DTC	P0717	Input Speed Sensor Circuit No Signal

DESCRIPTION

This sensor detects the rotation speed of the turbine. By comparing the input turbine speed signal (NT) with the output shaft speed signal, the ECM detects the shift timing of the gears and controls the engine torque and hydraulic pressure according to various conditions. As a result, smooth gear shift is achieved.

DTC No.	DTC Detection Condition	Trouble Area
P0717	ECM detects conditions (a), (b) and (c) continuously for 5 sec. or more (1 trip detection logic): (a) Vehicle speed: 50 km/h (31 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 speed sensor NT circuit • Speed sensor NT • ECM • Automatic transaxle (clutch, brake, gear, etc.)

5 V/DIV.

← GND

0.5 msec./DIV.

C053419E02
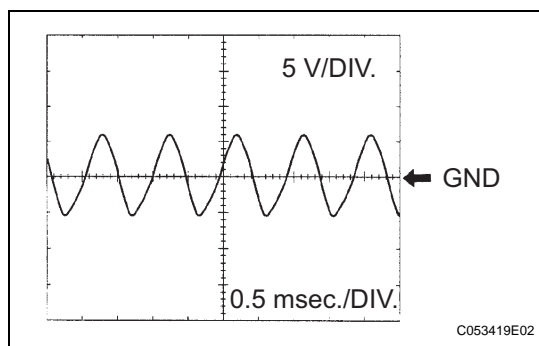
1. Reference: Inspect using an oscilloscope.
Check the waveform of the ECM connector.
OK:
   Refer to illustration

Item	Content
Tester Connection	E6-35 (NT+) - E6-27 (NT-)
Tool Setting	5 V/DIV., 0.5 msec./DIV.
Condition	Vehicle speed 20 km/h (12 mph)

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 lever on D, 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: Speed sensor (NT)/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

The monitor will run whenever the following DTCs are not present.	P0500: VSS P0748: Shift solenoid SL1 P0778: Shift solenoid SL2 P0982, P0983: Shift solenoid S4
Shift change	Shift change is completed before starting next shift change operation
ECM selected gear	3rd or 4th
Output shaft rpm	1,000 rpm or more
NSW switch	OFF
R switch	OFF
L switch	OFF

