

**Intake Manifold Installation**

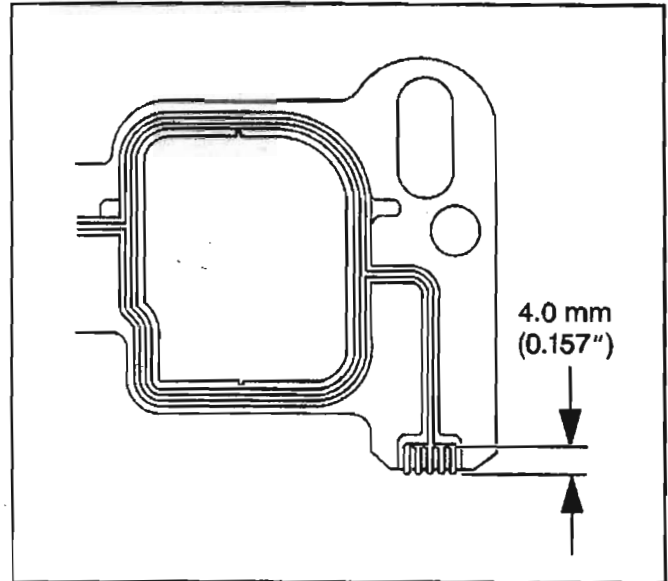
**Notice:** Applying excessive amounts of sealant may prohibit the intake gasket from sealing properly.

1. Apply a 4.0 mm (0.157 in) patch of adhesive GM P/N 12346141 or equivalent to the cylinder head side of the lower intake manifold gasket at each end.

**Important:** The lower intake manifold gasket must be installed while the adhesive is still wet to the touch.

2. Install the lower intake manifold gasket onto the cylinder head.

Use the gasket locator pins in order to properly seat the lower intake manifold gasket on the cylinder head.

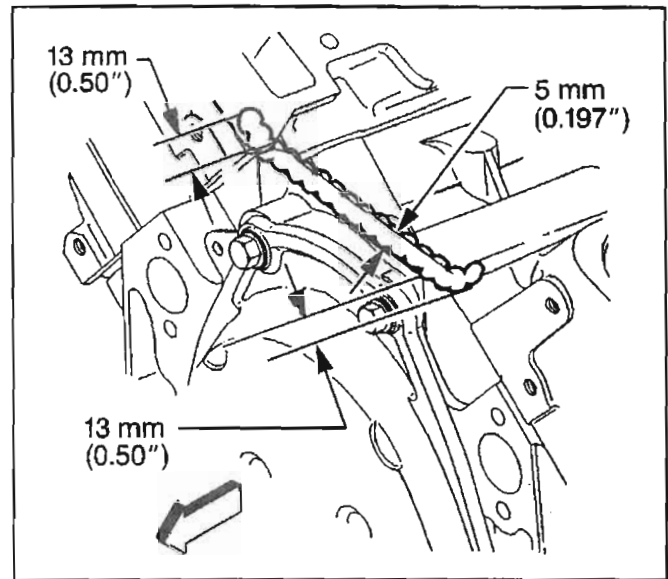


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**Notice:** Care must be used to apply the correct amount of sealant onto the gaskets. Applying excessive amounts of sealant may prohibit the intake gaskets from sealing properly.

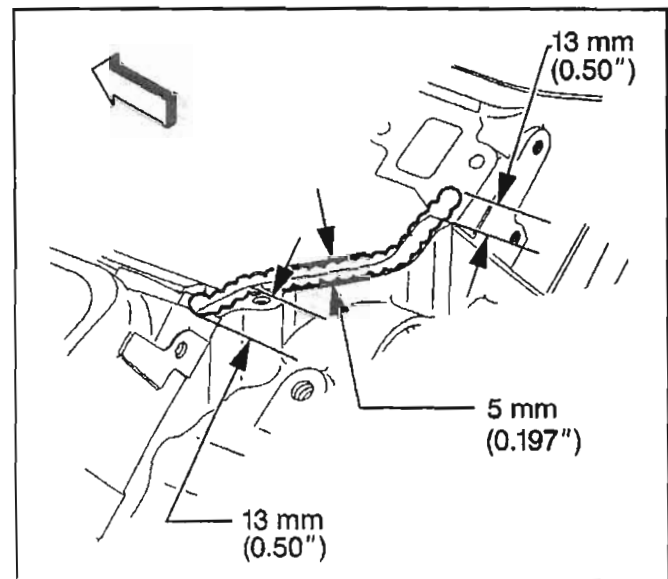
**Important:** The lower intake manifold must be installed and the fasteners tightened while the adhesive is still wet to the touch.

3. Apply a 5 mm (0.197 in) bead of adhesive GM P/N 12346141 or equivalent to the front top of the engine block.
4. Extend the adhesive bead 13 mm (0.50 in) onto each lower intake manifold gasket.

