

P0770: SHIFT SOLENOID E MALFUNCTION

OVERVIEW

Severity	:	Medium
DIY Difficulty Level	:	Intermediate
Repair Cost	:	\$200-\$500
Can I Still Drive?	:	Yes (Short-term only)

What Does The P0770 Code Mean?

Most automatic transmissions incorporate a number of shift solenoids, depending on the number of gears inside. The trouble codes related to this, the "E" solenoid, are codes P0770, [P0771](#), [P0772](#), [P0773](#) and [P0774](#) based on the specific malfunction that alerts the PCM to set the code and illuminate the Check Engine Light. If you have an Overdrive or other transmission warning lamp, it may be illuminated also.

The purpose of the Shift Solenoid Circuit is for the PCM to monitor the shift solenoids to manage the movement of fluid between various hydraulic circuits and change the transmission gear ratio at the appropriate time. This process maximizes the performance level of the engine at the lowest RPM possible.

The automatic transmission relies on bands and clutches to change gears and this is accomplished by having fluid pressure in the right place at the right time. The transmission solenoids are responsible for opening or closing valves in the valve body to allow transmission fluid to flow to the clutches and bands to shift the transmission smoothly as the engine accelerates.

When the Powertrain Control Module (PCM) detects a malfunction within the Shift Solenoid "E" Shift Circuit a variety of codes can be triggered depending on the specific vehicle, transmission and the number of gears incorporated into the specific automatic transmission. In this case, the P0770 OBD-II trouble code is associated with a general malfunction with the the transmission Shift Solenoid "E" Circuit.

What Are The Symptoms Of The P0770 Code?

Symptoms of a P0770 trouble code may include:

- Transmission slipping
- Transmission overheating
- Transmission catches in gear
- Decreased fuel economy
- Possibly misfire-like symptoms
- Vehicle enters limp mode
- Check Engine Light illuminated

What Are The Potential Causes Of The P0770 Code?

Causes for this P0770 transmission code may include:

- Insufficient fluid level
- Dirty or contaminated fluid
- Dirty or clogged transmission filter
- Defective transmission valve body
- Restricted hydraulic passages
- Transmission has internal failure
- Faulty shift solenoid
- Corroded or damaged connector
- Faulty or damaged wiring
- Faulty PCM

How Can You Fix The P0770 Code?

Prior to beginning the troubleshooting process for any malfunction you should research the Technical Service Bulletins (TSB's) for the specific vehicle by year, model and transmission. In some circumstances this can save a lot of time in the long run by pointing you in the right direction. You should also check the vehicle records to verify the last time that the filter and fluid was changed if possible.

Fluid & Wiring Inspections

The first step is to make sure the fluid level is correct and inspect the condition of the fluid for contamination. Then, a thorough visual inspection to check the associated wiring for obvious defects such as scraping, rubbing, bare wires, or burn spots should be performed.

Next is to check the connectors and connections for security, corrosion and damaged pins. This process must include all wiring and connectors to the transmission solenoids, transmission pump

and the PCM. Based on the configuration, the transmission linkage should be inspected for security and binding issues.

Advanced Steps

The advanced steps become very vehicle specific and require the appropriate advanced equipment to perform accurately. These procedures require a digital multi meter and the specific technical references for the vehicle. Voltage requirements will vary based on the specific year and model of the vehicle. You should follow the specific troubleshooting chart for your vehicle.

Continuity Checks

Continuity checks should always be performed with the power removed from the circuit and the normal readings for wiring and connections should be 0 ohms of resistance unless otherwise specified by the technical data. Resistance or no continuity is an indication of faulty wiring that is open or shorted and must be repaired or replaced.

Severity Description

The severity of this code normally starts as moderate, but it can progress to a more severe level rapidly when not corrected in a timely manner.

Reference Sources

[P0770 Shift Solenoid E Malfunction](#), OBD-Codes.