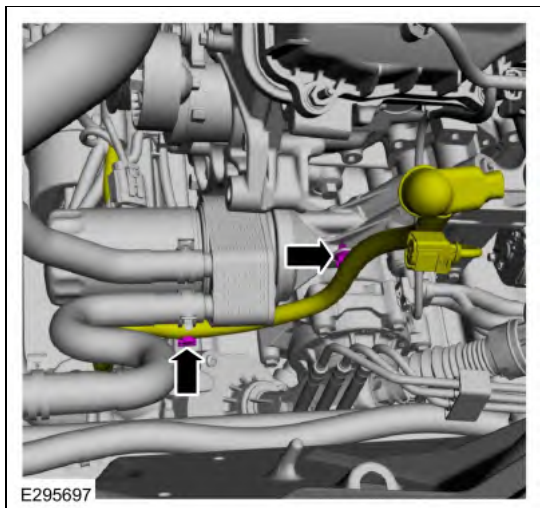


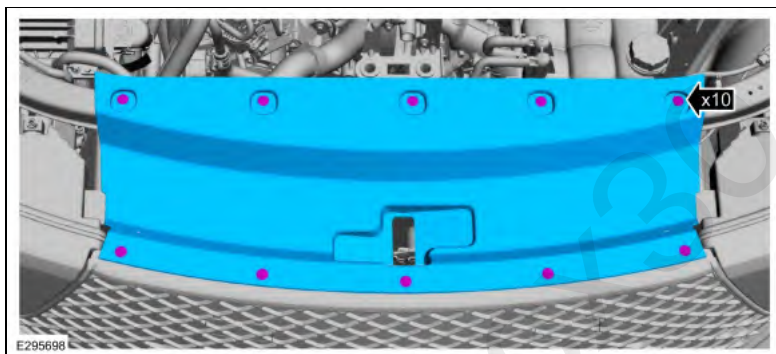
8. Remove the following items:

1. Remove the air cleaner outlet pipe.
Refer to: Air Cleaner Outlet Pipe (303-12C Intake Air Distribution and Filtering - 3.3L Duratec-V6, Removal and Installation).
2. Remove the air cleaner.
Refer to: Air Cleaner (303-12C Intake Air Distribution and Filtering - 3.3L Duratec-V6, Removal and Installation).
3. Remove the A/C compressor belt.
Refer to: Air Conditioning (A/C) Compressor Belt (303-05C Accessory Drive - 3.3L Duratec-V6, Removal and Installation).
4. Remove the generator.
Refer to: Generator - 3.3L Duratec-V6 (414-02 Generator and Regulator, Removal and Installation).

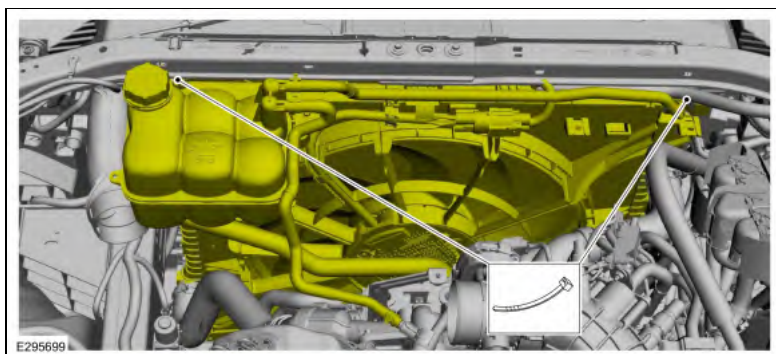
9. Detach the generator wiring harness retainers from the oil filter adapter.



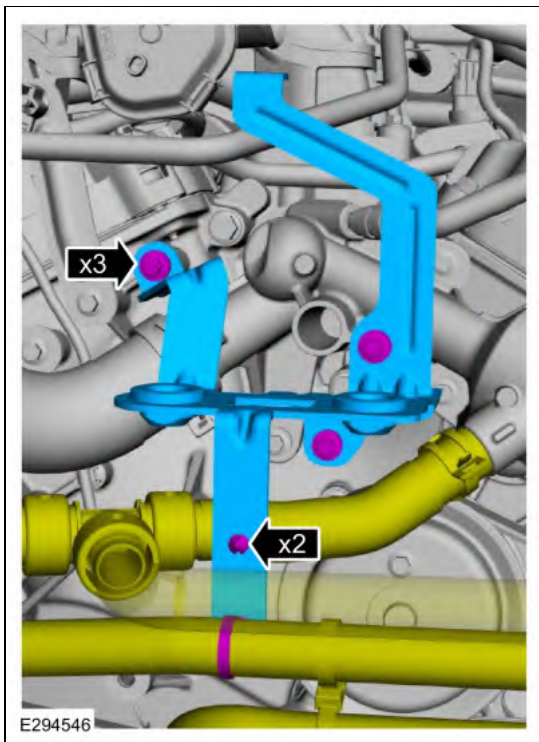
10. Remove the retainers and the upper radiator panel.



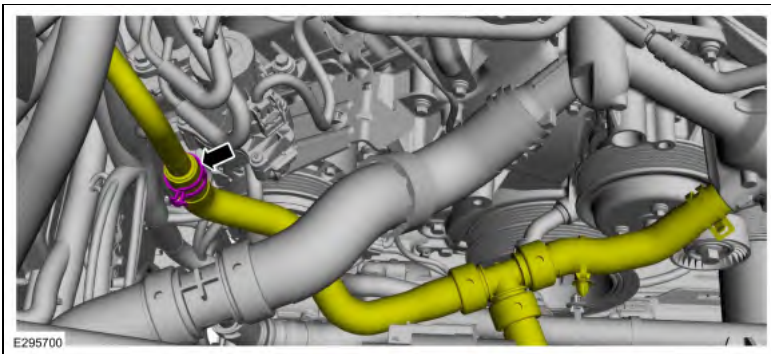
11. Using cable ties or mechanics wire through the upper location holes, to support the cooling module.
Use the General Equipment: Cable Ties



- 12.
- Detach the coolant hose retainers.
 - Remove the bolts and the air cleaner bracket.

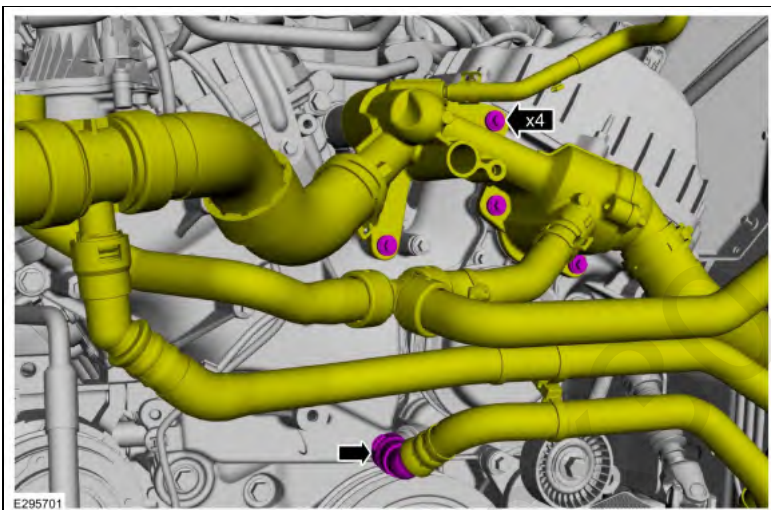


13. Disconnect the metal coolant hose from the thermostat housing coolant hose.
Use the General Equipment: Hose Clamp Remover/Installer

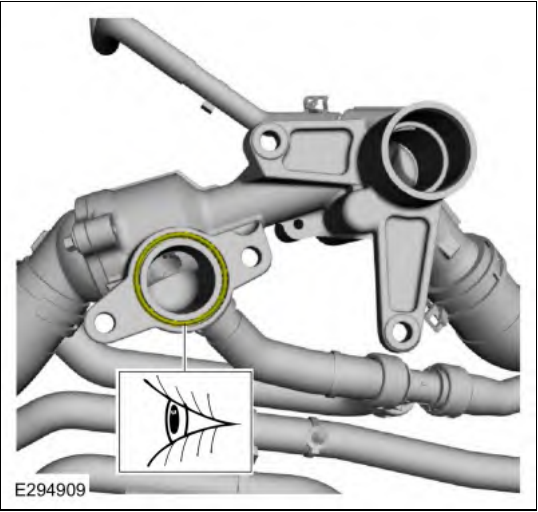


14.

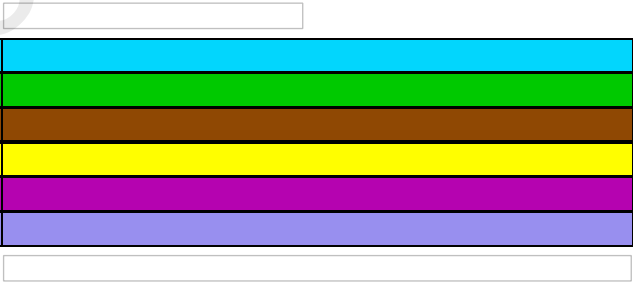
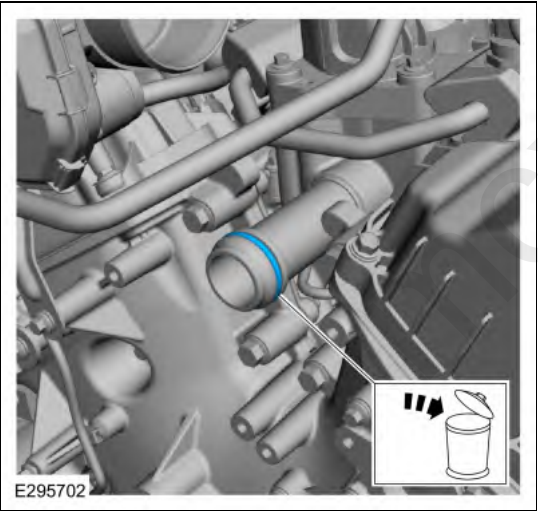
- Disconnect the coolant hose from the coolant pump.
- Remove the bolts and position the thermostat housing and coolant hoses aside.



