






## Engine

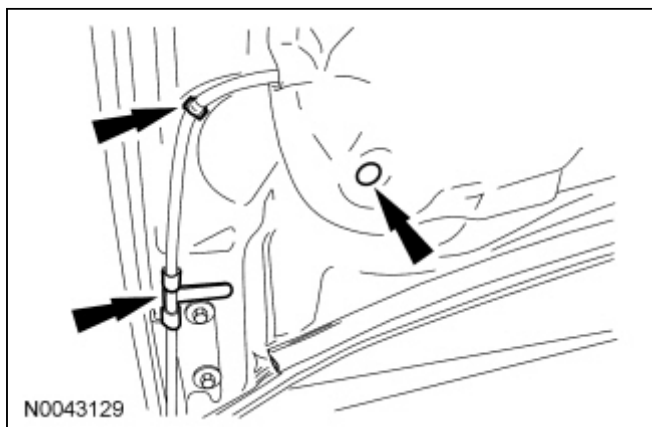
### Special Tool(s)

 ST1341-A	Heavy Duty Floor Crane 014-00071 or equivalent
 ST1603-A	Lifting Bracket, Engine (2 required) 303-D087 (D93P-6001-A1) or equivalent
 ST1602-A	Lifting Bracket, Engine 303-D089 (D93P-6001-A3) or equivalent

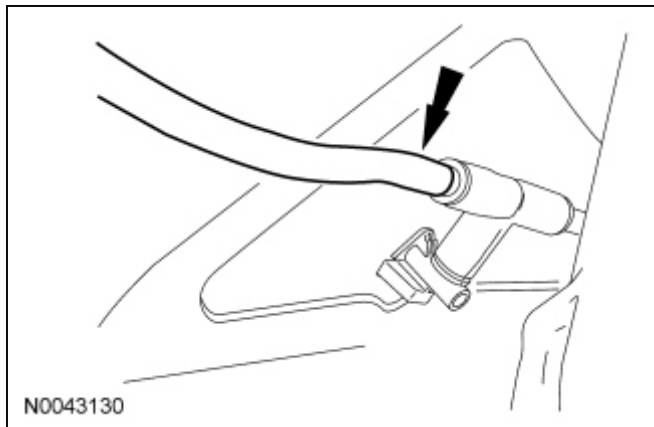
 **WARNING:** Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

 **WARNING:** Before working on or disconnecting any of the fuel tubes or fuel system components, relieve the fuel system pressure to prevent accidental spraying of fuel. Fuel in the fuel system remains under high pressure, even when the engine is not running. Failure to follow this instruction may result in serious personal injury.

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to [Section 100-02](#).
2. Release the 2 windshield washer hose retainers and the one hood insulation pin-type retainer.



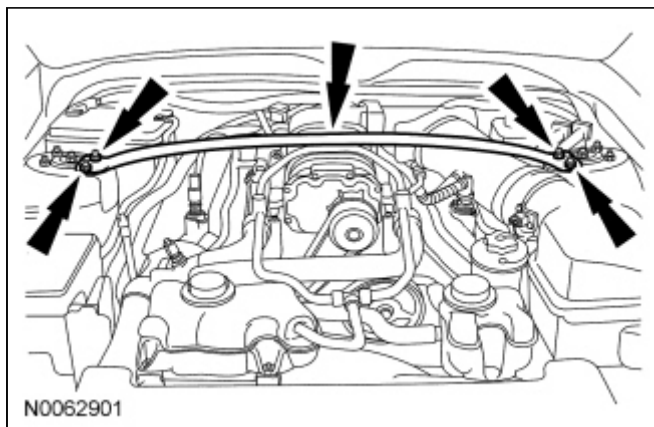
3. Position the hood insulation aside and disconnect the windshield washer hose.



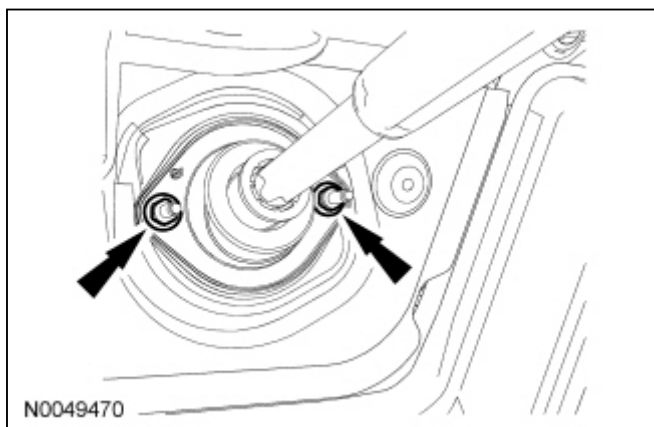
4. **NOTE:** Index-mark the hood hinge location to aid in hood installation.

Remove the 4 bolts and the hood.

5. Release the fuel system pressure. For additional information, refer to [Section 310-00](#).
6. Remove the 4 nuts and the strut tower cross brace.

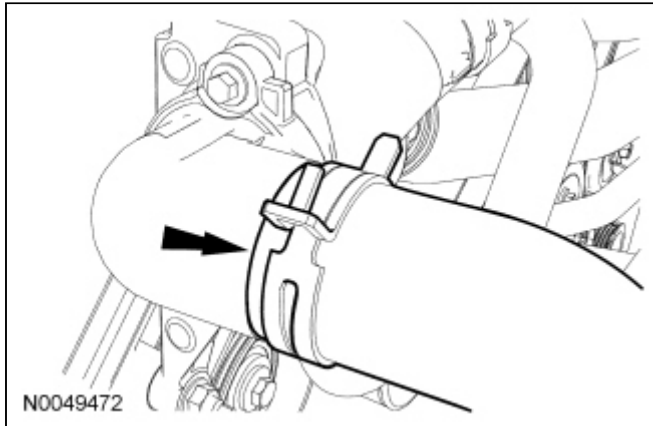


7. Remove the battery and tray. For additional information, refer to [Section 414-01](#).
8. Remove the Air Cleaner (ACL) and [ACL](#) outlet pipe. For additional information, refer to [Section 303-12](#).
9. Remove the 2 steering column dash boot nuts.

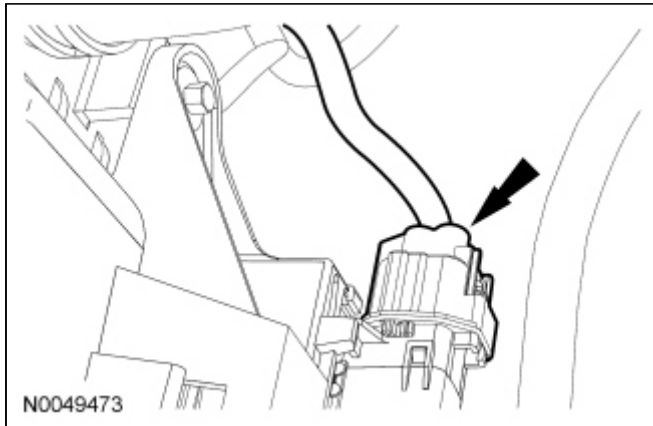


10. Drain the cooling system. For additional information, refer to [Section 303-03A](#).
11. Drain the Supercharger (SC) cooling system. For additional information, refer to [Section 303-03B](#).

