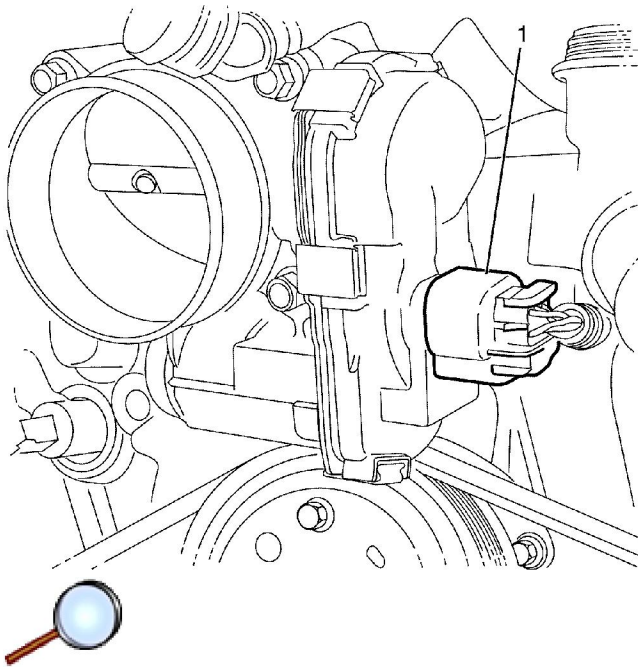


Upper Intake Manifold Replacement

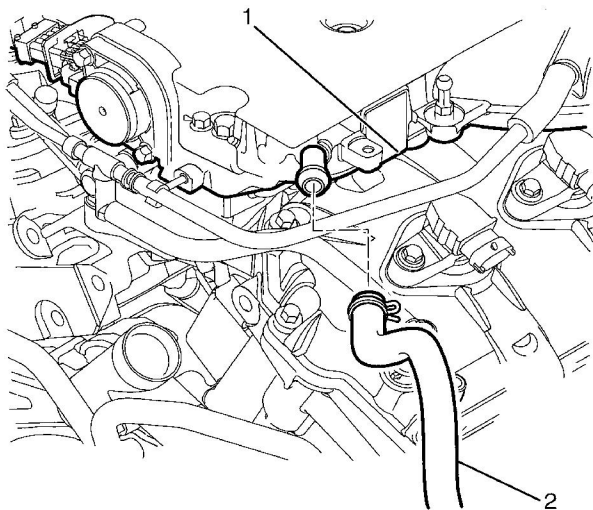
Removal Procedure

Warning: Refer to [Battery Disconnect Warning](#) in the Preface section.

1. Disconnect the battery ground cable. Refer to [Battery Negative Cable Disconnection and Connection](#).
2. Remove the engine covers. Refer to [Engine Cover Replacement](#).
3. Remove the air intake duct. Refer to [Air Cleaner Inlet Duct Replacement](#).

