

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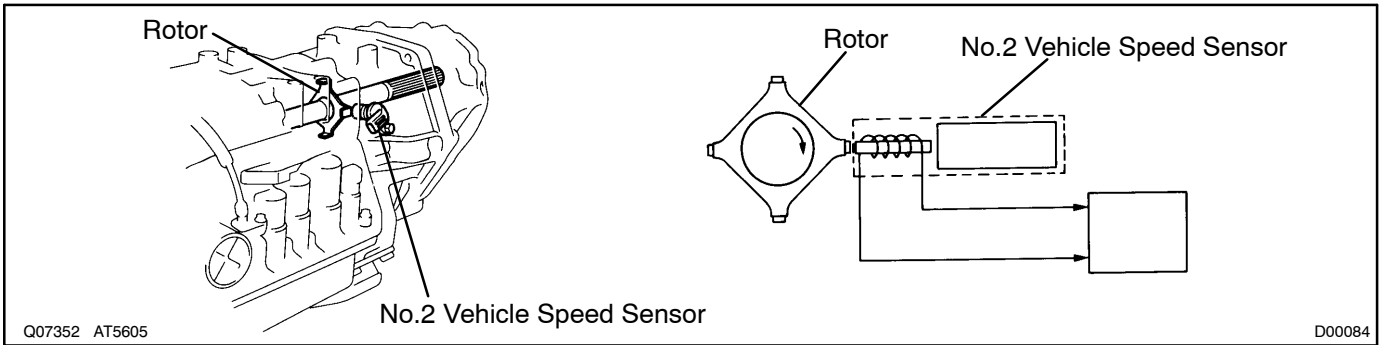
## CIRCUIT DESCRIPTION

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.

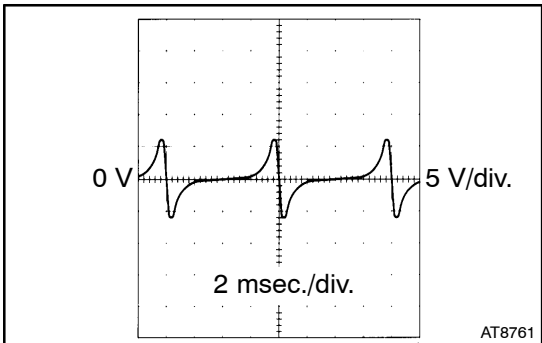
An AC voltage is generated in the No.2 vehicle speed sensor coil as the rotor mounted on the output shaft rotates, and this voltage is sent to the ECM.

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.



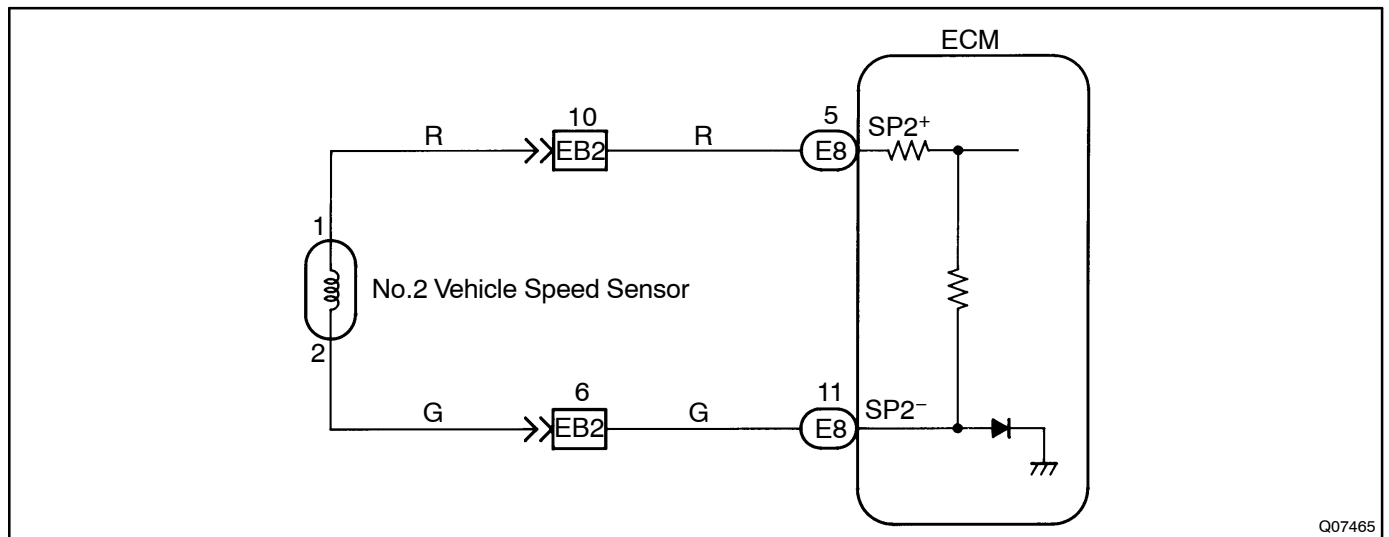
DTC No.	DTC Detecting Condition	Trouble Area
P1700	<p>All conditions below are detected 500 times or more continuously. (2-trip detection logic)</p> <p>(a) No signal from No.2 vehicle speed sensor is input to ECM while 4 pulses of No.1 vehicle speed sensor signal are sent.</p> <p>(b) Vehicle speed: 9 km/h (5.6 mph) or more for as least 4 seconds</p> <p>(c) Park/neutral position switch: OFF (Other than P or N)</p> <p>(d) Transfer position: Other than 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>