12. Remove the engine coolant degas bottle. For additional information, refer to [Section 303-03A](#).
13. Remove the SC coolant degas bottle. For additional information, refer to [Section 303-03B](#).
14. Disconnect the upper radiator hose from the thermostat housing.

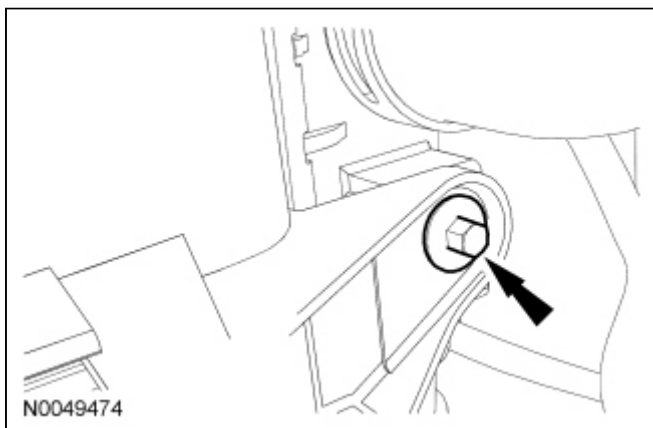


15. Disconnect the cooling fan electrical connector.

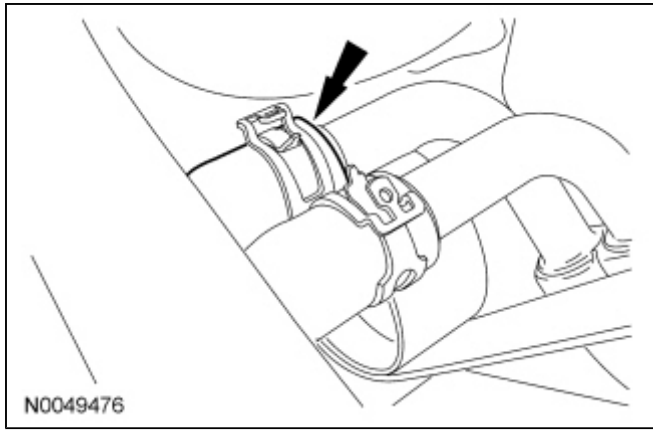


16. **NOTE:** RH bolt shown, LH similar.

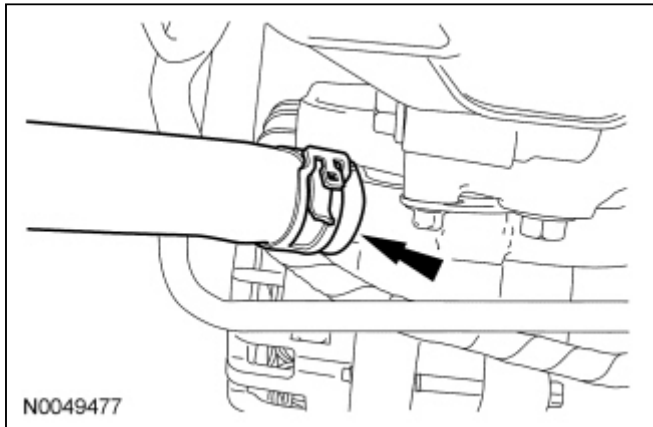
Remove the 2 bolts and the cooling fan assembly.



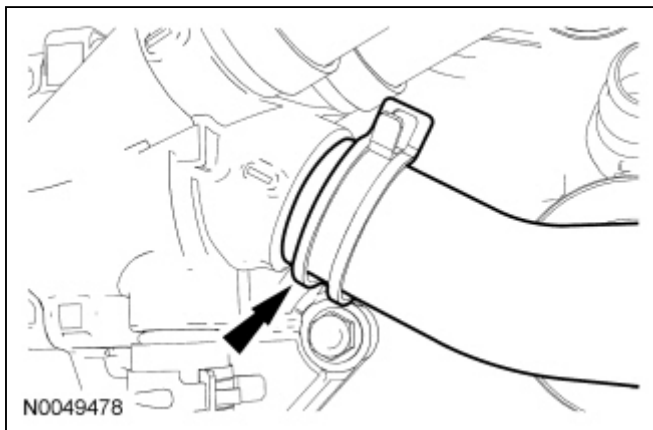
17. Disconnect the coolant hose from the Charge Air Cooler (CAC).



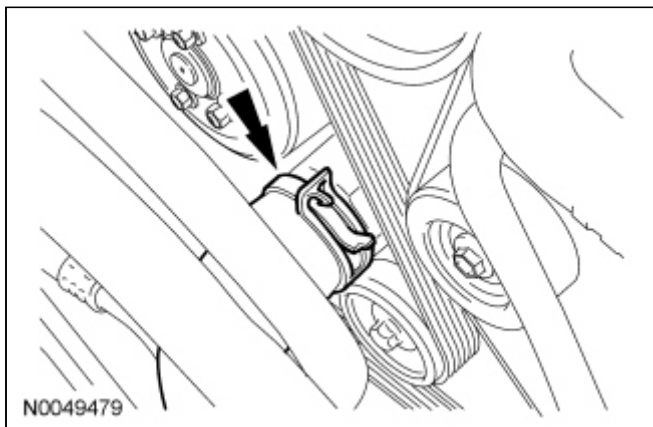
18. Disconnect the coolant hose from the coolant tube assembly (above the generator).



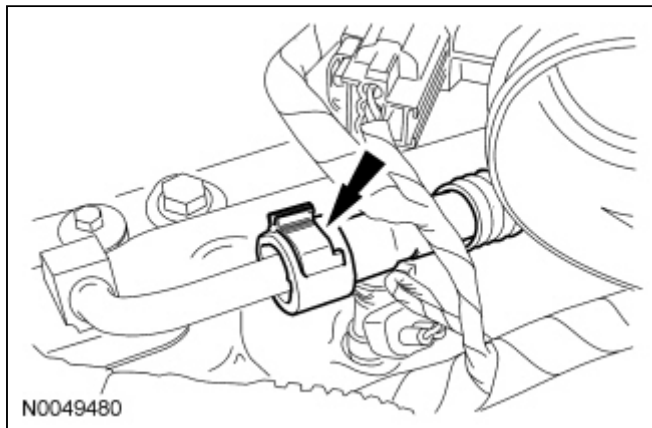
19. Disconnect the coolant hose from the thermostat housing.



