

GENERIC · POWERTRAIN

P06B3

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06B3

Sensor Power Supply B Circuit/Open

P06B3 indicates that the powertrain control module (PCM) has detected an open circuit or voltage fault on the Sensor Power Supply B circuit, which provides a regulated voltage to one or more sensors. The PCM monitors this supply line and sets the code when the voltage falls outside the expected range, often affecting sensors such as the throttle position sensor, accelerator pedal position sensor, or manifold absolute pressure sensor.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp).
Often no symptoms besides the warning light, especially if the affected sensor is not critical for driveability.
- Reduced engine performance or limp mode if the faulty supply feeds a critical sensor like the throttle position sensor.
- Intermittent stalling or rough running if the supply voltage drops under certain conditions.
- Erratic readings from sensors powered by the B circuit, leading to poor fuel economy or transmission shift issues.

Common causes, most likely first

- 1 Open or high-resistance wiring in the Sensor Power Supply B circuit, such as a broken wire or corroded connector.
- 2 Short to ground or short to voltage on the supply line, damaging the PCM's internal driver.
- 3 Faulty sensor internally shorted, pulling down the supply voltage.
- 4 Corroded or loose electrical connectors at the PCM or at any sensor on the B circuit.
- 5 Failed PCM power supply driver, though this is less common and should be confirmed after other causes are ruled out.



How to diagnose and fix it

- 1 Inspect the wiring harness and connectors for the Sensor Power Supply B circuit for signs of damage, corrosion, or loose pins.
- 2 Measure the supply voltage at each sensor connected to the B circuit with the key on, engine off, and compare to the manufacturer's specification.
- 3 Disconnect sensors one by one to see if the supply voltage returns to normal, isolating a faulty sensor.
- 4 Check for continuity and resistance in the supply wire between the PCM and each sensor, repairing any open or high-resistance faults.
- 5 Test for short circuits to ground or voltage on the supply line using a multimeter and wiring diagram.
- 6 If all external circuits and sensors test good, suspect the PCM and perform a thorough diagnosis before replacement.

What the Sensor Power Supply B Code Really Means

- Many technicians replace the PCM prematurely when the fault is actually a shorted sensor pulling down the shared supply voltage.
- The Sensor Power Supply B circuit often feeds multiple sensors, so a single faulty sensor can disable several systems and set related codes.
- Intermittent opens can be caused by wire chafing at flex points, such as near the throttle body or behind the engine, which may not show up in a static test.
- A weak battery or charging system issue can cause low voltage on the supply circuit, triggering P06B3 without any wiring fault.
- Always check for technical service bulletins (TSBs) for the specific vehicle, as some models have known harness routing issues that cause this code.

Can I keep driving with P06B3?

If the check engine light is on but the vehicle runs normally, you can drive cautiously to a repair shop, but avoid heavy acceleration or towing. If the engine runs poorly, stalls, or enters limp mode, stop driving and have the vehicle towed to prevent unsafe operation.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Test light or load tester
- Terminal pick and electrical contact cleaner



Reading P06B3

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- B3** The exact fault within that area.

Often seen with

P0641 Sensor Reference Voltage 'A' Circuit/Open · **P0651** Sensor Reference Voltage 'B' Circuit/Open · **P06B2** Sensor Power Supply A Circuit High · **P06B4** Sensor Power Supply B Circuit Low · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation

See it working

Watch the animated explainer [Car Won't Start? Step-by-Step No-Start Diagnosis](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06b3/>

