

Fig. 147: Locating Coolant Temperature Sensor
Courtesy of GENERAL MOTORS CORP.

9. Remove the coolant temperature sensor (725) from the left cylinder head.

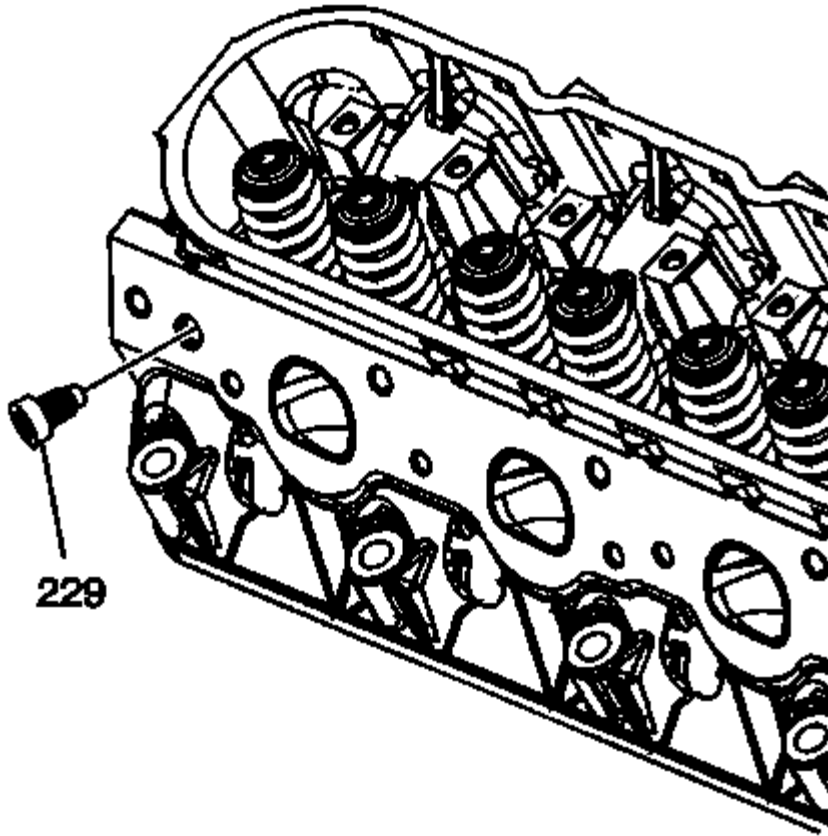


Fig. 148: Identifying Cylinder Head Plug
Courtesy of GENERAL MOTORS CORP.

