

GENERIC · POWERTRAIN

P222A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P222A

Barometric Pressure Sensor B Circuit

P222A indicates that the powertrain control module (PCM) has detected an electrical fault in the circuit for Barometric Pressure Sensor B, which is often a second barometric pressure sensor or a sensor integrated into the mass airflow (MAF) sensor. The PCM monitors the sensor signal voltage and sets this code when the voltage falls outside the expected range or behaves erratically, preventing accurate barometric pressure readings used for fuel delivery and altitude compensation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp).
- Often no symptoms besides the warning light, especially if the sensor is only intermittently faulty.
- Rough idle or poor driveability due to incorrect fuel mixture at high altitudes.
- Reduced engine performance or hesitation during acceleration.
- Decreased fuel economy as the PCM substitutes default values.
- In rare cases, the engine may stall or have difficulty starting.

Common causes, most likely first

- 1 Faulty Barometric Pressure Sensor B (internal failure or contamination).
- 2 Damaged or corroded wiring in the sensor circuit (open, short, or high resistance).
- 3 Loose or corroded electrical connector at the sensor or PCM.
- 4 Failed PCM (rare, but possible if other causes are ruled out).
- 5 Water intrusion or physical damage to the sensor or its wiring harness.
- 6 Aftermarket or incorrect sensor installed previously.



How to diagnose and fix it

- 1 Perform a visual inspection of the sensor, connector, and wiring for obvious damage, corrosion, or loose connections.
- 2 Use a scan tool to check for related diagnostic trouble codes (DTCs) and freeze-frame data to understand when the fault occurred.
- 3 Measure the sensor reference voltage and ground at the connector with a digital multimeter (DMM) to verify the circuit integrity.
- 4 Test the sensor signal voltage with a DMM or oscilloscope while monitoring barometric pressure changes (e.g., with a vacuum pump) to confirm sensor operation.
- 5 Check for continuity and resistance in the wiring between the sensor and PCM, repairing any opens or shorts.
- 6 If the circuit and sensor test good, suspect the PCM; perform pinpoint tests according to the manufacturer's service information before replacement.
- 7 Clear the codes and verify the repair by test-driving the vehicle and ensuring the code does not return.

Common Misdiagnosis Traps for P222A

- Barometric Pressure Sensor B is often part of the mass airflow (MAF) sensor on many vehicles, so a faulty MAF sensor can set P222A even if a separate barometric sensor exists.
- A dirty or contaminated MAF sensor can cause incorrect barometric pressure readings, leading to this code without any electrical fault.
- Technicians sometimes replace the sensor without checking the reference voltage and ground circuits, which can be the real problem.
- Intermittent faults may be caused by a chafed wire that only shorts when the engine moves or vibrates, so wiggle tests are essential.
- The PCM may use a default barometric pressure value when the sensor fails, masking driveability symptoms and making the code the only clue.

Can I keep driving with P222A?

The vehicle is generally safe to drive with P222A because the PCM substitutes a default barometric pressure value, but performance and fuel economy may suffer. Avoid sustained high-altitude driving or heavy load conditions until the fault is repaired, as incorrect fuel mixture could stress the engine.

Tools that help

- OBD-II scan tool
- Digital multimeter (DMM)
- Oscilloscope (optional for signal analysis)
- Vacuum pump with gauge (for sensor testing)
- Wire repair kit (solder, heat shrink, terminals)
- Manufacturer's service information for pinpoint tests



Reading P222A

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 2** Fuel and air metering (injector circuits).
- 2A** The exact fault within that area.

Often seen with

P0101 Mass/Volume Air Flow Circuit Range/Performance · **P0102** Mass/Volume Air Flow Circuit Low Input · **P0103** Mass/Volume Air Flow Circuit High Input · **P2228** Barometric Pressure Circuit Low · **P2229** Barometric Pressure Circuit High

See it working

Watch the animated explainer [How a Wideband Air-Fuel Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p222a/>

