

GENERIC · POWERTRAIN

P0AF8

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0AF8

Hybrid/EV Battery System Voltage

P0AF8 indicates that the hybrid or electric vehicle battery system voltage has fallen outside the range expected by the battery energy control module, which monitors the high-voltage pack through voltage sensing circuits and compares the total to calculated limits. The module sets this code when the measured pack voltage is too low or too high for the current operating conditions, often pointing to a weak cell group, a faulty voltage sensor, or a communication problem within the battery management system.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Reduced electric-only range or the engine starting more frequently than normal
- A sudden drop in power or limited acceleration when the battery assist is requested
- The vehicle may refuse to enter EV mode or may shut down the high-voltage system
- Often no symptoms besides the warning light, especially if the voltage deviation is minor

Common causes, most likely first

- 1 One or more weak or failing cells within the high-voltage battery pack
- 2 Faulty cell voltage sensor or sensing harness inside the battery assembly
- 3 Poor connection or corrosion at the battery pack service disconnect or module terminals
- 4 Battery energy control module software needing an update or recalibration
- 5 Internal failure of the battery energy control module itself
- 6 High-voltage cable or connector damage causing intermittent voltage drops
- 7 Extreme ambient temperatures affecting battery voltage temporarily



How to diagnose and fix it

- 1 Connect a scan tool and record all hybrid battery data, including individual cell voltages and module temperatures, to identify the deviation pattern
- 2 Perform a visual inspection of the high-voltage battery pack, service disconnect, and all accessible connectors for corrosion, damage, or loose fittings
- 3 Check for technical service bulletins or software updates for the battery energy control module that address voltage sensing accuracy
- 4 Measure the high-voltage pack voltage directly at the service disconnect with a CAT III rated meter and compare it to the scan tool reading
- 5 If cell voltage deviations are found, perform a battery pack capacity test or cell balancing procedure as recommended by the manufacturer
- 6 Replace the faulty cell voltage sensor, sensing harness, or battery module if diagnostics confirm an internal battery fault
- 7 After repairs, clear the code and perform a road test with the scan tool recording to verify the voltage stays within the expected range under load

What the voltage code really tells you

- A single low cell can trigger P0AF8 even when the total pack voltage looks normal on a basic voltmeter, so cell-level data is essential before condemning the whole pack.
- The code can be set by a loose or corroded battery pack service disconnect that causes a momentary voltage drop under load, which is often overlooked during visual inspections.
- Some vehicles set P0AF8 when the 12-volt auxiliary battery is weak because the hybrid control module uses it as a reference, so always check the 12-volt system first.
- A software calibration issue in the battery energy control module can cause false voltage readings, and a reflash may resolve the code without any hardware replacement.
- Intermittent high-voltage connector faults can set P0AF8 only during aggressive driving or over bumps, so a road test with live data recording is more revealing than a static scan.

Can I keep driving with P0AF8?

Do not continue driving with P0AF8 set, because an out-of-range high-voltage battery can lead to a sudden loss of power or a shutdown of the hybrid system while moving. Have the vehicle inspected by a qualified hybrid technician before driving further, and avoid any attempt to clear the code and continue normal use.



Tools that help

- Hybrid-capable scan tool with live battery cell voltage data
- CAT III rated digital multimeter
- Insulation tester for high-voltage cables
- Battery pack service disconnect tool
- Manufacturer-specific diagnostic software for battery module testing

Reading P0AF8

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
A	Hybrid propulsion.
F8	The exact fault within that area.

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **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 · **P0B3D** Hybrid/EV Battery Voltage Sense A Circuit Low

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/p0af8/>

