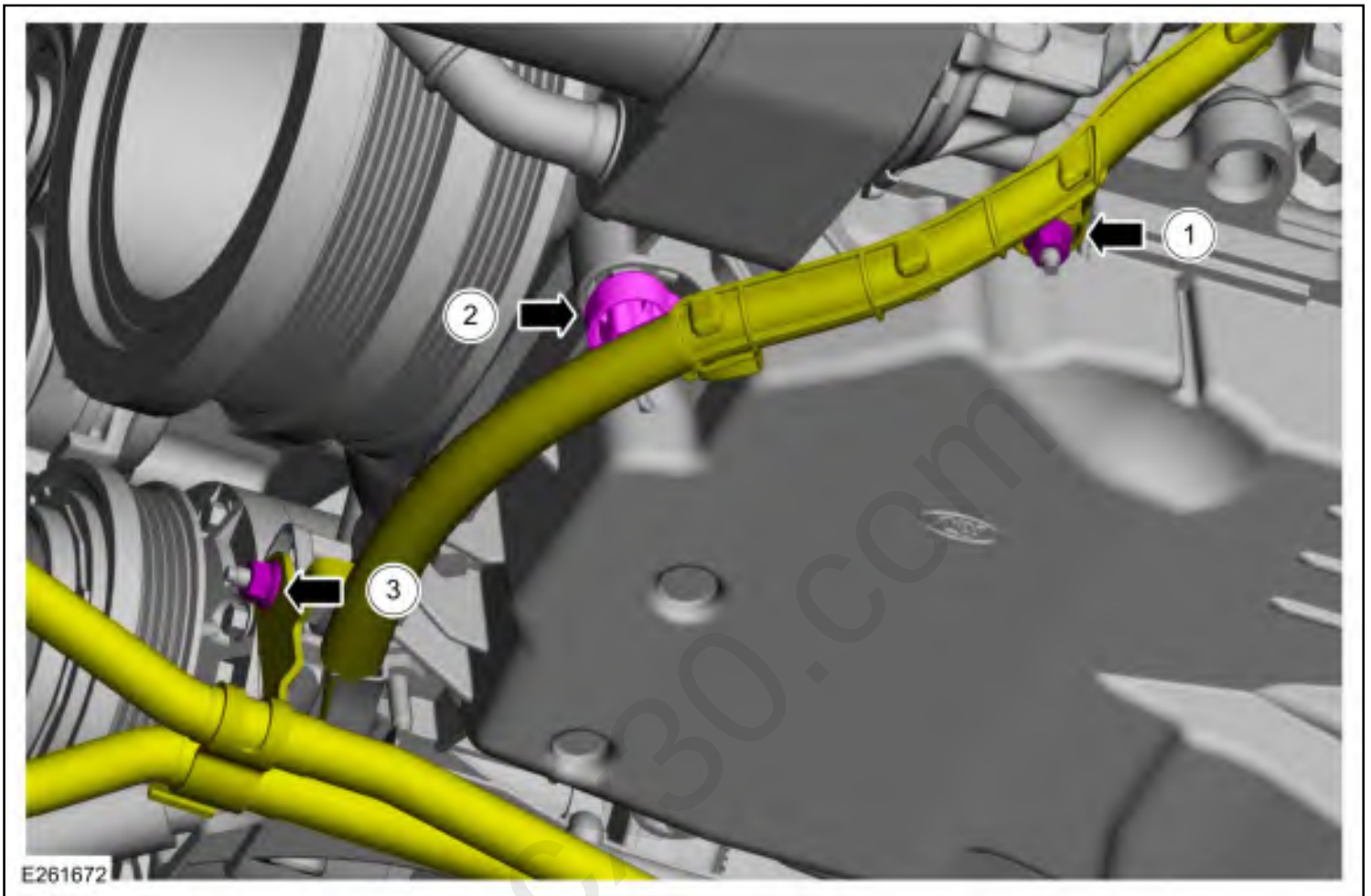


1. Install the nut.

Torque: 106 lb.in (12 Nm)

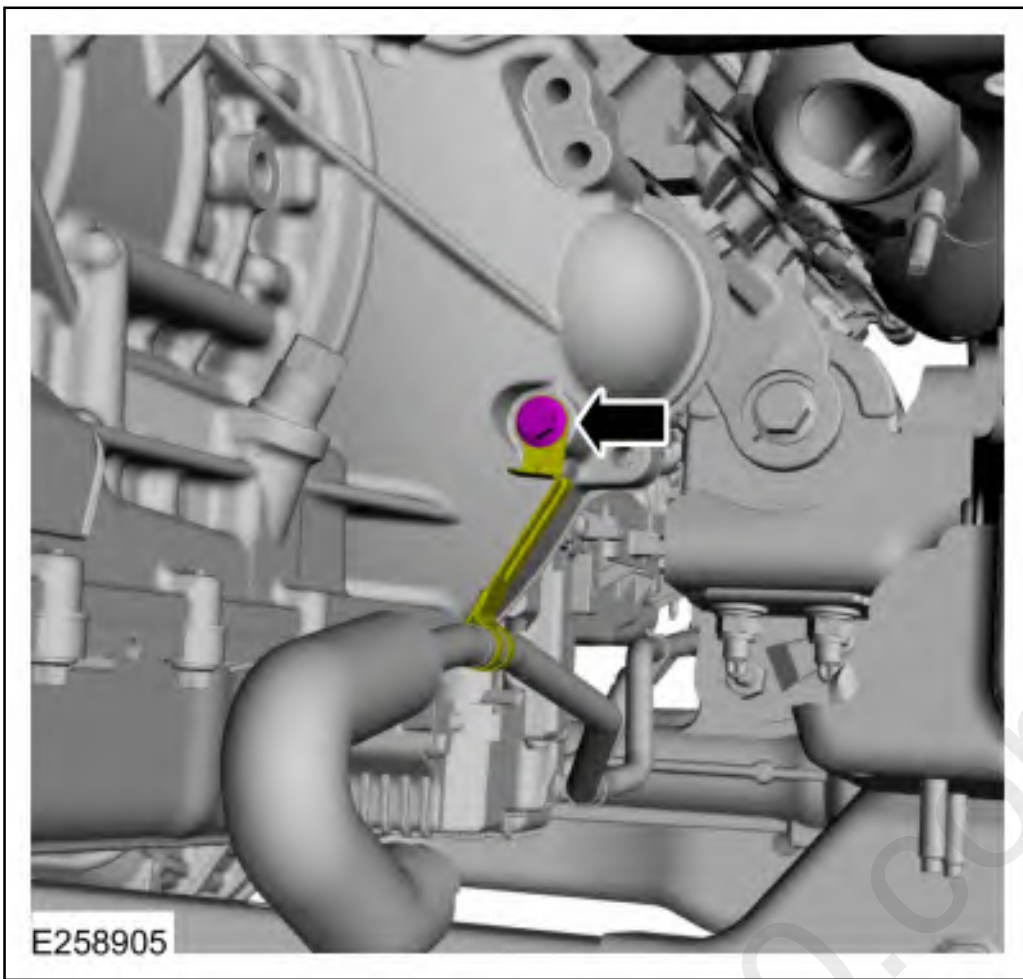
2. Attach the wiring harness retainer.
3. Position the coolant tube and wiring harness brackets and install the nut.

