

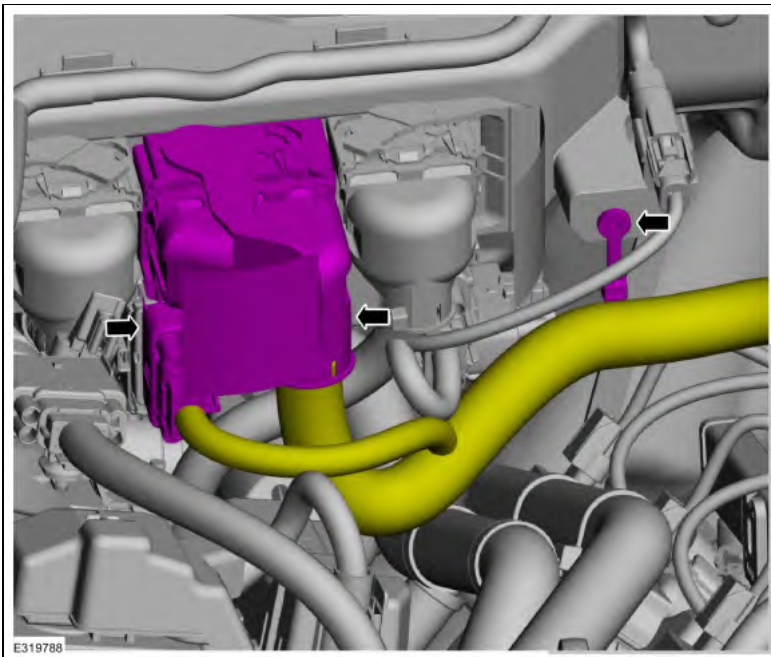
Engine

Special Tool(s) / General Equipment

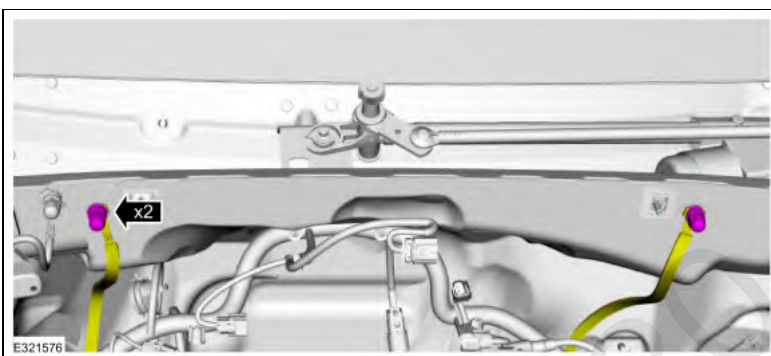
	303-050 (T70P-6000) Lifting Bracket, Engine
	303-050-01 7.3L Bracket, Engine (P558)
	307-346 (T97T-7902-A) Retainer, Torque Converter TKIT-1998-LM (NavigatoR) TKIT-1997-F/FLM/LT
Magnetic Socket	
Lifting Bracket	
Floor Crane	
Trolley Jack	
Wooden Block	

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.

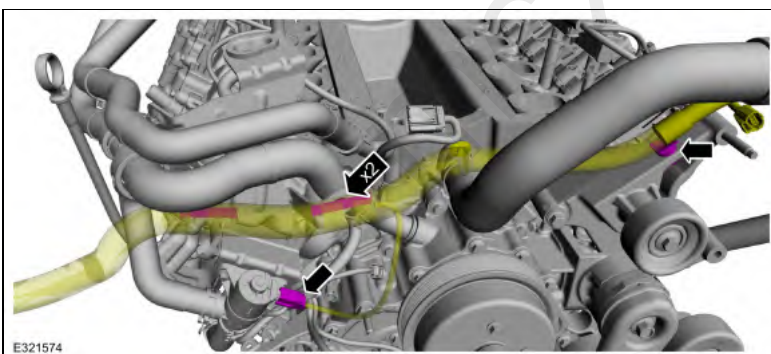
1. With the vehicle in NEUTRAL, position it on a hoist.
Refer to: Jacking and Lifting - Overview (100-02 Jacking and Lifting, Description and Operation).
2. Release the fuel system pressure.
Refer to: Fuel System Pressure Release (310-00C Fuel System - General Information - 7.3L 2V DEVCT V8 (239kW/320PS) (J0), General Procedures).
3. Disconnect the battery ground cable.
Refer to: Battery Disconnect and Connect (414-01 Battery, Mounting and Cables, General Procedures).
4. Drain the engine cooling system.
Refer to: Engine Cooling System Draining, Vacuum Filling and Bleeding (303-03D Engine Cooling - 7.3L 2V DEVCT V8 (239kW/320PS) (J0), General Procedures).
5. Drain the engine oil and remove and discard oil filter.
Refer to: Engine Oil Draining and Filling (303-01C Engine - 7.3L 2V DEVCT V8 (239kW/320PS) (J0), General Procedures).
6. Remove the following items:
 1. Remove the cowl panel.
Refer to: Cowl Panel (501-02 Front End Body Panels, Removal and Installation).
 2. Remove the air cleaner.
Refer to: Air Cleaner (303-12A Intake Air Distribution and Filtering - 6.2L V8, Removal and Installation).
 3. Remove the cooling module.
Refer to: Cooling Module (303-03A Engine Cooling - 6.2L V8, Removal and Installation).
 4. Cooling fan.
Refer to: Cooling Fan (303-03D Engine Cooling - 7.3L 2V DEVCT V8 (239kW/320PS) (J0), Removal and Installation).
 5. Generator(s).
Refer to: Generator - 7.3L 2V DEVCT V8 (239kW/320PS) (J0) (414-02 Generator and Regulator, Removal and Installation).
 6. A/C compressor belt.
Refer to: Air Conditioning (A/C) Compressor Belt (303-05C Accessory Drive - 7.3L 2V DEVCT V8 (239kW/320PS) (J0), Removal and Installation).
 7. Intake manifold.
Refer to: Intake Manifold (303-01A Engine - 6.2L V8, Removal and Installation).
7.
 1. Disconnect the engine wiring harness from the PCM.
 2. Disconnect the engine wiring harness electrical connector.
 3. Detach the engine wiring harness retainer and position the harness aside.



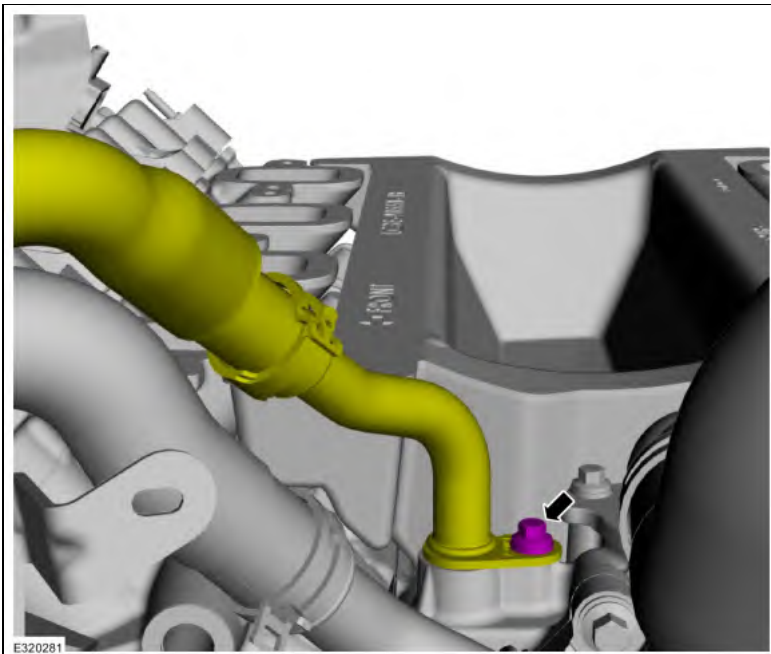
8. Remove the nuts and position the engine ground straps aside.



