

GENERIC · POWERTRAIN

P2D47

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D47

Hybrid/EV Battery Pack C Over Temperature

P2D47 indicates that the hybrid or electric vehicle battery pack has exceeded a safe temperature threshold, as reported by the battery energy control module. The computer sets this code when the pack temperature sensor circuit signals a sustained over-temperature condition, typically above a calibrated limit that varies by manufacturer.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	Hybrid propulsion

Symptoms you may notice

- A warning light or message on the dashboard indicating a hybrid system fault or high battery temperature
- Reduced electric-only driving range or the engine starting more often than usual
- Limited power output or a forced reduction in vehicle speed to protect the battery
- The battery cooling fan or pump running continuously or unusually loud
- Often no symptoms besides the warning light, especially if the over-temperature event was brief
- In severe cases, the vehicle may refuse to start or shift into gear

Common causes, most likely first

- 1 Low or contaminated battery coolant, or a coolant leak in the battery thermal management system
- 2 A failed battery cooling fan, pump, or blocked cooling ducts
- 3 A faulty battery temperature sensor or damaged sensor wiring
- 4 A stuck-open or inoperative battery pack cooling damper or valve
- 5 High ambient temperatures combined with aggressive driving or heavy loads
- 6 Internal battery degradation or a failing cell that generates excess heat
- 7 A software or calibration issue in the battery energy control module



How to diagnose and fix it

- 1 Check the battery coolant level and condition, and inspect for leaks in the cooling circuit
- 2 Verify that the battery cooling fan and pump operate when commanded by the scan tool
- 3 Inspect the battery temperature sensor and its wiring for damage or corrosion
- 4 Use a scan tool to monitor live battery temperature data and compare it with actual conditions
- 5 Test the cooling system damper or valve for proper operation and vacuum supply
- 6 Perform a battery pack inspection for physical damage, swelling, or blocked airflow
- 7 If all hardware checks pass, check for and install any available software updates for the battery control module

What a battery over-temperature code really means

- A P2D47 code often sets because of a cooling system fault rather than an actual battery failure, so always verify coolant flow and fan operation first.
- The battery temperature sensor may be part of a harness that is difficult to access, and a poor connection can mimic a true over-temperature condition.
- High ambient temperatures and stop-and-go traffic can trigger this code even on a healthy battery if the cooling system is marginal.
- Some vehicles use the air conditioning system to cool the battery, so a refrigerant leak or weak A/C performance can indirectly cause this code.
- Clearing the code without addressing the root cause will usually result in the code returning once the battery heats up again.

Can I keep driving with P2D47?

Do not continue driving under high load or in hot weather, as the battery may be damaged or the vehicle may enter a reduced-power mode. Stop safely and allow the battery to cool, then have the cooling system inspected before driving further.

Tools that help

- OBD-II scan tool with live data capability
- Infrared thermometer
- Digital multimeter
- Coolant refractometer or hydrometer
- Manufacturer-specific service information and wiring diagrams



Reading P2D47

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- 47** The exact fault within that area.

Often seen with

P0AFA Hybrid/EV Battery System Voltage Low · **P0AFC** Hybrid/EV Battery Pack Sensor Module · **P0B24** Hybrid/EV Battery A Voltage Unstable · **P2D46** Hybrid/EV Battery Pack B Over Temperature · **P2D48** Hybrid/EV Battery Pack D Over Temperature

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d47/>