Torque: 115 lb.in (13 Nm)

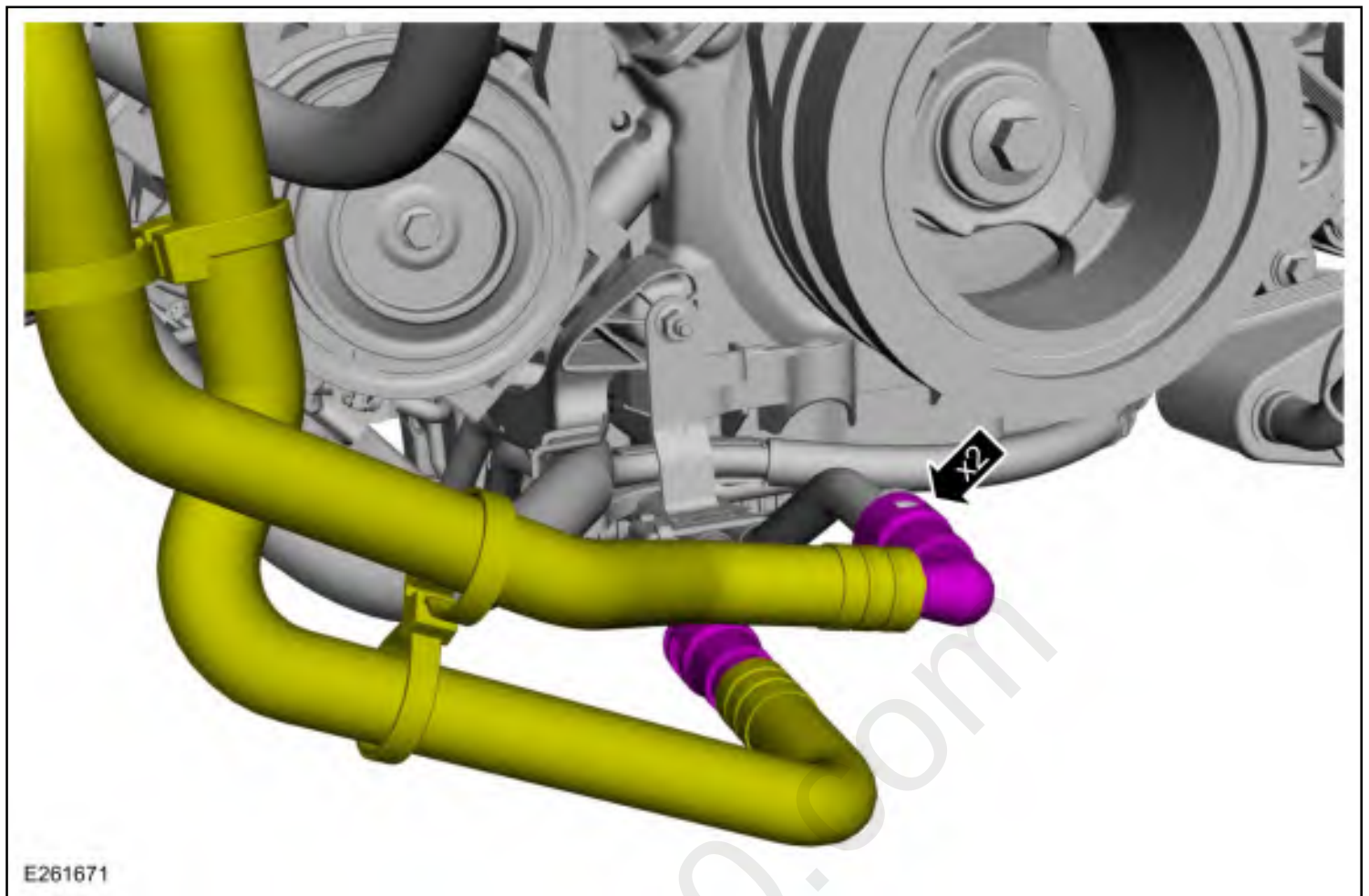


7. Install the transmission cooler tube support bracket and the transmission-to-engine bolt.

Torque: 35 lb.ft (48 Nm)

