

MAZDA · POWERTRAIN

P1125

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1125 · Mazda

Throttle Position Sensor Signal Intermittent

P1125 on Mazda vehicles means the powertrain control module (PCM) has detected an intermittent fault in the throttle position sensor (TPS) signal circuit. The PCM monitors the TPS voltage and expects a smooth, predictable change as the throttle moves; when the signal momentarily drops out, spikes, or jumps erratically, the PCM logs this code. The fault is stored as intermittent, meaning the PCM has seen the glitch but the circuit may test normal at the moment of diagnosis.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- The check engine light illuminates, often with no other noticeable symptoms.
- The engine may hesitate or stumble briefly during acceleration, especially when the throttle is applied gradually.
- The transmission may shift erratically or delay downshifts because the PCM relies on TPS input for shift scheduling.
- Idle speed may fluctuate or hang high after releasing the throttle.
- In some cases, the engine may enter limp mode with reduced power or a rev limit.
- Cruise control may disengage unexpectedly or fail to engage.

Common causes, most likely first

- Worn or dirty tracks inside the throttle position sensor causing intermittent voltage dropouts.
- Loose, corroded, or backed-out terminals in the TPS connector or PCM connector.
- Chafed or broken wires in the TPS signal or ground circuit, often near the throttle body or harness bends.
- Poor ground connection at the throttle body or engine block affecting the TPS reference voltage.
- Carbon buildup on the throttle plate or bore causing the TPS to report an unexpected position at closed throttle.
- A failing throttle body assembly where the TPS is integrated and not serviceable separately.
- Rarely, an intermittent PCM internal fault on the TPS input circuit.



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data for P1125 to see the throttle angle and voltage at the moment of failure.
- 2 Inspect the TPS connector and harness for corrosion, loose pins, or chafed wires, and perform a wiggle test while watching live TPS voltage on the scan tool.
- 3 Backprobe the TPS signal wire and ground wire at the sensor and measure voltage with the key on; a good sensor should show a smooth sweep from about 0.5 to 4.5 volts as the throttle is opened slowly.
- 4 Check the TPS reference voltage and ground circuit for voltage drops under load using a multimeter, repairing any high-resistance connections or damaged wires.
- 5 Clean the throttle body bore and plate with approved cleaner, then perform a throttle body relearn or idle relearn procedure if the vehicle requires it.
- 6 If the sensor is separate and the signal is erratic on the meter, replace the TPS and clear the code; if integrated, replace the throttle body assembly.
- 7 After repair, clear codes and drive the vehicle through a complete drive cycle, monitoring TPS live data for any dropouts before returning it to the customer.

Intermittent TPS faults that fool technicians

- A TPS that tests perfectly on a stationary scan tool can still be faulty; the intermittent dropout often only appears when the engine is hot or when the harness is flexed during acceleration.
- Corroded terminals inside the TPS connector are a more common cause of P1125 on older Mazdas than a failed sensor, so always inspect the pins before condemning the part.
- A dirty throttle body can cause the TPS to report a closed-throttle voltage outside the expected range, setting an intermittent code that cleaning and a relearn will fix.
- The PCM may set P1125 from a momentary glitch that lasts less than a second, so freeze-frame data and a lab scope capture are more useful than a simple resistance check.
- Replacing the TPS without checking the ground circuit at the throttle body often leads to a repeat code, because a poor engine ground shifts the sensor's reference voltage.

Can I keep driving with P1125?

You can usually drive the vehicle short distances to a repair shop, but avoid aggressive acceleration or heavy load because an intermittent TPS signal can cause sudden hesitation or a limp-mode event. If the engine surges, stalls, or the transmission shifts harshly, stop driving and have the fault diagnosed promptly.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with backprobe pins
- Lab scope for capturing intermittent TPS voltage glitches
- Throttle body cleaner and shop rags
- Basic hand tools for connector and sensor removal

Reading P1125

- P** Powertrain: engine, transmission and emissions.
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- 1** Manufacturer-specific code (Mazda): its meaning depends on the make.
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- 1** Fuel and air metering.
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- 25** The exact fault within that area.

Often seen with

P0120 Throttle Position Sensor A Circuit Malfunction · **P0121** Throttle Position Sensor A Circuit Range/Performance · **P0122** Throttle Position Sensor A Circuit Low Input · **P0123** Throttle Position Sensor A Circuit High Input · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation

See it working

Watch the animated explainer [How a Fuel Injector Works: Pulse Width and Spray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1125/>