10. Remove the cylinder head plug (229) from the right cylinder head.

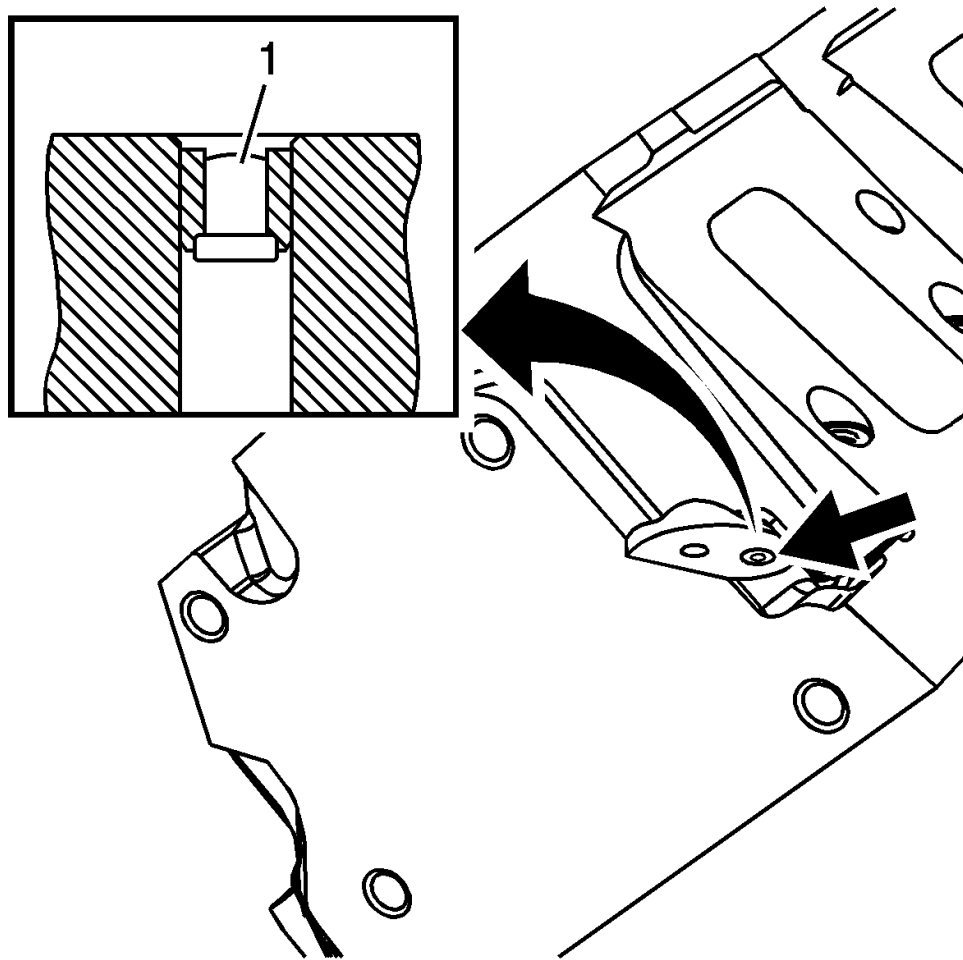


Fig. 149: Identifying Plug
Courtesy of GENERAL MOTORS CORP.

11. Inspect for a leaking plug. Second design applications use a rivet-type plug at the top rear coolant passage of each cylinder head. If service of a leaking plug is required, it is necessary to remove the cylinder head from the engine to properly remove the plug.

