

2022 CHEVROLET CORVETTE SERVICE MANUAL

- SEARCH

1. Engine/Propulsion

2. Engine Controls and Fuel - 6.2L (LT2)

3. Description and Operation

- 4.

Inspection/Maintenance Description and Operation

Some state/provincial and local governments require that a vehicle pass on-board diagnostic (OBD) system tests and the Inspection/Maintenance (I/M) emission inspection in order to renew license plates. This is accomplished by viewing the I/M System monitors on a scan tool and confirming that no Permanent DTCs are set.

The OBD II system monitors all emission control systems that are on-board. The OBD II regulations require monitoring of the following:

Monitor	Diesel	Gasoline
Boost System Monitor - Since Diagnostic Trouble Codes Cleared	X>	-
Catalytic Converter Monitor - Since Diagnostic Trouble Codes Cleared	X>	X>
Evaporative Emission Monitor - Since Diagnostic Trouble Codes Cleared	-	X>
Exhaust Aftertreatment Monitor - Since Diagnostic Trouble Codes Cleared	X>	-
Exhaust Gas Recirculation Valve/Camshaft Position Monitor - Since Diagnostic Trouble Codes Cleared	X>	X>
Exhaust Gas Sensor Monitor - Since Diagnostic Trouble Codes Cleared	X>	-
Fuel System Monitor - Since Diagnostic Trouble Codes Cleared	X>	X>
Heated Catalytic Converter Monitor - Since Diagnostic Trouble Codes Cleared	-	X>
Misfire Monitor - Since Diagnostic Trouble Codes Cleared	X>	X>
Oxygen Sensor Heater Monitor - Since Diagnostic Trouble Codes Cleared	-	X>
Oxygen Sensor/Heated Oxygen Sensor Monitor - Since Diagnostic Trouble Codes Cleared	-	X>
Particulate Filter Monitor - Since Diagnostic Trouble Codes Cleared	X>	X>

I/M System Status

Each system monitor requires at least one, and sometimes several diagnostic tests. The result of each test is reported by a DTC. A system monitor is Complete when either all of the DTCs comprising the monitor have run and passed, or when any one of the DTCs comprising the monitor has illuminated the malfunction indicator lamp (MIL). For example, when the Oxygen Sensor Heater Monitor indicates Complete, all of the oxygen sensor heaters have been diagnosed. If the vehicle has 4 heated oxygen sensors, all 4 heaters have been diagnosed.

Once the system monitor is complete, the I/M System Status parameter will display Complete in the value column of the scan tool. Any monitor that is not applicable to a vehicle will display Not Supported in the scan tool value column. The I/M System Status parameter will display Incomplete in the value column when any of the required tests for that system have not run. The following is a list of conditions that would set the I/M System Status monitor to Incomplete:

- The vehicle is new from the factory and has not yet been driven through the necessary drive conditions to complete the tests.
- The battery has been disconnected or discharged below operating voltage.
- The control module power or ground has been interrupted.
- The control module has been programmed.
- The control module DTCs have been cleared.

Permanent DTCs

Permanent DTCs are defined as confirmed fault codes that are currently commanding the MIL on and stored in non-volatile memory. Permanent DTCs cannot be erased by any scan tool command or by disconnecting power to the controller.

The intended use of this data is to prevent vehicles from passing an I/M inspection by disconnecting the battery or clearing codes with a scan tool prior to the inspection. The presence of Permanent DTCs at an inspection without the MIL illuminated is an indication that a proper repair was not verified by the OBD II system.

Only the OBD II system can clear Permanent DTCs. The OBD II system must determine that the malfunction that caused the Permanent DTC to

be stored no longer exists and is not commanding the MIL.

- If the MIL goes out naturally due to 3 passing drive cycles (scan tool code clear is not used), then the Permanent DTC is cleared at power down of the last drive cycle.
- If a scan tool code clear is used to turn off the MIL then the Permanent DTC is not cleared, the DTC must PASS and not FAIL. The Permanent DTC is cleared at power down of the drive cycle.
- If the controller is programmed, all Permanent DTCs are cleared.

mcx30.com