P0500: VEHICLE SPEED SENSOR "A" MALFUNCTION

OVERVIEW

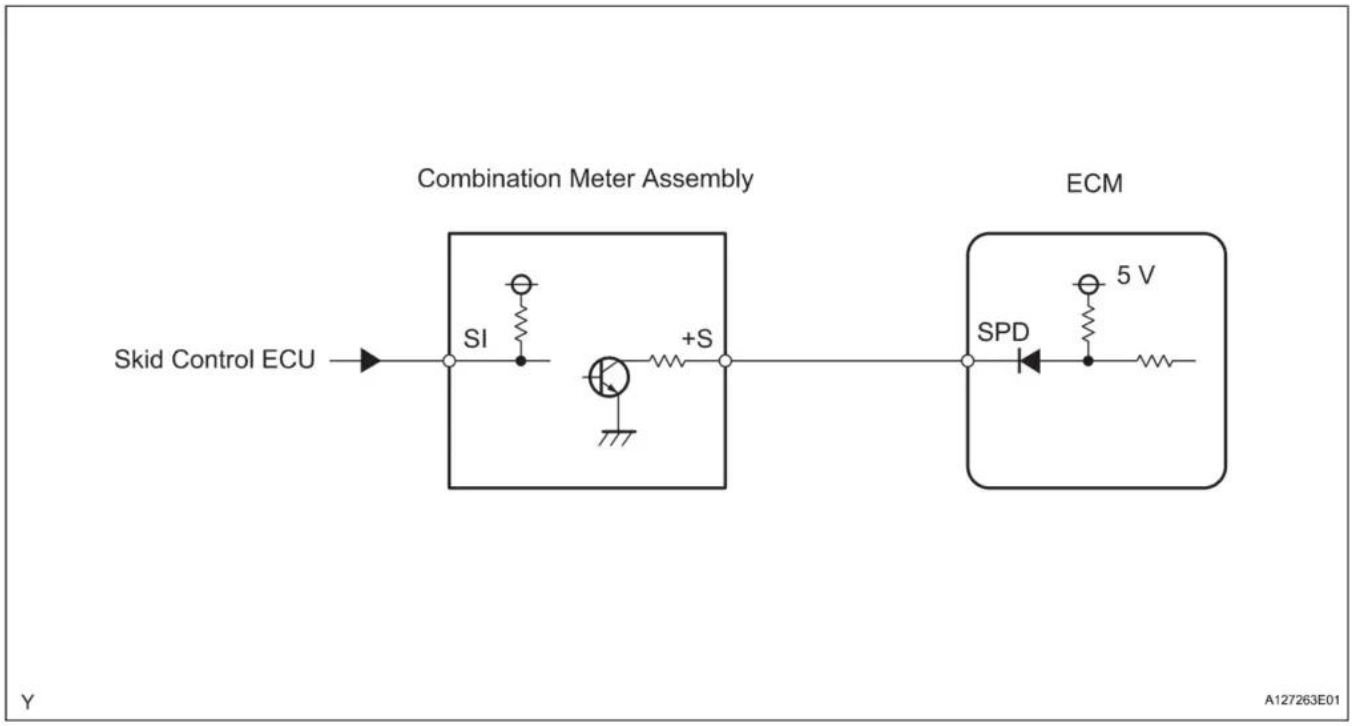
Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$100-$350**
Can I Still Drive?	:	No

What Does The P0500 Code Mean?

Basically this P0500 code means that the vehicle's speed as read by the Vehicle Speed Sensor (VSS)is not as expected. The VSS input is used by the vehicle's main computer called a PCM/ECM powertrain/engine control module along with other inputs for proper operation of the vehicle systems.

Typically, the VSS is an electromagnetic sensor that uses a rotating reluctor ring to complete an input circuit to the PCM. The VSS is mounted in the transmission housing at such a position as to allow the reluctor ring to pass by it; in close proximity. The reluctor ring is attached to the output shaft of the transmission so that it spins along with it.

As the reluctor ring passes by the electromagnetic tip of the VSS, notches and grooves serve to complete and interrupt the circuit rapidly. These circuit manipulations are recognized by the PCM as transmission output speed or vehicle speed.



P0500 wiring diagram

Related vehicle speed sensor trouble codes:

- P0501 Vehicle Speed Sensor “A” Range/Performance
- P0502 Vehicle Speed Sensor “A” Low Input
- P0503 Vehicle Speed Sensor “A” Intermittent/Erratic/High

What Are The Symptoms Of The P0500 Code?

Symptoms of a P0500 DTC may include:

- Loss of anti-lock brakes
- The “anti-lock” or “brake” warning lamps on the dash may be lit
- The speedometer or odometer may not work properly (or at all)
- Your vehicle’s RPM limiter may be decreased
- The shifting of an automatic transmission may become erratic
- Other symptoms may also be present

What Are The Potential Causes Of The P0500 Code?

A code P0500 may mean that one or more of the following has happened:

- The Vehicle Speed Sensor (VSS) is not reading (functioning) properly
- There is a broken/frayed wire leading to the vehicle speed sensor

- The vehicle's PCM is not correctly configured for the actual tire size on the vehicle

How Can You Fix The P0500 Code?

A good first step to do as a vehicle owner or DIYer is to search for technical service bulletins (TSBs) for your particular vehicle make/model/engine/year. If a known TSB exists (as is the case for some Toyota vehicles), following the instructions in a bulletin can help you save time and money in diagnosing and repairing your issue.

Next, visually inspect all wiring and connectors that lead to the speed sensor. Look closely for any chafing, bare wires, broken wires, melted, or otherwise damaged areas. Repair as required. The location of the sensor depends on your vehicle. The sensor could be on the rear axle, transmission, or perhaps the wheel hub (brake) assembly.

If the wiring and connectors are OK, then check the voltage at the speed sensor. Again, the exact procedure will depend on your make and model of vehicle.

If everything looks OK, replace the sensor.

Reference Sources

Diagnostic Trouble Code (DTC) Charts and Descriptions for P0500 - Page 78.