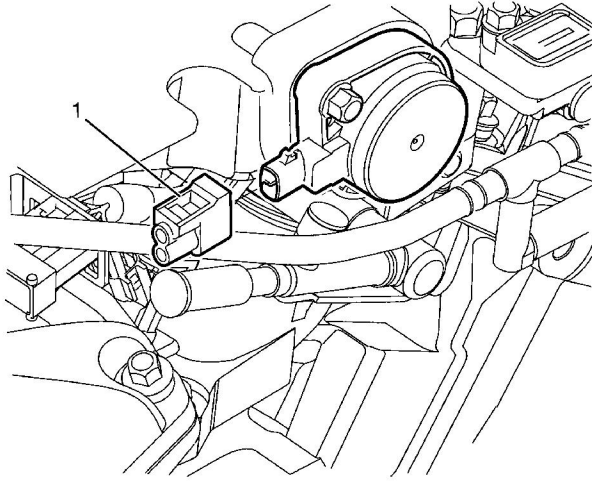


4. Disconnect the throttle body electrical connector (1).

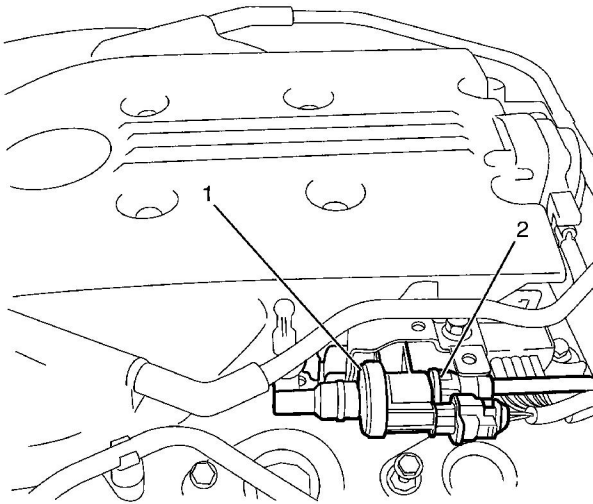




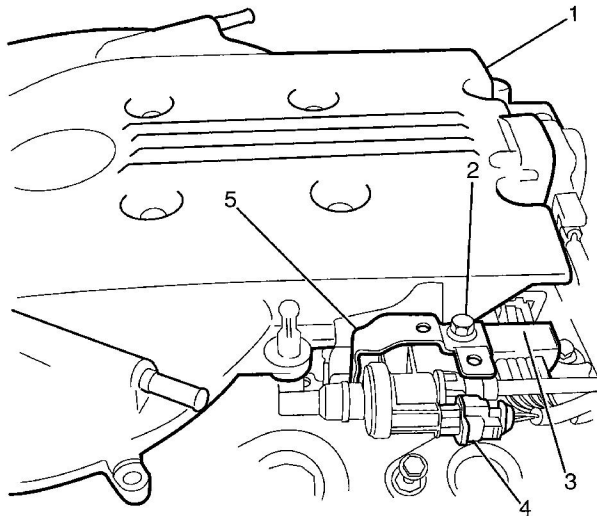
5. Disconnect the brake booster vacuum hose (2) from the intake manifold (1).



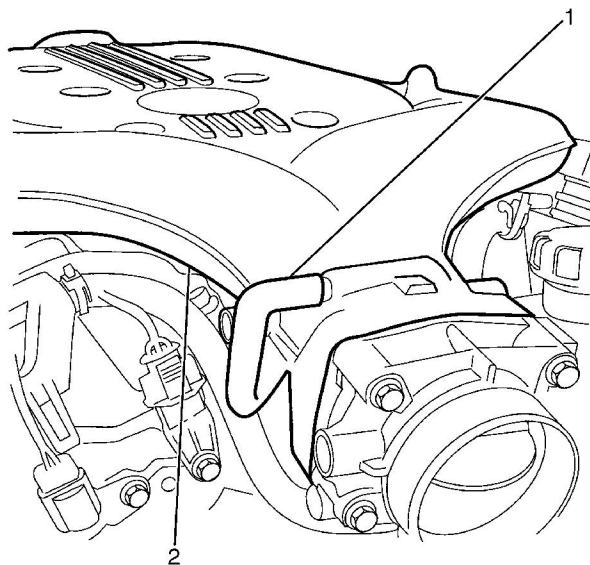
6. Disconnect the Inlet Manifold Runner Control (IMRC) electrical connector (1).



