

REMOVAL AND INSTALLATION

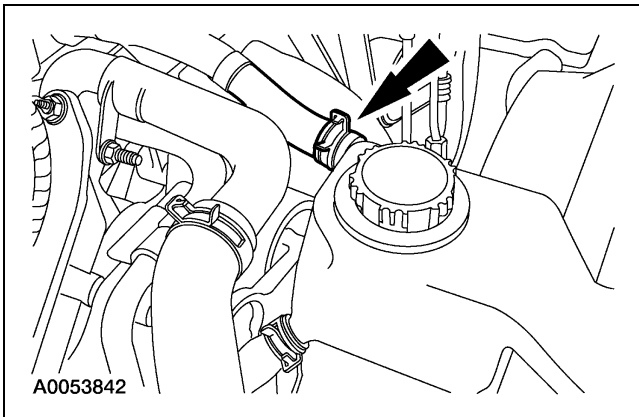
Charge Air Cooler

Material

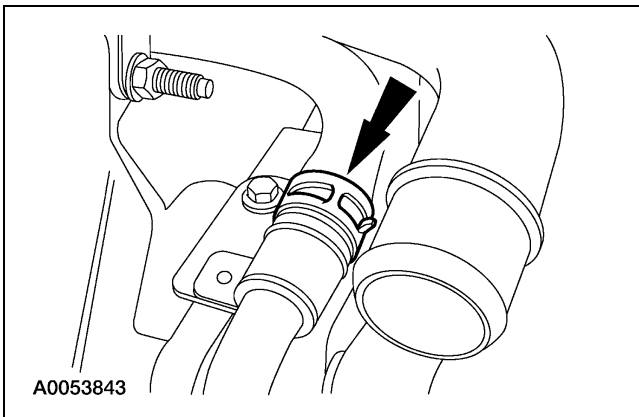
Item	Specification
Silicone Gasket and Sealant F7AZ-19554-EA or equivalent	WSE-M4G323-EA

Removal and Installation

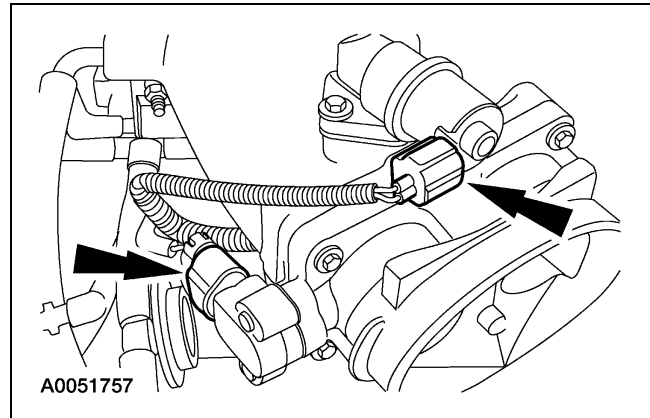
1. Drain the supercharger coolant. For additional information, refer to Section 303-03B.
2. Release the fuel pressure. For additional information, refer to Section 310-00.
3. Disconnect the supercharger degas hose.



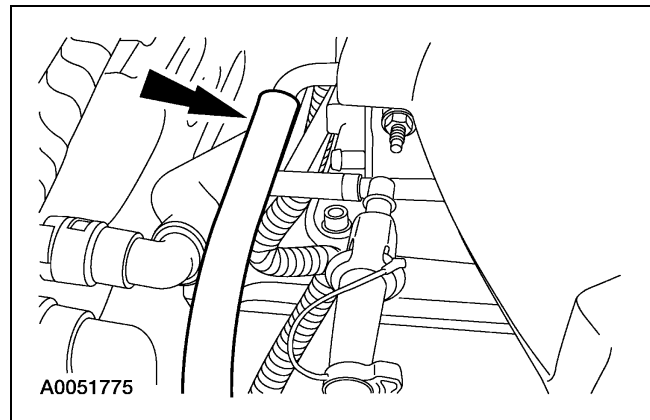
4. Disconnect the coolant hose.



5. Remove the supercharger belt. For additional information, refer to Section 303-05.
6. Remove the air cleaner outlet tube. For additional information, refer to Section 303-12.
7. Disconnect the throttle position (TP) sensor and the idle air control (IAC) valve electrical connectors.



