

GENERIC · POWERTRAIN

**P01EE**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

**P01EE**

## Engine Coolant Heater B Control Circuit High

P01EE means the engine control module has detected an abnormally high voltage on the control circuit for the engine coolant heater, which is the electrical element that warms coolant to speed up cabin heat and engine warm-up. The computer expects the control wire to switch between low and high states, but it is seeing a sustained high voltage that indicates an open circuit, a short to power, or a failed heater control module.

SYSTEM

**Powertrain**

CODE TYPE

**Generic (all makes)**

SEVERITY

**Medium**

FIX DIFFICULTY

**Intermediate**

AREA

**Fuel and air metering**

### Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- No cabin heat or delayed heater performance in cold weather
- Longer engine warm-up times and reduced fuel economy during cold starts
- Coolant heater may not activate at all, leaving the engine cold
- Possible battery drain or blown fuses if the control circuit is shorted to power
- In some vehicles, a message on the driver information center about the heater system

### Common causes, most likely first

- 1 Open or broken wire in the coolant heater control circuit
- 2 Failed engine coolant heater element or heater control module
- 3 Corroded or damaged connector at the heater or control module
- 4 Short to voltage on the control circuit from chafed wiring
- 5 Faulty engine control module driver for the heater circuit
- 6 Blown fuse or relay supplying power to the heater circuit
- 7 Poor ground connection for the heater or control module



## How to diagnose and fix it

- 1 Scan all modules for stored codes and record freeze-frame data to confirm the fault conditions
- 2 Visually inspect the coolant heater wiring harness and connectors for damage, corrosion, or loose pins
- 3 Check the heater circuit fuse and relay, and verify power and ground at the heater connector
- 4 Measure resistance of the coolant heater element and compare to the manufacturer's specification
- 5 Back-probe the control circuit at the engine control module and command the heater on with a scan tool to observe voltage changes
- 6 Repair or replace any open, shorted, or corroded wiring and connectors as needed
- 7 If the circuit tests good, replace the coolant heater control module or element, then clear codes and verify the repair

## Coolant heater circuit checks most techs overlook

- A high voltage on the control circuit often means the heater element is open, so the control module sees no load and the driver line floats high instead of a short to power.  
Many technicians replace the coolant heater element only to find the real fault is a corroded ground connection that prevents the heater from drawing current.
  - The engine coolant heater is sometimes part of a positive temperature coefficient heater that shares wiring with the cabin heater, so faults can be misattributed to the cabin system.
  - On some vehicles, the engine control module must be commanded with a scan tool to activate the heater for testing; simply checking for voltage with the key on will not reveal a faulty control circuit.
- A failed coolant heater can cause the engine to run richer during warm-up, leading to carbon buildup and premature spark plug fouling if left unrepaired.

## Can I keep driving with P01EE?

You can usually drive the vehicle with this code because the engine will still run, but you may experience poor heater performance and longer warm-up times in cold weather. Avoid relying on the cabin heater for defrosting until the fault is repaired, and address the issue promptly to prevent battery drain or further electrical damage.

## Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Test light
- Socket and ratchet set
- Terminal pick and electrical contact cleaner



### Reading P01EE

- 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.
- EE** The exact fault within that area.

### Often seen with

**P0116** Engine Coolant Temperature Circuit Range/Performance · **P0117** Engine Coolant Temperature Circuit Low Input · **P01EB** Engine Coolant Heater A Control Circuit Performance · **P01EC** Engine Coolant Heater B Control Circuit/Open · **P01ED** Engine Coolant Heater B Control Circuit Low

### 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/p01ee/>

