

P0044: HO2S HEATER CONTROL CIRCUIT HIGH (BANK 1 SENSOR 3)

OVERVIEW

Severity	:	<div><div>Medium</div></div>
DIY Difficulty Level	:	<div><div>Intermediate</div></div>
Repair Cost	:	\$100-\$200
Can I Still Drive?	:	Yes

What Does The P0044 Code Mean?

This diagnostic trouble code (DTC) is a generic powertrain code, which means that it applies to OBD-II equipped vehicles, including but not limited to Nissan, Mitsubishi, Mazda, Subaru, Toyota, VW, etc. Although generic, the specific repair steps may vary depending on make/model.

Oxygen sensors with a heating element are common on today's engines. Heated oxygen sensors (HO2S) are inputs used by the PCM (Powertrain Control Module) to determine oxygen content in the exhaust system.

The PCM uses the information gained from the Bank 1, sensor #3 HO2S mainly to monitor the efficiency of the catalytic converter. Integral to this sensor is a heater element. While in pre-OBD II vehicles an Oxygen sensor was a one wire sensor, now they are more commonly 4 wire sensors: Two dedicated to the oxygen sensor and two dedicated to the heater element. The oxygen sensor heater basically decreases the time needed to achieve closed loop. The PCM controls the heater on-time. The PCM also continuously monitors the heater circuits for abnormal voltages or in some cases, even abnormal amperages.

Depending on the make of vehicle, the Oxygen sensor heater is controlled one of two ways. (1) The PCM directly controls the voltage feed to the heater either directly or via a HO2S relay and a ground is supplied from the vehicle's common ground. (2) There is a fused 12 volt Battery feed (B+) that feeds 12 volts to the heater element anytime the ignition is on and the control of the heater is done

by a driver in the PCM which controls the ground side of the heater circuit. Finding out which one you have is important because the PCM activates the heater under various circumstances.

If the PCM detects an abnormally high voltage condition on the heater circuit, P0044 may set. This code is only referring to the heating circuitry half of the oxygen sensor.

What Are The Symptoms Of The P0044 Code?

The most common symptom of a P0044 DTC is MIL (Malfunction indicator lamp) illumination.

There would likely be no other symptoms.

What Are The Potential Causes Of The P0044 Code?

Potential causes of a P0044 code include:

- Faulty heated oxygen sensor #3 on bank 1
- Open in the heater control circuit (12 volt PCM controlled systems)
- Short to B+ (battery voltage) in the heater control circuit (12 volt PCM controlled systems)
- Open ground circuit (12 volt PCM controlled systems)
- Short to ground on heater control circuit (On PCM ground controlled systems)

How Can You Fix The P0044 Code?

First, do a visual inspection of the third HO2S oxygen sensor downstream from the engine on bank 1 and it's wiring harness. If there is any damage to the sensor or any damage to the wiring, fix it as needed. Check for bare wires where wiring enters sensor. This often can fatigue and cause shorts. Make sure wiring is routed away from exhaust. Repair wiring or replace sensor as necessary

If all appears okay, unplug the #3 bank 1 HO2S and verify that there is 12 volts B+ present with the key on engine off, (or ground is present, depending on the system). Verify the heater control (ground) circuit is intact. If so, remove the O2 sensor and inspect for damage. If you have access to resistance specifications you can use a Ohmmeter to perform a resistance test of the heater element. Infinite resistance indicates an open in the heater. Replace the oxygen sensor as necessary.

Reference Sources

[P0044: HO2S Heater Control Circuit High \(Bank 1 Sensor 3\)](#), OBD-Codes.