



# Service Bulletin

Bulletin No.: 17-NA-221

Date: April, 2019

## TECHNICAL

**Subject:** Poor Engine Performance in Extremely Cold Weather Conditions for LE2 Engines, Charge Air Cooler Icing - Malfunction Indicator Lamp (MIL) Illuminated, DTC P0299, P0236, P2227, P00C7 Set

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Buick	Encore	2016	2019	SOP	September 18, 2017	Equipped with 1.4L (RPO LE2)	

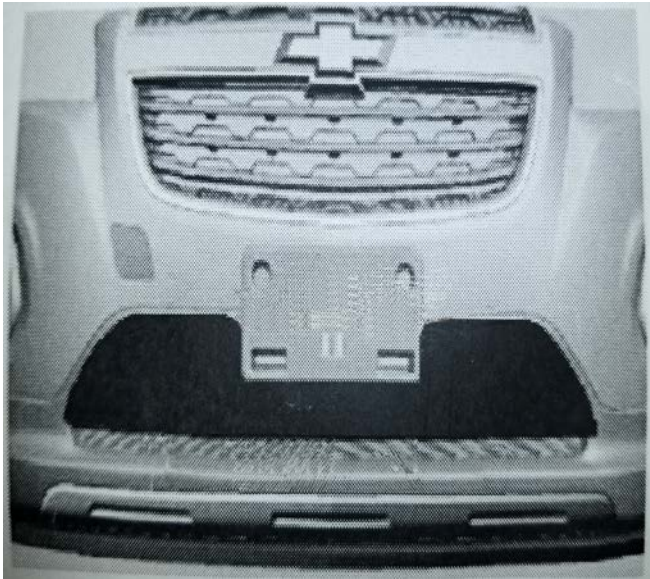
<b>Involved Region or Country</b>	North America
<b>Condition</b>	<p>Some customers may comment that when driving short distances and/or slow speed driving cycles, their vehicle experiences one or several of the following conditions within the first 10 to 15 minutes of vehicle operation in extremely cold weather conditions (-18°C or less / 0°F or less):</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>• May also notice a Malfunction Indicator Lamp illuminated</li> <li>• After driving for a period of time, the driveability issues seem to diminish.</li> </ul> <p>This condition may also cause an increase in crankcase pressure, creating oil leaks at seals and gaskets.</p> <p>The technician may find one or more of the following DTCs set:</p> <ul style="list-style-type: none"> <li>• P0299</li> <li>• P0236</li> <li>• P2227</li> <li>• P00C7</li> </ul>
<b>Cause</b>	This condition may be caused by ice accumulation in the charge air cooler (CAC), restricting air flow to the throttle body.
<b>Correction</b>	<p>If any of the above conditions are present, allow time for possible ice build up in the CAC to melt by allowing the vehicle to thaw in a warm climate.</p> <p>If any of the following conditions are validated to be caused by freezing/icing, replace the CAC.</p> <p>If not previously performed, an oil change may be necessary to remove any moisture from the engine. Prior to the oil change, run the engine at idle for an extended period of time to melt any ice in the engine.</p>

**Important:** Allow time for the vehicle to thaw in a warm environment to avoid damaging or breaking parts that may be required to be re-installed.

## Grille Winter Cover Installation

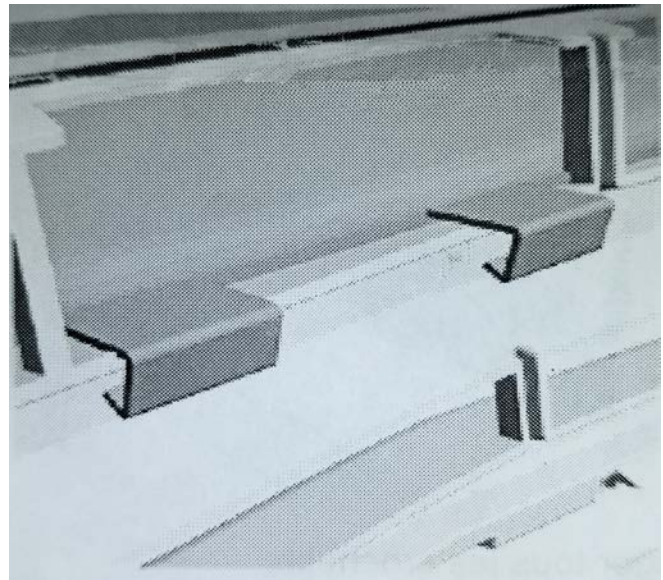
**Warning:** Remove grille cover during temperatures above 32°F/ 0°C to prevent engine and transmission overheating. Remove grille cover before towing a trailer of any size. Failure to do so will decrease transmission cooling efficiency and possibly cause damage to the drivetrain.

