

GENERIC · POWERTRAIN

P0498

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0498

Evaporative Emission System Vent Valve Control Circuit Low

P0498 indicates that the powertrain control module has detected an abnormally low voltage on the control circuit for the evaporative emission system vent valve, which is the solenoid that opens the charcoal canister to fresh air during EVAP system testing. The computer expects to see a specific voltage pattern when it commands the vent valve open or closed, and a low reading tells it that the circuit is shorted to ground, has excessive resistance, or the valve itself has failed internally.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A faint fuel odor around the rear of the vehicle, especially after refueling
- Difficulty or hesitation when the fuel nozzle clicks off during refueling
- A slight hiss or pop when removing the fuel cap, indicating pressure equalization issues
- In some cases, a rough idle or stumble immediately after starting the engine
- Failed state emissions inspection due to the stored code and incomplete EVAP monitors

Common causes, most likely first

- 1 Failed evaporative emission vent valve solenoid with an open or shorted internal coil
- 2 Damaged, chafed, or corroded wiring between the vent valve and the powertrain control module
- 3 Loose or corroded electrical connector at the vent valve, allowing intermittent low voltage
- 4 A short to ground in the control circuit, often from road debris or rodent damage
- 5 Faulty powertrain control module driver circuit, though this is rare compared to valve failure
- 6 Water intrusion into the vent valve connector or solenoid body causing corrosion and low resistance



How to diagnose and fix it

- 1 Use a scan tool to command the vent valve open and closed while watching the circuit voltage and listening for an audible click from the valve.
- 2 Visually inspect the vent valve, its connector, and the wiring harness for corrosion, chafing, or rodent damage, and repair any obvious faults.
- 3 Disconnect the vent valve connector and measure resistance across the solenoid terminals; compare the reading to the manufacturer's specification to confirm an open or shorted coil.
- 4 Check for a short to ground on the control wire by measuring resistance from the valve-side connector terminal to a known good ground with the key off.
- 5 Backprobe the control circuit at the powertrain control module and verify that the module provides a clean ground or voltage signal when commanded.
- 6 Replace the vent valve if it fails electrical or functional testing, then clear the code and run the EVAP monitor to confirm the repair.
- 7 If the circuit tests good but the code persists, perform a wiggle test on the harness while monitoring live data to expose an intermittent fault.

What a low vent valve circuit really means

- A low-voltage code on this circuit is frequently caused by a failed vent valve coil that has developed a short to ground internally, not by a wiring problem, so resistance testing at the valve is the fastest path to the answer.
- Technicians often replace the vent valve only to find the connector pins have been pushed back or corroded, so always inspect the terminals under bright light before condemning the solenoid.
- The powertrain control module may set P0498 intermittently if water has entered the vent valve housing through a cracked cap or a missing splash shield, so check for signs of moisture intrusion.
- A vent valve that is stuck open or closed mechanically can still pass a basic resistance test, so functional testing with a scan tool command is essential before replacing parts.
- This code can be set by a short to ground anywhere along the control wire, including where the harness passes near the fuel tank or rear suspension, so a visual inspection of the entire run is worthwhile.

Can I keep driving with P0498?

The vehicle remains safe to drive with P0498 because the fault affects only the evaporative emission system and does not impair engine performance or braking. Avoid topping off the fuel tank past the automatic shutoff and schedule diagnosis soon, since a persistent EVAP leak can release fuel vapor and will prevent the vehicle from passing an emissions inspection.



Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter with resistance and voltage measurement
- Wire piercing probes or backprobe pins
- Manufacturer-specific wiring diagram for the EVAP vent circuit
- Flashlight and mirror for inspecting the valve and harness

Reading P0498

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
4	Auxiliary emission controls.
98	The exact fault within that area.

Often seen with

P0440 Evaporative Emission Control System Malfunction · **P0442** EVAP System Leak Detected (Small) · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak) · **P0499** Evaporative Emission System Vent Valve Control Circuit High

See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0498/>

