



Service Bulletin

Bulletin No.: 18-NA-020

Date: December, 2019

TECHNICAL

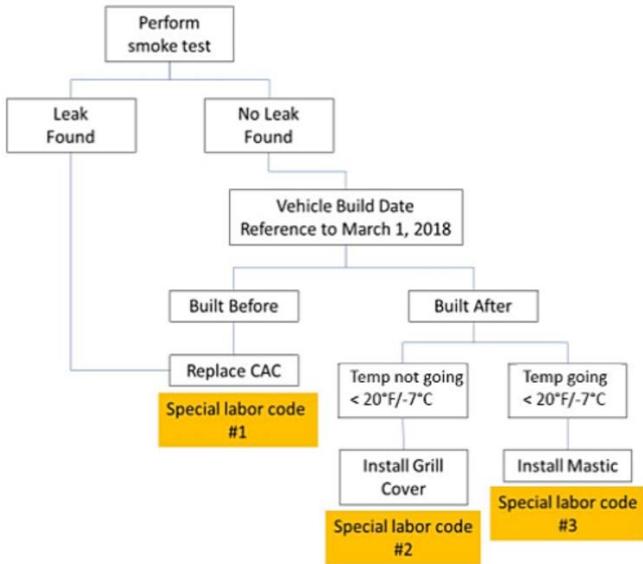
Subject: Malfunction Indicator Lamp Illuminated with DTC P0300 and/or P0299/P2227 Set

This Bulletin replaces PIP5511A. Please discard PIP5511A.

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Buick	Envision	2016	2019	-	-	Equipped with 2.0L Engine (RPO LTG)	All
Chevrolet	Equinox	2018	2020			Equipped with 2.0L or 1.5L Engine (RPOs LTG, LYX)	
GMC	Terrain						
Holden	Equinox						

Involved Region or Country	North America, Australia, Canada, Mexico, Brazil, Middle East, Israel, Palestine, Argentina, Brazil, Chile, Columbia, Ecuador, Paraguay, Peru, Uruguay, South Korea, China, Thailand, Australia, New Zealand, Egypt and Africa.
Condition	Some customers may comment on a malfunction indicator lamp illuminated. During diagnosis, a technician may find DTC P0299, P2227, or P0300 set/stored.
Cause	This condition may be caused by a moisture build up inside the charge air cooler. Long drives through rainy conditions and/or high humidity conditions (heavy fog) can cause moisture to collect in the charge air cooler. A heavy acceleration can draw moisture into the engine causing DTC P0300. In cold temperatures, ambient and PCV moisture can freeze in the charge air cooler, restricting flow, and causing DTC P0299 and/or P2227.
Correction	Perform a smoke leak test of the charge air cooler, then follow the repair steps in the appropriate Service Procedure below, depending on the build date and vehicle outside temperature experience. Note: Deadener material covering is only to be used in northern states or provinces where temperatures are consistently 20°F/-7°C or less.