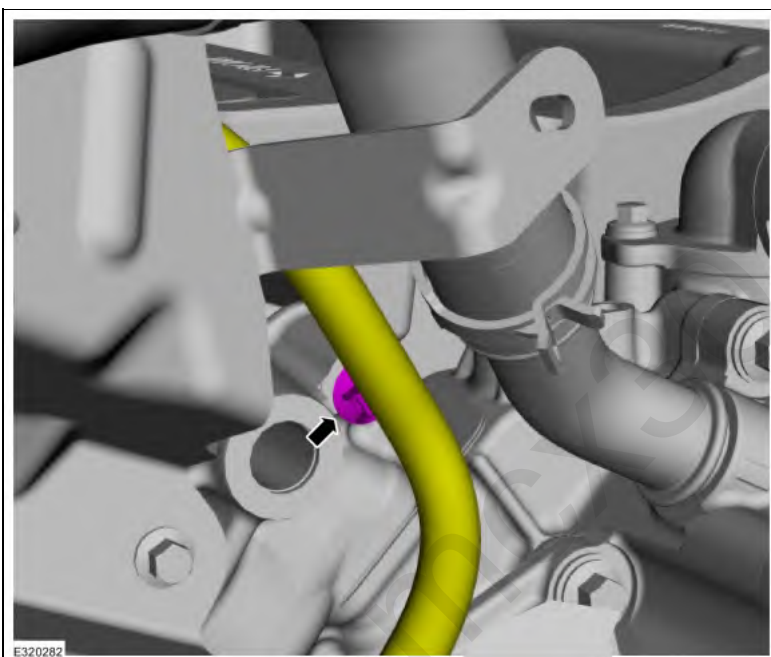
- 9.
- Disconnect the coolant pump electrical connector.
 - Detach the wiring harness retainers and position the harness aside.



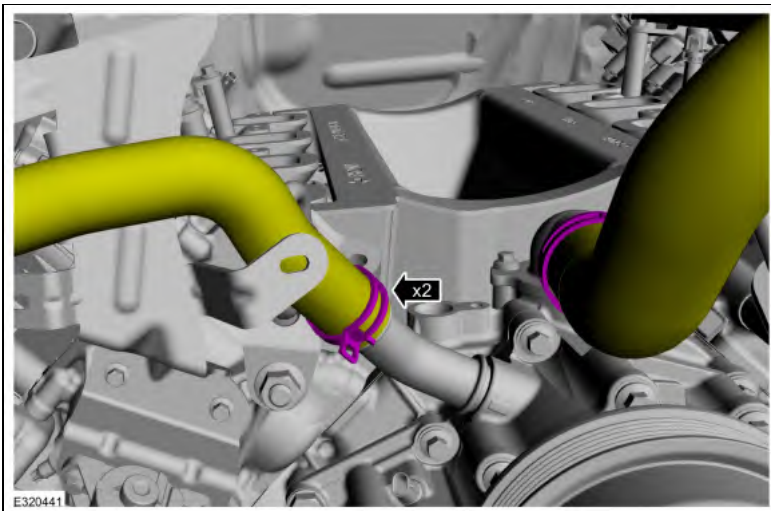
10. Remove the bolt and position the coolant outlet pipe aside.



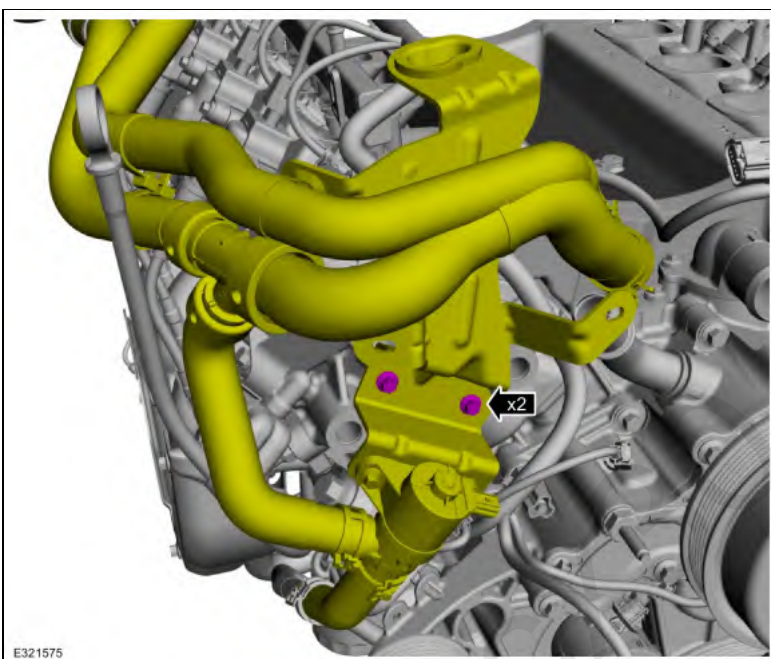
11. Detach the retainer and position the wiring harness aside.



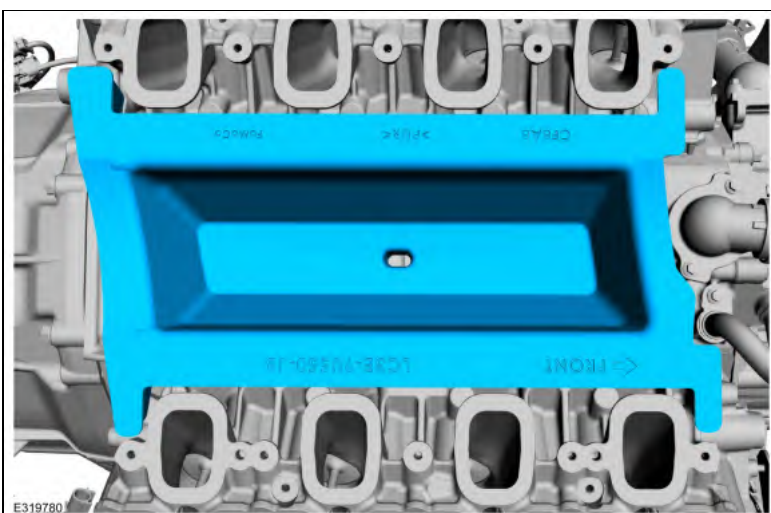
12. Release the clamps and disconnect the hoses.



