



P2E2B

Drive Motor A Excitation Current Too High

P2E2B indicates the hybrid or electric vehicle control module has detected that the excitation current for drive motor A is higher than the manufacturer's specified limit. The computer monitors the current flowing through the motor's field or excitation circuit and sets this code when the measured value exceeds the expected threshold for the operating conditions.

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

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon light
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced power or limp mode as the controller limits motor output to protect the circuit
- Possible shudder or hesitation during acceleration if the excitation current is unstable
- In rare cases, a burning smell or visible damage to wiring or connectors in the motor circuit

Common causes, most likely first

- 1 Faulty drive motor A excitation coil or field winding with internal short or low resistance
- 2 Damaged or chafed wiring in the excitation circuit causing a short to ground or power
- 3 Corroded or loose electrical connectors at the motor or controller
- 4 Failed current sensor or excitation driver inside the hybrid control module
- 5 Moisture intrusion into the motor housing or connector causing excessive current draw
- 6 Aftermarket accessories or improper repairs that tapped into the excitation circuit

How to diagnose and fix it

- 1 Perform a visual inspection of the excitation circuit wiring and connectors for damage, corrosion, or loose pins
- 2 Measure the resistance of the drive motor A excitation coil and compare to the manufacturer's specification
- 3 Check for short circuits to ground or power on the excitation circuit with a multimeter
- 4 Inspect the hybrid control module connectors and check for water intrusion or signs of overheating
- 5 Use a scan tool to monitor live excitation current data and compare to expected values under different loads
- 6 If the circuit and motor test good, follow the manufacturer's diagnostic flow to test or replace the hybrid control module
- 7 Clear the code and perform a road test to verify the repair and ensure the code does not return



Excitation current faults often misdiagnosed

- A high excitation current reading can be caused by a simple loose ground connection rather than a failed motor, so always verify ground integrity before condemning expensive components.
- The code may set intermittently due to vibration or temperature changes, and a wiggle test of the harness while monitoring live data can reveal the fault without any parts replacement.
- Some manufacturers use the excitation current signal for other functions such as motor temperature estimation, so a fault here can cause drivability issues that seem unrelated to the motor itself.
- After a collision repair or motor replacement, pinched wiring behind the motor is a common cause that is easily overlooked during visual inspection.
- Do not assume the motor is faulty based solely on this code; the current sensor inside the controller can drift and report excessive current when the actual circuit is fine.

Can I keep driving with P2E2B?

It is not advisable to continue driving with this code because excessive excitation current can overheat the motor or controller and lead to a sudden loss of power. Have the vehicle inspected by a qualified technician as soon as possible, and avoid heavy acceleration or long trips until the fault is repaired.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with resistance and current measurement
- Manufacturer-specific diagnostic software or wiring diagrams
- Insulation tester or megohmmeter for checking motor winding insulation
- Basic hand tools for connector and component access

Reading P2E2B

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A78** Drive Motor A Inverter Performance · **P2E2A** Drive Motor A Excitation Current Sensor Circuit High Voltage · **P2E2C** Battery Charger A Module Supply Voltage 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/p2e2b/>

