



P2CCD

Hybrid/EV Battery Pack H Deterioration

P2CCD indicates that the hybrid or electric vehicle battery pack, designated as pack H, has deteriorated beyond the manufacturer's acceptable threshold for capacity or performance. The battery energy control module continuously monitors pack voltage, internal resistance, and capacity during charge and discharge cycles, and it sets this code when the pack's ability to store and deliver energy has degraded significantly.

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

Symptoms you may notice

- Illumination of the hybrid or EV system warning light, often accompanied by a message to service the battery system
- Reduced electric-only driving range or increased frequency of internal combustion engine engagement on plug-in hybrids
- Slower charging times or the battery not accepting a full charge
- Reduced power output or a limp-home mode that limits vehicle speed and acceleration
- Often no symptoms besides the warning light, especially in the early stages of deterioration
- In some cases, the vehicle may fail to start or enter a ready-to-drive state

Common causes, most likely first

- 1 Normal age-related capacity loss and increased internal resistance of the high-voltage battery pack
- 2 Cell imbalance within the pack, where some cells degrade faster than others and reduce overall pack performance
- 3 Prolonged exposure to extreme temperatures, particularly high heat, which accelerates battery degradation
- 4 Frequent use of DC fast charging, which can stress the battery and speed up deterioration
- 5 A faulty battery energy control module or a software calibration issue that misinterprets battery data
- 6 Physical damage or a manufacturing defect in the battery pack, such as a weak module or poor cell connection
- 7 Inconsistent charging habits, such as regularly leaving the battery at very low or very high states of charge for extended periods



How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data from the battery energy control module and related systems
- 2 Perform a battery pack capacity test or state-of-health check using the manufacturer's diagnostic software to confirm deterioration
- 3 Inspect the high-voltage battery pack for physical damage, coolant leaks (in liquid-cooled packs), and secure connections
- 4 Check for and install any available software updates or recalibration procedures for the battery management system
- 5 Measure cell voltages and internal resistance across the pack to identify weak modules or cells that may require replacement
- 6 If deterioration is confirmed and exceeds the manufacturer's threshold, replace the affected battery modules or the entire pack as required
- 7 After repair, clear the codes and perform a full charge and discharge cycle to verify that the code does not return

What the battery deterioration code really means

- P2CCD does not always indicate a failed battery pack; it can be set by a temporary cell imbalance that a balancing charge or software recalibration may resolve.
- Many drivers overlook that extreme climate conditions and frequent fast charging can accelerate deterioration, so addressing those habits may slow further capacity loss.
- A weak 12-volt auxiliary battery can cause erratic behavior in the battery management system and lead to false or additional codes, so always verify its condition first.
- The code specifically refers to pack H, so on vehicles with multiple battery packs, misdiagnosis often occurs if the technician assumes it is the main pack without checking the designation.
- Some manufacturers require a specific driving cycle or a battery calibration procedure after service to relearn the pack's state of health and prevent the code from resetting.

Can I keep driving with P2CCD?

It is not advisable to continue driving with this code because the vehicle may enter a reduced-power mode or shut down unexpectedly, and continued use can worsen battery damage. Have the vehicle inspected by a qualified hybrid or EV technician as soon as possible, and avoid long trips or heavy loads until the issue is resolved.



Tools that help

- Hybrid/EV-capable scan tool with battery management system diagnostics
- Manufacturer-specific diagnostic software for battery state-of-health testing
- Digital multimeter with high-voltage safety rating
- Insulation tester for high-voltage circuit checks
- Battery cell voltage monitoring equipment
- Personal protective equipment including high-voltage gloves and safety glasses

Reading P2CCD

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

Often seen with

P0A7F Hybrid/EV Battery Pack Deterioration · **P0A80** Replace Hybrid/EV Battery Pack · **P0AFA** Hybrid/EV Battery System Voltage Low · **P2CCE** Hybrid/EV Battery Pack I Deterioration · **P2CCF** Hybrid/EV Battery Pack J Deterioration

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/p2ccd/>

