DIAUI–01

CIRCUIT INSPECTION

DTC	P0705	Transmission Range Sensor Circuit Malfunction (PRNDL Input)

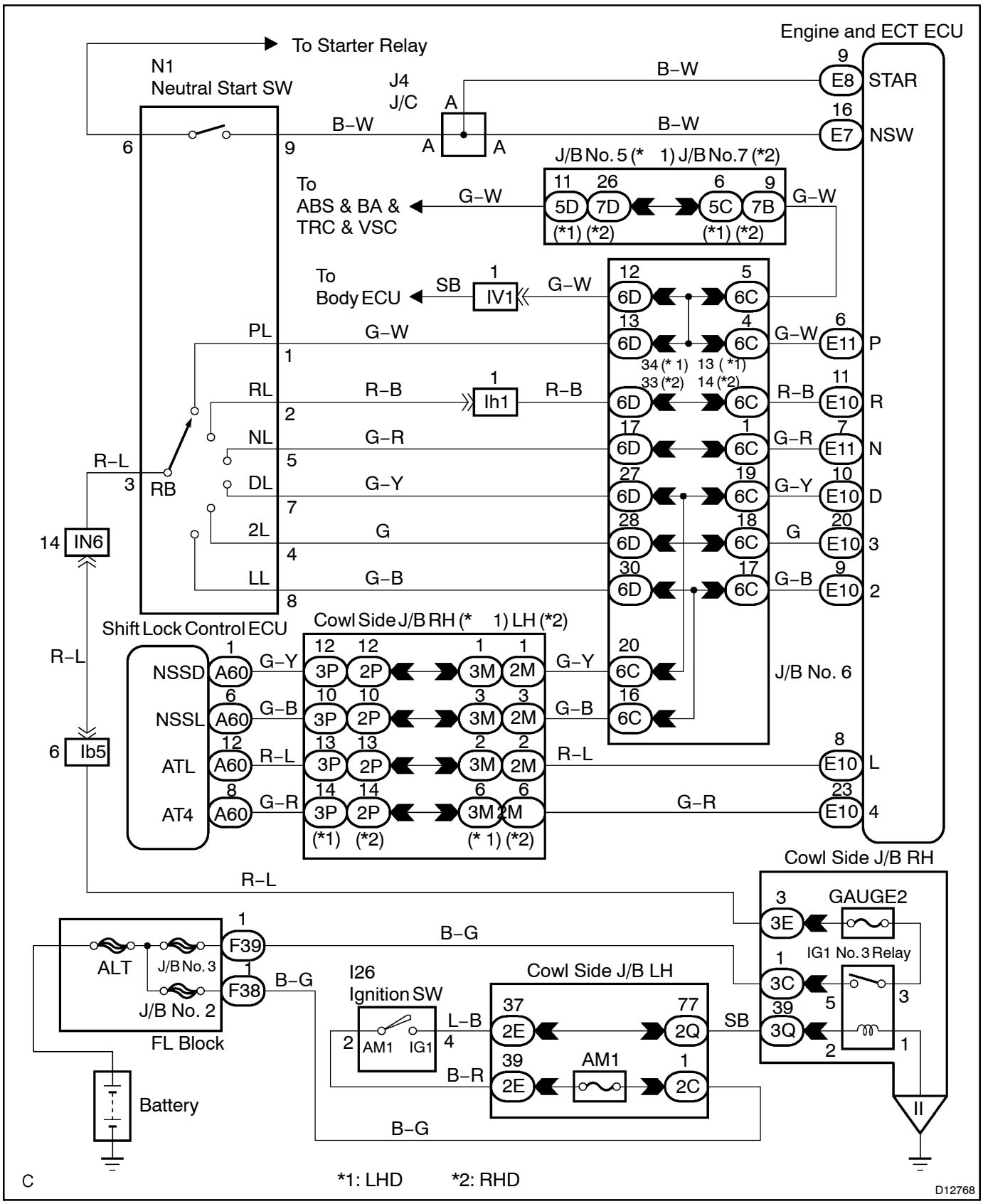
DTC	P0850	Park/Neutral Switch Input Circuit

CIRCUIT DESCRIPTION

The neutral start switch detects the shift lever range and sends signals to the Engine and ECT ECU.

