

MAZDA · POWERTRAIN

P1475

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1475 · Mazda

Fan Relay Low Circuit

P1475 on Mazda vehicles means the powertrain control module (PCM) has detected a low-voltage condition on the cooling fan relay control circuit, indicating the relay coil or its wiring is not receiving the expected voltage. The PCM commands the fan relay on and monitors the circuit; when the voltage stays below the threshold, it stores this code and may default the fan to continuous operation or disable it depending on the failure mode.

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

Symptoms you may notice

- The check engine light illuminates, often with no other noticeable symptoms.
- The engine cooling fan may run continuously even when the engine is cold.
- The cooling fan may fail to turn on, leading to overheating in traffic or at idle.
- The air conditioning may become less effective because the condenser fan does not engage.
- In some cases, the engine temperature gauge may climb higher than normal during extended idling.

Common causes, most likely first

- A faulty cooling fan relay with an open or high-resistance coil.
- Corroded, loose, or damaged electrical connectors at the relay or PCM.
- A broken or chafed wire in the fan relay control circuit, often near the radiator support or underhood fuse box.
- A poor ground connection for the relay coil or the PCM ground circuit.
- A failed PCM driver for the fan relay control circuit, though this is less common.
- Water intrusion into the underhood fuse box or relay socket causing corrosion.

How to diagnose and fix it

- Verify the code with a scan tool and check for any related fan or cooling system codes.
- Inspect the cooling fan relay and its socket for corrosion, burning, or loose terminals.
- Test the relay coil resistance with a multimeter and compare to the manufacturer's specification.
- Check the control circuit wiring for continuity and shorts to ground between the PCM and the relay.
- Measure voltage at the relay coil with the key on and the fan commanded on to confirm the low circuit condition.
- Check and clean the PCM and relay ground connections.
- If all wiring and the relay test good, perform a PCM driver test or substitute a known-good PCM to rule out internal failure.



Fan relay low circuit pitfalls on Mazdas

- A common oversight is replacing the fan motor when the actual fault is a corroded relay socket that prevents the coil from energizing.
- The PCM may set P1475 even when the fan still works because the low circuit condition can be intermittent and only appear under specific temperature or vibration conditions.
- On many Mazda models, the cooling fan relay is integrated into the underhood fuse box, so a faulty fuse box assembly can mimic a relay failure.
- A weak battery or charging system can cause low voltage on the relay control circuit and trigger this code without any relay or wiring defect.
- Technicians sometimes misdiagnose P1475 as a fan motor failure, but the code specifically monitors the relay control circuit, not the fan motor power circuit.

Can I keep driving with P1475?

You can usually drive short distances with P1475, but monitor the engine temperature closely and avoid prolonged idling or heavy traffic until the fault is repaired. If the temperature gauge rises above normal or the air conditioning stops cooling, pull over and shut off the engine to prevent overheating damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Relay puller or small flat-blade screwdriver
- Electrical contact cleaner
- Vehicle-specific wiring diagram

Reading P1475

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

Often seen with

P0480 Cooling Fan 1 Control Circuit Malfunction · **P0481** Cooling Fan 2 Control Circuit Malfunction · **P0482** Cooling Fan 3 Control Circuit Malfunction · **P0483** Fan Rationality Check · **P0484** Fan Circuit Over Current



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-p1475/>