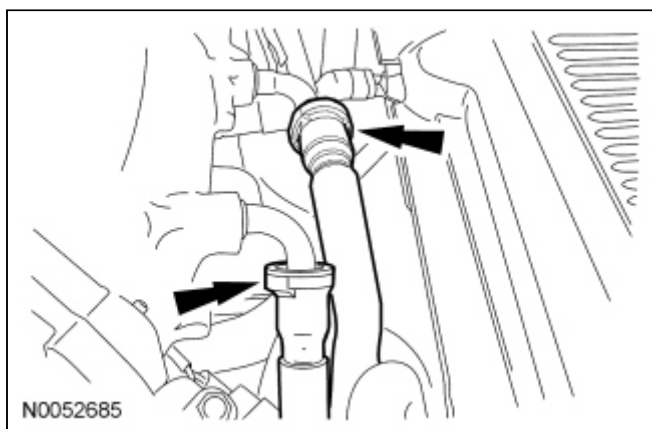
20. Disconnect the coolant hose from the coolant pump.



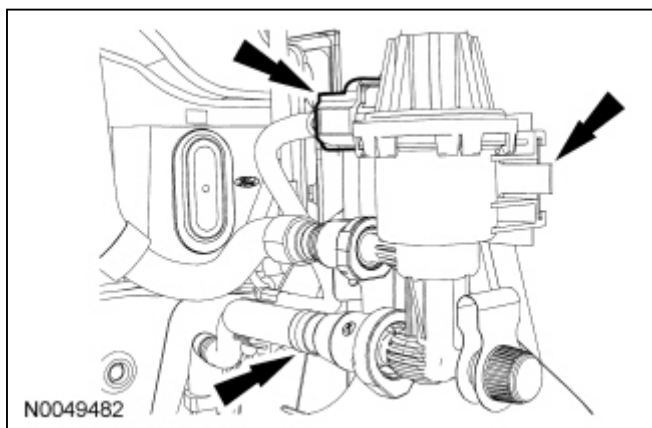
21. Disconnect the fuel supply tube. For additional information, refer to [Section 310-00](#).



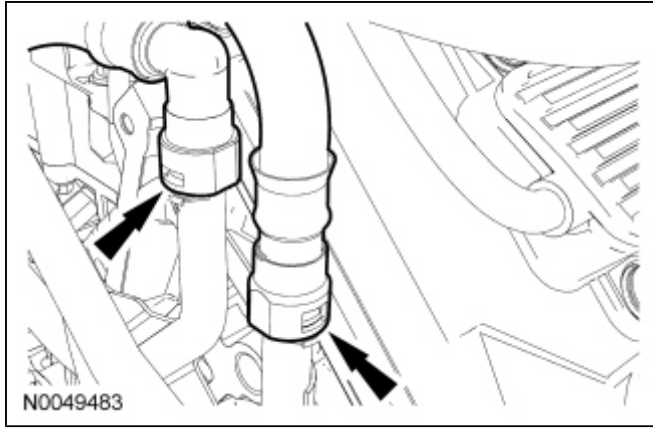
22. Disconnect the Evaporative Emission (EVAP) tube and brake booster vacuum supply tube from the Throttle Body (TB) spacer.



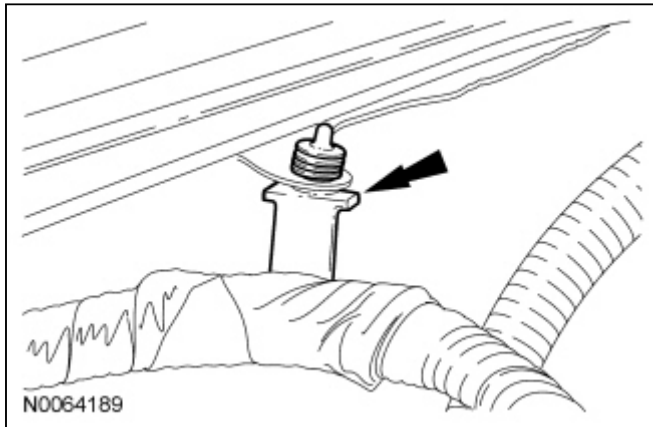
23. Disconnect the lower [EVAP](#) tube and electrical connector from the [EVAP](#) canister purge valve.
- Remove the [EVAP](#) canister purge valve.



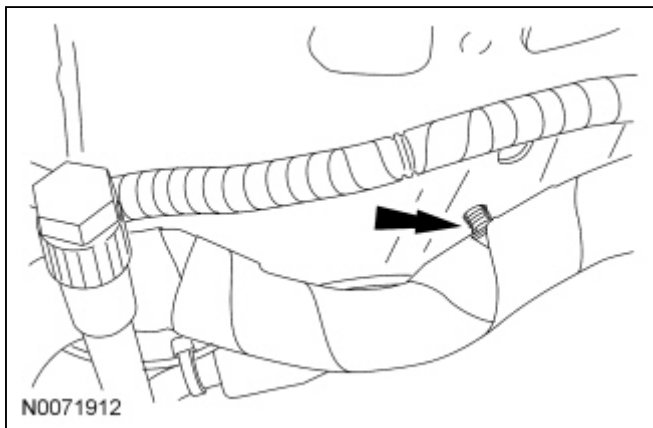
24. Disconnect the 2 heater hoses from the coolant tube assembly at the rear of the engine.



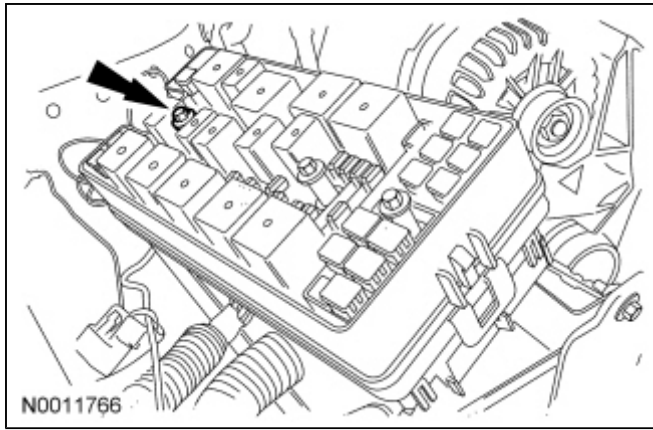
25. Detach the pin-type wire harness retainer from the cowl.



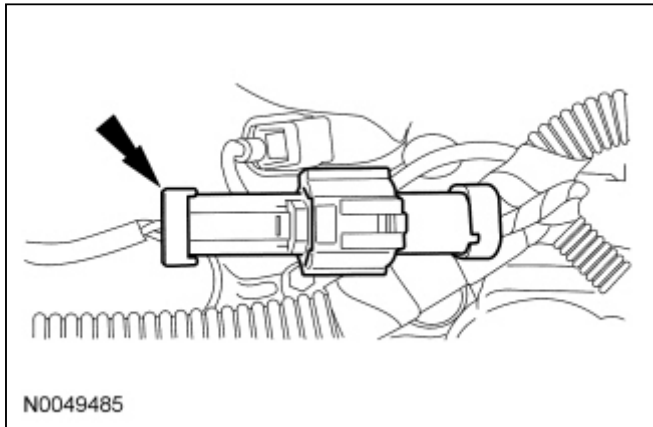
26. Detach the pin-type wiring harness retainer.