### HINT:

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 LEXUS hand-held tester.**

**PREPARATION:**

- Connect LEXUS hand-held tester to the DLC3.
- Start the engine and 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 LEXUS hand-held tester.**

**PREPARATION:**

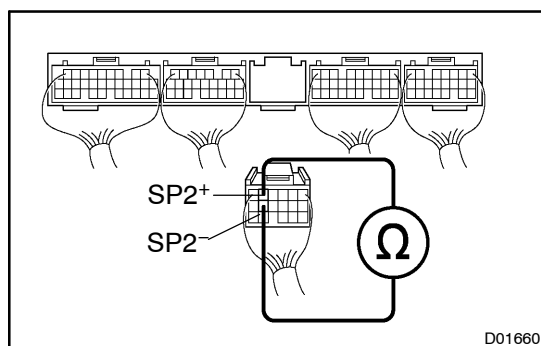
Disconnect the connector from ECM.

**CHECK:**

Check resistance between terminals SP2<sup>+</sup> and SP2<sup>-</sup> of ECM.

**OK:**

**Resistance: 560 ~ 680 Ω at 20 °C**

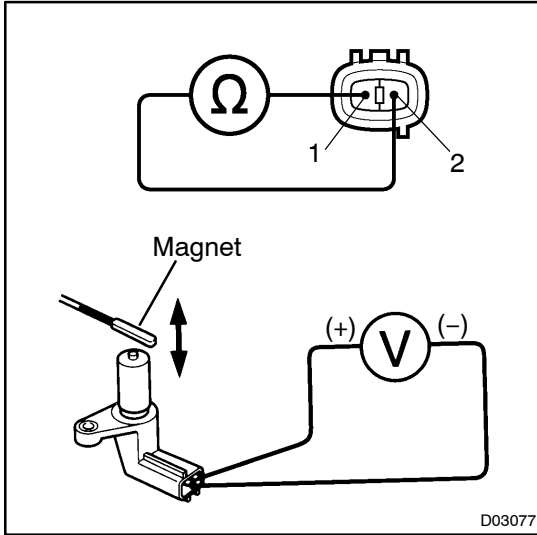


**OK**

**Check and replace the ECM  
(See page IN-33).**

**NG**

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**Check No.2 vehicle speed sensor.****PREPARATION:**

Remove the No.2 vehicle speed sensor from the transmission.

**CHECK:**

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

**OK:**

(a) **Resistance: 560 ~ 680  $\Omega$**

(b) **Voltage is generated intermittently.**

**HINT:**

The voltage generated is extremely low.

**NG****Replace the No.2 vehicle speed sensor.****OK**

**Check and repair the harness and connector between ECM and No.2 vehicle speed sensor. (See page [IN-33](#))**