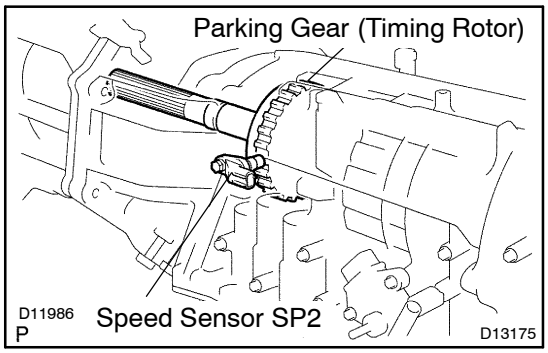
DTC	61(2)	Speed Sensor No.2 Malfunction (Speed Sensor SP2)

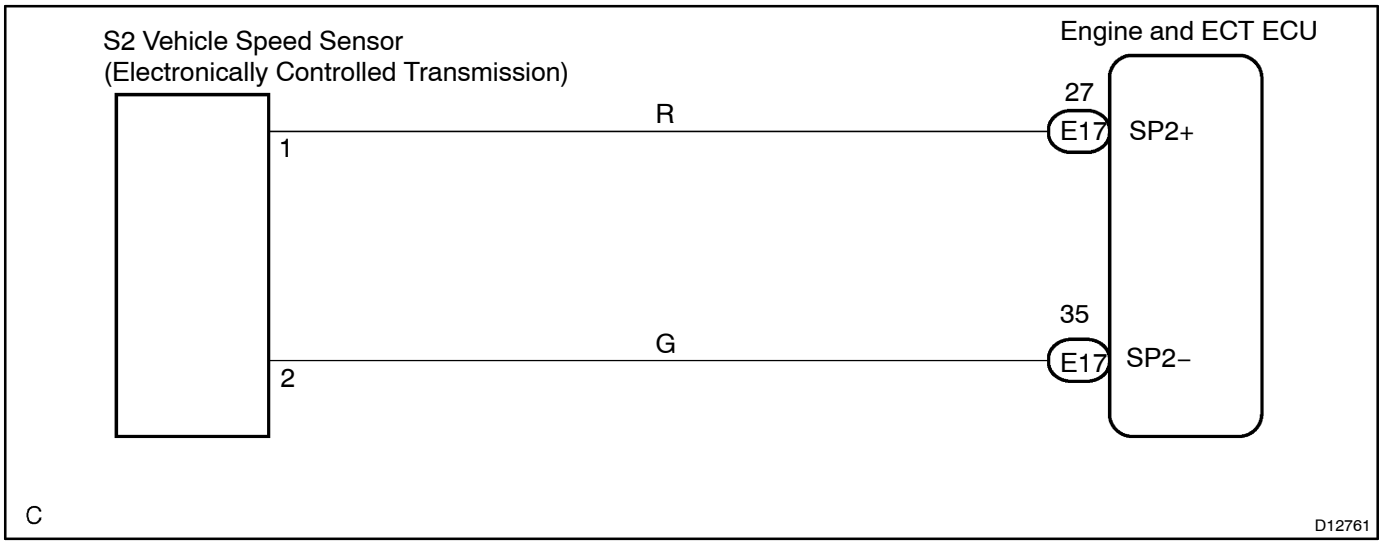
CIRCUIT DESCRIPTION



The speed sensor SP2 detects the rotation speed of the transmission output shaft and sends signals to the Engine and ECT ECU. The Engine and ECT ECU determines the vehicle speed based on these signals. An AC voltage is generated in the speed sensor SP2 coil as the parking gear mounted on the rear planetary gear assy rotates, and this voltage is sent to the Engine and ECT ECU. The parking gear on the rear planetary gear is used as the timing rotor for this sensor.
The gear shift point and lock–up timing are controlled by the Engine and ECT ECU based on the signals from this vehicle speed sensor and the throttle position sensor signal. If the speed sensor SP2 malfunctions, the Engine and ECT ECU uses input signals from the speed sensor NT as a back–up signal.

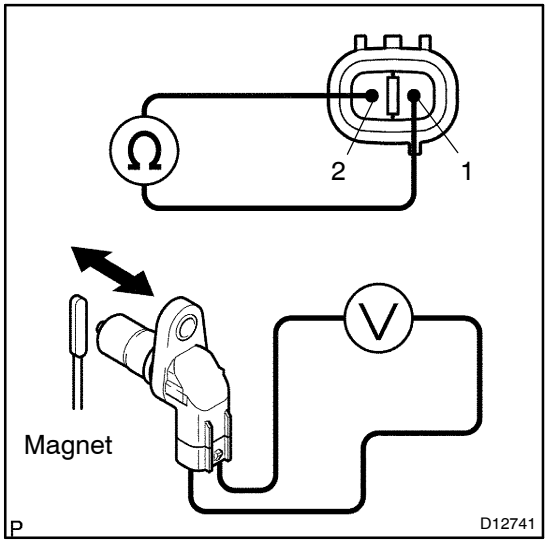
DTC No.	DTC Detection Condition	Trouble Area
61(2)	All conditions below are detected 500 times or more continuously (1–trip detection logic) (a) No signal from speed sensor SP2 is input to Engine and ECT ECU while 4 pulses of speed sensor NT signal are sent (b) Vehicle speed is 9 km/h (6 mph) or more for at least 4 sec. (c) Neutral start switch is OFF. (d) Transfer range is except neutral (4WD).	• Open or short in speed sensor SP2 circuit • Speed sensor SP2 • Engine and ECT ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1	Check speed sensor (SP2).



PREPARATION:
Remove the speed sensor (SP2).
CHECK:
(a) Measure the resistance between the sensor terminals.
Standard: 560 – 680 Ω at 20°C (68°F)
(b) Measure the voltage between the sensor terminals when a magnet is put close to the front end of the sensor then taken away quickly.
Standard: Sensor generates voltage intermittently.
HINT:
The generated voltage is extremely low.
OK:
Standard.

NG → **Replace speed sensor (SP2).**

OK →

2	Check harness and connector between Engine and ECT ECU and speed sensor (SP2) (See page IN–38).

NG → **Repair or replace harness and connector.**

OK →

Check and replace the Engine and ECT ECU (See page IN–38).