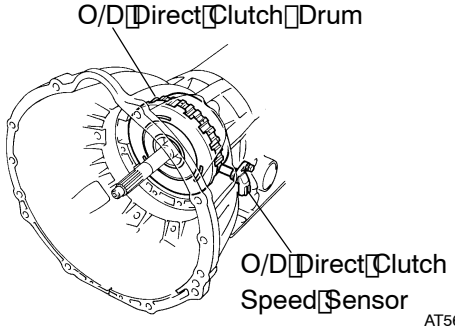
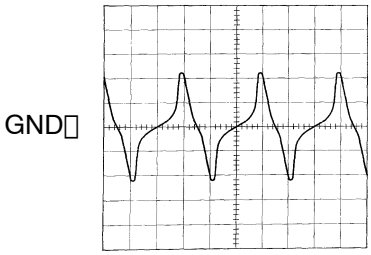
DTC	P0715/67	Input/Turbine Speed Sensor Circuit Malfunction (O/D Direct Clutch Speed Sensor)

CIRCUIT DESCRIPTION



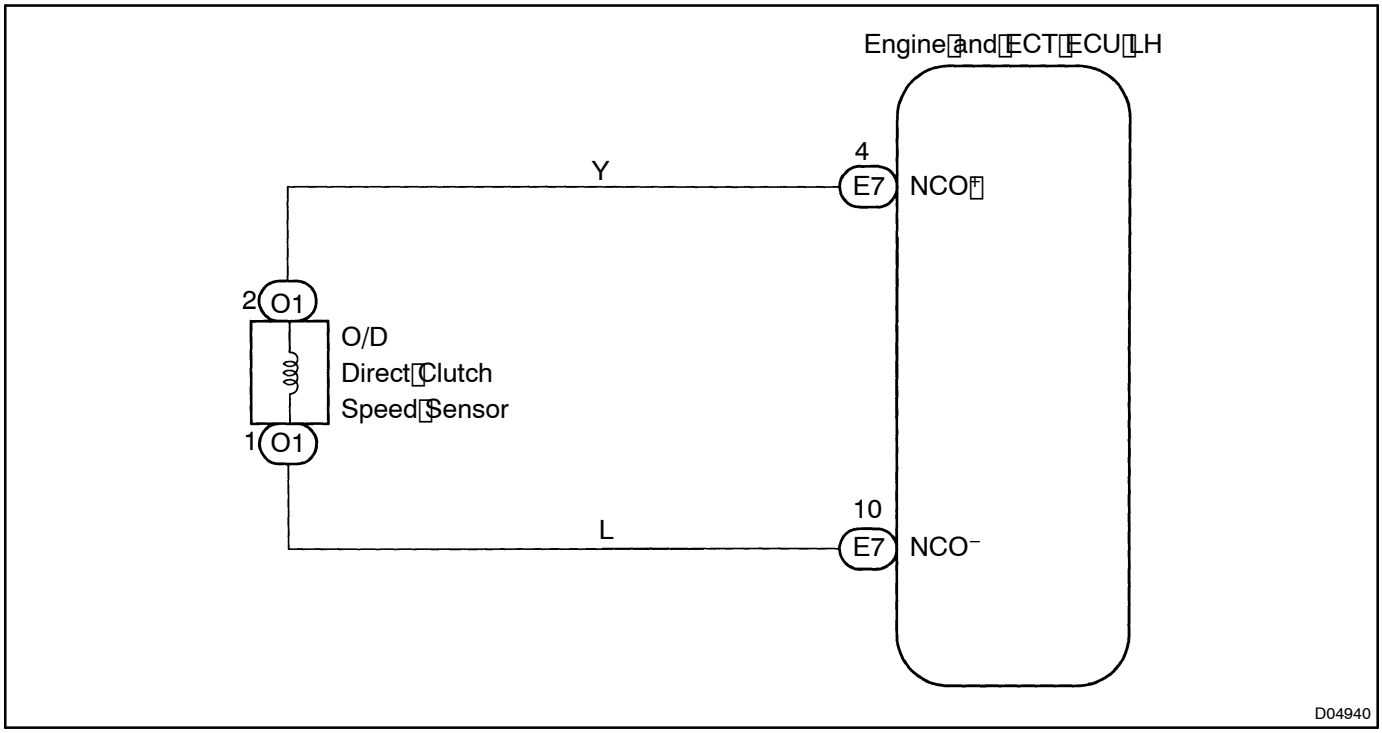
This sensor detects the rotation speed of the O/D input shaft from the rotation of the O/D direct clutch drum.
Its construction is the same as that of the vehicle speed sensor (See page DI–24).
By comparing the O/D direct clutch speed signal to the vehicle speed sensor signal, the Engine and ECT ECU detects the shift timing of the gear and appropriately controls the engine torque and hydraulic pressure in response to various conditions, thus performing smooth gear shift.