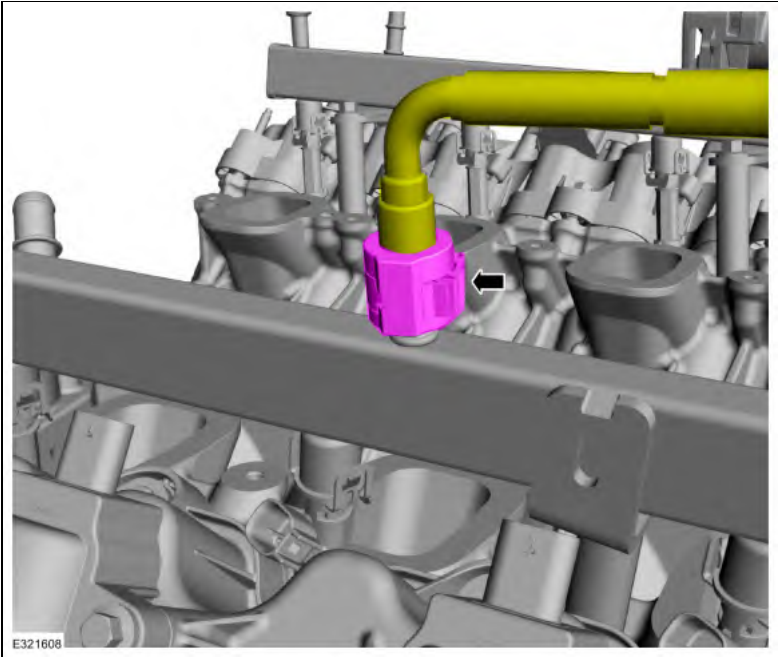
13. Remove the bolts and position the bracket and hoses aside.



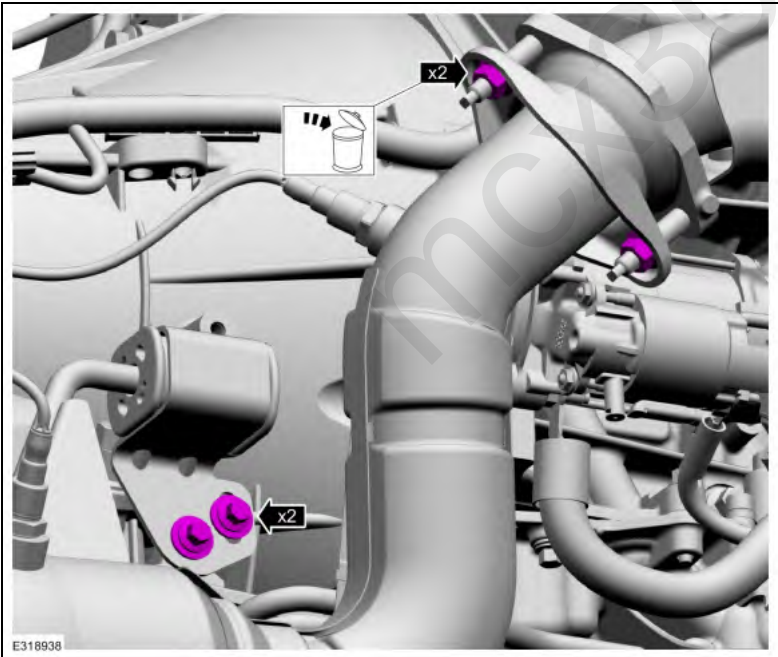
14. Remove the insulator.



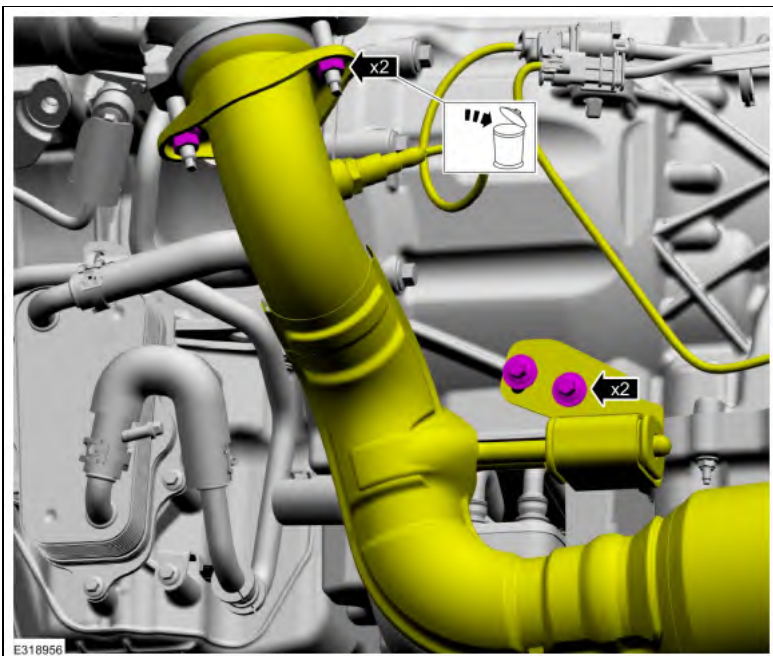
15. Follow directions to release quick release couplings type 10. Disconnect the fuel supply tube.



- 16.
- 1. Remove and discard the Y-pipe nuts.
 - 2. Remove the exhaust hanger bolts.



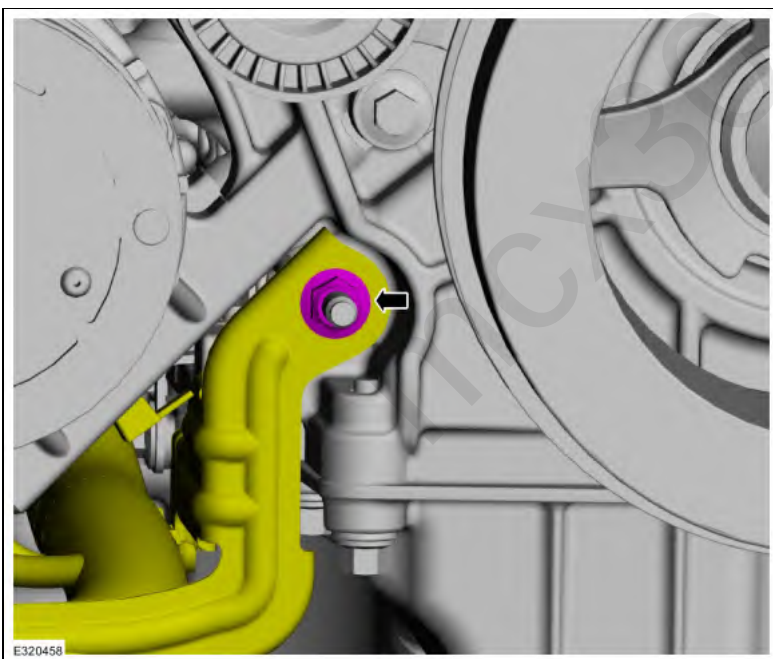
- 17.
- 1. Remove and discard the Y-pipe nuts.
 - 2. Remove the exhaust hanger bolts and lower the Y-pipe.