Flow Chart Based on Conditions

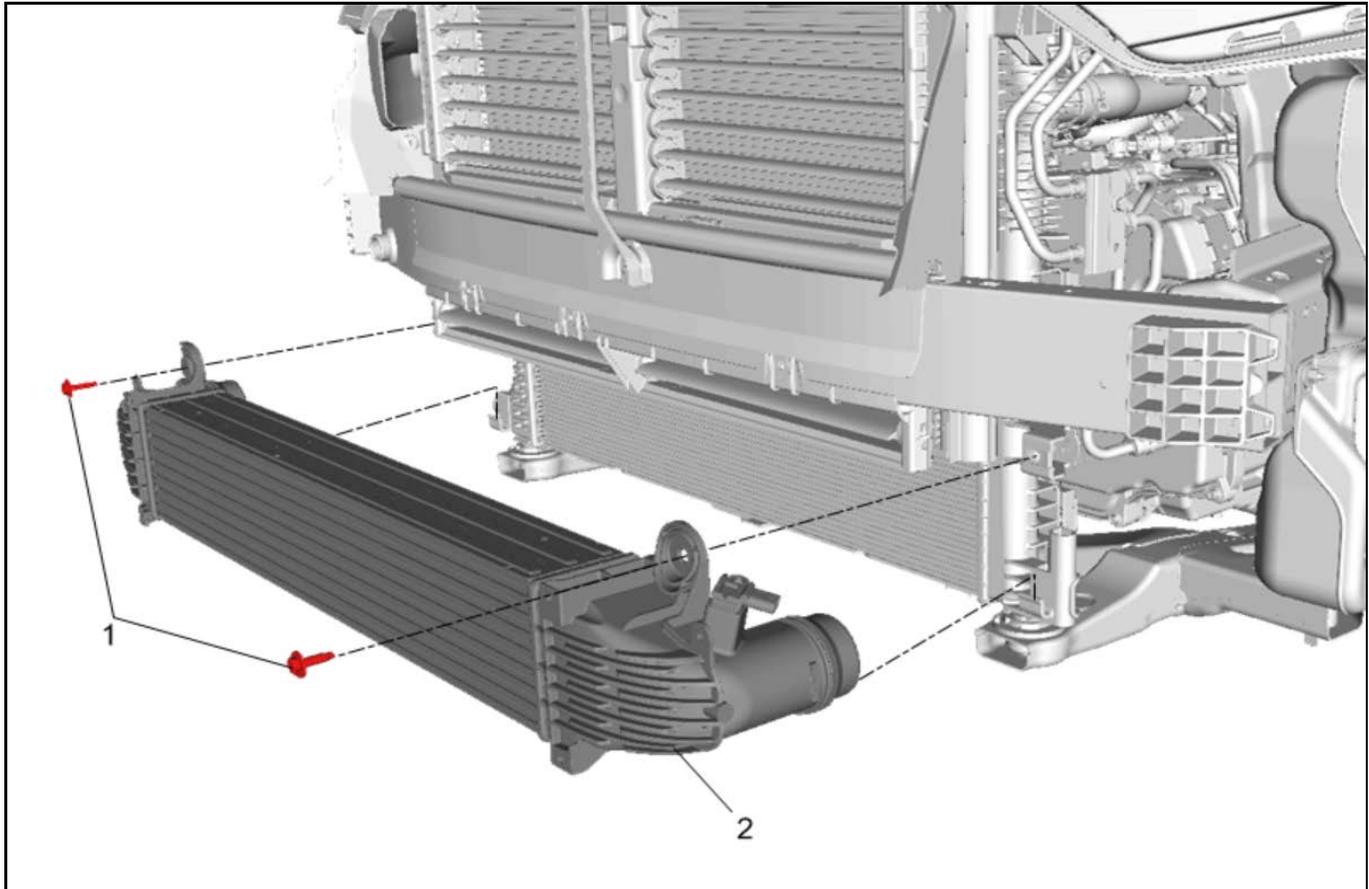


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Service Procedure Equinox, Terrain

Important: For the 2.0L engine ONLY, remove the boost sensor from the intake charge pipe to the throttle body and wipe with a clean rag to remove residual moisture.

1. Perform a smoke leak test of the charge air cooler.



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- If a leak is determined, replace the charge air cooler with the newly designed part. Refer to *Charge Air Cooler Replacement* in SI.
- If there is NO leak, but a P0300, P0299 and/or P2227 are present, **AND the vehicle was built ON or BEFORE March 1, 2018**, then replace the charge air cooler with the newly designed part. Refer to *Charge Air Cooler Replacement* in SI.
- If there is NO leak, but a P0300, P0299 and/or P2227 are present, **AND the vehicle was built AFTER March 1, 2018**, refer to SI for further diagnosis.

Important: If the charge air cooler is freezing, and the temperature is **NOT** going below 20°F/-7°C, install grill covers.

Important: Remove grill covers when the outside temperature is consistently above 40°F/4°C.

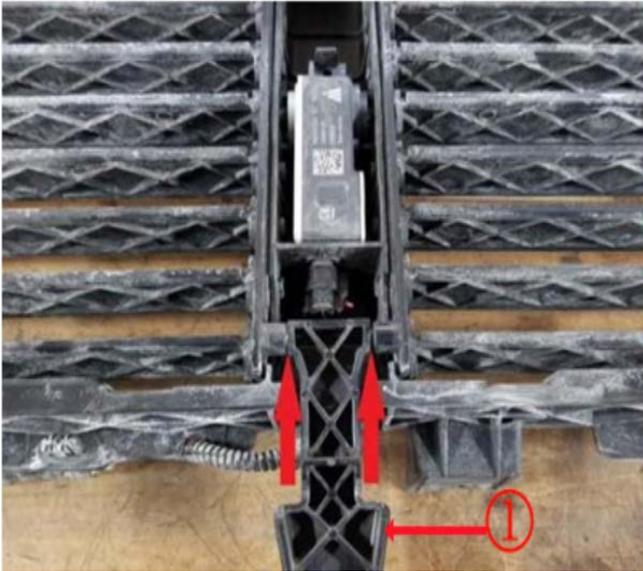
Important: The grille cover **MUST** be removed before towing a trailer of any size. Failure to do will decrease the transmission cooling efficiency and possibly cause damage to the drivetrain.

If the charge air cooler is icing in colder weather conditions, even after using the grill covers, **OR** the temperature is expected to be consistently below 20°F/-7°C, install 2 pieces of outer panel body deadener P/N 25757810, over the top of the Charge Air Cooler and secure them using zip ties to help prevent icing, following the additional steps listed below.