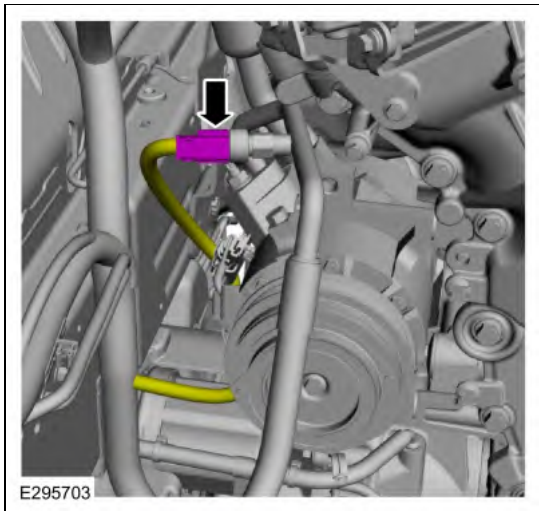
15. Inspect the O-ring seal and replace if necessary.



16. Remove and discard the thermostat housing O-ring seal.

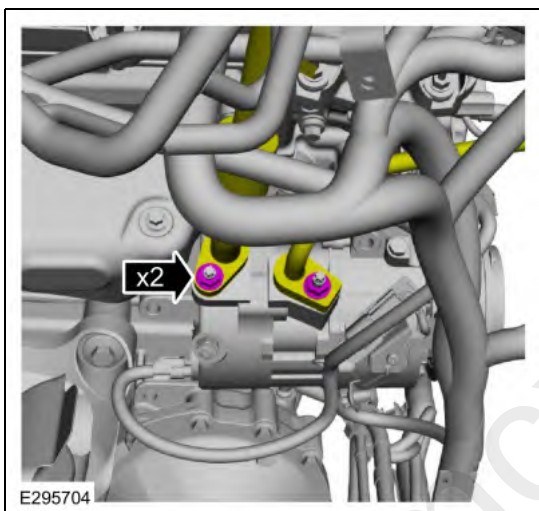


17. Disconnect the A/C pressure switch.



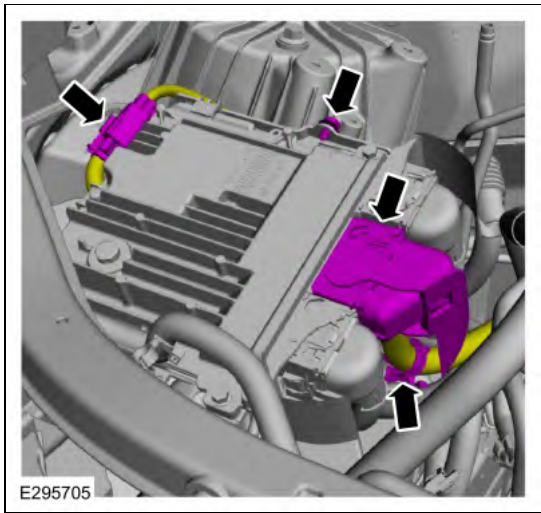
18.

- Remove the nuts and the A/C lines from A/C compressor.
- Discard the O-ring seal.
- Make sure that all openings are sealed.

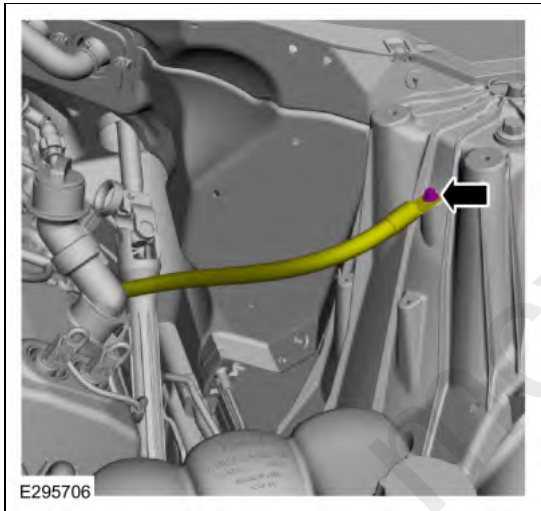


19.

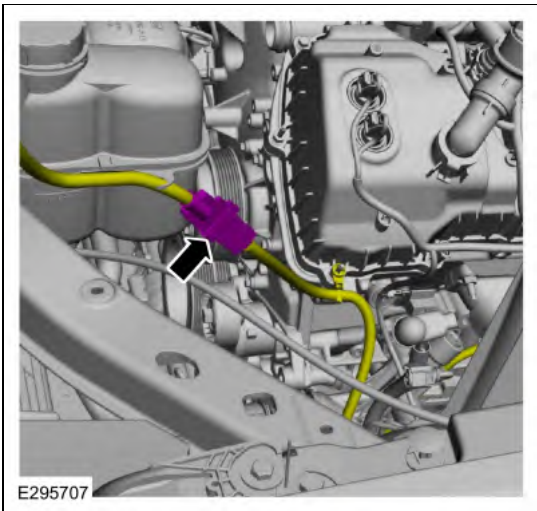
- Disconnect the center PCM electrical connector and wiring harness retainer.
- Disconnect the engine harness electrical connector, retainer and position the engine wiring harness on the engine.



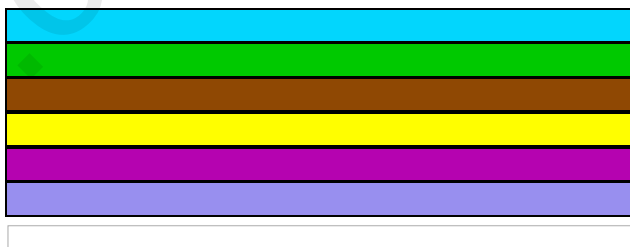
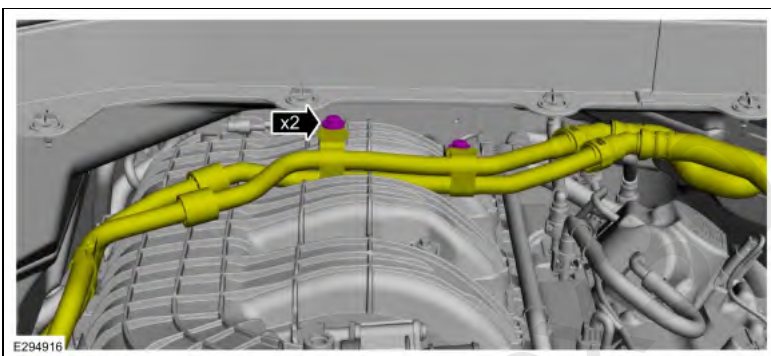
20. Remove the bolt from the LH shock tower and position the ground aside.



21. If equipped, disconnect the block heater.

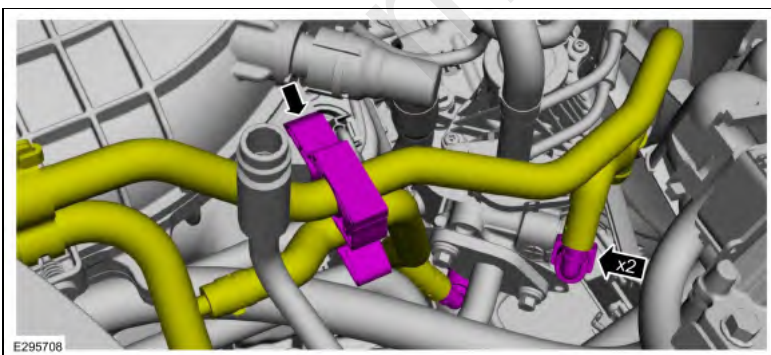


22. Remove the coolant tube bolts from the top of intake manifold.



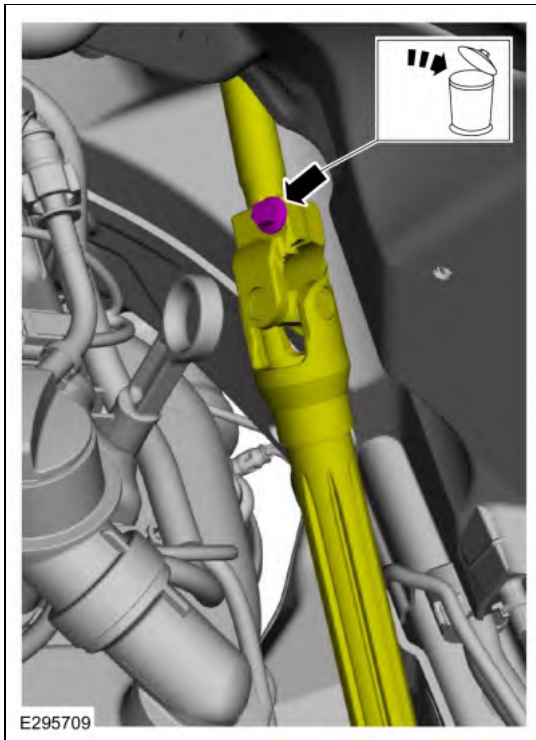
23.

- Detach coolant tubes retainer from the upper intake manifold.
- Disconnect the coolant hoses from the EGR valve.



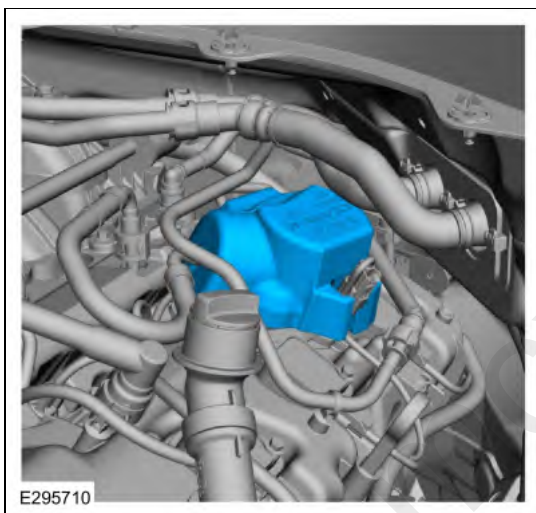
24.

- Remove the bolt and disconnect the steering shaft.
- Discard the bolt.