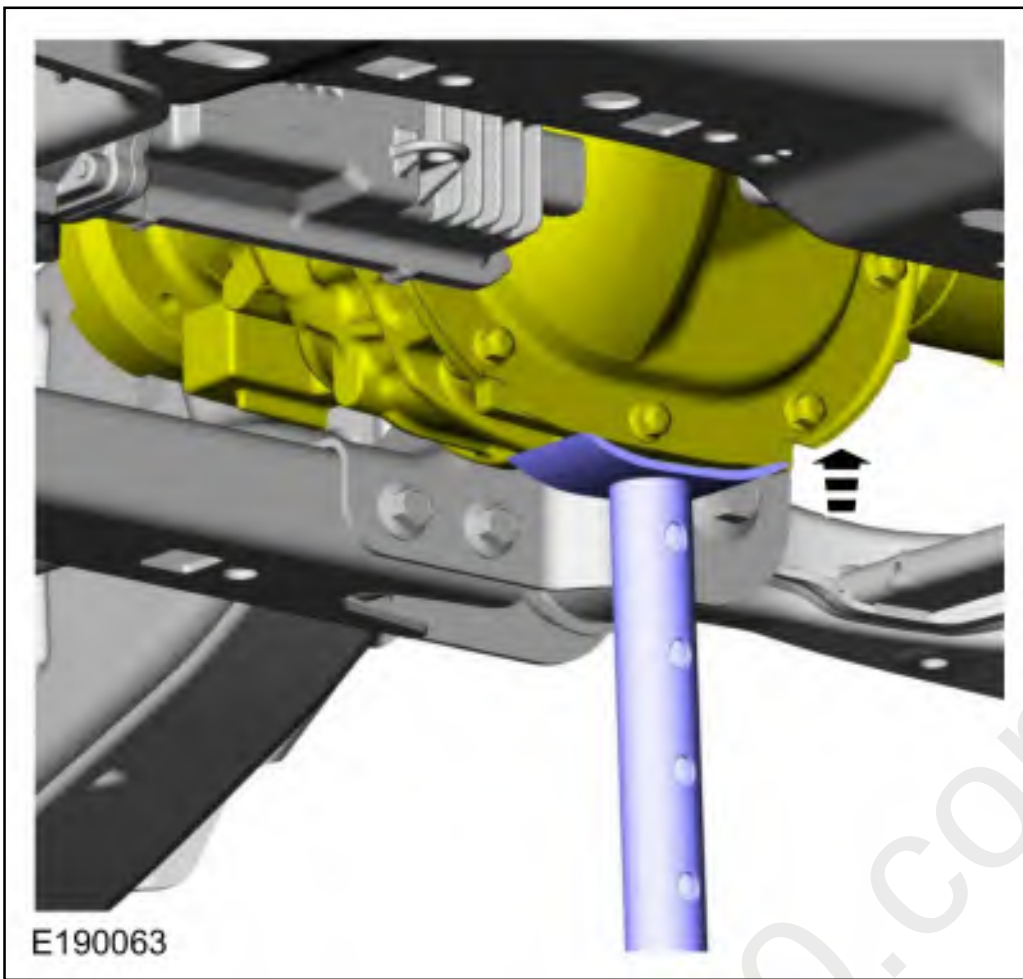


8. Connect the coolant hose quick release couplings.

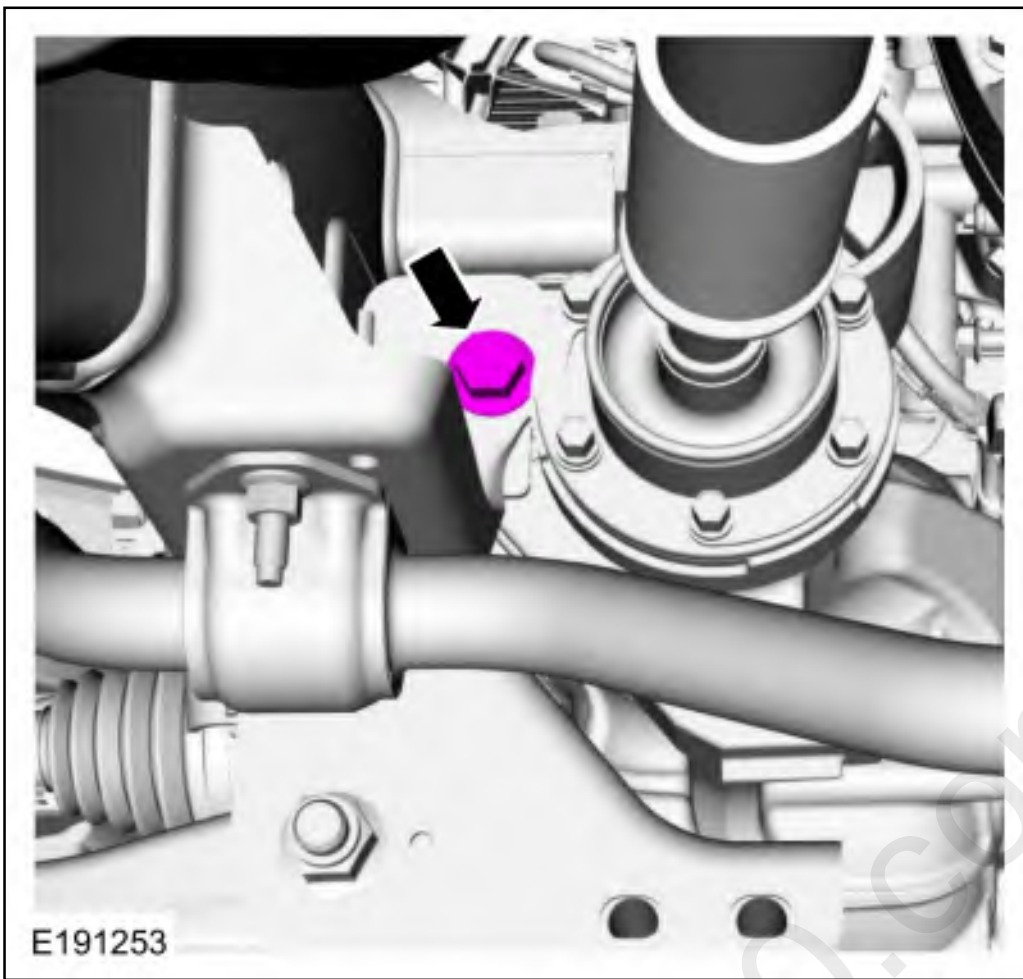


4x4

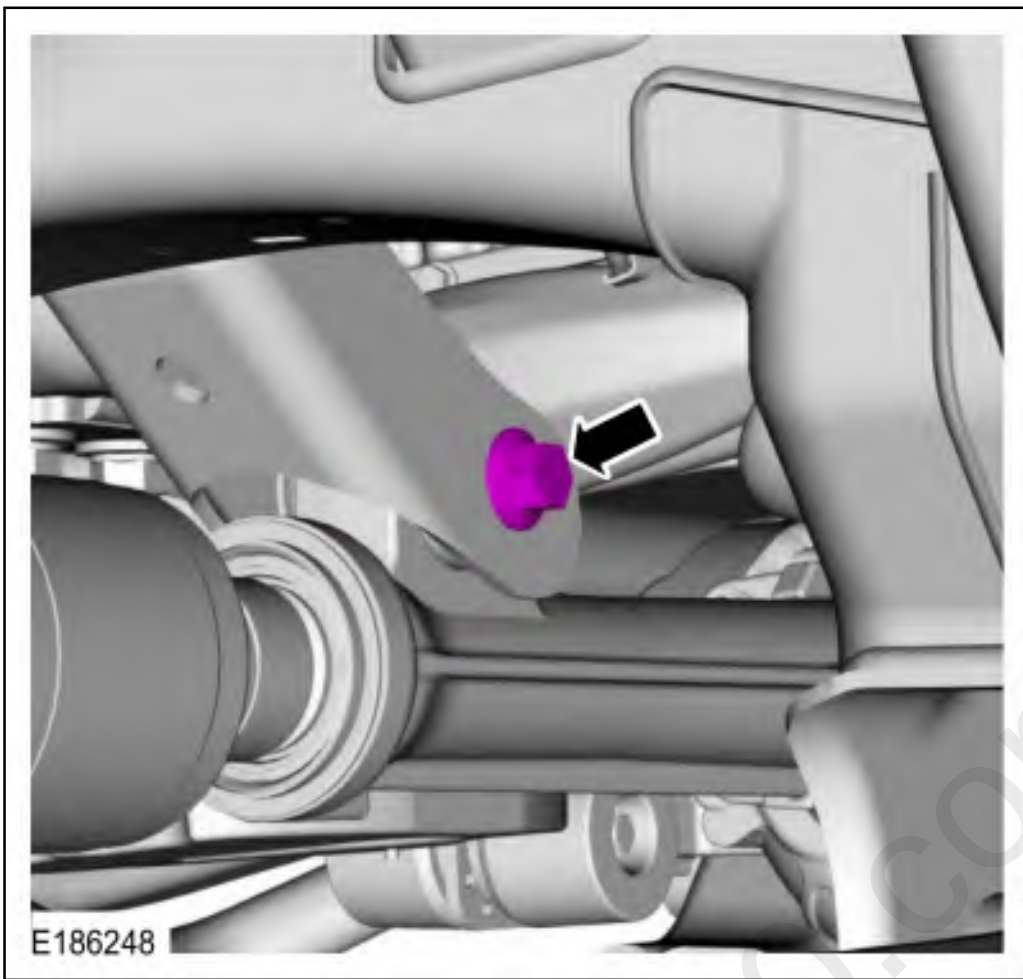
9. Using an adjustable stand, raise the front axle carrier into position.
Use the General Equipment: Vehicle/Axle Stands



