P0816: DOWNSHIFT SWITCH CIRCUIT

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$150-$200**
Can I Still Drive?	:	**Yes**

What Does The P0816 Code Mean?

If your vehicle has stored a code P0816, it means that the powertrain control module (PCM) has detected a malfunction in the downshift switch circuit. This type of code is usually limited to vehicles with paddle shifters.

The transmission control module (TCM) may be a stand alone module or part of the PCM. Downshift (paddle) shifter buttons are typically located on the steering wheel horn pad in close proximity to the driver's finger position. They are used as a type of sport shifter, usually in high-performance models.

The PCM monitors transmission gear selection in comparison to downshift switch input signals to ensure continuity. Additionally, the PCM monitors downshift switch circuit voltage to ensure that is within established parameters.

If the PCM detects that the transmission gear selection is not conducive to the gear selection signal input by the downshift switch or if switch circuit voltage is not within allowable parameters, a code P0816 may be stored and a malfunction indicator lamp (MIL) illuminated. Multiple ignition cycles (with a failure) may be required for MIL illumination.

What Are The Symptoms Of The P0816 Code?

Symptoms of a P0816 trouble code may include:

- Manual (paddle) downshift function disabled
- Shift indicator reflects incorrect gear
- No symptoms may be exhibited

What Are The Potential Causes Of The P0816 Code?

Causes for this code may include:

- Defective downshift switch
- Shorted or open circuits in downshift switch circuit
- Faulty PCM or a programming error

How Can You Fix The P0816 Code?

Preparation

A diagnostic scanner, a digital volt/ohmmeter (DVOM), and a source of vehicle specific diagnostic information will be required to diagnose a code P0816.

You may use your source of vehicle information to locate a technical service bulletin (TSB) that matches the vehicle year, make, and model; as well as the engine size, code/s stored, and symptoms exhibited. If you find one, it could yield helpful diagnostic information.

Use the scanner (connected to the vehicle diagnostic connector) to retrieve all stored codes and pertinent freeze frame data. It is a good idea to write this information down before clearing the codes then test-drive the vehicle until the PCM either enters readiness mode or the code is reset.

If the PCM enters readiness mode at this time, the code is intermittent and may be much more difficult to diagnose. If this is the case, the conditions which contributed to the code being stored may need to worsen before an accurate diagnosis can be made.

If the code is immediately reset, the next step of your diagnosis will require that you search your vehicle information source for diagnostic flow-charts, connector pin-out charts, connector face views, and component testing procedures/specifications.

Step 1

Use the DVOM to test voltage, ground, and signal output at the appropriate downshift switch. Typical downshift switch circuits consist of either battery voltage (when activated) or ground (when deactivated).

Step 2

If system circuits are functional, use the DVOM to test downshift switch circuits to the PCM or

transmission. Disconnect all controllers prior to using the DVOM for testing.

Step 3

Use your source of vehicle diagnostic information and the DVOM to test downshift switches as required. Replace switches that do not test within system specifications.

Additional note:

- Downshift switch codes are most often attributed to switch failure

Severity Description

A stored code P0816 indicates that either a serious electrical issue or some type of mechanical failure has occurred. At any rate, conditions which contributed to a code of this nature being stored should be rectified as quickly as possible.

Reference Sources

P0816 Downshift Switch Circuit, OBD-Codes.