

GENERIC · POWERTRAIN

P06B4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06B4

Sensor Power Supply B Circuit Low

P06B4 indicates that the powertrain control module (PCM) has detected a low voltage condition on the power supply circuit designated as 'B' for a sensor or sensor group. This circuit typically provides a regulated 5-volt or 12-volt reference to components such as the mass airflow sensor, throttle position sensor, or manifold absolute pressure sensor, and a low reading means the PCM sees less voltage than expected on that feed.

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 idle or stalling if the affected sensor loses its reference voltage
- Reduced engine performance or limp mode in some vehicles
- Poor fuel economy or increased emissions due to incorrect sensor readings
- Intermittent hesitation or surging during acceleration
- Other sensor-related codes stored alongside P06B4

Common causes, most likely first

- 1 A short to ground or chafed wire on the sensor power supply B circuit
- 2 Corroded, loose, or damaged connector at the sensor or PCM
- 3 A failed sensor internally shorting the reference voltage to ground
- 4 Open circuit or high resistance in the power supply wiring or a splice
- 5 Faulty powertrain control module (PCM) driver for the B circuit
- 6 Water intrusion or contamination in a connector causing voltage drop



How to diagnose and fix it

- 1 Use a scan tool to record freeze-frame data and check for related codes that pinpoint which sensor circuit is affected
- 2 Inspect the wiring harness and connectors for the sensor power supply B circuit for chafing, corrosion, or loose pins
- 3 Disconnect the affected sensor and measure reference voltage at the connector with the key on; compare to specification
- 4 Perform a voltage drop test on the power supply wire from the PCM to the sensor to locate excessive resistance
- 5 Check for shorts to ground on the power supply wire with a multimeter or test light
- 6 If the circuit tests good, substitute a known-good sensor to see if the code returns
- 7 If all external circuits and sensors are ruled out, diagnose the PCM driver circuit or replace the PCM as a last resort

What the B circuit really feeds

- The 'B' designation does not refer to a specific sensor; it is one of several power supply outputs from the PCM, so the same code can point to different components on different makes and models.
- A common oversight is replacing the sensor first when the actual fault is a rubbed-through wire behind the engine or near a sharp bracket.
- This code can set intermittently due to vibration or temperature changes, so a wiggle test of the harness while monitoring live data is often more revealing than a static voltage check.
- Some vehicles share the B circuit among multiple sensors, so a single shorted sensor can pull down the reference for others and set multiple codes.
- A weak battery or charging system fault can cause low reference voltage readings that mimic a circuit problem, so always verify system voltage first.

Can I keep driving with P06B4?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration or long trips because a failed sensor reference can cause stalling or limp mode. If the engine runs poorly or stalls, stop driving and have it towed to prevent unsafe conditions.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Test light
- Back probe pins or breakout box



Reading P06B4

- 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.
- B4** 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 · **P06B0** Sensor Power Supply A Circuit/Open · **P06B5** Sensor Power Supply B Circuit High

See it working

Watch the animated explainer [How a Padlock Works: Pin Tumbler Lock in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06b4/>