**Note:** The cover may appear to be undersized. The vinyl used may stretch during installation to ensure a tight fit. It is highly recommended that the cover be installed in a warm shop environment.



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1. Using care, orientate the fascia winter cover to the bumper fascia.

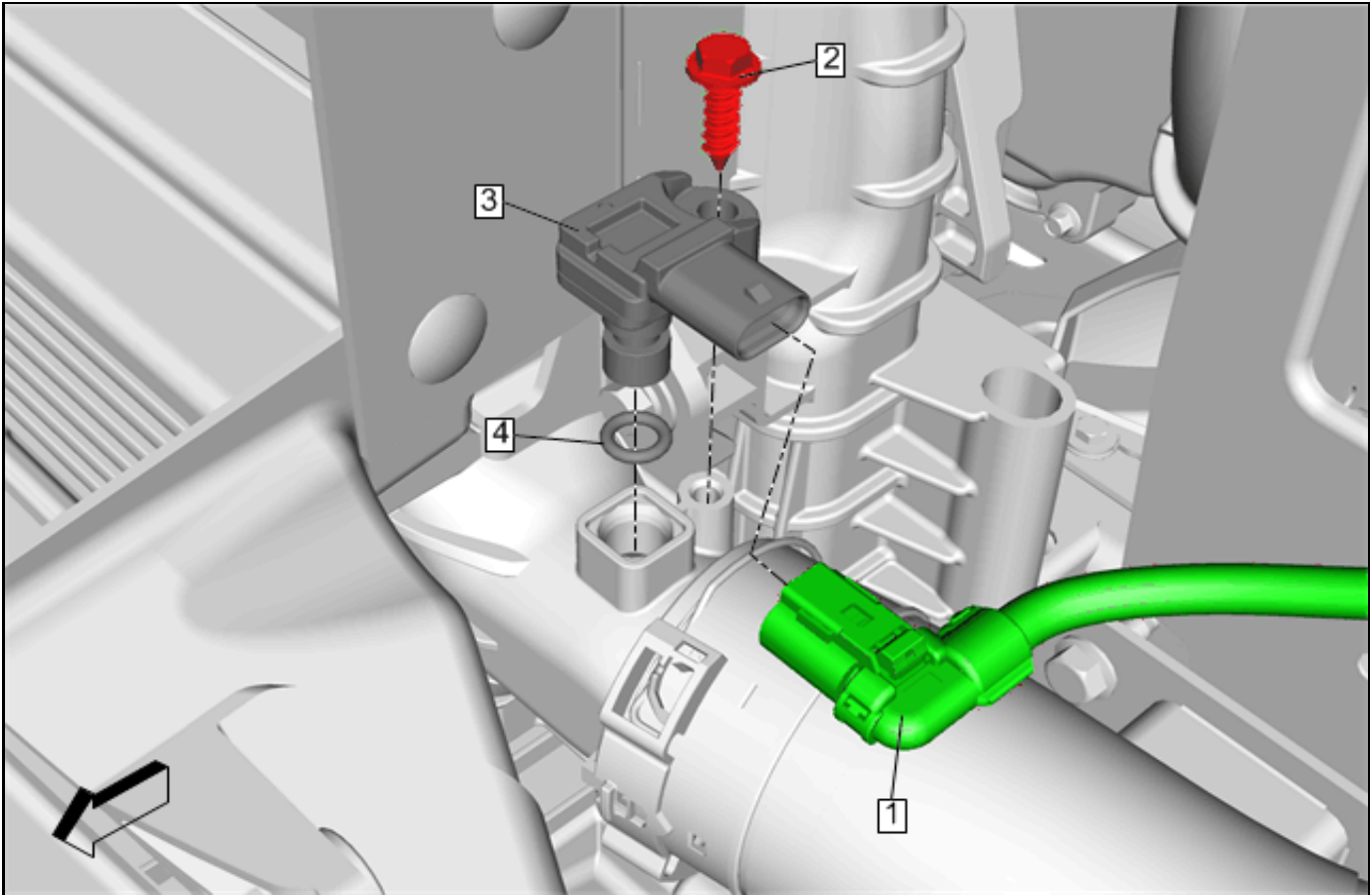


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2. Attach the cover to the fascia by pushing the hooks through the grille openings.
3. Validate that all the hooks are engaged and the cover is a tight fit.