8. Disconnect the vacuum hose.

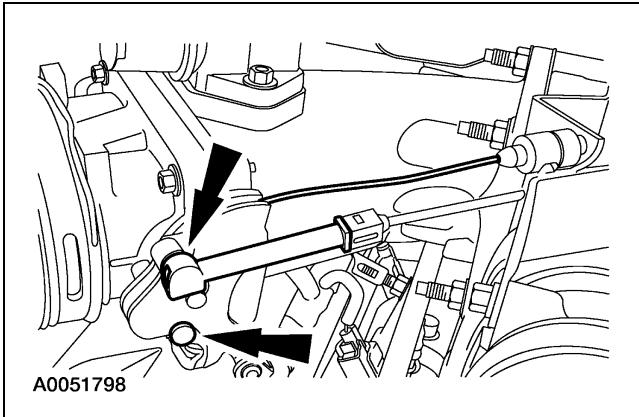


9. Disconnect the fuel supply spring lock coupler. For additional information, refer to Section 310-00.

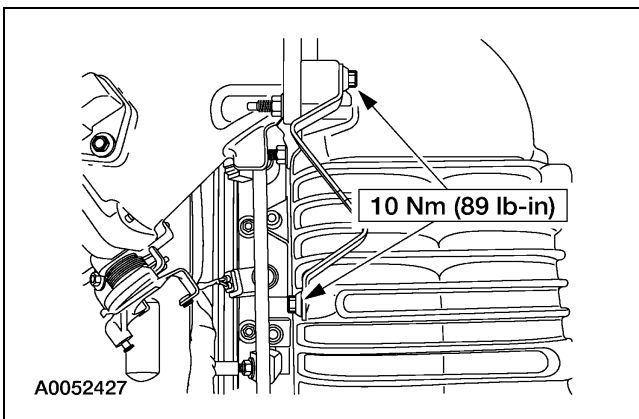
REMOVAL AND INSTALLATION (Continued)

10. Disconnect the accelerator controls.

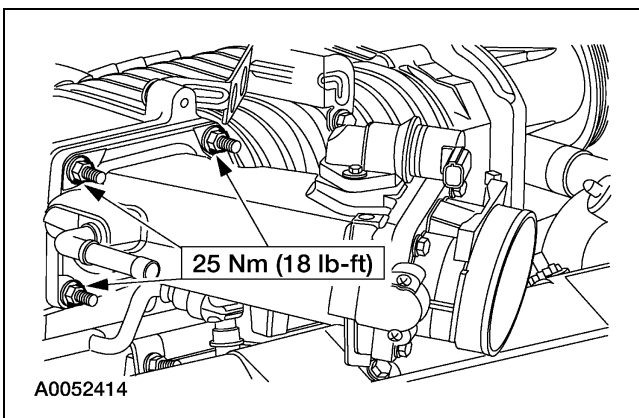
- Disconnect the accelerator cable.
- If equipped, disconnect the speed control cable.



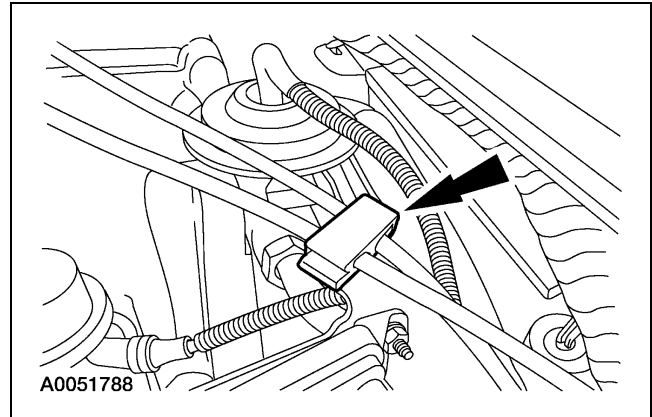
11. Remove the accelerator cable bracket bolts.



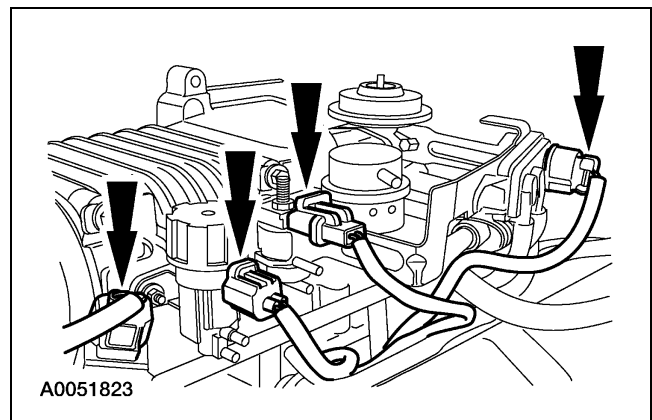
12. Remove the throttle body and spacer assembly.