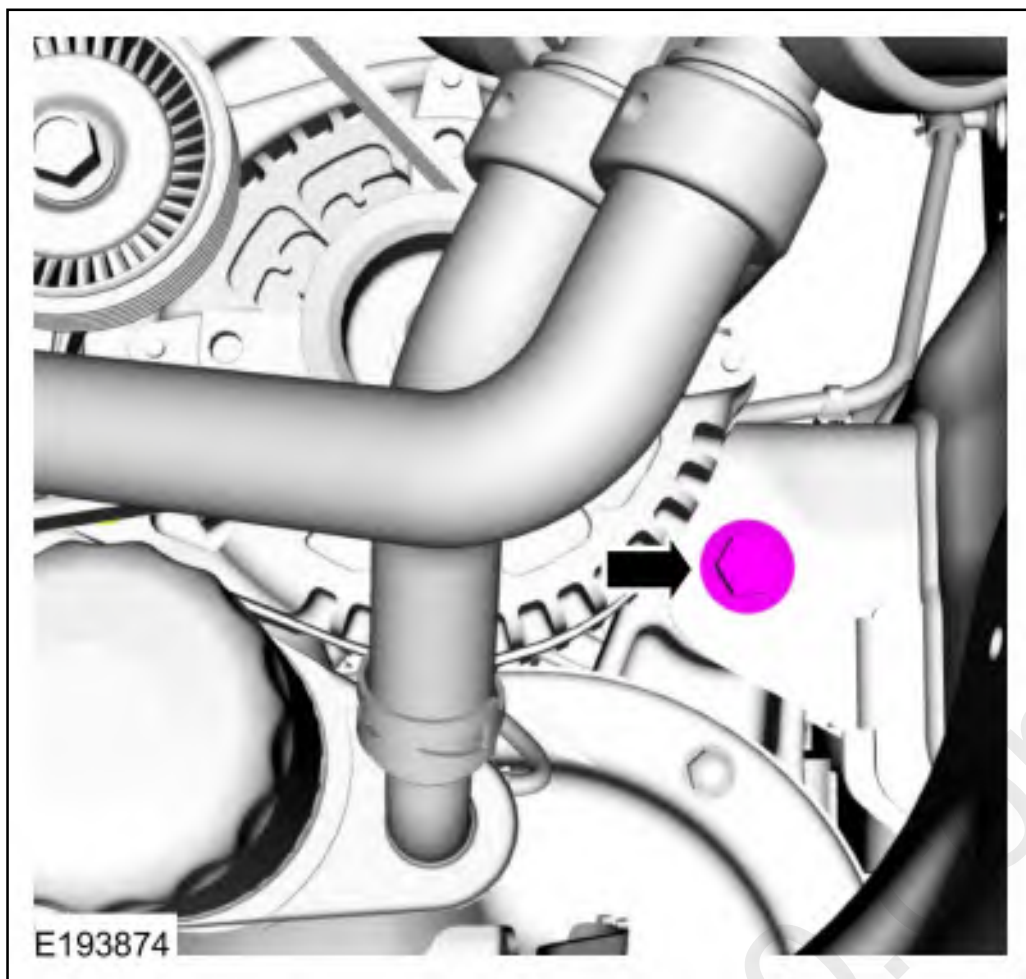
10. Install the lower front axle carrier mounting bushing bolt.
Torque: 85 lb.ft (115 Nm)



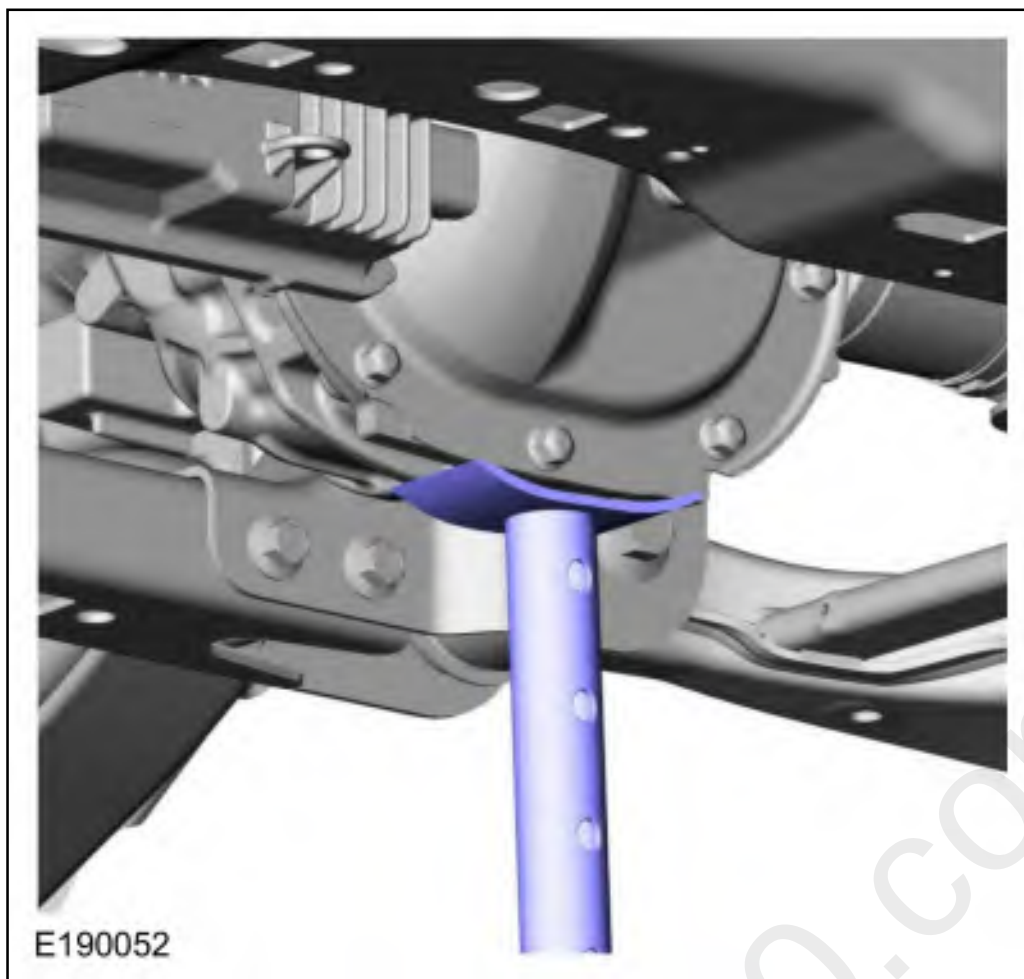
11. Install the axle shaft housing carrier bushing bolt.
Torque: 85 lb.ft (115 Nm)



