




SECTION 303-01B: Engine — 5.4L (4V)  
REMOVAL

1999 Expedition/Navigator Workshop Manual  
Procedure revision date: 01/15/2002

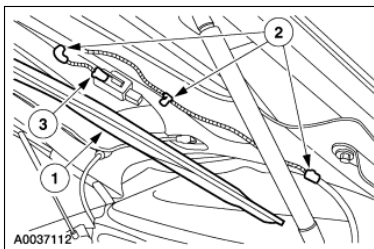
## Engine

### Special Tool(s)

 ST1377-A	Modular Engine Lifting Bar 303-F047 (014-00073)
 ST1499-A	Holding Wrench, Fan Pulley 303-239 (T84T-6312-C)
 ST1500-A	Wrench, Fan Clutch Hub Nut 303-240 (T84T-6312-D)

### Removal

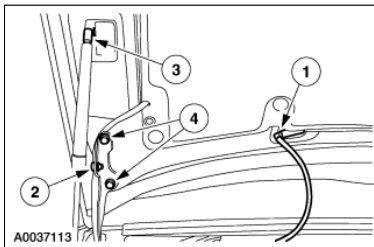
1. Disconnect the hood lamp harness.
  1. Remove the hood insulator retainers and position the insulator away from the hood.
  2. Disconnect the hood lamp harness retainers.
  3. Disconnect the hood lamp electrical connector.



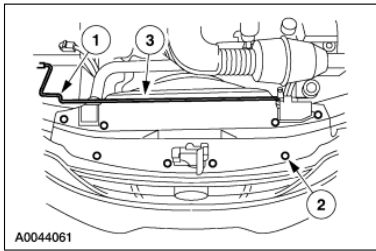
2. **NOTE:** Mark the hinge-to-hood placement to ease alignment when reinstalling the hood.

Remove the hood.

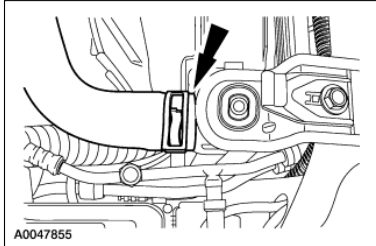
1. Disconnect the windshield washer hose.
2. Remove the ground strap bolt.
3. Disconnect the hood struts.
4. Remove the four hinge-to-hood bolts and remove the hood.



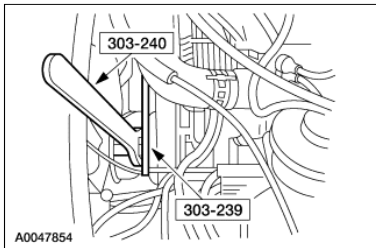
3. Recover the air conditioning (A/C) system. For additional information, refer to [Section 412-00](#).
4. Remove the lower intake manifold (9424). For additional information, refer to [Intake Manifold—Lower](#) in this section.
5. Remove the front air deflector.
  1. Remove the jack handle.
  2. Remove the screws.
  3. Remove the air deflector.



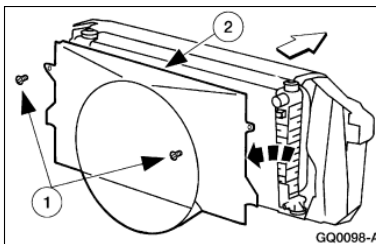
6. Remove the radiator upper hose from the radiator.



7. Using the special tools, remove the fan blade and fan clutch.



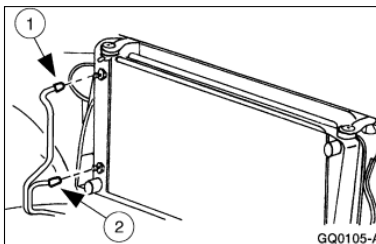
8. Remove the fan shroud.
1. Remove the screws.
  2. Lift and remove the fan shroud and fan blade, as a unit, out of the vehicle.