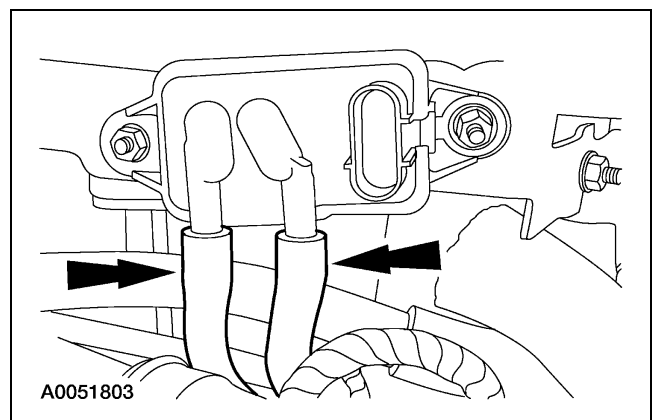
13. Release the clip and position the accelerator cable bracket and the cables aside.



14. Disconnect the electrical connectors from the fuel pulse damper, EGR vacuum regulator solenoid, supercharger bypass vacuum solenoid, and the differential pressure feedback EGR system.

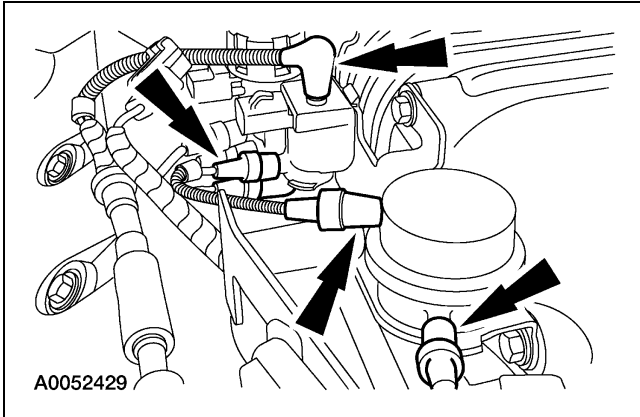


15. Disconnect the vacuum hoses from the differential pressure feedback EGR system.

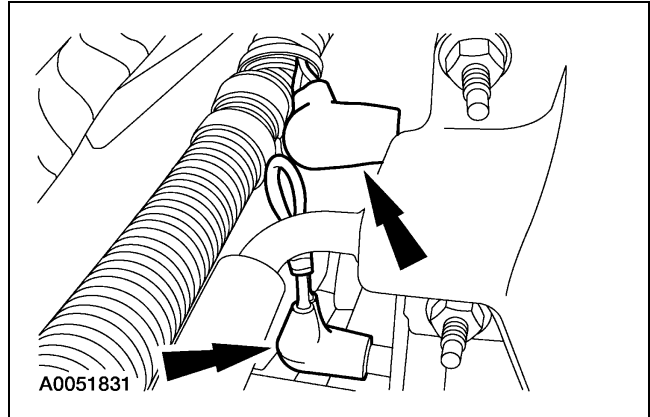


REMOVAL AND INSTALLATION (Continued)

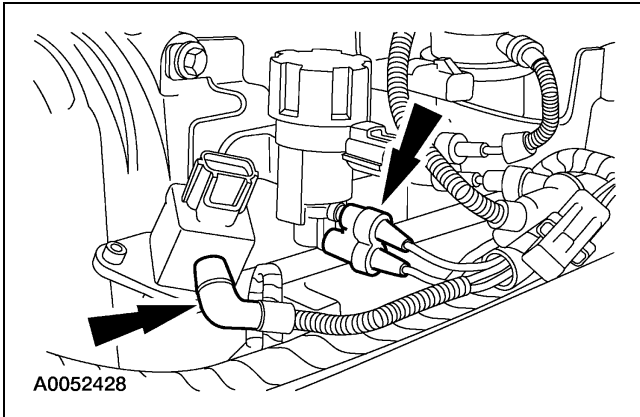
16. Disconnect the vacuum hoses from the supercharger bypass vacuum solenoid, and the actuator.