Important: Grill covers cannot be used when the Charge Air Cooler is covered with the deadener material.

Important: When the temperature consistently rises above 40°F/4°C, the customer should come back to have the covering removed.

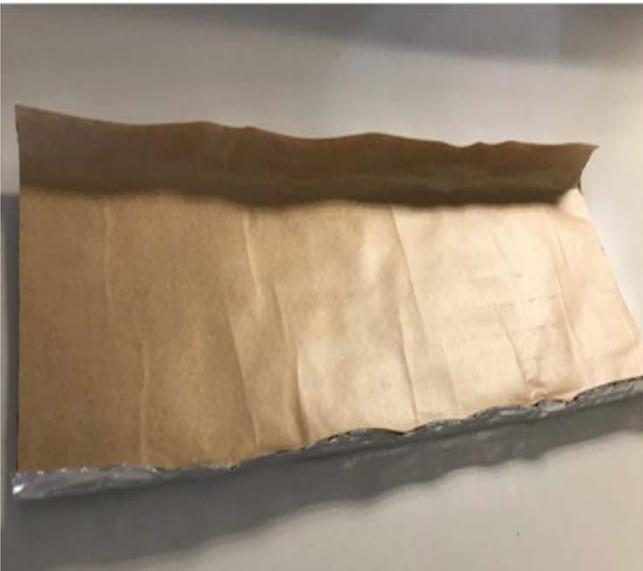
1. Remove the front bumper shutter. Refer to Front Bumper Shutter Replacement in SI.



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2. On the back of the upper shutter using a saw blade, cut the upper shutter to lower shutter actuator at the pivot location, as shown in the photo above, and remove the linkage (1) and discard.
3. Remove and discard the front bumper secondary (lower) shutter assembly. Refer to Front Bumper Secondary Shutter Replacement in SI.

Note: The secondary (lower) shutter assembly will not need to be reinstalled in the future.



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4. Fold the ends on the outer panel body deadener with the paper side facing the cooler and install zip ties around the cooler to retain the deadener in the 3 location.

Important: There should be at least 1/2" (13mm) fold on the top and bottom of the deadener.

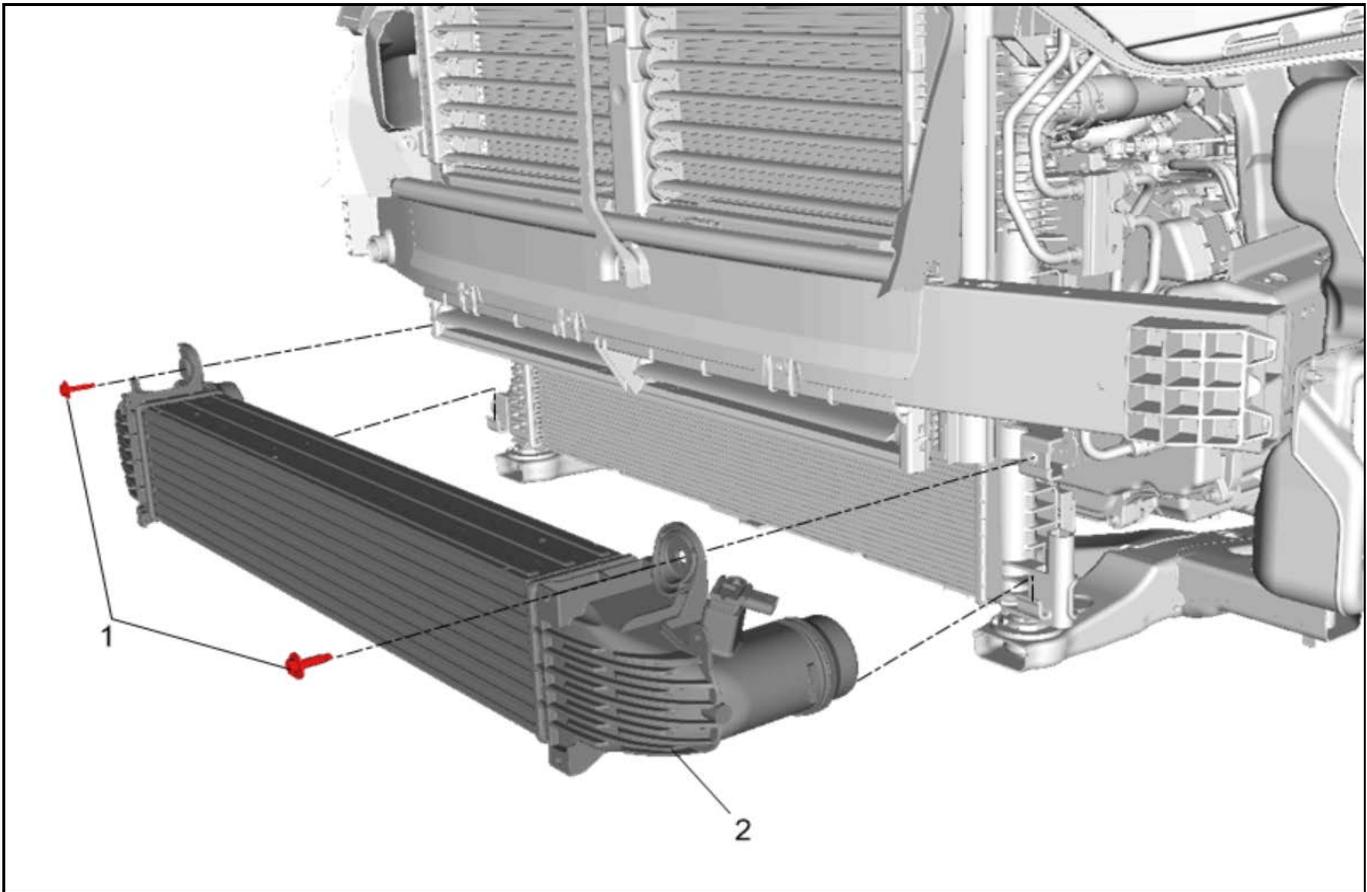
Important: DO NOT REMOVE THE PAPER OR FOIL.