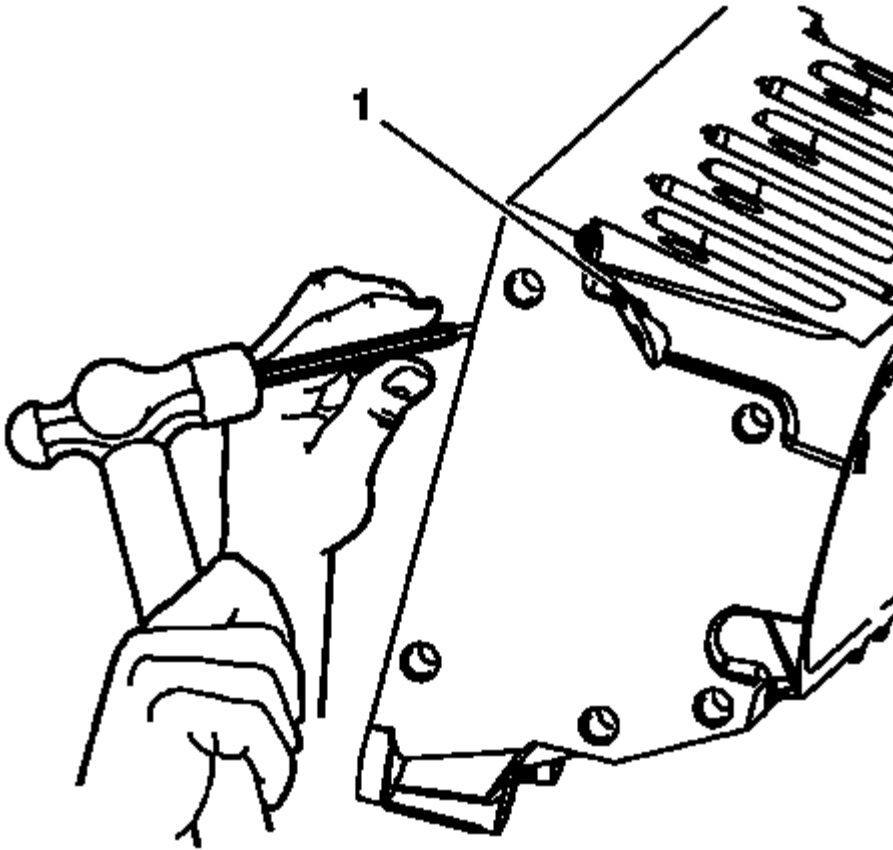


Fig. 150: Removing Plug Assembly
Courtesy of GENERAL MOTORS CORP.

12. Using a 6.43 mm (0.25 in) or smaller punch, remove the plug assembly from the cylinder head (1).

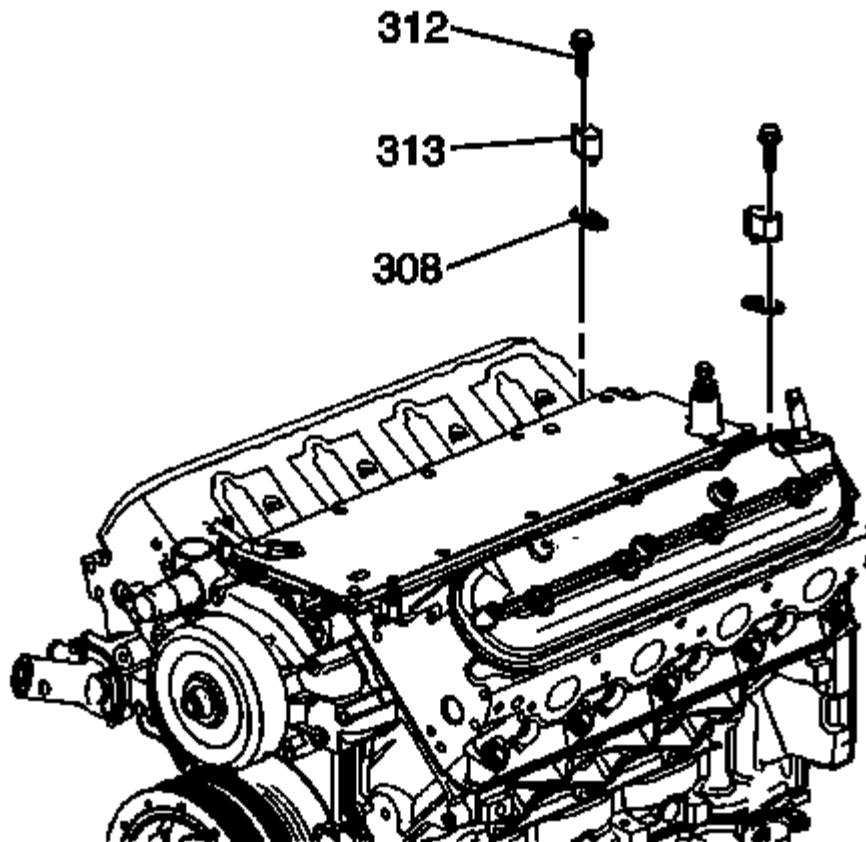


Fig. 151: Identifying Coolant Air Bleed Cover & Bolt
Courtesy of GENERAL MOTORS CORP.

13. If plug removal is required, install a first design coolant air bleed cover and bolt (312) to complete the repair.

CYLINDER HEAD CLEANING AND INSPECTION

Special Tools

- **J 8089:** Carbon Removal Brush
- **J 9666:** Valve Spring Tester

Cleaning and Inspection

For equivalent regional tools, refer to **Special Tools (5.3L)** or **Special Tools (6.0L)**

