

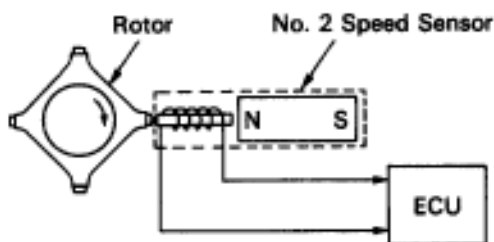
<b>Diag. Code</b>	<b>61</b>	<b>No. 2 Speed Sensor Circuit</b>
-------------------	-----------	-----------------------------------

**CIRCUIT DESCRIPTION**

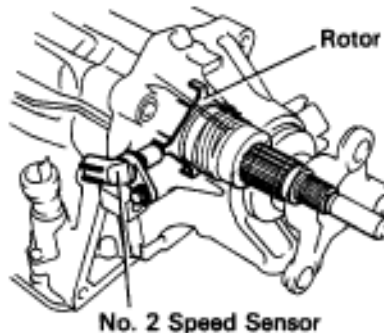
The No. 2 speed sensor detects the rotation speed of the transmission output shaft and sends signals to the Engine & ECT ECU. The ECU determines the vehicle speed based on these signals. An AC voltage is generated in the No. 2 speed sensor coil as the rotor mounted on the output shaft rotates, and this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

The gear shift point and lockup timing are controlled by the ECU based on the signals from this speed sensor and the throttle position sensor signal.

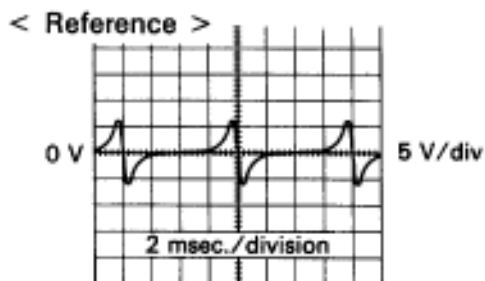
If the No. 2 speed sensor malfunctions, the ECU uses input signals from the No. 1 speed sensor as a backup signal.



AT5606 AT5610

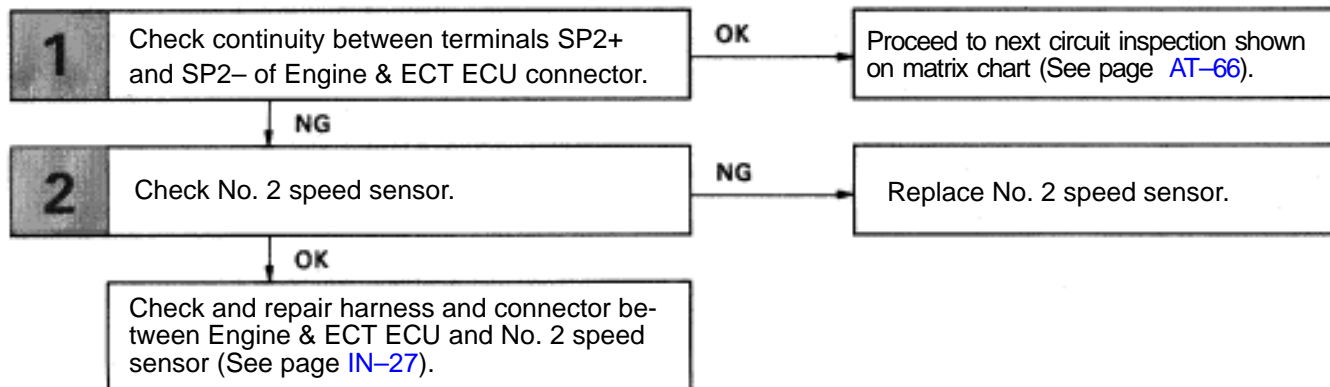


Code No.	Diagnostic Code Detecting Condition	Trouble Area
61	<p>All conditions below are detected 500 times or more continuously. (2 trip detection logic)*</p> <p>(a) No No. 2 speed sensor signal in 4 No. 1 speed sensor signal pulses.</p> <p>(b) Vehicle speed: 5.6 MPH (9 km/h) or more for 4 secs. or more</p> <p>(c) Neutral start switch: OFF (Other than P or N range)</p>	<ul style="list-style-type: none"> <li>•No. 2 speed sensor.</li> <li>•Harness or connector between no. 2 speed</li> <li>•Sensor and ECU.</li> <li>•ECU</li> </ul>

