



Service Bulletin

TECHNICAL

Subject: Excessive Oil Consumption – Perform Oil Consumption Test and/or Install Piston and Piston Ring Kit

Models: 2010-2013 Buick LaCrosse
2011-2013 Buick Regal
2010-2013 Chevrolet Equinox
2010-2013 GMC Terrain
Equipped with 2.4L Engine (RPOs LAF, LEA)

This bulletin replaces PIP5025F to advise engine replacement is no longer necessary if "zebra stripes" are present and to outline a related repair procedure. Please discard PIP5025F.

Condition

Some customers may comment on excessive oil consumption and/or that they have to add oil between oil changes.

Correction

For this condition, technicians should perform an oil consumption test by following the latest version of Corporate Bulletin Number 01-06-01-011. Before starting the oil consumption test, verify the ECM has latest TIS2web calibrations to adjust the engine oil life monitor to a maximum of 7,500miles (12,070 km) — Refer to Customer Satisfaction Bulletin #12312.

Inspect for any obvious oil leaks that may explain the oil consumption concern and repair as necessary.

Important: When checking the oil level with the oil dipstick design shown below, please note that the oil volume per notch is not linear due to the shape of the block. The upper notches (relative to the top of the handle) equal 0.24 quart (0.227 L) between each notch while the lower notches only equal 0.14 quart (0.132 L) between each notch. As a result, no oil will appear on the dipstick if it is low on oil by approximately 1.25quarts (1.18 L) or more. When determining the oil consumption rate, the oil volume added to return it to the starting location is the total amount of oil consumed. The consumption rate must be documented on a repair order.

Notice: Do not add too much oil. An overfill can lead to burn off of the excess oil. Advise the customer to wait until the oil is below the cross-hatched area at the tip of the dipstick before adding oil.



If the oil consumption test indicates that the rate of consumption is greater than 1 quart (0.946 L) of oil every 2,000 miles (3,200 km), note the oil consumption rate, the date that the ECM was reprogrammed and any repairs/diagnosis that you have performed.

The repair is to replace the pistons and rings. In some cases the bore surface may not have a uniform look to the finish (zebra stripes) as shown below. As a result, some technicians may question whether the engine should be repaired or replaced. After careful evaluation, GM Powertrain has determined that the new pistons and rings will perform correctly in bores that have this appearance so engine replacement should not be necessary. The cylinder bores do not need any machine or honing work performed on them. Refer to the picture below for acceptable surface finishes.

Important: DO NOT use any abrasive wheels/ materials to clean any mating surfaces. Only Plastic scrapers should be used. Please refer to the latest version of Corporate Bulletin Number 00-06-01-012.



Acceptable Cylinder that Does Not Appear Uniform (Zebra Stripes)

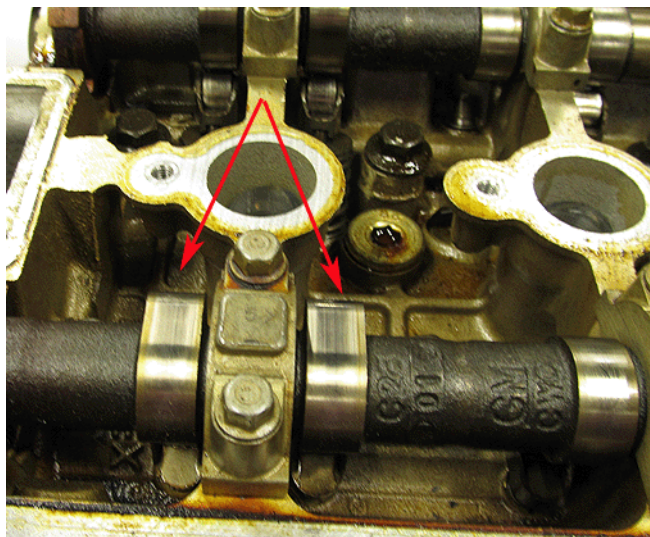
While performing this repair, it should be verified that the high pressure fuel pump (P/N 12641847), balance chain (P/N 12645237), balance chain tensioner (P/N 12649233), and timing chain kit (P/N 12635447) have been installed in this engine in a previous repair. Refer to IVH and check the parts listed in the prior repairs. If these parts have not been installed, they should be replaced at the time that the piston and rings are replaced. If they have been replaced, do not replace them again.

Also when performing this repair, several other parts should be inspected for excessive wear and/or damage and replaced if necessary:

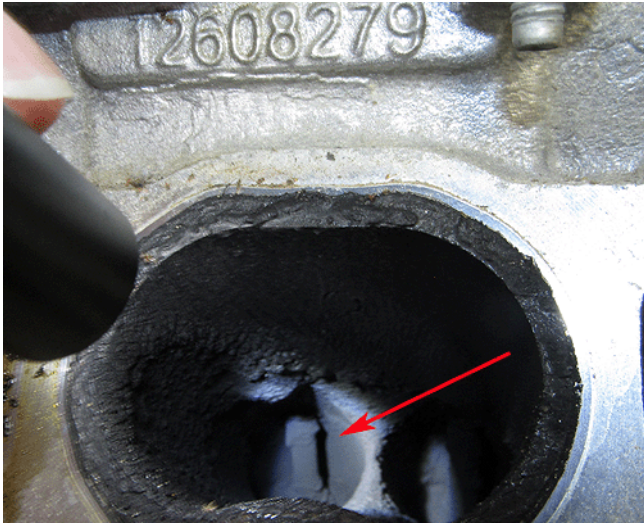
- Balance chain guides
- Timing chain guides

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Note: Returned oil consumption engines have been reviewed at engine tear down. It has been determined that these components do not need to be replaced:



- Camshafts and roller follower will have wear markings. This is normal and do not need to be replaced (refer to picture above).



- Valves stems may have deposits build up on them. These deposits are characteristic of a direct inject engine. The valves stems do not need to be cleaned as they are not affecting engine performance (Refer to picture above).
- The oil pump does not need to be replaced as the low oil level operation did not damage the pump.
- The camshaft actuators do not need to be replaced at this time. The vehicle may have arrived with the engine knocking. If the oil level was 1 1/2 - 2 quarts low, it was the lack of oil causing the actuator noise.

The final step is to verify that ECM OLM calibration has been installed before the vehicle is returned to the customer.

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Parts Information

Part Number	Description
12646457	PISTON KIT, ENG
12659419	RING KIT, PSTN
12637166	GASKET KIT, CYL HD
12609291	SEAL, CM/SHF

Warranty Information

For vehicles repaired under warranty, use:

Labor Operation	Description	Labor Time
4080008*	Oil Consumption Test Setup	0.2 hr
4066891	Piston, Rod And/Or Rings - Both Banks - Replace	Use Published Labor Operation Time

*This is a unique labor operation for bulletin use only. It will not be published in the Labor Time Guide.

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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