Service Bulletin

File in Section: -
Bulletin No.: 18-NA-115
Date: April, 2018

TECHNICAL

Subject: Cold Start Misfire and/or Rough Idle – DTC P0300 May Be Set

This Bulletin replaces PIP4959G. Please discard PIP4959G.

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		From	To	From	To		
Buick	Enclave	2009	2017	All		3.6L LLT	All
Buick	LaCrosse Allure	2009 2009	2016 2009			3.0 LF1, LFW, 3.6 LFX, LLT	
Cadillac	ATS	2013	2018			3.6 LFX, LF4	
Cadillac	CTS	2010	2018			3.0 LF1, LFW, 3.6 LF3, LFX, LLT. LGX	
Cadillac	SRX	2010	2016			2.8 LAU, 3.0 LF1, LFW, 3.6 LFX, LLT	
Cadillac	XTS	2013	2018			3.6 LF3, LFX	
Chevrolet	Camaro	2010	2018			3.6 LFX, LLT. LGX	
Chevrolet	Caprice PPV	2012	2017			3.6 LFX	
Chevrolet	Captiva Sport	2012	2015			3.0 LF1, LFW	
Chevrolet	Colorado	2015	2018			3.6 LFX, LGZ	
Chevrolet	Equinox	2010	2017			3.0 LF1, LFW, 3.6 LFX, LLT	
Chevrolet	Impala	2012	2018			3.6 LFX	
Chevrolet	Traverse	2009	2018			3.6 LLT, LFY	
GMC	Acadia	2007	2017			3.6 LLT	
GMC	Canyon	2015	2016			3.6 LFX	
GMC	Terrain	2010	2017			3.0 LF1, LFW, 3.6 LFX, LLT	

Involved Region or Country	North America and N.A. Export Regions
Condition	Some customers may comment that during a cold start, the engine will misfire and/or have a rough idle and the Malfunction Indicator Lamp (MIL) may be illuminated. They may also comment that the condition goes away after the engine warms up. The technician may observe on a scan tool DTC P0300 (Engine Misfire Detected) set in the K20 Engine Control Module.

Cause	Possible engine cylinder block porosity causing a pinhole at the liner to deck face casting area, allowing engine coolant to leak into the affected cylinder. The technician may observe on a scan tool DTC P0300 Engine Misfire Detected set in the K20 Engine Control Module.
Correction	Inspect for the cause of this condition by performing the Service Procedure below.

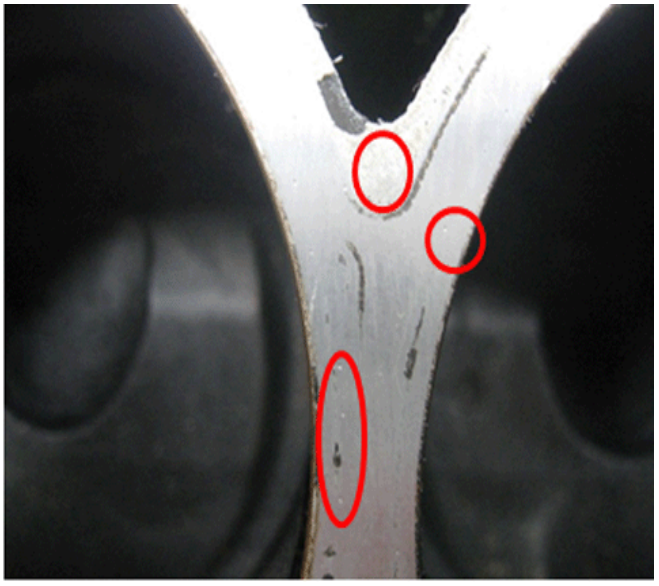
Service Procedure

Notice: **A black light looks dark purple, but most of the light it emits is in the ultraviolet (UV) range of the spectrum, which is invisible to the human eye. Under a UV light, white clothes glow in the dark and many fluorescent colored items (e.g., coolant dye) will emit a bright glow.**

1. A misfire on cold start up only and/or a rough idle with medium to high misfire counts, always occurring on one or two cylinders, with the condition going away after the engine warms up can be suspect for coolant entry at the liner to deck face casting. To inspect for the location of the possible cause of the condition, add coolant dye to the engine cooling system.
2. Run the engine through a complete operating temperature warm up (the thermostat should be fully open at 225°F (107°C).
3. Pressurize the cooling system on a cold soak engine (after being warmed up to operating temperature).
4. Inspect the suspect cylinder(s) with a blacklight borescope for evidence of the coolant dye.
5. It may be difficult to see the actual source (e.g., a pin hole) but the leaking coolant will usually stream down the liner so that it can be seen with a borescope. Do not confuse residual fuel on the piston crown/surface as engine coolant.
   ⇒ If the borescope inspection is inconclusive, it may be necessary to remove the cylinder head for further visual inspection.

