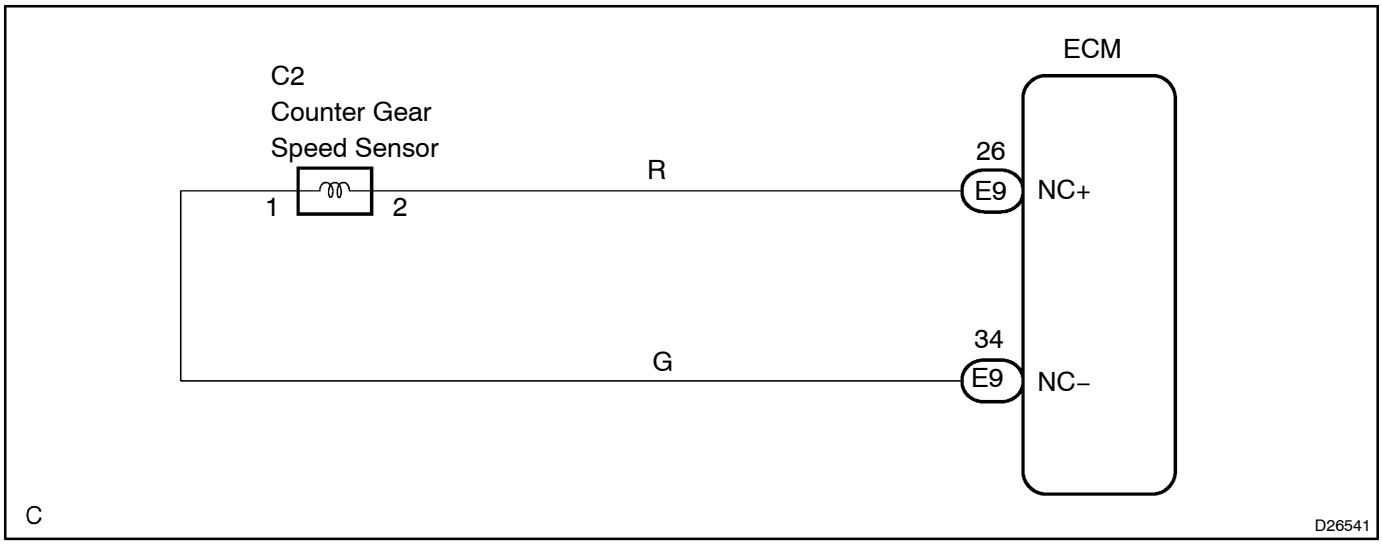
DTC	P1730/67	NC REVOLUTION SENSOR MALFUNCTION (COUNTER GEAR SPEED SENSOR)

CIRCUIT DESCRIPTION

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

DTC No.	DTC Detection Condition	Trouble Area
P1730/67	ECM detects conditions (a), (b), (c) and (d) continuity for 5 sec. or more: (1 trip detection logic) (a) Vehicle speed: 50 km/h (20 mph) or more (b) 2nd, 3rd or O/D gear (c) Solenoid valves and neutral start switch are normal (d) NC < 300 rpm	• Open or short in speed sensor circuit • Speed sensor (NC) • ECM

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
Start the inspection from step 1 in case of using the hand–held tester and start from step 2 in case of not using hand–held tester.

1	READ VALUE OF HAND–HELD TESTER

(a) Warm up the engine.
(b) Turn the ignition switch OFF.
(c) Connect the Hand–held tester to the DLC3.
(d) Turn the ignition switch ON and push the Hand–held tester main SW ON.
(e) Select the item "SPD (NC)" in the DATA LIST and read its value displayed on the Hand–held tester.

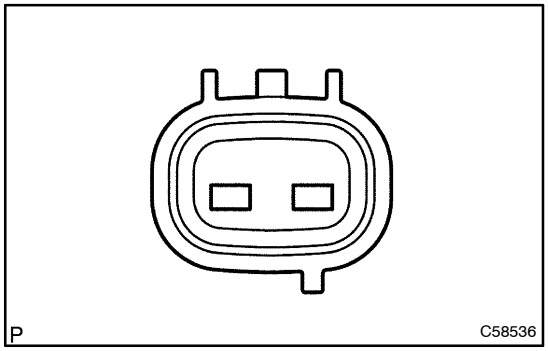
NOTICE:
The values given below for "Normal Condition" are representative values, so a vehicle may still be normal even if its value differs from those listed here. Do not depend solely on the "Normal Condition" here when deciding whether or not the part is faulty.

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
SPD (NC)	Counter Gear Speed display: 50 r/min	D Range is warmed up,4th (O/D); Same as input shaft speed	←

OK ⇒ **CHECK AND REPLACE ECM (See page 01–31)**

NG

2	INSPECT SPEED SENSOR(NC)



(a) Disconnect the speed sensor connector ftom the transaxle.
(b) Measure the resistance between terminals of speed sensor.
OK:
Resistance:
TOYOTA made: 500 – 620 Ω at 20 °C (68 °F)
AISIN made: 560 – 680 Ω at 20 °C (68 °F)

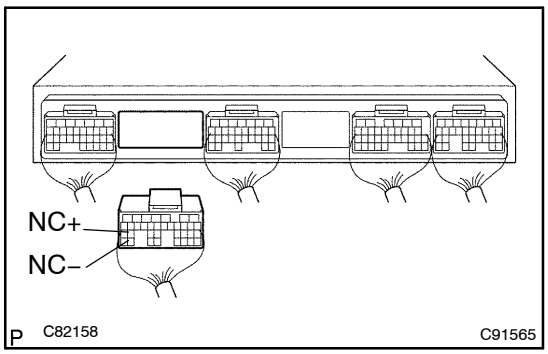
A	NG (TOYOTA made)
B	NG (AISIN made)

NG (A) ⇒ **REPLACE SPEED SENSOR(NC)**

NG (B) ⇒ **REPLACE TRANSMISSION REVOLUTION SENSOR(NC)**

OK

3	CHECK HARNESS AND CONNECTOR (SPEED SENSOR – ECM)



(a) Connect the speed sensor connector.
(b) Disconnect the ECM connector.
(c) Measure the resistance between terminals NC+ and NC–.

OK:

Resistance:

TOYOTA made: 500 – 620 Ω at 20°C (68°F)
AISIN made: 560 – 680 Ω at 20°C (68°F)

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (See page 01–31)**

OK

CHECK AND REPLACE ECM (See page 01–31)