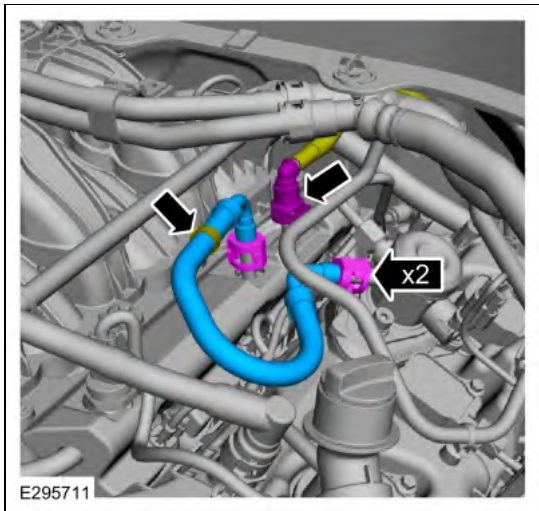
25. **NOTE:** When removing or installing the high-pressure fuel pump noise insulator, spreading the openings will reduce the risk of damage.

Remove the high-pressure fuel pump noise insulator.



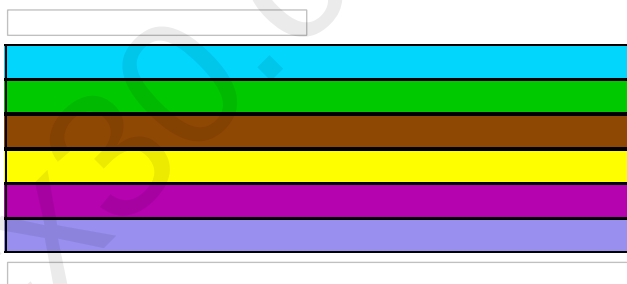
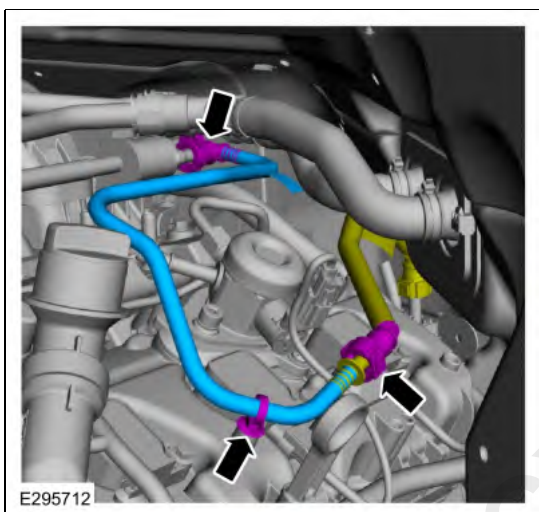
26. **NOTE:** Make note of the high-pressure fuel pump supply Oetiker® clamp end location for correct installation.

- Disconnect the quick release coupling and position the fuel supply tube aside.
Refer to: Quick Release Coupling (310-00 Fuel System - General Information - 3.3L Duratec-V6) .
- Disconnect the quick release couplings and remove the high-pressure fuel pump to port injection fuel rail tube.
Refer to: Quick Release Coupling (310-00 Fuel System - General Information - 3.3L Duratec-V6) .

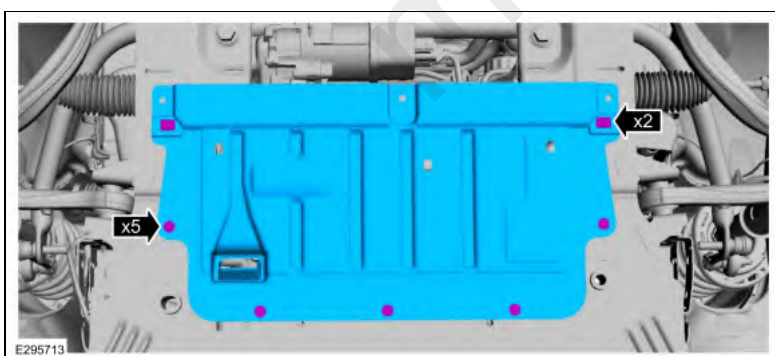


27.

- Detach the EVAP tube retainer.
- Disconnect the quick release couplings and remove the EVAP tube.
Refer to: Quick Release Coupling (310-00 Fuel System - General Information - 3.3L Duratec-V6) .

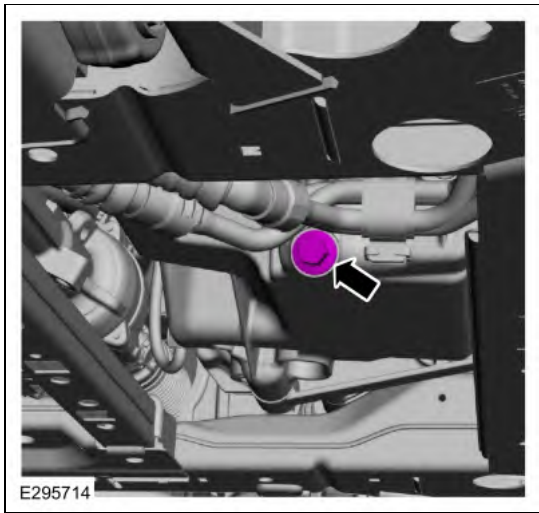


28. Remove the pin-type retainer, bolts and the rear underbody shield.

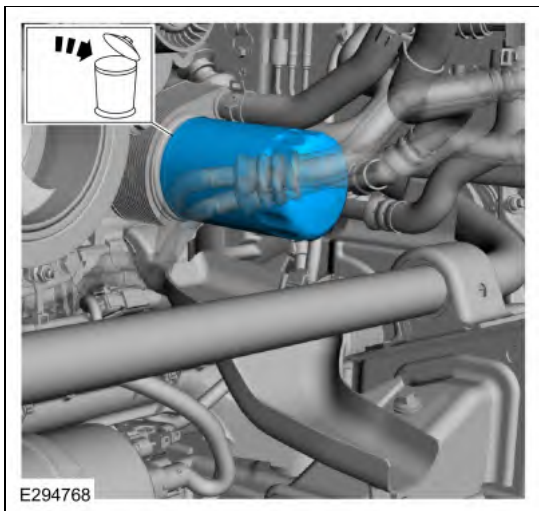


29.

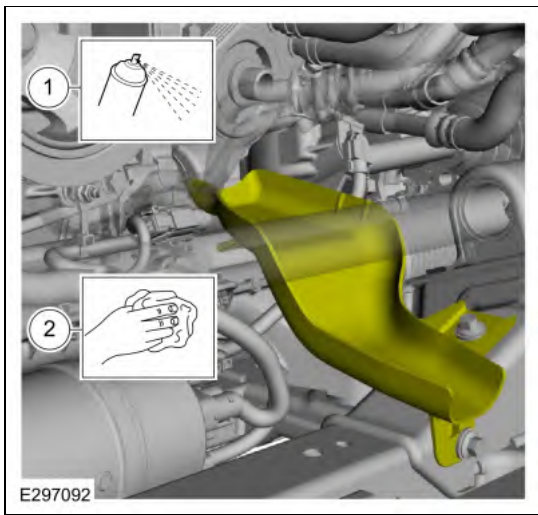
- Remove the oil pan drain plug and drain the engine oil.
Use the General Equipment: Oil Drain Equipment
- Install the oil drain plug.
Torque: 19 lb.ft (26 Nm)



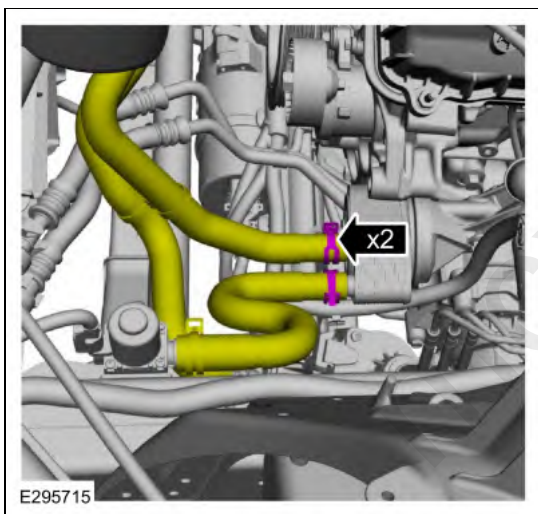
30. Remove and discard the engine oil filter.
Use the General Equipment: Oil Drain Equipment



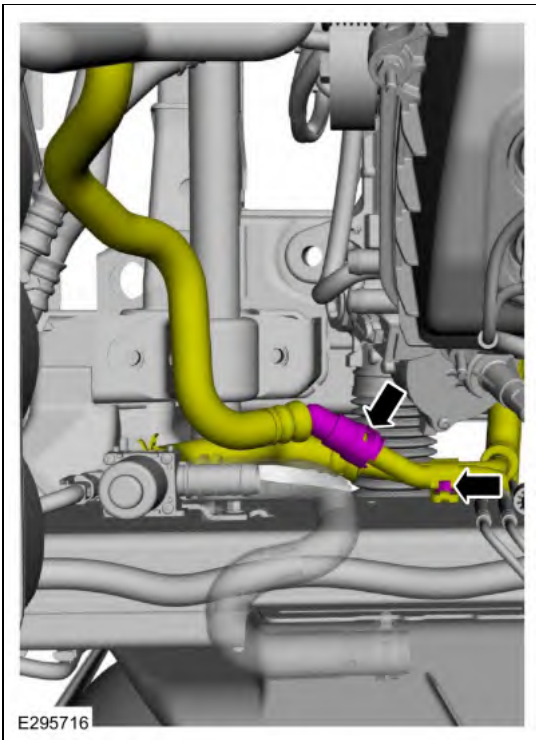
- 31.
- Using brake cleaner, clean the drain trough.
Use the General Equipment: Oil Drain Equipment
Material: Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B
 - Wipe the drain trough clean.



