P083E: TRANSMISSION FLUID PRESSURE SENSOR / SWITCH "G" CIRCUIT INTERMITTENT

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$170-$300**
Can I Still Drive?	:	No

What Does The P083E Code Mean?

This generic powertrain/engine diagnostic trouble code typically applies to all OBD-II equipped vehicles (e.g. GM, Chevrolet, Honda, Toyota, Ford, etc.), but shows up more often in Nissan vehicles.

The Transmission Fluid Pressure Sensor/Switch (TFPS) is usually found attached to the side of the valve body inside the transmission, although sometimes it may be found screwed into the side of the transmission case/body itself.

The TFPS converts the mechanical transmission pressures into an electrical signal for the Powertrain Control Module (PCM) or Transmission Control Module (TCM). Typically, the PCM/TCM will then inform other controllers utilizing the vehicle's data communication bus.

The PCM/TCM receives this voltage signal to determine transmission operating pressure or when a shift is occurring. This code is set if this "G" input does not match normal operating voltages stored in the PCM/TCM's memory. It may also be due to internal mechanical issues inside the transmission. Refer to a vehicle specific repair manual to determine which is the "G" circuit for your particular vehicle.

P083E is typically an electrical circuit (TFPS sensor circuit) issue, although as previously stated this code may also be set due to mechanical issues (internal leaks, cracked or missing check balls in the valve body, low system operating pressure/main line pressure, stuck valve in the valve body). This

cannot be overlooked in the troubleshooting stage, especially when dealing with an intermittent problem.

Troubleshooting steps may vary depending upon manufacturer, type of TFPS sensor and wire colors.

Related trans fluid pressure sensor “G” circuit codes:

- P083A: Transmission Fluid Pressure Sensor/Switch “G” Circuit
- P083B: Transmission Fluid Pressure Sensor/Switch “G” Circuit Range/Performance
- P083C: Transmission Fluid Pressure Sensor/Switch “G” Circuit Low
- P083D: Transmission Fluid Pressure Sensor/Switch “G” Circuit High

What Are The Symptoms Of The P083E Code?

Symptoms of a P083E engine code may include:

- Malfunction Indicator Light On
- Change in shift quality
- Vehicle starts off in 2nd or 3rd gear (limp in mode)

What Are The Potential Causes Of The P083E Code?

Typically the causes for this code to set are:

- Intermittent open in the signal circuit to the TFPS sensor
- Intermittent short to voltage in the signal circuit to the TFPS sensor
- Intermittent short to ground in the signal circuit to the TFPS sensor
- Failed TFPS Sensor – likely
- Internal mechanical transmission issue – possible
- Failed PCM – unlikely (programming required after replacement)

How Can You Fix The P083E Code?

Step 1

A good starting point is always to check for technical service bulletins (TSB) for your particular vehicle. Your issue may be a known issue with a known fix put out by the manufacturer and can save you time and money during diagnosis.

Step 2

A good example of this would be if there are any known power related codes set along with the P083E, or if there is more than one pressure sensor/switch code set. If so, begin your diagnosis with

the power related fault code first, or with the multiple code diagnosis first, as this may be the reason for the P083E.

Step 3

Next, locate the Transmission Fluid Pressure Sensor/Switch (TFPS) on your particular vehicle. The TFPS is usually found attached to the side of the valve body inside the transmission, although sometimes it may be found screwed into the side of the transmission case/body itself. Once located, visually inspect the connector and wiring.

Look for scraping, rubbing, bare wires, burn spots or melted plastic. Pull the connector apart and carefully inspect the terminals (the metal parts) inside the connector. See if they look burned or have a green tint indicating corrosion, especially if they are attached outside the transmission case. Use electrical contact cleaner and a plastic bristle brush if cleaning of the terminals is needed. Let dry and apply electrical grease where the terminals contact.

Step 4

If you have a scan tool, clear the diagnostic trouble codes from memory, and see if P083E code returns. If it does not, then the connections were most likely your problem.

This is the most common area of concern for this code, as the external transmission connections have the greatest number of issues with corrosion.

Step 5

If the P083E code does return, we will need to test the TFPS sensor and its associated circuits. With the Key Off, disconnect the electrical connector at the TFPS sensor. Connect a Digital Voltmeter (DVOM) black lead to the ground or low reference terminal at the TFPS sensor wiring harness connector.

Connect the red lead of the Digital Voltmeter to the signal terminal at the TFPS sensor wiring harness connector. Turn Key On Engine Off. Check manufacturer’s specifications; voltmeter should read either 12 volts or 5 volts. Wiggle the connections to see if they change. If the voltage is incorrect, repair the power or ground wire, or replace the PCM/TCM.

Step 6

If the prior test passed, connect one lead of an ohmmeter to the signal terminal at the TFPS sensor and the other lead to the ground or low reference terminal at the sensor. Check manufacturers specifications on the resistance of the sensor to accurately test the resistance to pressure when there is no pressure applied to it.

Wiggle the connector at the Transmission Fluid Pressure Sensor/Switch while monitoring the resistance. If the ohmmeter readings do not pass, replace the TFPS.

Step 7

If all prior tests have passed and you continue to get a P083E, this would most likely indicate a failed TFPS sensor, although a failed PCM/TCM could not be ruled out, nor could internal transmission malfunctions until the TFPS sensor had been replaced. If unsure, seek assistance from a trained automotive diagnostician. PCM/TCMs must be programmed, or calibrated to the vehicle in order to be installed correctly.

Severity Description

Severity depends upon which circuit the failure has occurred in. Since this could be an electrical failure or a mechanical failure, the PCM/TCM can compensate to some degree. The failure may mean that the PCM/TCM modifies the shifting of the transmission if electronically controlled.

Reference Sources

P083E Transmission Fluid Pressure Sensor / Switch G Circuit Intermittent, OBD-Codes.