

GENERIC · POWERTRAIN

P0C55

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0C55

Drive Motor B Position Sensor Circuit A Circuit

P0C55 indicates that the hybrid or electric vehicle control module has detected an abnormal signal from the position sensor circuit for drive motor B, specifically the channel designated as circuit A. This sensor reports the rotor position of the traction motor, and the module uses that data to synchronize motor commutation and verify safe operation. The code is set when the voltage or signal pattern on circuit A falls outside the expected range or becomes inconsistent with the other position sensor channels.

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 message
- Often no symptoms besides the warning light, with the vehicle continuing to drive normally
- Reduced power or a limp-home mode that limits motor output
- Rough operation or shuddering during acceleration or regenerative braking
- The vehicle may refuse to start or shift into gear if the fault is severe
- Intermittent stalling or sudden loss of propulsion while driving

Common causes, most likely first

- 1 Damaged or chafed wiring in the motor position sensor harness, especially near connectors or heat sources
- 2 Corroded, loose, or water-intruded electrical connector at the position sensor or control module
- 3 Failed motor position sensor (circuit A element) due to internal wear or thermal damage
- 4 Faulty hybrid or electric vehicle control module with an internal driver or signal-conditioning fault
- 5 Mechanical damage to the sensor reluctor or tone ring inside the motor assembly
- 6 Electrical interference or a poor ground connection affecting the sensor reference voltage
- 7 Aftermarket or improperly installed components that disturb the sensor signal circuit



How to diagnose and fix it

- 1 Perform a visual inspection of the motor position sensor harness and connectors for chafing, corrosion, or loose pins
- 2 Check for technical service bulletins (TSBs) or manufacturer communications specific to this code and vehicle platform
- 3 Measure the sensor circuit A signal with an oscilloscope and compare it to the expected waveform from the service information
- 4 Verify the sensor reference voltage and ground at the sensor connector with a digital multimeter
- 5 Perform a wiggle test on the harness while monitoring live data to expose intermittent faults
- 6 Replace the motor position sensor if the signal is erratic or absent and wiring is confirmed good
- 7 If the sensor and wiring test good, diagnose or replace the hybrid control module as the last step

What the position sensor circuit really tells you

- A common misdiagnosis is replacing the motor position sensor when the actual fault is a chafed wire inside the harness loom, so always perform a loaded wiggle test before condemning the sensor.
- The code can set intermittently from a poor ground connection at the motor housing, which corrupts the sensor reference voltage without any visible wiring damage.
- Some vehicles will set P0C55 after a low-voltage event or battery replacement, and the code may clear after a successful relearn procedure rather than a parts replacement.
- The position sensor circuit A is one channel of a multi-channel resolver or encoder, and a fault in one channel can mimic a mechanical motor problem, so compare all channels on a scope.
- Aftermarket inverters or unauthorized software modifications can disturb the sensor signal and set this code even when all hardware is functioning correctly.

Can I keep driving with P0C55?

Do not continue driving with this code if the vehicle is in limp mode or shows reduced power, because a failed position sensor can cause sudden loss of propulsion. If the only symptom is the warning light and the vehicle drives normally, arrange a diagnostic appointment promptly and avoid heavy acceleration or high-speed driving until repaired.

Tools that help

- OBD-II scan tool with live data and hybrid system capability
- Digital multimeter (DMM)
- Oscilloscope with automotive probes
- Wiring diagram and service information for the specific vehicle
- Insulation piercing probes or back-probe kit
- Torque wrench and basic hand tools for sensor replacement



Reading P0C55

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A45** Drive Motor B Position Sensor Circuit · **P0C54** Drive Motor A Position Sensor Circuit A Circuit Intermittent · **P0C56** Drive Motor B Position Sensor Circuit A Range/Performance · **P0C57** Drive Motor B Position Sensor Circuit A Circuit Low

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/p0c55/>

