

GENERIC · POWERTRAIN

# P0484

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0484

### Fan Circuit Over Current

P0484 means the engine control module (ECM) has detected excessive current draw on the cooling fan control circuit, typically when the fan is commanded on. The ECM monitors the circuit for current above a calibrated threshold and sets this code when the fan motor, wiring, or control module pulls more current than expected.

|            |                     |          |                |                             |
|------------|---------------------|----------|----------------|-----------------------------|
| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA                        |
| Powertrain | Generic (all makes) | Medium   | Intermediate   | Auxiliary emission controls |

### Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Cooling fan may fail to run at all, causing engine temperature to rise in traffic or at idle
- Cooling fan may run continuously at full speed even when the engine is cold
- Blown fuse or melted fan relay in the underhood fuse box
- Overheating gauge reading high or a warning message on the dash during extended idling
- A burning smell or visible smoke from the fan connector or relay area

### Common causes, most likely first

- 1 Seized or binding cooling fan motor that draws excessive current when powered
- 2 Short to ground in the fan power or control wiring, often from chafing or heat damage
- 3 Failed fan relay or fan control module with internally shorted contacts
- 4 Corroded or melted fan connector pins creating resistance and high current draw
- 5 Aftermarket or incorrect fan assembly with a motor that exceeds the circuit's current rating
- 6 Debris or road splash packed into the fan blade assembly, increasing mechanical load



## How to diagnose and fix it

- 1 Inspect the fan connector and relay for signs of melting, corrosion, or a blown fuse, and replace any damaged fuse or relay first
- 2 Command the fan on with a scan tool and measure current draw at the fan motor with a clamp meter to confirm it exceeds specification
- 3 Disconnect the fan motor and check resistance and free rotation by hand; replace the fan assembly if the motor is seized or draws high current on a bench test
- 4 Check the fan power and ground circuits for shorts to ground or chafed insulation, repairing any damaged wire sections
- 5 Substitute a known-good fan relay or control module and retest the circuit under command
- 6 Clear the code and verify the fan operates at both low and high speed without the code returning during a road test with the air conditioning on
- 7 If the code persists after all circuit and component checks, inspect the ECM fan driver output for internal damage

## What a high-current fan code really tells you

- A fan that spins freely by hand can still draw excessive current internally, so a bench current test matters more than a visual spin check.
- Many technicians replace the fan motor first, but a melted connector pin or a shorted relay is just as common and far cheaper to fix.
- This code does not always mean the fan is dead; a shorted control wire can command the fan on continuously and trip the over-current threshold.
- Aftermarket fans with higher current ratings than the original often set P0484 repeatedly even though the fan works, because the ECM driver sees more current than the calibration allows.
- A weak battery or poor ground can cause the ECM to misread fan current, so check charging system health before condemning the fan circuit.

## Can I keep driving with P0484?

You can usually drive short distances with the warning light on, but avoid heavy traffic, long idles, and hot weather until the fan circuit is repaired. If the temperature gauge climbs or the fan is not running, stop and let the engine cool to prevent overheating damage.



## Tools that help

- Scan tool with bidirectional fan control
- Digital multimeter
- Clamp-on current meter
- Test light
- Wire terminal removal tools
- Factory service information for circuit testing

## Reading P0484

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>0</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>4</b>  | Auxiliary emission controls.                                         |
| <b>84</b> | 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 · **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/p0484/>