12. Install the upper front axle carrier mounting bushing bolt.
Torque: 85 lb.ft (115 Nm)



13. Remove the adjustable stand.
Use the General Equipment: Vehicle/Axle Stands



4x2/4x4

14. Install the following items:

1. Engine oil cooler.

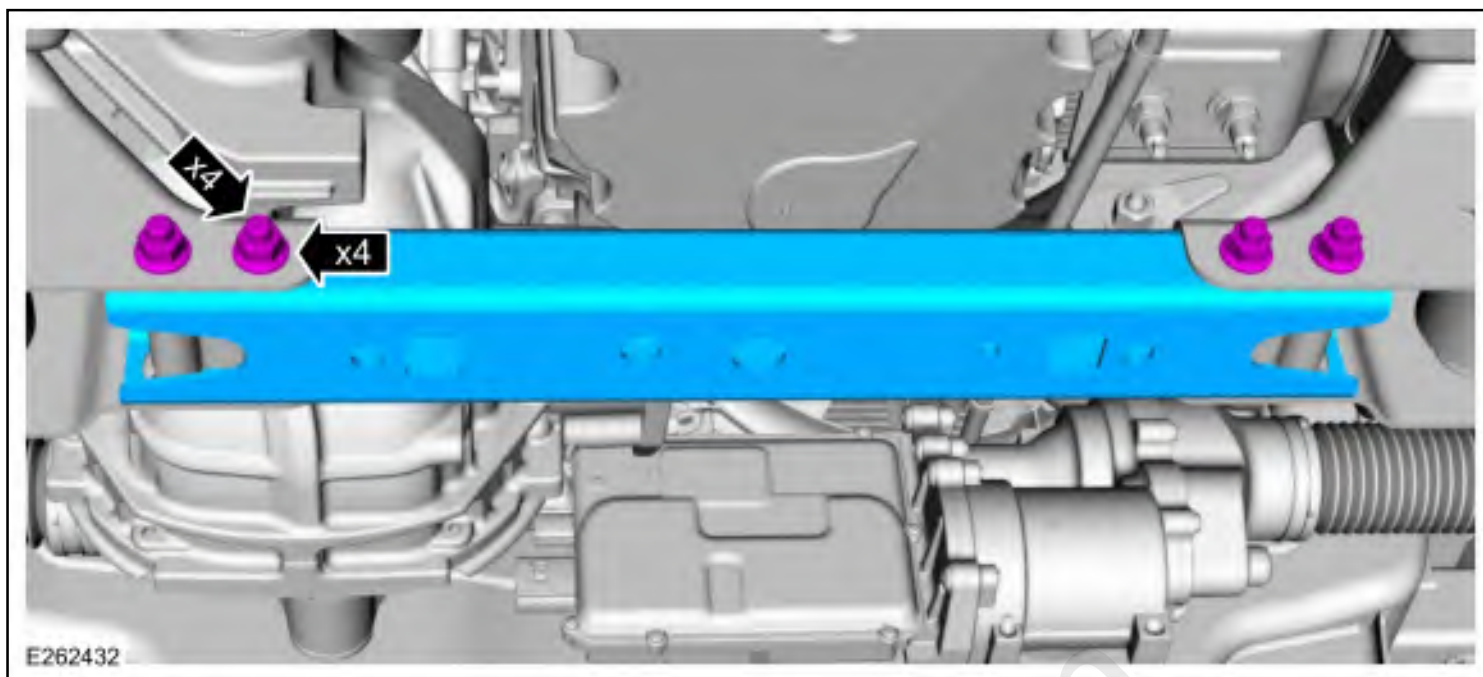
Refer to: [Oil Cooler](#) (303-01D Engine - 5.0L 32V Ti-VCT, Removal and Installation).

2. Transmission fluid cooler.

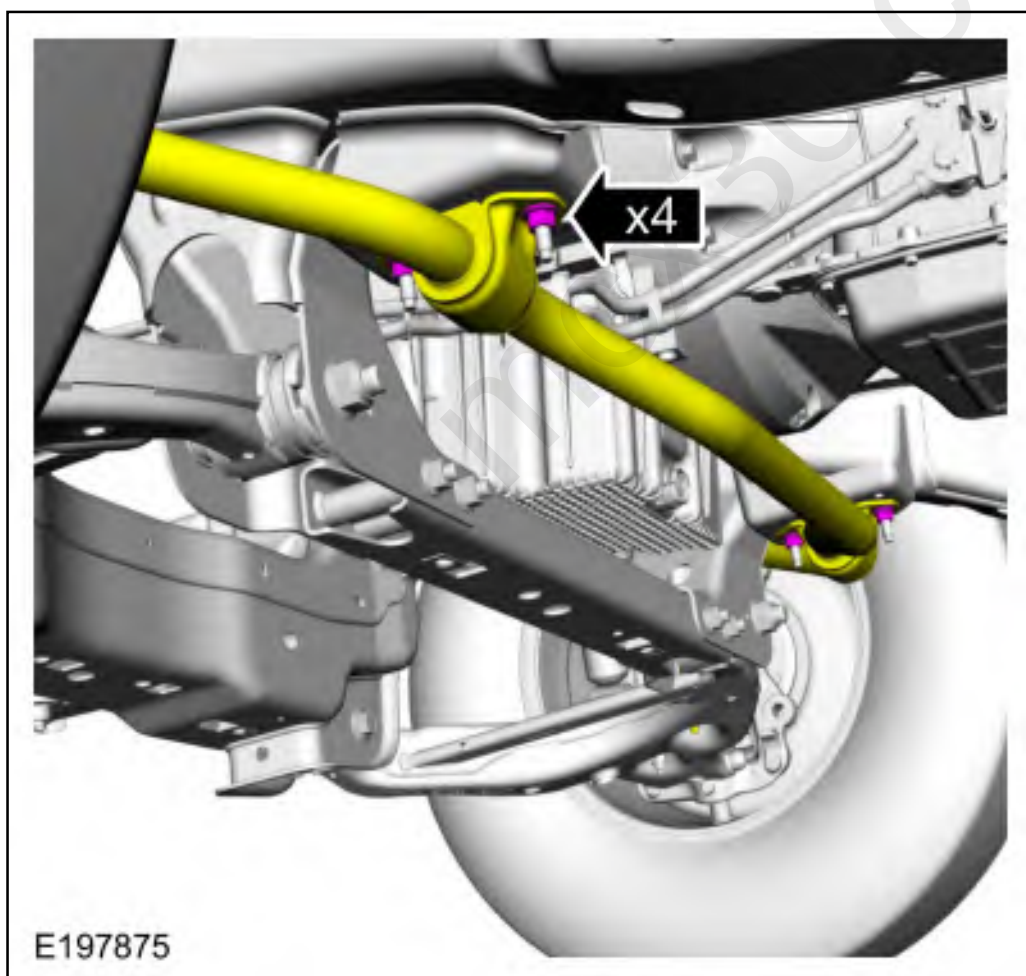
Refer to: [Transmission Fluid Cooler - 2.7L EcoBoost \(238kW/324PS\)/3.5L EcoBoost \(272kW/370PS\)/5.0L 32V Ti-VCT](#) (307-02 Transmission Cooling, Removal and Installation).

15. Install the crossmember, bolts and the nuts.

Torque: 66 lb.ft (90 Nm)



