

GM · POWERTRAIN

P1109

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1109 · GM

Secondary Port Throttle System

P1109 on GM vehicles indicates that the powertrain control module (PCM) has detected a fault within the secondary port throttle system, which is the portion of the intake tract that controls airflow through the secondary intake runners. The PCM monitors the secondary port throttle actuator and its position sensor, and it sets this code when the commanded throttle position does not match the actual position within a calibrated tolerance.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms noticed by the driver
- Reduced engine power or a limp-home mode under certain driving conditions
- Rough idle or stumbling during acceleration if the secondary port throttle is stuck partially closed
- Poor fuel economy or increased emissions due to incorrect airflow metering
- A noticeable hesitation or flat spot when the PCM commands the secondary port throttle to open

Common causes, most likely first

- 1 Carbon buildup or sludge on the secondary port throttle plate causing it to stick or bind
- 2 Failed secondary port throttle actuator motor or its internal windings
- 3 Faulty secondary port throttle position sensor (TPS) or a damaged sensor signal circuit
- 4 Wiring harness damage such as chafed wires, corroded connectors, or loose pins at the actuator or PCM
- 5 A blown fuse or relay that supplies power to the secondary port throttle actuator
- 6 Mechanical binding in the secondary port throttle linkage or return spring
- 7 PCM software calibration issue or internal driver fault (less common)



How to diagnose and fix it

- 1 Inspect the secondary port throttle plate and bore for carbon deposits; clean with throttle body cleaner and a soft brush if buildup is present
- 2 Check the actuator electrical connector for corrosion, tightness, and damaged pins; repair or replace terminals as needed
- 3 Measure resistance across the actuator motor windings and compare to the manufacturer's specification; replace the actuator if out of range
- 4 Test the position sensor signal voltage with a scan tool while manually moving the throttle plate; verify smooth sweep without dropouts
- 5 Check for power and ground at the actuator connector with the key on; repair any open or shorted circuits
- 6 Perform a throttle body relearn or idle relearn procedure with a scan tool after cleaning or replacement
- 7 If all electrical and mechanical checks pass, reprogram the PCM with the latest calibration or replace it only as a last resort

Carbon Buildup Mimics Actuator Failure

- A sticking secondary port throttle plate from carbon deposits is the most common cause of P1109, and cleaning often resolves the code without replacing any parts.
- The secondary port throttle system is often confused with the main throttle body; technicians who replace the main throttle body unnecessarily miss the actual fault.
- A weak or failing battery or charging system can cause erratic actuator operation and set P1109 intermittently, so always verify battery voltage and ground integrity first.
- After cleaning or replacing the secondary port throttle, a scan tool relearn is required on many GM models to prevent the code from returning immediately.
- P1109 can be set by a wiring harness rub-through near the intake manifold that only shows up when the engine moves under load, so wiggle-test the harness while monitoring live data.

Can I keep driving with P1109?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or sustained high-speed driving because the secondary port throttle may be stuck and cause poor engine performance or increased emissions. If the engine enters limp mode or runs very poorly, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data and bidirectional controls
- Digital multimeter
- Throttle body cleaner and soft brush
- Basic hand tools (screwdrivers, socket set)
- Wiring diagram for the specific GM model



Reading P1109

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

Often seen with

P1108 Oxygen Sensor Heating Circuit Bank 2 Sensor 1 Output Too Low · **P1107** Oxygen Sensor Heating Circuit Bank 2 Sensor 1 Short To B+ · **P1106** Oxygen Sensor Circuit Bank 2 Sensor 1 Voltage Too Low/Air Le · **P1106** Engine Torque Control Signal 2 Circuit Malfunction · **P1107** AIR System Diagnosis Solenoid Circuit Fault · **P1106** BARO Circuit Range Performance Malfunction · **P1108** BARO Circuit High Input · **P1107** BARO Circuit Low Input · **P1108** BARO Circuit High Input · **P1106** BARO Circuit Range Performance Malfunction · **P1107** BARO Circuit Low Input · **P1108** BARO to MAP Sensor Comparison Too High · **P1107** MAP Sensor Voltage Intermittent Low · **P1106** MAP Sensor Circuit Voltage Intermittent · **P1107** Dual Alternator Lower Circuit Malfunction · **P1106** Dual Alternator Lower Fault Manifold Absolute Pressure (MAP) · **P1108** Dual Alternator Battery Lamp Circuit Malfunction · **P1106** MAP Sensor Circuit Intermittent High Voltage · **P1108** BARO To MAP Sensor Circuit Comparison Too High · **P1107** MAP Sensor Circuit Intermittent Low Voltage · **P0121** Throttle Position Sensor A Circuit Range/Performance · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1109/>