Important: DO NOT REINSTALL THE GRILL COVERS WITH DEADENER INSTALLED.

Service Procedure Envision ONLY

Important: Remove the boost sensor from the intake charge pipe to the throttle body and wipe with a clean rag to remove residual moisture.

1. Perform a smoke leak test of the charge air cooler.



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Important: The newly designed charge air cooler is wider and is NOT compatible with the existing lower baffle on the vehicle. The baffle will need to be replaced to accommodate the larger charge air cooler.

- If a leak is determined, replace the charge air cooler with the newly designed part. Refer to *Charge Air Cooler Replacement* in SI.
- If there is NO leak, but a P0300, P0299 and/or P2227 are present, **AND the vehicle was built ON or BEFORE January 5, 2019**, then replace the charge air cooler with the newly designed part. Refer to *Charge Air Cooler Replacement* in SI.
- If there is NO leak, but a P0300, P0299 and/or P2227 are present, **AND the vehicle was built AFTER January 5, 2019**, refer to SI for further diagnosis.

Parts Information

Important: For Equinox and Terrain **ONLY:** The vehicles may not show an E48 RPO code, so use the other RPO identifiers to select the correct cover.

Causal Part	Description	Part Number	RPO
X	Charge Air Cooler	84454110	LYX
		84454111	LTG
		84634949 (Envision)	

Causal Part	Description	Part Number	RPO
NA*	COVER PKG-FRT GRL OPG	84624274 (Equinox)	Without WBL or WFP
		84624275 (Equinox with Redline/Sport)	With WBL or WFP
		84630081 (Terrain without front license plate bracket)	Without VK3
		84648360 (Terrain with front license plate bracket)	With VK3
	BAFFLE, RAD AIR LWR	23350091 (Envision ONLY)	-

*For warranty transactions, **DO NOT** mark this/these parts as the Causal Part. Enter the word "Bulletin" in the Causal Part Description free-flow text field.

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
4087008*	Perform Smoke Test for Charge Air Cooler and Charge Air Cooler Replacement	2.3 hrs. (Envision)
		2.3 hrs. (Equinox RPO LTG)
		2.4 hrs. (Equinox RPO LYX)
		2.6 hrs. (Terrain RPO LTG)
		2.4 hrs (Terrain RPO LYX)
1086018*	Perform Smoke Test and Install Charge Air Cooler Grille Cover	0.6 hrs. (Equinox)
		0.5 hrs. (Terrain)
4086868*	Smoke Test, Remove Shutter Actuator. Install Deadener over the Top of the Charge Air Cooler	1.3 hrs. (Equinox, Terrain)
*This is a unique Labor Operation for Bulletin use only.		

Version	10
Modified	<p>Released January 22, 2018</p> <p>Revised July 26, 2018 – Added Holden Equinox Model</p> <p>Revised October 19, 2018 – Updated the Cause and Correction.</p> <p>Revised December 21, 2018 – Updated Additional Options, Correction, Parts Information and Warranty Information.</p> <p>Revised January 09, 2019 – Updated the Parts Information</p> <p>Revised February 19, 2019 – Added Envision also updated the Condition, Parts Information and Warranty Information.</p> <p>Revised March 19, 2019 – Updated the Service Procedure and Warranty Information for Equinox/Terrain.</p> <p>Revised May 15, 2019 – Updated the Warranty Information and adding flow chart.</p> <p>Revised November 05, 2019 – Updated the Warranty Information.</p> <p>Revised December 17, 2019 – Added 2020 Model Year.</p>

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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