Bulletin No.: PIP5661
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Preliminary Information

PIP5661 2019 2.0 LTG Engine Runs Rough with Malfunction Indicator Lamp (MIL) ON, Low Compression on Cylinder with Misfire, DTC P0300 Set

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Buick	Envision	2019	All	All	2.0 LTG	All
Buick	Regal	2019	All	All	2.0 LTG	(AWD Only)
Cadillac	ATS	2019	All	All	2.0 LTG	All
Cadillac	CTS	2019	All	All	2.0 LTG	All
Chevrolet	Camaro	2019	All	All	2.0 LTG	All
Chevrolet	Traverse	2019	All	All	2.0 LTG	All

Involved Region or Country	North America
Condition	Some customers may comment on a rough running engine with the Malfunction Indicator Lamp (MIL) ON. Upon inspection, a technician may find DTC P0300 misfire set and may find low compression in one or more cylinders. This condition may be caused by spark plug carbon tracking and/or a crack in a piston located between the piston compression rings.
Cause	The cause of this concern is currently under engineering investigation. This document will be updated as more information becomes available.

Correction:

This document assists the technician with diagnosis and repair of a misfire for specific scenarios as follows:

Scenario #1 - Misfire being caused by spark plug carbon tracking.

Correction - Replace all four spark plugs, all four ignition coils, apply dielectric grease to the spark plug boots and check grounds G120 and G130.

Scenario #2 - Misfire is being caused by a damaged piston and the cylinder wall is damaged.

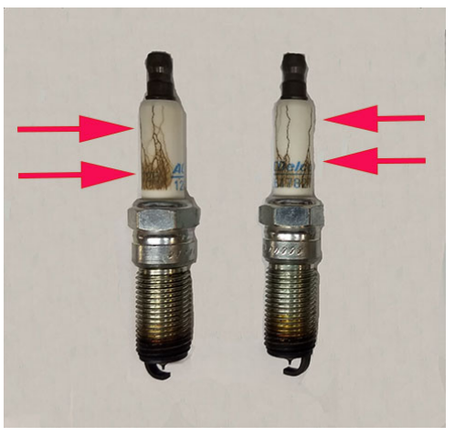
Correction - Replace the engine assembly (engine comes with spark plugs), all four ignition coils (apply dielectric grease to the spark plug boots), the fuel injector of the cylinder(s) that had damaged pistons and other components necessary when an engine assembly is installed.

Scenario #3 - Misfire being caused by a damaged piston and the cylinder wall is not damaged.

Correction - Replace all four spark plugs, all four ignition coils (apply dielectric grease to the spark plug boots), the fuel injector of the cylinder(s) that had damaged pistons, all four piston kits, all ring sets for all four pistons, all rod bearings, all four connecting rod assemblies and other components necessary when pistons are replaced.

If the misfire concern is not resolved after following service information, perform the following diagnosis and repairs.

Visually inspect all the spark plugs for signs of carbon tracking on the portion of the spark plug being covered by the coil boot.



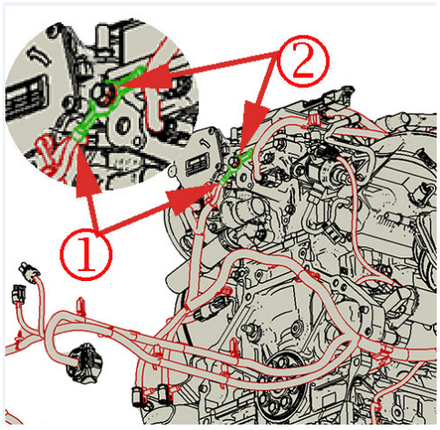
If any carbon tracking is seen replace all four spark plugs and ignition coils.

Important: Be sure to apply dielectric grease to the spark plug boot as directed in SI for ignition coil replacement.

Apply a thin coating of dielectric grease to the inside of the ignition coil rubber boot, up to a depth of 15 mm from the end of the boot. Refer to Adhesives, Fluids, Lubricants, and Sealers.

Remove any excess grease from around the end of the boot, and ensure there is not an excessive amount within the boot.

Check grounds G120 (item#2) and G130 (item#1) for proper torque and verify the ground eyelets can not be rotated under the bolt.



If no spark plug carbon tracking is seen, perform a cylinder leak down test on the affected cylinder(s) making sure the misfire is caused by piston leakage and leakage into the crankcase. Refer to Cylinder Leakage Test in SI.

Check all cylinder wall condition. Some light vertical marks may be visible on the cylinder wall. In these areas, check that the cross hatch marks are still visible in this marked area. If they are, the cylinder surface has not been compromised and the engine block can be used. If you can catch your fingernail on anything on the cylinder wall, the engine assembly must be replaced.

If any of the cylinder walls are damaged, replace the engine assembly (engine comes with spark plugs), all four ignition coils (apply dielectric grease to the spark plug boots), the fuel injector of the cylinder(s) that had damaged pistons and other components necessary when an engine assembly is installed.

If the cylinder walls are not damaged, remove the pistons and inspect for a fractured piston between the top and second rings.

The pictures below are some examples of what might be found.

If cylinder walls are not damaged and one or more of the pistons are found fractured, replace all four spark plugs, all four ignition coils (apply dielectric grease to the spark plug boots), the fuel injector of the cylinder(s) that had damaged pistons, all four piston kits, all ring sets for all four pistons, all rod bearings, all four connecting rod assemblies and other components necessary when pistons are replaced.

Note: When installing pistons, make sure to use the tapered ring compressor J-43953 special tool. Use care when installing the piston assemblies into the cylinder so the rings are not damaged.

Recommended Fuel

Do not use any fuel labeled E85 or FlexFuel. Do not use gasoline with ethanol levels greater than 15% by volume.

Premium unleaded gasoline meeting ASTM specification D4814 with a posted octane rating of 93 is highly recommended for best performance and fuel economy.

GM recommends the use of TOP TIER Detergent Gasoline to keep the engine clean, reduce engine deposits, and maintain optimal vehicle performance.

Look for the TOP TIER Logo or see www.toptiergas.com for a list of TOP TIER Detergent Gasoline marketers and applicable countries.

Warranty Information

The correction for this concern may be one of several repairs. For vehicles repaired under warranty, please use the appropriate warranty labor operation based on the actual cause and repair.

Version History

Version	1
Modified	07/17/2019 - Created

GENERAL MOTORS