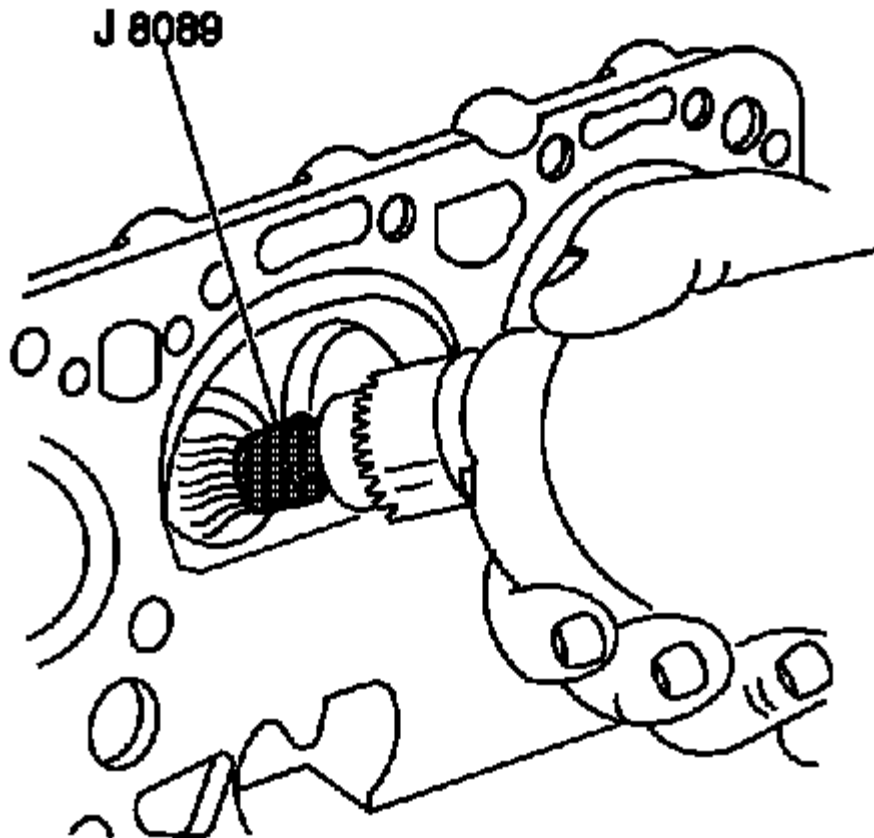


Fig. 152: Cleaning Carbon Using J 8089
Courtesy of GENERAL MOTORS CORP.

WARNING: Refer to Safety Glasses Warning .

NOTE:

- When cleaning a cylinder head in a thermal type oven, do not exceed 204°C (400°F).
- Be careful not to scuff the chamber.

1. Clean the following components:

- Use the **J 8089**: brush in order to remove the carbon from the combustion chambers.
- Gasket surfaces

Refer to Replacing Engine Gaskets .

- Valve stems and heads on a buffing wheel
- Bolt hole threads

Remove all dirt, debris, or threadlocking material from the bolt holes.

2. Inspect the cylinder head for the following conditions:
 1. Cracks in the exhaust ports and combustion chambers
 2. External cracks in the water chambers
 3. Gasket surfaces for excessive scratches or gouging

Refer to **Replacing Engine Gaskets** .

4. Bolt hole threads for debris or damaged threads

Refer to **Thread Repair** or **Thread Repair Specifications** .

