

MAZDA · POWERTRAIN

P1445

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1445 · Mazda

EVAP Purge Flow Sensor Circuit High Voltage

P1445 on Mazda vehicles means the powertrain control module (PCM) has detected an abnormally high voltage signal from the evaporative emission (EVAP) purge flow sensor circuit. The sensor normally reports purge flow as a voltage that rises with flow, so a high-voltage reading tells the PCM that the circuit is shorted to power, open, or that the sensor is reporting an impossible flow condition.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms besides the warning light
- A faint fuel odor around the engine bay or near the EVAP purge solenoid
- Slightly rough idle or a stumble just after refueling
- Occasional difficulty filling the fuel tank or a premature fuel nozzle shutoff
- Failed emissions inspection due to the stored EVAP fault
- In rare cases, a slight hesitation during light acceleration when purge is commanded

Common causes, most likely first

- 1 A short to battery voltage in the purge flow sensor signal wire, often from chafed insulation near the intake manifold
- 2 An open ground circuit or a poor ground connection at the purge flow sensor, causing the signal to float high
- 3 A failed EVAP purge flow sensor that internally shorts its signal output to the reference voltage
- 4 A stuck-open or leaking EVAP purge solenoid that allows continuous manifold vacuum and drives the sensor signal high
- 5 Corroded or pushed-back pins in the purge flow sensor connector or the PCM connector
- 6 A faulty PCM driver for the purge flow sensor circuit, though this is the least common cause



How to diagnose and fix it

- 1 Connect a scan tool and record the purge flow sensor voltage with the key on, engine off, then compare it to the manufacturer's expected range for a Mazda of this model year
- 2 Visually inspect the purge flow sensor connector and the wiring harness for chafing, corrosion, or loose pins, especially where the harness routes near hot or moving components
- 3 Back-probe the sensor signal wire and measure voltage with the sensor disconnected; a reading near reference voltage confirms a short to power in the harness
- 4 Check the sensor ground circuit for continuity to battery negative and repair any open or high-resistance ground
- 5 Command the EVAP purge solenoid on and off with the scan tool and watch whether the sensor voltage responds; a stuck solenoid will keep the signal high
- 6 If the wiring and solenoid test good, substitute a known-good purge flow sensor and recheck the voltage reading before condemning the PCM
- 7 Clear the code, run the EVAP monitor to completion, and verify that P1445 does not return before releasing the vehicle

What a high purge flow voltage really means

- A high-voltage purge flow code is more often a wiring short to power or a bad ground than a failed sensor, so technicians who replace the sensor first frequently see the code return within a few drive cycles.
- Mazda purge flow sensors on some models share a reference voltage with other EVAP components, so a short in a neighbouring circuit can pull the purge signal high and set P1445 without any fault in the sensor itself.
- A purge solenoid that sticks open can keep manifold vacuum applied to the EVAP system at all times, which drives the flow sensor signal high and can also cause a rough idle that mimics a vacuum leak.
- This code does not always mean the EVAP system is leaking; a high signal indicates an electrical or flow-measurement problem, so a smoke test alone will not find the root cause.
- After any repair, the EVAP monitor must run through a cold-start and a steady cruise before the PCM will set the code again, so a short test drive can give a false sense that the fault is fixed.

Can I keep driving with P1445?

You can usually keep driving with P1445 because it does not affect engine safety, but the vehicle will fail an emissions test and a persistent rich purge condition can slowly degrade fuel economy. Avoid topping off the fuel tank past the first click and have the circuit checked soon, especially if you notice a fuel smell or a rough idle.



Tools that help

- OBD-II scan tool with live data and bidirectional EVAP control
- Digital multimeter with back-probe pins
- Wiring diagram for the specific Mazda model and year
- Hand tools for connector and harness access
- Smoke machine for confirming EVAP integrity after electrical repairs

Reading P1445

- 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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- 4** Auxiliary emission controls.
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- 45** The exact fault within that area.

Often seen with

P0441 EVAP System Incorrect Purge Flow · **P0443** EVAP Purge Control Valve Circuit Malfunction · **P0453** Evaporative Emission System Pressure Sensor/Switch High · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak)

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1445/>

