

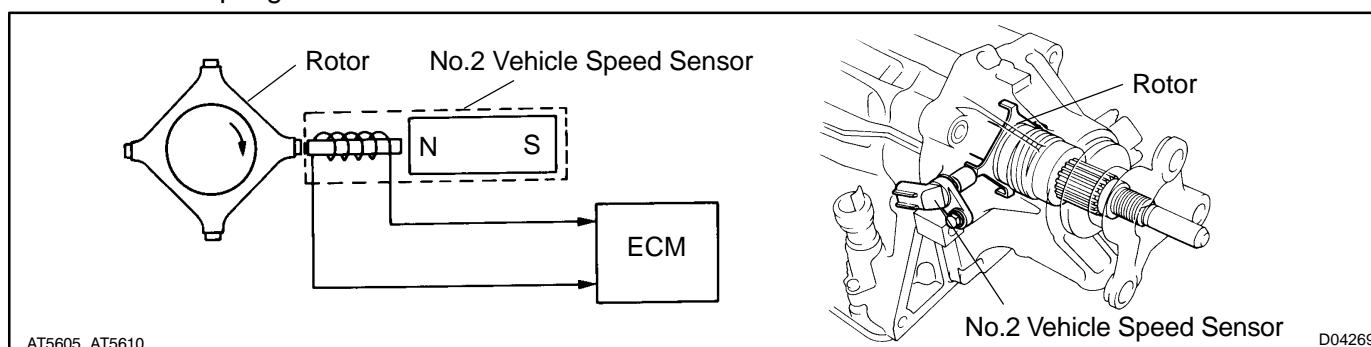
<b>DTC</b>	<b>P1700</b>	<b>Speed Sensor No.2 Circuit Malfunction (No.2 Vehicle Speed Sensor)</b>
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## CIRCUIT DESCRIPTION

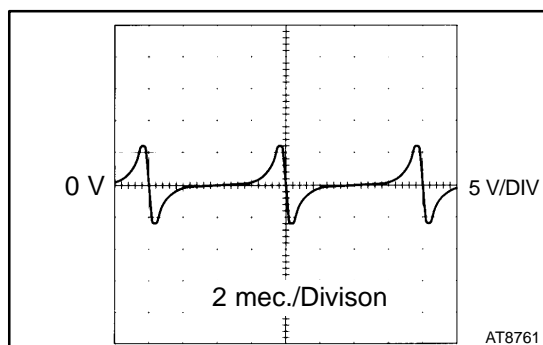
The No.2 vehicle speed sensor detects the rotation speed of the transmission output shaft and sends signals to the ECM. The ECM determines the vehicle speed based on these signals. An AC voltage is generated in the No.2 vehicle speed sensor coil as the rotor mounted on the output shaft rotates, and this voltage is sent to the ECM.

The gear shift point and lock-up timing are controlled by the ECM based on the signals from this vehicle speed sensor and the throttle position sensor signal.

If the No.2 vehicle speed sensor malfunctions, the ECM uses input signals from the No.1 vehicle speed sensor as a back-up signal.



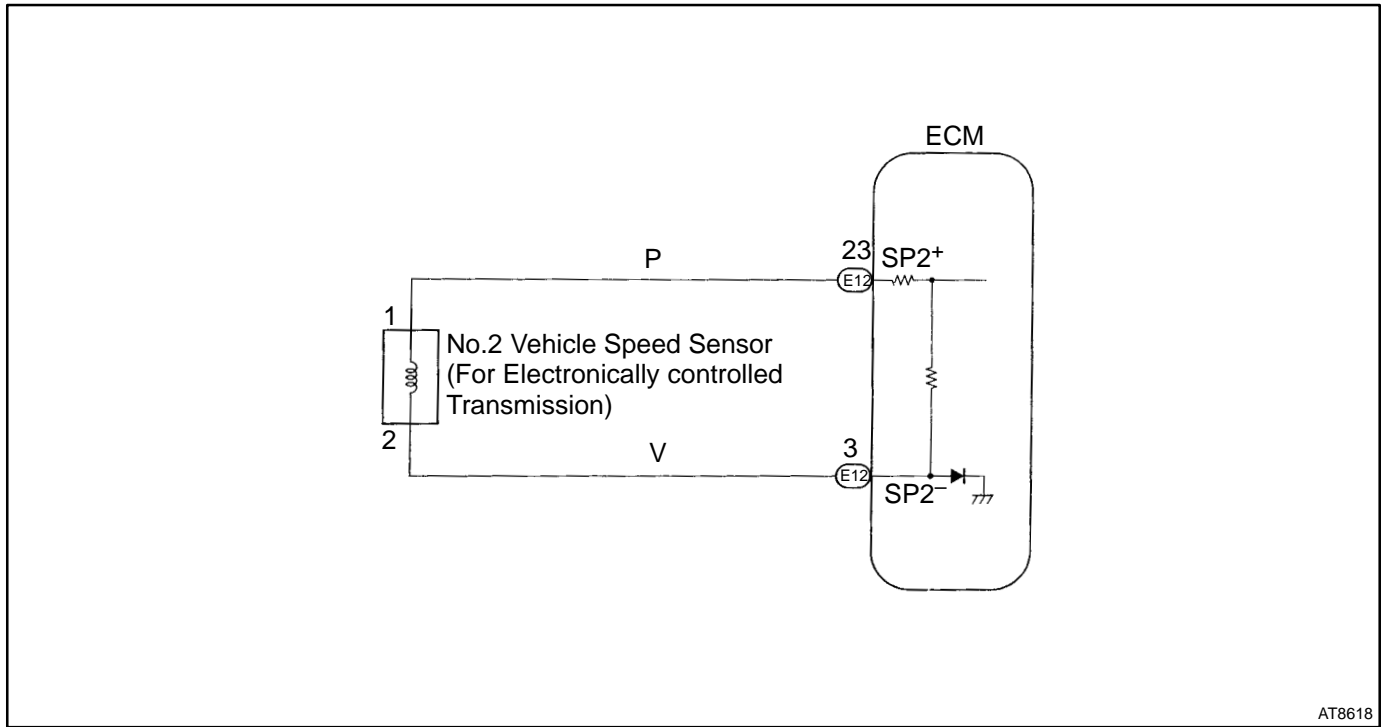
DTC No.	DTC Detecting Condition	Trouble Area
P1700	<p>All conditions below are detected 500 times or more continuously.</p> <p>(a) No signal from No.2 vehicle speed sensor is input to ECM while 4 pulses of No.1 vehicle speed sensor signal is sent.</p> <p>(b) Vehicle speed: 9 km/h (5.6 mph) or more for at least 4 secs.</p> <p>(c) Park/neutral position switch: OFF (Other than P or N position)</p>	<ul style="list-style-type: none"> <li>• Open or short in No.2 vehicle speed sensor circuit</li> <li>• No.2 vehicle speed sensor</li> <li>• ECM</li> </ul>



