

MAZDA · POWERTRAIN

P1476

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1476 · Mazda

Fan Relay High Circuit

P1476 on Mazda vehicles indicates that the powertrain control module (PCM) has detected a fault in the high side of the cooling fan relay control circuit, meaning the relay coil or its wiring is not responding as expected. The PCM commands the fan relay on by grounding the control circuit, and it monitors the voltage on that circuit to verify the relay coil is intact and the wiring is not open or shorted. This code specifically points to an open or shorted condition on the high side of the relay control circuit, which can prevent the cooling fan from running when needed.

SYSTEM

Powertrain

CODE TYPE

Mazda specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- The check engine light (malfunction indicator lamp) illuminates on the dashboard.
- The engine cooling fan may not turn on at all, leading to higher coolant temperatures in traffic or at idle.
- The fan may run continuously even when the engine is cold, because the relay is stuck or the circuit is shorted.
- In some cases, the air conditioning performance may degrade because the condenser fan is not operating.
- You might notice a slight electrical drain or a clicking relay even with the key off, if the circuit is shorted to power.
- Often no symptoms besides the warning light, especially if the fan still works on a different speed or the fault is intermittent.

Common causes, most likely first

- 1 Failed cooling fan relay, where the coil is open or the contacts are stuck.
- 2 Open or shorted wiring in the high side of the relay control circuit between the PCM and the relay.
- 3 Corroded or loose electrical connector at the relay or the PCM.
- 4 Faulty powertrain control module (PCM) driver for the fan relay circuit.
- 5 Blown fuse that supplies power to the relay coil or the fan motor circuit.
- 6 Aftermarket alarm or remote start installation that tapped into the fan relay wiring and caused a fault.



How to diagnose and fix it

- 1 Verify the fault is current by clearing the code and test-driving the vehicle with the A/C on and engine at operating temperature.
- 2 Inspect the cooling fan relay and its connector for corrosion, loose pins, or signs of overheating.
- 3 Test the relay coil resistance and check for continuity between the PCM control terminal and the relay; compare to factory specifications.
- 4 Check the fuse that powers the relay coil and the fan motor circuit, and replace if blown.
- 5 Measure voltage on the high side of the relay control circuit with the key on and engine off; it should be near battery voltage when the relay is commanded off.
- 6 If wiring and relay are good, back-probe the PCM connector and command the fan on with a scan tool to see if the PCM driver pulls the circuit low; if not, the PCM may be faulty.
- 7 Repair any damaged wiring, replace the relay or PCM as needed, then clear codes and verify the fan operates correctly under all conditions.

Fan relay circuit checks that save time

- A common mistake is replacing the fan motor when the relay control circuit is at fault; always check for power and ground at the fan connector first.
- The PCM may set P1476 if the relay coil is open, but a shorted relay coil can also cause the fan to run constantly and drain the battery.
- Aftermarket accessories like alarm systems or remote starters often splice into the fan relay wiring, creating intermittent opens or shorts that trigger this code.
- On some Mazda models, the cooling fan relay is part of an integrated relay module, and a fault in the module can set P1476 even if individual relays test good.
- P1476 can be set by a poor ground connection at the relay or at the PCM, so always check ground integrity before condemning the PCM.

Can I keep driving with P1476?

You can drive the vehicle short distances, but avoid heavy traffic or sustained idling where the cooling fan is essential to prevent overheating. Monitor the temperature gauge and turn off the A/C if you notice it climbing, and have the fault diagnosed promptly to avoid engine damage.

Tools that help

- OBD-II scan tool with Mazda-specific software
- Digital multimeter
- Relay puller or small screwdriver
- Test light
- Wiring diagram for the specific Mazda model



Reading P1476

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

Often seen with

P1475 EVAP Emission Control System LDP Malfunction Signal Circuit · **P1477** EVAP Emission Control System LDP Malfunction · **P1475** Resonance Intake Line Switchover Valve Y227 · **P1475** Fan Relay Low Circuit · **P1475** Fan Relay Low Circuit · **P1475** Auxiliary 5 Volt Output Too High · **P1477** Too Much Secondary Air · **P1475** Leakage Diagnostic Pump Reed Switch Did Not Close · **P1477** Leakage Diagnostic Pump Reed Switch Did Not Open · **P0480** Cooling Fan 1 Control Circuit Malfunction · **P0481** Cooling Fan 2 Control Circuit Malfunction · **P0482** Cooling Fan 3 Control Circuit Malfunction

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1476/>