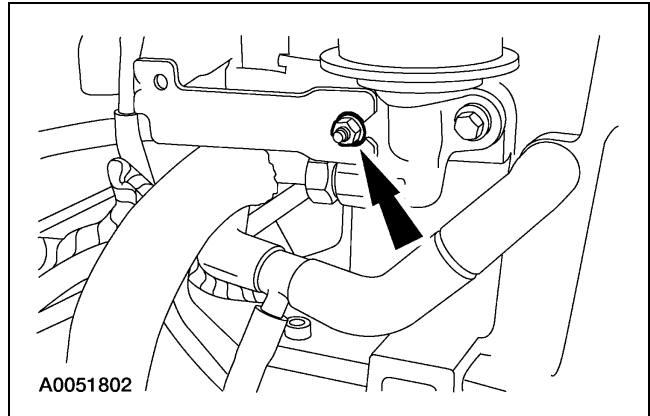
19. Disconnect the vacuum hoses at the back of the supercharger and position the vacuum harness aside.



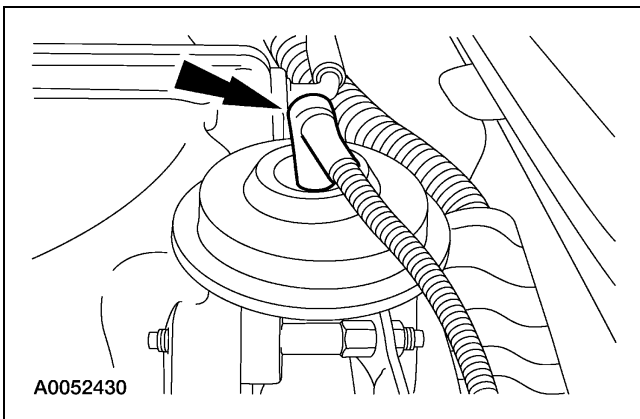
17. Disconnect the vacuum hoses from the fuel pulse damper and the EGR vacuum regulator solenoid.



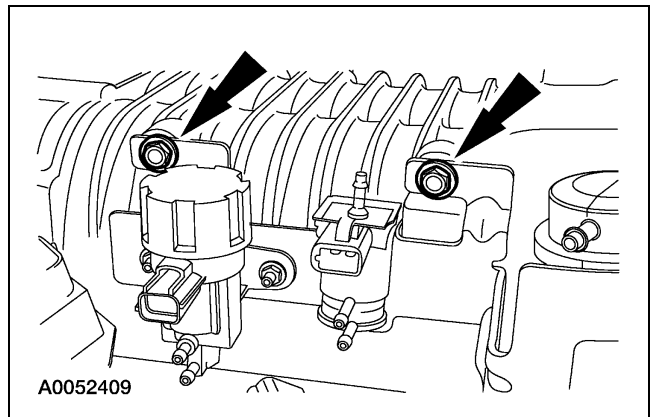
20. Remove the vacuum accessory bracket mounting nut.



18. Disconnect the vacuum hose from the EGR valve.

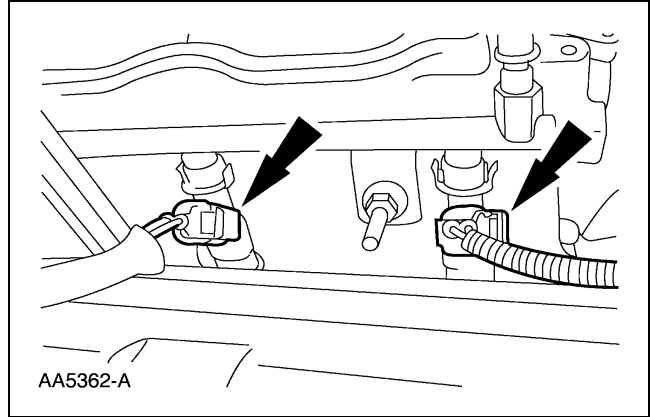
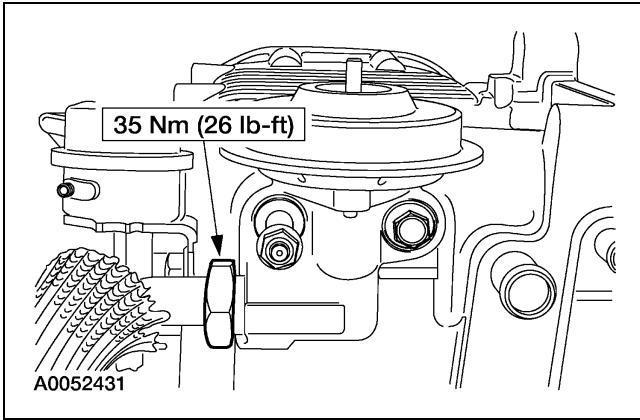


