



Preliminary Information

PIP5829A MIL Illuminated With DTC P0299 and/or Cold Start Rattle Noise From the Engine Compartment

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
BUICK	Encore GX	2019 - 2023	All	All	1.2L (LIH)	All
CHEVROLET	Trailblazer	2020 - 2023	All	All	1.2L (LIH)	All

Involved Region or Country	North America.
Condition	Some customers may comment that the MIL light is illuminated and/or Cold Start Rattle Noise From the Engine Compartment. A P0299 may be stored Current or in history.
Cause	Potential turbocharger wastegate linkage wear.

Correction:

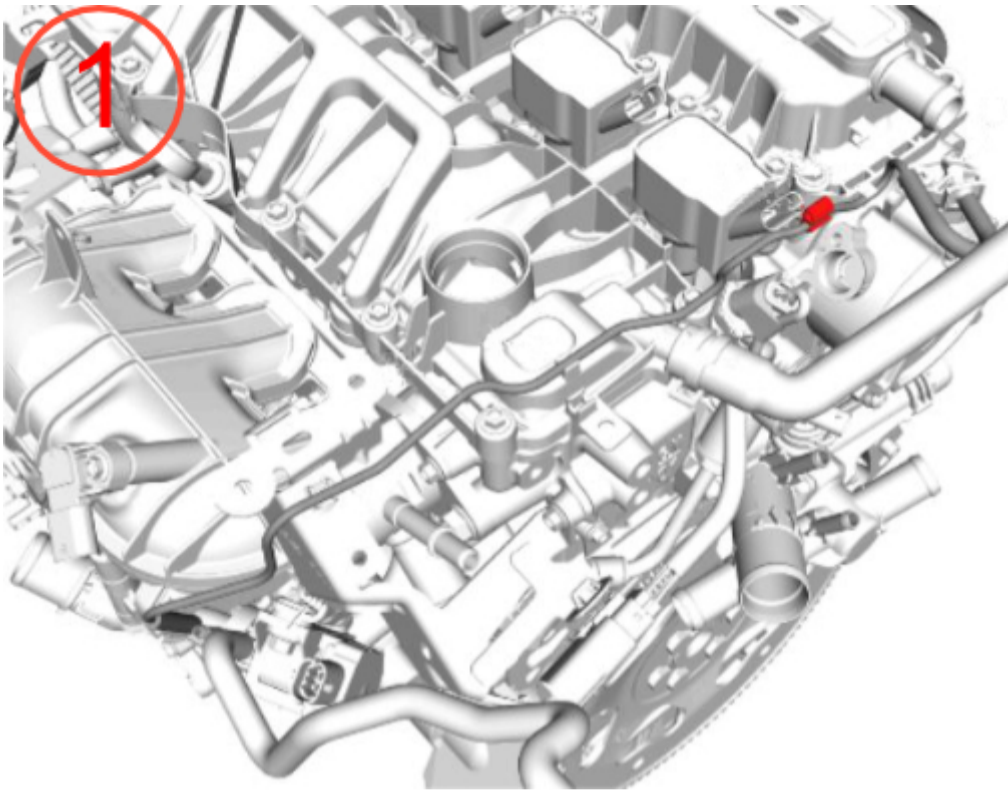
If the complaint is a cold start rattle noise, put the car on a hoist and use the remote start feature to start the vehicle while prepared to touch the wastegate actuator rod with a long screwdriver.

This rod is visible from under the vehicles near the catalytic converter.

If during the cold start converter light off procedure the rattle noise can be heard and is then damped by touching the wastegate actuator rod with the screwdriver, then the premature wastegate linkage wear is present and will likely be solved by replacing the turbocharger.

If the complaint is P0299 instead, the follow the procedure below.

Disconnect the Turbocharger Wastegate Solenoid Vacuum Supply Hose (shown in fig 1 below) from the Turbocharger Wastegate Solenoid Valve.



Connect the EN-23738-A Vacuum Pump to the Turbocharger Wastegate Solenoid Vacuum Supply Hose.

Engine » Idling.

Verify the tool reading: EN-23738-A Vacuum Pump = -50 kPa (-0.5 bar, 15 in Hg).

If the desired pressure/vacuum cannot be achieved or does not hold steady.

Ignition/Vehicle » Off.

Test or replace the component: Vacuum Pump Assembly / related hoses.