\*: See page [AT-62](#)

AT5761

- Waveform between terminals SP2+ and SP2– when vehicle speed is approx. 37 MPH (60 km/h).

**DIAGNOSTIC CHART**

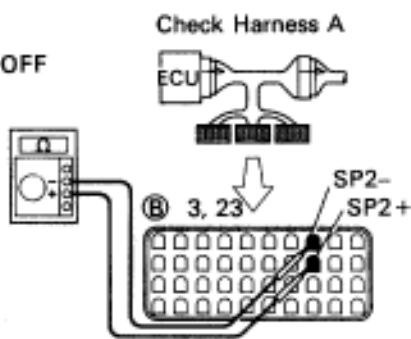
## INSPECTION PROCEDURE

### 1

### Check resistance between terminals SP2 + and SP2 – of Engine & ECT ECU connector.

OFF

IG OFF

BE6653  
AT8768

- P** Connect the Check Harness A to the ECU. (See page [TR-30](#)).
- C** Check resistance between terminals SP2+ and SP2- of Engine & ECT ECU connector.
- OK** **Resistance:** 560 – 680  $\Omega$

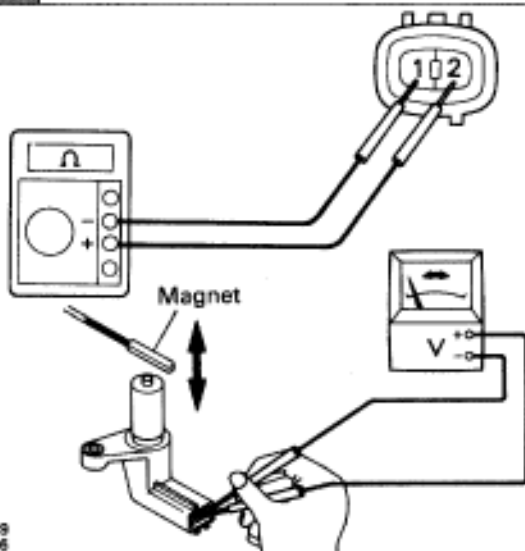
NG

OK

Proceed to next circuit inspection shown on matrix chart (See page [AT-66](#)).

### 2

### Check No. speed sensor.

AT8629  
AT5306

- P** Remove No. 2 speed sensor from transmission (See page [AT-19](#))
- C** Measure resistance between terminals 1 and 2 of speed sensor.
- OK** **Resistance:** 560 – 680  $\Omega$

&lt; Reference &gt;

#### Check the speed sensor's function

- C** Check voltage between terminals 1 and 2 of the speed sensor when a magnet is put close to the front end of the speed sensor then kept away quickly.
- OK** **Voltage is generated intermittently.**
- NG** The voltages generated is extremely low.

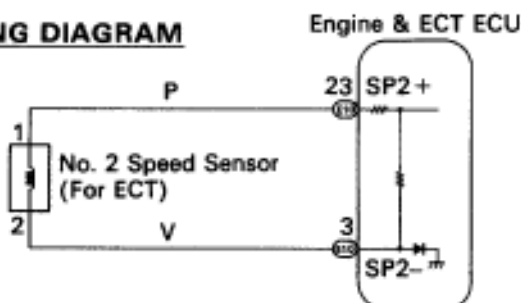
OK

NG

Replace No. 2 speed sensor.

Check and repair harness and connector between Engine & ECT ECU and No. 2 speed sensor (See page [IN-27](#)).

#### WIRING DIAGRAM



AT8518