



Service Bulletin

File in Section: 06 - Engine

Bulletin No.: 00-06-01-026I

Date: August, 2016

INFORMATION

Subject: Intake Manifold Inspection/Replacement After Severe Internal Engine Damage

Models: 2017 and Prior GM Passenger Cars and Trucks (Includes Medium Duty Trucks with Gas Engines)

Attention: This Bulletin also applies to any of the above models that may be Export from North America vehicles.

This Bulletin has been revised to add the last two graphics under Typical Intake Manifold Debris Views After Internal Engine Damage. Please discard Corporate Bulletin Number 00-06-01-026H.

General Information

- When replacing an engine due to internal damage, extreme care should be taken when transferring the intake manifold to the new Genuine GM Part service engine long block. The internal engine damage may have resulted in the potential discharge of internal engine component debris into the intake manifold via broken pistons and/or bent, broken, or missing intake valves.
- After removing the intake manifold from the engine, the technician **MUST** carefully inspect all of the cylinder head intake ports to see if the valve heads are still present and not bent. Usually when the valve heads are missing or sufficiently bent, internal engine component debris will be present to varying degrees in the intake port of the cylinder head. If this debris is present in **ANY** of the cylinder head intake ports, the intake manifold should be replaced.
- This replacement is required due to the complex inlet runner and plenum configuration of most of the intake manifolds, making thorough and complete component cleaning difficult and nearly impossible to verify the complete removal of debris. Reinstallation of an intake manifold removed from an engine with deposits of internal engine component debris may result in the ingestion of any remaining debris into the new Genuine GM Part service engine. This will cause damage or potential failure of the new Genuine GM Part service engine long block.

Broken Valves, Broken Pistons and Piston to Cylinder Head Damage — Catalytic Converter Failures

Broken Valves, Broken Pistons and Piston to Cylinder Head Damage

Broken valves, broken pistons and piston to cylinder head damage all create material debris that scatters throughout the induction system.

- ⇒ If **ANY** of the above were to occur, the intake manifold **MUST** be replaced or subsequent severe engine damage will occur. This replacement is required due to the complex inlet runner and plenum configuration of most of the intake manifolds, making thorough and complete component cleaning difficult and impossible to verify the complete removal of all debris.

Catalytic Converter Failures

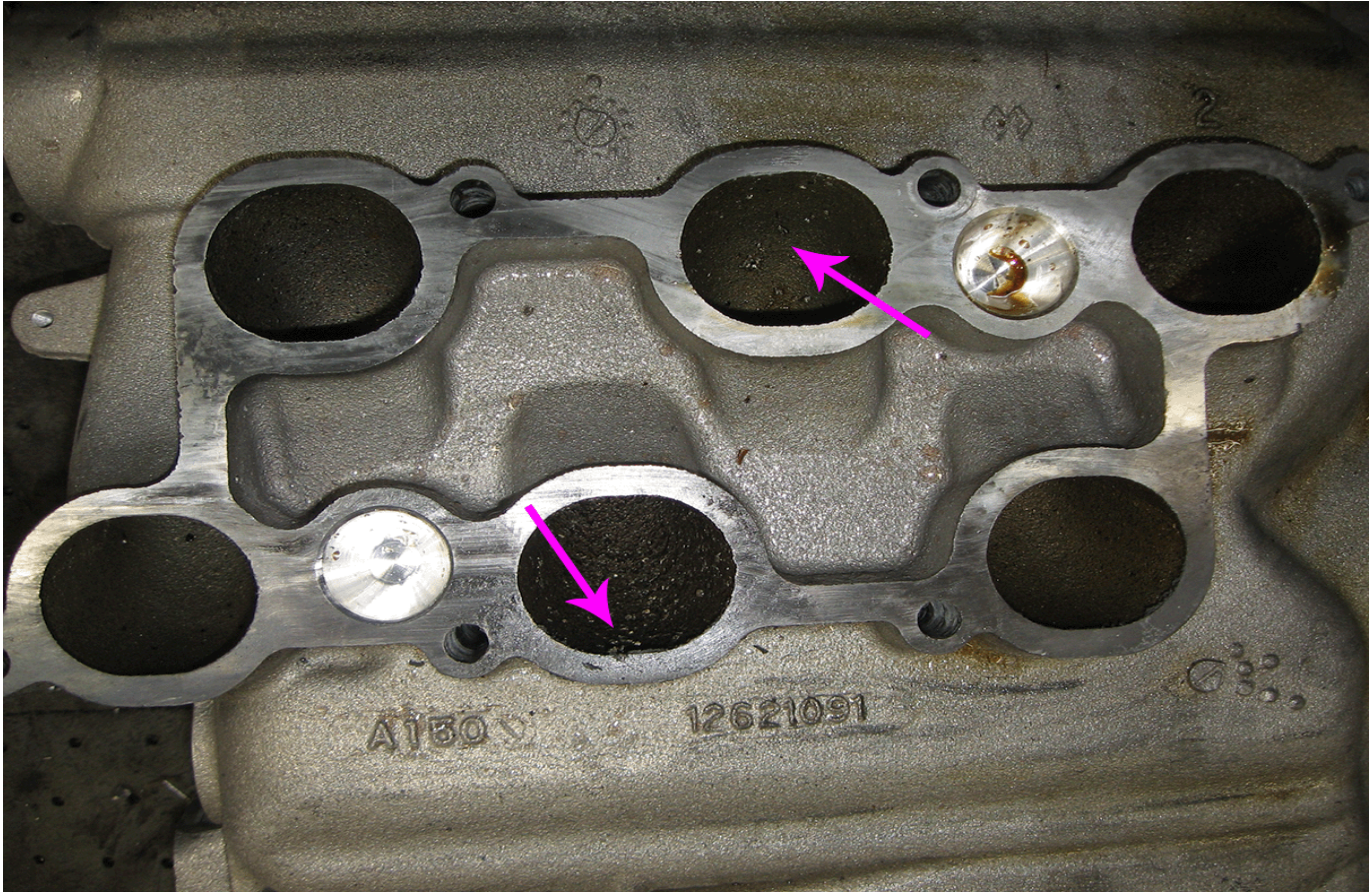
When catalytic converter failures occur and the inner brick becomes plugged and breaks apart, the catalytic converter material can be sucked back into the engine during valve overlap and transfer throughout the intake manifold and into the cylinder. Any such material transfer can cause heavy wear to piston rings and cylinder walls. Misfires and oil consumption are the by products of ingested catalytic converter material into the combustion chamber and cylinder bores.