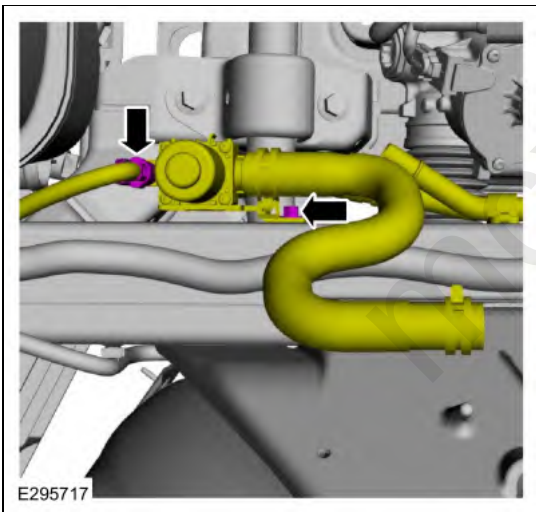
32. Disconnect the coolant hoses from the oil cooler.
Use the General Equipment: Hose Clamp Remover/Installer



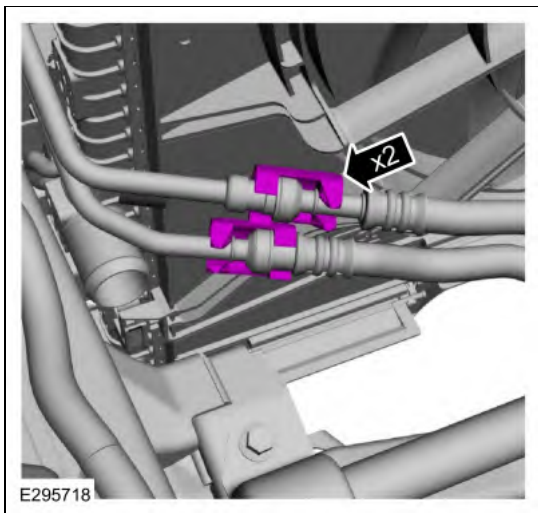
- 33.
- Disconnect the coolant hose from transmission cooler hose.
 - Remove the transmission cooler hose bracket bolt.



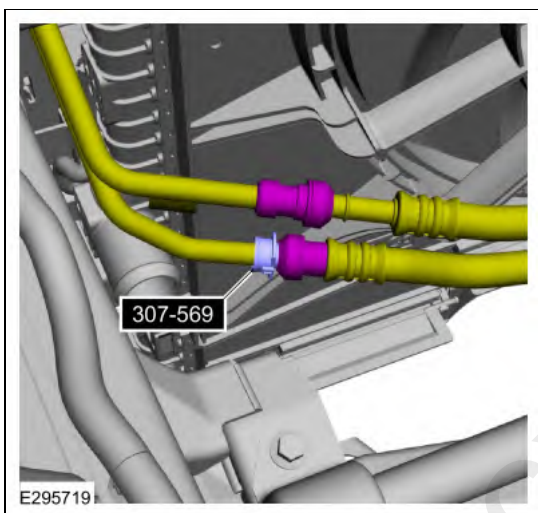
- 34.
- Disconnect the coolant solenoid wiring harness electrical connector.
 - Remove the coolant solenoid bracket bolt and position aside.



35. Remove the transmission fluid cooler tube secondary latches.



36. Using the special tool, disconnect the transmission fluid cooler tubes.
Use Special Service Tool: 307-569 Disconnect Tool TOC Line (1/2).

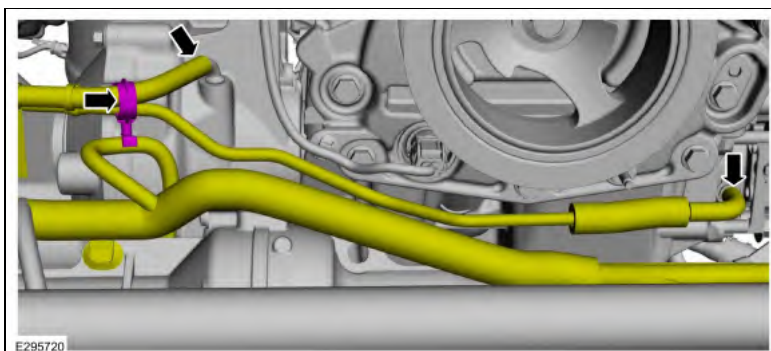


37. **NOTICE: Do not allow the brake caliper and anchor plate assembly to hang from the brake hose or damage to the hose can occur.**

Remove both front brake disc.
Refer to: Brake Disc (206-03 Front Disc Brake, Removal and Installation).

38. Remove the RH and LH halfshafts.
Refer to: Halfshaft (205-04 Front Drive Halfshafts, Removal and Installation).

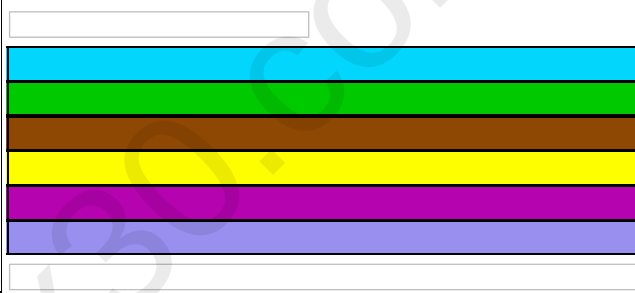
- 39.
- Disconnect the vent hose from the LH axle connector.
 - Detach the wiring harness retainer from the vent tubes.
 - Disconnect the vent hose from the front axle assembly and position the vent tubes aside.



E295721



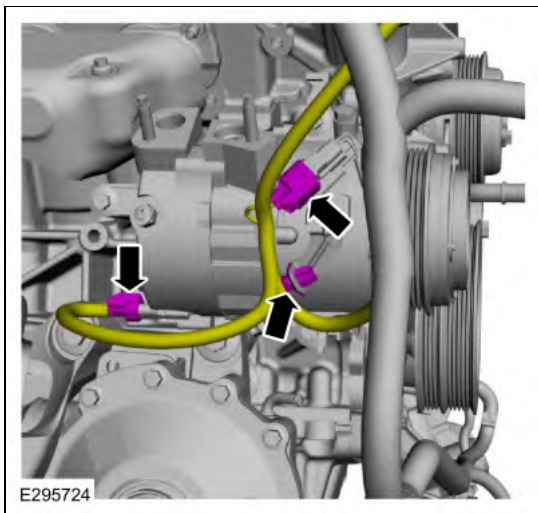
A close-up photograph showing the yellow cable being inserted into the purple plug on the engine. A black arrow points to the plug.



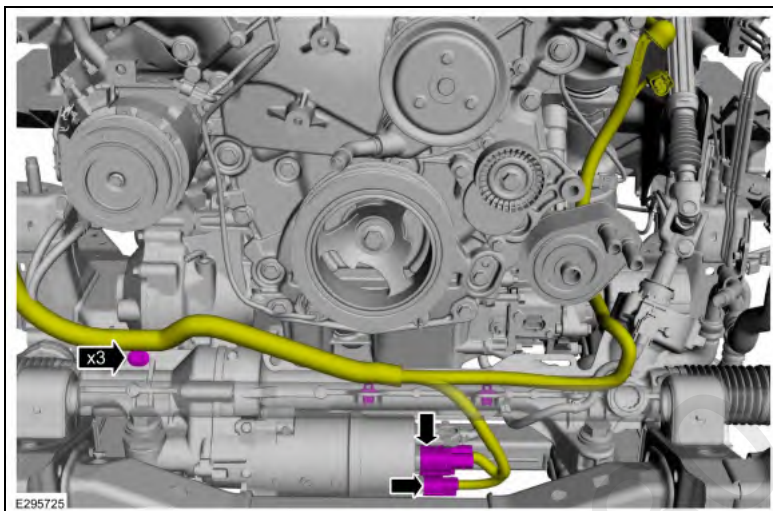
E295723



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

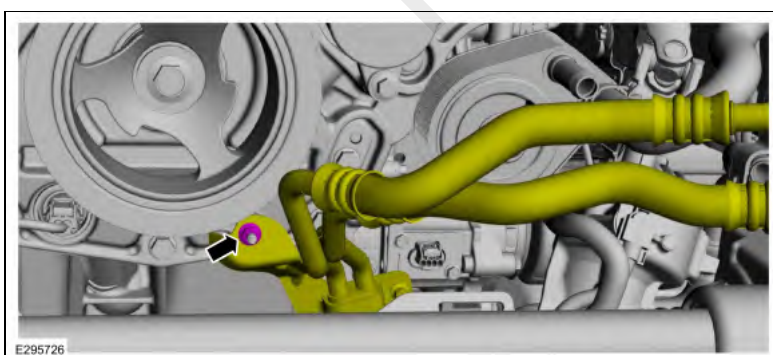


44. Disconnect the steering gear wiring harness electrical connectors, retainers and position the wiring harness to the RH side of vehicle.



45. Remove the transmission.
- If equipped with 10R60.
Refer to: Transmission - 3.3L Duratec-V6 (307-01A Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission "10R60, Removal and Installation).
 - If equipped with 10R80.
Refer to: Transmission - 3.3L Duratec-V6 (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission "10R80, Removal and Installation).

