



P212B

Throttle Position Sensor/Switch G Circuit Range/Performance

P212B indicates that the powertrain control module has detected an out-of-range or erratic signal from the throttle position sensor circuit designated as 'G', which is typically a secondary or auxiliary throttle position sensor. The computer compares this signal against expected values from other throttle sensors and sets the code when the voltage or performance falls outside a calibrated window for a set period.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode, where the throttle responds sluggishly or not at all
- Hesitation or stumble during acceleration, especially from a stop
- Unstable or surging idle speed
- Poor fuel economy or increased emissions output
- In rare cases, the engine may stall or refuse to start

Common causes, most likely first

- 1 Worn or contaminated throttle position sensor 'G' itself, causing a dead spot or erratic resistance
- 2 Corroded, loose, or damaged electrical connector at the throttle body or sensor
- 3 Chafed or broken wiring in the sensor 'G' signal or ground circuit
- 4 Carbon buildup or mechanical wear on the throttle plate or sensor linkage affecting sensor sweep
- 5 Failed or failing accelerator pedal position sensor that the PCM cross-checks against throttle position
- 6 Software calibration issue in the PCM requiring a reflash or update
- 7 Rarely, an internal PCM fault on the sensor reference or signal circuit



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data for P212B to understand the conditions when it set
- 2 Visually inspect the throttle body, sensor 'G' connector, and wiring harness for corrosion, looseness, or physical damage
- 3 Back-probe the sensor 'G' signal wire and ground while slowly sweeping the throttle by hand, looking for smooth voltage changes without dropouts or spikes
- 4 Compare sensor 'G' voltage to the other throttle position sensor voltages to confirm which signal is abnormal
- 5 Clean the throttle body and sensor contacts with appropriate electronic cleaner, then clear codes and retest
- 6 If the sensor sweep is erratic or has a dead spot, replace the throttle position sensor or throttle body assembly as required by the vehicle design
- 7 After repair, perform a throttle body relearn or idle relearn procedure and verify the code does not return during a road test

What a throttle sensor G code really means

- Sensor 'G' is often a redundant or secondary throttle position sensor, so the PCM may use it only for cross-checking; a fault here can set the code without ever affecting driveability.
- A dirty throttle body can cause sensor 'G' to report implausible values at closed throttle, leading to a false replacement of a healthy sensor.
- Wiring harness chafing near the throttle body is a common cause that a simple sensor replacement will not fix, so always wiggle-test the harness while watching live data.
- Some vehicles require a throttle body adaptation or PCM relearn after any sensor or throttle body service, and skipping this step will cause the code to reset immediately.
- A failing accelerator pedal position sensor can set throttle position codes because the PCM compares the two signals, so do not overlook the pedal assembly during diagnosis.

Can I keep driving with P212B?

You can usually drive the vehicle to a repair shop, but avoid aggressive acceleration and be prepared for reduced power or limp mode. If the engine stalls, idles erratically, or the throttle does not respond at all, stop driving and have the vehicle towed to prevent a safety hazard.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with back-probe pins
- Throttle body cleaner and lint-free shop towels
- Basic hand tools and socket set
- Wiring diagram or service information for the specific vehicle



Reading P212B

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

Often seen with

P2120 Throttle/Pedal Position Sensor/Switch 'D' Circuit · **P2122** Accelerator Pedal Position Sensor D Circuit Low · **P2123** Accelerator Pedal Position Sensor D Circuit High · **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 Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p212b/>