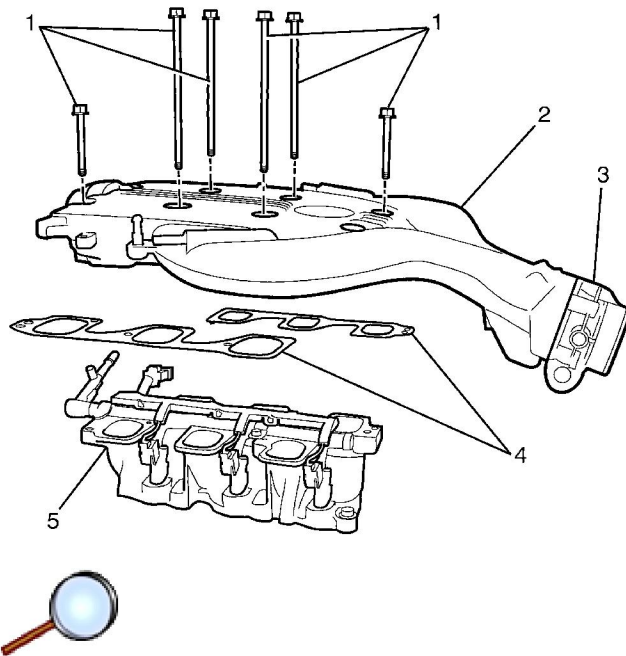
7. Disconnect the evaporative emission (EVAP) purge line (1) from the purge solenoid (2). Refer to [Metal Collar Quick Connect Fitting Service](#) or [Plastic Collar Quick Connect Fitting Service](#).
8. Plug or cap the (EVAP) purge line (1) and the purge solenoid (2) ends.



9. Disconnect the EVAP valve electrical connector (4)
10. Disconnect the fuel injector harness electrical connector (3)
11. Remove the fuel injector harness electrical connector/EVAP valve mounting bracket to intake manifold retaining bolt (2).
12. Reposition the fuel injector harness electrical connector/EVAP valve mounting bracket (5) away from the intake manifold (1).
13. Remove the PCV tube and PCV fresh air tubes. Refer to [Positive Crankcase Ventilation Hose/Pipe/Tube Replacement](#).



14. Disconnect the EVAP hose (1) from the intake manifold (2).



15. Remove the upper intake manifold bolts (1).
16. Remove the upper intake manifold (2) and the throttle body (3) as an assembly.

Note: The upper intake manifold gaskets (4) must be discarded after removal.

17. Remove the upper intake manifold gaskets (4).

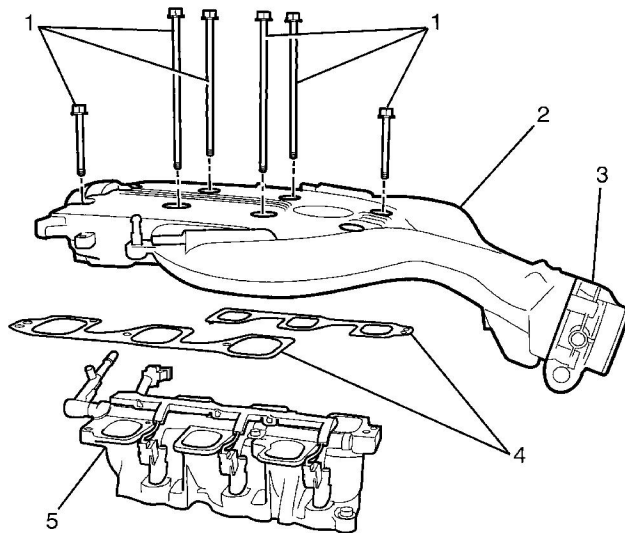
Discard the gaskets

Note: The lower intake manifold (5) must be plugged with a clean lint free cloth to prevent foreign matter entry into the engine.

18. Plug the lower intake manifold (5) with a clean lint free cloth.
19. If the upper intake manifold is being replaced, disassemble the intake manifold. Refer to [Intake Manifold Disassemble](#).
20. Clean and inspect the intake manifold. Refer to [Intake Manifold Cleaning and Inspection](#).

