

GENERIC · POWERTRAIN

P2C70

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C70

Drive Motor "A" Phase Z Current Low

P2C70 indicates that the inverter controller for drive motor A has detected an abnormally low current in phase Z, which is one of the three electrical phases that power the motor. The computer compares commanded current with measured feedback and sets this code when the phase Z current falls below the expected threshold during operation.

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 with no other symptoms
- Reduced power or limp mode, limiting vehicle speed and acceleration
- Shuddering, vibration, or rough operation from the drive motor under load
- Difficulty starting from a stop or hesitation when accelerating
- Abnormal noises such as whining or clicking from the motor or inverter area
- Complete loss of drive power in severe cases, requiring a tow

Common causes, most likely first

- 1 Damaged or corroded wiring in the phase Z circuit between the inverter and motor
- 2 Loose, backed-out, or corroded connector terminals at the inverter or motor
- 3 Failed current sensor inside the inverter that misreports phase Z current
- 4 Internal inverter fault, such as a failed driver circuit or power module for phase Z
- 5 Shorted or open phase winding inside the drive motor
- 6 Poor chassis ground or power supply connection to the inverter controller
- 7 Software calibration issue in the inverter control module requiring reprogramming



How to diagnose and fix it

- 1 Scan all modules for related codes and record freeze-frame data to understand when the fault occurs
- 2 Inspect the phase Z wiring and connectors for damage, corrosion, or loose terminals, and repair as needed
- 3 Measure resistance and insulation on the phase Z circuit and compare with the other phases to isolate a motor or cable fault
- 4 Check the inverter power and ground connections, including chassis grounds, for voltage drops under load
- 5 Perform the manufacturer's specified active tests or signal checks for the phase Z current sensor and inverter output
- 6 If the inverter is suspect, follow the service procedure to test or replace the inverter assembly
- 7 After repairs, clear codes and verify the fault does not return during a road test under load

Phase Z current faults often misdiagnosed

- A low current reading in one phase can be caused by a simple loose connector pin that only loses contact when the motor rocks under torque, so always wiggle-test the harness while monitoring live data.
Technicians sometimes replace the inverter when the real problem is a chafed phase cable shorting to the motor housing only when the suspension compresses, so inspect cable routing carefully.
 - The code can set intermittently from electromagnetic interference affecting the current sensor signal, especially if aftermarket accessories are wired near the inverter harness.
 - A failing 12-volt battery or poor ground can cause the inverter to misread phase currents, so always verify supply voltage and ground integrity before condemning expensive components.
- This code does not always mean the motor is failing; a software update for the inverter controller has resolved low-current faults on some vehicles without any hardware replacement.

Can I keep driving with P2C70?

Do not continue driving with this code because a phase current fault can cause sudden loss of drive power or further damage to the inverter and motor. Have the vehicle towed to a qualified repair facility for diagnosis.

Tools that help

- OBD-II scan tool with manufacturer-specific live data and active test capability
- Digital multimeter with resistance, voltage, and min/max recording
- Insulation tester (megohmmeter) for checking phase winding insulation
- Oscilloscope for analyzing current sensor signals and inverter outputs
- Manufacturer service information and wiring diagrams
- Torque wrench and terminal removal tools for connector repair



Reading P2C70

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A78** Drive Motor A Inverter Performance · **P2C6F** Drive Motor "A" Phase Z Current · **P2C71** Drive Motor "A" Phase Z Current High · **P2C72** Hybrid/EV Electronics Cooling System Performance

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/p2c70/>