Typical Intake Manifold Debris Views After Internal Engine Damage

View of Debris in Aluminum Intake Manifold —
Throttle Body Opening

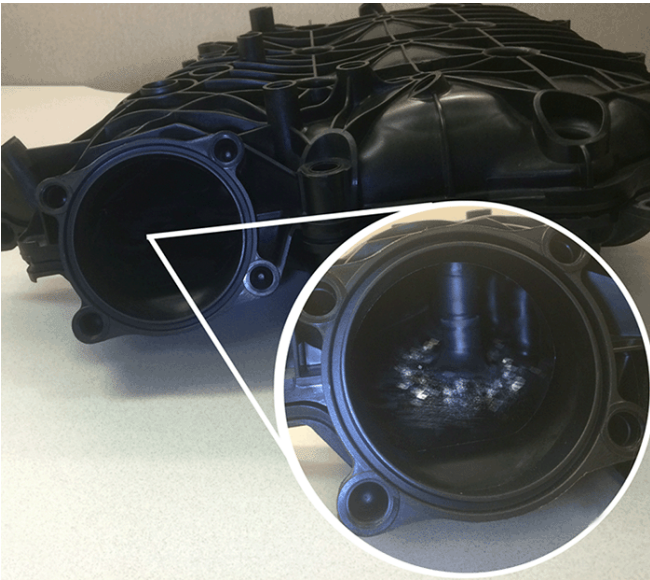


View of Debris in Aluminum Intake Manifold —
Ports to Cylinder Heads



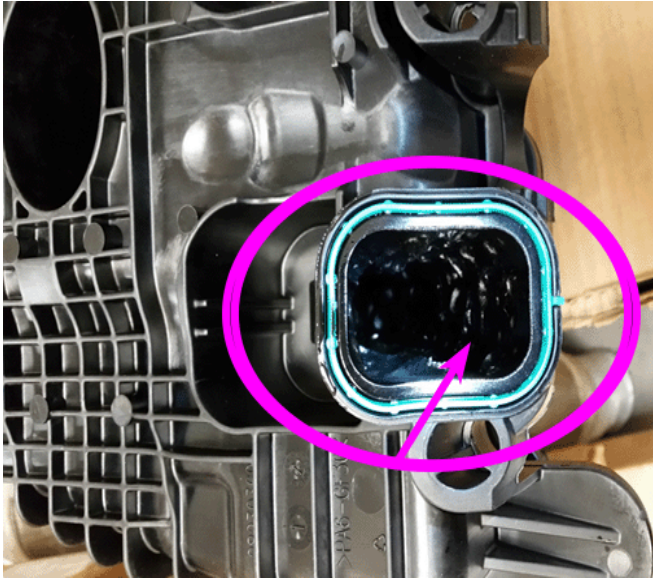
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View of Debris in Plastic Intake Manifold — Throttle
Body Opening



