



P2D4E

Hybrid/EV Battery Pack J Over Temperature

P2D4E indicates that the hybrid or electric vehicle battery pack designated as 'J' has exceeded its safe operating temperature threshold, as detected by the battery energy control module through temperature sensors. The code is set when the pack temperature rises above a calibrated limit, often due to excessive heat generation during charging, discharging, or a cooling system fault.

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

Symptoms you may notice

- Illumination of the hybrid/EV battery warning light or service vehicle soon light
- Reduced power output or limp mode to protect the battery
- The vehicle may refuse to start or enter a reduced range mode
- Active cooling fans may run excessively or not at all
- Often no symptoms besides the warning light, especially if the over-temperature event was brief
- Possible noticeable decrease in electric range or performance

Common causes, most likely first

- 1 Low coolant level or air pockets in the battery cooling loop
- 2 Faulty battery temperature sensor or wiring to the sensor
- 3 Malfunctioning cooling fan or coolant pump for the battery pack
- 4 Blocked or restricted coolant flow due to a clogged radiator or hose
- 5 Battery pack internal fault causing excessive heat generation, such as a failing cell or module
- 6 Software error in the battery energy control module misinterpreting temperature data
- 7 Environmental conditions causing prolonged high-temperature operation without adequate cooling



How to diagnose and fix it

- 1 Verify the coolant level in the hybrid/EV battery cooling system and top up if low
- 2 Check for coolant leaks and bleed the cooling system to remove air pockets
- 3 Inspect the battery cooling fan and pump operation, including fuses and relays
- 4 Scan live data for battery temperature sensors to identify erratic or implausible readings
- 5 Perform a visual inspection of the cooling circuit for blockages or damaged hoses
- 6 Test the battery temperature sensor resistance and wiring continuity according to manufacturer specifications
- 7 If all else fails, perform a battery pack load test and inspect for internal faults, referring to OEM service information

Battery cooling system checks before module replacement

- A common oversight is assuming the code means the battery pack itself is failing, when often it is a simple coolant flow issue or a faulty temperature sensor.
- The 'J' designation refers to a specific battery pack in vehicles with multiple packs, so misdiagnosis can occur if the wrong pack is inspected.
- In some cases, the code may be set by a temporary over-temperature condition during aggressive driving or fast charging, and may not recur after the system cools.
- Always check for technical service bulletins (TSBs) related to battery cooling system bleeding procedures, as air pockets are a frequent culprit.
- The battery energy control module may store this code along with other temperature-related codes; addressing the root cause of overheating is crucial to prevent recurrence.

Can I keep driving with P2D4E?

Do not continue driving with this code active, as overheating can permanently damage the high-voltage battery pack and pose a safety risk. Stop in a safe location, allow the system to cool, and seek professional diagnosis before resuming operation.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Coolant refractometer or hydrometer
- Manufacturer-specific diagnostic software
- Basic hand tools for cooling system inspection



Reading P2D4E

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- 4E** The exact fault within that area.

Often seen with

P0A9C Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0AC4** Hybrid/EV Powertrain Control Module Requested MIL Illuminati · **P0AFA** Hybrid/EV Battery System Voltage Low · **P2D4D** Hybrid/EV Battery Pack I Over Temperature · **P2D4F** Hybrid/EV Battery Pack K 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/p2d4e/>

