



P0B2F

Hybrid/EV Battery D Voltage

P0B2F indicates that the hybrid or electric vehicle battery control module has detected an abnormal voltage condition on the high-voltage battery pack's 'D' voltage sensing circuit, which typically monitors a specific group of cells or a module within the pack. The computer compares this reading against expected values and other module voltages, and it sets the code when the signal falls outside the acceptable range or becomes erratic.

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

Symptoms you may notice

- Illumination of the hybrid system warning light or check engine light, often with a message to service the hybrid battery
- Reduced electric-only driving range or the vehicle refusing to enter EV mode
- A sudden drop in fuel economy as the engine runs more frequently to compensate
- Intermittent loss of power or a hesitation during acceleration
- The hybrid system may disable altogether, leaving the vehicle in a limp-home mode
- Often no symptoms besides the warning light, especially in early stages

Common causes, most likely first

- 1 A faulty voltage sensing wire or connector at the battery module 'D' (corroded, chafed, or loose terminal)
- 2 A failing cell group or module within the high-voltage battery pack that cannot hold voltage under load
- 3 A defective battery control module or voltage sensor internal to the pack
- 4 High-resistance or damaged wiring harness between the battery pack and the control module
- 5 Extreme temperature exposure causing temporary voltage imbalance in the pack
- 6 A software glitch in the battery management system that misinterprets sensor data
- 7 Water intrusion or contamination in the battery pack connector causing signal interference



How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data, then clear the code and test-drive to see if it returns immediately
- 2 Visually inspect the battery pack connectors and wiring for the 'D' voltage sense circuit for corrosion, looseness, or damage
- 3 Measure the voltage of the 'D' module directly at the battery terminals with a multimeter and compare it to the value reported by the scan tool
- 4 Perform a voltage drop test on the sense circuit wiring while wiggling the harness to check for intermittent faults
- 5 Check for technical service bulletins (TSBs) or software updates for the battery control module that address voltage sensing errors
- 6 If the sensor and wiring check out, perform a capacity test on the suspect module or cell group to identify a weak cell
- 7 Replace the faulty battery module, sensor, or control module as needed, then clear codes and verify the repair with a road test

What the voltage code really tells you

- A P0B2F is often set by a simple loose connector at the battery pack, not a failed battery, so always check the sense wires before condemning the pack.
- The code can be triggered by a temporary voltage dip during a heavy acceleration event, and it may not return if the battery rebalances itself.
- On many hybrids, the 'D' voltage sense circuit shares a connector with other low-voltage signals, so a single bad pin can set multiple related codes.
- A weak 12-volt auxiliary battery can cause erratic behavior in the battery control module and lead to false voltage codes, so test it first.
- After replacing a battery module, the battery control module often requires a relearn or calibration procedure to avoid repeat codes.

Can I keep driving with P0B2F?

If the hybrid warning light is on and the vehicle is in limp mode, do not continue driving because the high-voltage battery may be unstable and could lead to a sudden loss of power. Even if the car drives normally, schedule a diagnostic appointment promptly to avoid damaging the battery pack further.



Tools that help

- OBD-II scan tool with hybrid battery data capability
- Digital multimeter with CAT III rating for high-voltage safety
- Insulated hand tools and high-voltage gloves
- Battery module load tester or conductance tester
- Wiring diagram and service information for the specific vehicle

Reading P0B2F

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

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B24** Hybrid/EV Battery A Voltage Unstable · **P0B2E** Hybrid/EV Battery C Voltage High · **P0B30** Hybrid/EV Battery D Voltage Unstable

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/p0b2f/>

