



# Preliminary Information

## PIP5417A Diagnostic Tip - Oil Leak From Crankshaft Rear Oil Seal

### Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Buick	Encore	2016 - 2017	All	All	1.4L (RPO LE2)	All
Chevrolet	Cruze	2016 - 2017	All	All	1.4L (RPO LE2)	All
Chevrolet	Malibu	2016 - 2017	All	All	1.5L (RPO LfV)	All
Chevrolet	Volt	2016 - 2017	All	All	1.5L (RPO L3A)	All
Involved Region or Country	USA, Canada					
Additional RPOs:	NA					
Condition	Positive or Negative crankcase pressures outside of the normal range may contribute to engine oil leaks at the Crankshaft Rear Oil Seal.					
Cause	Abnormal crankcase pressures may be caused by a restriction in the any of the induction system components.					

### Correction:

While performing Strategy Based Diagnostics for engine oil leaks on the listed engines, testing for excessively negative or positive crankcase pressures is necessary for root cause isolation.

### Service Procedure:

Use the Evaporative Emissions System Tester (EEST) to record the crankcase pressure.

See pictures below for connection of EEST at the engine oil dipstick port and related readings.

EEST hose adaptor.



EEST Gage at 0 reading.



**Note: The connection must be made with the engine off. The engine is then started and the pressure reading is recorded.**

Normal crankcase pressure readings for the L3A, LE2 and LFV are between -1 & -5 inches of water in park at hot idle.

Normal crankcase pressure readings for the L3A, LE2 and LFV.



If the crankcase pressure is in the proper range, follow Strategy Based Diagnostics for engine oil leaks.

If the crankcase pressure is excessively positive, above 0 inches of water (0 inches of HG / vacuum) then a positive crankcase pressure concern exists requiring further diagnostics.

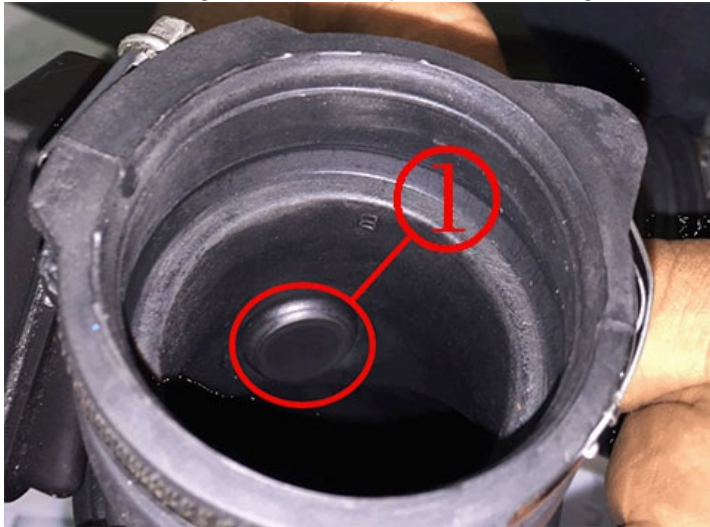
Record cylinder leakage readings and check for improper camshaft cover operation.

If the crankcase pressure is excessively negative, below -16 inches of water (-1 inches of HG / vacuum) then a negative crankcase pressure concern exists requiring further diagnostics.

Inspect for any air induction restrictions in the Front Air Intake Duct to Air Cleaner Housing or in the Air Cleaner Housing. (nesting materials, water intrusion, kinked PCV tube or modifications to the Air Induction system).

Inspect the Air Cleaner Outlet Duct for a blocked PCV fresh air port. (see picture below)

Air Cleaner Housing Outlet Duct with port closed causing excessive negative crankcase pressure.



If the port is not blocked, then replace the camshaft cover assembly and retest for proper crankcase pressure.

### **Version History**

Version	2
	03/10/2017 Correcting verbiage in recommended instructions



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