46. Remove the nut from engine front cover and position the transmission cooling tube bracket off the stud bolt.



47. Remove the bolt, detach the wiring harness retainers and position the ground wire aside.



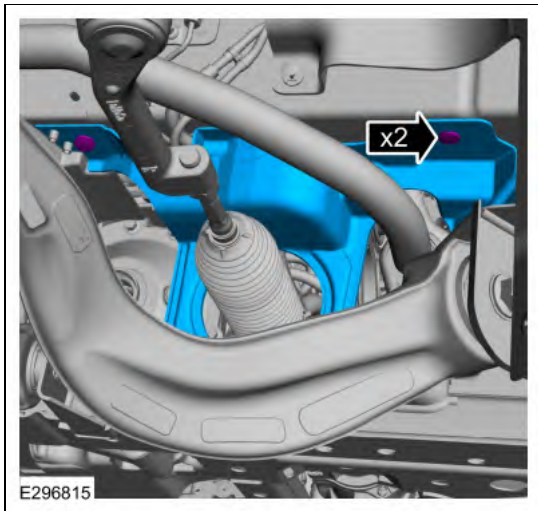
E295728



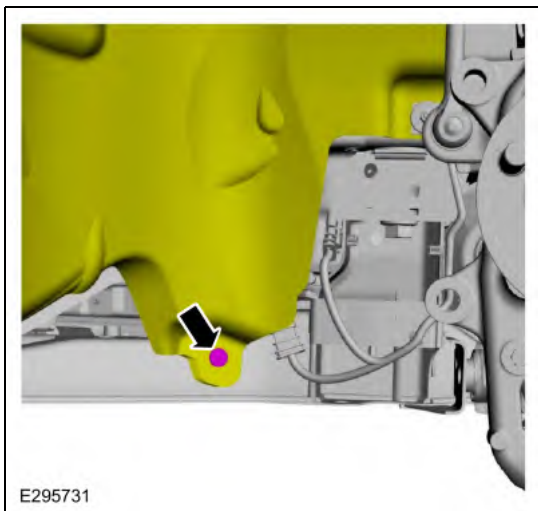
E295729



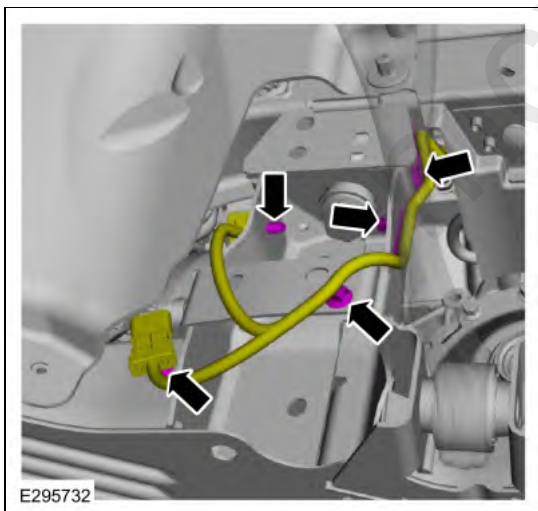
F295730



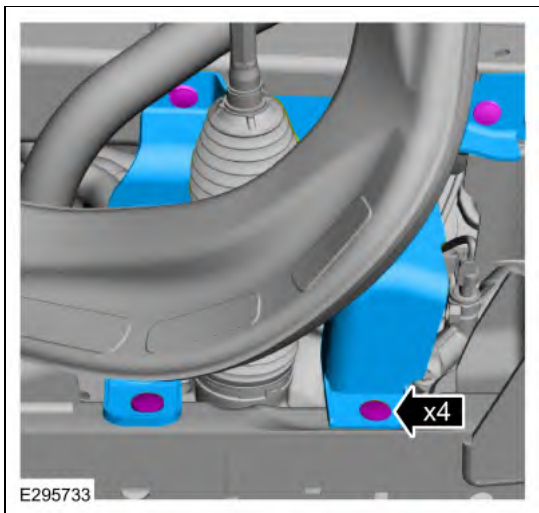
51. Remove the splash shield pin-type retainer from the RH subframe.



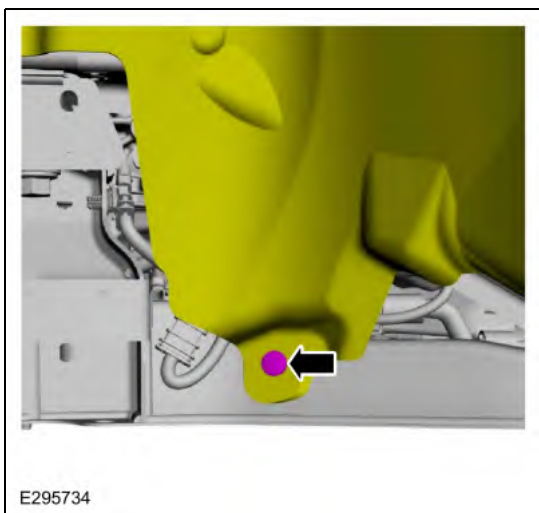
52. Detach the HO2S wiring harness retainers from the RH subframe.



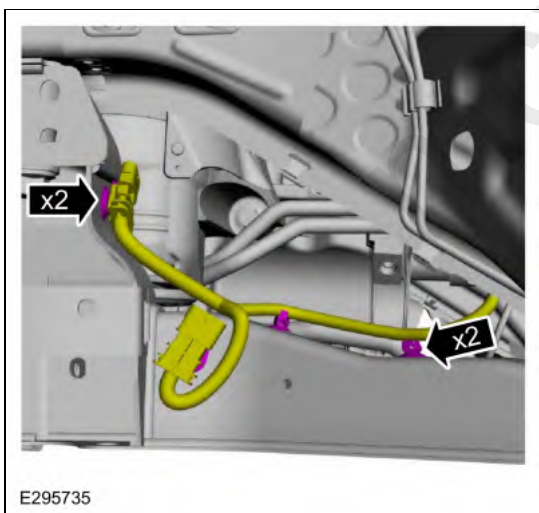
53. Remove the pin-type retainers and the steering shield from the LH subframe.



54. Remove the splash shield pin-type retainer from the LH subframe and position aside.

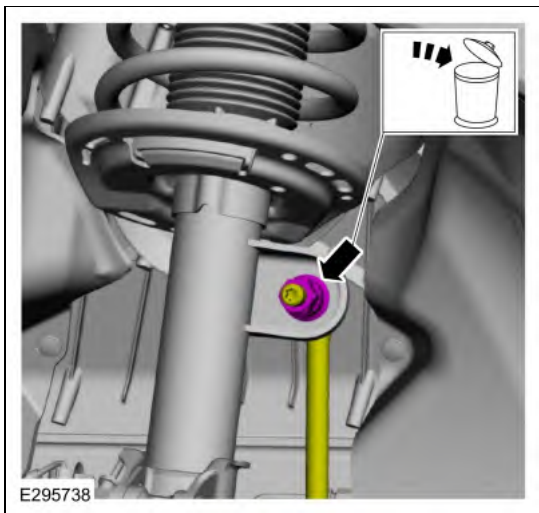


55. Detach the HO2S wiring harness retainers from the LH subframe.



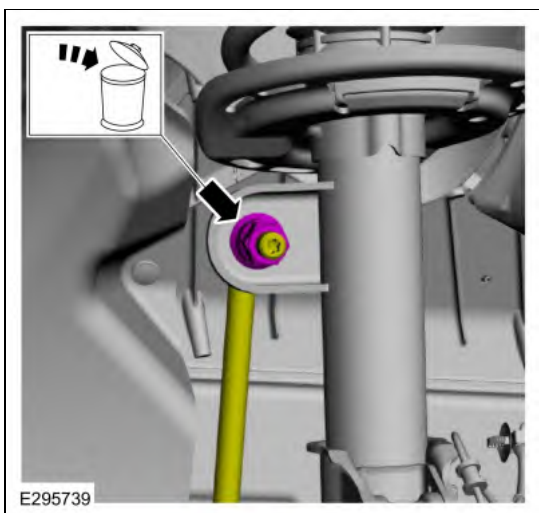
56. **NOTICE:** Use the internal or external hex-holding feature to prevent the ball and stud from turning while removing or installing the stabilizer bar link nuts. The link boot seal must not be allowed to twist while tightening the link nuts or damage to the boot seal will occur.

Remove the nut and position the LH sway bar link aside.



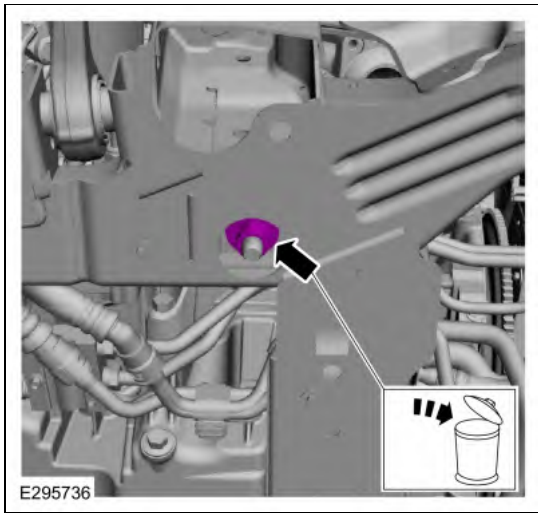
57. **NOTICE:** Use the internal or external hex-holding feature to prevent the ball and stud from turning while removing or installing the stabilizer bar link nuts. The link boot seal must not be allowed to twist while tightening the link nuts or damage to the boot seal will occur.

Remove the nut and position the RH sway bar link aside.



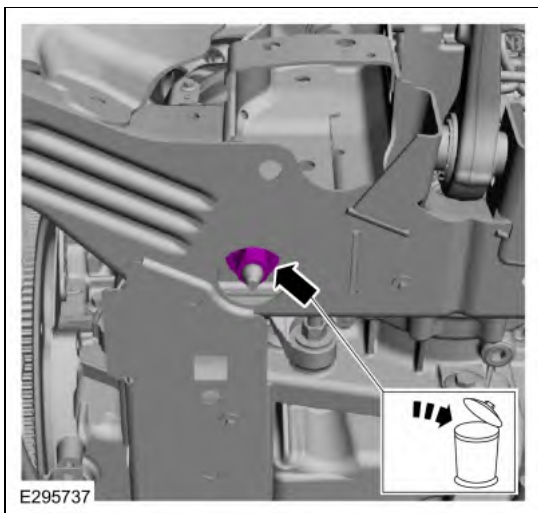
58. **NOTICE:** Only use hand tools when removing the engine mount nuts or damage to the engine mount can occur.

- Remove the LH engine mount nut.
- Discard the engine mount nut.