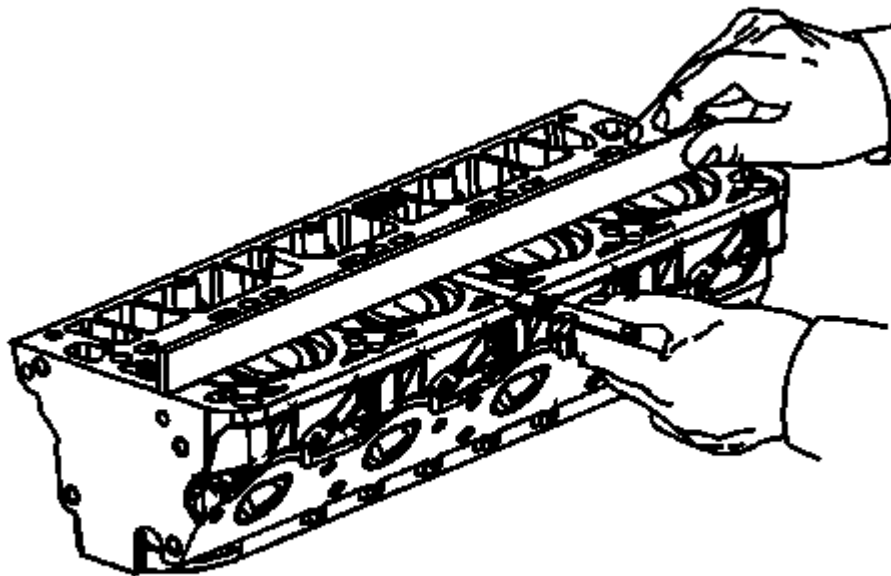


Fig. 153: Inspecting Cylinder Head For Warpage
Courtesy of GENERAL MOTORS CORP.

3. Inspect the cylinder head for warpage. Refer to **Engine Mechanical Specifications (5.3L)** or **Engine Mechanical Specifications (6.0L)** .

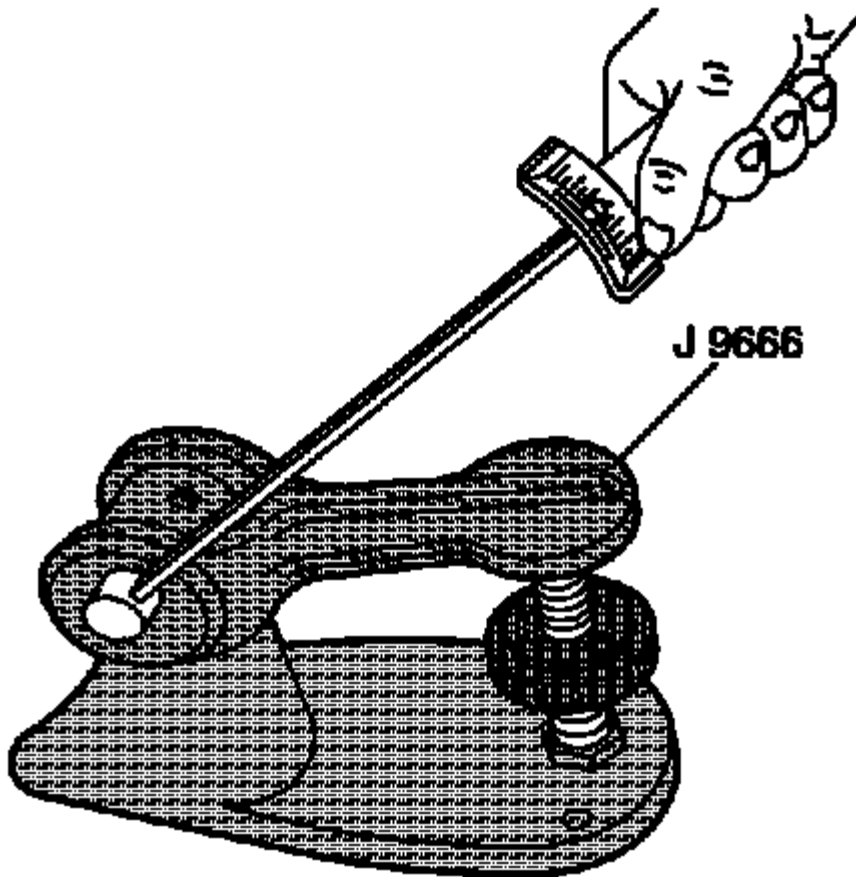


Fig. 154: Measuring Valve Spring Tension
Courtesy of GENERAL MOTORS CORP.

4. Use the **J 9666**: tester in order to measure the valve spring tension. Refer to **Engine Mechanical Specifications (5.3L)** or **Engine Mechanical Specifications (6.0L)** .