

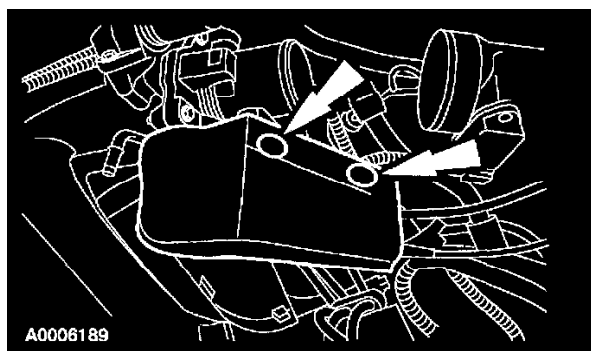
Intake Manifold: Service and Repair

Upper

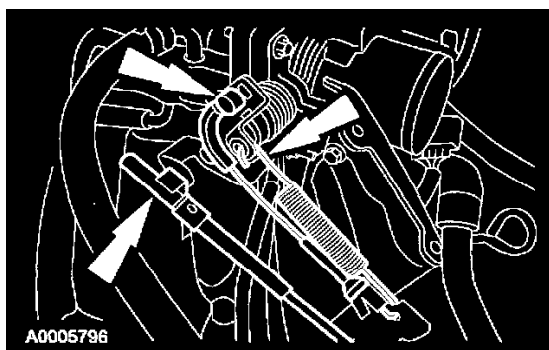
Upper Intake Manifold

Removal

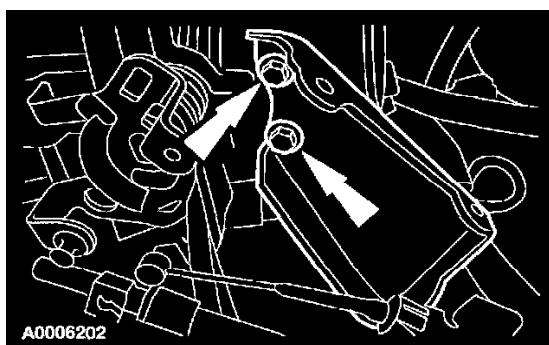
1. Disconnect the battery ground cable.
2. Remove the air cleaner assembly and the air cleaner outlet tube.



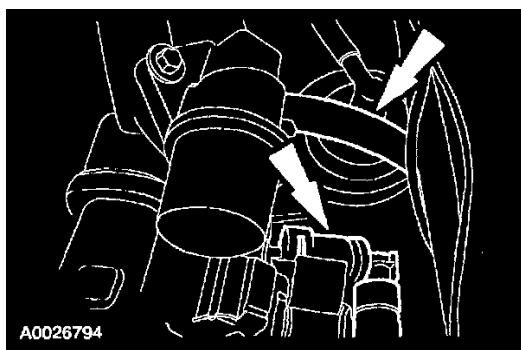
3. Remove the pin-type retainers and the snow shield.



4. Disconnect the accelerator cable, speed control actuator cable and the throttle return spring from the throttle body.

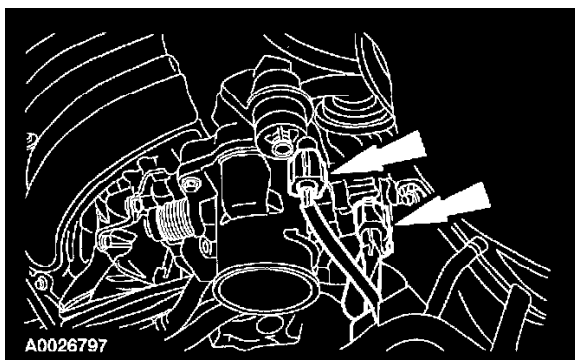


5. Remove the bolts, then position the accelerator cable bracket aside.

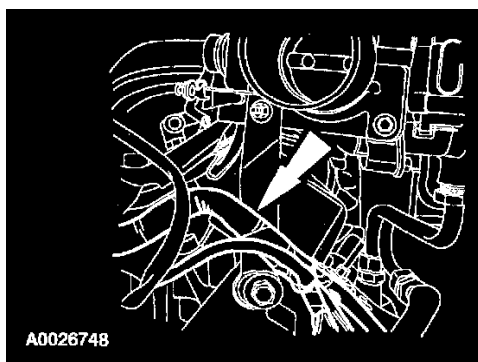


6. Disconnect the hoses.

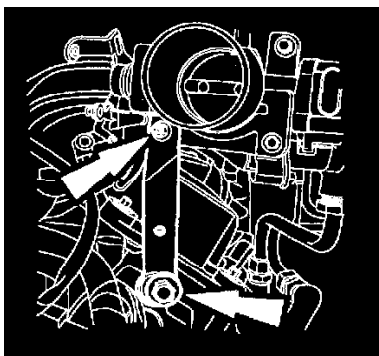
- Disconnect the vacuum hose.
- Disconnect the evaporative emissions return tube.



