

GENERIC · POWERTRAIN

P0A43

OBD-II TROUBLE CODE

P0A43

Drive Motor A Position Sensor Circuit Intermittent

P0A43 means the hybrid or electric vehicle controller has detected an intermittent signal from the position sensor inside Drive Motor A, which is the traction motor that usually provides primary propulsion. The computer sees the sensor's voltage or pulse pattern drop out or jump erratically for brief moments, so it cannot trust the motor's reported rotor position at all times.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Intermittent loss of propulsion or a sudden limp-home mode that clears after a restart
- Rough or jerky acceleration and hesitation when the motor is under load
- Reduced electric-only operation or the engine starting more often than usual
- Often no symptoms besides the warning light, especially if the glitch is brief

Common causes, most likely first

- 1 Failing or contaminated position sensor inside Drive Motor A
- 2 Damaged or chafed wiring harness between the motor sensor and the inverter or controller
- 3 Corroded, loose, or pushed-back terminals at the motor sensor connector
- 4 Electrical interference from a failing inverter or poor grounding causing signal noise
- 5 Internal fault in the motor controller's sensor input circuit
- 6 Debris or metallic particles on the sensor pickup interfering with the signal



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm when and how often the intermittent signal drops out
- 2 Inspect the motor position sensor connector and harness for corrosion, chafing, or loose pins, then clean and reseal
- 3 Measure sensor circuit resistance and check for shorts to ground or power with a multimeter while wiggling the harness
- 4 Back-probe the sensor signal at the controller and compare it to a known-good waveform on an oscilloscope
- 5 Check the motor sensor air gap and pickup for metallic debris or damage, cleaning or replacing as needed
- 6 Substitute a known-good sensor or controller only after circuit tests prove the wiring is sound
- 7 Clear codes and perform a road test with live data to verify the intermittent signal is gone

Intermittent motor sensor faults that fool technicians

- A chafed harness that only shorts when the motor mounts flex under torque is a common cause that a stationary wiggle test will miss, so always road-test with a scope connected.
- The code can set from electrical noise generated by a failing inverter rather than a bad sensor, so replacing the sensor first often does not fix the problem.
- Some vehicles log P0A43 only during regenerative braking or rapid torque changes, which points to a sensor signal that cannot keep up rather than a completely dead sensor.
- A loose or corroded ground strap between the motor and chassis can corrupt the sensor reference voltage and trigger this code without any visible sensor damage.
- Clearing the code and seeing it return only after several drive cycles is normal for an intermittent fault, so do not assume the repair failed if it does not reset immediately.

Can I keep driving with P0A43?

You can usually drive the vehicle short distances at low speed to a repair shop, but avoid hard acceleration, towing, or long highway trips because an intermittent position signal can suddenly cut propulsion power. If the warning light flashes or the vehicle enters limp mode, stop driving and arrange a tow.

Tools that help

- OBD-II scan tool with hybrid module access and live data
- Digital multimeter with back-probe pins
- Oscilloscope for capturing intermittent sensor waveforms
- Wiring diagram and connector pinout for the specific vehicle
- Insulated hand tools and terminal pick set



Reading P0A43

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A40** Drive Motor A Position Sensor Circuit Range/Performance · **P0A44** Drive Motor A Position Sensor Circuit Overspeed · **P0A45** Drive Motor B Position Sensor Circuit · **P0A46** Drive Motor B Position Sensor Circuit Range/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/p0a43/>