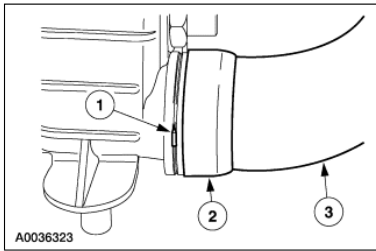
9. **NOTE:** To avoid disturbing the transmission oil cooler fittings, use a backup wrench.

Disconnect the transmission fluid cooler fittings.

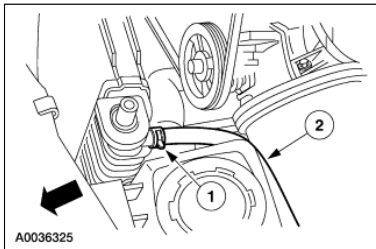
1. Disconnect the upper transmission fluid cooler fitting.
2. Disconnect the lower transmission fluid cooler fitting.



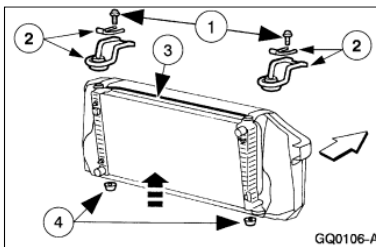
10. Disconnect the lower radiator hose from the radiator.
1. Pry the locking tab up and out of the slot.
  2. Rotate the lower radiator hose.
  3. Disconnect the lower radiator hose.



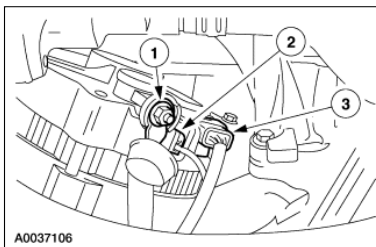
11. Disconnect the degas hose from the radiator.
  1. Release the clamp.
  2. Slide the hose off of the radiator fitting.



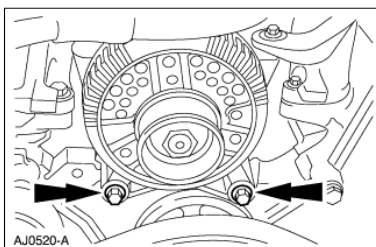
12. Remove the radiator.
  1. Remove the bolts.
  2. Remove the upper radiator support brackets, the jack handle and the wheel nut wrench retainers.
  3. Lift the radiator off the radiator mounting insulators.
  4. Remove the radiator mounting insulators.



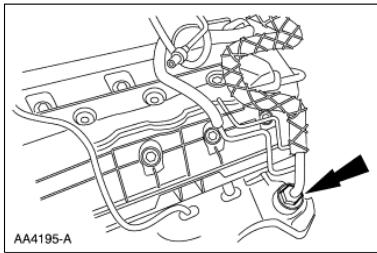
13. Remove the accessory drive belt. For additional information, refer to [Section 303-05](#).
14. Disconnect the generator electrical connectors.
  1. B+
  2. Stator
  3. Voltage regulator



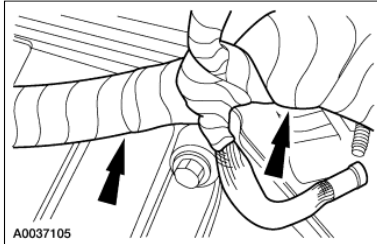
15. Remove the lower bracket bolts and the generator.



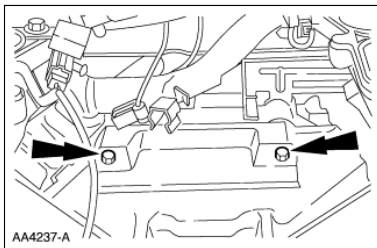
16. Disconnect the exhaust gas recirculation (EGR) tube from the exhaust manifold.



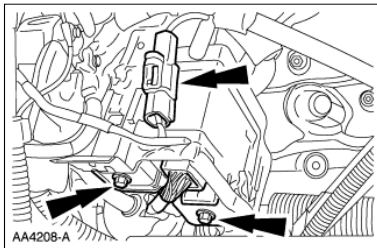
17. Disconnect the transmission wiring harness retainers from the right cylinder head and position the harness aside.



