

GENERIC · POWERTRAIN

P01F9

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01F9

Engine Coolant Heater B Control Circuit Driver Current/Temperature Too High

P01F9 means the engine control module has detected that the driver circuit for the engine coolant heater 'B' is drawing too much current or that the driver itself is running too hot. The coolant heater is an electric element that warms the engine coolant to help with cold starts and cabin heat, and the control module monitors the driver's current and temperature to protect the circuit. When either exceeds a calibrated limit, the module stores this code and may disable the heater.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms besides the warning light
- Longer engine warm-up times and reduced cabin heat in cold weather
- The coolant heater may not activate at all, leaving the engine cold-blooded on startup
- Possible intermittent heater operation if the fault is temperature-related
- In rare cases, a blown fuse or fusible link for the heater circuit
- No noticeable performance change in warm weather because the heater is not needed

Common causes, most likely first

- 1 A shorted or partially shorted engine coolant heater element drawing excessive current
- 2 Damaged or chafed wiring in the heater control circuit contacting ground or another power wire
- 3 A failing control module driver internal to the engine control module or a separate heater control module
- 4 Corroded or loose electrical connectors at the heater or control module causing high resistance and heat
- 5 A faulty coolant temperature sensor giving the module incorrect data, leading to overcurrent command
- 6 Aftermarket or incorrect heater element installed that does not match the module's current profile



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then clear codes and verify whether P01F9 returns immediately or after a cold-start cycle
- 2 Visually inspect the heater element, its connectors, and the wiring harness for signs of overheating, chafing, or corrosion
- 3 Measure the resistance of the coolant heater element with a multimeter and compare it to the manufacturer's specification to rule out a shorted element
- 4 Check the driver circuit for unwanted continuity to ground or to battery voltage with the module disconnected
- 5 Monitor live data for heater driver current and temperature if the scan tool supports it, looking for values that exceed normal limits
- 6 If the circuit and element test good, substitute a known-good control module or follow the manufacturer's diagnostic flow for driver internal faults
- 7 After repair, clear codes and perform a cold-start test to confirm the heater activates and the code does not reset

Why the heater driver overheats without a short

- A coolant heater element can develop a partial short that only shows up when hot, so a cold resistance check may pass while the code still sets during operation.
- The driver current/temperature too high fault often originates in the control module itself, especially if the heater element and wiring test perfectly good.
- Corroded terminals increase resistance, which forces the driver to work harder and can trigger the temperature portion of this code without any short circuit.
- Some vehicles use a separate coolant heater control module that communicates over a network, so a communication fault elsewhere can mimic a driver fault.
- Replacing the heater element without checking the driver circuit can lead to a repeat failure if the original overcurrent was caused by wiring or the module.

Can I keep driving with P01F9?

You can usually drive the vehicle with this code because the coolant heater is an emissions and comfort aid, not a critical engine control. Avoid repeated cold starts in freezing weather until repaired, as the engine may be harder to start and cabin heat will be slow to arrive.

Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Digital multimeter with resistance and current measurement
- Wiring diagram for the engine coolant heater circuit
- Basic hand tools for connector and component access
- Infrared thermometer to check heater operation and driver temperature



Reading P01F9

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- F9** The exact fault within that area.

Often seen with

P0116 Engine Coolant Temperature Circuit Range/Performance · **P0117** Engine Coolant Temperature Circuit Low Input · **P01F8** Engine Coolant Heater A Control Circuit Driver Current/Tempe · **P01FA** Turbocharger Outlet Pressure Sensor B Circuit · **P01FB** Turbocharger Outlet Pressure Sensor B Range/Performance

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01f9/>