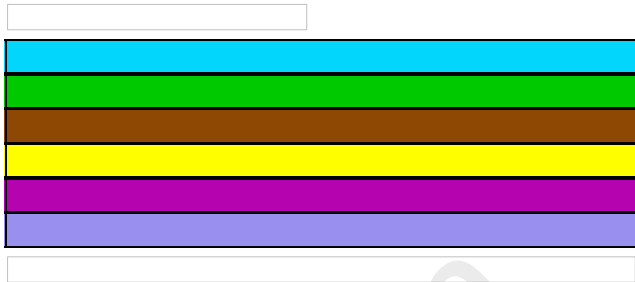
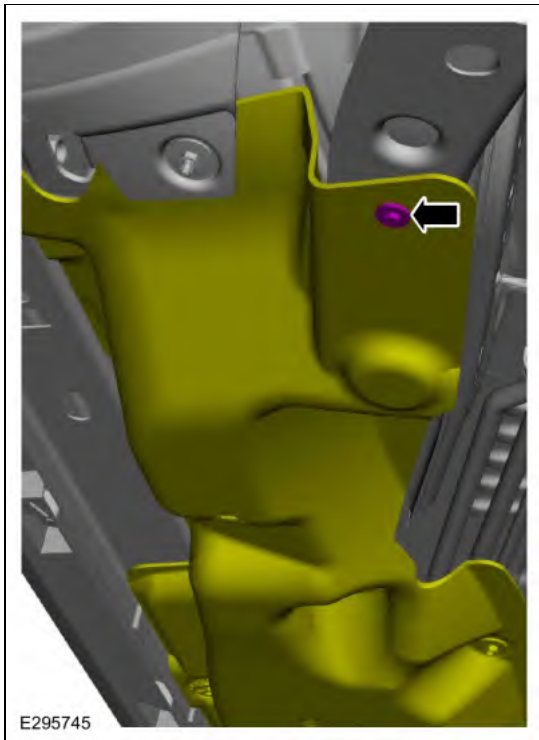


59. **NOTICE:** Only use hand tools when removing the engine mount nuts or damage to the engine mount can occur.

- Remove the RH engine mount nut.
- Discard the engine mount nut.



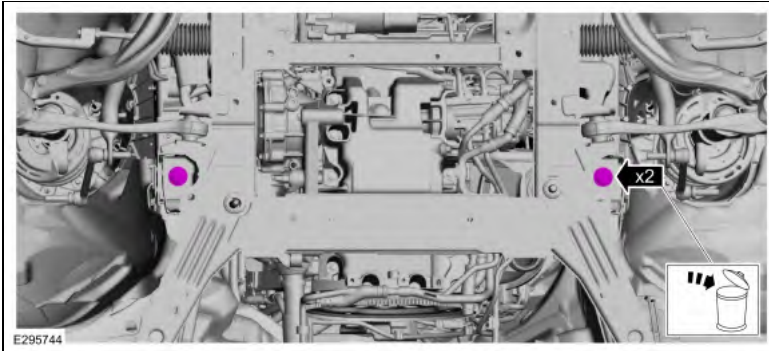
60. Remove the bolt and position the RH underbody shield aside.



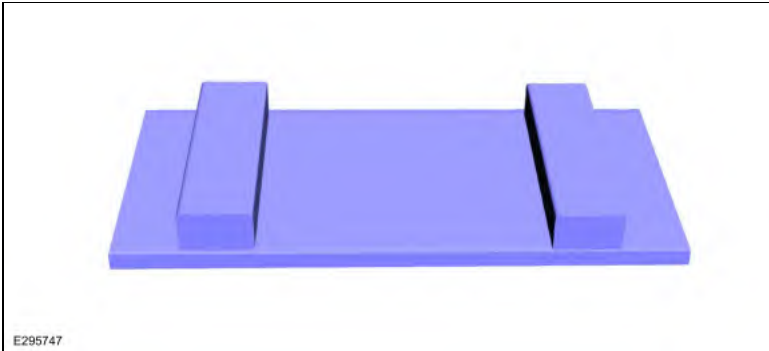
61. Remove the bolt and position the LH underbody shield aside.



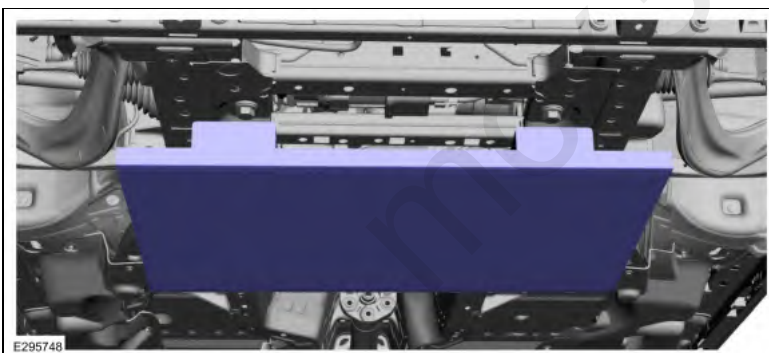
- 62.
- Remove the middle subframe bolts.
 - Discard the bolts.



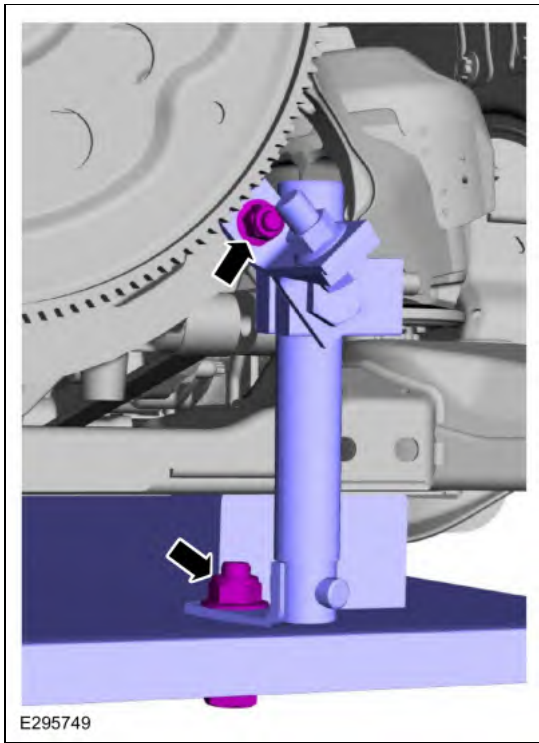
63. Position two boards onto the powertrain jack as shown.



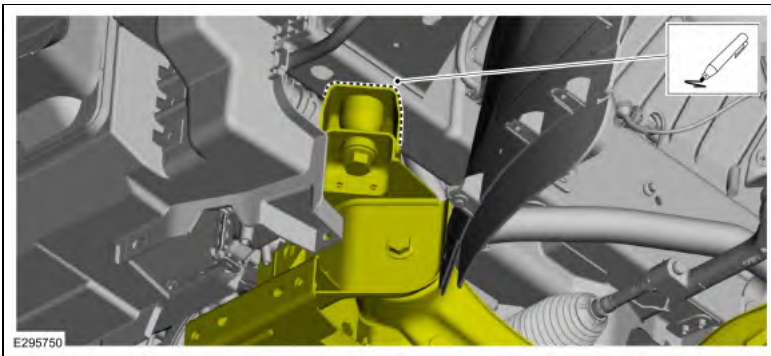
64. Position the powertrain jack and blocks of wood under the powertrain and subframe .
 Use the General Equipment: Powertrain Jack
 Use the General Equipment: Wooden Block



65. Install and adjust and tighten the adjustable mounting arm bolts.
 Use the General Equipment: Adjustable Mounting Arm



66. Mark the front subframe location.



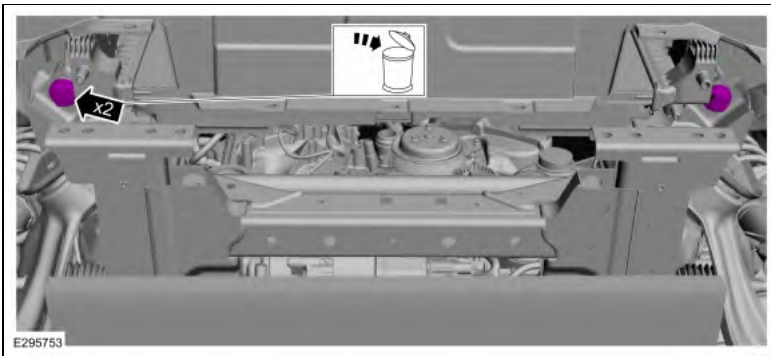
67. Mark the rear subframe location.



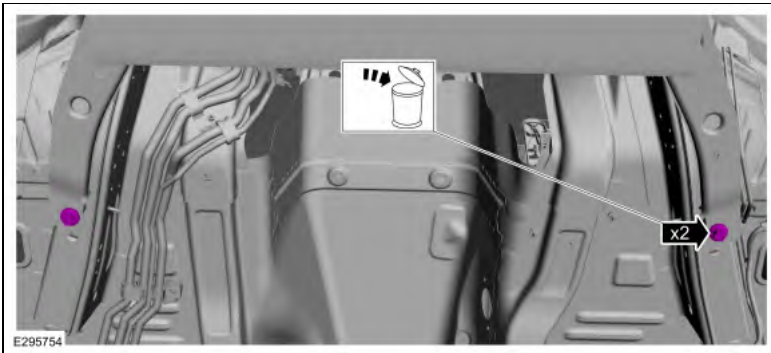
68. Remove the front radiator support bar bolts.



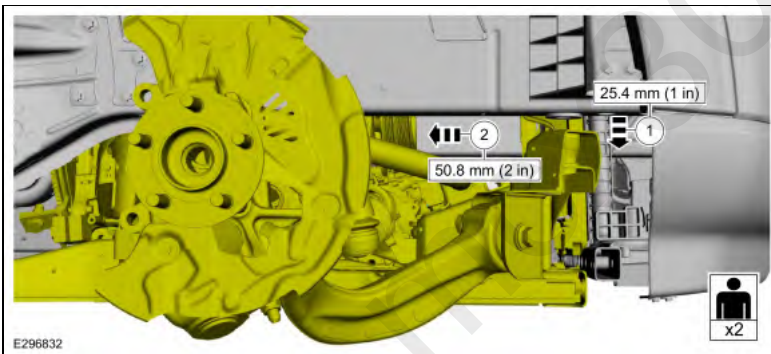
- 69.
- Remove the front subframe bolts.
 - Discard the bolts.



