

GENERIC · POWERTRAIN

P06B5

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06B5

Sensor Power Supply B Circuit High

P06B5 indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the Sensor Power Supply B circuit, which is a dedicated 5-volt reference feed shared by multiple sensors. The PCM monitors this supply line and sets the code when the voltage exceeds the expected range, typically because the circuit is shorted to voltage or a sensor on the circuit is drawing too much current.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough running or misfiring if the affected sensors include the throttle position or manifold absolute pressure sensor
- Reduced engine performance or limp mode in some vehicles
- Erratic or stuck readings on dashboard gauges if the circuit feeds a pressure or position sensor
- Intermittent stalling or hesitation during acceleration
- Transmission shift quality issues if the sensor supply also feeds a transmission sensor

Common causes, most likely first

- 1 Short to voltage on the Sensor Power Supply B circuit wiring, often from chafed insulation against a 12-volt source
- 2 Faulty sensor connected to the circuit internally shorted and pulling the reference voltage high
- 3 Corroded or damaged connector pins at the PCM or at any sensor on the shared supply
- 4 Open ground circuit for a sensor on the supply, causing the reference voltage to float high
- 5 PCM internal fault, though this is less common than wiring or sensor issues
- 6 Aftermarket accessories improperly tapped into the sensor reference wire



How to diagnose and fix it

- 1 Use a scan tool to read live data and identify which sensors on the B circuit are reading abnormally, then inspect those sensors and their connectors for corrosion or damage
- 2 Disconnect each sensor on the circuit one at a time and observe the reference voltage with a multimeter to see if the high voltage returns to normal, isolating the faulty component
- 3 Perform a visual inspection of the wiring harness for the Sensor Power Supply B circuit, looking for chafed spots, pinched wires, or signs of contact with a 12-volt source
- 4 Check the ground circuit for each sensor on the supply, as a poor ground can cause the reference voltage to read high
- 5 Measure resistance and voltage drop on the supply wire from the PCM to each sensor to rule out high resistance or a short to voltage
- 6 If all external wiring and sensors check out, test the PCM by back-probing the reference voltage at the PCM connector; if it is still high with all sensors disconnected, the PCM may need replacement or reprogramming
- 7 Clear the code and verify the repair by test-driving the vehicle and monitoring the reference voltage and sensor readings with a scan tool

Shared 5-volt reference faults mislead many technicians

- The Sensor Power Supply B circuit often feeds multiple sensors, so a single shorted sensor can pull the entire reference voltage high and set codes for several different sensors at once, leading to unnecessary replacement of good parts.
- A common mistake is to replace the sensor that appears faulty based on its data reading, when the actual problem is a short to voltage on the shared reference wire that affects all sensors on that circuit.
- Some vehicles use a fused or internally protected reference supply in the PCM, and a short on the circuit can blow that internal fuse, causing a low voltage code instead; however, P06B5 specifically indicates a high voltage condition, so check for a short to power rather than a blown fuse.
- Aftermarket electrical accessories, such as alarm systems or dash cams, are frequently tapped into the 5-volt reference wire by mistake, causing this code and erratic sensor behavior.
- The code can be intermittent, so a wiggle test of the harness while monitoring the reference voltage with a multimeter or scan tool is often necessary to reproduce the fault.

Can I keep driving with P06B5?

If the check engine light is on but the vehicle runs normally, you can drive cautiously to a repair shop, but avoid hard acceleration or towing. If the engine runs poorly, misfires, or enters limp mode, stop driving and have the vehicle towed to prevent damage to the catalytic converter or other components.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Back-probing pins or breakout box
- Wiring diagram for the specific vehicle
- Basic hand tools for connector and sensor access

Reading P06B5

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.
B5	The exact fault within that area.

Often seen with

P0641 Sensor Reference Voltage 'A' Circuit/Open · **P0651** Sensor Reference Voltage 'B' Circuit/Open · **P06A6** Sensor Reference Voltage A Circuit Range/Performance · **P06B6** Internal Control Module Knock/Combustion Vibration Sensor Pr · **P06B7** Internal Control Module Knock/Combustion Vibration Sensor Pr

See it working

Watch the animated explainer [Helicopter Flight Simulator: Learn the Three Controls](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06b5/>