### Reference:

Waveform between terminals SP2<sup>+</sup> and SP2<sup>-</sup> when vehicle speed is approx. 60 km/h (37 mph).

## WIRING DIAGRAM



## INSPECTION PROCEDURE

1	Check vehicle speed value or resistance between terminals SP2 <sup>+</sup> and SP2 <sup>-</sup> of ECM.
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When using OBDII scan tool or LEXUS hand-held tester:

**PREPARATION:**

- Remove the DLC3 cover.
- Connect the OBDII scan tool or LEXUS hand-held tester to the DLC3.
- Turn ignition switch ON and OBDII scan tool or LEXUS hand-held tester main switch ON.

**CHECK:**

Drive the vehicle and read vehicle speed value.

**OK:**

Vehicle speed matches tester speed value.

When not using OBDII scan tool or LEXUS hand-held tester:

**PREPARATION:**

- Disconnect connector from ECM.
- Connect the check harness A to the harness side connector.

**NOTICE:**

Do not connect the check harness A to ECM.

**CHECK:**

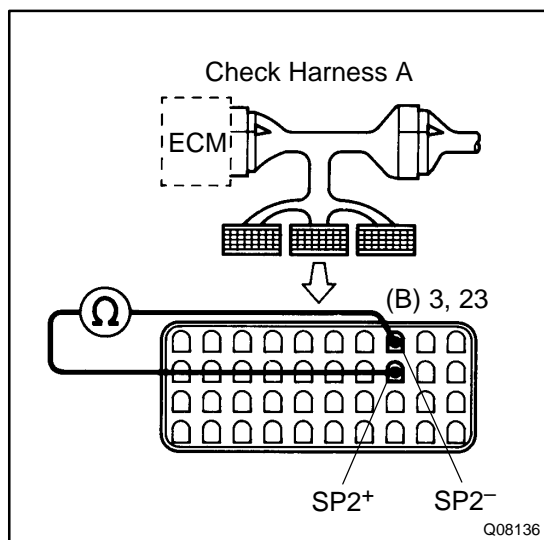
Check resistance between terminals SP2<sup>+</sup> and SP2<sup>-</sup> of check harness A connector.

**OK:**

Resistance: 560 – 680  $\Omega$

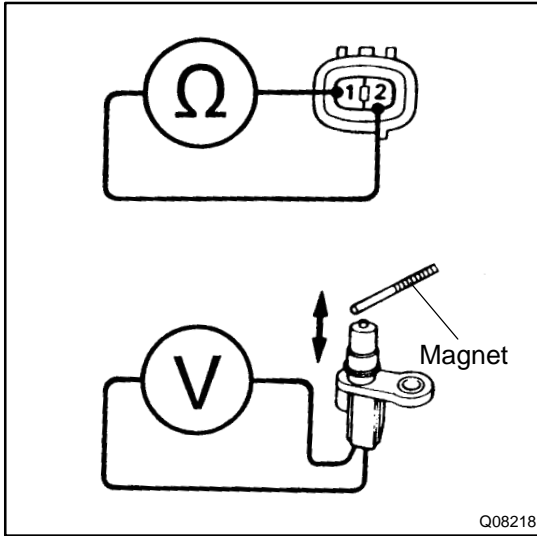
OK

Check and replace ECM.



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## 2 Check No.2 vehicle speed sensor.

**PREPARATION:**

Remove the No.2 vehicle speed sensor from transmission.

**CHECK:**

Measure resistance between terminals 1 and 2 of vehicle speed sensor.

**OK:**

**Resistance: 560 – 680 Ω**

**Reference: Check the vehicle speed sensor's function**

**CHECK:**

Check voltage between terminals 1 and 2 of the vehicle speed sensor when a magnet is put close to the front end of the vehicle speed sensor then taken away quickly.

**OK:**

**Voltage is generated intermittently.**

**HINT:**

The generated voltage is extremely low.

**NG**

**Replace No.2 vehicle speed sensor.**

**OK**

**Check and repair harness and connector between ECM and No.2 vehicle speed sensor (See page [IN-29](#)).**