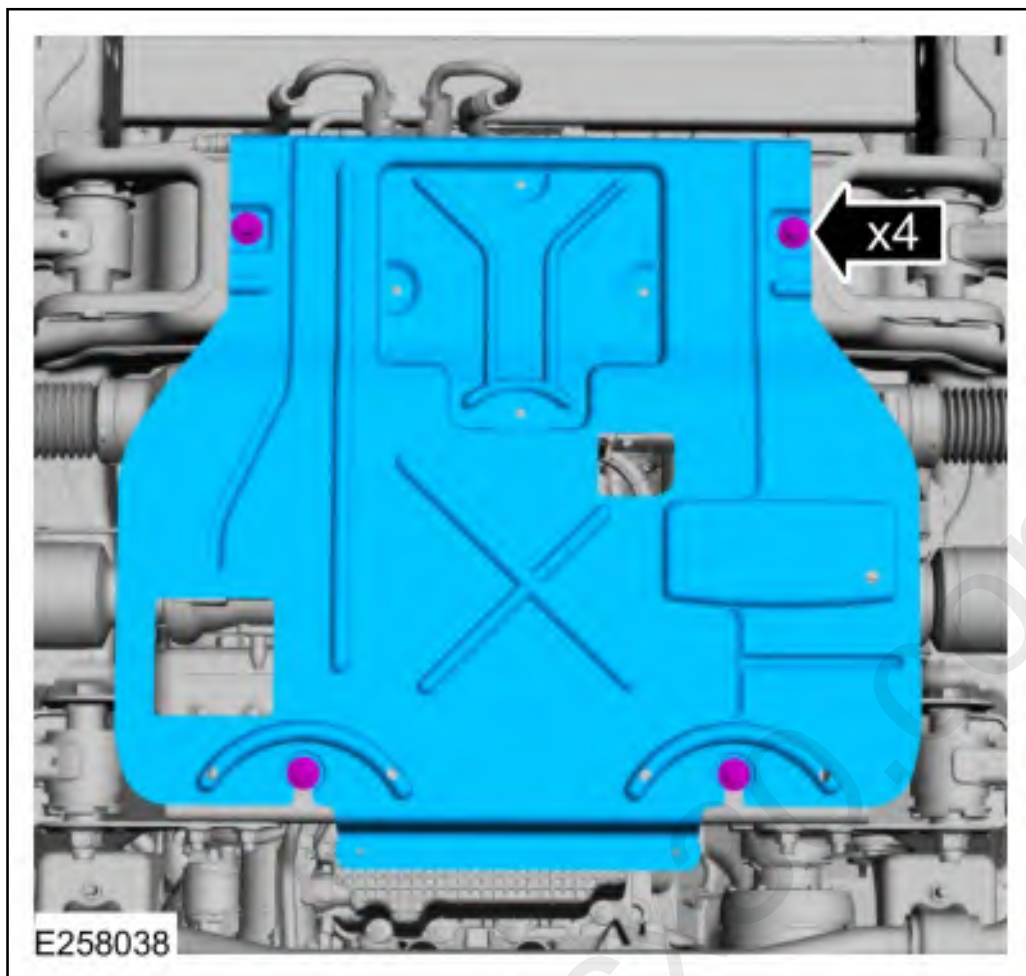
16. Position the stabilizer bar and install the new nuts.
Torque: 41 lb.ft (55 Nm)



17. **NOTE:** *If equipped.*

Install the skid plate and bolts.

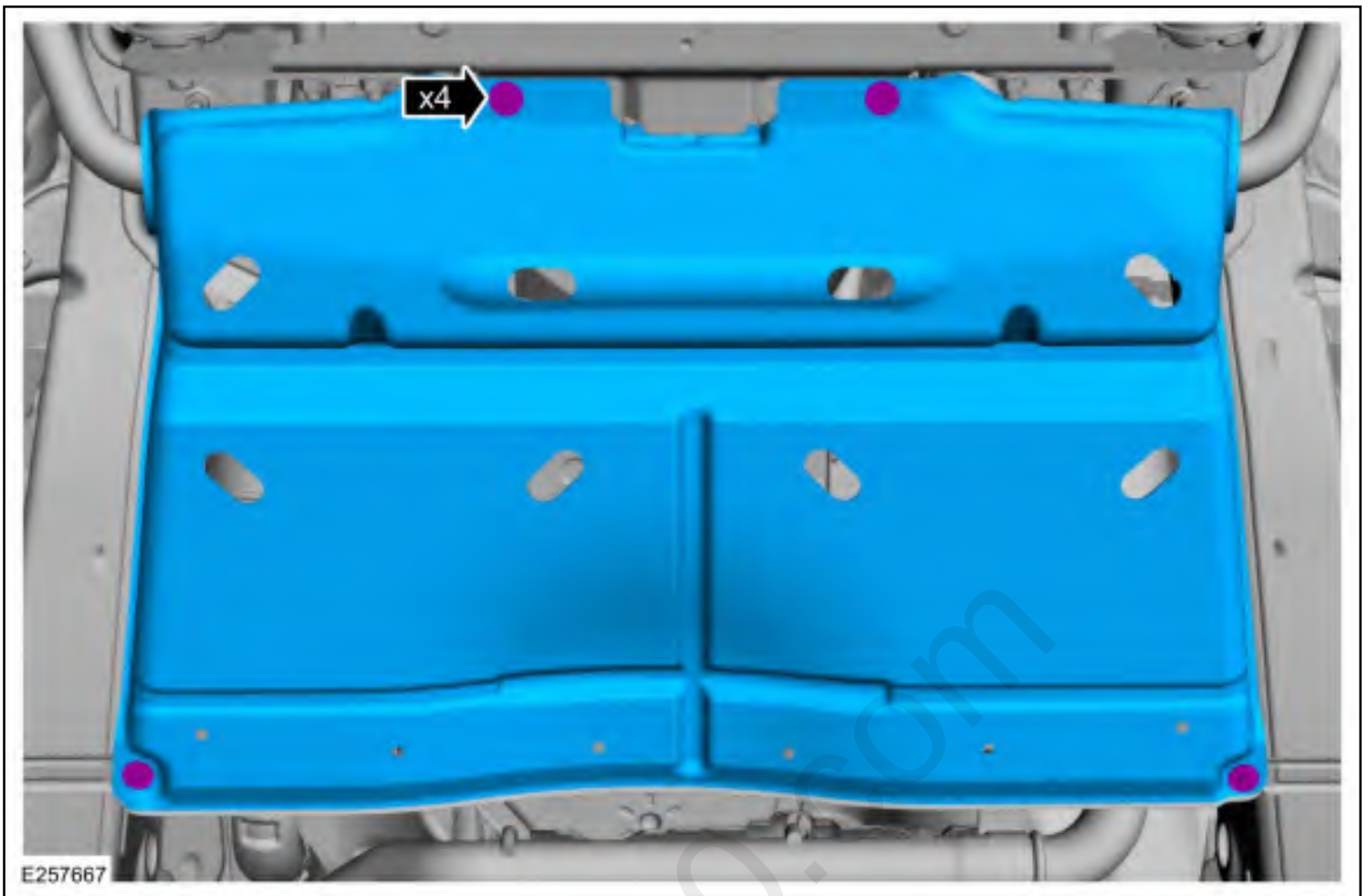
Torque: 30 lb.ft (40 Nm)



