

P062C: INTERNAL CONTROL MODULE VEHICLE SPEED PERFORMANCE

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	\$100-\$350
Can I Still Drive?	:	No

What Does The P062C Code Mean?

When a code P062C is stored, it means that the powertrain control module (PCM) has detected an internal performance error with the vehicle speed sensor (VSS) signal. Other controllers may also detect an internal PCM performance error (in the VSS signal) and cause a P062C to be stored.

Internal control module monitoring processors are responsible for various controller self-test duties and overall internal control module accountability. VSS signal input and output signals are subject to self-test and are monitored constantly by the PCM and other related controllers.

The transmission control module (TCM), traction control module (TCSM), and other controllers are subject to interaction with the VSS signal.

The VSS is typically an electromagnetic sensor that interacts with some type of toothed reluctor ring, wheel, or gear that is mechanically affixed to an axle, transmission/transfer case output shaft, or driveshaft. As the axle spins, so spins the reluctor ring. As the reluctor passes by (in very close proximity to) the sensor, the notches in the reluctor ring create interruptions in the electromagnetic sensor circuit.

These interruptions are received by the PCM (and other controllers) as wave form patterns. The faster the wave form patterns are input into the controller, the higher the estimated vehicle speed. As the input of wave forms slow, vehicle speed estimation (as perceived by the controller)

decreases. These input signals are compared (between modules) via the controller area network (CAN).

Whenever the ignition is on and the PCM is energized, VSS signal self-tests are initiated. In addition to running internal controller self-tests, the controller area network (CAN) also compares signals from each individual module to ensure that each controller is functioning properly. These tests are performed simultaneously.

If the PCM detects discrepancies in VSS inputs/outputs, a code P062C will be stored and a malfunction indicator lamp (MIL) may be illuminated. Additionally, if the PCM detects a discrepancy between any of the on-board controllers, which would indicate an internal VSS error, a code P062C will be stored and a malfunction indicator lamp (MIL) may be illuminated.

Multiple failure cycles may be necessary for MIL illumination, depending upon the perceived severity of the malfunction.

What Are The Symptoms Of The P062C Code?

Symptoms of a P062C trouble code may include:

- Erratic speedometer/odometer operation
- Irregular transmission shift patterns
- Illumination of the service engine soon lamp, traction control lamp, or antilock brake lamp
- Unexpected activation of the antilock braking to traction control system (if equipped)
- Traction control codes and/or ABS codes may be stored
- The ABS system may be rendered inoperable in some cases

What Are The Potential Causes Of The P062C Code?

Causes for this P062C DTC code may include:

- Defective controller or programming error
- Excessive metal debris buildup on VSS
- Damaged or worn teeth on reluctor ring
- A defective VSS
- A bad controller power relay or blown fuse
- Open or shorted circuit or connectors in the CAN harness
- Insufficient control module ground
- Open or shorted circuits between the VSS and the PCM

How Can You Fix The P062C Code?

Even to the most experienced and well-equipped professional technician, diagnosing a code P062C

can prove to be quite a challenge. There is also the issue of reprogramming. Without the necessary reprogramming equipment, it will be impossible to replace a defective controller and complete a successful repair.

If there are ECM/PCM power supply codes present, they will obviously need to be rectified before attempting to diagnose a P062C. Also, if there are VSS codes present, these must be diagnosed and repaired first.

There are several preliminary tests that can be performed prior to declaring an individual controller defective. A diagnostic scanner, a digital volt/ohmmeter (DVOM), and a source of reliable vehicle information will be required. An oscilloscope will also prove helpful when testing the VSS and VSS circuits.

Step 1

Connect the scanner to the vehicle diagnostic port and retrieve all stored codes and freeze frame data. You will want to write this information down, just in case the code proves to be an intermittent one. After recording all pertinent information, clear the codes and test drive the vehicle until the code is reset or the PCM enters readiness mode.

If the PCM enters readiness mode, the code is intermittent and will be more difficult to diagnose. The condition, which caused the P062C to be stored, may even need to worsen before a diagnosis can be made. If the code is reset, continue with this short list of preliminary tests.

Step 2

When attempting to diagnose a P062C, information may be your greatest tool. Search your vehicle information source for technical service bulletins (TSB) that parallel the code stored, vehicle (year, make, model, and engine), and symptoms exhibited. If you find the right TSB, it may yield diagnostic information that will aid you in a major way.

Step 3

Use your source of vehicle information to obtain connector face views, connector pin-out charts, component locators, wiring diagrams, and diagnostic flow charts related to the code and vehicle in question.

Step 4

You may use either the scanner (data stream) or the oscilloscope to test VSS output, with the drivetrain engaged. If you use the scanner, narrowing the data stream (to display only pertinent fields) will increase the accuracy at which the desired data is displayed. Watch for inconsistent or erratic readings from the VSS.

The oscilloscope provides a more accurate data sample. Use the positive test lead to test the VSS signal circuit (negative test lead grounded to the battery). Watch for glitches or voltage spikes in the VSS signal circuit wave form pattern.

The DVOM may be used to perform a resistance test on the VSS sensor (and VSS circuits) if necessary. Replace sensors that do not comply with manufacturer's specifications.

Step 5

Use the DVOM to test controller power supply fuses and relays. Test and replace blown fuses as required. Fuses should be tested with the circuit loaded.

Step 6

If all fuses and relays appear to be functioning as intended, a visual inspection of controller related wiring and harnesses is in order. You will also want to check chassis and engine ground junctions. Use your vehicle information source to obtain ground locations for related circuits. Use the DVOM to test ground integrity.

Step 7

Visually inspect system controllers for signs of water, heat, or collision damage. Any controller that is damaged, especially by water, should be considered defective.

If controller power and ground circuits are intact, suspect a defective controller or a controller programming error. Controller replacement will require reprogramming.

In some cases, you may purchase reprogrammed controllers through aftermarket sources. Other vehicles/controllers will require on-board reprogramming that may only be done through a dealership or other qualified source.

- Unlike most other codes, the P062C is likely caused by a defective controller or a controller programming error
- Test system ground integrity by connecting the negative test lead of the DVOM to ground and the positive test lead to battery voltage

Severity Description

Internal control module processor codes should be categorized as severe. A stored code P062C could result in erratic automatic transmission shift patterns and erratic speedometer/odometer operation.

Reference Sources

[Diagnostic Trouble Code \(DTC\) Charts and Descriptions for P062C](#) - Page 95.