

GENERIC · POWERTRAIN

P01EB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01EB

Engine Coolant Heater A Control Circuit Performance

P01EB indicates that the engine control module (ECM) has detected a performance fault in the control circuit for the engine coolant heater, which is an electric heating element used to warm coolant for faster cabin heat and reduced cold-start emissions. The ECM monitors the circuit for expected voltage or current behavior and sets this code when the circuit does not respond as commanded, often due to an open, short, or high-resistance condition.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Prolonged engine warm-up time and reduced heater output in cold weather
- Coolant heater may not activate when remotely started or when commanded by the ECM
- Possible electrical drain or battery discharge if the heater circuit shorts to ground
- In some vehicles, a message indicating that the engine block heater is unavailable

Common causes, most likely first

- 1 Failed engine coolant heater element (open or shorted internal winding)
- 2 Damaged or corroded wiring harness or connector at the heater or ECM
- 3 Blown fuse or faulty relay in the coolant heater power circuit
- 4 Poor ground connection for the heater circuit
- 5 Faulty engine coolant temperature sensor providing incorrect data to the ECM
- 6 ECM software issue or internal driver failure (less common)



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related powertrain codes
- 2 Inspect the coolant heater fuse and relay, replacing them if blown or faulty
- 3 Visually inspect the heater element and its connectors for corrosion, damage, or loose pins
- 4 Measure resistance of the heater element and compare to specification
- 5 Check for voltage and ground at the heater connector while commanding the heater on with a scan tool
- 6 Test the engine coolant temperature sensor circuit for accuracy and wiring integrity
- 7 If all external components test good, follow the manufacturer's diagnostic flow for ECM testing or reprogramming

Coolant heater circuit checks you might overlook

- A coolant heater that tests fine on the bench can still set P01EB if the ECM's driver circuit has failed, so always verify the control side before condemning the heater.
- Corrosion inside the heater connector is a frequent cause that is easily missed during a quick visual inspection, so wiggle-test and back-probe the terminals.
- The engine coolant temperature sensor can skew heater operation; a sensor that reads slightly off may not set its own code but can trigger P01EB.
- On some vehicles, the coolant heater only operates below a specific ambient temperature, so the code may not reappear during warm-weather testing.
- After repairs, the ECM may require a relearn or clear-and-reset procedure before the monitor will run and confirm the fix.

Can I keep driving with P01EB?

The vehicle remains safe to drive because the coolant heater only affects warm-up comfort and cold-start emissions, but you should avoid relying on the heater for cabin warmth until the fault is repaired. Prolonged driving with a shorted heater circuit could drain the battery, so address the issue promptly if you notice electrical symptoms.

Tools that help

- OBD-II scan tool with bidirectional control
- Digital multimeter
- Test light
- Wiring diagram for the coolant heater circuit
- Socket set and trim removal tools



Reading P01EB

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.
EB	The exact fault within that area.

Often seen with

P0117 Engine Coolant Temperature Circuit Low Input · **P0118** Engine Coolant Temperature Circuit High Input · **P01E8** Engine Coolant Heater A Control Circuit/Open · **P01E9** Engine Coolant Heater A Control Circuit Low · **P01EA** Engine Coolant Heater A Control Circuit High

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/p01eb/>

