P2802: TRANSMISSION RANGE SENSOR "B" CIRCUIT LOW

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$35-$350**
Can I Still Drive?	:	No

What Does The P2802 Code Mean?

This is a generic powertrain diagnostic trouble code (DTC) for the transmission control system. It is a type “C” DTC that does not cause a check engine light, but may cause the overdrive (O/D) or D4 indicator to blink. Only Emission related codes cause a check engine light.

The transmission range sensor works by receiving a voltage signal. Changing or rerouting it according to position of the gear shifter. In the DTC description it indicates a low condition in the circuit. This is referring to low or no voltage signal returning to the PCM. Refer to the diagram in the diagnosis/repair section below.

What Are The Symptoms Of The P2802 Code?

The engine my exibit a no start condition due the park/neutral switch which is internal on most transmission range sensors. It could have erratic shifting or even possibly start in gear. It could also have a lack of power due the transmission controls being “limp home” mode.

What Are The Potential Causes Of The P2802 Code?

Potential causes for this code to set are:

- Faulty transmission range sensor “B”

- Open or shorted wiring
- Misadjusted transmission range sensor “B”
- Faulty PCM

How Can You Fix The P2802 Code?

To diagnose this code we must first have as a basic understanding of two things:

1. What is an Open Circuit?

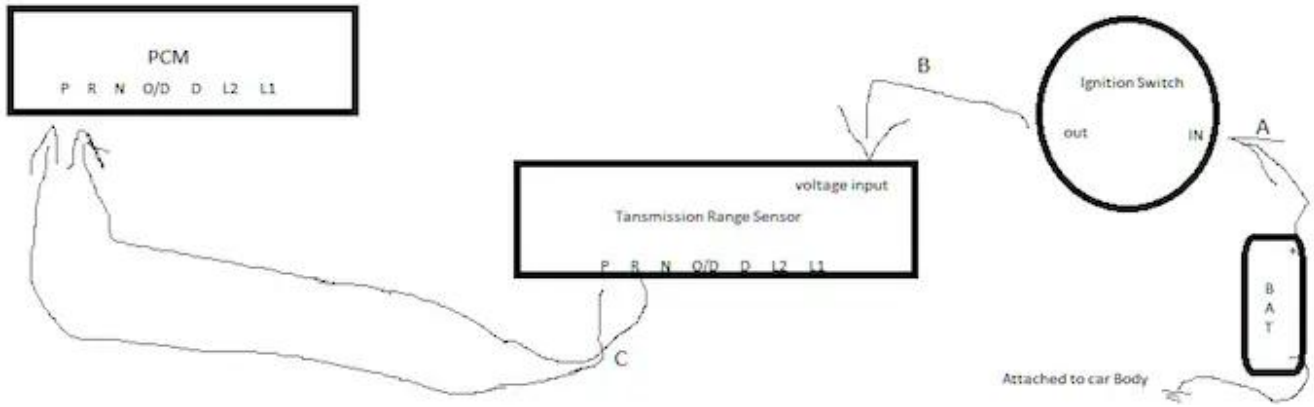
An open circuit is a circuit that does not make a complete loop from battery negative to battery positive. For example, when a light bulb stops working because the filament broke in half, the circuit would be open at the broken filament.

2. What is a short circuit?

A short circuit is when batter negative comes in contact with battery positive without some type of load in between the two. In other words there has to be a component (i.e. a light, a motor, a sensor, ect.) in the circuit. A short circuit is like dropping a wrench on top of your car battery and it touches both terminals and makes sparks. That is called a direct short.

Now with simple circuit 101 out of the way refer to the diagram below. An open circuit at point A, B or C would cause low voltage to the PCM. A short circuit at the same points would cause a blown fuse and again low voltage at the PCM. Both of these conditions will set DTC P2802.

To verify the exact cause of the DTC simply check for voltage at point A, B and C. If there is voltage at A and B but not at C suspect a faulty range sensor. If there is voltage at C suspect shorted wiring or in my Experience, upon rare occasion, a faulty PCM. If there is voltage at A only check the fuses.



Related Transmission Range Sensor codes: P2800, P2801, P2803, and P2804.

Severity Description

There is certainly a safety factor to be considered in association with this code and should be repaired as soon as possible.

Reference Sources

P2802 Transmission Range Sensor B Circuit Low, OBD-Codes.