

P0043: HO2S HEATER CONTROL CIRCUIT LOW (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 (Short-term only)

What Does The P0043 Code Mean?

Heated Oxygen sensors (HO2S) are inputs used by the PCM (Powertrain Control Module) to determine oxygen content in the exhaust system. Bank 1, sensor 3 refers to the third sensor back on bank 1. Bank 1 is the side of the engine that contains the #1 cylinder (inline engines only have one bank). 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.

The PCM controls this heater to warm up the sensor to operating temperature. This allows the engine to enter closed loop faster and reduces emissions on cold startup. The PCM continuously monitors the heater circuits for abnormal voltages or in some cases, even amperages.

Depending on the make of vehicle, the Oxygen sensor heater is controlled one of two ways. One way is that 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. The other way would be 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 low voltage condition on the heater circuit, P0043 may set.

What Are The Symptoms Of The P0043 Code?

Symptoms of a P0043 DTC may include:

- Malfunction indicator lamp (MIL) illumination
- There will likely be no other symptoms

What Are The Potential Causes Of The P0043 Code?

Potential causes of a P0043 trouble code may include:

- Sensor #3 on bank 1 oxygen sensor heater element has failed
- Physical damage to heated oxygen sensor has occurred
- Control circuit (or voltage feed, depending on system) is shorted to ground
- PCM Oxygen sensor heater driver has failed

How Can You Fix The P0043 Code?

Do a visual inspection of the bank 1, sensor 3 HO2S and wiring harness. If there is any damage to the sensor or any damage to the wiring, repair/replace as needed. Make sure wiring is routed away from exhaust. If all appears okay, unplug the Bank 1,3 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

[P0043: HO2S Heater Control Circuit Low B1S3](#), OBD-Codes.