



P2C41

Fan 3 Performance/Stuck Off

P2C41 indicates that the powertrain control module (PCM) has commanded the third cooling fan circuit on, but the fan feedback signal does not match the expected state, so the PCM sets this code for a fan that is stuck off. The computer typically detects an open circuit, a failed fan motor, or a missing feedback signal from the fan control module.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- The check engine light or a cooling system warning message appears on the dashboard.
- Engine temperature may rise above normal, especially in stop-and-go traffic or when the air conditioning is on.
- The third cooling fan may not run at all when the PCM commands it on.
- The air conditioning may become less effective or stop cooling because the condenser fan is not assisting airflow.
- Often no symptoms besides the warning light, particularly if other fans or ram air keep temperatures in check.

Common causes, most likely first

- 1 Failed cooling fan motor or fan assembly, such as a seized bearing or burned-out winding.
- 2 Open or shorted wiring in the fan power circuit, ground circuit, or feedback signal circuit.
- 3 Blown fuse or failed relay that supplies power to the third fan.
- 4 Faulty fan control module or solid-state relay that does not pass current to the fan.
- 5 Corroded or loose electrical connector at the fan motor or control module.
- 6 PCM software issue or internal driver fault, though this is less common.

How to diagnose and fix it

- 1 Check the fuse and relay for the third cooling fan circuit and replace any that are blown or faulty.
- 2 Inspect the fan connector and wiring for corrosion, chafing, or loose pins, and repair as needed.
- 3 Command the fan on with a scan tool and listen for operation; if it does not run, measure voltage and ground at the fan connector.
- 4 Test the fan motor directly by applying battery power and ground to confirm whether it spins.
- 5 Check the feedback signal circuit from the fan control module to the PCM for continuity and correct voltage.
- 6 If the fan motor is faulty, replace the fan assembly or motor according to the manufacturer's procedure.
- 7 Clear the code and verify the fan operates correctly during a commanded test and that the code does not return.



Fan feedback circuits fool many technicians

- A fan that spins freely by hand can still be electrically failed, so always command it on with a scan tool and verify current draw rather than relying on visual inspection.
- The feedback signal wire often breaks inside the insulation near the fan connector, so a visual check may look fine while continuity is lost.
- Some vehicles use a single fan control module for multiple fans, and a fault in one fan circuit can set codes for others, so check all related fan codes before replacing parts.
- Aftermarket fan assemblies may have different feedback characteristics and can cause repeat codes even when the fan runs, so use a quality replacement that matches the original design.
- The PCM may set P2C41 if the engine coolant temperature sensor is inaccurate, because the PCM compares commanded fan state with actual temperature response, so check sensor rationality first.

Can I keep driving with P2C41?

You can usually drive short distances with this code, but avoid heavy traffic, sustained idling, and towing until the fan is repaired because overheating can damage the engine. If the temperature gauge climbs above normal, pull over and shut the engine off.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Test light
- Wire probe and jumper wires
- Service manual or wiring diagram for the vehicle

Reading P2C41

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
41	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 · **P2C40** Fan 4 Control Circuit High · **P2C42** Fan 4 Performance/Stuck Off



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/p2c41/>

