

GENERIC · POWERTRAIN

P0B45

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0B45

Hybrid/EV Battery Voltage Sense C Circuit

P0B45 indicates that the hybrid or electric vehicle battery control module has detected an abnormal voltage reading on the voltage sense circuit designated as 'C' for the high-voltage battery pack. The circuit is used to monitor the voltage of a specific cell group or module, and the control module sets this code when the signal from that sense line falls outside the expected range or becomes erratic.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

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 system
- Reduced electric-only driving range or the vehicle refusing to enter EV mode
- A sudden drop in state of charge or inconsistent battery gauge readings
- Possible reduced power output or limp-home mode in some vehicles
- Often no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Damaged or chafed wiring in the voltage sense circuit C, often due to vibration or rodent damage
- 2 Corroded or loose connector terminals at the battery module or control module
- 3 Faulty voltage sense harness or a broken wire within the battery pack assembly
- 4 Internal failure of the battery control module or the voltage sensing circuitry
- 5 A failing battery cell group or module that produces an out-of-range voltage signal
- 6 High-voltage battery pack overheating or physical damage affecting the sense circuit

How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P0B45 is current and not history
- 2 Visually inspect the voltage sense circuit C wiring and connectors for damage, corrosion, or loose pins
- 3 Measure resistance and continuity of the sense circuit from the battery module to the control module
- 4 Check the voltage reading of the affected cell group with a diagnostic scan tool and compare to the sense circuit signal
- 5 Perform a voltage drop test on the sense circuit under load to identify high-resistance connections
- 6 If wiring and connectors are good, test the battery control module according to manufacturer procedures
- 7 Replace the faulty sense harness, connector, or control module as needed, then clear codes and verify repair

Sense circuit faults often mimic battery failure

- A poor connection at the voltage sense connector can cause the control module to report a cell group as failing when the battery is actually healthy.
- Intermittent P0B45 codes are frequently caused by vibration wearing through wire insulation near the battery pack mounting points.
- Technicians sometimes replace the entire high-voltage battery when the real fault is a chafed sense wire inside the pack, so always verify circuit integrity first.
- The code can be set by a weak 12-volt auxiliary battery causing low reference voltage to the control module, so check the 12-volt system before condemning hybrid components.
- After any repair, the battery control module may need a relearn or calibration procedure to clear the learned fault and restore accurate voltage reporting.

Can I keep driving with P0B45?

It is generally safe to drive with P0B45 if the vehicle is not in limp mode and the battery gauge behaves normally, but avoid aggressive acceleration or prolonged high-speed driving until the fault is diagnosed. If the hybrid system warning light flashes or power is reduced, stop driving and seek professional service.

Tools that help

- Hybrid/EV-capable OBD-II scan tool with live data
- Digital multimeter with min/max recording
- Insulation tester or megohmmeter
- Wiring diagram and connector pinout for the specific vehicle
- Basic hand tools for trim and connector access

Reading P0B45

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

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0AFA** Hybrid/EV Battery System Voltage Low · **P0B3F** Hybrid/EV Battery Voltage Sense A Circuit Intermittent/Errat · **P0B44** Hybrid/EV Battery Voltage Sense B Circuit Intermittent/Errat · **P0B46** Hybrid/EV Battery Voltage Sense C Circuit Range/Performance



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/p0b45/>

