

GENERIC · POWERTRAIN

P2D6B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D6B

Battery Charging System Positive Contactor D Stuck Open

The battery charging system positive contactor D is a high-current relay that connects the battery pack to the charging circuit in electrified vehicles, and P2D6B means the control module has detected that this contactor's contacts are stuck open when they should be closed. The computer commands the contactor closed and then verifies circuit continuity and voltage rise, but the feedback circuit reports no current flow or an open circuit, so the module flags the contactor as failed open.

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

Symptoms you may notice

- The high-voltage battery will not accept a charge, so the vehicle cannot be recharged or shows a charge fault on the dash
- A red or amber battery/charging system warning light illuminates, often accompanied by a message to service the charging system
- The vehicle may refuse to start or enter ready mode because the charging contactor is part of the high-voltage interlock and pre-charge sequence
- A noticeable click may be absent from the battery junction box when the contactor is commanded, or a repeated clicking may be heard if the module retries
- Often no symptoms besides the warning light, especially if the vehicle can still run on stored energy or the fault is intermittent

Common causes, most likely first

- Contactor coil open circuit or burned coil winding, preventing the contactor from pulling in
- Mechanical failure inside the contactor such as welded-open contacts, broken return spring, or debris blocking the armature
- Open or high-resistance wiring in the contactor control circuit, including a broken wire, corroded connector pin, or chafed harness
- Failed contactor driver inside the battery control module or power electronics module, so the command never reaches the coil
- Low control voltage or a poor ground at the contactor, often from a weak auxiliary battery or corroded chassis ground
- Contactor feedback circuit fault, where the module cannot confirm closure even though the contactor may actually be closing



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, record freeze-frame data, and verify P2D6B is current rather than history before touching hardware
- 2 Inspect the contactor control connector and harness for corrosion, pushed-back pins, and chafed wiring, then perform a wiggle test while watching live contactor status data
- 3 Measure control voltage and ground at the contactor coil during a commanded close, using a bidirectional scan tool or module activation routine
- 4 Check the auxiliary battery state of charge and the module grounds, since low control voltage can mimic a failed contactor
- 5 Measure contactor coil resistance and compare it to the manufacturer's specification, and check for continuity across the power contacts when open
- 6 If the coil and wiring test good but the contactor does not close or feedback stays wrong, replace the contactor assembly and clear codes
- 7 After repair, command the contactor through several close/open cycles, verify live data agrees, and perform any required high-voltage system initialization or learn procedure

What a stuck-open contactor really tells you

- A contactor that tests good on the bench can still set this code because the module judges closure from a feedback circuit, so a faulty feedback wire or sense resistor will look exactly like a stuck-open contactor
- Low auxiliary battery voltage is a common hidden cause, since the contactor coil draws significant current and a weak 12-volt supply can drop below the pull-in threshold during the close command
- Technicians often replace the contactor when the real fault is a failed driver inside the battery control module, so always confirm the module actually outputs coil voltage before condemning the contactor
- This code can be set by a high-voltage interlock loop fault that prevents the module from commanding the contactor closed, so check interlock status and service disconnect seating first
- Intermittent P2D6B that clears after a key cycle often points to a loose connector or a contactor coil that opens only when hot, so road-test and heat-soak the vehicle before declaring the repair complete

Can I keep driving with P2D6B?

Do not continue driving or charging normally, because a stuck-open charging contactor can leave the high-voltage system in an unknown state and may prevent the vehicle from starting or accepting a charge. Move the vehicle to a safe location, avoid repeated charge attempts, and have it diagnosed by a technician trained in high-voltage systems.



Tools that help

- Bidirectional scan tool with live contactor status and activation capability
- Digital multimeter with min/max recording and low-ohms capability
- Fused test leads and back-probe pins for connector testing
- Insulated hand tools rated for high-voltage work
- High-voltage safety gloves and meter
- Manufacturer service information for contactor control circuit and torque specifications

Reading P2D6B

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
D	Hybrid propulsion.
6B	The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0AA6** Hybrid/EV Battery Voltage System Isolation Fault
 · **P2D6A** Battery Charging System Positive Contactor D Stuck Closed · **P2D6C** Battery Charging System Positive Contactor D Control Circuit

See it working

Watch the animated explainer [How Variable Valve Timing Works: Cam Phaser and VVT Solenoid](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d6b/>