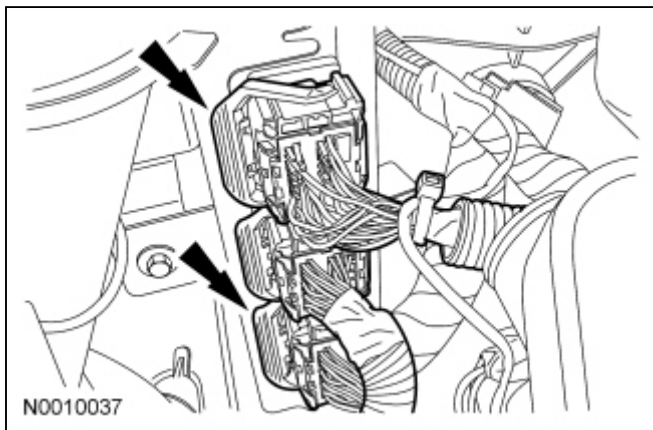
27. Remove the Power Distribution Box (PDB) cover.
28. Detach the PDB upper housing from the lower housing, loosen the bolt, then disconnect the 68-pin connector from the PDB.



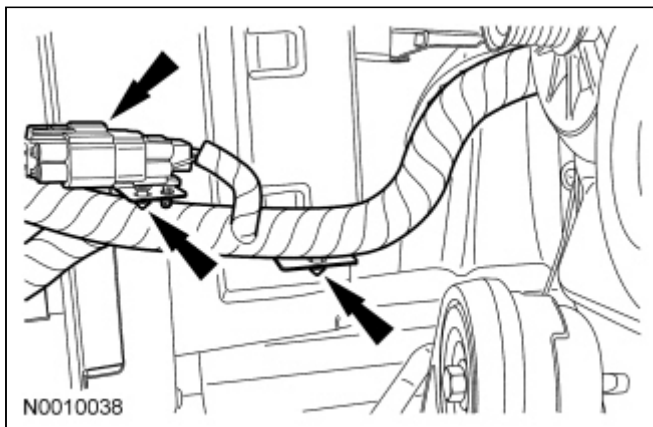
29. Disconnect the jumper harness electrical connector.



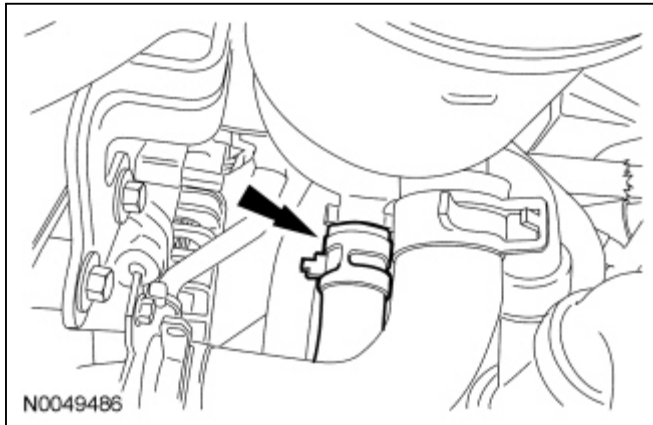
30. Disconnect the upper and lower PCM electrical connectors.



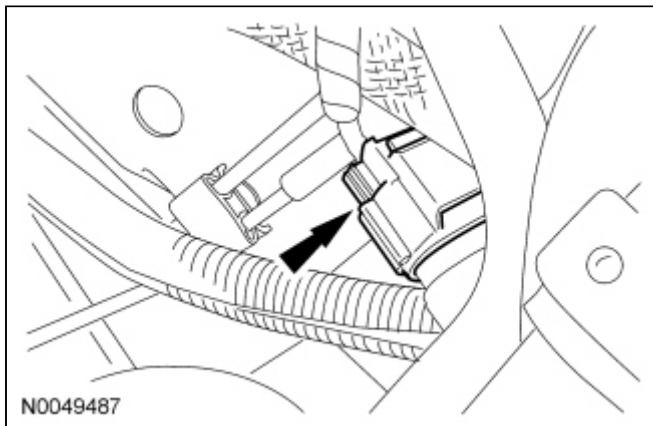
31. Disconnect the 16-pin electrical connector and detach the 2 wiring retainers.



