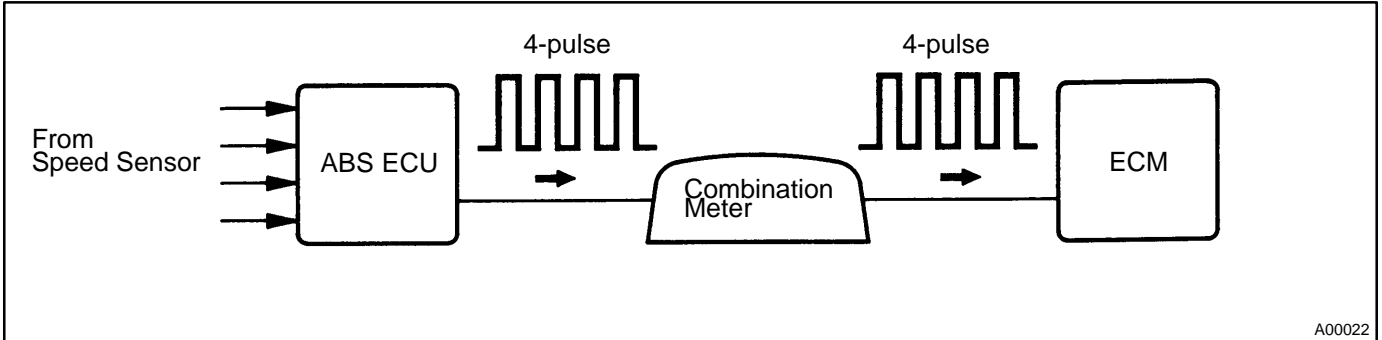


<b>DTC</b>	<b>P0500</b>	<b>Vehicle Speed Sensor Malfunction</b>
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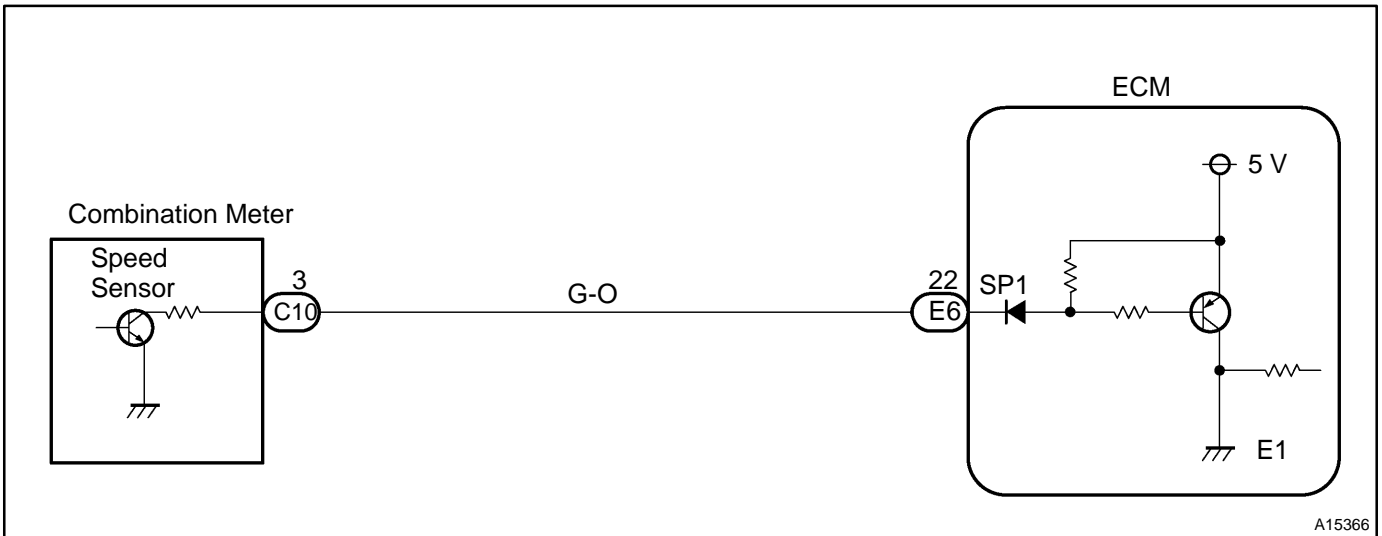
**CIRCUIT DESCRIPTION**