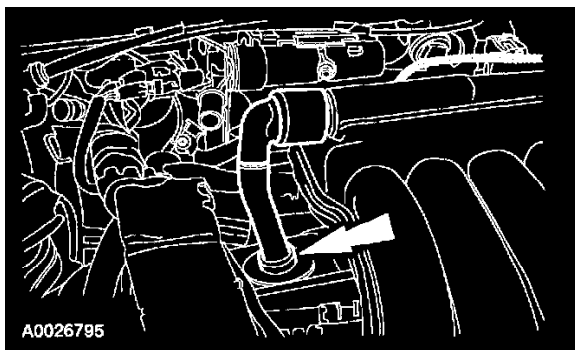
7. Disconnect the electrical connectors.
- Disconnect the Idle Air Control (**IAC**).
 - Disconnect the Throttle Position (**TP**) sensor.



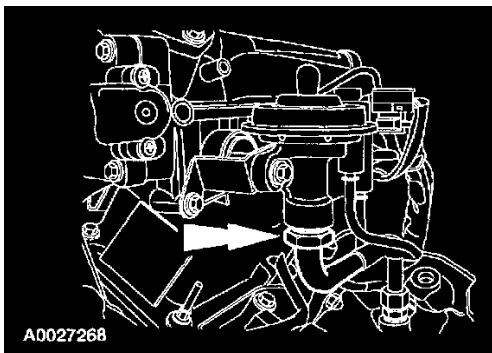
8. Disconnect the engine wiring harness from the intake manifold support bracket.



9. Remove the upper intake manifold support bracket.
- Remove the bolts.
 - Remove the nut.

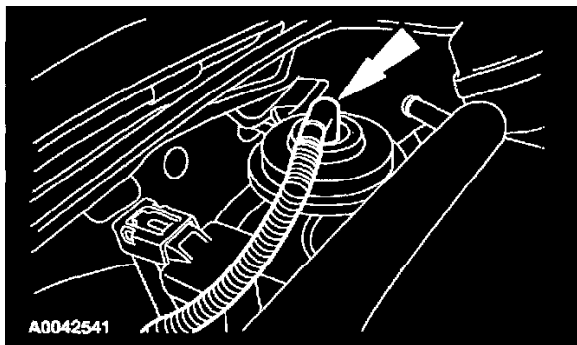


10. Disconnect the Positive Crankcase Ventilation (**PVC**) tube from the upper intake manifold.



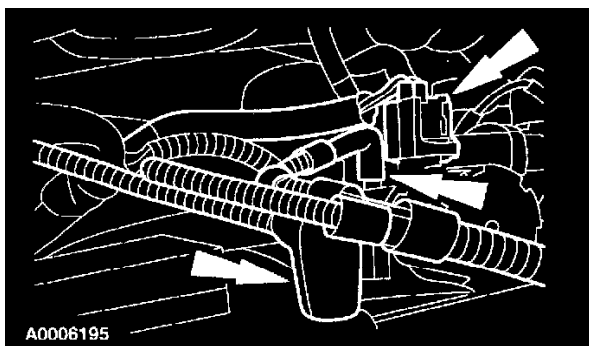
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11. Disconnect the Exhaust Gas Recirculation (EGR) tube from the EGR valve.
 - Loosen the nut.



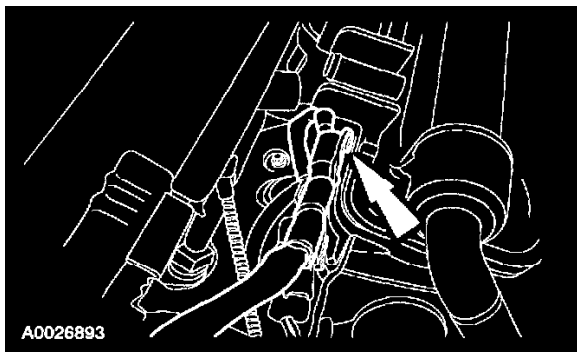
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12. Disconnect the vacuum hose from the EGR valve.