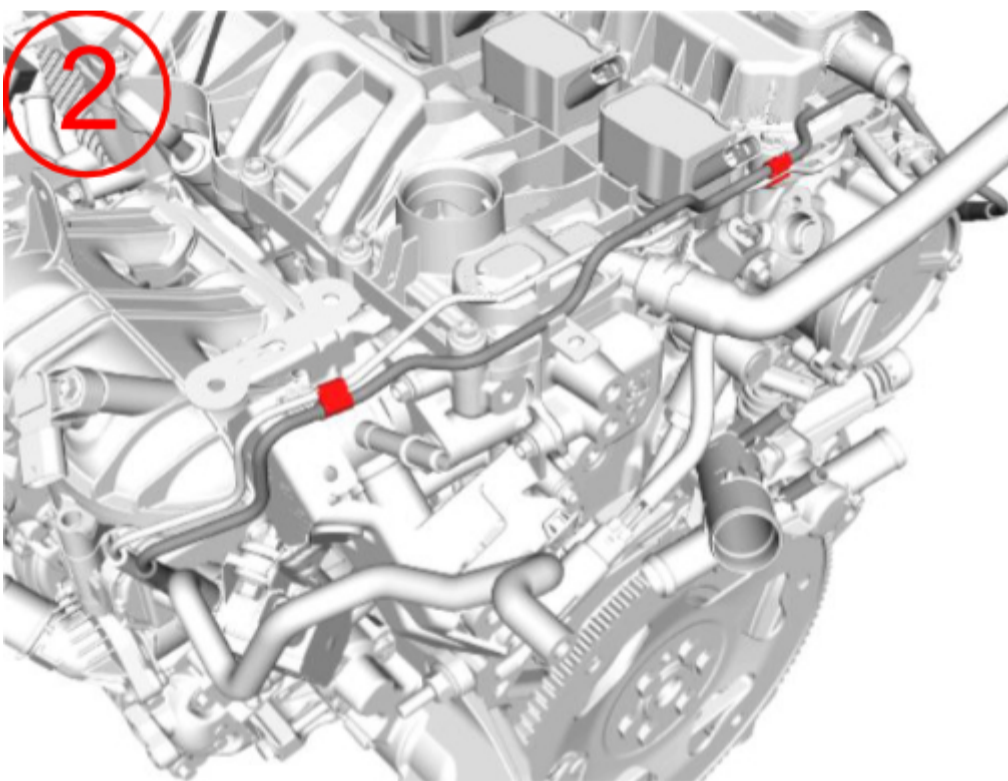
If the desired pressure/vacuum can be achieved and holds steady.

Engine » Off.

Reconnect the Turbocharger Wastegate Vacuum Supply Hose to the Turbocharger Wastegate Solenoid Valve.

Disconnect the Turbocharger Wastegate Solenoid Actuator Supply Hose (shown in fig 2 below) from the Turbocharger Wastegate Solenoid Valve.

Connect the EN-23738-A Vacuum Pump to the Turbocharger Wastegate Solenoid Valve Actuator supply port.



Engine » Idling.

Verify the tool reading: EN-23738-A Vacuum Pump = Less than -17 kPa (-0.17 bar, 5 in Hg).

If -17 kPa(-0.17 bar, 5 in Hg) or greater.

Test or replace the component: Q42 Turbocharger Wastegate Solenoid Valve.

If less than -17 kPa(-0.17 bar, 5 in Hg).

Engine Speed @ Wide Open Throttle — For 2 s.

Verify the tool reading: EN-23738-A Vacuum Pump = Greater than -50 kPa(-0.5 bar, 15 in Hg).

If less than -50 kPa(-0.5 bar, 15 in Hg).

Test or replace the component: Q42 Turbocharger Wastegate Solenoid Valve.

If Greater than -50 kPa(-0.5 bar, 15 in Hg).

Remove the Turbocharger from the vehicle and inspect the Turbocharger Wastegate linkage for excessive wear / play. (Compare to replacement Turbocharger if necessary).

If found, replace the Turbocharger, and perform: Intake System Learned Values Reset.

Warranty Information

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 Operation	Description	Labor Time
4023250	Turbocharger Wastegate Regulator Solenoid Valve Replacement	Use Published Labor Time
4088328*	Turbocharger Replacement	3.3 Hrs.
*This is a unique Labor Operation for Bulletin use only.		

Version History

Version	2
Modified	11/22/2021 - Created on. 01/09/2023 - Updated to add 2023 model year and updating the condition and correction statements.