21. Remove the mounting bolts, and the vacuum accessory bracket.



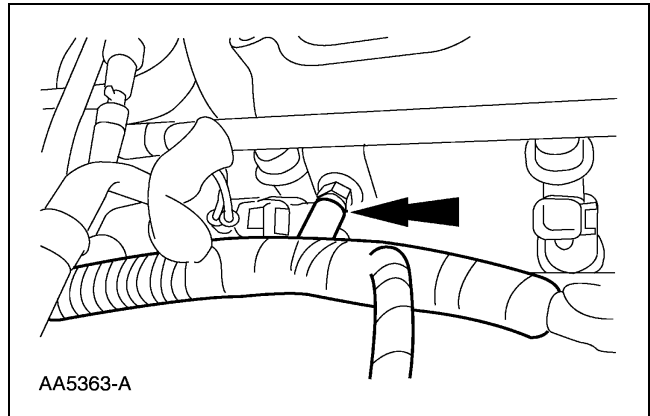
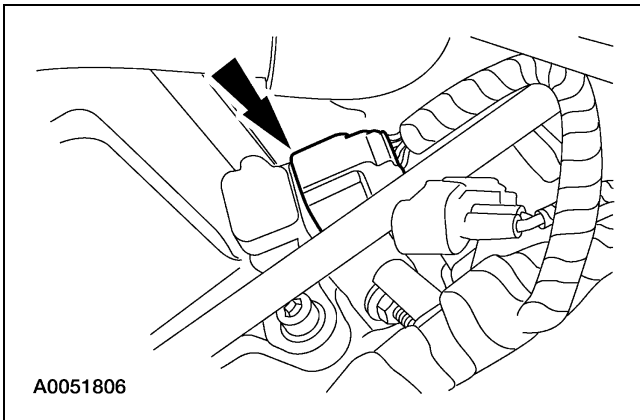
REMOVAL AND INSTALLATION (Continued)

22. Disconnect the exhaust manifold to EGR valve tube.

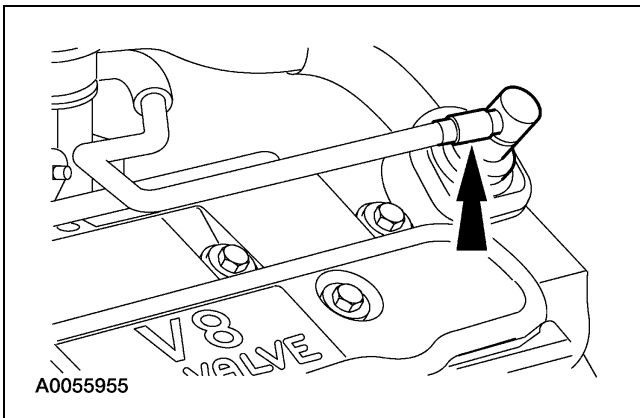


26. Separate the fuel charging wiring harness from the fuel injection supply manifold in four places and position the harness aside.

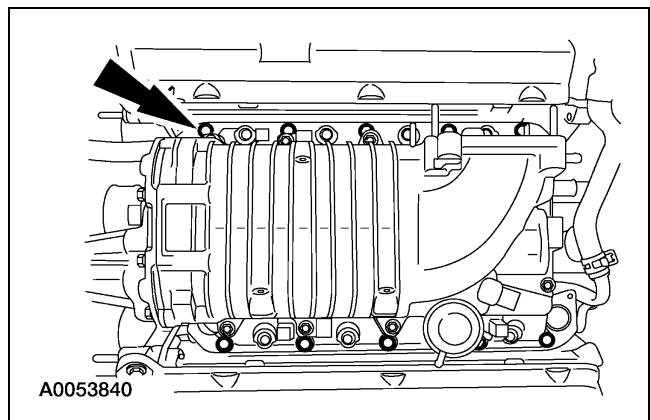
23. Disconnect the barometric pressure (BARO) sensor electrical connector.