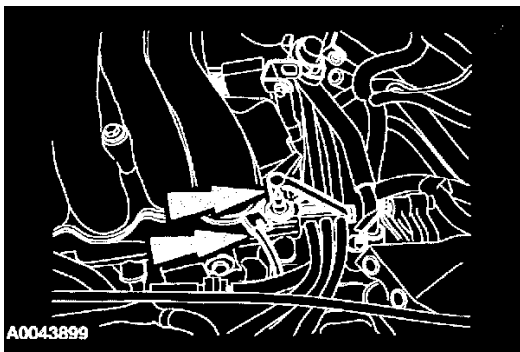
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13. Disconnect the vacuum tube from the upper intake manifold and vacuum regulator solenoid, and disconnect the electrical connector from the vacuum regulator solenoid.

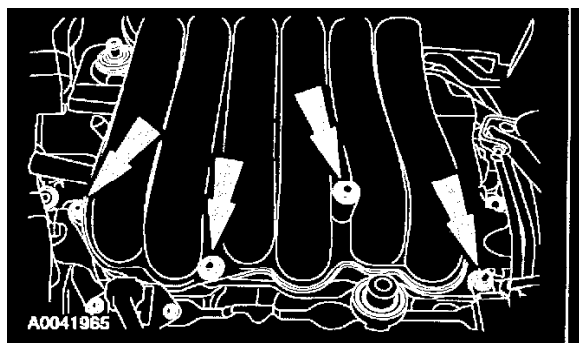


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14. Disconnect the wire harness retaining clip.

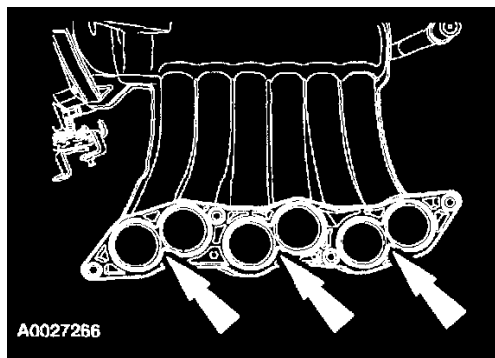


15. Disconnect the spark plug holder and the radio suppressor.

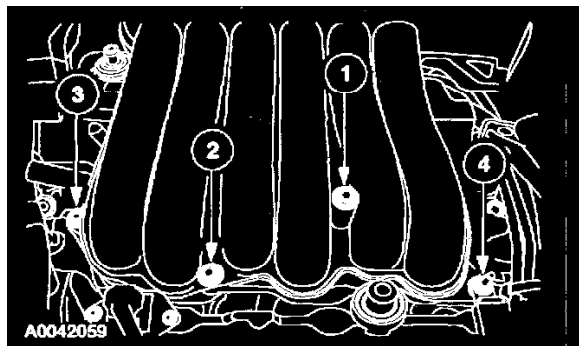


16. Remove the upper intake manifold.
- Remove the four bolts.
 - Remove the intake manifold.

Installation



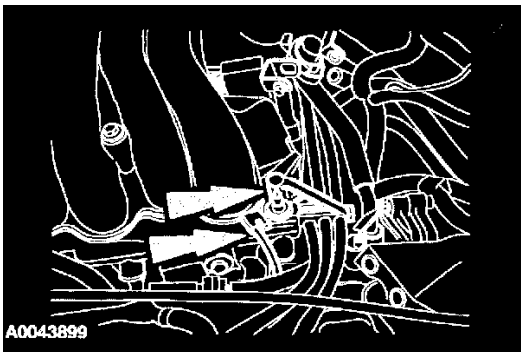
1. Clean all the sealing surfaces.
2. Inspect the upper intake manifold gaskets. Replace if required.