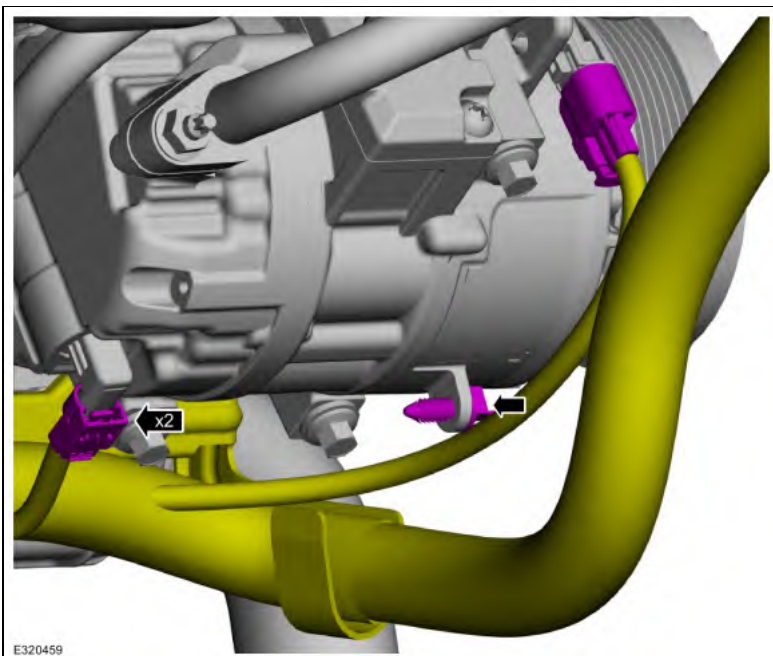
18. Remove the following items:

1. Starter motor.
Refer to: Starter Motor (303-06C Starting System - 7.3L 2V DEVCT V8 (239kW/320PS) (J0), Removal and Installation).
2. Engine oil cooler.
Refer to: Oil Cooler (303-01C Engine - 7.3L 2V DEVCT V8 (239kW/320PS) (J0), Removal and Installation).
3. Transmission oil cooler.
Refer to: Transmission Fluid Cooler - 6.2L V8/7.3L 2V DEVCT V8 (239kW/320PS) (J0) (307-02B Transmission Cooling - 10-Speed Automatic Transmission â€” 10R140, Removal and Installation).

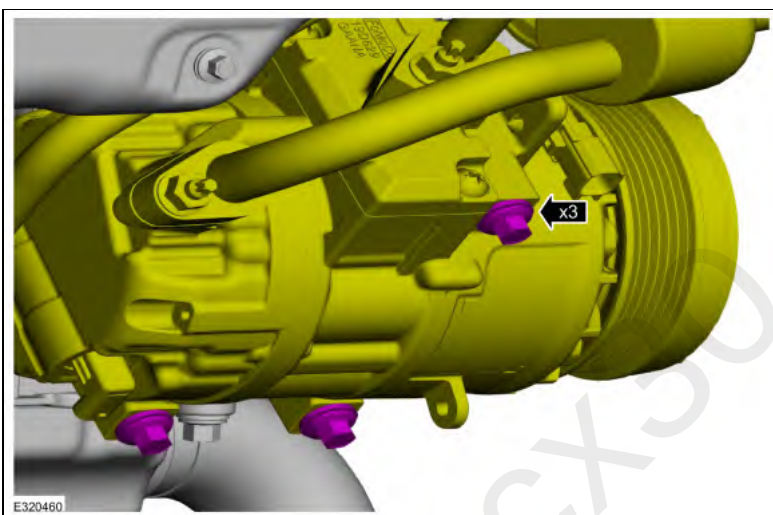
19. Remove the nut and position the starter motor wiring harness bracket aside.



20. Disconnect the A/C compressor wiring harness electrical connectors and detach the wiring harness retainer.



21. Remove the bolts and position the A/C compressor aside.

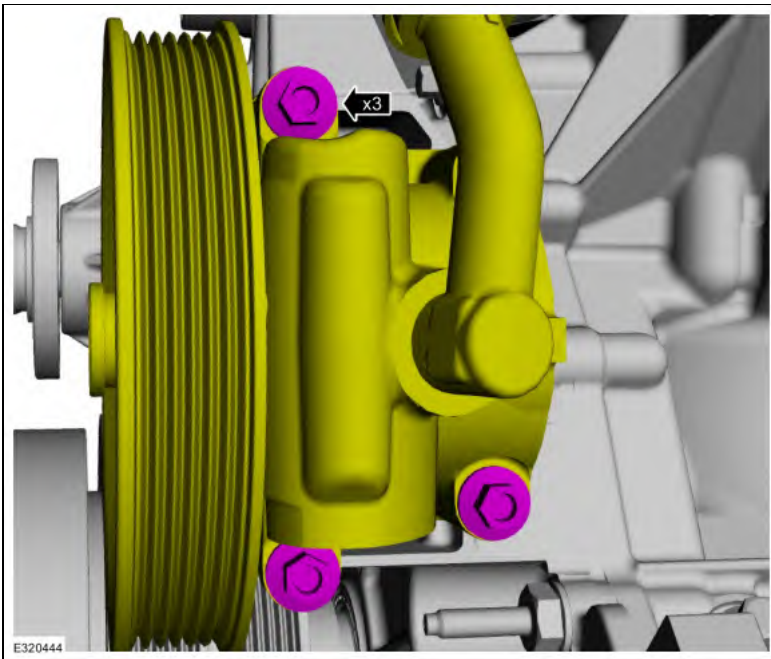


22.

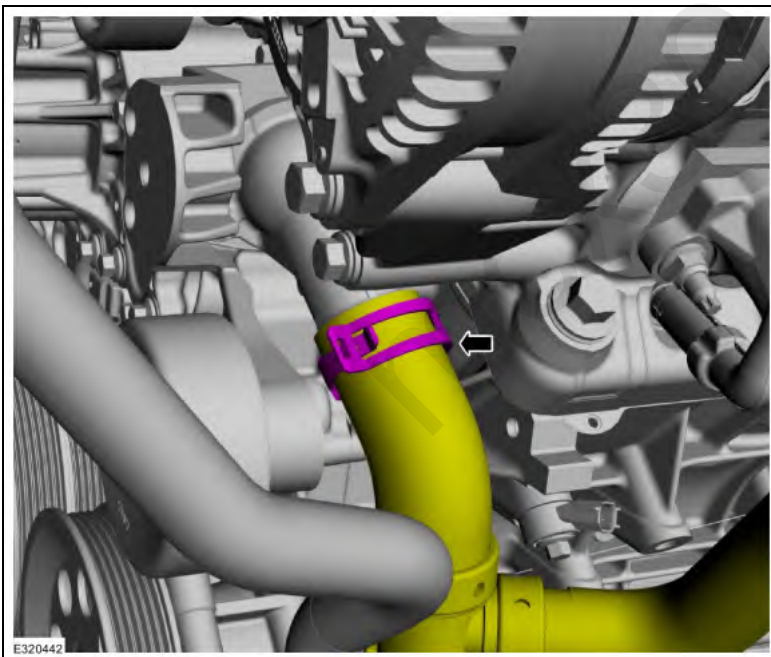
- Detach the wiring harness retainers.
- Remove the nut and position the bracket aside.
- Remove the bolt and position the bracket aside.

A diagram illustrating a vertical stack of four colored rectangles: white, blue, green, and brown. A white rectangular box is positioned to the left of the stack, with a line pointing to the blue rectangle.

