

GENERIC · POWERTRAIN

P0109

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0109

MAP/Barometric Pressure Circuit Intermittent

P0109 means the engine computer has detected an intermittent fault in the manifold absolute pressure (MAP) sensor circuit or, on some vehicles, the barometric pressure (BARO) circuit. The signal from the sensor momentarily drops out or jumps erratically, so the computer cannot trust the pressure reading for fuel delivery and ignition timing calculations.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Check engine light illuminated, often with no other noticeable symptoms
- Engine may stumble or hesitate under acceleration when the fault occurs
- Rough idle or fluctuating idle speed
- Poor fuel economy or rich/lean running conditions
- Occasional hard starting or stalling when coming to a stop
- A slight surge or lack of power during steady cruising

Common causes, most likely first

- 1 Loose, corroded, or damaged electrical connector at the MAP or BARO sensor
- 2 Chafed or broken wire in the sensor signal or ground circuit
- 3 Failing MAP or BARO sensor with an intermittent internal fault
- 4 Vacuum hose connected to the MAP sensor that is cracked, soft, or loose
- 5 Poor ground connection for the sensor circuit at the engine block or chassis
- 6 Intake manifold vacuum leak causing erratic pressure readings
- 7 Faulty engine computer, though this is rare



How to diagnose and fix it

- 1 Inspect the MAP or BARO sensor connector and wiring for looseness, corrosion, or damage; clean and secure as needed
- 2 Check all vacuum hoses connected to the MAP sensor for cracks, softness, or disconnection and replace any faulty hose
- 3 Use a scan tool to view live MAP or BARO data while wiggling the harness and connector to spot intermittent dropouts
- 4 Measure the sensor reference voltage and ground with a multimeter, then check the signal voltage with a vacuum pump applied to the sensor
- 5 Perform a voltage drop test on the ground circuit to confirm a solid ground connection
- 6 Replace the MAP or BARO sensor if testing shows an internal intermittent fault
- 7 Clear the code and verify the repair by test-driving under conditions that previously set the code

Intermittent faults hide in connectors and grounds

- A loose or corroded connector pin is the most common cause of an intermittent MAP code, yet many people replace the sensor first and the code returns.
- On some vehicles the barometric pressure sensor is integrated into the mass airflow sensor or the engine computer, so the fault may not be at a separate MAP sensor.
- A vacuum leak can cause the MAP signal to fluctuate enough to set an intermittent code without any hard fault, so always check intake hoses and gaskets.
- The code can set during a brief glitch that lasts only milliseconds, so the sensor may test perfectly good when the engine is idling in the shop.
- A poor engine ground can affect multiple sensors and cause a P0109 along with other unrelated codes, so inspect ground straps and battery terminals.

Can I keep driving with P0109?

You can usually drive the vehicle with a P0109 code, but avoid aggressive acceleration or heavy loads until the fault is repaired because the engine may hesitate or stall unexpectedly. If the engine runs poorly or stalls frequently, have it diagnosed promptly to prevent unsafe driving conditions.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Hand vacuum pump with gauge
- Wire terminal pick and electrical contact cleaner
- Service information for connector pinouts and voltage specifications



Reading P0109

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- 09** The exact fault within that area.

Often seen with

P0105 MAP/Barometric Pressure Circuit Malfunction · **P0106** MAP/Barometric Pressure Circuit Range/Performance · **P0107** MAP/Barometric Pressure Circuit Low Input · **P0108** MAP/Barometric Pressure Circuit High Input · **P0171** System Too Lean (Bank 1)

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0109/>