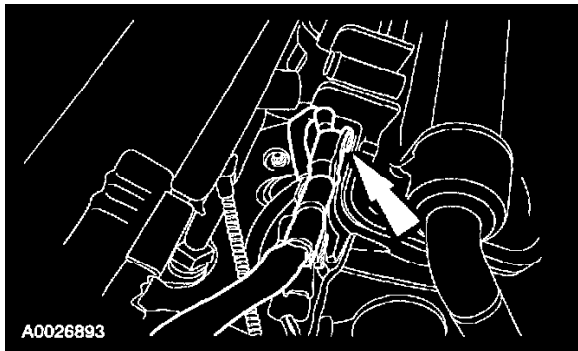
Upper Intake Manifold

3. Install the upper intake manifold. Install the bolts in the sequence shown.
 - Tighten the bolts in two stages.
 - Stage 1: Tighten hand tight.

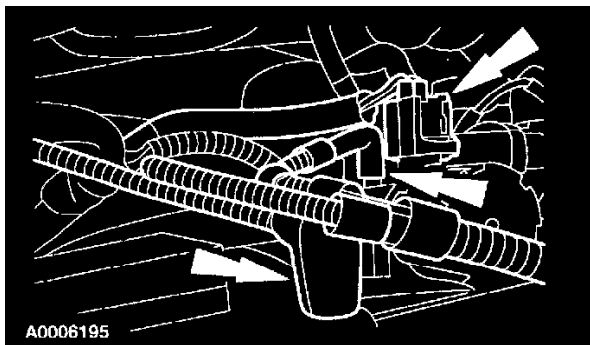
- Stage 2: Tighten to **10 Nm (89 inch lbs.)**.



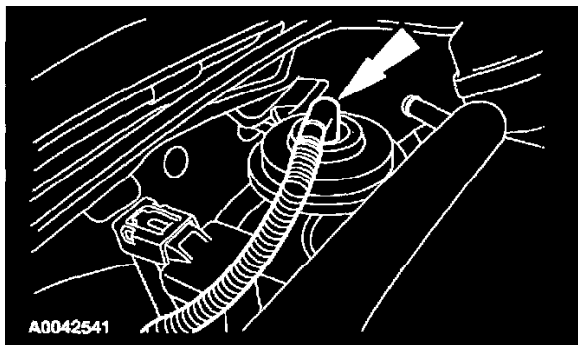
4. Connect the radio suppressor and the spark plug holder.



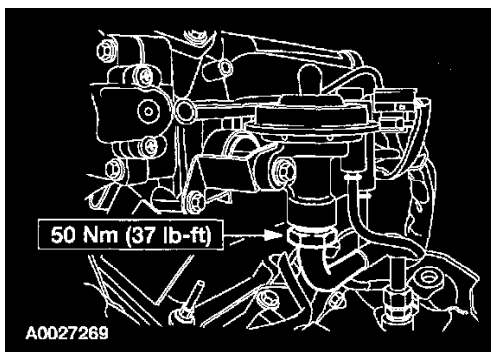
5. Connect the wire harness retaining clip.



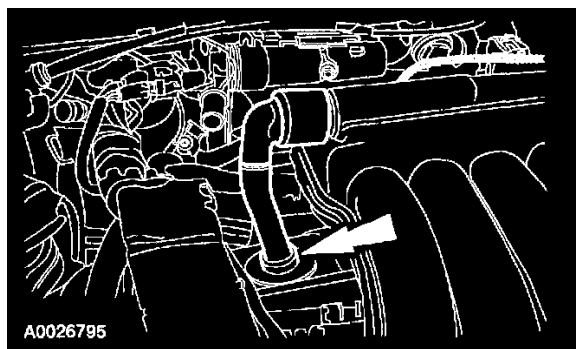
6. Connect the electrical connector and vacuum tube to the vacuum regulator solenoid and the vacuum tube to the intake manifold.



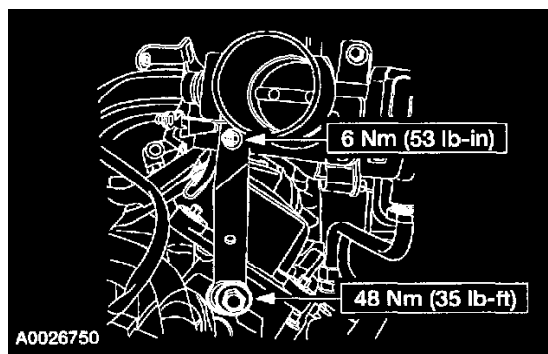
7. Connect the vacuum hose to the EGR valve.