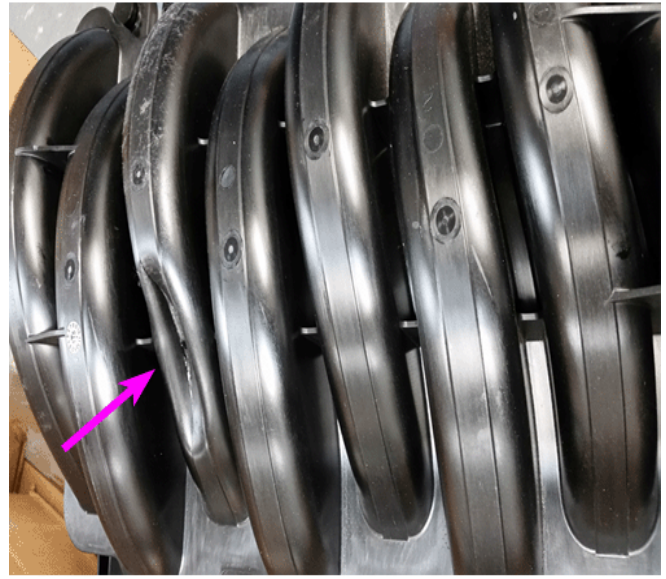
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View of Broken Valve that Blew Debris Back into the Intake from the Combustion Chamber



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View of Intake from GEN 5 V8 that Experience Lifter Collapse and/or Broken Valve Spring

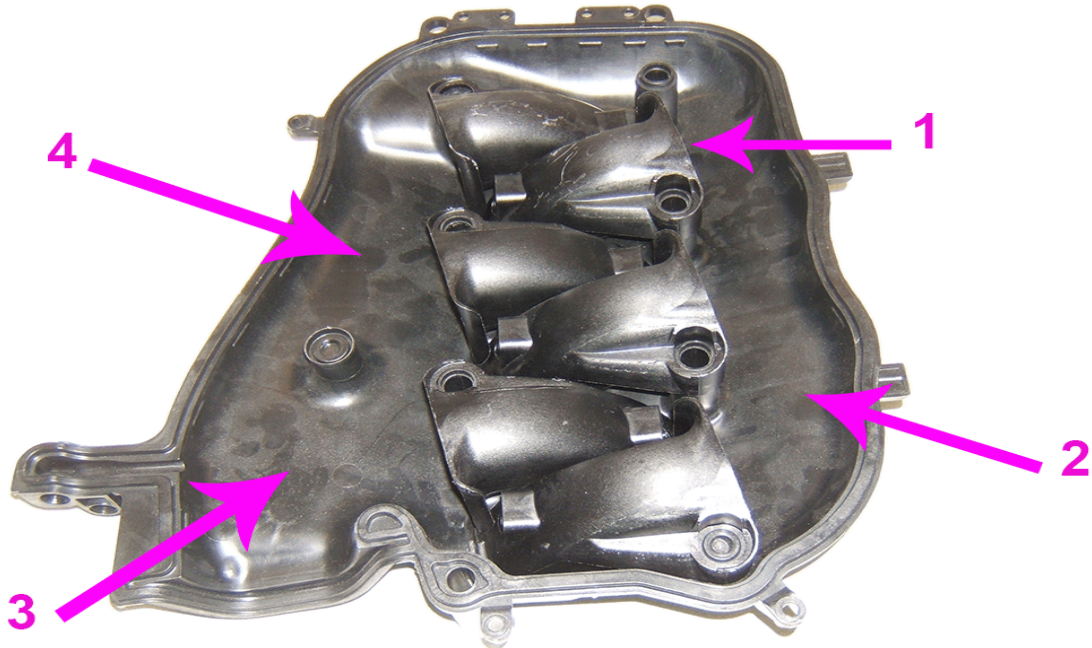


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Internal View of Plastic Intake Manifold Lower Half — Plenum and Runner Complexity

Notice: The plastic intake manifold CANNOT be disassembled.

Internal View of Plastic Intake Manifold Lower Half — Plenum and Runner Complexity



This internal view shows the plenum and runner complexity and is the reason why the intake manifold CANNOT be completely cleaned of debris.

1. Intake port to cylinder head opening.
2. Areas where debris can collect.
3. Areas where debris can collect.
4. Areas where debris can collect.

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Ultrasonic welding is an industrial technique whereby high-frequency ultrasonic acoustic vibrations are locally applied to workpieces, (in this case the plastic intake manifold) that are being held together under pressure to create a solid-state weld. It is commonly used for plastics and for joining dissimilar materials. In ultrasonic welding, there are no connective bolts, nails, soldering materials, or adhesives necessary to bind the materials together.