24. Remove the bolts and position the power steering pump aside.



25. Release the clamp and disconnect the hose.

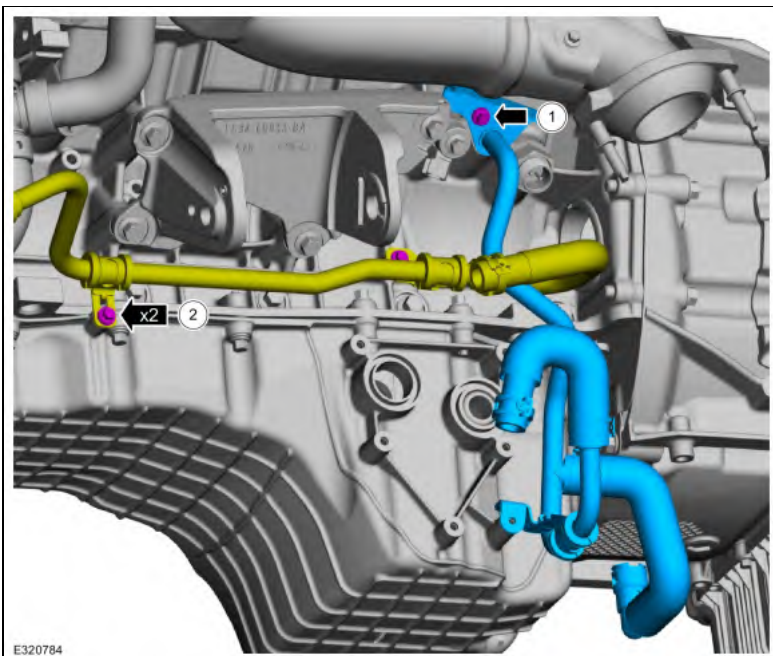


26.

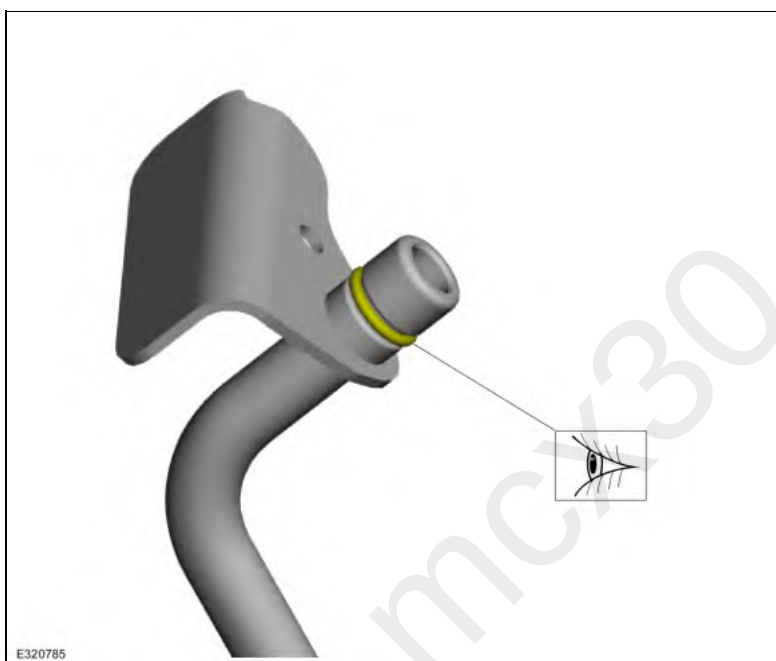
1. **NOTE:** *Frame, engine and exhaust components removed from graphic for clarity.*

Remove the bolt and remove the coolant tube.

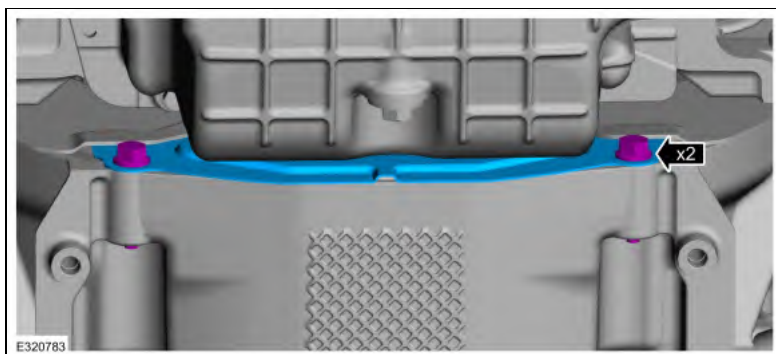
2. Remove the bolts and position the coolant tube aside.



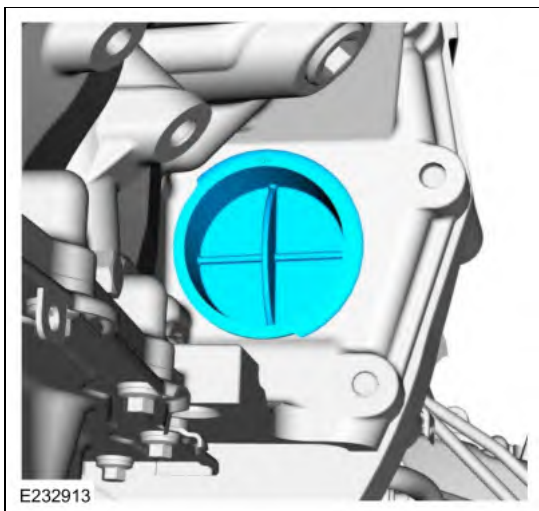
27. Inspect the O-ring seal and replace as necessary.



28. Remove the bolts and the inspection cover.

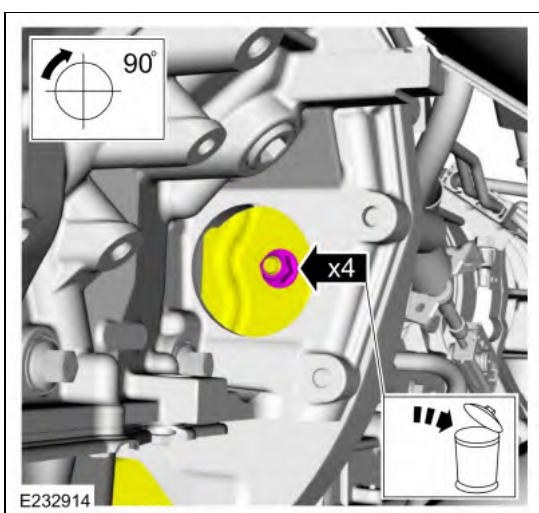


29. Remove the torque converter nut access cover.



30. **NOTE:** Only rotate the crankshaft in a clockwise direction.

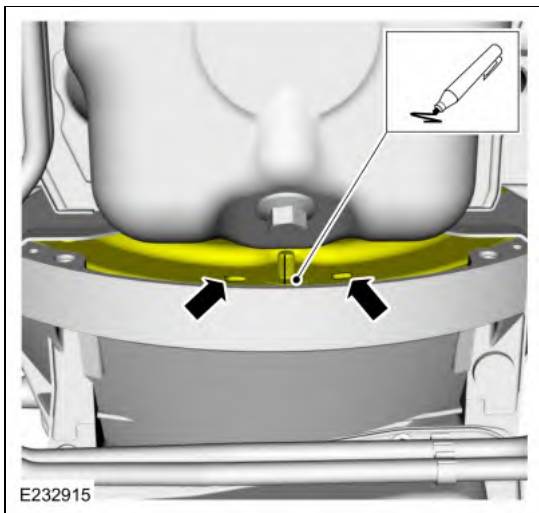
Remove and discard the torque converter nuts.
Use the General Equipment: Magnetic Socket



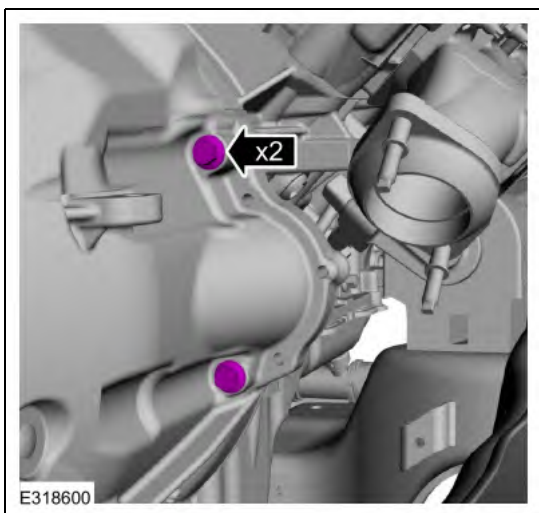
31. **NOTICE:** The torque converter must be installed in it's original orientation to the flexplate or engine damage may occur.

