

GENERIC · POWERTRAIN

P256D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P256D

Engine Idle Speed Selector Sensor/Switch Circuit High

P256D indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the engine idle speed selector sensor or switch circuit, which is used to request a raised or lowered idle speed for auxiliary loads or specific operating modes. The PCM expects the signal voltage to stay within a calibrated range, and a sustained high reading tells the module that the circuit is open, shorted to voltage, or that the switch contacts are stuck in an open state.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The check engine light illuminates, often with no other noticeable symptoms.
- Idle speed may remain fixed and fail to increase when accessories such as the air conditioner or rear defroster are switched on.
- The engine may idle at an unusually high or erratic speed if the selector switch is stuck in a raised-idle position.
- A related message may appear on the driver information center indicating an idle control or auxiliary load fault.
- In some vehicles, the remote start or high-idle feature may become inoperative.
- Fuel economy may drop slightly if the engine consistently idles higher than commanded.

Common causes, most likely first

- An open circuit in the signal wire between the idle speed selector switch and the PCM, often due to a broken wire or corroded connector terminal.
- A faulty idle speed selector switch that has internally open contacts or high resistance.
- A short to voltage on the signal circuit, which can occur if the wire rubs through and contacts a power feed.
- Corrosion or water intrusion at the switch connector or PCM connector, creating high resistance or an intermittent open.
- A poor ground connection at the switch or at the PCM, causing the reference voltage to float high.
- A failed PCM driver or internal pull-up resistor, though this is less common than wiring or switch faults.
- Aftermarket accessories wired into the idle selector circuit, introducing unexpected voltage or resistance.



How to diagnose and fix it

- 1 Connect a scan tool and record the idle speed selector switch voltage and status parameters to confirm the high signal before clearing the code.
- 2 Visually inspect the switch, its connector, and the wiring harness for damage, corrosion, or loose terminals, and repair any obvious faults.
- 3 Measure resistance across the switch contacts in both the idle-up and idle-down positions and compare with the manufacturer's specification.
- 4 Back-probe the signal wire at the PCM connector and check for a short to voltage with the switch disconnected; repair the harness if battery voltage is present.
- 5 Check for continuity and voltage drop on the ground circuit at the switch connector to rule out a bad ground.
- 6 If the wiring and switch test good, substitute a known-good switch and recheck the live data to see if the high voltage reading resolves.
- 7 Clear the code and perform a road test with the scan tool monitoring the idle selector circuit to confirm the repair and ensure the code does not return.

Idle selector faults that mimic other codes

- A high voltage reading on the idle speed selector circuit is frequently caused by a disconnected or corroded connector at the switch, not by a failed PCM, so always inspect the harness before condemning the module.
- Some vehicles use a momentary contact switch for idle speed selection, and a stuck-open switch will set P256D without any drivability complaint, leading owners to ignore a simple repair.
- The idle speed selector signal may share a reference voltage or ground with other sensors, so a fault in a neighbouring circuit can pull the voltage high and set P256D as a secondary code.
- Aftermarket remote start or high-idle kits that splice into the selector wiring are a common source of unexpected high voltage on this circuit, especially if the installation was rushed.
- P256D does not always mean the switch itself has failed; a short to voltage anywhere along the signal path, including at the PCM connector, will produce the same high-voltage reading.

Can I keep driving with P256D?

The vehicle remains safe to drive because the fault primarily affects idle speed selection and does not impair normal engine operation, but avoid relying on high-idle features and have the circuit inspected soon to prevent secondary issues.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire piercing probes or back-probe pins
- Service information with wiring diagrams
- Basic hand tools for trim and connector access



Reading P256D

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 6D** The exact fault within that area.

Often seen with

P0506 Idle Control System RPM Lower Than Expected · **P0507** Idle Control System RPM Higher Than Expected
 · **P0511** Idle Air Control Circuit · **P256C** Engine Idle Speed Selector Sensor/Switch Circuit Low · **P256E**
 Engine Idle Speed Selector Sensor/Switch Circuit Intermittent

See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p256d/>

