

GENERIC · POWERTRAIN

P2C6B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C6B

Drive Motor "A" Phase X Current High

P2C6B indicates that the inverter or motor control module has detected excessive current in one specific phase (Phase X) of the three-phase drive motor designated "A," which usually points to a short circuit, a failing motor winding, or a faulty inverter output stage. The computer sets the code when the measured phase current exceeds a calibrated threshold for a defined time, often triggering a fail-safe mode that limits or disables motor torque.

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

Symptoms you may notice

- Illumination of the hybrid or electric vehicle warning light, often accompanied by a reduced power message
- The vehicle may enter a limp mode with severely limited acceleration or speed
- Possible shuddering, jerking, or sudden loss of propulsion during acceleration
- In some cases, the vehicle may fail to start or shift into gear because the high-voltage system is disabled
- Often no symptoms besides the warning light if the fault is intermittent and the current spike was brief
- Audible whining or clicking from the motor or inverter area under load, though this is less common

Common causes, most likely first

- 1 Damaged or chafed motor phase cable causing a short to ground or to another phase
- 2 Internal short in the drive motor stator winding, such as insulation breakdown between turns or phases
- 3 Failed current sensor or signal circuit inside the inverter, leading to a false high-current reading
- 4 Faulty inverter power module (insulated-gate bipolar transistor or similar) that is leaking current
- 5 Loose or corroded high-voltage connector at the motor or inverter, creating resistance and current spikes
- 6 Coolant contamination or overheating of the inverter or motor, which can alter current flow characteristics
- 7 Software calibration issue in the motor control module that misinterprets normal current ripple as a fault



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then check for any related hybrid/EV-specific codes that might clarify the fault context.
- 2 Inspect the motor phase cables and high-voltage connectors for chafing, corrosion, or loose terminals, and repair or replace as needed.
- 3 Perform a insulation resistance test on the motor windings and phase cables using a megohmmeter rated for the system voltage, comparing readings across phases.
- 4 Check the inverter current sensor signal with an oscilloscope or manufacturer-specific live data to verify whether the high-current reading is real or a sensor artifact.
- 5 If the motor and cables test good, follow the manufacturer's diagnostic flow for the inverter, which may include checking power module resistance or substituting a known-good unit.
- 6 Update the motor control module software if a calibration bulletin applies to the vehicle, as some false-setting conditions are corrected by reflash.
- 7 Clear codes and perform a road test under load to confirm the repair, monitoring live current data for any recurrence.

Why phase current codes often mislead

- A loose high-voltage connector can cause intermittent current spikes that set P2C6B without any permanent damage, so always check connector torque and terminal tension before condemning the motor.
- The code names Phase X, but many scan tools do not display which phase is affected; you must use manufacturer-specific data to identify the phase and avoid replacing the entire motor unnecessarily.
- A failing 12-volt battery or poor chassis ground can cause the inverter to misread current sensors, so verify the low-voltage supply and grounds before diving into high-voltage components.
- After any high-voltage repair, the motor control module may need a learned current offset reset; skipping this step can cause the code to return immediately even with good hardware.
- This code can be set by a customer driving style that repeatedly demands maximum torque from a standstill, especially in hot weather, so check for a history of abuse before assuming a defect.

Can I keep driving with P2C6B?

Do not continue driving with this code active, because a phase current fault can lead to sudden loss of propulsion or further high-voltage component damage. Have the vehicle towed to a qualified hybrid/EV service facility and avoid any attempt to clear the code and keep driving.



Tools that help

- Hybrid/EV-capable scan tool with live data and manufacturer-specific PIDs
- Digital multimeter with high-voltage rated probes
- Insulation resistance tester (megohmmeter) rated for the system voltage
- Oscilloscope for current sensor signal analysis
- Manufacturer service information for high-voltage safety procedures and torque specifications

Reading P2C6B

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A78** Drive Motor A Inverter Performance · **P2C6A** Drive Motor "A" Phase X Current Low · **P2C6C** Drive Motor "A" Phase Y Current

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2c6b/>