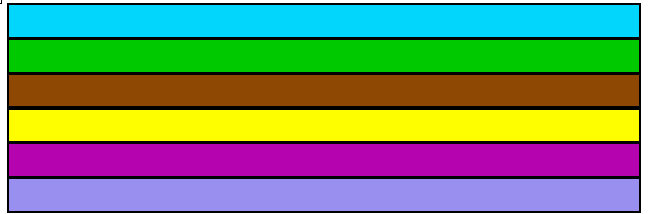
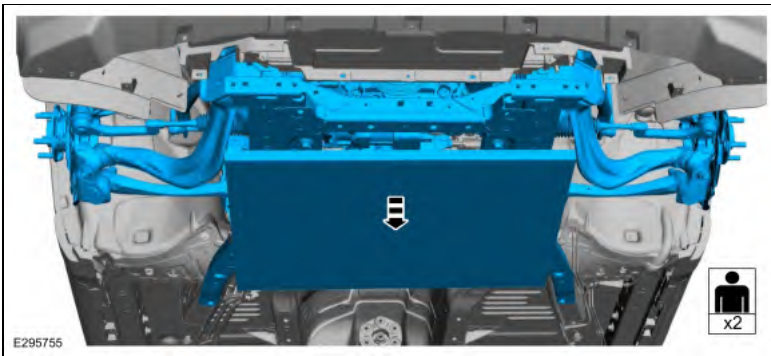
- 70.
- Remove the rear subframe bolts.
 - Discard the bolts.



- 71.
1. With the aid of an assistant and using the powertrain jack, lower the powertrain and subframe 25.4 mm (1 in).
 2. With the aid of an assistant and using the powertrain jack, position the powertrain and subframe rearwards 50.8 mm (2 in).

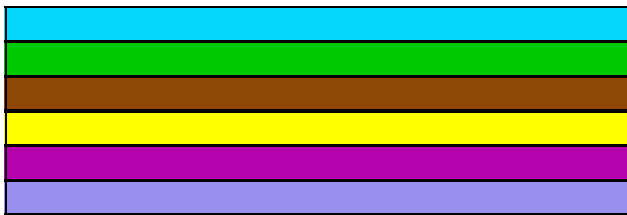
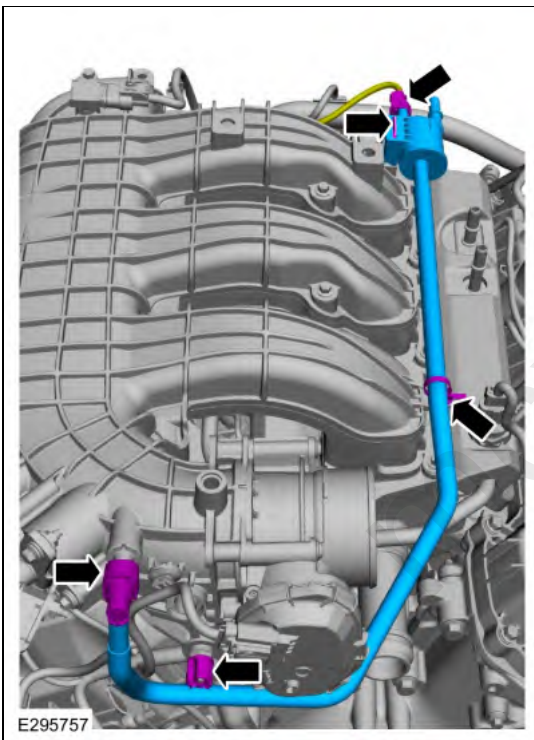


72. With the aid of an assistant and using the powertrain jack, lower the powertrain and subframe as an assembly.

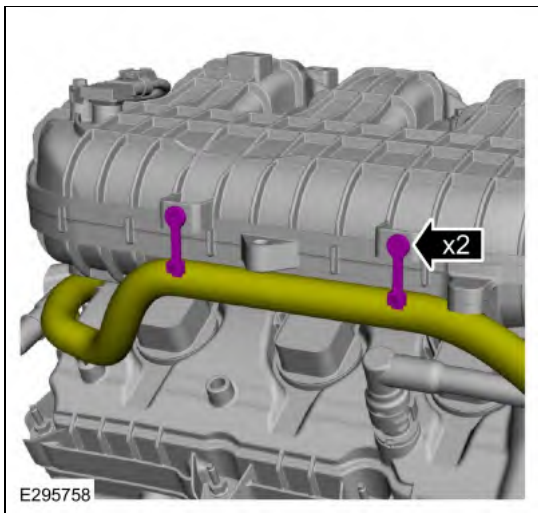


73.

- Disconnect the EVAP canister purge valve wiring harness electrical connector.
 - Detach the EVAP canister purge valve retainers.
 - Disconnect the quick release coupling and remove the EVAP canister purge valve.
- Refer to: Quick Release Coupling (310-00 Fuel System - General Information - 3.3L Duratec-V6) .

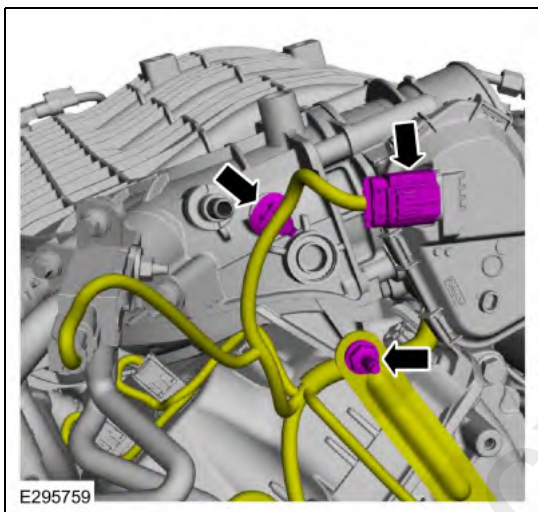


74. Detach the wiring harness retainers from the RH side of the intake manifold.



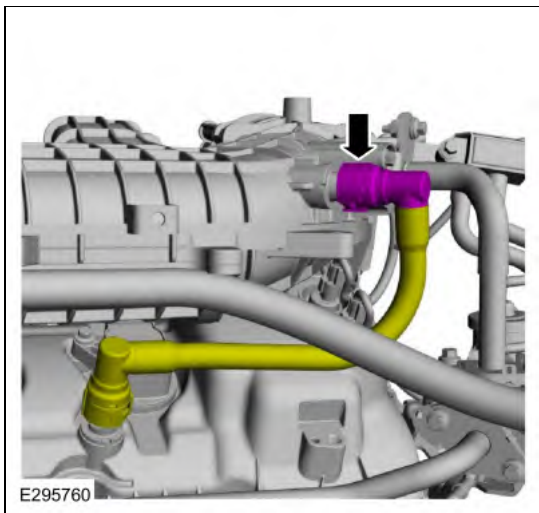
75.

- Disconnect the throttle body electrical connector and wire harness retainer.
- Remove bolt for the upper intake manifold support bracket.

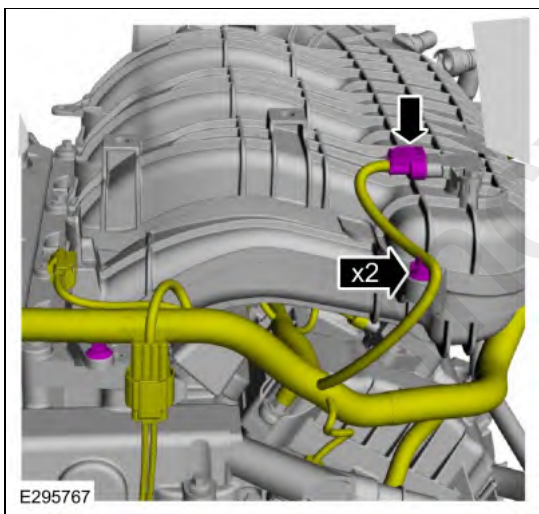


76. Disconnect the PCV tube quick connect coupling from the intake manifold.

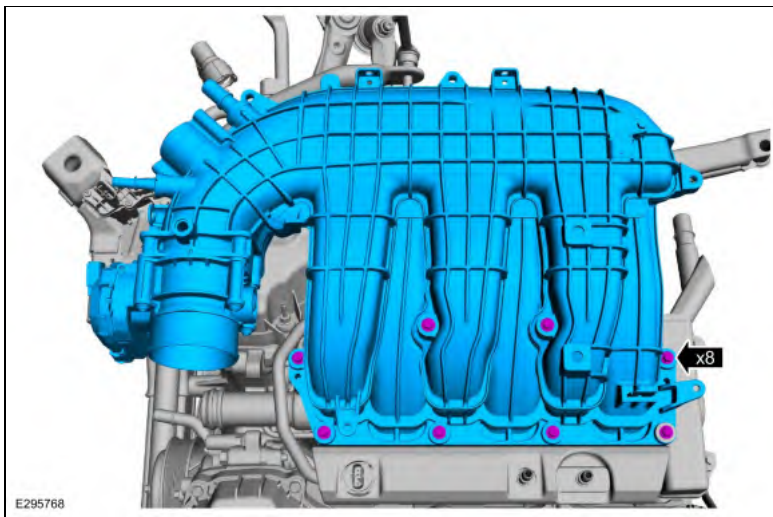
Refer to: Quick Release Coupling (310-00 Fuel System - General Information - 3.3L Duratec-V6) .



77. Remove the EGR valve.
Refer to: Exhaust Gas Recirculation (EGR) Valve (303-08C Engine Emission Control - 3.3L Duratec-V6, Removal and Installation).
78. Disconnect the MAP sensor electrical connector and wiring harness retainers.