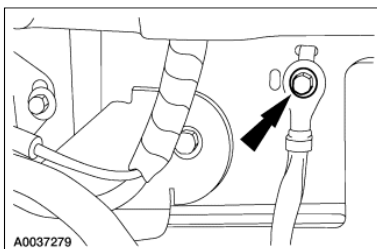
18. Remove the bolts retaining the transmission to the engine.



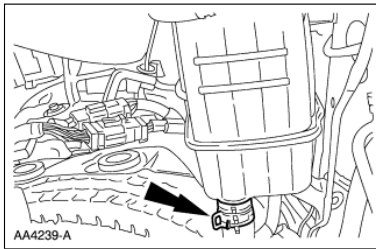
19. Disconnect the bulkhead connectors.



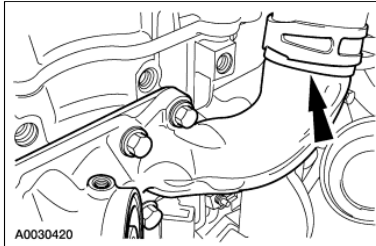
20. Remove the ground strap retaining bolt.



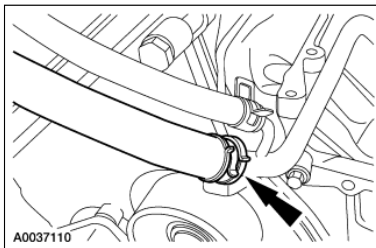
21. Disconnect the degas return hose.



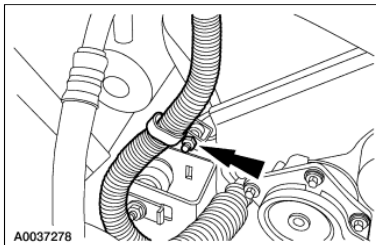
22. Disconnect the lower radiator hose.



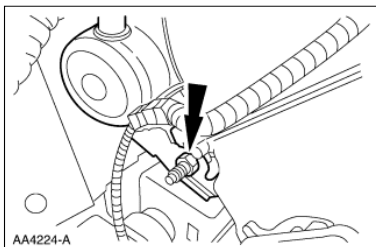
23. Disconnect the heater hose.



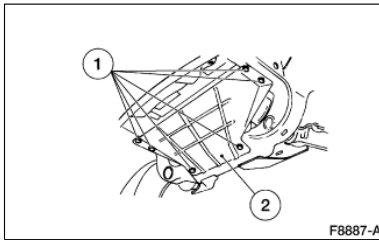
24. Remove the nut and the battery-to-starter relay cable retainer.



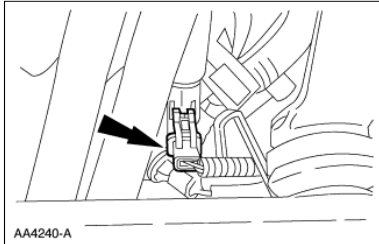
25. Remove the nut and reposition the A/C muffler.



26. Raise and support the vehicle. For additional information, refer to [Section 100-02](#).
27. If equipped, remove the skid plate.
1. Remove the bolts.
  2. Remove the skid plate.

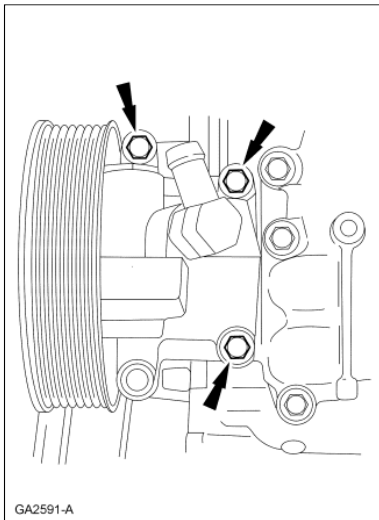


28. Disconnect the power steering pressure (PSP) sensor.

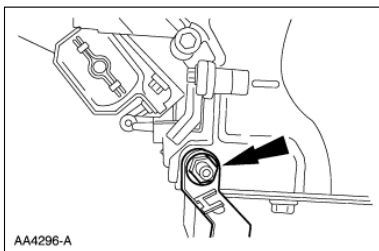


29. **NOTE:** The power steering pump can be supported with mechanic's wire to keep it from hindering the removal process.

