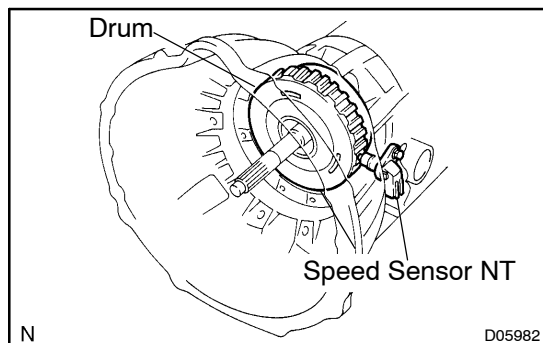


DTC	P0717	Input Speed Sensor Circuit No Signal
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CIRCUIT DESCRIPTION



The speed sensor NT detects the rotation speed of the input shaft from the rotation of the drum. Its construction is the same as that of the speed sensor SP2.

By comparing the speed sensor NT signal and speed sensor SP2 signal, the ECM detects the shift timing of the gears and appropriately controls the engine torque and hydraulic pressure in response to various conditions, thus providing smooth gear shift.

DTC No.	DTC Detection Condition	Trouble Area
P0717	All conditions below are detected for 5 secs. or more (1-trip detection logic) (a) Gear change not being performed (b) Gear position: 1st, 2nd, 3rd, 4th or 5th (c) T/M input shaft rpm: 300 rpm or less (d) T/M output shaft rpm: 1,000 rpm or more (e) Park/neutral position switch: OFF (f) Shift solenoid valves, park/neutral position switch and vehicle speed sensor are in normal operation	• Open or short in speed sensor NT circuit • Speed sensor NT • ECM • Automatic transmission assembly

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 than 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 and a DTC is set.

MONITOR STRATEGY

Related DTCs	P0717	Speed sensor (NT)/Verify pulse input
Required sensors/Components	Main	Speed sensor (NT)
	Sub	Speed sensor (NO)
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 DI-361	
Shift change	Shift change is completed and before starting next shift change operation	
Transmission Shift position	4th or 5th	
Output shaft rpm	1,000 rpm or more	–
NSW switch	OFF	
R switch	OFF	
L switch	OFF	
Engine	Running	

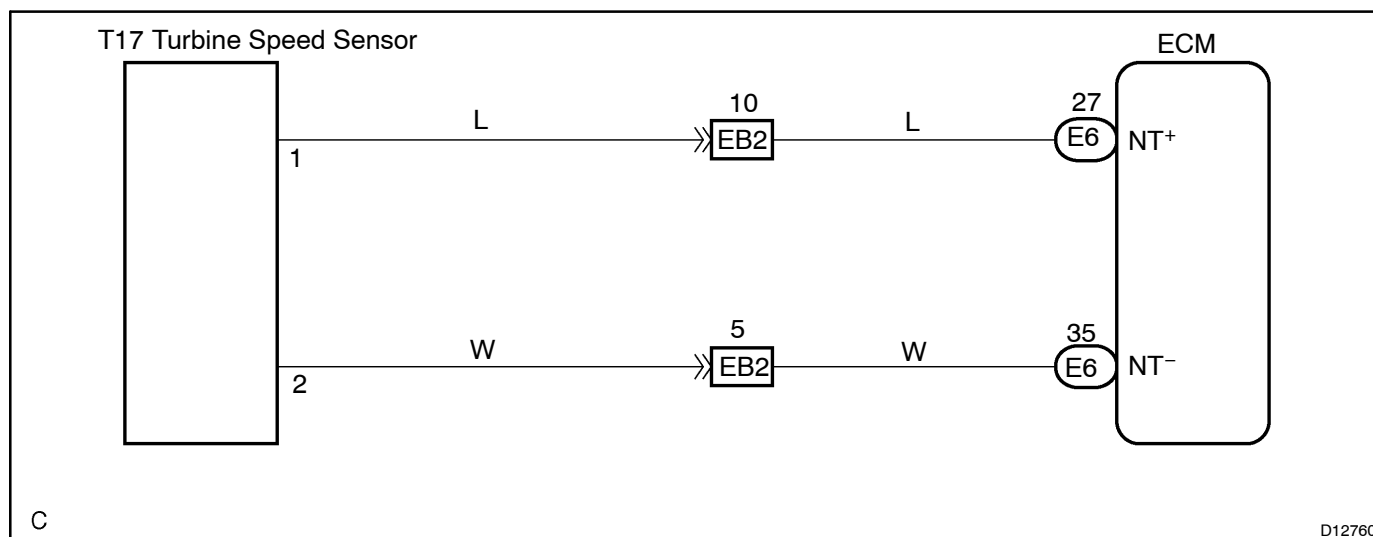
TYPICAL MALFUNCTION THRESHOLDS

Detection criteria	Threshold
Sensor signal rpm	Less than 300 rpm

COMPONENT OPERATING RANGE

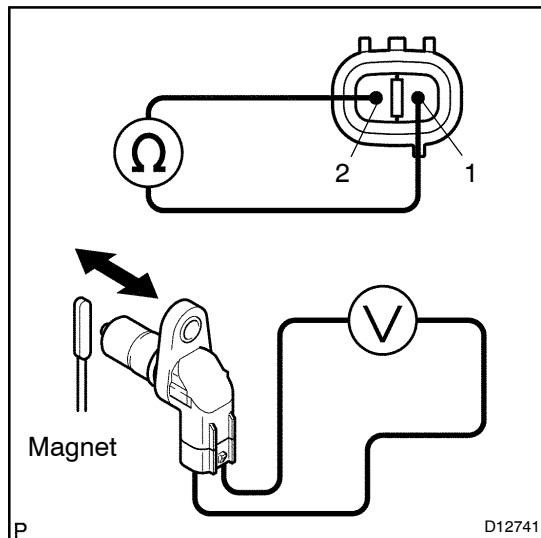
Parameter	Standard value
Speed sensor (NT)	Input speed is equal to engine speed when lock-up ON.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 Check speed sensor NT.

**PREPARATION:**

Remove the speed sensor NT.

CHECK:

- (a) Measure the resistance between the sensor terminals.
Standard: 560 to 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 moved away quickly.
Standard: Sensor generates voltage intermittently

HINT:

The generated voltage is extremely low.

OK:

Standard

NG

Replace speed sensor NT.

OK

2 Check harness and connector between ECM and speed sensor NT (See page [IN-36](#)).

NG

Repair or replace harness and connector.

OK

Check and replace the ECM (See page [IN-36](#)).