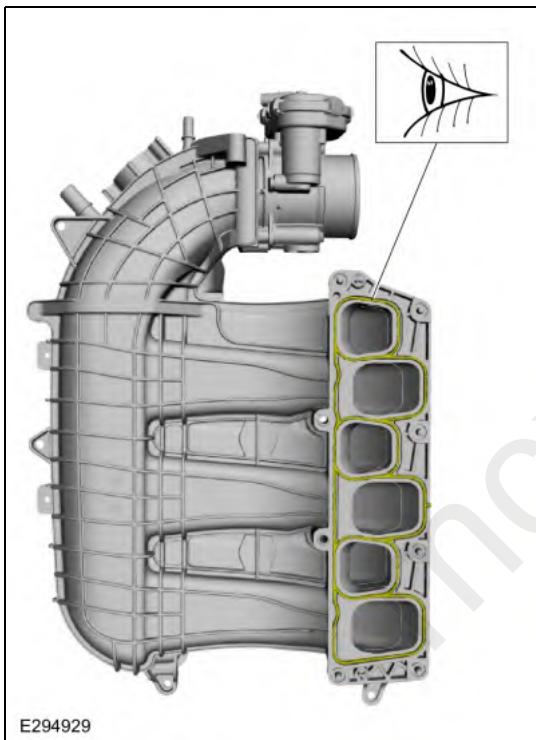


79. Loosen the bolts and remove the upper intake manifold.



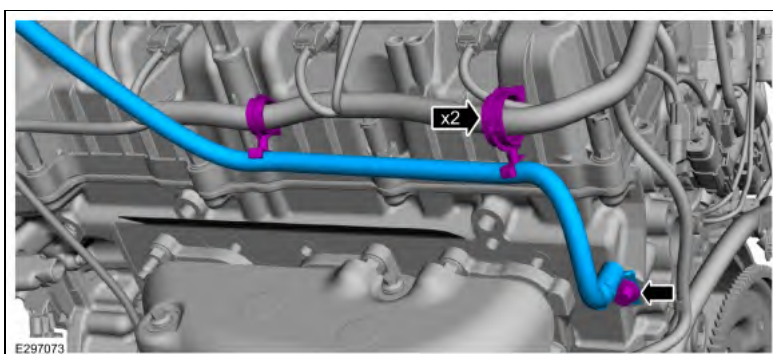
80.

- Visually inspect the upper intake manifold gaskets for nicks, cuts and abrasions. If these conditions are not present, the gaskets may be re-used.
- Clean and inspect all of the sealing surfaces of the upper and lower intake manifold.

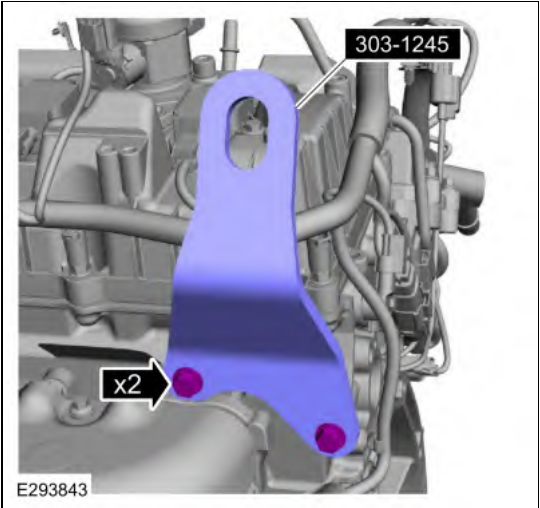


81.

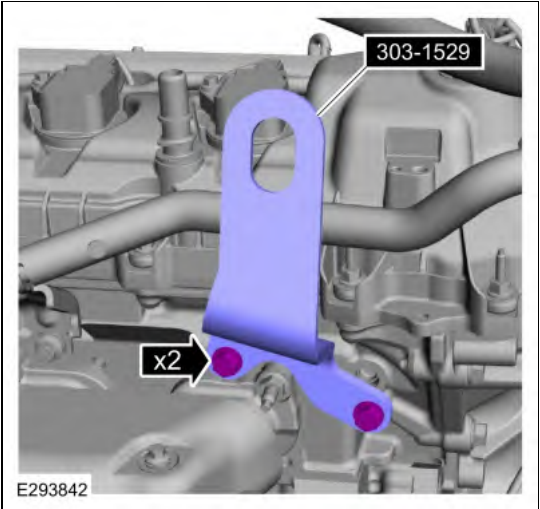
- Remove the ground cable bolt.
- Detach the ground cable retainers and remove.



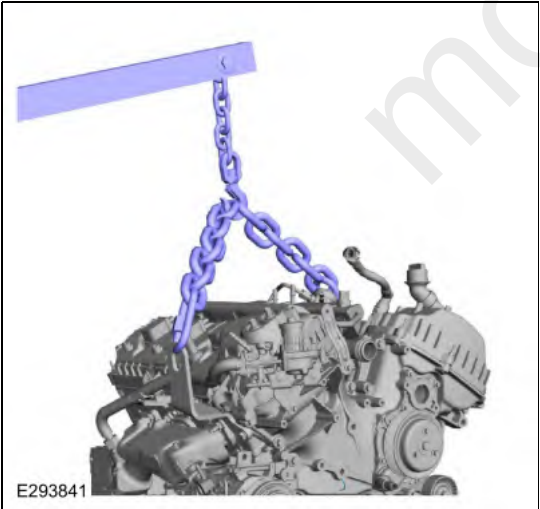
82. Install Special Service Tool: 303-1245 Engine Lift Eye.



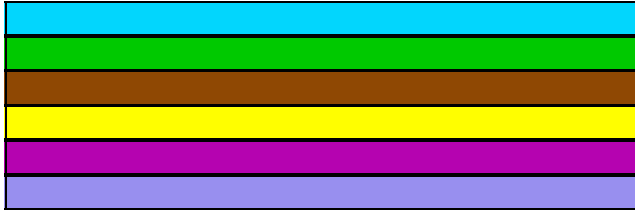
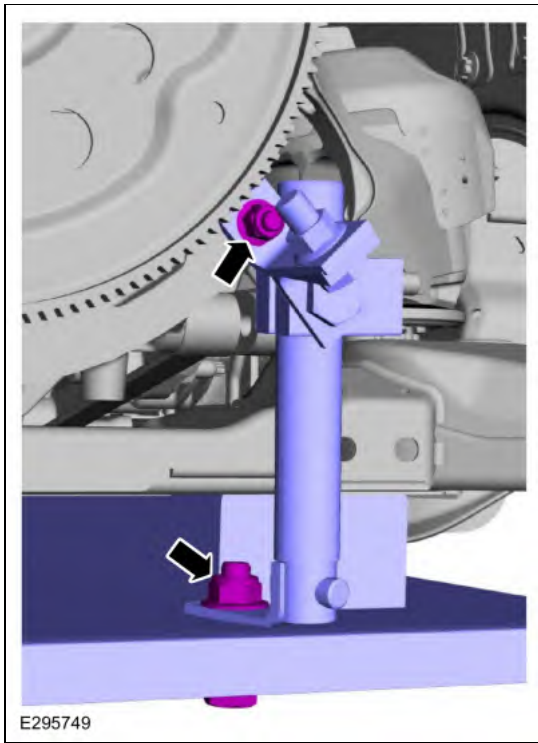
83. Install Special Service Tool: 303-1529 Lift Eye, Engine.



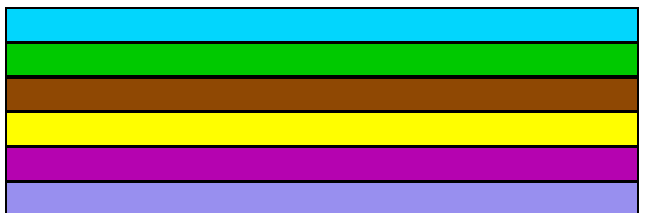
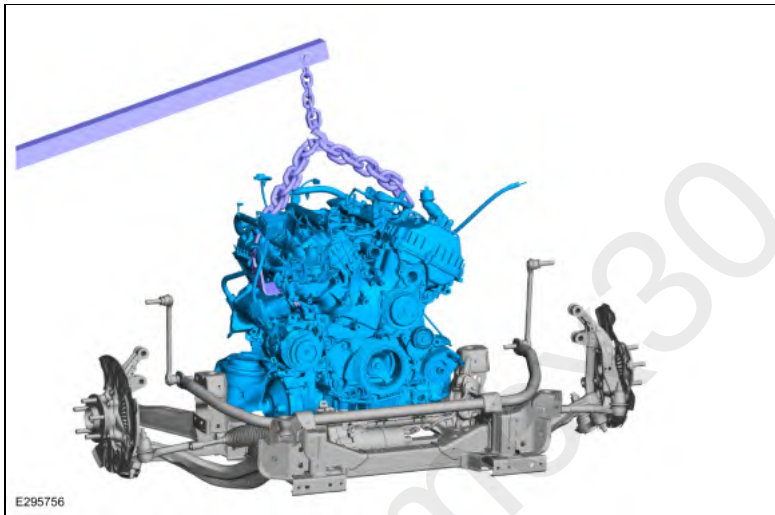
84. Install the floor crane and chain,.



85. Remove.
Use the General Equipment: Adjustable Mounting Arm



86. Using the floor crane and chain, remove the engine from subframe.

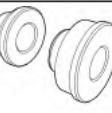
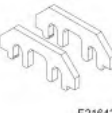


Disassembly

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Engine

Special Tool(s) / General Equipment

 E234304	205-142 (T80T-4000-J) Installer, Differential Bearing Cone
	205-150 (T80T-4000-S) Installer, Spindle Bearing
 E133913	205-153 (T80T-4000-W) Handle
	303-1245 Engine Lift Eye TKIT-2006UF-FLM TKIT-2006UF-ROW
 E175042	303-1247 VCT Spark Plug Tube Seal Remover and Installer TKIT-2006UF-FLM TKIT-2006UF-ROW
 E216421	303-1248 Camshaft holding tools TKIT-2006UF-FLM TKIT-2006UF-ROW
	303-1529 Lift Eye, Engine TKIT-2010A-F TKIT-2010A-LM TKIT-2010A-ROW
	303-1530 Tool, Chain Tensioner Hold Down TKIT-2010A-F TKIT-2010A-LM TKIT-2010A-ROW
 E134603	303-409 (T92C-6700-CH) Remover, Crankshaft Seal TKIT-1992-FH/FMH/FLMH TKIT-1993-LMH/MH
Floor Crane	
Mounting Stand	
Plastic Scraper	

Materials

Name	Specification
Motorcraft® Silicone Gasket Remover ZC-30-A	-
Motorcraft® Metal Surface Prep Wipes ZC-31-B	-
Motorcraft® Metal Brake Parts Cleaner PM-4-A, PM-4-B	-

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.

NOTE: If the cylinder head(s) is replaced, a new secondary timing chain tensioner will need to be installed.