



Service Bulletin

Bulletin No.: 16-NA-222

Date: August, 2023

INFORMATION

Subject: Information for Engine Concerns Resulting from Lack of Scheduled Maintenance, Improper Service or Aftermarket Calibrations

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Buick	GM Passenger Cars and Trucks	2024 and Prior		—	—	All	—
Cadillac							
Chevrolet							
GMC							

Involved Region or Country	North America, Europe, Uzbekistan, Russia, Middle East, Iraq, Israel, Palestine, Argentina, Brazil, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, Japan, Cadillac Korea (South Korea), GM Korea Company, China, Taiwan, Thailand, Singapore, Philippines, Egypt, Other Africa, South Africa
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Important: Service agents must comply with all International, Federal, State, Provincial, and/or Local laws applicable to the activities it performs under this bulletin, including but not limited to handling, deploying, preparing, classifying, packaging, marking, labeling, and shipping dangerous goods. In the event of a conflict between the procedures set forth in this bulletin and the laws that apply to your dealership, you must follow those applicable laws.

Information

Notice: Engines that are repaired for the conditions outlined in this bulletin should not be considered warranty. Any warranty claims submitted with these conditions may be debited.

Debits will be issued for the following reasons per the Service Policies and Procedures Manual:

- Failure or damage due to vehicle use, wear, exposure, lack of maintenance, alterations or improper servicing is not covered.
- Non-Return of Parts.
- Inspection Results by WPC.

Please refer to the latest version of Service Bulletin #99-00-89-019: Global Warranty Management (GWM) Warranty Parts Center (WPC) Parts Return Program for more information.

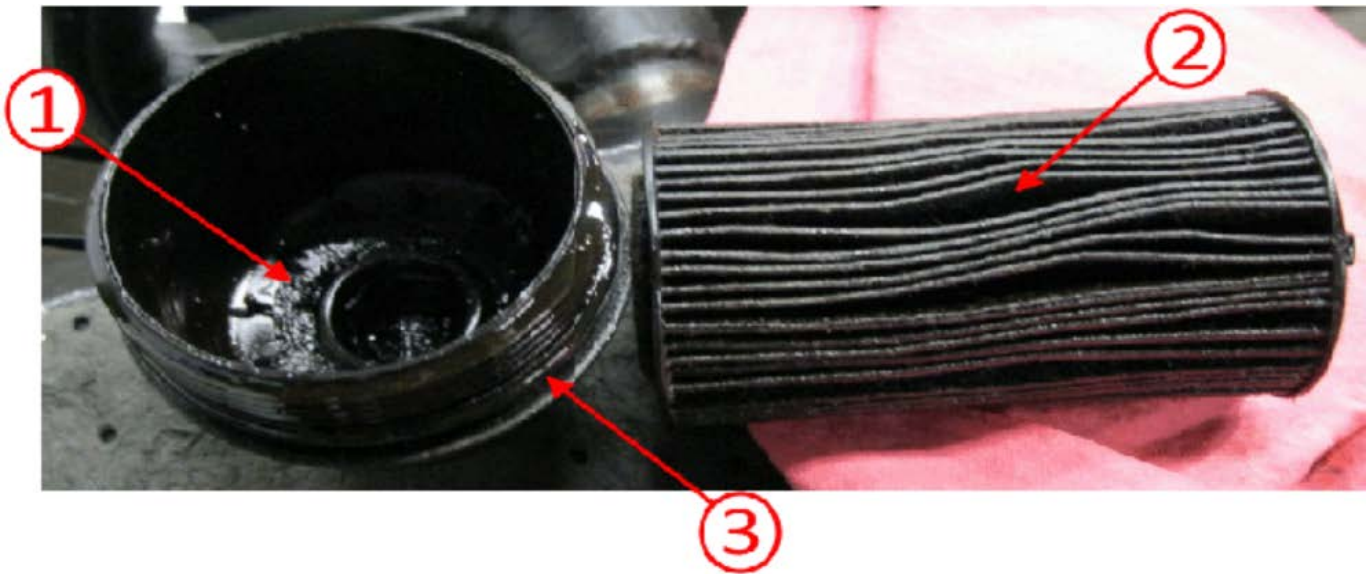
Following the recommended vehicle maintenance schedule is required in order to reduce the possibility of engine oil sludge build-up, contamination and/or any other conditions that may result in poor engine performance and/or internal engine damage.