Installation Procedure

1. If the upper intake manifold is being replaced, assemble the intake manifold. Refer to [Intake Manifold Assemble](#).

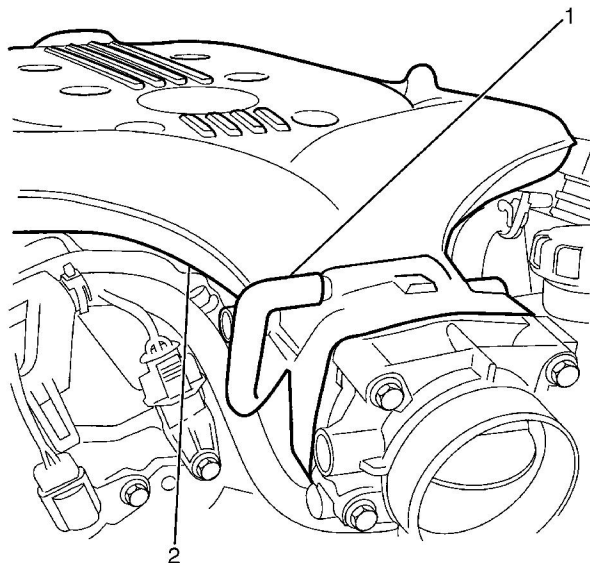


2. Remove the clean lint free cloth from the lower intake manifold (5)
3. Install NEW upper intake manifold gaskets (4).
4. Install the upper intake manifold (2) and the throttle body (3) as an assembly.

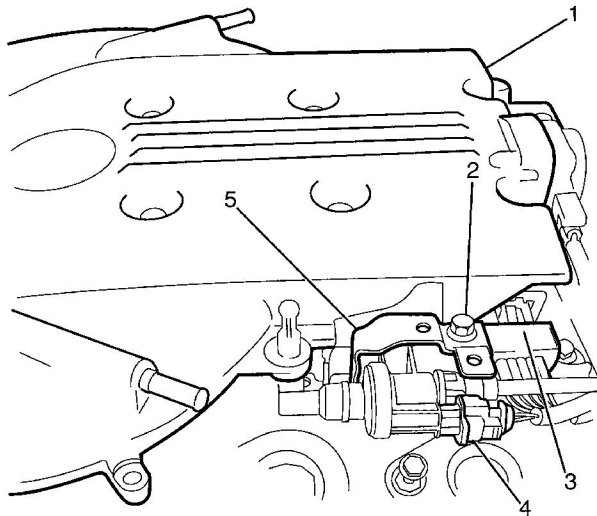
Caution: Refer to [Fastener Caution](#) in the Preface section.

Note: Tighten the intake manifold bolts (1) in a circular pattern starting at the center (long bolts) and moving outward.

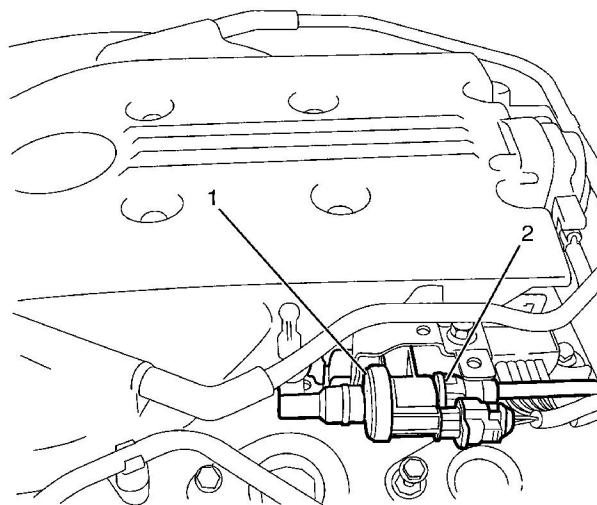
5. Install the upper intake manifold bolts (1) and tighten to **23 N·m (17 lb ft)**.



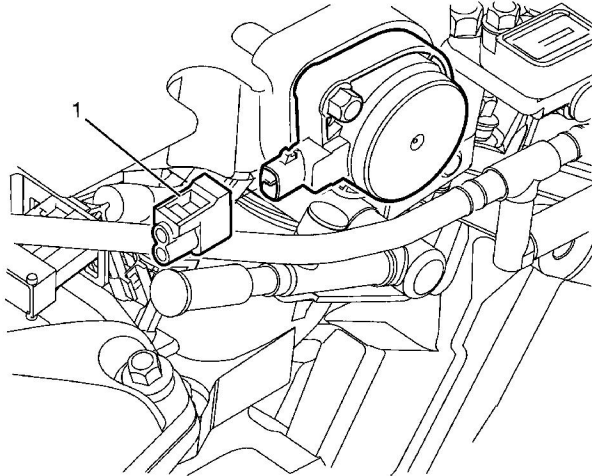
6. Connect the EVAP line (1) to the intake manifold (2).