32. Disconnect the hose from the power steering reservoir.
- Drain the power steering fluid into a suitable container.

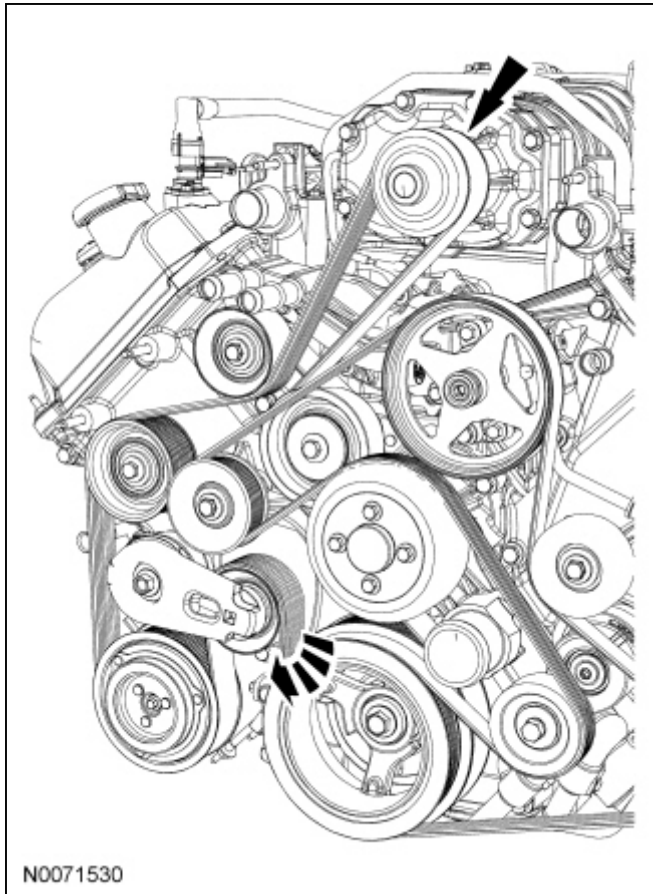


33. Disconnect the A/C pressure transducer electrical connector.

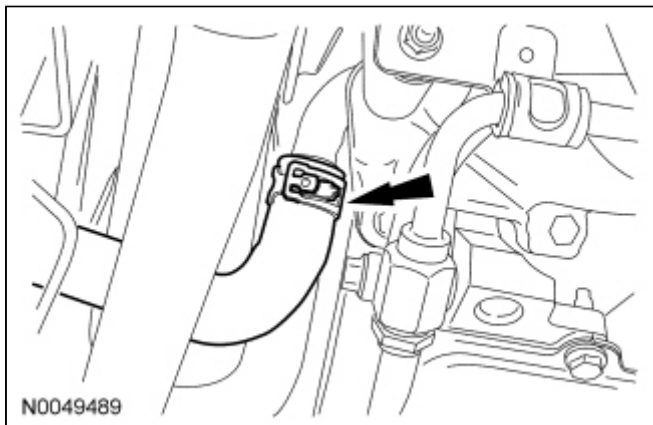


34. Rotate the SC drive belt tensioner clockwise and remove the drive belt from the SC drive pulley.

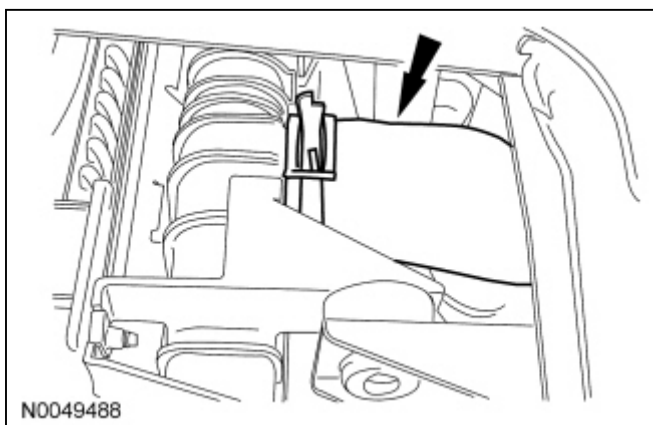




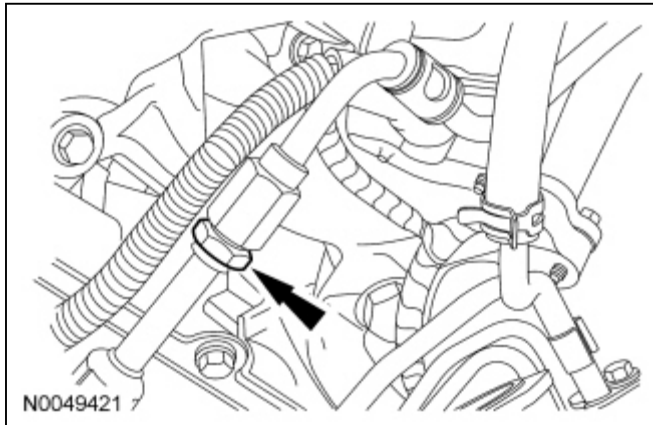
35. Disconnect the coolant hose from the oil cooler.



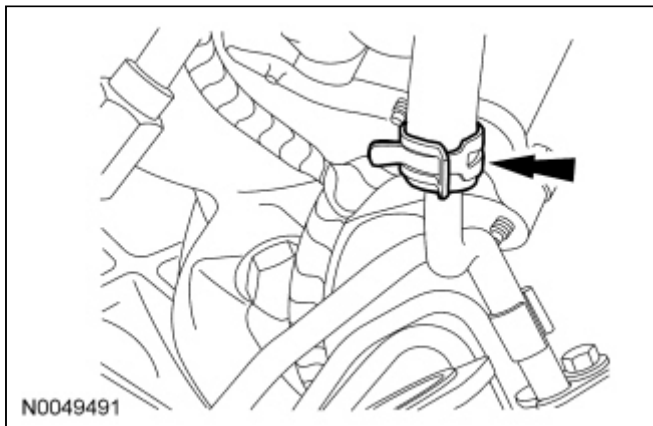
36. Disconnect the lower radiator hose from the radiator.
- Remove the lower radiator hose assembly from the vehicle.



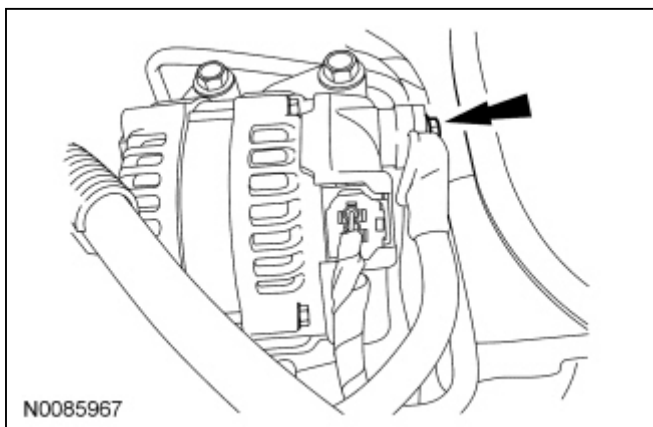
37. Disconnect the Power Steering Pressure (PSP) tube fitting.
- Discard the Teflon® seal.



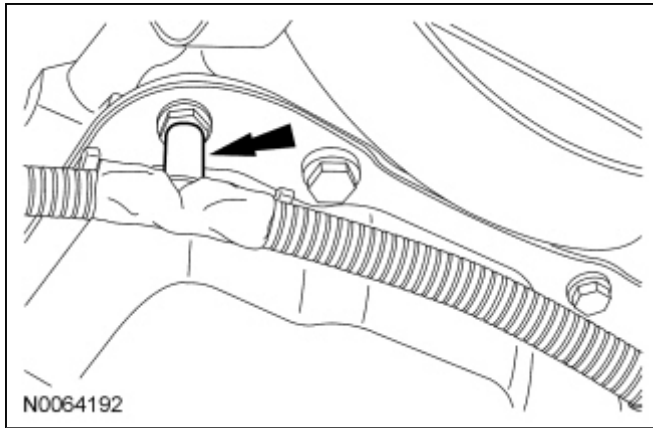
38. Disconnect the power steering return hose.



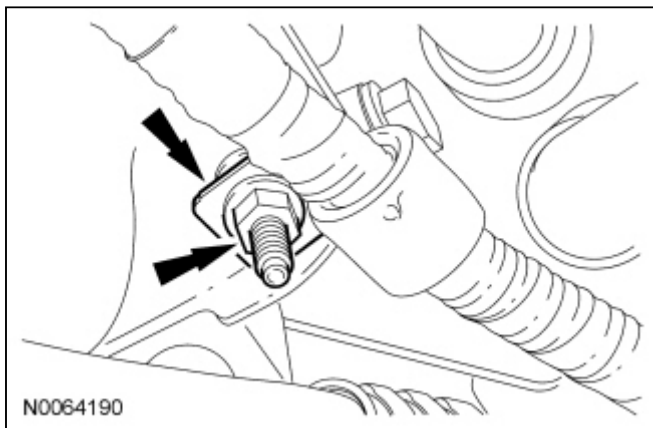
39. Remove the nut and disconnect the B+ wire from the generator.