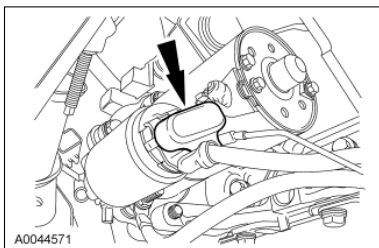
Remove the bolts and position the power steering pump out of the way.



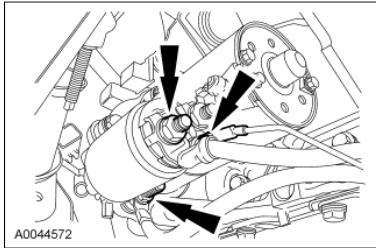
30. Remove the nut and the transmission cooler tubes from the front cover.



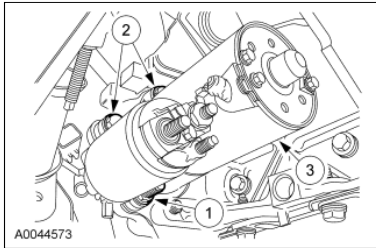
31. Remove the plastic cover from the starter motor electrical connector.



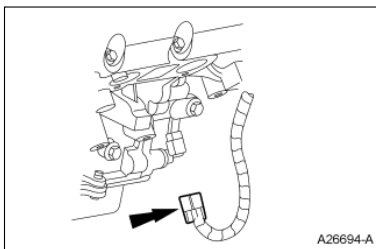
32. Disconnect the starter motor electrical connectors.



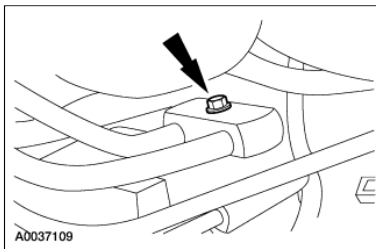
33. Remove the starter motor.  
 1. Remove the stud bolt.  
 2. Remove the two bolts.  
 3. Remove the starter.



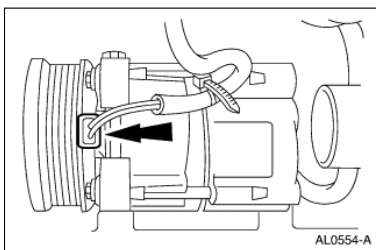
34. Disconnect the crankshaft position (CKP) sensor.



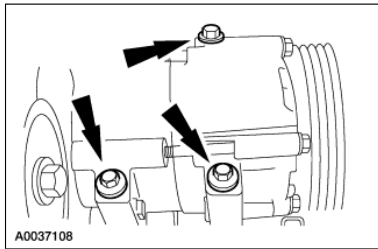
35. Remove the bolt and remove the manifold and tube assembly.



36. Disconnect the A/C compressor electrical connector.

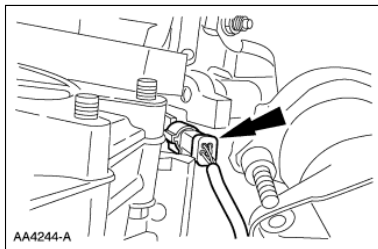


37. Remove the bolts and the A/C compressor.



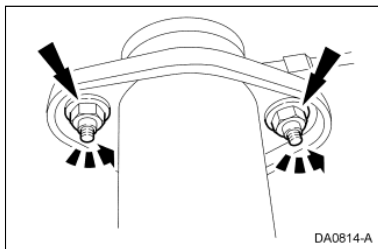
38. **NOTE:** LH shown, RH similar.

Disconnect the right and the left heated oxygen sensor (HO2S).

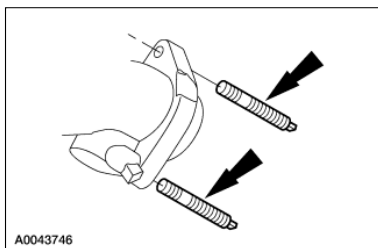


39. **NOTE:** LH shown, RH similar.

