

P0164: O2 SENSOR CIRCUIT HIGH VOLTAGE (BANK 2 SENSOR 3)

OVERVIEW

Severity	:	<div><div>Medium</div></div>
DIY Difficulty Level	:	<div><div>Intermediate</div></div>
Repair Cost	:	\$100-\$300
Can I Still Drive?	:	Yes (Short-term only)

What Does The P0164 Code Mean?

The catalytic converter is used to lower harmful emissions. To ensure proper operation, there is an O2 (oxygen) sensor located behind the catalyst that monitors the oxygen content of the exhaust after the cat. The PCM (Powertrain Control Module) then compares the post-cat reading to the pre-cat readings to determine if the catalyst is working properly.

A P0164 refers to a fault at the post-cat O2 sensor, indicating that the signal voltage is too high. The O2 sensor is a four wire sensor. Two wires are dedicated to the heating element and two wires are dedicated to the sensor. The heating element should have battery voltage on one wire with key on engine off and ground should be present on the other.

The PCM supplies a reference voltage to the O2 sensor which the sensor varies according to oxygen content in the exhaust. It is capable of varying between approximately 0.1 and 0.9 volts. This variance in the voltage is monitored by the PCM. The PCM also supplies a ground to the sensor. P0164 means that the voltage was too high on the signal circuit. Bank 2 is the side of the engine that doesn't contain cylinder #1.

What Are The Symptoms Of The P0164 Code?

Symptoms of a P0164 DTC may include:

- MIL (Malfunction Indicator Lamp) on
- Engine loses power and misses intermittently
- May exhibit loss of fuel efficiency

What Are The Potential Causes Of The P0164 Code?

Potential causes of an P0164 code include:

- Bad O2 sensor (Bank 2 Sensor 3)
- Wiring in contact with exhaust components
- Engine running rich (If other codes are present)
- Holes in exhaust near Bank 2 Sensor 3
- Short to voltage on signal circuit
- Bad PCM

How Can You Fix The P0164 Code?

Start the engine and observe the Bank 2 Sensor 3 (a.k.a. 2/3) O2 sensor voltage. You may need to raise the idle up until the O2 sensor starts switching.

If it is stuck high, or close to 1 volt and the voltage doesn't vary, then check for a good ground on both the heater element and the sensor. Also check that the heater element is being supplied good battery voltage. No heater operation can cause a sluggish sensor.

If the grounds are good and the battery voltage is present, then jumper the sensor's signal wire to the sensor's ground wire. Now the scan tool should read low or near zero volts. If it does, the wiring is good. Replace the bank 2/3 O2 sensor. If jumpering the signal wire to the ground doesn't lower the voltage, then check the O2 sensor wiring harness. Make sure there is no contact with hot exhaust components. Ensure good wiring harness connections. If the wiring checks out, then reperform the previous wiring harness checks at the PCM connector.

If now the 2/3 O2 sensor reading drops, then there is a wiring problem that isn't visible. Open the harness and visually inspect the wiring for problems. But if the result is the same, then the PCM may be bad.

Reference Sources

[P0164: O2 Sensor Circuit High B2S3](#), OBD-Codes.