



Preliminary Information

PIP5197L Possible Oil Consumption / Leaks – Blue Smoke Exhaust – Whistle Noise – DTC P0171 and/or P0300 and/or P0299

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Buick	Encore	2013 - 2019	All	All	LUJ and LUV	All
Chevrolet	Cruze	2011 - 2016	All	All	LUJ and LUV	All
Chevrolet	Sonic	2012 - 2019	All	All	LUJ and LUV	All
Chevrolet	Trax	2013 - 2019	All	All	LUJ and LUV	All

Supersession Statement

This PI was superseded to update Recommendation/Instructions. Please discard PIP5197J.

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Condition / Concern

You may encounter a customer concern of excessive oil consumption, blue smoke from the exhaust, MIL or fuel trim codes.

When diagnosing an Excessive oil consumption concern (not due to leaks) Use the acceptable oil consumption specification of 1 quart (0.9 L) of engine oil within 2,000 miles (3200 kilometers).

Any or all of the following DTCs may be current or set in history: P0171, P0300 or P0299.

Recommendations / Instructions

A concern of excessive oil consumption, with a damaged PCV orifice diaphragm and DTCs P0171, P0299, P0300 could be the result of a weak or broken piston ring land.

First begin your diagnosis by referring to:

The latest version of [PI0552](#) to check the engine oil dipstick and oil fill cap for proper sealing.

The latest version of [PIP4925](#) to check for any air leaks to the intake system.

Check the PCV orifice for leaking oil or drawing vacuum at idle thru its external port. (The PCV orifice is an integral part of the camshaft cover). (See picture below).



If the PCV orifice external port is leaking oil or vacuum, replace the camshaft cover and perform the following testing.

Next (refer to the pictures below) use the ESST gage and connect the ESST fitting at the engine oil dipstick hole of the camshaft cover.

Then start the engine,with the engine running at hot idle in park, snap the throttle and record the crankcase pressure.



If the crankcase pressure test reading is found to be a normal, between -11 and -18 inches of H<sub>2</sub>O (during the hot idle in park and during snap throttle testing) Then, continue by cleaning any oil residue from all induction system components.

Retest for oil consumption, leaks or DTCs resetting.

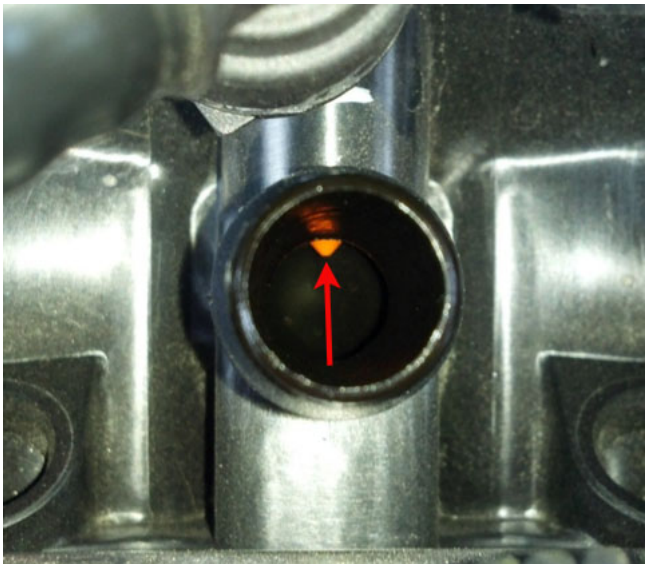
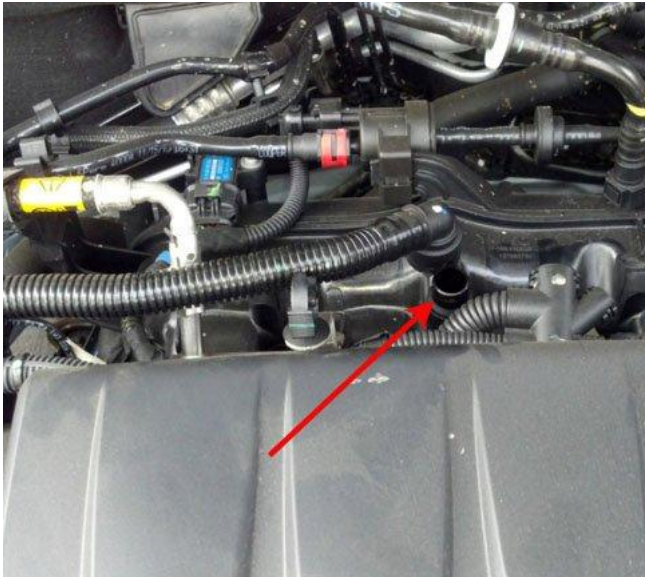
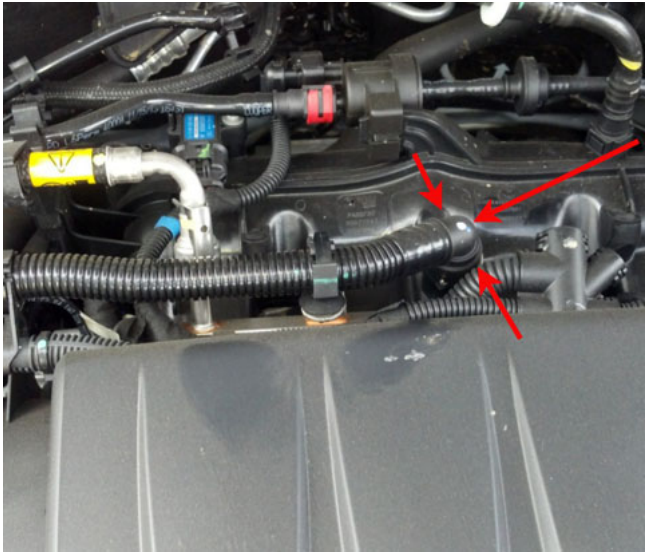
If the crankcase pressure test reading is found to be an abnormal reading between -10 and 0 inches of H<sub>2</sub>O (during the hot idle in park and during snap throttle testing), this pressure reading is an indication of a cylinder leakage related concern, possibly caused by a weak or broken piston ring land.

