

GENERIC · POWERTRAIN

P2D6D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D6D

Battery Charging System Positive Contactor D Control Circuit Range/Performance

P2D6D indicates that the battery charging system's positive contactor D control circuit is not performing within its expected range, as detected by the powertrain control module (PCM) or battery energy control module (BECM). The module monitors the control circuit for voltage or current feedback that falls outside the manufacturer's specified limits during activation or deactivation, signaling a fault in the circuit or the contactor itself.

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

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light, especially if the contactor is stuck closed
- Failure of the high-voltage battery to charge or discharge properly, leading to reduced electric range
- Inability to start the vehicle or engage the ready mode in hybrid/electric models
- Audible clicking or no click from the contactor area when the ignition is turned on or off
- Intermittent power loss or electrical system fluctuations while driving

Common causes, most likely first

- 1 Faulty positive contactor D (worn contacts, coil failure, or mechanical sticking)
- 2 Damaged or corroded wiring in the control circuit (open, short to ground, or short to power)
- 3 Poor electrical connection at the contactor or control module connector
- 4 Failed control module driver circuit internal to the PCM or BECM
- 5 Low battery voltage or poor charging system performance affecting control circuit operation
- 6 Water intrusion or contamination in the contactor housing causing corrosion



How to diagnose and fix it

- 1 Verify battery voltage and charging system output; recharge or replace the 12V battery if weak
- 2 Inspect the contactor D control circuit wiring for damage, corrosion, or loose connectors
- 3 Perform a resistance and voltage drop test on the control circuit to check for opens or shorts
- 4 Use a scan tool to command the contactor on and off while monitoring circuit feedback
- 5 Test the contactor D coil resistance and contact continuity according to manufacturer specifications
- 6 If the circuit and contactor test good, check for software updates or known issues with the control module
- 7 Replace the faulty contactor or repair the control circuit as needed, then clear codes and verify repair

Contactor Control Circuit Checks Before Replacement

- A common oversight is assuming the contactor itself has failed when the actual problem is a chafed wire in the control circuit, often near a harness bend or connector.
- The code can set intermittently due to a loose ground connection at the contactor or control module, which may not show up during a simple visual inspection.
- On some vehicles, a weak 12V battery can cause the control module to misread contactor feedback, setting this code without any contactor fault.
- Technicians sometimes replace the contactor only to find the control module driver circuit is faulty, so always test the module's output signal under load.
- This code is often accompanied by other contactor or high-voltage system codes, so diagnosing the root cause requires reviewing all stored codes and freeze-frame data.

Can I keep driving with P2D6D?

If the vehicle still starts and drives, limit driving to a short distance to a repair shop, as the fault can prevent the high-voltage battery from charging or cause a sudden loss of power. Avoid driving if the vehicle fails to enter ready mode or shows reduced power warnings, and have it towed to prevent damage to the battery pack or electrical system.

Tools that help

- OBD-II scan tool with bidirectional control and live data capabilities
- Digital multimeter with min/max recording
- Wiring diagram and service information for the specific vehicle
- Insulation resistance tester (megohmmeter) for high-voltage circuit checks
- Basic hand tools for connector and component access



Reading P2D6D

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- 6D** 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
 · **P2D6C** Battery Charging System Positive Contactor D Control Circuit · **P2D6E** Battery Charging System Positive Contactor D Control Circuit

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/p2d6d/>

