

MAZDA · POWERTRAIN

P1449

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1449 · Mazda

Evaporative Check Solenoid Circuit

P1449 on Mazda vehicles indicates that the powertrain control module (PCM) has detected an electrical fault in the evaporative check solenoid circuit, which is part of the evaporative emission control (EVAP) system. The PCM monitors the solenoid's circuit for expected voltage or current and sets this code when the signal falls outside the normal range, often due to an open, short, or excessive resistance.

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

Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp, MIL), often with no other symptoms.
- A slight fuel odor may be noticed around the vehicle if the EVAP system cannot purge properly.
- In some cases, a rough idle or hesitation may occur if the solenoid is stuck open and causes a vacuum leak.
- Failed emissions testing due to the EVAP system not being ready or the MIL being commanded on.
- No noticeable driveability issues in most cases, as the EVAP system does not affect engine performance directly.

Common causes, most likely first

- 1 Faulty evaporative check solenoid (the solenoid itself has failed electrically or mechanically).
- 2 Damaged or corroded wiring harness or connector at the solenoid.
- 3 Open or short circuit in the power or ground circuit to the solenoid.
- 4 Failed PCM driver for the solenoid circuit (rare but possible).
- 5 Blown fuse or poor electrical connection in the circuit.
- 6 Contamination or blockage in the EVAP system causing the solenoid to overheat and fail.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related EVAP codes to confirm the fault is isolated to the check solenoid circuit.
- 2 Inspect the solenoid connector and wiring for damage, corrosion, or loose pins; repair as needed.
- 3 Test the solenoid's resistance with a multimeter and compare to the manufacturer's specification; replace if out of range.
- 4 Check for power and ground signals at the solenoid connector with the ignition on and during commanded activation; trace any open or short circuits.
- 5 If electrical tests pass, command the solenoid on and off with a scan tool to listen for a click; no click indicates a faulty solenoid.
- 6 Replace the evaporative check solenoid if it fails electrical or functional tests, then clear the code and verify the repair with a test drive.
- 7 If the code persists after solenoid replacement, perform a thorough circuit test from the PCM to the solenoid to rule out a PCM fault.

Don't overlook the simple electrical checks

- A common mistake is replacing the evaporative check solenoid without first checking the connector and wiring, as corrosion or a broken wire often mimics a failed solenoid.
- The EVAP system may have multiple solenoids; ensure you are testing the correct one for the check function, not the purge or vent solenoid.
- A stuck-open check solenoid can cause a vacuum leak that leads to a rough idle, which is often misdiagnosed as a vacuum hose or intake gasket issue.
- The PCM may set P1449 intermittently if the circuit fault is temperature-related, so wiggle-test the harness while monitoring live data.
- Always check for technical service bulletins (TSBs) for the specific Mazda model, as some vehicles have known harness routing issues that cause this code.

Can I keep driving with P1449?

The vehicle is generally safe to drive with P1449 because the EVAP system does not affect engine performance or safety, but you should avoid ignoring the check engine light as it may mask other issues. Have the fault diagnosed soon to ensure the EVAP system functions correctly and to pass emissions testing.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wire probe set or backprobe pins
- Service manual or wiring diagram for the specific Mazda model
- Basic hand tools (socket set, screwdrivers, pliers)



Reading P1449

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Mazda): its meaning depends on the make.
- 4** Auxiliary emission controls.
- 49** The exact fault within that area.

Often seen with

P0443 EVAP Purge Control Valve Circuit Malfunction · **P0444** EVAP Purge Control Valve Circuit Open · **P0445** EVAP Purge Control Valve Circuit Shorted · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak)

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1449/>