Complete a cylinder leakage test to determine if the cause is a possible weak piston ring or broken piston ring land.

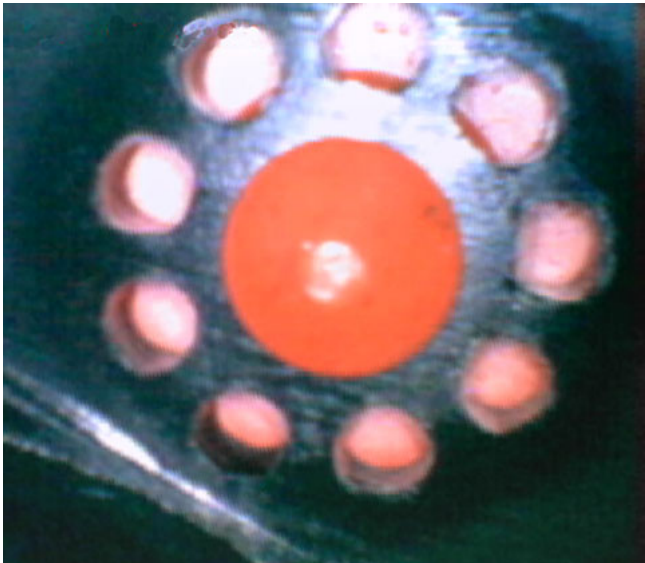
If a broken piston ring land is found, replace all four piston assemblies and retest for proper crankcase pressures.

Clean oil from all induction system components and retest for oil consumption, leaks or DTCs resetting.

Check for a missing intake manifold Non Return Valve that may have damaged the PCV orifice diaphragm. (See pictures below for inspection procedure).



**If the non return valve is not visible as shown in picture, then use a long cotton swab to wipe any excess oil from the valve to validate.**  
**If the non return valve is still not visible, then intake manifold removal for inspection is required to validate.**  
**If the valve is present reinstall the intake manifold. Do not replace.**  
**Properly seated Non Return Valve as viewed with the intake manifold removed.**





If the intake manifold Non Return Valve is missing, then replace the intake manifold assembly,

Clean oil from all induction system components and retest for oil consumption, leaks or DTCs resetting.

If the intake manifold Non Return Valve is seated properly, clean oil from all induction system components and retest for oil consumption, leaks or DTCs resetting.

Warranty Information

The correction for this concern may be one of several repairs described above.

For vehicles repaired under warranty, please use the appropriate labor code provided in the chart below based on the original cause.

For vehicles repaired under the Emission coverage, use the following labor operation. Reference the Applicable Warranties section of Investigate Vehicle History (IVH) for coverage information.

Labor Code	Description
4060930	Camshaft Cover Replacement
	Encore/Trax
	Cruze
	Sonic
	Diagnosis Time - You may claim up to the allowable labor hours depending on actual time to perform diagnosis.
4060450	Intake Manifold Replacement
	Encore/Trax
	Cruze
	Sonic
4066890	Piston, Connecting Rod, and Bearing Replacement
	Encore / Trax / Sonic
	AWD
	Base
	Cruze, LUJ, LUV
	To Recover and Recharge R-1234yf A/C System
	To Recover and Recharge R-134a A/C System
	To Assemble and Install New Pistons as required - Each Additional
	Note: For steering wheel angle and/or front toe adjustment times, refer to labor code 8070012 and add the applicable base times to base labor hours.
	Diagnosis Time: You may claim up to the allowable labor hours depending on actual time to perform diagnosis

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

