

GENERIC · POWERTRAIN

P2D5C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D5C

Battery Charging System Positive Contactor C Stuck Closed

P2D5C indicates that the battery charging system's positive contactor C has been detected as stuck in the closed position, meaning the high-voltage path remains energized when it should be open. The control module monitors contactor state and sets this code when the contactor's commanded state does not match the actual state, typically by comparing voltage or continuity feedback.

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

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the contactor is stuck closed but the system is not active.
- The high-voltage system may remain energized after shutdown, preventing safe service access.
- The vehicle may fail to enter sleep mode, leading to a parasitic drain on the 12-volt battery.
- In some cases, the vehicle may not start or may show a 'ready' light that stays on when it should be off.
- A noticeable delay or failure in contactor opening may be heard as a click that does not occur when expected.

Common causes, most likely first

- Contactor C itself has welded or mechanically stuck closed due to arcing or wear.
- The contactor driver circuit in the control module is shorted, keeping the coil energized.
- A wiring short to voltage in the contactor control circuit holds the contactor closed.
- The control module's internal contactor state monitoring circuit is faulty, giving a false stuck-closed reading.
- Contactor coil suppression diode failure causing the contactor to remain engaged.
- Mechanical binding or debris in the contactor mechanism prevents it from opening.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in the battery energy control module (BECM) or vehicle control module (VCM).
- 2 Inspect the contactor C wiring and connectors for signs of short circuits, corrosion, or damage, especially the control circuit to the coil.
- 3 Measure the resistance of the contactor coil and compare to specification; an open or shorted coil indicates a failed contactor.
- 4 Check for voltage on the contactor control circuit with the key off; voltage present suggests a short to power or a faulty control module.
- 5 Perform a functional test of the contactor using the scan tool's bi-directional controls, if available, to command it open and closed while monitoring state.
- 6 If the contactor does not open when commanded, replace the contactor assembly, following manufacturer procedures for high-voltage safety.
- 7 After repair, clear codes and verify the contactor opens and closes correctly during a road test and key-off sequence.

Contactor C stuck closed: what techs miss

- A stuck-closed contactor often leaves the high-voltage bus live even with the key off, creating a serious shock hazard during service that many technicians overlook.
- The code can be set by a faulty control module driver rather than the contactor itself, so always test the control circuit before condemning the contactor.
- Some vehicles use contactor state monitoring that can be fooled by a weak 12-volt battery or poor ground, causing a false stuck-closed code.
- A stuck-closed contactor may not prevent the vehicle from starting, so drivers may ignore it until a no-start or battery drain occurs.
- After replacing a contactor, the control module may need a learn or adaptation procedure to recognize the new component and avoid repeat codes.

Can I keep driving with P2D5C?

Do not continue driving with this code, as the high-voltage system may remain energized and pose a safety risk; have the vehicle inspected by a qualified technician immediately.

Tools that help

- Scan tool with bi-directional control and live data
- Digital multimeter with high-voltage safety rating
- Insulation tester (megohmmeter)
- High-voltage safety gloves and insulated tools
- Manufacturer service information for contactor testing



Reading P2D5C

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- 5C** 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
 · **P0AFA** Hybrid/EV Battery System Voltage Low · **P2D5B** Battery Charging System Positive Contactor C Circuit · **P2D5D** Battery Charging System Positive Contactor C Stuck Open

See it working

Watch the animated explainer [How the PCV System Works: Crankcase Ventilation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d5c/>

