

P2768: INPUT/TURBINE SPEED SENSOR "B" CIRCUIT INTERMITTENT

OVERVIEW

Severity	:	<div>High</div>
DIY Difficulty Level	:	<div>Intermediate</div>
Repair Cost	:	\$200-\$290
Can I Still Drive?	:	No

What Does The P2768 Code Mean?

If you are presented with a trouble code P2768, it is likely because the powertrain control module (PCM) has detected an erratic voltage input signal from the circuit of the input (or turbine) speed sensor that has been given the designation "B". Although input and turbine speed sensors are virtually the same, and serve the same purpose, component terminology varies between manufacturers.

In most cases, the input/turbine speed sensor is a 3-wire, electromagnetic sensor used to monitor transmission input speed in revolutions per minute (RPM). The sensor is usually positioned near the rear of the bell housing (at the transmission input shaft) and mounted with a bolt/stud or threaded directly into the transmission case.

Either a notched reluctor wheel or specially designed grooves are permanently attached to the transmission main (or input) shaft. As the running engine transfers RPMs to the transmission, the input shaft (or reluctor wheel) passes close to the end of the sensor.

The steel shaft (or reluctor wheel) effectively completes an electronic/electromagnetic circuit with the sensor. An electronic pattern is formed when the circuit is interrupted by the grooved (or notched) areas passing by the sensor. The pattern is recognized by the PCM as a waveform that it is programmed to interpret as transmission input/turbine speed.

Transmission output speed, transmission input/turbine speed, engine speed, throttle position, percentage of engine load, and other factors are compared and calculated to determine the desired input/turbine RPM speed. A code P2768 will be stored (and a malfunction lamp may be illuminated) if the input/turbine speed, or system circuit voltage, fail to remain accurate within a predetermined degree for a specific amount of time.

The P2768 indicates an intermittent input circuit voltage for the input/turbine speed sensor.

What Are The Symptoms Of The P2768 Code?

Symptoms of a P2768 code may include:

- Erratic speedometer (odometer) operation
- The transmission fails to shift properly
- Speedometer and/or odometer will not operate at all
- Transmission shift points are erratic or harsh
- Diminished fuel efficiency

What Are The Potential Causes Of The P2768 Code?

Potential causes for this code to set are:

- Defective input speed sensor B
- Damaged, loose, or burnt wiring and/or connectors
- PCM failure or a PCM programming error
- Accumulation of metal debris on the magnetic sensor

How Can You Fix The P2768 Code?

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.

A digital volt/ohmmeter (DVOM), a manufacturer's service manual, an advanced diagnostic scanner, and possibly an oscilloscope will be instrumental in diagnosing the P2768 code correctly.

Step 1

I usually begin my diagnosis with a visual inspection of system wiring and connectors. I would repair any obviously shorted or open circuits and/or connectors before proceeding any further. Don't forget to inspect the battery, battery cables, and cable ends and test alternator output at this time.

Step 2

Next, I would connect the scanner to the diagnostic port and retrieve all stored codes and write them down for future reference. I'd also make a note of the freeze frame data at this time.

Step 3

Use the scanner data stream to determine which circuit is malfunctioning, if there are input sensor and output sensor codes present. To get the most accurate data available with the scanner, narrow the data stream to include only pertinent information.

Step 4

Metal debris on magnetic contacts of input and/or output speed sensors can cause intermittent/erratic sensor output data. Remove the sensor and check for metallic debris. Clean excessive debris from magnetic surfaces before reinstallation. I would also inspect interruption grooves and/or reluctor wheel notches for signs of damage or wear.

Step 5

I use the DVOM to test individual sensor resistance and circuit voltage by following manufacturer's guidelines (found in the service manual or through All Data). I would replace sensors that do not comply with manufacturer's specifications.

Controller failure may result if all related controllers are not disconnected prior to testing resistance or continuity with the DVOM.

Step 6

Suspect a faulty PCM or a PCM programming error, if a code P2768 is stored and all system circuits and sensors are in proper working order and comply with manufacturer's specifications.

Additional diagnostic notes:

- Excessive metallic debris (attracted to the electromagnetic sensor) may cause erratic input/output speed sensor readings
- Sensor to reluctor clearance is critical. Make sure that mounting surfaces/threaded holes are clear of debris and obstructions
- If input and/or output speed sensors must be removed from the transmission case, use caution. Hot transmission fluid may escape from the opening
- Look for transmission fluid in the connector area of the input speed sensor, as some sensors are prone to leak internally

Reference Sources

[P2768 Input/Turbine Speed Sensor B Circuit Intermittent](#), OBD-Codes.