Following proper service procedures is necessary to reduce the risk of foreign debris entering the engine, which may also cause poor engine performance or internal damage.

Conditions/Symptoms

Conditions That May Result from not Following Scheduled Maintenance

Oil filter blocked by debris and oil sludge.



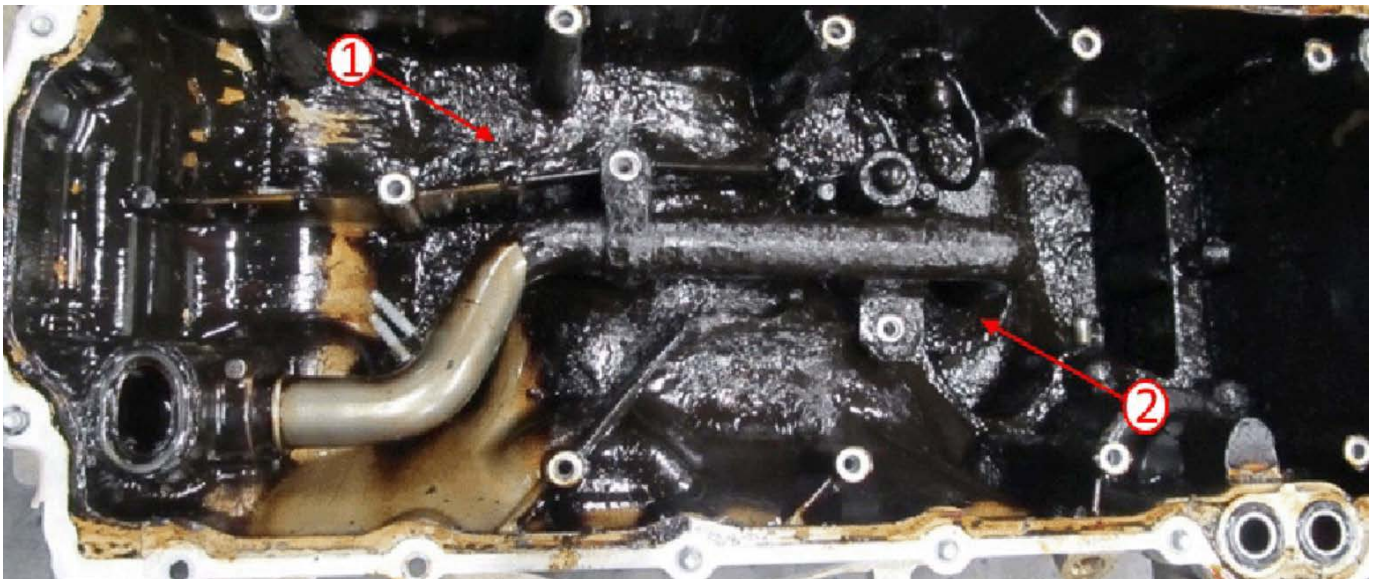
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Note: Using care, some oil filters may need to be cut open in order to validate the condition of the filter.

- On vehicles equipped with an oil filter cartridge, inspect the cap (1) for sludge.
- Oil filter pleats (2) with heavy debris or sludge.
- Damage, holes, tears, improper installation, or missing seals (3).

For additional information, refer to the latest version of Service Bulletin #10-06-01-003: Diagnostic Information on Internal Engine Noise or Damage After Oil Filter Replacement.

