

GENERIC · POWERTRAIN

P0BF6

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0BF6

Drive Motor B Phase V Current Sensor Circuit Range/Performance

P0BF6 indicates that the inverter or motor control module has detected an out-of-range or erratic signal from the current sensor monitoring phase V of drive motor B, which is the second electric traction motor in a hybrid or electric vehicle. The computer compares this sensor's output against expected values during key-on and running conditions, and it sets the code when the voltage or calculated current falls outside a calibrated window or fails a rationality check.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the hybrid or electric vehicle warning light, often accompanied by a reduced power message
- The vehicle may enter a fail-safe mode that limits motor output or prevents the use of one drive motor
- Intermittent hesitation or shudder during acceleration when the affected motor is commanded to produce torque
- Possible inability to start in electric-only mode or a forced switch to the combustion engine in a plug-in hybrid
- Often no symptoms besides the warning light, especially if the fault is stored but not currently active

Common causes, most likely first

- 1 Faulty phase V current sensor internal to the drive motor B inverter or motor assembly
- 2 Damaged or corroded wiring and connector terminals between the current sensor and the control module
- 3 Poor electrical ground or reference voltage supply to the current sensor circuit
- 4 Signal interference or a short to voltage or ground on the sensor signal circuit
- 5 Failed inverter assembly causing incorrect sensor supply or processing
- 6 Software calibration issue in the motor control module requiring a reflash or update



How to diagnose and fix it

- 1 Perform a visual inspection of the drive motor B current sensor connector and harness for chafing, corrosion, or loose pins
- 2 Check for related diagnostic trouble codes in the inverter and motor control modules to confirm the fault is isolated to the phase V current sensor circuit
- 3 Measure reference voltage and ground at the current sensor connector with the key on and compare to manufacturer specifications
- 4 Back-probe the sensor signal wire and observe the voltage or current reading on a scan tool while wiggling the harness to detect intermittent faults
- 5 If the signal is out of range with good wiring and power supplies, replace the current sensor or the inverter assembly as required by the manufacturer's service procedure
- 6 After repair, clear codes and perform a road test or relearn procedure to verify the current sensor reading returns to normal

What the phase V current sensor code hides

- A loose or corroded ground connection at the inverter chassis can skew all three phase current sensor readings, so technicians who replace only the sensor often see the code return.
- The code can be set by a momentary glitch during a low-voltage event, such as a weak 12-volt auxiliary battery, even when the current sensor itself is healthy.
- On some vehicles, the phase V current sensor is integrated into the inverter and cannot be serviced separately, making a full inverter replacement the only official fix.
- A failing drive motor B resolver or stator insulation fault can produce current waveforms that the sensor correctly reports as abnormal, so the sensor is blamed when the motor is the real problem.
- After any inverter or motor replacement, a calibration or learn procedure is mandatory; skipping it can immediately reset P0BF6 even with all-new hardware.

Can I keep driving with P0BF6?

Do not continue driving at high speeds or under heavy load because a faulty current sensor can cause the inverter to misjudge motor current and trigger an abrupt shutdown or reduced power mode. Limp the vehicle to a qualified repair facility and avoid sustained highway driving until the fault is repaired.

Tools that help

- Scan tool with hybrid and electric vehicle capability
- Digital multimeter with back-probe pins
- Oscilloscope for capturing current sensor signal waveforms
- Manufacturer service information for connector pinouts and voltage specifications
- Insulation tester for checking motor winding integrity



Reading P0BF6

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- B** Hybrid propulsion.
- F6** The exact fault within that area.

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0BF5** Drive Motor B Phase V Current Sensor Circuit · **P0BF7** Drive Motor B Phase V Current Sensor Circuit Low · **P0BF8** Drive Motor B Phase V Current Sensor Circuit High · **P0C00** Drive Motor A Current 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/p0bf6/>