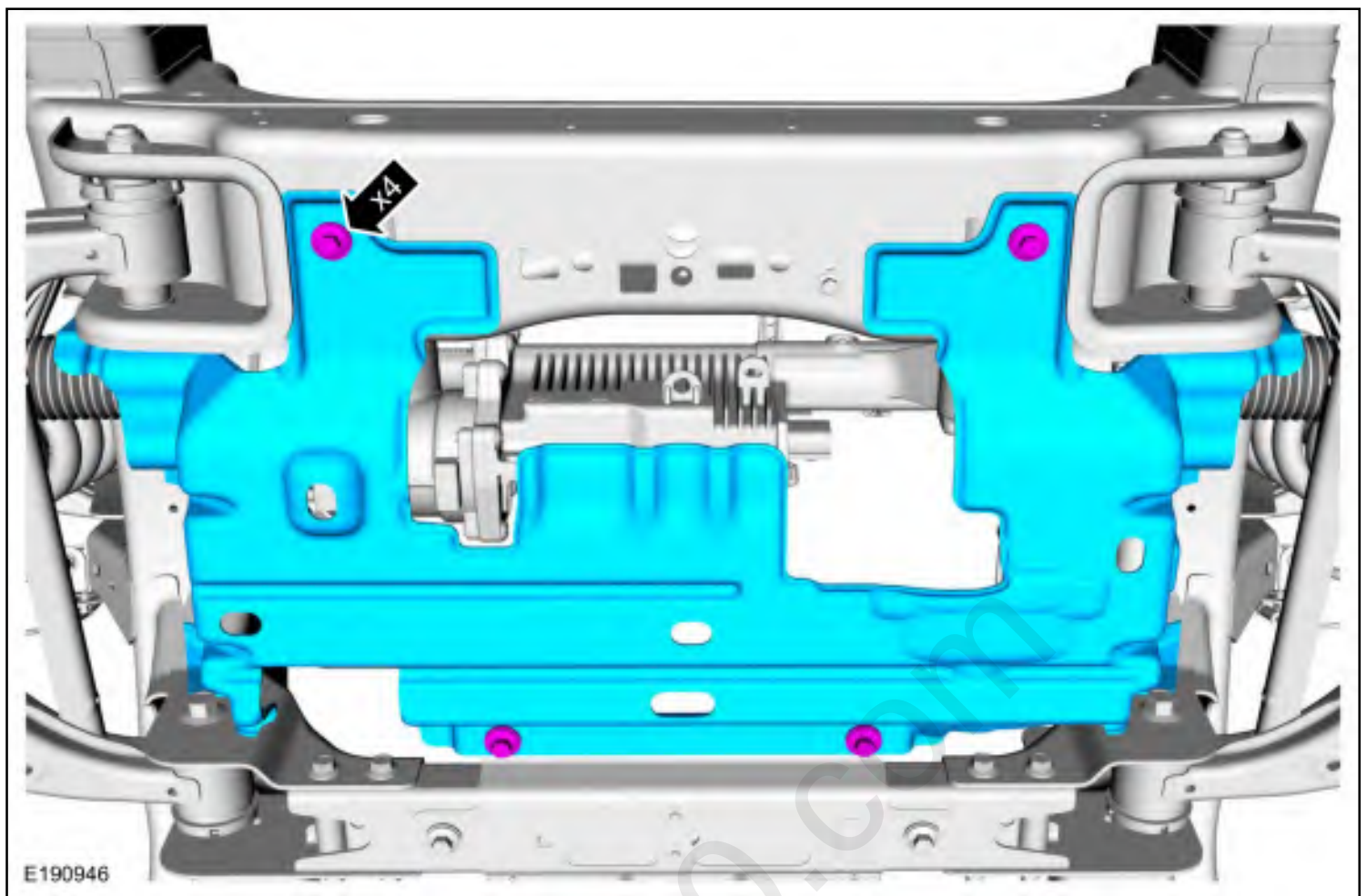
18. **NOTE:** *If equipped.*

Install the underbody shield and the bolts.

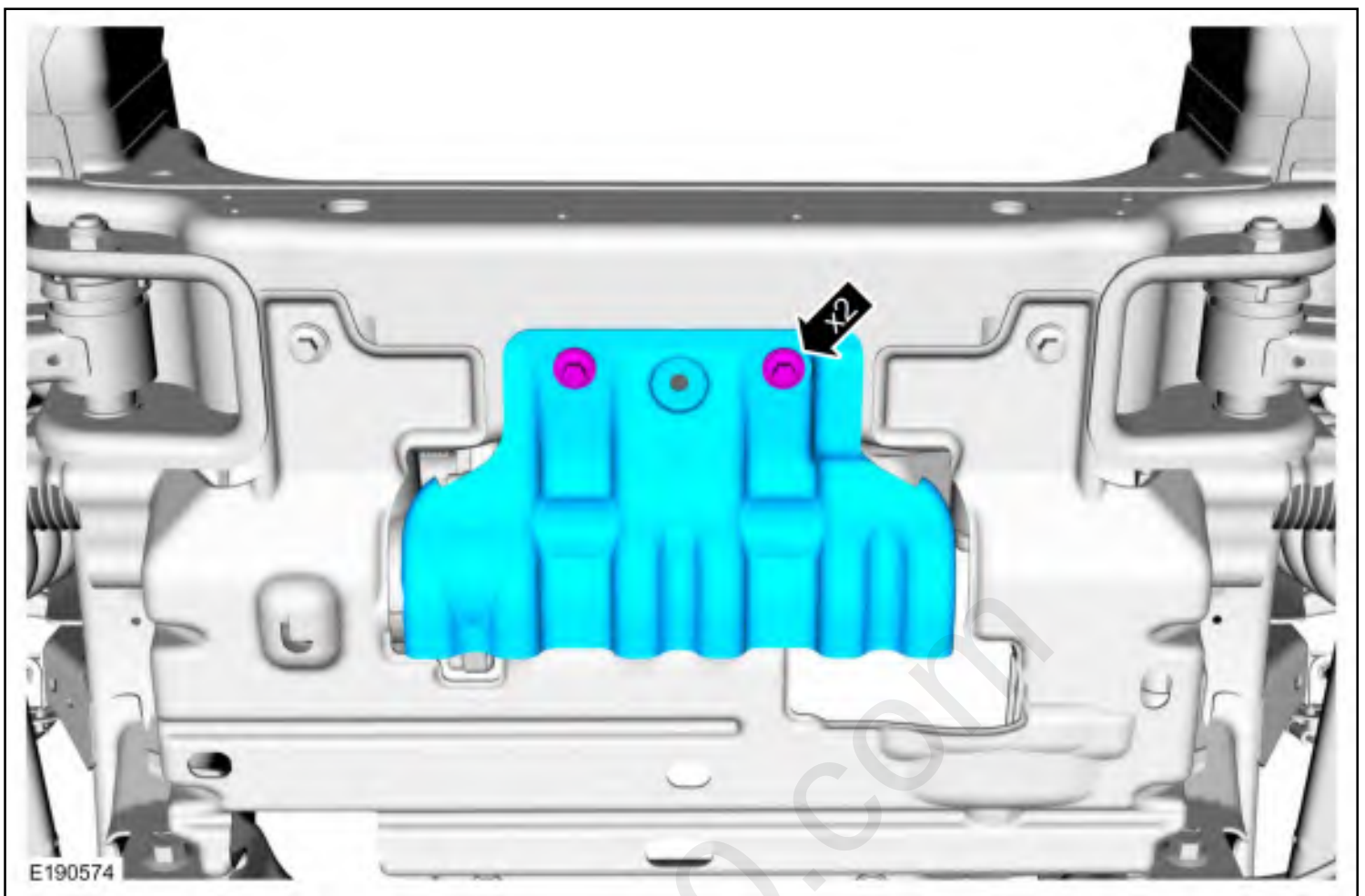
Torque: 71 lb.in (8 Nm)