NOTE: Only rotate the crankshaft in a clockwise direction.

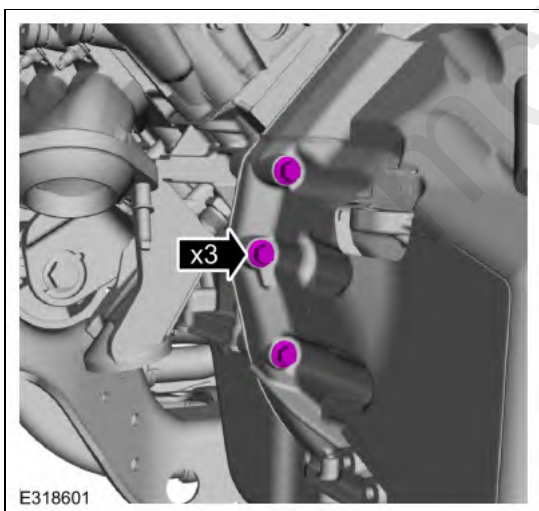
Rotate the flexplate so that the 2 slotted holes are shown at the 6 o'clock position and index mark the torque converter stud to the flexplate to maintain alignment during installation.



32. Remove the RH transmission-to-engine bolts.



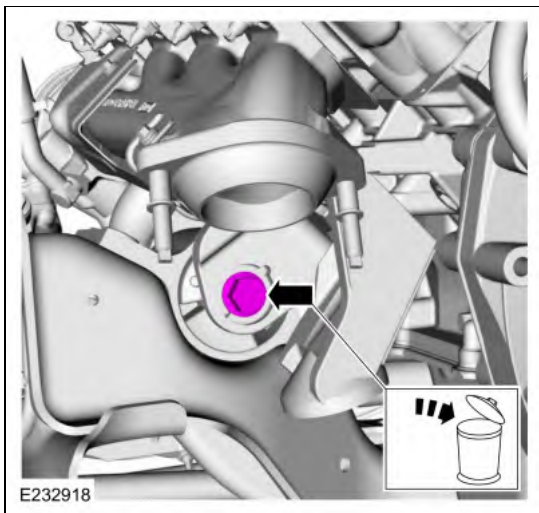
33. Remove the LH transmission-to-engine bolts.



34. **NOTICE:** The engine support insulator through bolt must be discarded and a new bolt installed, or damage to the vehicle or engine support insulator may occur.

NOTICE: Only use hand tools when removing the engine support insulator through bolt or damage to the engine support insulator may occur.

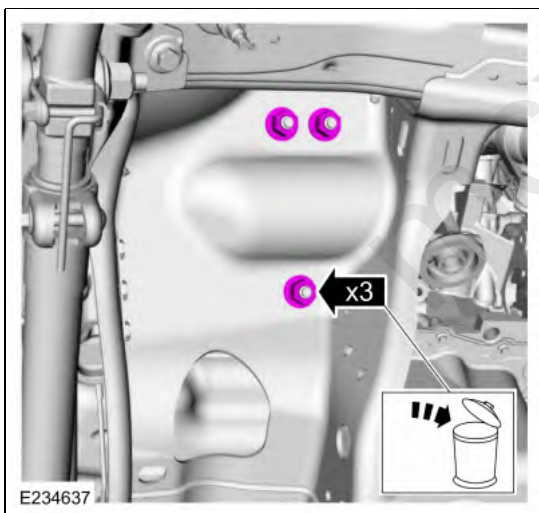
Remove and discard the LH engine mount through bolt.



35. **NOTICE:** Failure to replace the engine mount nuts may result in engine mount damage.

NOTICE: Only use hand tools when loosening the engine mount nuts or damage to the engine mount may occur.

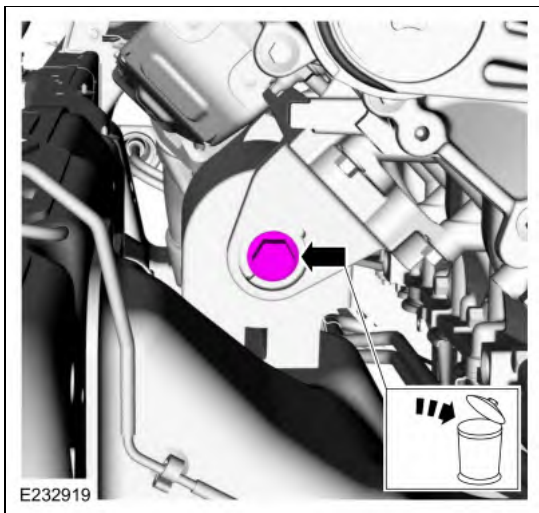
Remove and discard the LH engine support insulator bracket nuts.



36. **NOTICE:** The engine support insulator through bolt must be discarded and a new bolt installed, or damage to the vehicle or engine support insulator may occur.

NOTICE: Only use hand tools when removing the engine support insulator through bolt or damage to the engine support insulator may occur.

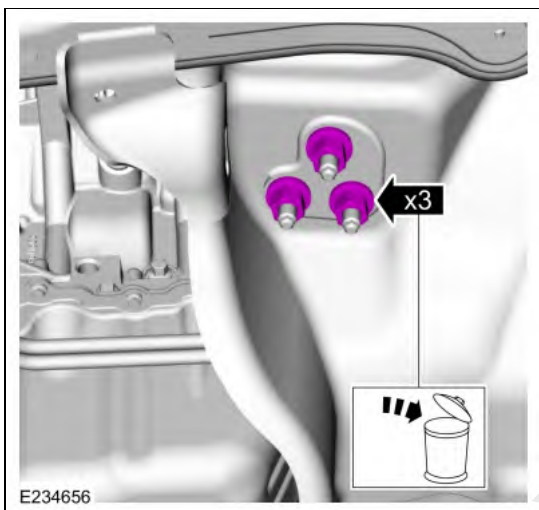
Remove and discard the RH engine mount through bolt.



37. **NOTICE:** Failure to replace the engine mount nuts may result in engine mount damage.

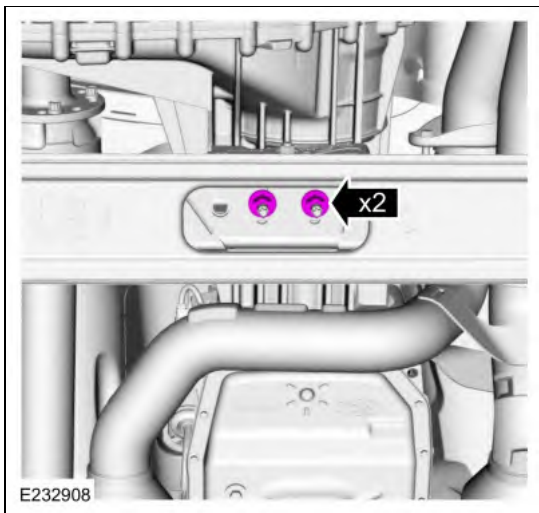
NOTICE: Only use hand tools when loosening the engine mount nuts or damage to the engine mount may occur.