24. Disconnect the positive crankcase ventilation (PCV) hose.



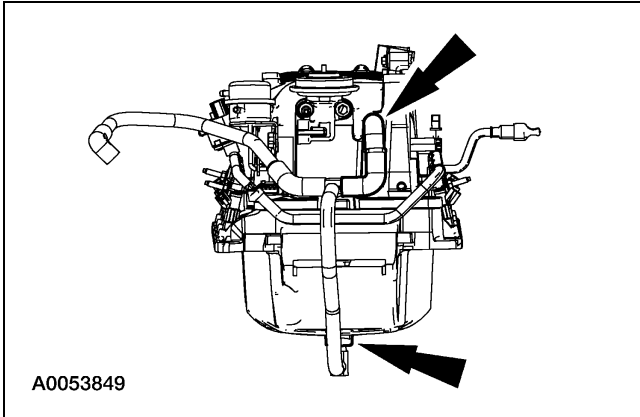
27. Remove the ten bolts, the intake manifold, supercharger and fuel supply manifold as an assembly.



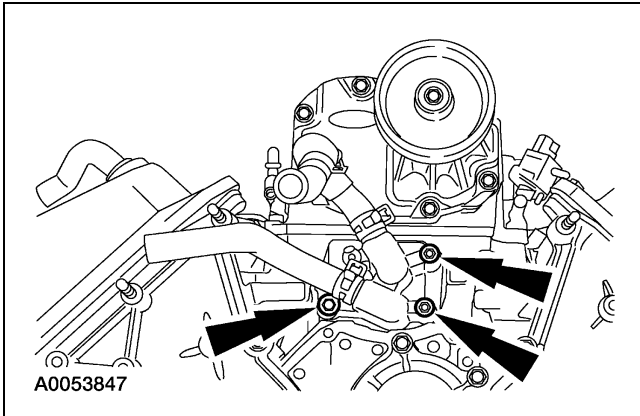
25. Disconnect the eight fuel injectors.

REMOVAL AND INSTALLATION (Continued)

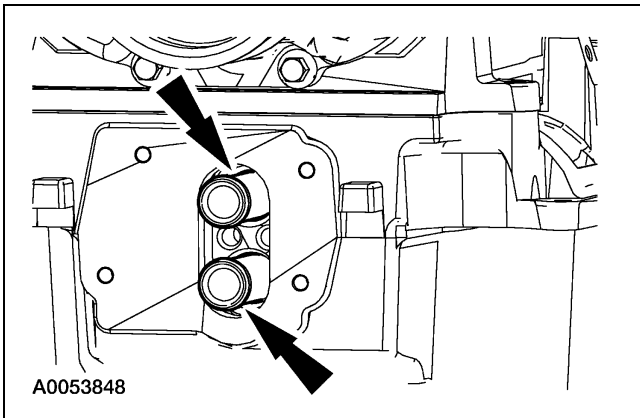
28. Disconnect and remove the PCV hoses.



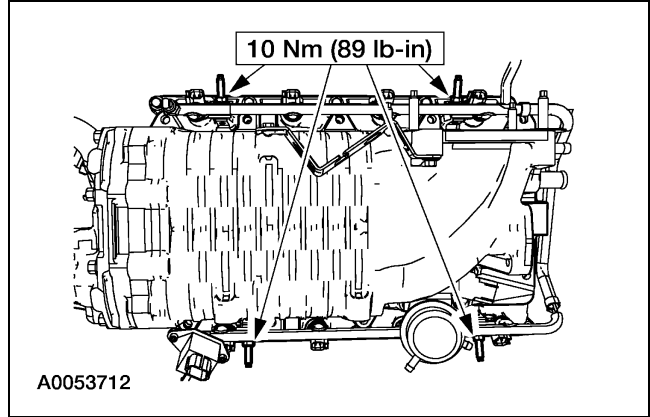
29. Remove the coolant supply and return manifold.



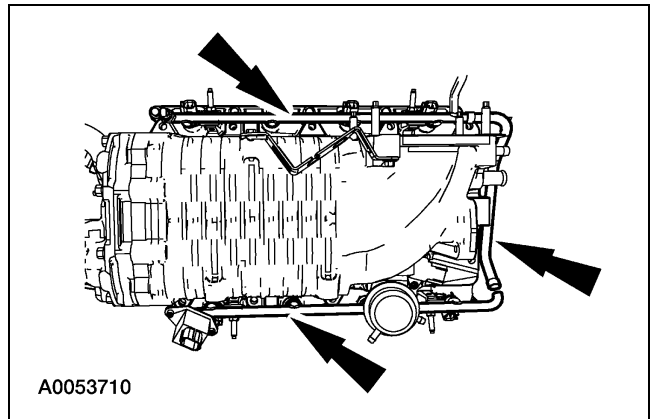
30. Remove the coolant supply and return tubes and seals.