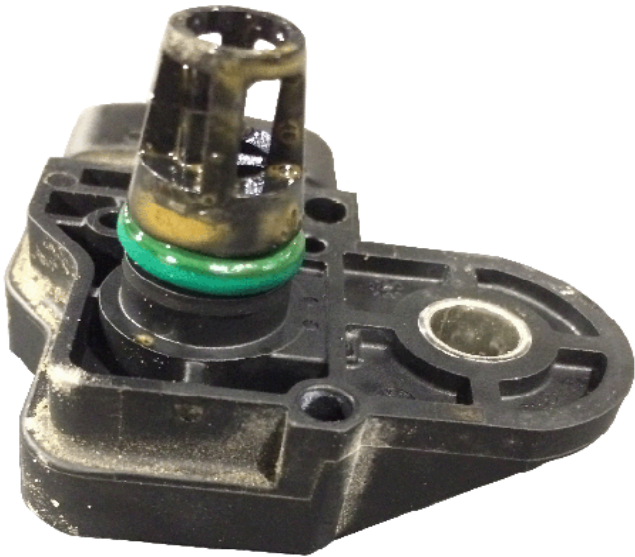
## Turbocharger Air Pressure Sensor Inspection

**Important:** Only perform steps 1–6 if DTC P0299 is set.



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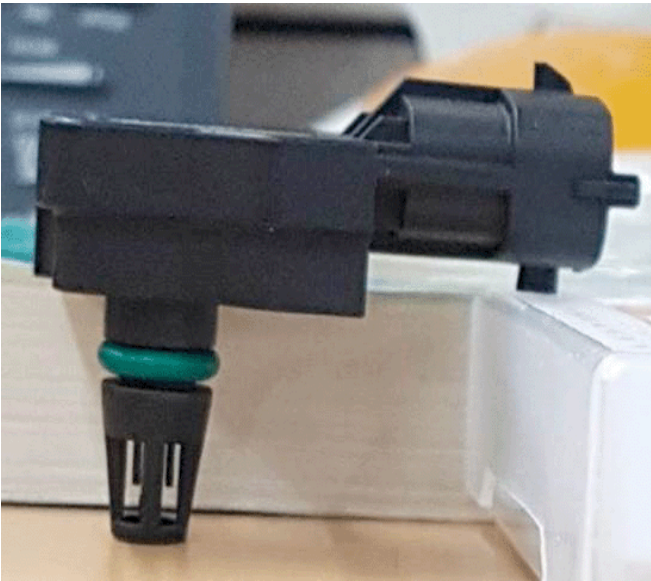
1. Remove the turbocharger Air Pressure sensor (3). Refer to *Turbocharger Air Pressure Sensor Replacement* in SI.



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**Important:** Due to the sensitivity of the sensor, **Do Not** use any chemical cleaners including water and **Do Not** use compressed air to remove contaminants.

