

GENERIC · POWERTRAIN

P2E2F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E2F

Battery Charger B Module Supply Voltage Performance

P2E2F indicates that the powertrain control module (PCM) has detected an abnormal supply voltage condition in the battery charger control module B circuit, meaning the module responsible for managing the auxiliary battery charging system is not receiving the voltage it expects. The PCM monitors this circuit and sets the code when the voltage falls outside the manufacturer's specified range for a calibrated time period.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light
- Auxiliary battery may not charge properly, leading to a no-start or reduced electrical performance
- Electrical accessories powered by the auxiliary battery may operate intermittently or fail
- Possible warning messages related to the charging system or battery management
- In some cases, the vehicle may enter a reduced power mode or disable non-essential electrical loads

Common causes, most likely first

- 1 Faulty battery charger control module B
- 2 Damaged or corroded wiring or connectors in the module's supply voltage circuit
- 3 Blown fuse or fusible link protecting the supply circuit
- 4 Poor ground connection for the module
- 5 High resistance in the supply circuit due to loose terminals or chafed wires
- 6 Voltage drop from a failing alternator or DC-DC converter affecting the module's input
- 7 Software or calibration issue in the PCM or control module



How to diagnose and fix it

- 1 Verify the battery and charging system are in good condition by performing a load test and checking alternator output
- 2 Inspect the battery charger control module B supply circuit for blown fuses, corroded connectors, and damaged wiring
- 3 Measure voltage at the module's supply terminal with the key on and engine running, comparing to manufacturer specifications
- 4 Perform a voltage drop test on the supply and ground circuits to identify excessive resistance
- 5 Check for technical service bulletins (TSBs) or software updates for the module and PCM
- 6 If voltage supply is correct, test or replace the battery charger control module B
- 7 Clear the code and verify the repair by test-driving the vehicle and monitoring live data

Don't overlook the supply circuit ground

- A poor ground connection at the battery charger control module can cause the same voltage performance code as a faulty power feed, so always check both sides of the circuit.
- This code can be set by a weak or failing auxiliary battery that drags down the supply voltage during charging, even if the module itself is healthy.
- In some vehicles, the battery charger control module B is part of a larger power management system, and a fault in another module can cause shared voltage supply issues.
- A loose or corroded battery terminal can create enough voltage drop to trigger this code without completely preventing the vehicle from starting.
- After replacing the module, some vehicles require a relearn or calibration procedure to avoid recurring codes.

Can I keep driving with P2E2F?

You can usually drive the vehicle short distances to a repair shop, but avoid relying on the auxiliary battery for critical functions and do not take long trips until the fault is repaired. If the vehicle enters reduced power mode or electrical accessories fail, stop driving and seek professional assistance.

Tools that help

- Digital multimeter
- Battery load tester
- OBD-II scan tool with live data capability
- Wiring diagram for the specific vehicle
- Basic hand tools for connector and fuse access



Reading P2E2F

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

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P2E2E** Battery Charger A Module Supply Voltage High · **P2E30** Battery Charger B Module Supply Voltage Low · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [How a Manual Transmission Works: Four-Speed Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2e2f/>