Notice: **Small surface pock marks or pitting appearance on the deck surface is normal and an engine should not be replaced for any such appearance marks as they do not connect to the engine coolant passages and cause a leak path that will generate engine misfires.**

6. With the cylinder head removed, perform a visual inspection. Reference the following pictures provided. The first two pictures represent normal examples of deck pitting and ***are not*** the cause of the misfire and/or rough idle condition.



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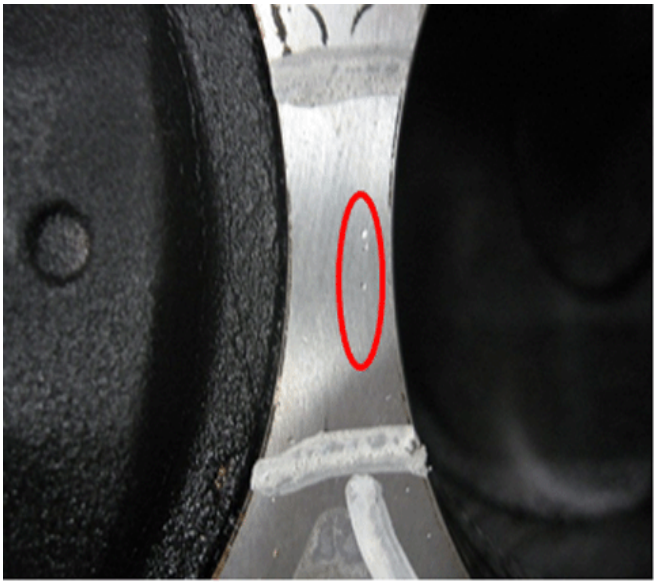

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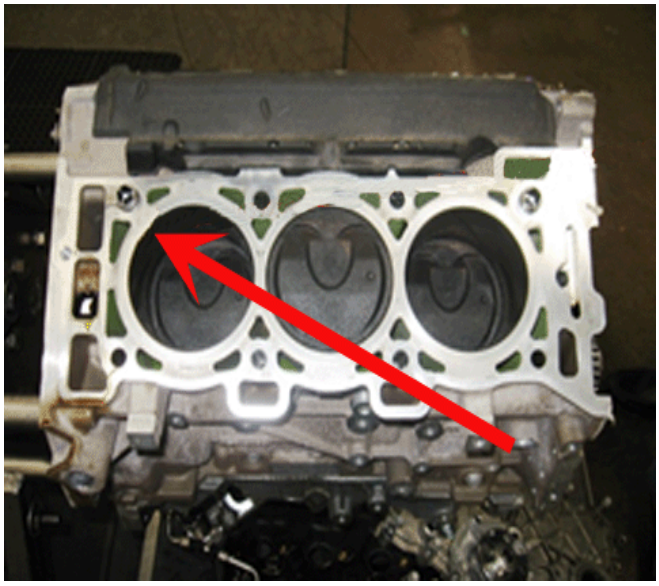
7. The two following pictures represent an example and the location of how actual engine cylinder block porosity appears. This would be a cause of the condition.



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Notice: **This porosity condition is rare, therefore the technician should inspect the suspect cylinder(s) and look for a break/pinhole in the carbon ring area.**

Shown at the deck face to cylinder liner interface location is an area of engine cylinder block porosity that has caused an engine coolant leak path into the cylinder causing medium to high misfire counts when the engine is cold.

⇒ If this condition is verified, the engine ***must*** be replaced.

Dealers Required to Contact PQC should refer to: #16-NA-338: PQC Assembly Replacement Process - Dealers Required to Contact PQC Prior to Replacing an Assembly in SI and reference this Corporate Bulletin.

Warranty Information

For vehicles repaired under warranty use:

Labor Operation	Description	Labor Time
4067490	Engine Replacement	Use Published Labor Operation Time

Version Information

Version	1
Modified	Released April 13, 2018