DTC P0717 TURBINE SPEED SENSOR CIRCUIT NO SIGNAL

CIRCUIT DESCRIPTION

This sensor detects the rotation speed of the input turbine. By comparing the input turbine speed signal (NT) with the counter gear speed sensor signal (NC), the ECM detects the shift timing of the gears and appropriately controls the engine torque and hydraulic pressure according to various conditions. Thus, providing smooth gear shift.

DTC No.	DTC Detection Condition	Trouble Area
P0717	ECM detects conditions (a), (b) and (c) continuity for 5 sec. or more: (1–trip detection logic) (a) Vehicle speed: 50 km/h (20 mph) or more (b) Solenoid valves and park/neutral position switch are normal (c) Speed sensor (NT): less than 300 rpm	• Open or short in transmission revolution sensor NT (speed sensor NT) circuit • Transmission revolution sensor NT (speed sensor NT) • ECM • Automatic transaxle (clutch, brake or gear etc.)

MONITOR DESCRIPTION

The input speed sensor detects the transmission input shaft speed. The ECM determines the gear shift timing based on a comparison of the input speed sensor (input shaft speed) with the output speed sensor (output shaft speed).

When the output shaft speed is higher then the expected value and the input shaft speed is 300 rpm or less while running with the shift in the D position, the ECM will conclude that there is malfunction of the input turbine speed sensor (NT). The ECM will illuminate the MIL.

MONITOR STRATEGY

Related DTCs	P0717	Turbine speed sensor/Verify pulse input
Required sensors/Components	Speed sensor (NT)	
Frequency of operation	Continuous	
Duration	5 sec.	
MIL operation	Immediate	
Sequence of operation	None	

TYPICAL ENABLING CONDITIONS

Item	Specification	
	Minimum	Maximum
The monitor will run whenever the following DTCs are not present.	See page 05–389	
Shift change is completed and before starting next shift change operation.		
Shift position	3rd or 4th	
Output shaft rpm	1,000 rpm or more	–
Park/neutral position switch	OFF	
Shift lever ”R” position switch	OFF	
Shift lever ”L” position switch	OFF	
Engine	Running	

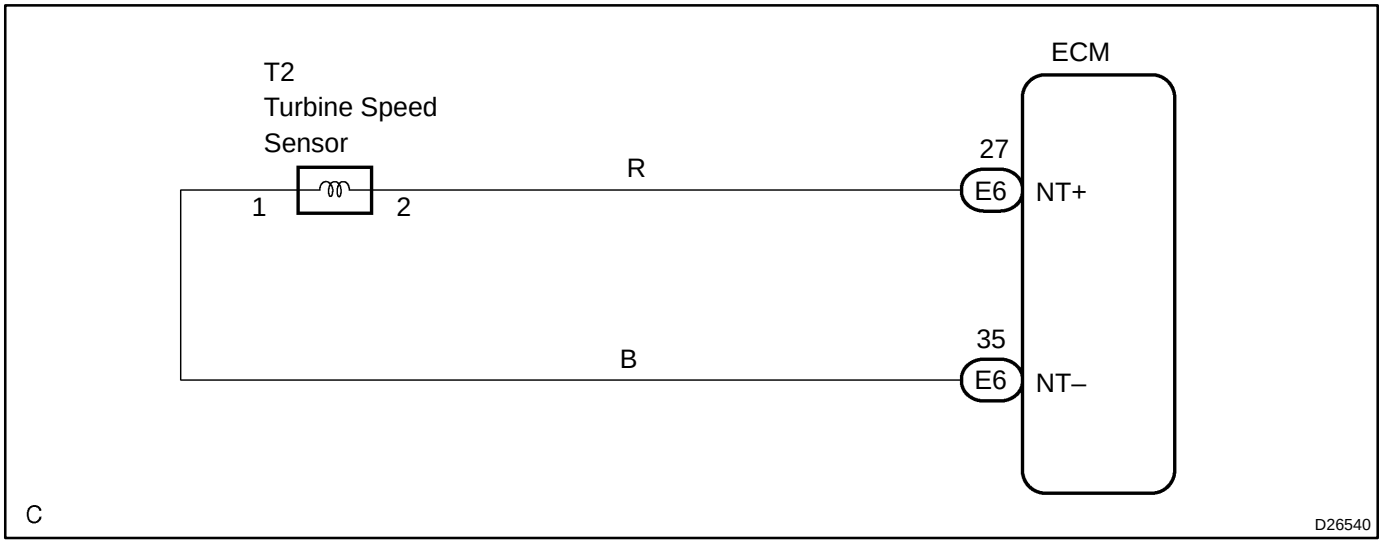
TYPICAL MALFUNCTION THRESHOLDS

Detection criteria	Threshold
Sensor signal rpm	Less than 300 rpm

COMPONENT OPERATING RANGE

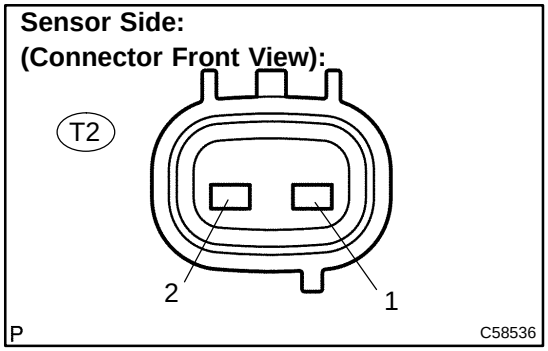
Parameter	Standard value
Speed sensor (NT) resistance	560 to 680 Ω

WIRING DIAGRAM



INSPECTION PROCEDURE

1	INSPECT SPEED SENSOR(NT)



(a) Disconnect the speed sensor connector from the transaxle.

(b) Measure the resistance according to the value(s) in the table below.

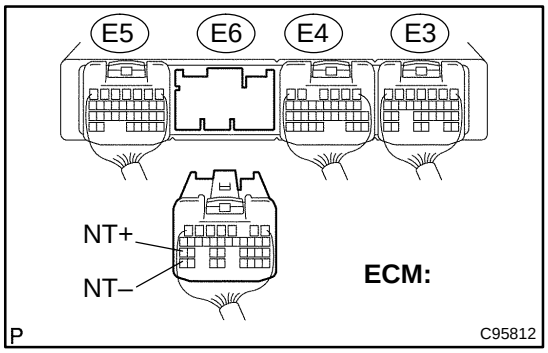
Standard:

Tester Connection	Specified Condition 20 °C (68 °F)
1 – 2	560 to 680 Ω

NG → **REPLACE SPEED SENSOR(NT)**

OK

2	CHECK HARNESS AND CONNECTOR(SPEED SENSOR – ECM)



(a) Connect the speed sensor connector.
(b) Disconnect the ECM connector.
(c) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition 20 °C (68 °F)
E6 – 27 (NT+) – E6 – 35 (NT–)	560 to 680 Ω

(d) Measure the resistance according to the value(s) in the table below.

Standard (Check for short):

Tester Connection	Specified Condition
E6 – 27 (NT+) – Body ground	10 kΩ or higher
E6 – 35 (NT–) – Body ground	

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (See page 01–30)**

OK

REPLACE ECM (See page 10–17)