CHRYSLER P1621: O2 SENSOR REFERENCE VOLTAGE CIRCUIT LOW

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$150-$500**
Can I Still Drive?	:	**Yes** (Short-term only)

What Does The Chrysler P1621 Code Mean?

Normally, the Oxygen (O2) Sensor signal voltage will fluctuate between 0.0 and 1.0 volts. On rare occasions, the signal voltage can drop below 0.0 volts. The Powertrain Control Module (PCM) is not able to calculate a negative voltage from the O2 Sensors. To prevent this, a 5-Volt reference voltage is pulled through a pull up resistor on the O2 Sensor Return circuit (ground path) for the O2 Sensors. This provides the 2.5 volt bias voltage on the O2 Sensor Return circuit and allows the O2 Sensor signal voltage to shift to the 2.5 – 3.5 switching voltage range for the O2 Sensor.

On vehicle/engine combinations that use only the traditional switching O2 Sensors, both of the Upstream and Downstream O2 Sensor Return circuits originate from a single source within the PCM. Because of this, a short anywhere in the wiring in any of the O2 Sensor Return circuits will affect all of the Upstream and Downstream O2 Sensors.

On vehicle/engine combinations that have wide-band Upstream O2 Sensors and switching Downstream O2 Sensors, the Upstream and Downstream O2 Sensor Return circuits are separate within the PCM. In this case a short anywhere in the wiring in the Downstream O2 Sensors Return circuit will only affect the Downstream O2 Sensors. The PCM performs individual diagnostics on the O2 Sensors Return circuit for each wide-band Upstream O2 Sensor.

What Are The Potential Causes Of The Chrysler P1621 Code?

- O2 sensor return circuit shorted to ground
- Oxygen (O2) sensor
- Powertrain control module (PCM)

Reference Sources

Chrysler P1621, DTCDECODE.