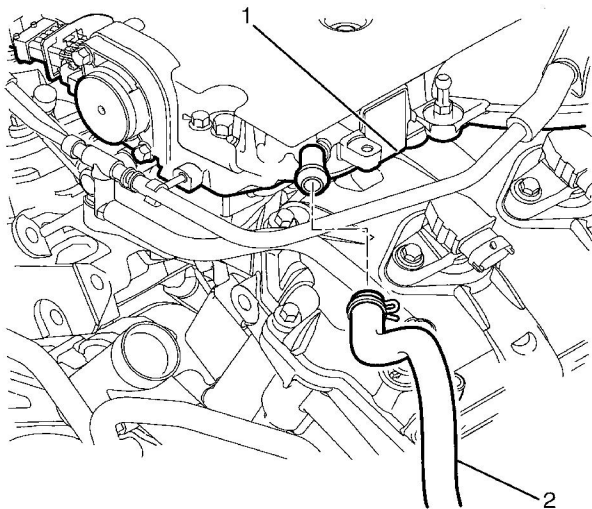
7. Install the fuel injector harness electrical connector/EVAP valve mounting bracket (5) to the intake manifold (1).
8. Install the fuel injector harness electrical connector/EVAP valve mounting bracket to intake manifold retaining bolt (2).
9. Connect the fuel injector harness electrical connector (3)
10. Connect the EVAP valve electrical connector (4)
11. Install the PCV tube and PCV fresh air tubes. Refer to [Positive Crankcase Ventilation Hose/Pipe/Tube Replacement](#).



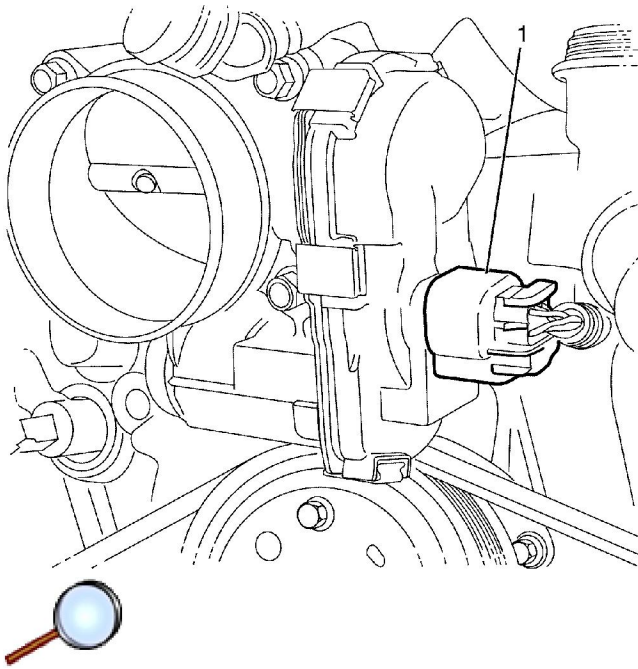
12. Remove the plug or cap from the (EVAP) purge line (1) and the purge solenoid (2) ends.
13. Connect the evaporative emission (EVAP) purge line (1) from the purge solenoid (2). Refer to [Metal Collar Quick Connect Fitting Service](#) or [Plastic Collar Quick Connect Fitting Service](#).



14. Connect the Inlet Manifold Runner Control (IMRC) electrical connector (1).



15. Connect the brake booster vacuum hose (2) to the intake manifold (1).



16. Connect the throttle body electrical connector (1).
17. Install the air intake duct. Refer to [Air Cleaner Inlet Duct Replacement](#).
18. Install the engine covers. Refer to [Engine Cover Replacement](#).
19. Connect the battery ground cable. Refer to [Battery Negative Cable Disconnection and Connection](#).