

GENERIC · POWERTRAIN

P2D78

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D78

Battery Charger Control Module B Processor Performance

P2D78 indicates that the battery charger control module B has detected an internal processor performance fault, meaning the module's central processing unit is not executing its control logic correctly. The module runs self-tests on its processor, memory, and communication pathways, and this code sets when the processor fails to meet expected performance benchmarks or returns invalid results.

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

Symptoms you may notice

- Illumination of the battery charger warning light or service vehicle soon message on the dashboard
- The high-voltage battery may not charge properly, leading to reduced electric range or a no-start condition in electric vehicles
- The charger may fail to initiate or may abort charging sessions unexpectedly
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Possible reduction in vehicle power or limp-home mode if the battery state of charge drops critically low
- Other unrelated warning lights may appear due to shared power or communication bus issues

Common causes, most likely first

- 1 Internal failure of the battery charger control module B processor, such as corrupted firmware or hardware degradation
- 2 Low or unstable power supply to the module, including poor ground connections or voltage drops during cranking
- 3 CAN bus communication errors or wiring faults that interfere with the module's self-test routines
- 4 Software glitch requiring a module reprogramming or calibration update
- 5 Overheating of the module due to cooling system faults or prolonged high-load operation
- 6 Water intrusion or corrosion in the module connector causing intermittent processor faults



How to diagnose and fix it

- 1 Perform a thorough visual inspection of the battery charger control module B, its connectors, and wiring for damage, corrosion, or loose pins
- 2 Check the module's power and ground circuits with a multimeter to verify stable voltage under load and clean, tight grounds
- 3 Use a scan tool to retrieve all stored codes and freeze-frame data, and check for related communication codes in other modules
- 4 Verify the module's software is up to date and reprogram or update the module if a newer calibration is available
- 5 Clear the code and perform a road test or charging cycle to see if the code returns; if it does, proceed with module replacement
- 6 If the code persists after power and ground checks, replace the battery charger control module B and perform any required initialization or adaptation procedures
- 7 After replacement, clear all codes and verify proper charging operation and that no related codes return

Processor faults often misdiagnosed as charging errors

- A weak or failing 12-volt auxiliary battery can cause the charger control module to log processor performance codes due to voltage sags during startup, so always load-test the auxiliary battery first.
- Corroded or loose ground connections at the charger module can mimic an internal processor failure, and cleaning them often resolves the code without parts replacement.
- This code can be set by a communication bus fault that corrupts the module's self-test data, so inspect CAN wiring for chafing or water intrusion before condemning the module.
- In some cases, the code is a software artifact that disappears after a module reprogramming, so check for technical service bulletins before replacing hardware.
- The processor performance code does not always mean the module is dead; intermittent faults from heat or vibration may only appear under specific conditions, requiring data logging during a test drive.

Can I keep driving with P2D78?

If the warning light is on and charging performance is affected, avoid long trips and do not rely on the vehicle for critical journeys until diagnosed. If the vehicle continues to charge normally and the light is intermittent, you may drive cautiously to a repair facility, but monitor battery state closely.

Tools that help

- OBD-II scan tool with manufacturer-specific software for module diagnostics
- Digital multimeter for voltage and continuity checks
- Battery load tester for auxiliary battery assessment
- Wiring diagram and connector pinout for the battery charger control module
- Module reprogramming tool or J2534 pass-through device



Reading P2D78

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

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A1F** Battery Energy Control Module A Performance · **P2D79** Charging Stop Switch Circuit · **U0111** Lost Communication With Battery Energy Control Module 'A'

See it working

Watch the animated explainer [How Drive-by-Wire Works: Electronic Throttle Body](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d78/>

