

CIRCUIT INSPECTION

DTC	P0705	Transmission Range Sensor Circuit Malfunction (PRNDL Input)
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DTC	P0850	Park/Neutral Switch Input Circuit
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CIRCUIT DESCRIPTION

The park/neutral position switch detects the shift lever position and sends signals to the ECM.

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 positions. • 2 or more switches are ON simultaneously for P, R, N, (D 4), 3 and (2 L) positions.	• Short in park/neutral position switch circuit • Park/neutral position switch • ECM
P0850	Park/neutral position switch remains ON (P, N position) 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	

ECM

STAR 9 E7

NSW 16 E8

P 6 E10

R 11 E9

N 7 E10

D 10 E9

3 20 E9

2 9 E9

L 8 E9

4 23 E9

To Starter Relay

P1 Park/Neutral Position SW

B-R 6

B-W 9

J17 J/C A

J/B No. 5

To Skid Control ECU G-W

To Body ECU SB 4 IX1 G-W

PL 1 G-W

RL 2 R-B

NL 5 G-R

DL 7 G-Y

2L 4 G

LL 8 G-B

IO3 14

R-L 3

Shift Lock Control ECU

NSSD 1 A52 G-Y

NSSL 6 A52 G-B

MTL 12 A52 R-L

MT4 8 A52 G-R

R-L 3

FL Block

ALT 1 F18 B-G

J/B No. 3 1 F17

J/B No. 2

Battery

Cowl Side J/B RH

12 3P

10 3P

13 3P

14 3P

3 3E

1 3C

39 3Q

2 3

1 5

3 1

GAUGE2

IG1 No. 3 Relay

Cowl Side J/B LH

77 2Q

37 2E

1 2C

39 2E

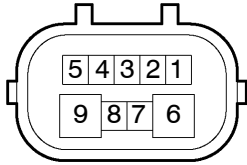
AM1

IG1 Ignition SW

L-B 4

B-R 2

II

INSPECTION PROCEDURE**1 Check park/neutral position switch.****PREPARATION:**

- (a) Jack up the vehicle.
- (b) Disconnect the park/neutral position switch connector.

CHECK:

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

OK:

Shift position	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	-

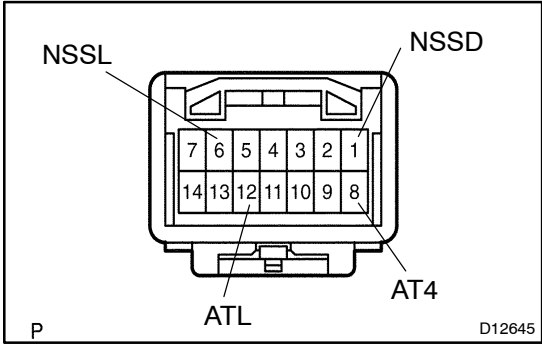
NG

Replace park/neutral position switch (See page [AT-7](#)).

OK

2

Check transmission control switch.



PREPARATION:

- (a) Connect the park/neutral position 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).

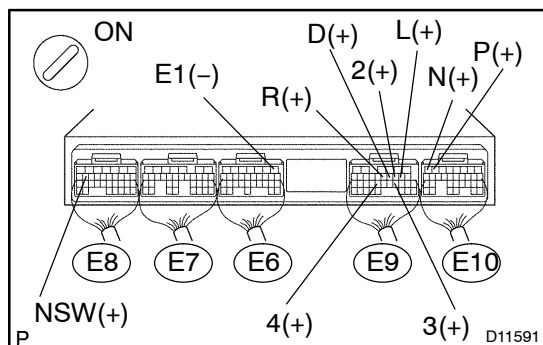
OK:

Shift position	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-20](#)).

OK

3**Measure voltage between each terminals of NSW, P, R, N, D, 4, 3, 2, L and E1 of ECM.****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 ECM when the shift lever is shifted to the following positions.

OK:

Tester connection	Condition	Specified condition
NSW – Body ground	Shift lever position: P and N	Below 1 V
	Shift lever position: Except P and N	Battery voltage
P – Body ground	Shift lever position: P	Battery voltage
R – Body ground	Shift lever position: R	Battery voltage (The voltage will drop slightly due to lighting up of the back up light)
N – Body ground	Shift lever position: N	Battery voltage
D – Body ground	Shift lever position: D and 4	Battery voltage
4 – Body ground	Shift lever position: 4	Battery voltage
3 – Body ground	Shift lever position: 3	Battery voltage
2 – Body ground	Shift lever position: 2 and L	Battery voltage
L – Body ground	Shift lever position: L	Battery voltage

NG

Repair or replace the harness or connector (See page IN-36).

OK

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