

GM · POWERTRAIN

P1220

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1220 · GM

Throttle Position Sensor Circuit Fault

P1220 on a GM vehicle means the powertrain control module (PCM) has detected a fault in the throttle position sensor (TPS) circuit, typically an out-of-range voltage or an implausible signal compared to the mass airflow and engine speed readings. The PCM monitors the TPS signal and sets this code when the voltage does not match expected values during key-on or running conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Hesitation or stumble when accelerating from a stop
- Erratic or surging engine speed while cruising
- Reduced engine power or limp mode in some cases
- Poor fuel economy or increased emissions
- In rare cases, the engine may stall or refuse to start

Common causes, most likely first

- 1 Faulty throttle position sensor (TPS) itself, worn or dirty internal contacts
- 2 Damaged or corroded wiring harness or connector at the TPS
- 3 Poor electrical connection at the PCM or TPS ground circuit
- 4 Contaminated or sticking throttle body causing the TPS to read incorrectly
- 5 Failed PCM driver circuit for the TPS reference voltage
- 6 Aftermarket or incorrect TPS installed that does not match OEM specifications



How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P1220 is active and not history
- 2 Visually inspect the TPS connector and wiring for corrosion, chafing, or loose pins
- 3 Backprobe the TPS signal wire and ground wire with a multimeter to check reference voltage (typically 5V) and signal sweep
- 4 Clean the throttle body and perform a throttle relearn procedure if the TPS is dirty or sticking
- 5 Replace the TPS with a quality OEM or equivalent part if signal is erratic or out of specification
- 6 Check continuity and resistance of the TPS ground circuit back to the PCM
- 7 Clear codes and perform a road test to verify the repair and ensure the code does not return

Don't overlook the throttle body and wiring

- A dirty throttle body can cause the TPS to report a plausible but incorrect signal, setting P1220 without any TPS fault at all.
- The TPS ground circuit often corrodes internally, causing a voltage drop that mimics a failed sensor; always load-test the ground wire.
- On some GM vehicles, a weak battery or poor charging system can cause erratic TPS readings and set P1220 as a secondary code.
- Replacing the TPS without performing a throttle relearn or idle learn procedure can lead to poor driveability and a repeat code.
- P1220 can be set by a faulty accelerator pedal position sensor on drive-by-wire systems, so check both sensors if equipped.

Can I keep driving with P1220?

You can usually drive the vehicle with P1220 set, but expect reduced performance and possible limp mode; avoid aggressive acceleration and have the fault diagnosed promptly to prevent worsening driveability or emissions issues.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire piercing probes or backprobe pins
- Throttle body cleaner and shop rags
- Basic hand tools (screwdrivers, sockets, pliers)



Reading P1220

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 2** Fuel and air metering (injector circuits).
- 20** The exact fault within that area.

Often seen with

P0120 Throttle Position Sensor A Circuit Malfunction · **P0121** Throttle Position Sensor A Circuit Range/Performance · **P0122** Throttle Position Sensor A Circuit Low Input · **P0123** Throttle Position Sensor A Circuit High Input · **P0220** Throttle Position Sensor B Circuit Malfunction

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1220/>

