



# Service Bulletin

Bulletin No.: 22-NA-067

Date: August, 2022

## TECHNICAL

**Subject: Poor Engine Performance in Extremely Cold Weather Conditions, PCV Bypass Hose and Charge Air Cooler Icing for LUV Engines, Malfunction Indicator Lamp (MIL) Illuminated - DTC P0299, P0234, P0236, P2261, P2227, P00C7 Set**

Brand:	Model:	Model Year:		VIN Breakpoint:		Engine:	Transmission:
		from	to	from	to		
Buick	Encore	2013	2020	—		1.4L (RPO LUV)	—
Chevrolet	Cruze	2011	2016				
	Sonic	2012	2020				
	Trax	2013	2020				
Opel	Ampera	2012	2015				
Vauxhall	Ampera	2012	2015				

<b>Involved Region or Country</b>	North America, Europe
<b>Condition</b>	<p>Some customers may comment that when driving in extremely cold weather conditions (-18°C or less / 0°F or less), their vehicle experiences one or several of the following conditions:</p> <ul style="list-style-type: none"> <li>• Loss of power.</li> <li>• Smoke out the tail pipe.</li> <li>• Hesitation on acceleration.</li> <li>• Stalling condition.</li> <li>• Burning oil odor possibly caused by oil leak.</li> <li>• After driving for a period of time, the driveability issues seem to diminish.</li> <li>• Malfunction Indicator Lamp (MIL) Illuminated.</li> </ul> <p>This condition may also cause an increase in crankcase pressure, creating oil leaks at seals and gaskets.</p> <p>Technicians may find one or more of the following DTCs set:</p> <ul style="list-style-type: none"> <li>• P0299</li> <li>• P0234</li> <li>• P0236</li> <li>• P2227</li> <li>• P2261</li> <li>• P00C7</li> </ul>
<b>Cause</b>	<p>This condition may be caused by one or more of the following:</p> <ul style="list-style-type: none"> <li>• Plugged crank case vent tube from ice forming in the tube during very cold weather conditions.</li> <li>• Ice accumulating in the intake manifold forming and blocking the PCV passage in the cylinder head.</li> <li>• Ice accumulation in the charge air cooler, restricting air flow to the throttle body.</li> <li>• Contamination (ice /water/oil/sludge) at the charge air bypass valve.</li> </ul>
<b>Correction</b>	<p>If contamination (Ice/water /oil/sludge) at Charge Air Bypass Valve is found:</p> <ul style="list-style-type: none"> <li>• Clean the charge air bypass valve.</li> <li>• Replace the intake manifold.</li> <li>• Replace the charge air bypass valve <b>only if necessary</b>.</li> </ul>

**Important:** Service agents must comply with all International, Federal, State, Provincial, and/or Local laws applicable to the activities it performs under this bulletin, including but not limited to handling, deploying, preparing, classifying, packaging, marking, labeling, and shipping dangerous goods. In the event of a conflict between the procedures set forth in this bulletin and the laws that apply to your dealership, you must follow those applicable laws.

### Turbocharger, Intake Manifold and Cylinder Head Inspection



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1. Inspect the charge air bypass valve for ice/oil/water/sludge build-up in the vacuum side port.



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- If there is oil/water build-up in the valve port, disassemble and clean the components. Refer to *Charge Air Bypass Valve Replacement* in SI.
  - **Only if necessary**, replace the components.
- ⇒ Desired boost pressure vs actual boost pressure not within limits and no trouble found on waste gate actuator or No excessive play/no damage from turbocharger - Then **Do Not** replace turbocharger. Clean charge air bypass valve and replace the intake manifold.

2. Remove the intake manifold. Refer to *Intake Manifold Removal* in SI.



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3. Inspect the vacuum ports of the intake manifold for ice/water/oil accumulation.



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4. Inspect the PCV intake runner for ice build-up blocking the cylinder head as shown above.



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5. Clean any ice/sludge/water/carbon out of the cylinder head, cam cover and PCV pipes.

If above condition exists, then replace the intake manifold. Refer to *Intake Manifold Replacement* in SI.

**Parts Information**

Causal Part	Description	Part Number	Qty
N/A	MANIFOLD, INT	28289977	1
N/A	VLV, CHRGR AIR BYPASS	55590593	1

**Warranty Information**

**Note:** Only select the Labor Operation that corresponds with the repair performed.

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

**Note:** Warranty Coverage Code E applies to Labor Operation 4088558.

Labor Operation	Description	Vehicle	Labor Time
4088558*	Inspection and Cleaning	All	0.3 hr
Add	Intake Manifold Inspection, Cleaning and Replacement	Encore	1.0 hr
Add		ELR	2.7 hrs
Add		Cruze	1.4 hrs
Add		Sonic	1.5 hrs
Add		Trax	1.0 hr
Add		Volt	1.9 hrs
Add		Ampera	0.8 hr
Add		Charge Air Bypass Valve Cleaning or Replacement	All

\*This is a unique Labor Operation for bulletin use only.

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