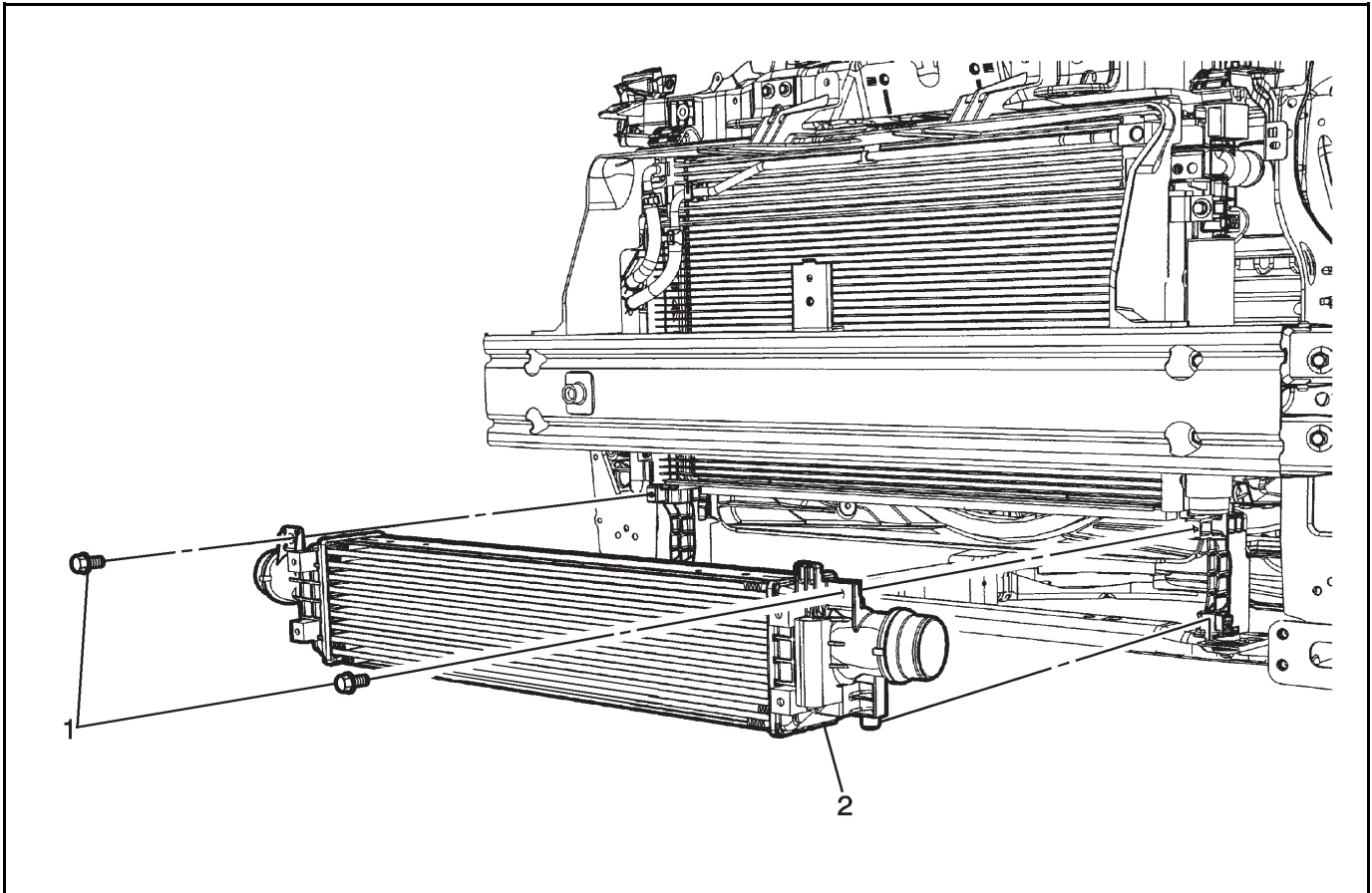
2. Inspect the sensor for any contaminants.



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3. Allow time for any ice build-up to melt by placing the sensor port down.
4. Clean the sensor with a clean towel.
5. Install the sensor.

## Service Procedure



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1. Install the CAC (2). Refer to *Charge Air Cooler Replacement* in SI.

**Important: Do Not** perform an oil change if the oil change was recently done.

- If the oil change was recently done and no signs of moisture have been confirmed, Do Not proceed with procedure.
  - If the oil change was not previously done or moisture has been found in the oil, proceed with procedure.
2. If required, perform an oil change. Refer to *Engine Oil and Oil Filter Replacement* in SI.

## Parts Information

Description	Model Year	Part Number	Qty
Cooler, Charge Air	2016-2019	42574036	1
Cover, Grille Winter	2016	42697326	1
	2017-2019	42697332	1
Filter, Oil	2016-2019	Refer to the Electronic Parts Catalog (EPC).	
Oil			



## Warranty Information

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.

Labor Operation	Description	Labor Time
4081728*	Charge Air Cooler Replacement	1.1 hrs
Add	IAPT Inspection	0.2 hr
0580398*	Winter Grille Cover Installation	0.2 hr
Add	Oil Change	0.3 hr
*This is a unique Labor Operation for Bulletin use only.		

Version	5
<b>Modified</b>	<p>August 14, 2017 – Added engine RPO to Subject.</p> <p>April 12, 2018 – Updated to 2018 model year and added breakpoint and IAPT information.</p> <p>February 01, 2019 – Added the 2019 Model Year, an Important statement at beginning of bulletin, Grille Winter Cover Installation procedure and parts information, changed Intake Air Pressure and Temperature Sensor Inspection title to Turbocharger Air Pressure Sensor Inspection and updated Warranty Information.</p> <p>April 09, 2019 – Added 2019 to the Model Years for the charge air cooler in the Parts Information.</p>

