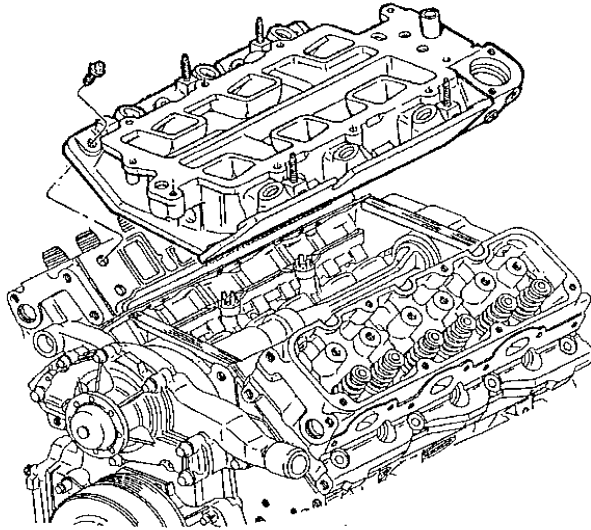


Intake Manifold Replacement - Lower

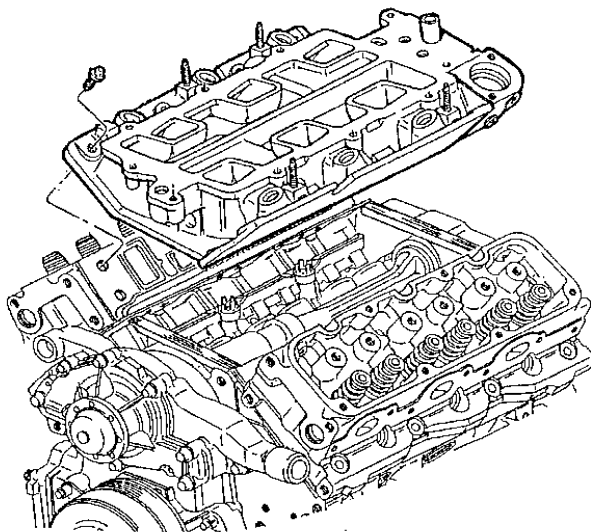
Removal Procedure

1. Remove the upper intake manifold. Refer to Intake Manifold Replacement - Upper.
2. Remove the thermostat housing. Refer to Thermostat Replacement in Engine Cooling.
3. Disconnect the electrical connector from the engine coolant temperature (ECT).
4. Remove the drive belt tensioner. Refer to Drive Belt Tensioner Replacement.
5. Remove the exhaust gas recirculation (EGR) valve outlet pipe. Refer to Exhaust Gas Recirculation (EGR) Outlet Pipe Replacement in Engine Controls.



6. Remove the lower intake manifold bolts.
7. Remove the lower intake manifold.
8. Clean and inspect the lower intake manifold. Refer to Intake Manifold Cleaning and Inspection - Lower.

Installation Procedure

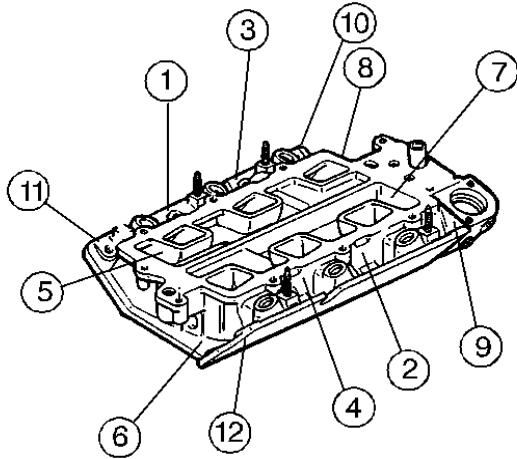


Important

In order to install the manifold, complete the following steps:

- Clean the cylinder block, heads and the intake manifold sealing surface of all oil with a suitable solvent.
- Apply a GM approved sealer to the ends of the intake manifold seals.
- Clean any adhesive compound from the intake manifold bolts and the bolt holes.
- Apply threadlocker compound GM P/N 12345739 (Canadian P/N 10953541), or equivalent, to the intake manifold bolt threads before assembly.

1. Install the lower intake manifold gasket.
2. Install the lower intake manifold.
3. Apply threadlocker 272 GM P/N 12345493 (Canadian P/N 10953488) to the bolt threads.



Notice

Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

4. Install the lower intake manifold bolts. **Tighten**
Tighten the lower intake manifold bolts in sequence (1-10) to 15 N·m (11 lb ft).
5. Install the EGR valve outlet pipe. Refer to Exhaust Gas Recirculation (EGR) Outlet Pipe Replacement in Engine Controls.
6. Install the drive belt tensioner. Refer to Drive Belt Tensioner Replacement.
7. Connect the electrical connector from the ECT.
8. Install the thermostat housing. Refer to Thermostat Replacement in Engine Cooling.
9. Install the upper intake manifold. Refer to Intake Manifold Replacement - Upper.