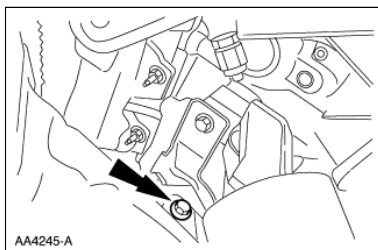
Remove the nuts and disconnect the pipes at the exhaust manifolds.



40. Remove the RH exhaust manifold studs.

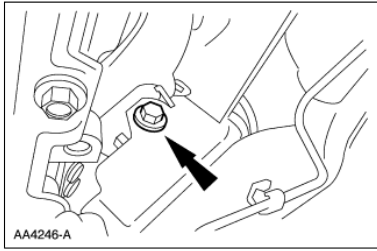


41. Remove the bolt from the LH motor mount.

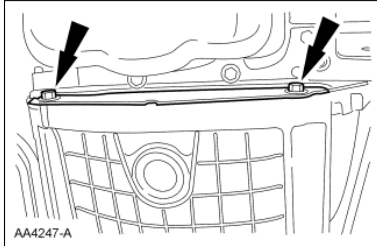


42. Remove the bolt from the RH motor mount.

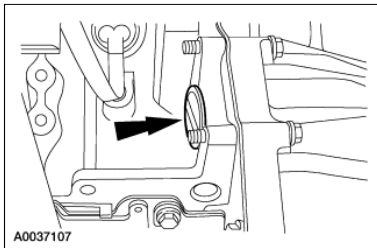




43. Remove the bolts and the inspection cover.

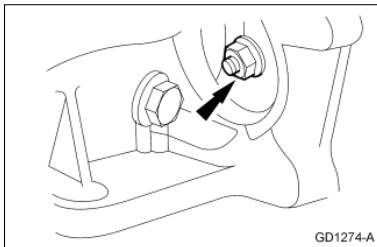


44. Remove the plug to access the torque converter nuts.

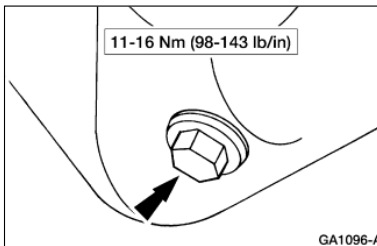


45. **NOTE:** Gain access to the nuts by turning the crank dampener counterclockwise.

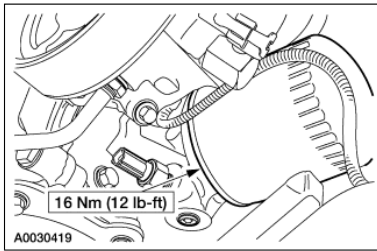
Remove the four nuts from the torque converter and discard.



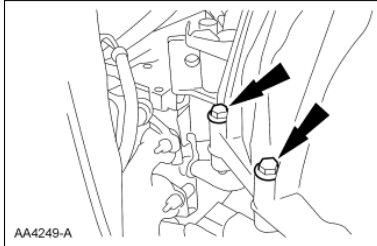
46. Drain the engine oil.
- Install the drain plug when finished.



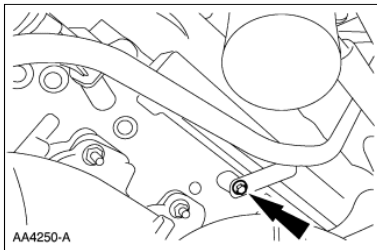
47. Remove the oil filter.



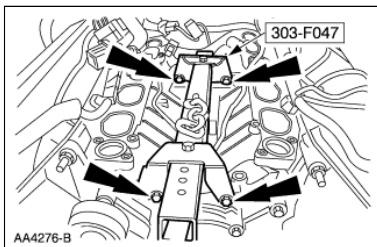
48. Remove the five bolts from the transmission.



49. Remove the bolt and position the transmission level indicator tube out of the way.



50. Lower the vehicle.  
51. Install the special tool.



52. Support the transmission with a floor jack and a block of wood.  
53. Remove the engine from the vehicle.