Remove and discard the RH engine support insulator bracket nuts.



38. **NOTICE:** Failure to replace the transmission support insulator nuts may result in transmission support insulator damage. New transmission support insulator nuts will be installed during engine installation.

Loosen the transmission support insulator-to-crossmember nuts.

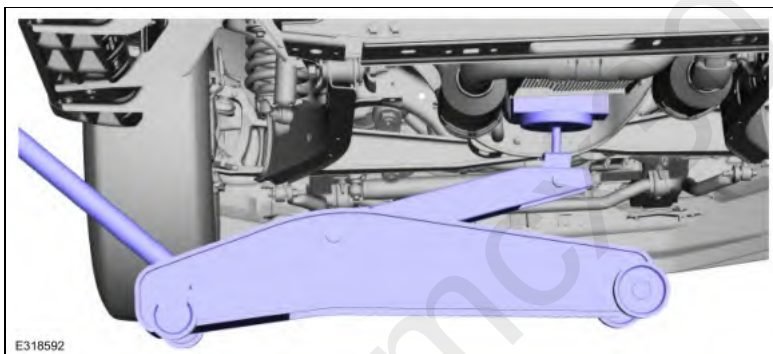


39. **NOTICE: Do not support the transmission by the fluid pan, failure to follow this instruction may result in serious damage to the transmission.**

Support the bellhousing of the transmission with a suitable floor jack and a block of wood.

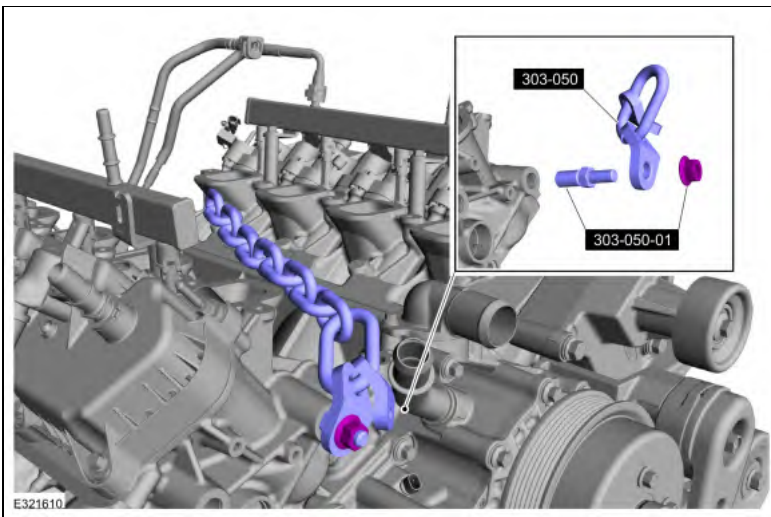
Use the General Equipment: Trolley Jack

Use the General Equipment: Wooden Block



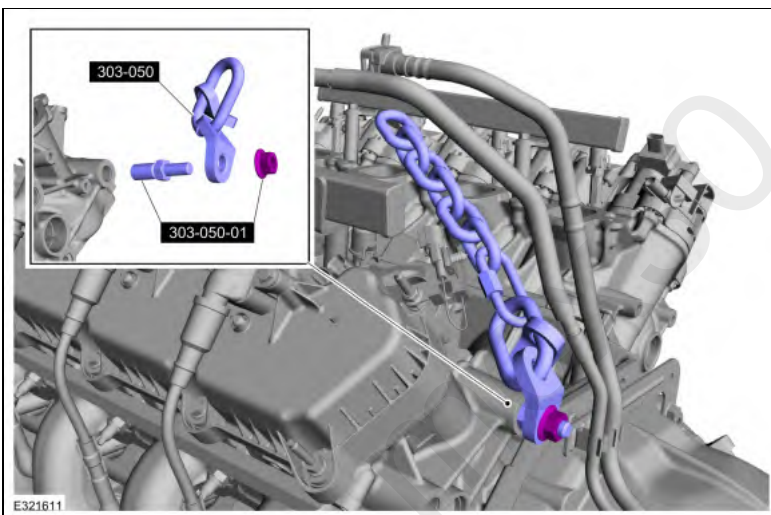
40. Install the special tools and a suitable length of chain.

Install Special Service Tool: 303-050-01 7.3L Bracket, Engine (P558). , 303-050 (T70P-6000) Lifting Bracket, Engine.



41. Install the special tools and a suitable length of chain.

Install Special Service Tool: 303-050-01 7.3L Bracket, Engine (P558) , 303-050 (T70P-6000) Lifting Bracket, Engine.



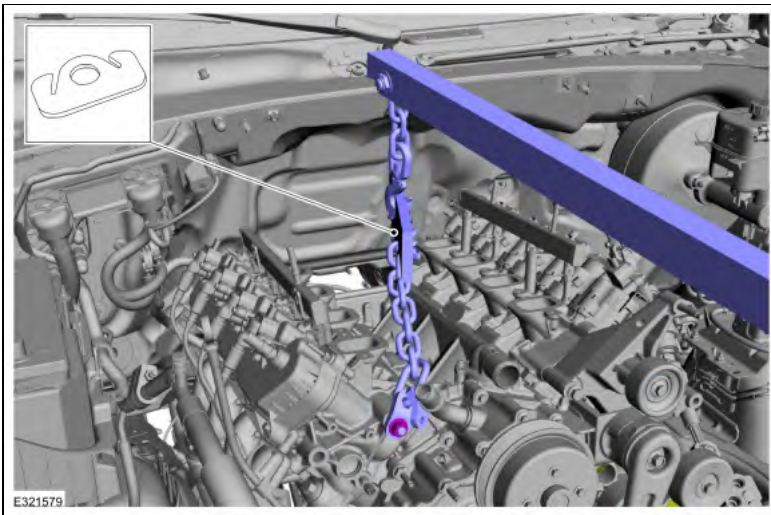
42.

1. **NOTE:** Use a commercially available sling (such as an OTC 38841 or equivalent).

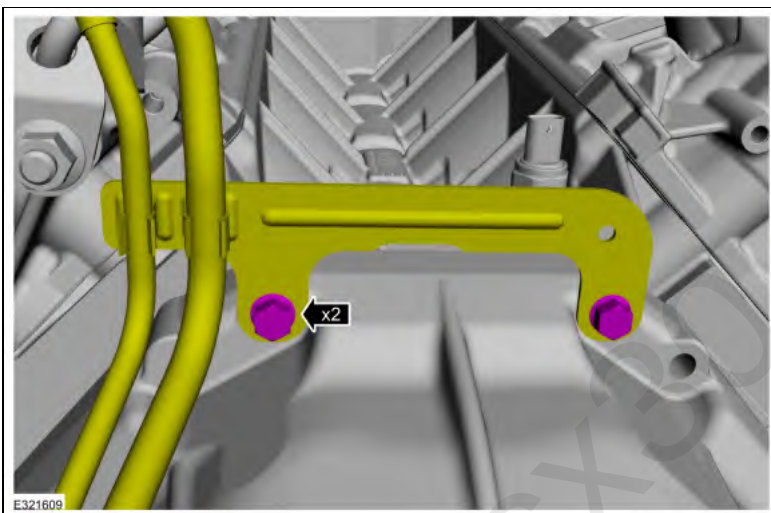
Install a sling and floor crane to support the engine.