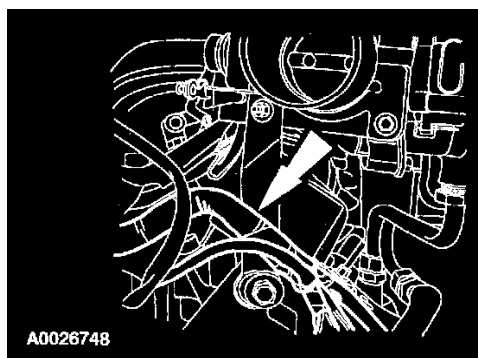
8. Connect the EGR tube to the EGR valve.



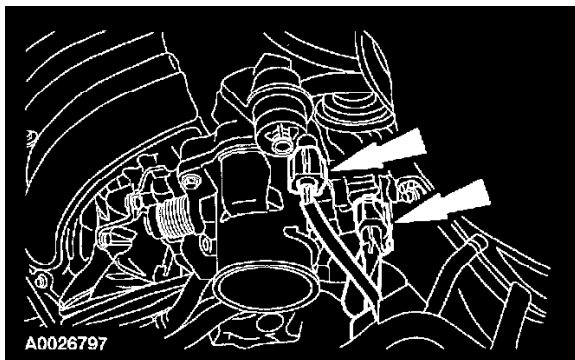
9. Connect the PCV tube to the upper intake manifold.



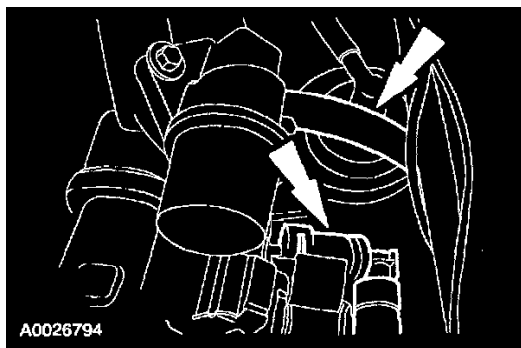
10. Install the upper intake manifold support bracket.



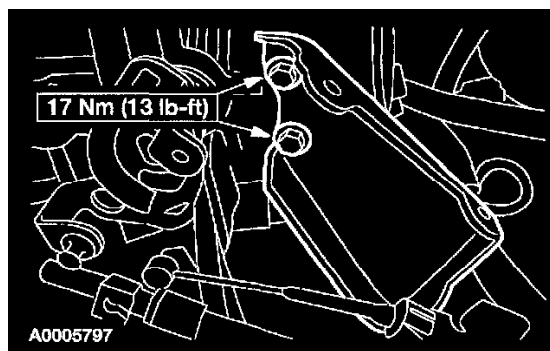
11. Connect the engine wiring harness to the intake manifold support bracket.



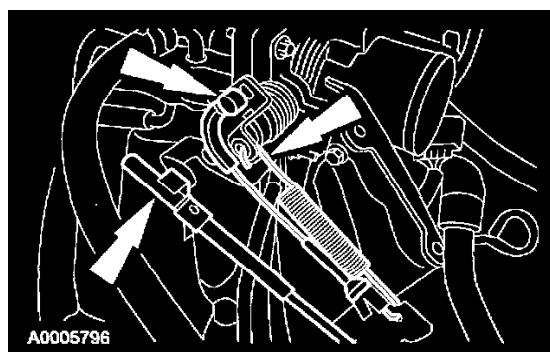
12. Connect the IAC and TP sensor electrical connectors.



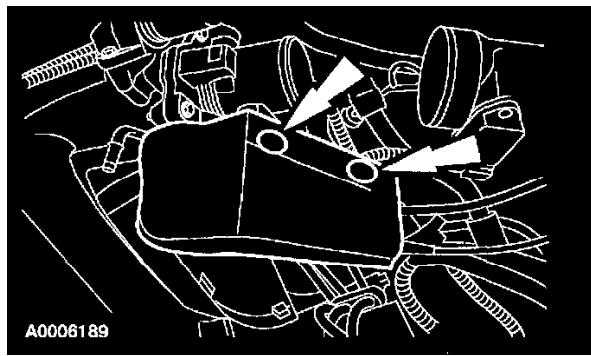
13. Connect the evaporative emissions return tube and the vacuum hose.



14. Position the accelerator cable bracket and install the bolts.



15. Connect the accelerator control cable, speed control cable and the throttle return spring.



16. Install the snow shield.
17. Install the air cleaner assembly and the air cleaner outlet tube.
18. Connect the battery ground cable.