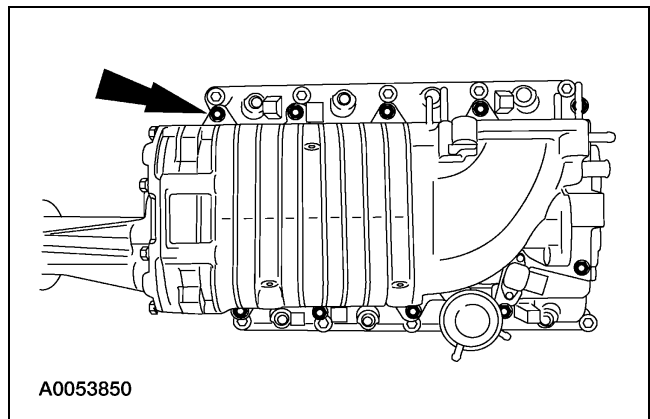
31. Remove the fuel supply manifold mounting studs.



32. Remove the fuel supply manifold and fuel injectors as an assembly.



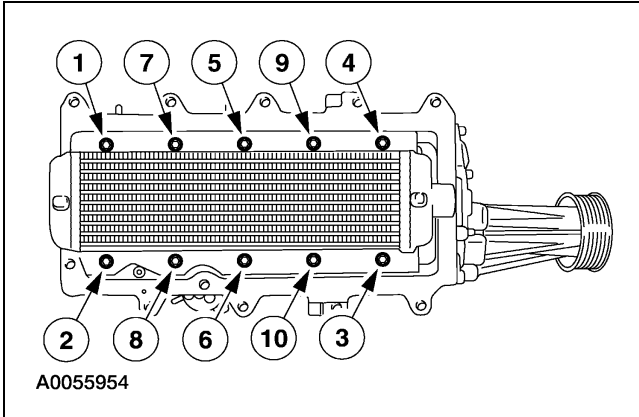
33. Remove the bolts, the supercharger and charge air cooler (CAC) assembly.



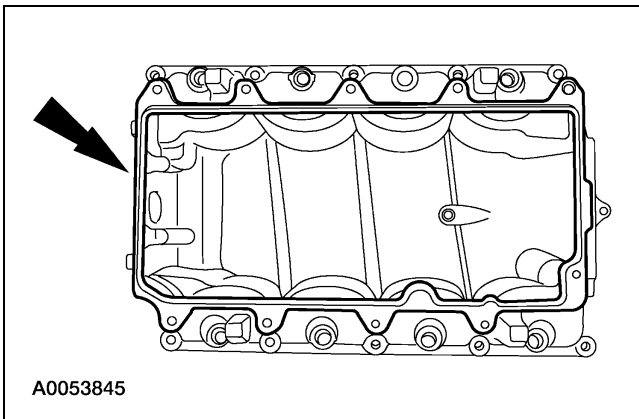
REMOVAL AND INSTALLATION (Continued)

34. **⚠ CAUTION: Hand tools must be used to remove the bolts.**

Remove the bolts and the CAC in the sequence shown.

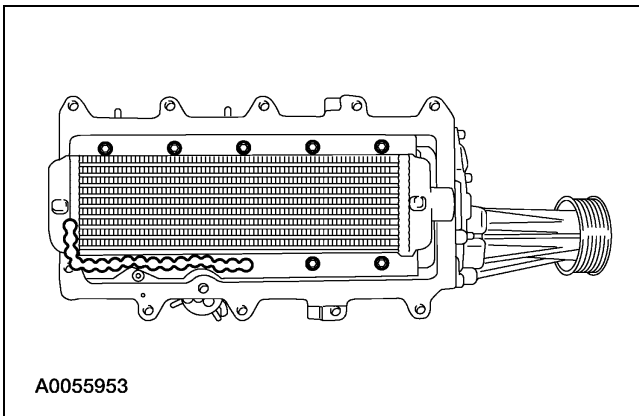


35. Inspect the CAC plenum gasket and install a new gasket if necessary.



36. To install, reverse the removal procedure

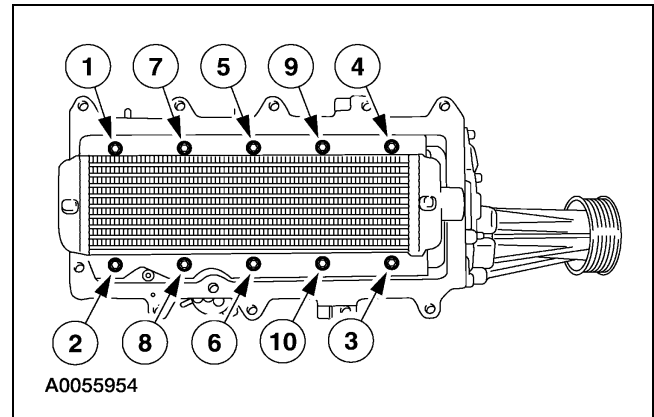
37. Apply a bead of sealant in the areas shown on the supercharger flange between the CAC and the supercharger.



