

GENERIC · POWERTRAIN

P0A91

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0A91

Drive Motor B Performance

P0A91 indicates that the hybrid or electric vehicle's control module has detected a performance problem with drive motor B, which is the electric motor responsible for propulsion or regenerative braking. The computer compares expected motor speed, current draw, or torque output against actual sensor feedback and sets this code when the values fall outside the acceptable range.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or hybrid system warning light, often with no other noticeable symptoms
- Reduced power or a limp-home mode that limits vehicle speed
- Hesitation or shuddering during acceleration or regenerative braking
- Unusual noises such as whining or grinding from the motor area
- The vehicle may fail to start or shift into gear if the hybrid system disables operation

Common causes, most likely first

- 1 Faulty motor position sensor or resolver wiring, causing incorrect speed feedback
- 2 Damaged or corroded wiring harness or connectors between the motor and the inverter
- 3 Internal motor winding failure or short circuit
- 4 Inverter assembly malfunction affecting power delivery to the motor
- 5 Hybrid control module software issue or internal fault
- 6 Mechanical binding or bearing failure within the motor or transaxle



How to diagnose and fix it

- 1 Perform a thorough visual inspection of the motor, resolver, and inverter wiring for chafing, corrosion, or loose connectors
- 2 Use a scan tool to retrieve freeze-frame data and compare motor speed sensor readings with actual wheel speed to identify discrepancies
- 3 Check the resolver signal with an oscilloscope for proper waveform and amplitude, and verify sensor resistance against manufacturer specifications
- 4 Inspect the motor windings for continuity and short circuits using a multimeter, and check for any signs of overheating or insulation damage
- 5 Verify that the hybrid control module has the latest software calibration and update if required
- 6 If sensor and wiring checks pass, perform a motor performance test as outlined in the service information to confirm internal motor condition
- 7 Replace the faulty motor, resolver, or inverter assembly only after all electrical and software checks have been exhausted

Resolver faults often mimic motor failure

- A failing resolver or its wiring is one of the most common causes of P0A91, yet many technicians replace the entire motor assembly without first testing the resolver signal.
- The code can be set by a simple loose connector or chafed wire in the motor harness, so always perform a wiggle test and continuity check before condemning expensive components.
- Some vehicles set P0A91 when the 12-volt auxiliary battery is weak, causing the hybrid control module to misinterpret motor feedback signals.
- After any motor or inverter replacement, the resolver offset must be learned with a scan tool; failing to do so will immediately reset P0A91.
- P0A91 can also be triggered by a mechanical issue such as a failing motor bearing, which may not show up in electrical tests until the motor is disassembled.

Can I keep driving with P0A91?

Do not continue driving with P0A91 because the vehicle may enter a reduced-power mode without warning, and a failing motor can cause sudden loss of propulsion. Have the vehicle towed to a qualified hybrid repair facility for diagnosis.

Tools that help

- Hybrid-capable scan tool with live data and freeze-frame capability
- Digital multimeter with resistance and continuity functions
- Oscilloscope for resolver signal analysis
- Insulation tester for motor winding checks
- Manufacturer service information for resolver offset learning and motor testing procedures



Reading P0A91

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

Often seen with

P0A90 Drive Motor A Performance · **P0A92** Hybrid Generator Performance · **P0A93** Inverter A Cooling System Performance · **P0A94** DC/DC Converter A Performance · **P0A95** High Voltage Fuse A

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/p0a91/>