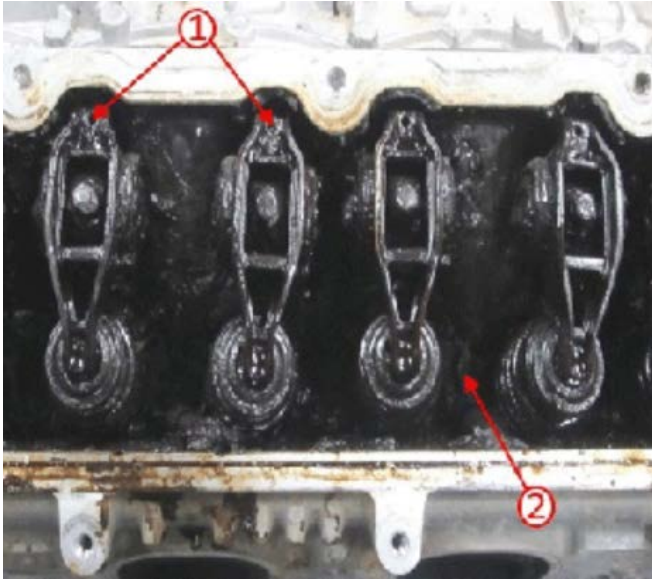
Sludge build up in the bottom of the oil pan.



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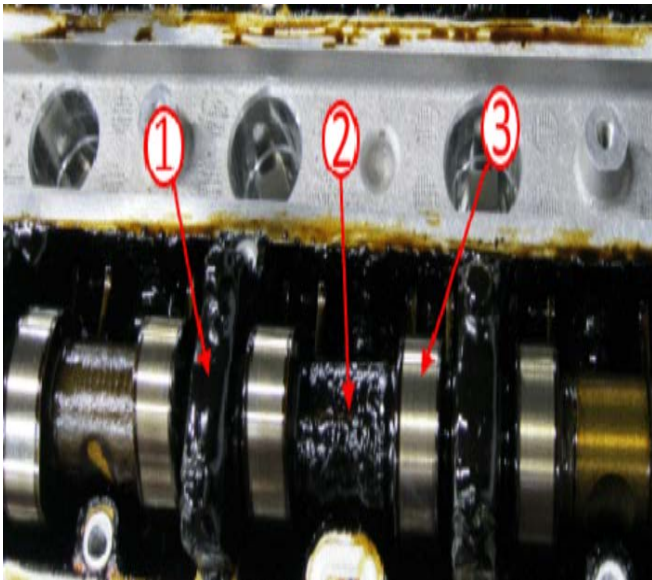
- Sludge (1) or debris found in the bottom of the pan blocking the pick up tube (2) screen.
- Light debris in the oil pump pick-up tube screen is normal, from normal engine wear.
- Some determination must be used to validate what is or what is not considered normal wear.

The valve covers blocked at the engine breather, vacuum or oil return ports.



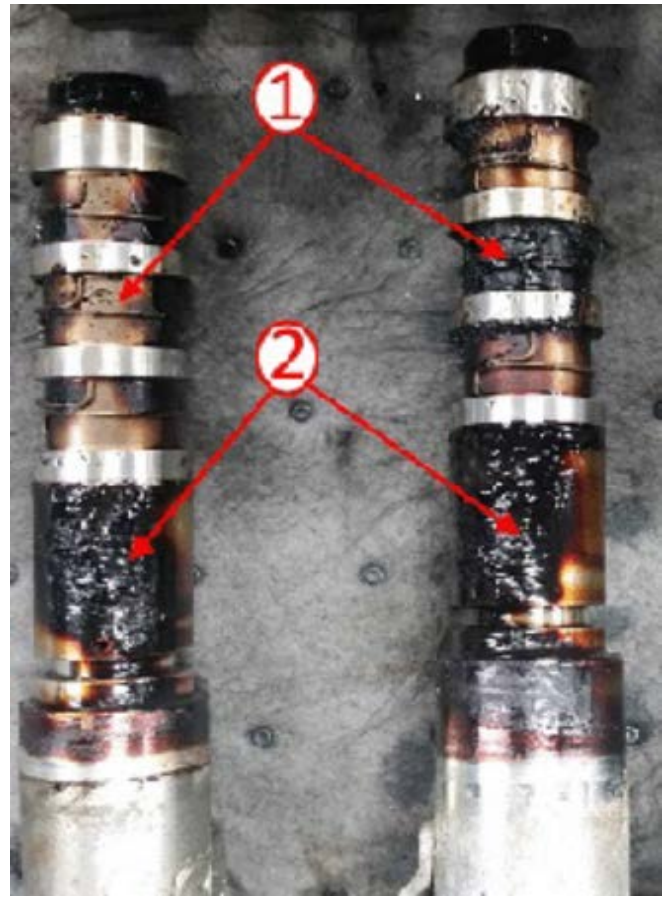
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- The rockers and rocker oil supply ports (1) blocked.
- The return ports blocked by sludge (2).



