

GENERIC · POWERTRAIN

P0482

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0482

Cooling Fan 3 Control Circuit Malfunction

P0482 indicates that the powertrain control module (PCM) has detected a malfunction in the control circuit for cooling fan number three, which is often the third fan in a multi-fan cooling system or a variable-speed fan's high-speed circuit. The PCM monitors the circuit for expected voltage or current and sets this code when the signal is out of range, indicating an open, short, or component failure.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Engine overheating, especially during extended idle or in hot weather, if the fan does not run
- Cooling fan may run continuously or not at all, depending on the type of circuit fault
- Air conditioning performance may degrade because the condenser relies on the cooling fan for airflow
- Possible fan relay clicking repeatedly or unusual noises from the fan area

Common causes, most likely first

- 1 Faulty cooling fan relay or control module for fan number three
- 2 Open or shorted wiring in the fan control circuit, including damaged connectors or corrosion
- 3 Failed cooling fan motor (seized or electrically open)
- 4 Blown fuse or fusible link supplying power to the fan circuit
- 5 Poor ground connection at the fan motor or chassis
- 6 PCM internal fault affecting the control output (rare)

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for related codes in other modules
- 2 Inspect the fan fuse and relay, testing the relay for proper operation
- 3 Visually inspect the fan motor, connectors, and wiring for damage or corrosion
- 4 Test the fan motor by applying power and ground directly to confirm it operates
- 5 Check for voltage and ground signals at the fan connector while commanding the fan on with a scan tool
- 6 Repair or replace faulty wiring, connectors, relay, or fan motor as needed
- 7 Clear the code and verify the repair by running the fan through its full range of operation



Don't overlook the simple checks first

- A common oversight is assuming the fan motor is bad when the real problem is a corroded ground connection that prevents the fan from running.
- Some vehicles use a solid-state fan control module instead of a relay, and a failed module can set P0482 even though the fan motor itself is fine.
- The cooling fan may only run under specific conditions (e.g., when the A/C is on or engine temperature reaches a threshold), so lack of fan operation during a quick test does not always indicate a fault.
- P0482 can be set by a brief intermittent open circuit that may not be present during testing, so wiggle-testing the harness while monitoring fan operation is crucial.
- On vehicles with three fans, fan number three is often the smallest and may only activate under extreme conditions, leading some to misdiagnose the code as a non-issue.

Can I keep driving with P0482?

You can generally drive with this code as long as the engine temperature gauge stays in the normal range, but avoid heavy loads, prolonged idling, or hot weather until the fault is repaired to prevent overheating.

Tools that help

- OBD-II scan tool with bidirectional control
- Digital multimeter
- Test light
- Wire probe set
- Service manual with wiring diagrams

Reading P0482

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

Often seen with

P0480 Cooling Fan 1 Control Circuit Malfunction · **P0481** Cooling Fan 2 Control Circuit Malfunction · **P0483** Fan Rationality Check · **P0484** Fan Circuit Over Current · **P0485** Cooling Fan Power/Ground 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/p0482/>