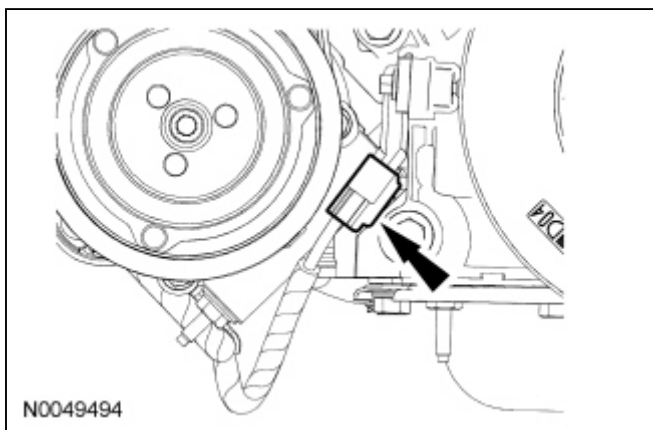
40. Detach the wiring harness retainer from the oil pan stud bolt.



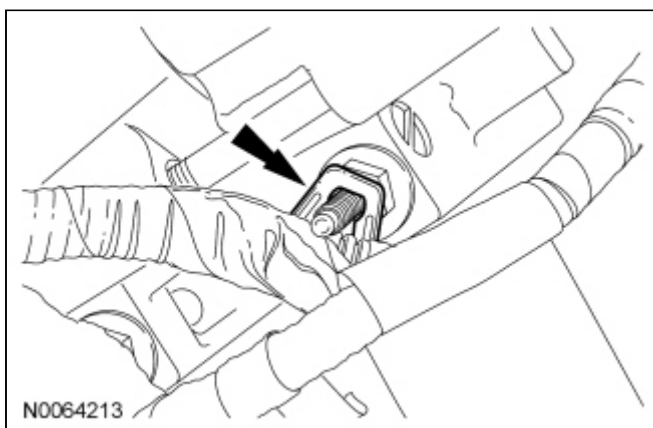
41. Remove the nut and wire harness bracket from the oil pan stud bolt.



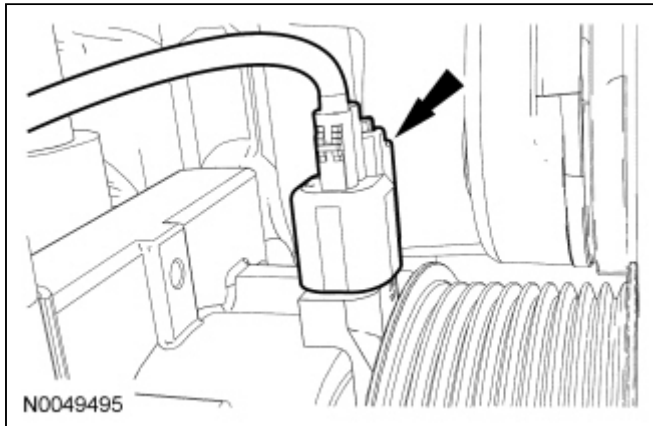
42. Disconnect the Crankshaft Position (CKP) sensor electrical connector.



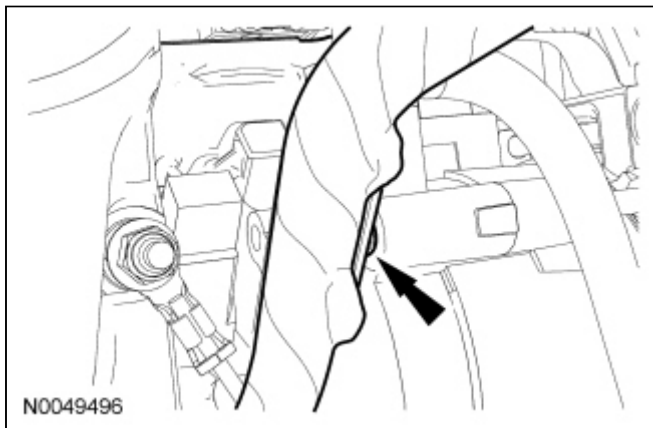
43. Detach the wire harness retainer from the A/C compressor stud bolt.



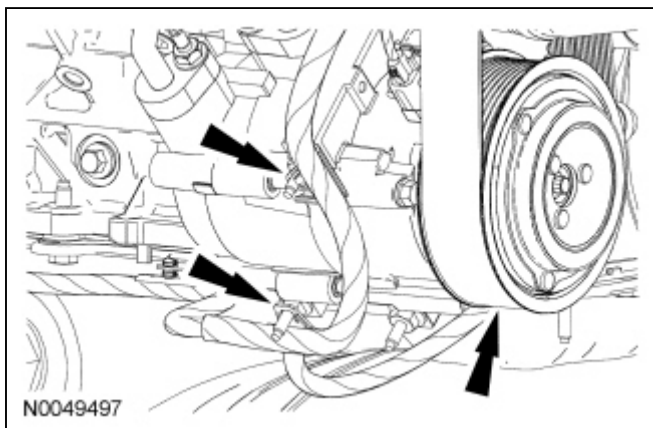
44. Disconnect the A/C compressor electrical connector.



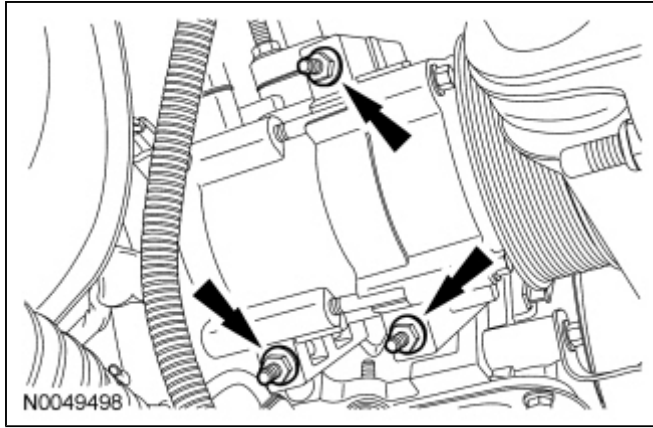
45. Detach the wiring harness pin-type retainer from the back of the A/C compressor.