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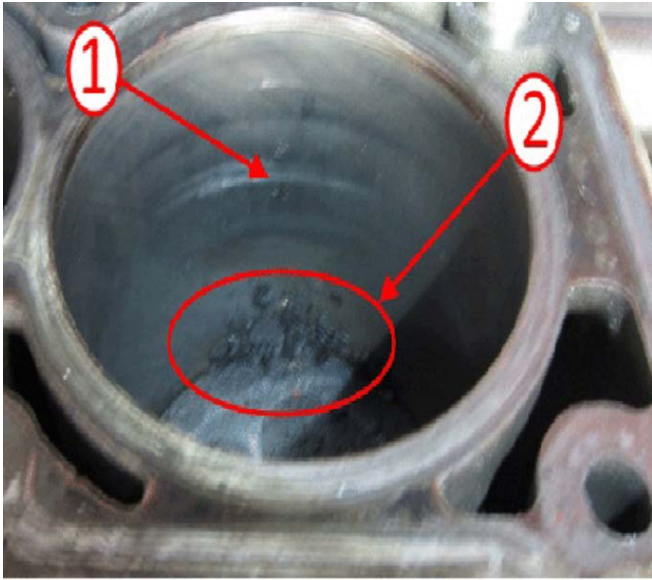
- Sludge build up on the camshaft (2) and camshaft caps (1).
- Scratches or gouges on the journals or lobes (3) of the camshaft causing a low or loss of oil pressure condition.
- Lack of oil on the lifter tappet creating ticking noise.



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- Sludge (2) build up on the camshaft position actuator solenoids.
- Debris (1) on solenoid screen may cause engine performance concerns.

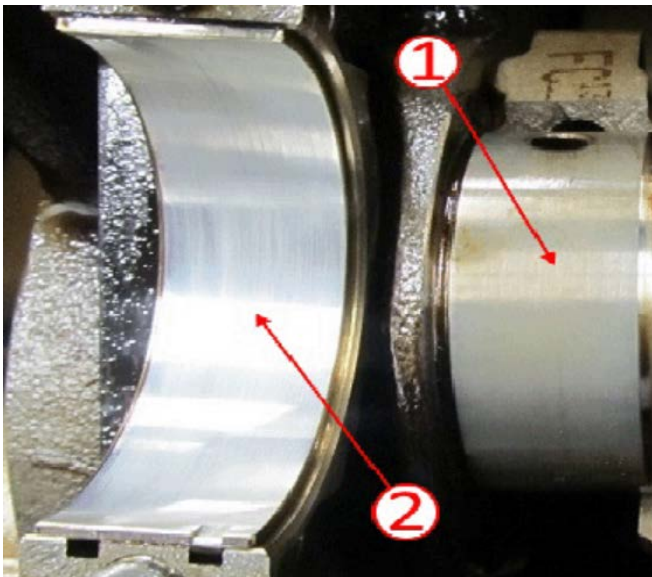
Conditions that May Result From Improper Service
Improper installation of the air filter into the air filter
housing or the use of aftermarket air filter.



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- Foreign debris bypassing the air filter and/or the air filter housing outlet ducts.
- Faulty installation of the air filter in the air box housing causing the dirt and debris (2) to enter the combustion chamber.
- Damage to the piston and the piston cylinder wall (1).

Main and rod bearing damage caused by foreign debris.

