

P06B4: SENSOR POWER SUPPLY B CIRCUIT LOW

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	\$300-\$1399
Can I Still Drive?	:	Yes

What Does The P06B4 Code Mean?

When an OBD-II equipped vehicle has stored a code P06B4, it means that the powertrain control module (PCM) has detected a low voltage condition for a particular sensor or group of sensors. Depending upon manufacturer, the sensor (or sensors) in question may be related to the exhaust gas recirculation system, the heated exhaust oxygen sensor system, the automatic transmission, or the transfer case (four-wheel drive or all-wheel drive vehicles only). The sensor circuit affected has been given the designation B (A & B may be interchanged as well).

Most OBD-II sensors are activated by a voltage signal that is provided by the PCM or one of the other on-board controllers. The degree of voltage applied (frequently called reference voltage) may vary between very low voltage (typically measured in millivolts) up to full battery voltage.

The most common sensor voltage signal is 5-volts; followed closely by battery voltage. Obviously, you will need to determine exactly which sensor is related to this code. A reliable source of vehicle information will yield this information.

If the PCM (or any of the other on-board controllers) detects a degree of voltage that is lower than expected on the power supply circuit designated B, the code P06B4 may be stored and a service engine soon/malfunction indicator lamp (SES/MIL) illuminated. SES/MIL illumination may require multiple ignition cycles with a failure.

What Are The Symptoms Of The P06B4 Code?

Symptoms of a P06B4 trouble code may include:

- Transfer case is inoperative
- Engine no-start condition
- Diminished fuel efficiency
- Engine hesitation, sag, miss, or stumble
- Serious engine drivability issues
- Transmission may shift erratically
- Transmission may shift harshly

What Are The Potential Causes Of The P06B4 Code?

Causes for this code may include:

- Defective engine, transmission, or transfer case sensor
- Blown fuse or fusible link
- Open or shorted wiring and/or connectors or grounds
- PCM failure or a PCM programming error

How Can You Fix The P06B4 Code?

Diagnose and repair any other sensor related codes prior to attempting a diagnosis for the stored P06B4.

To accurately diagnose a code P06B4, you will need a diagnostic scanner, a digital volt/ohmmeter (DVOM), and a source of reliable vehicle information.

Without means to reprogram controllers, reaching an accurate diagnostic conclusion for the stored P06B4 will be challenging at best. You may save yourself some headaches by searching for technical service bulletins (TSB) that replicate the code stored, vehicle (year, make, model, and engine), and symptoms exhibited. This information may be found in your vehicle information source. If you succeed in locating the appropriate TSB, it could yield very helpful diagnostic information.

Retrieve All Stored Codes

Connect the scanner to the vehicle diagnostic port and retrieve all stored codes and pertinent freeze frame data. After you write this information down (in case the code proves to be an intermittent one) clear the codes and test drive the vehicle. One of two things will happen; the code will be restored or the PCM will enter readiness mode.

If the PCM enters readiness mode (the code is intermittent), the code may be more difficult to

diagnose. The condition which caused the P06B4 to be stored may need to worsen before an accurate diagnostic conclusion can be reached. However, if the code is restored, continue with your diagnosis.

Obtain connector face views, connector pinout charts, component locators, wiring diagrams, and diagnostic flow charts (pertaining to the code and vehicle in question) using your source of vehicle information.

Visually Inspect The Related Wiring And Harnesses

Visually inspect all related wiring and connectors. Wiring that has been cut, burned, or damaged should be repaired or replaced. You may also want to check chassis and engine grounds and make any necessary repairs before you continue. Use your vehicle information source (power and ground locations) to obtain ground junction locations for related circuits.

Use The DVOM To Test Controller Power Supply Fuses And Relays

If no other codes are stored and the the P06B4 continues to reset, use the DVOM to test controller power supply fuses and relays. Replace blown fuses, relays, and fusible links as required. Fuses should always be tested with the circuit loaded to avoid a misdiagnosis.

You may suspect a defective controller or a controller programming error if all controller power (input) and ground circuits are intact and there is insufficient sensor power supply voltage being output from the PCM (or other controller).

Keep in mind that controller replacement will require reprogramming. Reprogrammed controllers may be available through aftermarket sources for some applications; other vehicles/controllers will require on-board reprogramming that may only be done through a dealership or other qualified source.

Visually Inspect System Controllers

Visually inspect system controllers for signs of water, heat, or collision damage and suspect that any controller that shows signs of damage is defective.

- The term open could be substituted with unplugged or disconnected, cut or broken
- Excessive sensor power supply voltage is likely the result of a short to battery voltage

Severity Description

I would certainly categorize this code as severe. Its wide reaching sensor inclusion makes it difficult – if not impossible – to pinpoint precisely how catastrophic the symptoms of the condition which has contributed to the P06B4 code being stored could prove.

Reference Sources

[P06B4 Sensor Power Supply B Circuit Low](#), OBD-Codes.