The speed sensor for ABS detects the wheel speed and sends the appropriate signals to the ABS ECU. The ECU converts these signals into a 4-pulse signal and outputs it to the combination meter. After this signal is converted into a more precise rectangular waveform by the waveform shaping circuit inside the combination meter, it is then transmitted to the ECM. The ECM determines the vehicle speed based on the frequency of these pulse signals.



DTC No.	DTC Detection Condition	Trouble Area
P0500	No speed sensor signal to ECM under following conditions: (2 trip detection logic) For A/T: (a) Park/neutral position switch is OFF (b) Vehicle is being driven For M/T: (a) Engine speed is between 1,800 rpm and 3,500 rpm	<ul style="list-style-type: none"> <li>• Open or short in speed signal circuit</li> <li>• Combination meter</li> <li>• ECM</li> <li>• Open or short in speed sensor circuit for ABS</li> <li>• ABS ECU</li> </ul>

**WIRING DIAGRAM**



## INSPECTION PROCEDURE

### HINT:

Read freeze frame data using TOYOTA hand-held tester or OBD II scan tool. Because freeze frame records the engine conditions when the malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air-fuel ratio was lean or rich, etc. at the time of the malfunction.

### 1 Check operation of speedometer.

#### CHECK:

Drive the vehicle and check if the operation of the speedometer in the combination meter is normal.

#### HINT:

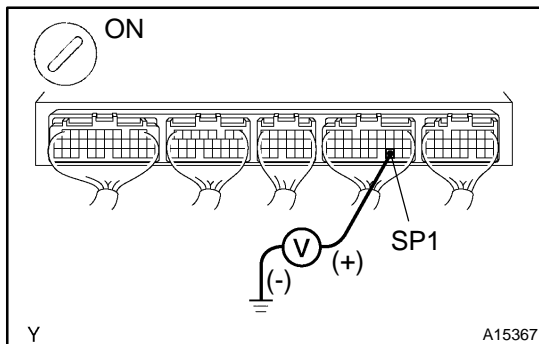
The vehicle speed operates normally if the speedometer display is normal.

NG

Check speedometer circuit (See page [BE-39](#)).

OK

### 2 Check voltage between terminal SP1 of ECM connector and body ground.



#### PREPARATION:

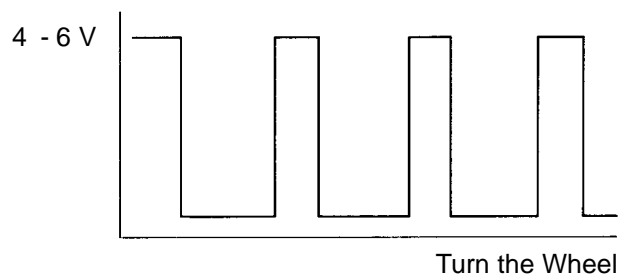
- Remove the glove compartment (See page [SF-54](#)).
- Disconnect the cruise control ECU connector.
- Shift the shift lever to the neutral.
- Jack up the rear wheel on one side.
- Turn the ignition switch ON.

#### CHECK:

Measure the voltage between terminal SP1 of the ECM connector and the body ground when the wheel is turned slowly.

#### OK:

Voltage is generated intermittently.



AT7809

OK

Check and replace ECM (See page [IN-28](#)).

NG

<b>3</b>	<b>Check for open or short in harness and connector between combination meter and ECM (See page <a href="#">IN-28</a>).</b>
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<b>OK</b>	<b>Check and replace ECM (See page <a href="#">IN-28</a>).</b>
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<b>NG</b>
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<b>Repair or replace harness or connector.</b>
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