DTC No.	DTC Detection Condition	Trouble Area
P0715/67	All conditions below are detected for 4 secs. or more (2–trip detection logic) (a) Gear change not being performed (b) Gear position: 1st, 2nd or 3rd (c) T/M input shaft rpm: Less than 300 rpm (d) T/M output shaft rpm: 1,000 rpm or more (e) Neutral start switch: OFF (f) Shift solenoid valves No. 1, No. 2, SLU and vehicle speed sensor are in normal operation	• Open or short in O/D direct clutch speed sensor circuit • O/D direct clutch speed sensor • Engine and ECT ECU



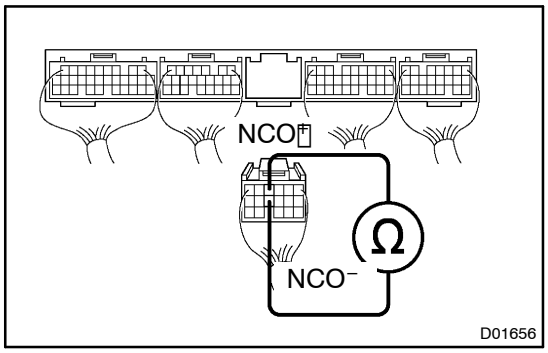
HINT:
Refer to the chart for the wave form between terminals NCO^{+} and NCO^{-} during engine idling.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Check resistance between terminals NCO+ and NCO– of Engine and ECT ECU.**

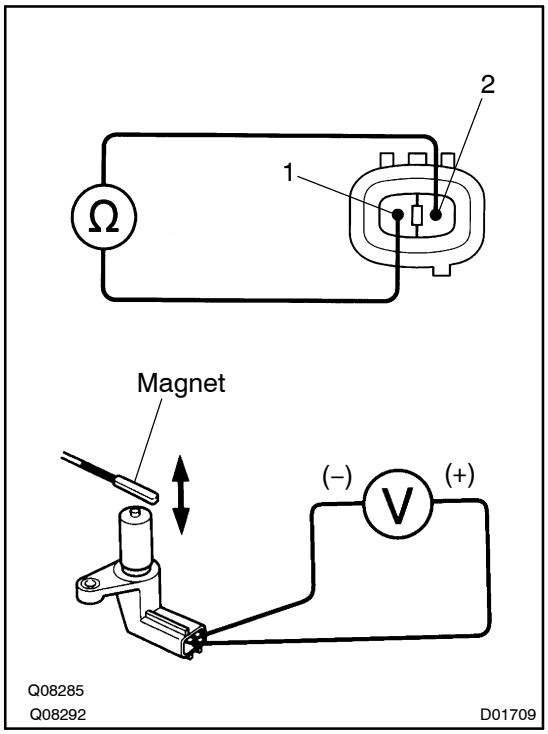


PREPARATION:
Disconnect the connector from Engine and ECT ECU.
CHECK:
Check resistance between terminals NCO+ and NCO– of Engine and ECT ECU.
OK:
Resistance: 560 – 680 Ω at 20°C (68°F)

OK	**Check and replace the Engine and ECT ECU (See page IN–30).**

NG

2	Check O/D direct clutch speed sensor.



PREPARATION:

Remove the O/D direct clutch speed sensor from the transmission.

CHECK:

(a) Measure resistance between terminals 1 and 2 of O/D direct clutch speed sensor.

(b) Check voltage between terminals 1 and 2 of the speed sensor when a magnet is put close to the front end of the speed sensor then kept away quickly.

OK:

(a) Resistance: 560 – 680 Ω at 20°C (68°F)

(b) Voltage is generated intermittently.

HINT:

The generated voltage is extremely low.

NG → **Replace the O/D direct clutch speed sensor.**

OK →

Check and repair harness and connector between Engine and ECT ECU and O/D direct clutch speed sensor (See page IN–30).