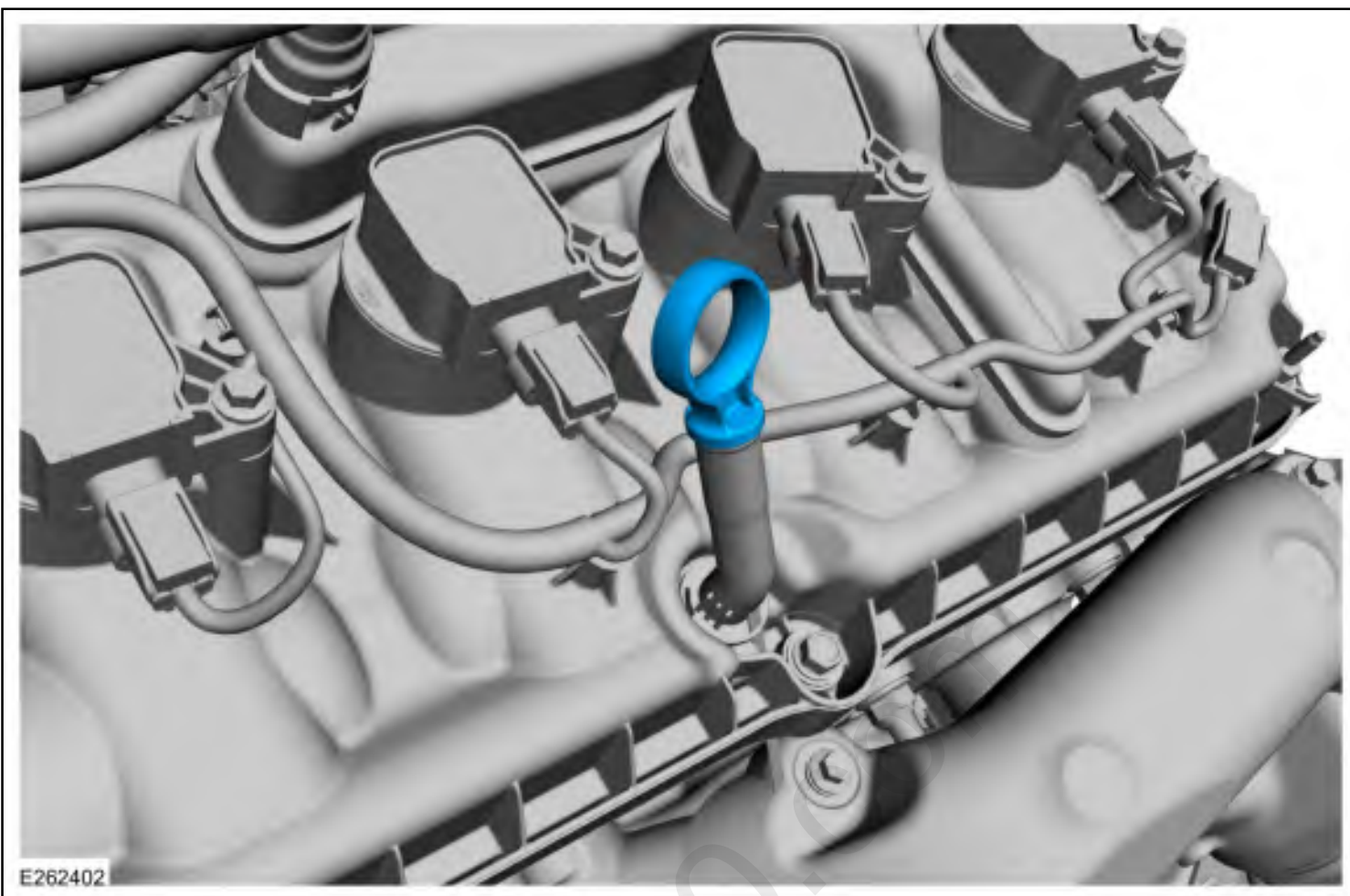
19. If equipped, install the underbody shield and fasteners.
Torque: 30 lb.ft (40 Nm)



20. If equipped, install the skid plate and bolts.
Torque: 30 lb.ft (40 Nm)

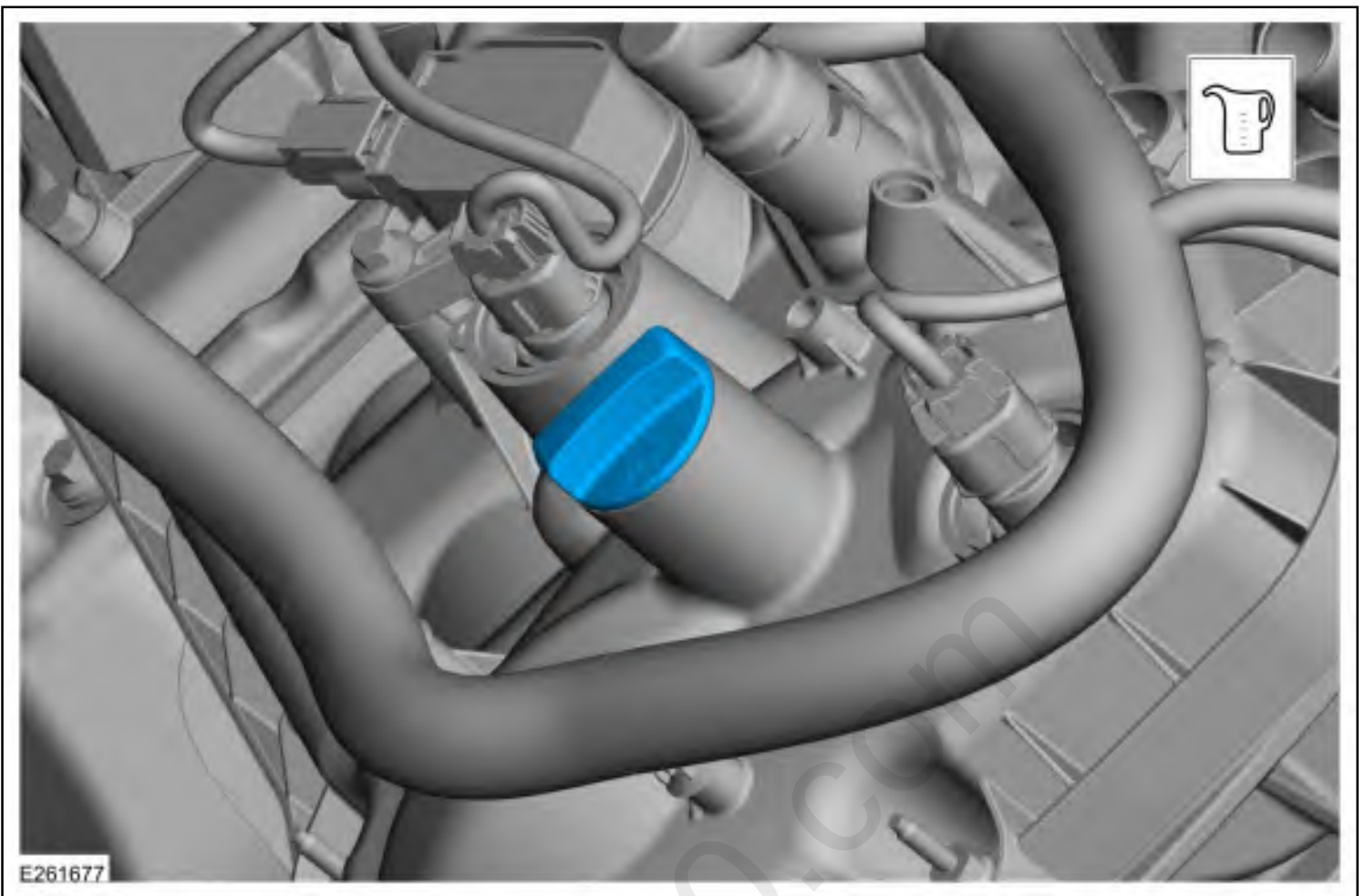


21. Install the oil level indicator.



22. Fill the engine with clean engine oil.

Refer to: [Specifications](#) (303-01D Engine - 5.0L 32V Ti-VCT, Specifications).



23. Connect the battery ground cable.

Refer to: Battery Disconnect and Connect (414-01 Battery, Mounting and Cables) .