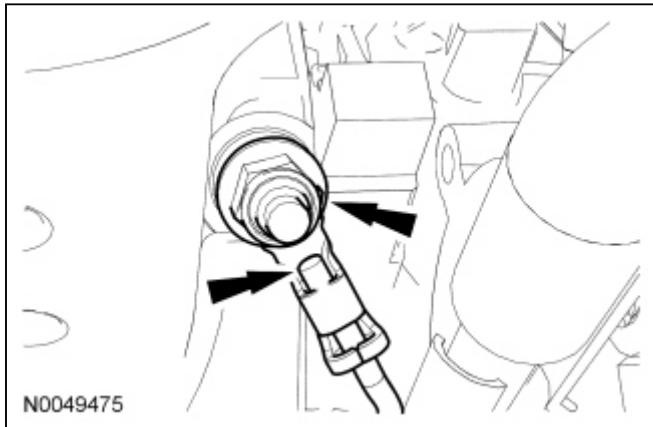
46. Position the **SC** drive belt away from the A/C compressor and detach the 2 wiring harness retainers from the A/C compressor stud bolts.



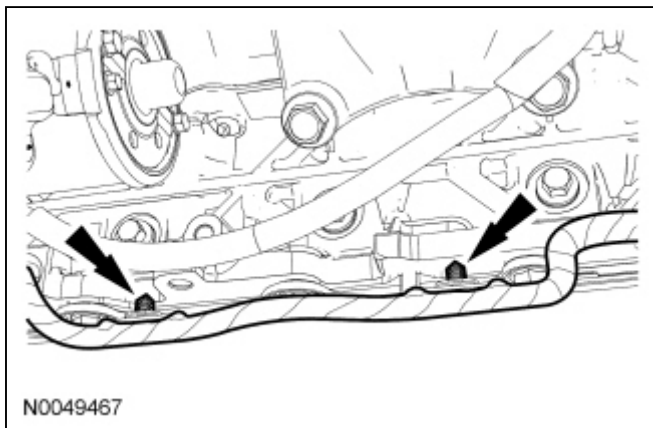
47. Remove the 3 stud bolts and position the A/C compressor aside.



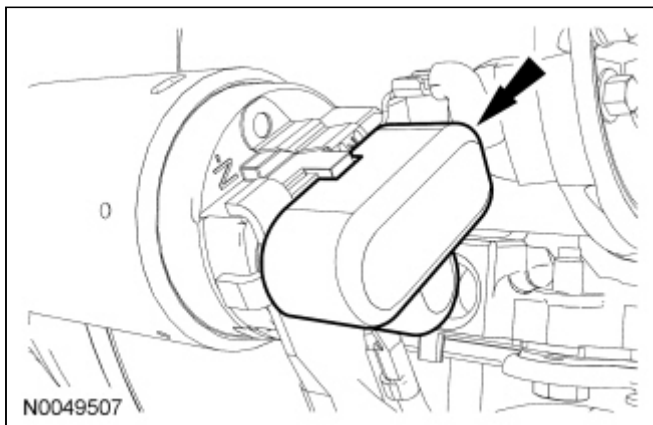
48. Remove the nut and the ground wire from the RH engine support insulator bracket stud bolt.



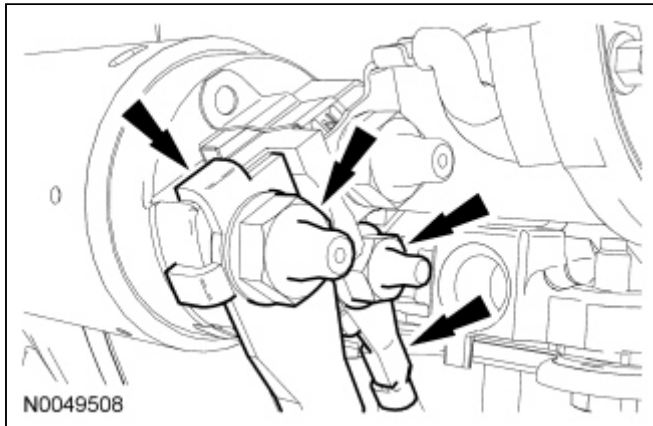
49. Detach the 2 wiring harness pin-type retainers from the oil pan.



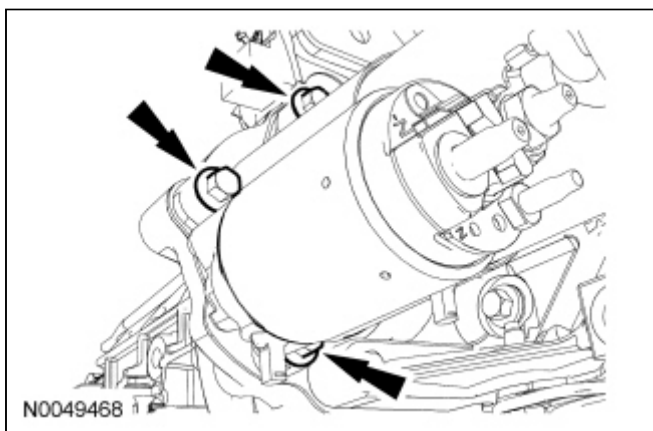
50. Remove the starter solenoid terminal cover.



51. Remove the 2 nuts and disconnect the 2 wires from the starter solenoid.

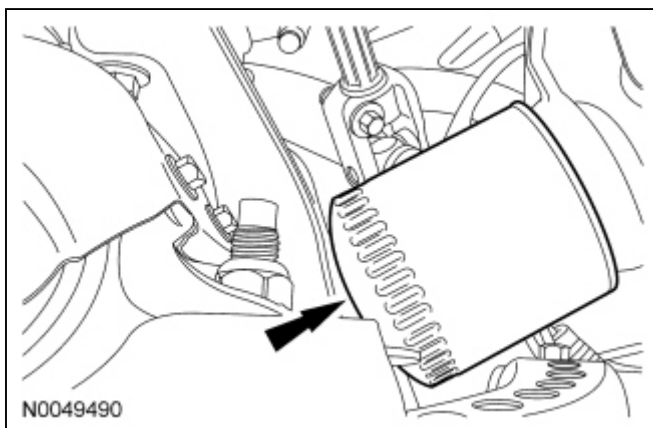


52. Remove the 3 bolts and the starter.



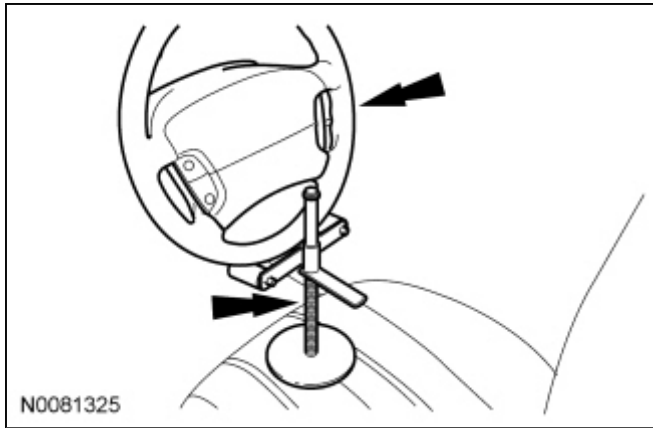
53. Drain the engine oil.
- Install the drain plug and tighten to 26 Nm (19 lb-ft).

