

GM · POWERTRAIN

P1496

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1496 · GM

5 Volt Supply Output Too Low

P1496 on GM vehicles means the engine control module (ECM) has detected that the 5-volt reference supply circuit it provides to one or more sensors has dropped below the expected voltage. The ECM monitors this output and sets the code when the voltage falls outside the normal operating range, which can affect sensors that rely on this supply for accurate readings.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough idle or poor engine performance if the affected sensor is critical to fuel or air management.
- Erratic readings from sensors such as the throttle position sensor or manifold absolute pressure sensor.
- Transmission shift issues if the 5-volt supply feeds a transmission sensor.
- Intermittent stalling or hesitation during acceleration.
- Reduced fuel economy due to incorrect sensor data.

Common causes, most likely first

- 1 A short to ground in the 5-volt reference circuit wiring, often due to chafed or damaged insulation.
- 2 A faulty sensor internally shorted and pulling the 5-volt supply low.
- 3 Corroded or loose electrical connectors at sensors or the ECM.
- 4 Water intrusion into a sensor or connector causing a short.
- 5 A failing ECM internal power supply, though this is less common.
- 6 Aftermarket accessories improperly tapped into the 5-volt reference circuit.



How to diagnose and fix it

- 1 Use a scan tool to read all stored codes and freeze-frame data to identify which sensor circuit is affected.
- 2 Visually inspect the 5-volt reference wiring and connectors for damage, corrosion, or loose pins.
- 3 Disconnect sensors one by one that share the 5-volt reference and observe if the voltage returns to normal, isolating the faulty sensor.
- 4 Measure resistance to ground on the 5-volt reference circuit with the ECM disconnected to check for a short.
- 5 Repair any damaged wiring or replace corroded connectors as needed.
- 6 Replace the sensor that is internally shorted if testing confirms it is the cause.
- 7 Clear codes and verify the repair by test-driving the vehicle and monitoring the 5-volt reference voltage with a scan tool.

Don't overlook shared 5-volt circuits

- Many technicians replace the ECM prematurely when the real cause is a shorted sensor on the shared 5-volt reference line, so always isolate sensors before condemning the module.
The 5-volt reference supply often feeds multiple sensors, so a fault in one sensor can affect readings from others and set related codes like P0122 or P0107.
- Intermittent P1496 codes can be caused by wiring that rubs through only during certain engine movements, so wiggle-test the harness while monitoring voltage.
- Aftermarket electrical accessories tapped into the 5-volt reference can overload the circuit and trigger this code, so check for non-factory wiring.
A weak battery or charging system issue can cause low reference voltage, so verify battery and charging system health before deep circuit testing.

Can I keep driving with P1496?

You can usually drive the vehicle with this code, but if you notice rough running, stalling, or transmission shifting problems, avoid sustained highway speeds and schedule diagnosis soon. Prolonged driving with a low 5-volt supply can lead to poor fuel economy and potential damage to sensors or the ECM.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific GM vehicle
- Electrical contact cleaner and dielectric grease
- Basic hand tools for connector and sensor access



Reading P1496

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 4** Auxiliary emission controls.
- 96** The exact fault within that area.

Often seen with

P0107 MAP/Barometric Pressure Circuit Low Input · **P0108** MAP/Barometric Pressure Circuit High Input · **P0113** Intake Air Temperature Circuit High Input · **P0118** Engine Coolant Temperature Circuit High Input · **P0122** Throttle Position Sensor A Circuit Low Input

See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1496/>

