



Service Bulletin

Bulletin No.: 21-NA-124

Date: December, 2022

INFORMATION

Subject: Diagnostic Tip for Malfunction Indicator Lamp (MIL) Illuminated - DTC P0442 and/or P0455 Set

Attention: This bulletin only applies to vehicles with gasoline engines.

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Buick	GM Passenger Cars and Trucks (including Medium Duty)	2000	2023	—	—	All Gasoline Engines	—
Cadillac							
Chevrolet							
GMC							

Involved Region or Country	North America, Argentina, Brazil, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, Europe, Uzbekistan, Russia, Middle East, Iraq, Israel, Palestine, 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 that the MIL is illuminated. Some technicians may find one or more of the DTCs set in the Engine Control Module (ECM): " P0442: Evaporative Emission System Small Leak Detected " P0455: Evaporative Emission System Large Leak Detected
Information	Refer to the Service Procedure below for some diagnostic tips that may help locate the source of the leak or cause of the concern.

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.

Service Procedure

Note: For diagnostic instructions, DTC information and tools required, remember to always follow the service information (SI) document associated to the applicable vehicle and DTC you are working on.

For DTC P0455 (large leak detected), the vehicle will set the code due to large leak or purge blockage. A large leak can occur from an unseated tube connection, a damaged tube, a stuck opened canister vent valve or a stuck closed purge valve.

For DTC P0442 (small leak detected), the vehicle will set this code due to small leak. The leak can occur from a stuck open purge valve or stuck open canister vent

valve. In addition, the DTC could set due to an unsealed EVAP system, so verifying all purge lines are properly connected should be confirmed.

For either DTC P0442 or P0445, it is crucial to investigate the EVAP system was properly assembled. All purge connections must be inspected for proper installation. While inspecting the line connections, look for any signs of damage or wear along the lines. If any damage is observed, proceed to confirm via the smoke test.

Note: Some leaks will only be noticeable under pressure and some only noticeable under vacuum. We recommend checking both ways. Also cycling the purge and vent solenoids with GDS2 while inspecting may indicate a sticking valve.

There are seven critical connections that could likely lead to these DTCs being set:

1. Purge tube to purge valve (at intake manifold)
2. Purge tube to chassis EVAP line (at rear of engine, near transmission)
3. Chassis EVAP line to canister (at canister)
4. Fuel tank load line to canister (at canister)

5. Vent valve line to vent valve (at vent valve)
6. Fuel tank load line jumper connection (near fuel tank)
7. Fuel tank cap is closed properly (at refuel compartment)

It is likely that either one of these connections is not properly seated or the line itself is damaged.

⇒ If all connections are good, the vent valve should be checked for a stuck open position.

⇒ If the vent valve is verified to be functioning correctly, proceed to investigate the purge valve. Hence, the following steps should be taken in chronological order:

1. Investigate all EVAP lines are properly installed and fully seated.
2. Investigate for any damage on the EVAP lines.
3. Investigate potential vent valve malfunction.
4. Investigate potential purge valve malfunction.

Based on what is found, be sure to document the cause and correction on the repair order.

Parts Information

No parts are required for this repair.

Version	2
Modified	Released May 25, 2021 Revised December 14, 2022 – Added the 2022–2023 Model Years and an Important statement above Service Procedure.