

GENERIC · POWERTRAIN

P0DD2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0DD2

Hybrid/EV Battery Cell Balancing Circuit J Stuck Off

P0DD2 indicates that the hybrid or electric vehicle battery management system has detected a fault in the cell balancing circuit for a specific battery cell group, where the circuit is stuck in the 'off' state and cannot perform balancing. The computer monitors the balancing circuit's ability to bleed excess charge from cells and sets this code when the circuit fails to activate or respond as commanded.

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

Symptoms you may notice

- Illumination of the hybrid/EV system warning light or service vehicle soon message
- Reduced electric-only range or overall battery performance
- The vehicle may enter a reduced power mode or fail to start
- Often no symptoms besides the warning light
- Gradual imbalance in cell voltages leading to decreased efficiency
- Possible charging system faults or inability to complete a full charge

Common causes, most likely first

- 1 Faulty cell balancing circuit wiring or connector (open, short, or high resistance)
- 2 Failed cell balancing resistor or transistor within the battery pack
- 3 Defective battery management system (BMS) control module
- 4 Internal battery pack cell degradation causing abnormal balancing demands
- 5 Corrosion or damage to the balancing circuit board
- 6 Software glitch or outdated BMS firmware



How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data, and verify battery pack voltage and cell voltages
- 2 Inspect the balancing circuit wiring and connectors for damage, corrosion, or loose pins
- 3 Perform a guided diagnostic test for the balancing circuit using the manufacturer's service procedures
- 4 Check the resistance of the balancing resistor and compare to specifications
- 5 Test the balancing transistor or control circuit for proper operation
- 6 Reprogram or update the BMS software if applicable
- 7 Replace the faulty balancing circuit board or battery pack assembly as needed

Balancing circuit faults often misdiagnosed

- A stuck-off balancing circuit may not trigger immediate drivability issues, so the code can be overlooked until cell imbalance causes a more serious fault.
- Technicians sometimes replace the entire battery pack when only a small balancing resistor or transistor has failed, so test individual components first.
- Corroded connectors on the balancing circuit board are a common cause that is easily missed during visual inspection.
- The BMS may set this code due to a software error, so check for firmware updates before condemning hardware.
- Related codes for other balancing circuits (e.g., P0DD0, P0DD1, P0DD3) may also be present, indicating a pattern of failure.

Can I keep driving with P0DD2?

It is generally safe to drive with this code if the vehicle does not show reduced power or charging issues, but avoid long trips or heavy loads until diagnosed. If the warning light is accompanied by reduced performance or charging problems, seek service soon to prevent further battery degradation.

Tools that help

- OBD-II scan tool with hybrid/EV battery diagnostics capability
- Digital multimeter
- Manufacturer-specific diagnostic software
- Insulation tester
- Battery pack lifting equipment (if pack removal is required)



Reading P0DD2

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- D2** The exact fault within that area.

Often seen with

P0AFA Hybrid/EV Battery System Voltage Low · **P0AFC** Hybrid/EV Battery Pack Sensor Module · **P0DD0** Hybrid/EV Battery Cell Balancing Circuit J · **P0DD1** Hybrid/EV Battery Cell Balancing Circuit J Stuck On · **P0DD3** Hybrid/EV Battery Cell Balancing Circuit J 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/p0dd2/>