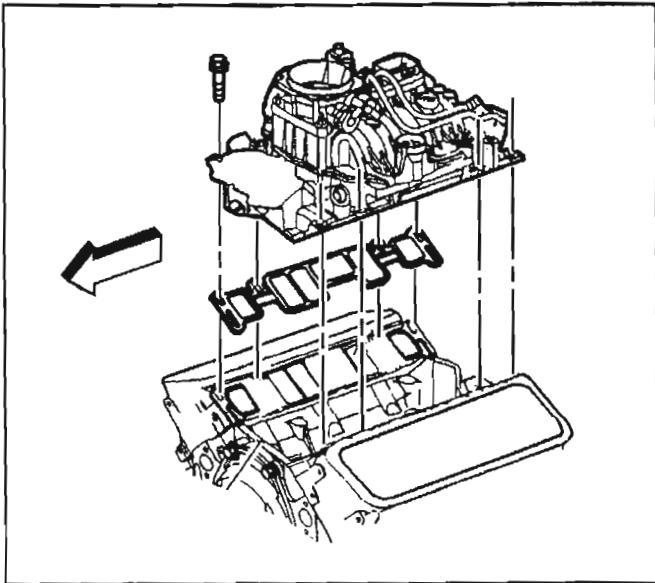


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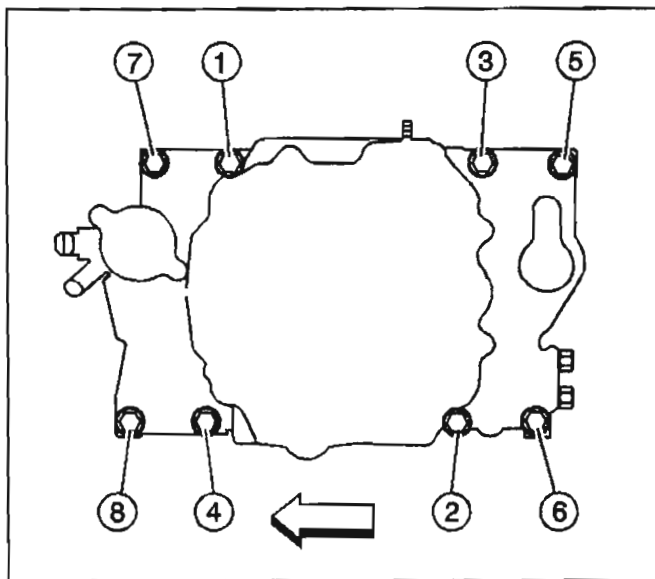
5. Apply a 5 mm (0.197 in) bead of adhesive GM P/N 12346141 or equivalent to the rear top of the engine block.
6. Extend the adhesive bead 13 mm (0.50 in) onto each lower intake manifold gasket.



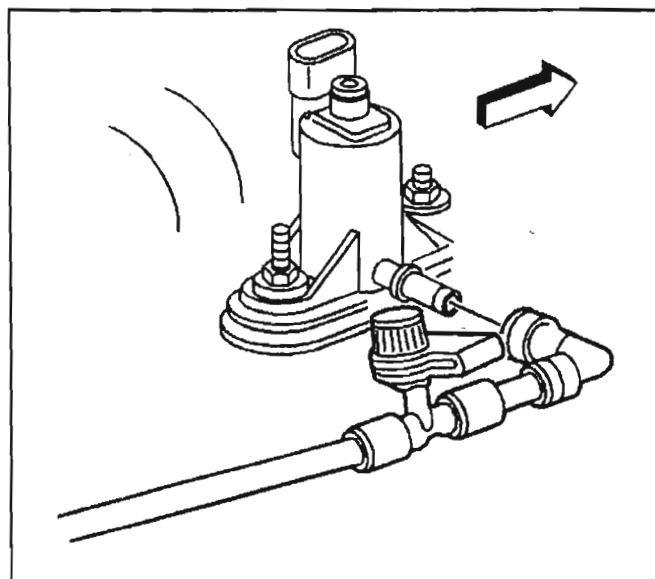
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7. Install the lower intake manifold onto the engine block.

**Notice:** Refer to *Fastener Notice* in Cautions and Notices.

8. If reusing the fasteners, apply threadlock GM P/N 12345382 or equivalent to the threads of the lower intake manifold bolts.
9. Install the lower intake manifold bolts.

**Notice:** Proper lower intake manifold fastener tightening sequence and torque is critical. Always follow the tightening sequence, and torque the intake manifold bolts using the 3 step method. Failing to do so may distort the crankshaft bearing bore alignment and cause damage to the crankshaft bearings.

10. Tighten the lower intake manifold bolts.

**Tighten**

- 10.1. Tighten the bolts on the first pass in sequence (1–8) to 3 N·m (27 lb in).
- 10.2. Tighten the bolts on the second pass in sequence (1–8) to 12 N·m (106 lb in).
- 10.3. Tighten the bolts on the final pass in sequence (1–8) to 15 N·m (11 lb ft).

11. Connect the evaporative emission (EVAP) canister solenoid valve harness.

- 11.1. Push the elbow inward until the quick connect snaps into place.
- 11.2. Pull the elbow outward in order to ensure proper connection.