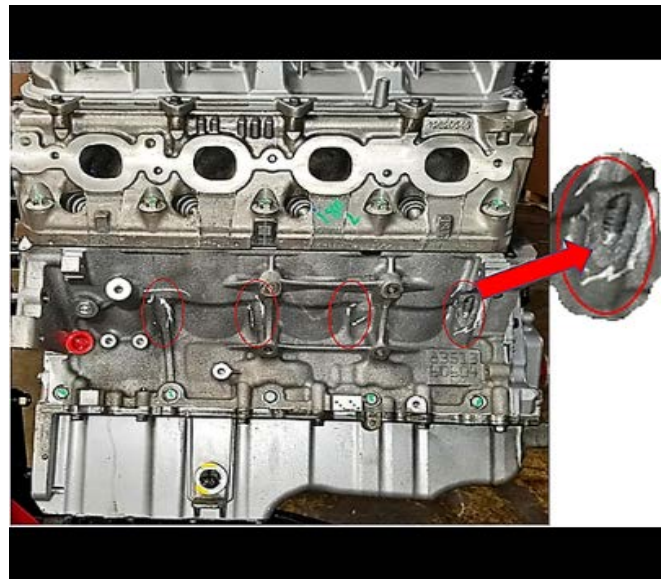


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- Dust and debris on the crankshaft, crankshaft bearings, rods (1) or rod bearings (2) caused the chrome finish of the journals to prematurely wear away causing the clearance to increase, possibly causing low oil pressure or a knocking noise.
- Scratches or gouges on the journals result in low or loss of oil pressure condition.
- Possible previous engine repair may result in some debris entering the engine through open ports that are normally sealed or closed off.

For additional information, refer to the latest version of Service Bulletin #00-06-01-012: Use of Surface Conditioning Disks When Cleaning Engine Gasket Sealing Surfaces and/or Reused Engine Parts.

Engine Block Damage caused by Foreign Debris,
Dirt, or Coolant Left in the Cylinder Head Bolt Holes



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The engine block may be cracked or damaged if debris, dirt, or coolant is left in the cylinder bolt holes of the block, or if the threads are damaged when installing the head bolts during any service repair that requires removal, installation, or replacement of the cylinder head. (See GenV engine photos below as example).

The head bolt holes in the block are being damaged due to coolant, dirt, or debris being present in head bolt holes during cylinder head installation during a repair, or when re-assembling the engine for core return.

If coolant, dirt, or debris is present in the bolt holes during assembly, the foreign material will create a hydro-lock condition that will over-pressurize the casting column of the threaded hole in the block, causing the casting to break as shown in the graphic above.

Conditions That May Result From Aftermarket Calibrations

Incorrect calibrations or modifications that may cause engine damage.



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- Piston damage (1) caused by a pre-detonation lean event.
- Improper engine warm up creates excessive heat to the piston causing them to seize to the cold cylinder walls cracking the piston lands (2).
- Aftermarket cold air filter, air filter housing and intake system not allowing proper engine warm up.

Note: Service Bulletin #09-06-04-026 is for gasoline V8 and HFV6 engines only.

For additional information, refer to the latest version of Service Bulletin #09-06-04-026: (gasoline V8 and HFV6 engines only) Identifying Non-GM (Aftermarket) Engine Calibrations for Gasoline Engines Using Tech 2 or GDS 2.

Debits will be issued for the following reasons:

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- Inspection Results by WPC.

Please refer to the latest version of Service Bulletin #99-00-89-019: Global Warranty Management (GWM) Warranty Parts Center (WPC) Parts Return Program for more information.

Version	10
Modified	<p>Revised August 31, 2017 – Added the 2018 Model Year.</p> <p>Revised May 01, 2018 – Added a Note in Aftermarket Calibrations section for V8 and HFV6 gas engines.</p> <p>Revised July 23, 2018 – Added the 2019 Model Year, first bullet in Notice under Information and additional bulletin reference information in text after the Note under Conditions That May Result From Aftermarket Calibrations.</p> <p>Revised June 25, 2019 – Added the 2020 Model Year.</p> <p>Revised October 23, 2020 – Added the 2021 Model Year and updated the Involved Region or Country section.</p> <p>Revised January 06, 2022 – Added the 2022 Model Year.</p> <p>Revised September 09, 2022 – Added the 2023 Model Year and an Important statement above Information.</p> <p>Revised March 17, 2023 – Added the 2024 Model Year.</p> <p>Revised August 10, 2023 - Added Engine Block Damage section.</p>