38. **NOTE:** Once the torque procedure has been started, final tightening must be finished within five minutes maximum.

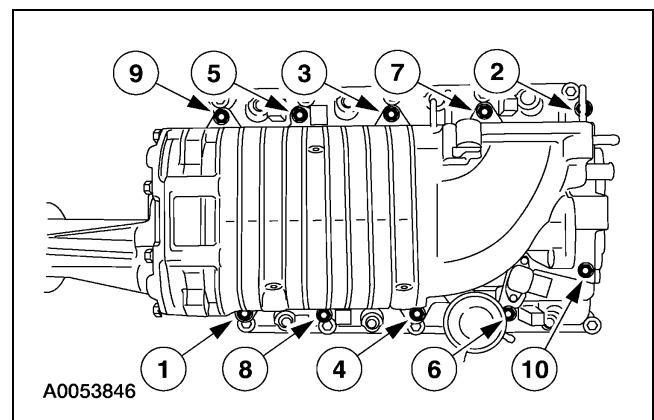
Tighten the CAC bolts in the sequence shown in two stages.

- 1 Tighten to 2 Nm (18 lb-in).
- 2 Tighten to 6 Nm (53 lb-in).



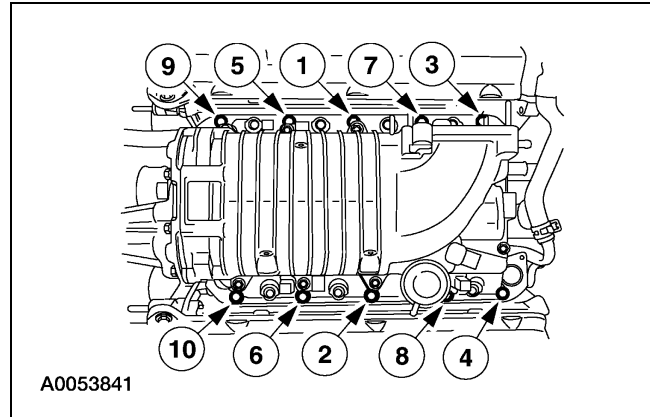
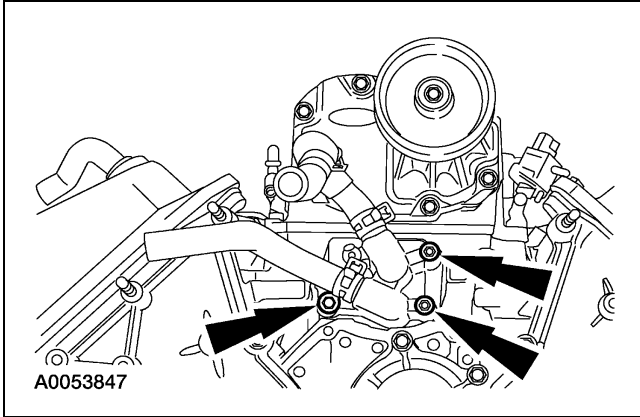
39. Tighten the supercharger and CAC cooler assembly-to-lower intake manifold bolts in the sequence shown in three stages.

- 1 Tighten to 2 Nm (18 lb-in).
- 2 Tighten to 25 Nm (18 lb-ft).
- 3 Tighten an additional 90 degrees.



REMOVAL AND INSTALLATION (Continued)

40. Tighten the coolant supply and return manifold in two stages.
- 1 Tighten to 10 Nm (89 lb-ft).
 - 2 Tighten an additional 90 degrees.



42. Fill and bleed the supercharger cooling system. For additional information, refer to Section 303-03B.

41. **NOTE:** Inspect the intake manifold gaskets and install new gaskets, if necessary.

Install the intake manifold, supercharger and fuel supply manifold as an assembly, and tighten the bolts to 10 Nm (89 lb-in) in the sequence shown.