54. Remove and discard the engine oil filter.



55. **NOTE:** Use a steering wheel holding device (such as Hunter® 28-75-1 or equivalent).

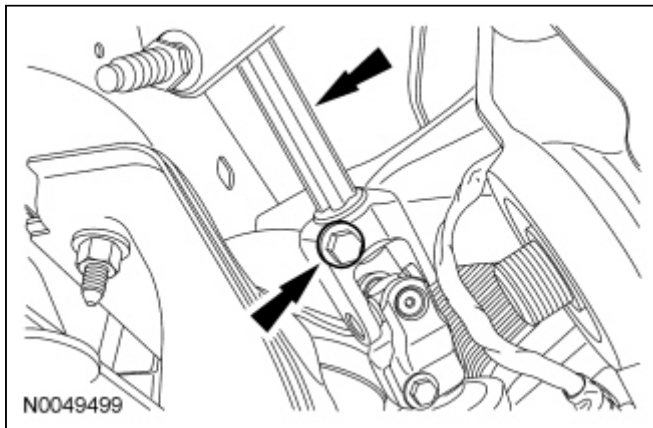
Using a suitable holding device, hold the steering wheel in the straight-ahead position.



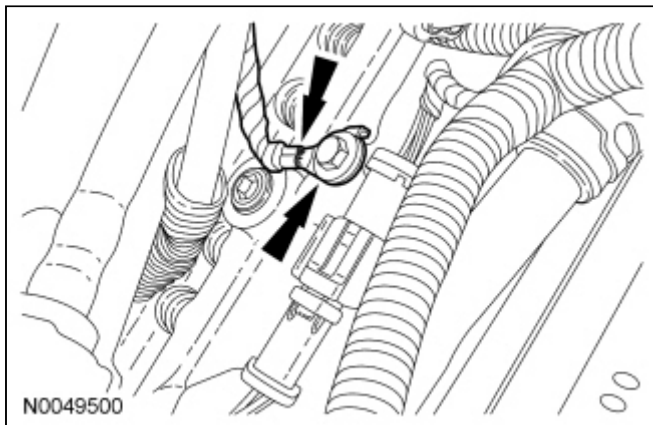
56. **NOTICE:** Do not allow the steering wheel to rotate while the steering column intermediate shaft is disconnected or damage to the clockspring can result. If there is evidence that the wheel has rotated, the clockspring must be removed and recentered. For additional information, refer to [Section 501-20B](#) .

Remove the upper bolt from the intermediate steering shaft.

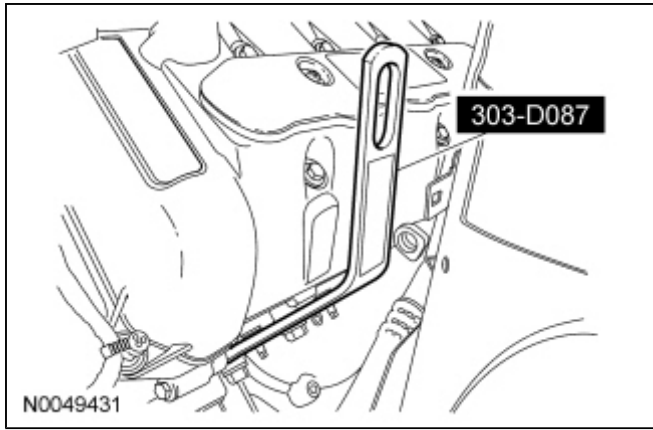
- Position the intermediate steering shaft aside.



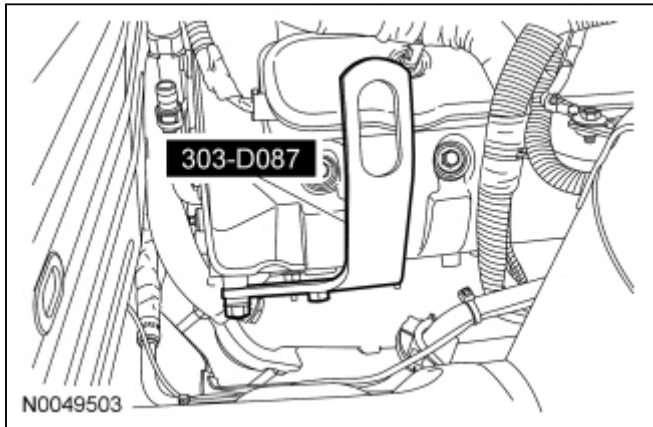
57. Remove the clutch disc and pressure plate. For additional information, refer to [Section 308-01](#) .
58. Remove the bolt and the ground wire from the rear of the LH cylinder head.



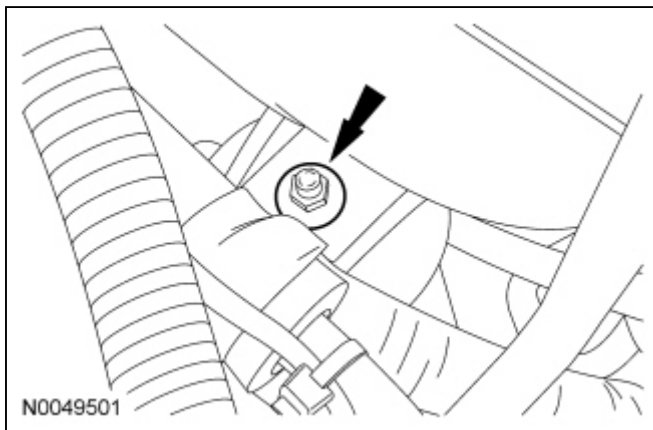
59. Install the Engine Lifting Bracket.



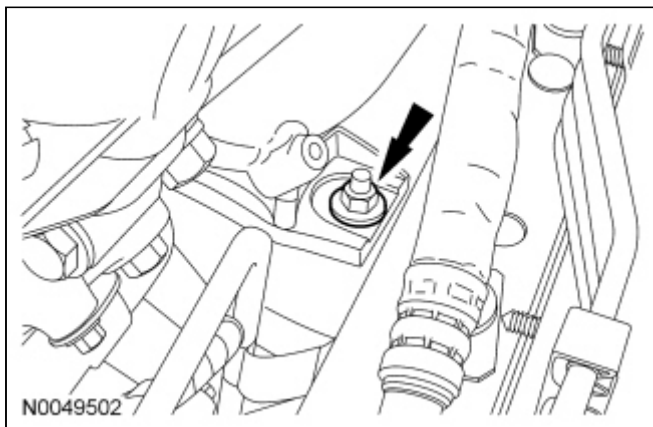
60. Install the Engine Lifting Bracket.



61. Remove the RH engine support insulator nut.



62. Remove the LH engine support insulator nut.





63. Install the Heavy Duty Floor Crane and the Engine Lifting Bracket.
- Remove the engine from the vehicle.