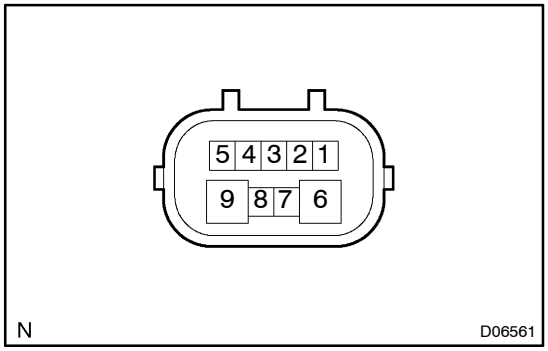
DTC No.	DTC Detection Condition	Trouble Area
P0705	(2–trip detection logic) • All switches are OFF simultaneously for P, R, N, D, 3 and 2 ranges. • 2 or more switches are ON simultaneously for P, R, N, (D 4), 3 and (2 L) ranges.	• Short in neutral start switch circuit • Neutral start switch • Engine and ECT ECU
P0850	Neutral start switch remaines ON (P, N range) during driving under conditions (a) and (b) for 30 sec. (2 –trip detection logic) (a) Vehicle speed: 70 km/h (44 mph) or more (b) Engine speed: 1,500 – 2,500 rpm	

WIRING DIAGRAM



INSPECTION PROCEDURE

1	Check neutral start switch.



PREPARATION:

(a) Jack up the vehicle.

(b) Disconnect the neutral start switch connector.

CHECK:

Check continuity between each terminal shown below when the shift lever is moved to each range.

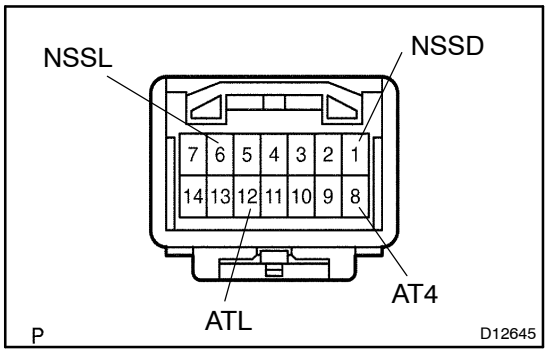
OK:

Shift range	Terminal No. to continuity	Terminal No. to continuity
P	1 – 3	6 – 9
R	2 – 3	–
N	3 – 5	6 – 9
D, 4	3 – 7	–
3	3 – 4	–
2, L	3 – 8	–

NG → **Replace neutral start switch (See page AT–7).**

OK →

2	Check transmission control switch.



PREPARATION:

(a) Connect the neutral start switch connector.

(b) Disconnect the shift lock control computer connector (transmission control switch).

CHECK:

Check continuity between each terminal of shift lock control computer (transmission control switch).

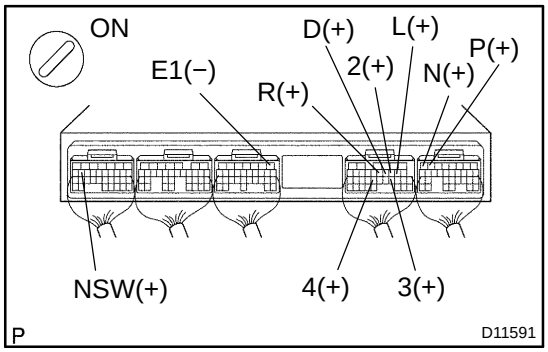
OK:

Shift range	Tester connection	Specified valve
D	1 – 8 (NSSD – AT4)	No continuity
4		Continuity
2	6 – 12 (NSSL – ATL)	No continuity
L		Continuity

NG → **Replace the transmission control switch (See page AT–21).**

OK →

3	**Measure voltage between each terminals of NSW, P, R, N, D, 4, 3, 2, L and E1 of Engine and ECT ECU.**



PREPARATION:

(a) Connect the shift lock control computer connector (transmission control switch).

(b) Turn the ignition switch ON.

CHECK:

Measure voltage between each terminals NSW, P, R, N, D, 4, 3, 2, L and E1 of Engine and ECT ECU when the shift lever is shifted to the following ranges.

OK:

Tester connection	Condition	Specified condition
NSW − Body ground	Shift lever range: P and N	Below 1 V
	Shift lever range: Except P and N	Battery voltage
P− Body ground	Shift lever range: P	Battery voltage
R − Body ground	Shift lever range: R	Battery voltage*
N − Body ground	Shift lever range: N	Battery voltage
D − Body ground	Shift lever range: D and 4	Battery voltage
4 − Body ground	Shift lever range: 4	Battery voltage
3 − Body ground	Shift lever range: 3	Battery voltage
2 − Body ground	Shift lever range: 2 and L	Battery voltage
L − Body ground	Shift lever range: L	Battery voltage

HINT:

*: The voltage will drop slightly due to lighting up of the back up light.

OK → **Check and replace the Engine and ECT ECU (See page IN−38).**

NG

Repair or replace the harness or connector (See page IN−38).