P2803: TRANSMISSION RANGE SENSOR "B" CIRCUIT HIGH

OVERVIEW

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

What Does The P2803 Code Mean?

This is a generic powertrain diagnostic trouble code (DTC) in the transmission sub-group. It is a type “B” DTC which means that the powertrain control module (PCM) or Transmission control module (TCM) will not illuminate the check engine light until the conditions to set the code are detected on two consecutive key sequences. (key on-off, off-on)

The PCM or TCM uses the transmission range sensor, also called the inhibitor switch, to determine the position of the shift lever. If it receives signals that indicate two different gear positions at the same time for more than 30 seconds P2803 will be set. If this occurs twice in a row the check engine light will come on and the transmission will be commanded into “fail-safe” or “limp-home” mode.

What Are The Symptoms Of The P2803 Code?

The check engine light will come on accompanied by an obvious lack of power taking off from complete stops due to the transmission starting in third gear.

What Are The Potential Causes Of The P2803 Code?

Potential causes for this code to set are:

- Faulty transmission range sensor “B”

- Misadjusted transmission shift cable/linkage
- Damaged wiring
- Misadjusted range sensor “B”
- (Rarely) PCM or TCM failure

How Can You Fix The P2803 Code?

The transmission range sensor receives a twelve volt signal from the ignition switch and sends a signal back to the PCM/TCM that is appropriate for the selected position of the gear shifter.

In my experience the most common causes of this code have been a faulty range sensor or misadjusted shift cable/linkage.

Checking this “B” circuit is easiest with a scan tool but if one is not available there are still a few things you can check. Have the key in the on position with engine off. (KOEO) With a digital volt ohm meter you can check each return signal circuit individually by back probing at the sensor with it still connected. Have an assistant shift to each gear one at a time. Each signal circuit should have voltage in one position and one position only. If there is voltage present on any one circuit in more than one gear position suspect a faulty range sensor.

In my experience I have NEVER seen a PCM/TCM be the cause of any range sensor related DTC. This does not mean it is not possible, because it is, it is just not probable. However, I have seen a faulty PCM/TCM that was damaged by a short circuit in a range sensor. If you suspect a fault in the PCM/TCM make sure to look for the cause of the damage before installing a new one to avoid causing the same damage to it.

Related Transmission Range Sensor codes: P2800, P2801, P2802, and P2804.

Severity Description

Continuing to drive the vehicle could result in severe transmission damage. I recommend getting it repaired immediately to avoid costly internal transmission repairs.

Reference Sources

P2803 Transmission Range Sensor B Circuit High, OBD-Codes.