

GENERIC · POWERTRAIN

P0224

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0224

Throttle/Pedal Position Sensor/Switch 'B' Circuit Intermittent

P0224 indicates that the powertrain control module (PCM) has detected an intermittent fault in the signal circuit for throttle or pedal position sensor 'B'. The PCM monitors this sensor to know the driver's demand and cross-checks it against sensor 'A'; an intermittent signal causes the PCM to set this code when the fault appears and disappears within a short drive cycle.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Intermittent hesitation or stumble during acceleration, especially when the throttle is held steady.
- A sudden drop in engine power or limp-home mode (reduced power) that may reset after restarting the engine.
- Unstable or surging idle quality when the pedal is not pressed.
- Poor or delayed transmission shifting due to unreliable throttle position data.
- A stored code that may be accompanied by other throttle-related codes such as P0222 or P0223.

Common causes, most likely first

- 1 Worn or contaminated electrical connector at the throttle body or accelerator pedal sensor, causing an intermittent connection.
- 2 Chafed, pinched, or broken wires in the sensor 'B' signal or ground circuit, often due to vibration or routing issues.
- 3 Internal intermittent failure of the throttle position sensor (TPS) or accelerator pedal position (APP) sensor 'B'.
- 4 Corrosion or water intrusion in the sensor connector or wiring harness.
- 5 Loose or damaged terminals at the PCM connector for the sensor 'B' circuit.
- 6 Aftermarket electronic throttle controllers or poor previous repairs that disturb the sensor wiring.



How to diagnose and fix it

- 1 Inspect the sensor 'B' connector and wiring for looseness, corrosion, or damage; clean and reseal the connector.
- 2 Perform a wiggle test on the sensor 'B' harness while monitoring live throttle position data to reproduce the intermittent fault.
- 3 Check the sensor 'B' signal voltage with a multimeter or oscilloscope for dropouts or glitches as the throttle is slowly opened and closed.
- 4 Verify the sensor 'B' ground circuit for excessive resistance or intermittent opens.
- 5 If the wiring and connectors are good, replace the throttle position sensor or accelerator pedal assembly as applicable.
- 6 Clear the code and perform a throttle relearn or idle relearn procedure if required by the manufacturer.
- 7 Road test the vehicle under various throttle conditions to confirm the repair and ensure the code does not return.

Intermittent faults hide in connectors and wiring

- Many P0224 cases are caused by a loose or corroded connector that only acts up under vibration or temperature changes, so a simple visual inspection often misses the problem.
- A faulty sensor 'B' can still produce a plausible signal most of the time, so the code may not set until the vehicle is driven under specific conditions such as a cold start or a particular throttle angle.
- Technicians sometimes replace the throttle body unnecessarily when the real issue is a chafed wire in the harness near the pedal or firewall.
- The PCM may set P0224 alongside P0222 or P0223 if the intermittent signal also triggers low or high voltage thresholds, so always check for related codes before diagnosing.
- Aftermarket accessories that tap into the pedal wiring, such as throttle controllers or remote starters, can introduce intermittent faults that mimic a failed sensor.

Can I keep driving with P0224?

You can usually drive the vehicle to a repair shop, but avoid aggressive acceleration and be prepared for a sudden loss of power or limp-home mode. If the engine repeatedly enters reduced power mode or stalls, stop driving and have the vehicle towed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope (optional but helpful for intermittent signals)
- Wire piercing probes or back-probe kit
- Electrical contact cleaner and dielectric grease
- Vehicle-specific service information for wiring diagrams and relearn procedures



Reading P0224

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

Often seen with

P0121 Throttle Position Sensor A Circuit Range/Performance · **P0222** Throttle Position Sensor B Circuit Low Input · **P0223** Throttle Position Sensor B Circuit High Input · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation · **P2138** Throttle/Pedal Position Sensor D/E Voltage Correlation

See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0224/>