Use the General Equipment: Lifting Bracket

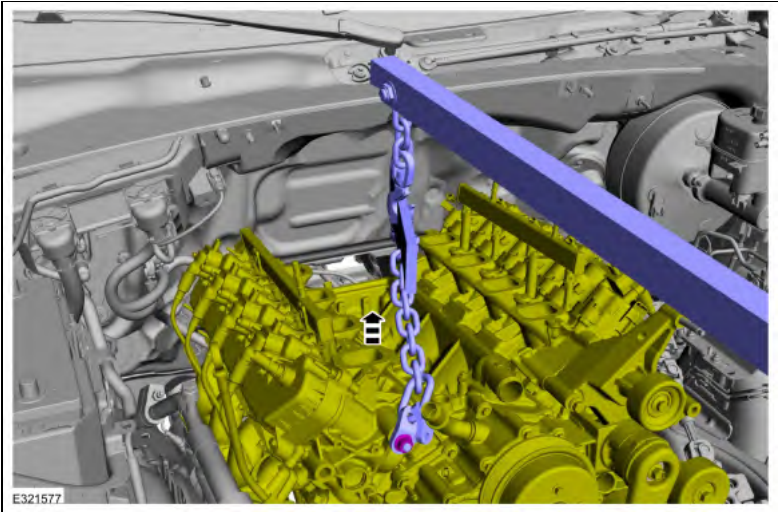
Use the General Equipment: Floor Crane



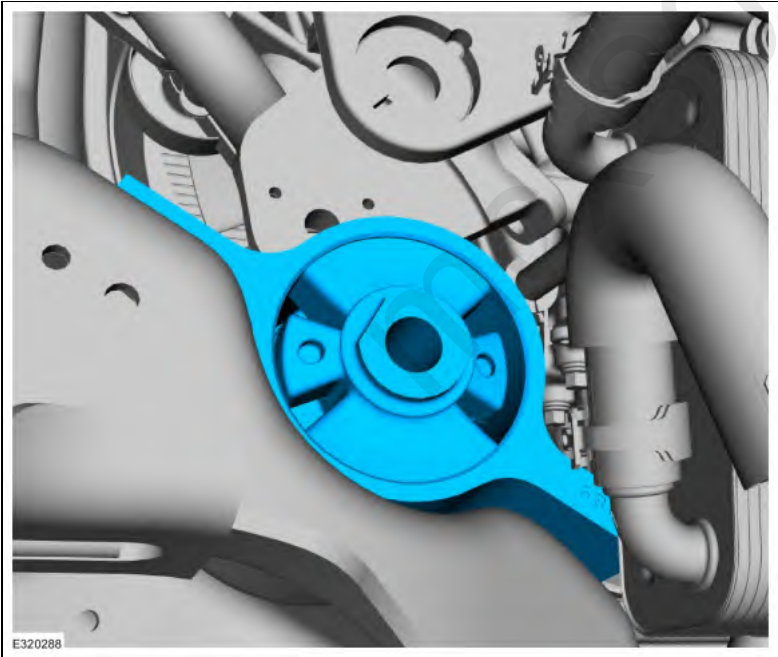
43. Working from on top of engine, remove the upper transmission-to-engine bolts.



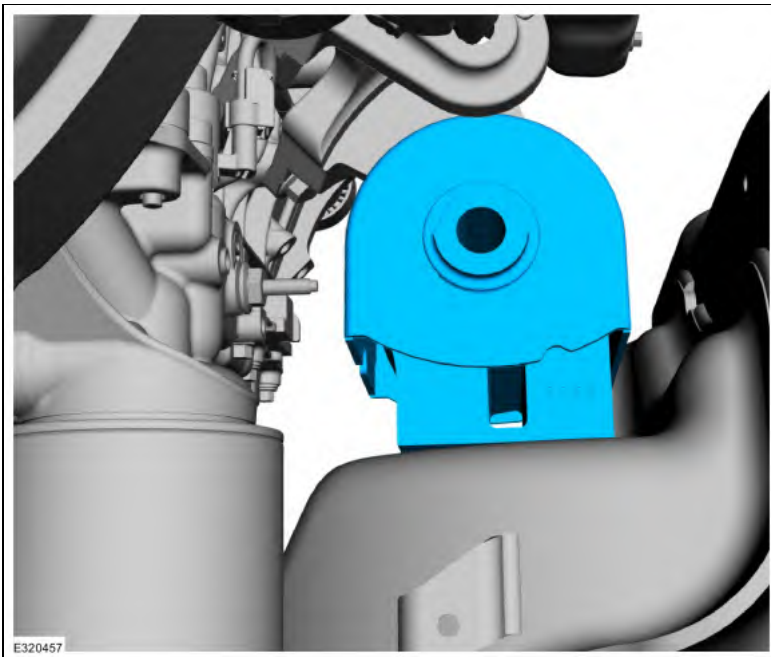
44. Using the floor crane and the special tools, raise the engine to access the engine mounts.
Use the General Equipment: Floor Crane



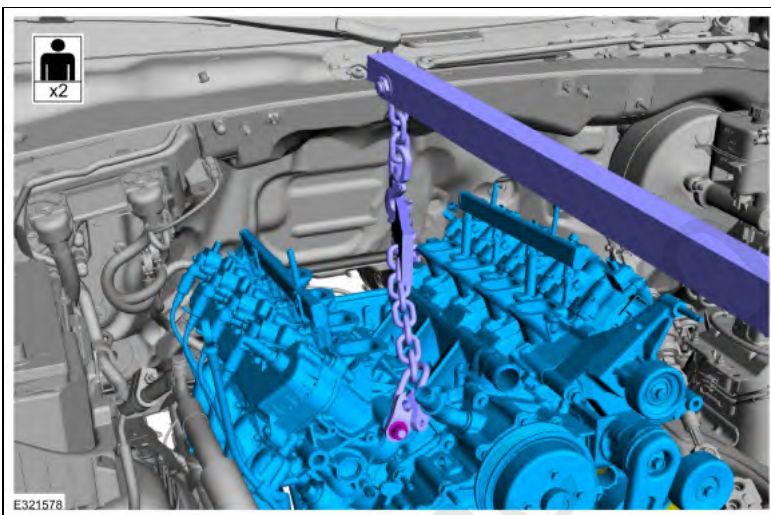
45. Remove the LH engine support insulator.



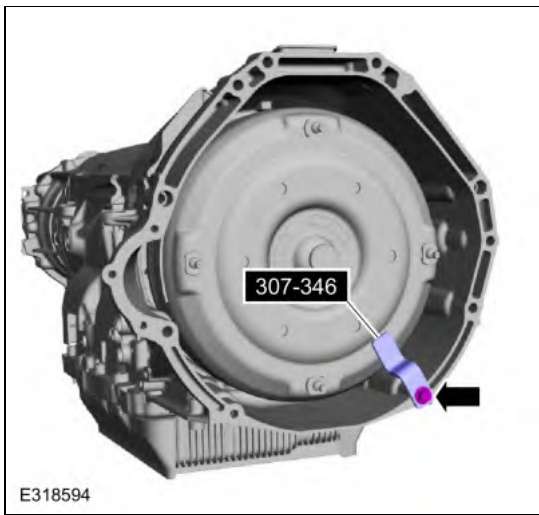
46. Remove the RH engine support insulator.



47. With the aid of an assistant and using a floor crane, remove the engine assembly from the vehicle.
 Use the General Equipment: Floor Crane



48. Install the special tool.
 Install Special Service Tool: 307-346 (T97T-7902-A) Retainer, Torque Converter.



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