AX

Engine	Running
Transmission range switch	Not detected

TYPICAL MALFUNCTION THRESHOLDS

Sensor signal rpm	Less than 300 rpm

COMPONENT OPERATING RANGE

Speed sensor (NT)	Resistance: 560 Ω to 680 kΩ

WIRING DIAGRAM

ECM

Speed Sensor NT

NT+

NT-

C119175E05
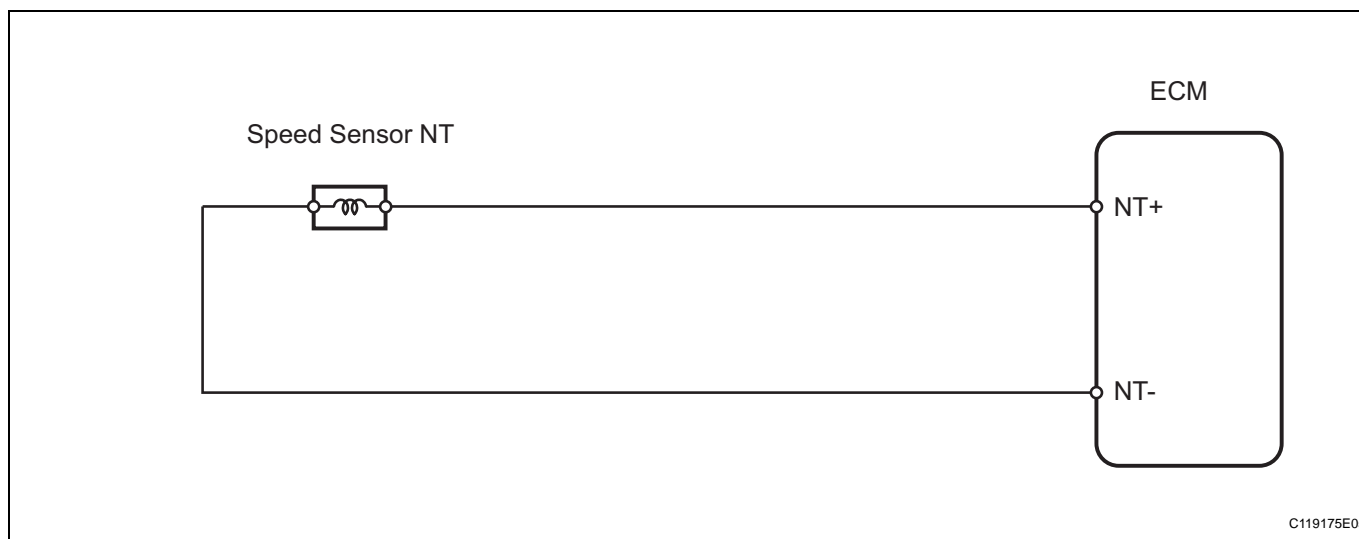
AX

1	**INSPECT SPEED SENSOR NT (INSTALLATION)**
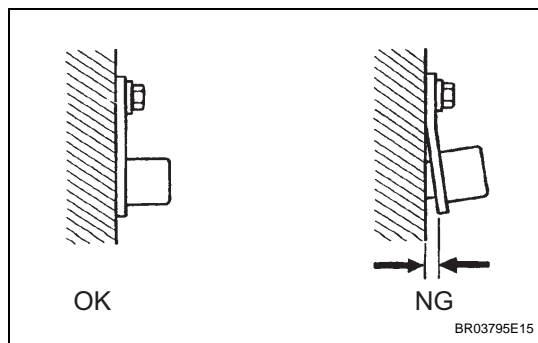
(a) Check the speed sensor NT installation.
OK:
   Installation bolt is tightened properly and there is no clearance between the sensor and transaxle case.

OK   NG

BR03795E15

NG	SECURELY INSTALL SPEED SENSOR OR REPLACE SPEED SENSOR

OK

2	INSPECT SPEED SENSOR NT
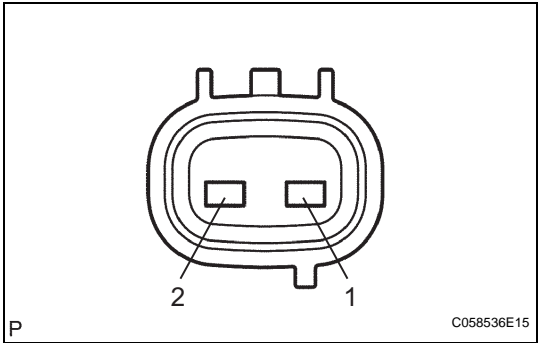
(a) Disconnect the T2 sensor connector.
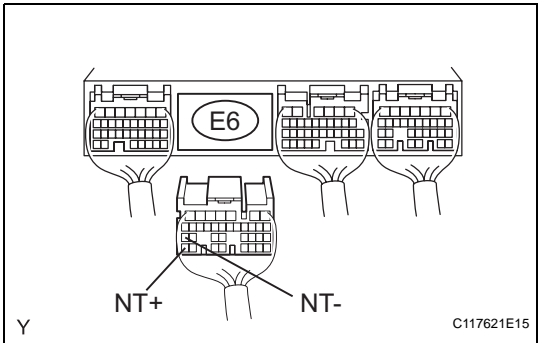(b) Measure the resistance of the sensor.
   Standard resistance

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

NG >	REPLACE SPEED SENSOR NT

OK

3	CHECK WIRE HARNESS (SPEED SENSOR NT - ECM)

(a) Disconnect the E6 ECM connector.
(b) Measure the resistance of the wire harness side connector.
   Standard resistance

Tester Connection	Specified Condition
E6-35 (NT+) - E6-27 (NT-)	560 to 680 Ω
E6-35 (NT+) - Body ground	10 kΩ or higher
E6-27 (NT-) - Body ground	10 kΩ or higher

NG >	REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

REPLACE ECM

AX