P0813: REVERSE OUTPUT CIRCUIT

OVERVIEW

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

What Does The P0813 Code Mean?

If your vehicle has stored a code P0813, it means that the powertrain control module (PCM) has detected a malfunction in the reverse output signal circuit.

The transmission control module (TCM) may be a stand alone module or part of the PCM. Like the TCM, the reverse sensor for the transmission may be a single component or it may be part of the neutral safety switch. Vehicle applications with a manual transmission typically use a separate reverse position sensor and automatic transmissions use the neutral safety switch.

The transmission controller calculates data from the vehicle speed sensor and wheel speed sensors to determine whether or not the vehicle is in motion; and in what direction. The PCM also runs self tests periodically to make sure that system circuit voltage is within parameters.

If the PCM detects that the vehicle is moving in a reverse direction without the appropriate reverse sensor signal, a code P0813 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 P0813 Code?

Symptoms of a P0813 trouble code may include:

- Reverse lamps are inoperative

- Reverse lamps are continuously illuminated
- No symptoms may be exhibited

What Are The Potential Causes Of The P0813 Code?

Causes for this code may include:

- Defective reverse position sensor
- Bad Neutral safety switch
- Shorted wiring for reverse position sensor
- Faulty PCM or a programming error

How Can You Fix The P0813 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 P0813.

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 at the reverse position sensor or neutral safety switch. Reverse position sensor input and output circuits typically consist of either reference voltage (transmission in reverse) or ground (transmission not in reverse).

Step 2

If system circuits are functional, use the DVOM to test the appropriate reverse position sensor.

Replace sensors that do not test within system parameters.

Additional note:

- Reverse position sensor codes are most often attributed to sensor failure

Severity Description

A stored code P0813 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

P0813 Reverse Output Circuit, OBD-Codes.