



Service Bulletin

Bulletin No.: 19-NA-044

Date: May, 2021

INFORMATION

Subject: Information on Black Smoke, Rough Idle and Minimal Misfires on Cold Start

This bulletin replaces PIP4919E, PIP5189C and PI1223B. Please discard PIP4919E, PIP5189C and PI1223B.

Attention: This bulletin applies to all vehicle models equipped Direct Injected (DI) gasoline engines only.

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Buick	GM Passenger Cars and Light Duty Trucks	2008	2021	—	—	Direct Injected (DI) Gasoline Only	—
Cadillac							
Chevrolet							
GMC							

Involved Region or Country	North America, Europe, Russia, Middle East, Iraq, Israel, Palestine, Argentina, Brazil, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, Japan, Cadillac Korea (South Korea), GM Korea Company, China, Taiwan, Thailand, Singapore, Philippines, Australia/New Zealand, Egypt, Other Africa, South Africa
Condition	Some customers may comment on black smoke, rough idle, and minimal misfires on cold start. Some customers may also state that the malfunction indicator lamp (MIL) is not illuminated.
Information	With the introduction of direct fuel injection systems, GM has revised the cold start control system to reduce cold start emissions. Quicker catalytic converter heating helps meet the ever-changing emission requirements and improve fuel economy.

Additional Information

A dual-pulse injection strategy is utilized during engine cold start to reduce the time required to bring the catalytic converter up to operating temperature. This dual-pulse injection strategy lasts for about 60 seconds on cold start.

This process will cause the customer to see increased black smoke, soot, rough idle, or minimal misfires during cold start and should be considered normal.

To verify that the dual-pulse injection is causing the roughness or misfires with no codes set, you should watch injector pulse width with the scan tool during the concern. Dual pulse injector pulse width will be nearly double that of normal idle. After 20 seconds the pulse width will drop by about 50% and the engine idle will smooth out. This is considered normal operation and no repairs should be attempted.

This cold start strategy is enabled upon start up after the engine has soaked for sufficient time such that the catalytic converter requires rapid reactivation.

The high-pressure fuel pump test will run either as soon as the dual pulse injection is completed, or during the first stop after the engine is warmed up above about 155°F (68°C). This can feel like a slight idle roughness as the high-pressure fuel pump is commanded to max pressure and then shut off to measure pressure decay.

Note: The use of TOP TIER fuels lessens the rough idle condition effects during dual pulse injection and the fuel pump test by reducing the amount of carbon on valve train components and a more complete combustion leading to cleaner burn. Refer to the latest version of Service Bulletin #05-06-04-022 — TOP TIER Detergent Gasoline and TOP TIER Diesel Fuel Information and Licensed Brands.

All of these concerns are considered normal and no repair attempts should be made.

Parts Information

No parts are required for this repair.

Version	2
Modified	Released March 01, 2019 May 03, 2021 – Updated PI reference in Supersede statement, added the 2020–2021 Model Years and updated the Involved Region or Country section.

