

DTC	P1780	Park/Neutral Position Switch Malfunction
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CIRCUIT DESCRIPTION

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

The ECM receives signals (NSW, R, D, 2 and L) from the park/neutral position switch. When the signal is not sent to the ECM from the park/neutral position switch, the ECM judges that the shift lever is in D position.

DTC No.	DTC Detection Condition	Trouble Area
P1780	2 or more switches are ON simultaneously for N, 2 and L positions. (2-trip detection logic)	• Short in park/neutral position switch circuit • Park/neutral position switch • ECM
	When driving under conditions (a) and (b) for 30 seconds or more, the park/neutral position switch is ON (N position). (2-trip detection logic) (a) Vehicle speed: 70 km/h (44 mph) or more (b) Engine speed: 1,500 ~ 2,500 rpm	

The diagram illustrates the electrical system of a vehicle, showing the following components and their connections:

- Battery:** Connected to the system via a main power line.
- ECM (Engine Control Module):** Receives power from the battery through a series of junctions and switches.
- Combination Meter:** Includes gauges for L (Left), 2, D (Drive), and R (Right). It is connected to the ECM via a series of switches and junctions.
- P1 Park/Neutral Position Switch:** Controls the starter relay and the ignition switch.
- Engine Room J/B (Junction Box):** Distributes power to the starter relay, ignition switch, and other components.
- Cowl Side J/B LH (Junction Box):** Controls the starter relay and the ignition switch.
- I18 Ignition Switch:** Controls the starter relay and the ignition switch.
- J8 Junction Connector:** Connects the battery to the ECM.
- F7 Fusible Link Block:** Protects the battery circuit from overcurrent.
- ALT (Alternator):** Provides power to the battery and the ECM.
- IG1 No.1 Relay:** Controls the starter relay.
- Starter Relay:** Controls the starter motor.
- GAUGE:** A gauge connected to the ECM.
- Wiring:** Various colored wires (e.g., G-B, G, G-Y, R-B, B-W, B-R, W-R, L-B, R-L) connect the components.

INSPECTION PROCEDURE

1 Read PNP, REVERSE, 2ND and LOW signals.

When using LEXUS hand-held tester.

PREPARATION:

- Connect a LEXUS hand-held tester to the DLC3.
- Turn the ignition switch ON and LEXUS hand-held tester main switch ON.

CHECK:

Shift lever into the P, R, D, N, 2 and L positions, and read the PNP, REVERSE, 2ND and LOW signals on the LEXUS hand-held tester.

OK:

Shift position	Signal
2	2ND OFF → ON
L	LOW OFF → ON
R	REVERSE OFF → ON
P,N	PNP SW OFF → ON

When not using LEXUS hand-held tester.

PREPARATION:

Turn the ignition switch ON.

CHECK:

Measure voltage between terminals NSW, R, D, 2 and L of ECM and body ground when the shift lever is shifted to the following positions.

OK:

Position	NSW-Body ground	R-Body ground	D-Body ground	2-Body ground	L-Body ground
P,N	0 V	0 V	0 V	0 V	0 V
R	9 ~ 14 V*	7.5 ~ 14 V*	0 V	0 V	0 V
D	9 ~ 14 V	0 V	7.5 ~ 14 V	0 V	0 V
2	9 ~ 14 V	0 V	0 V	7.5 ~ 14 V	0 V
L	9 ~ 14 V	0 V	0 V	0 V	7.5 ~ 14 V

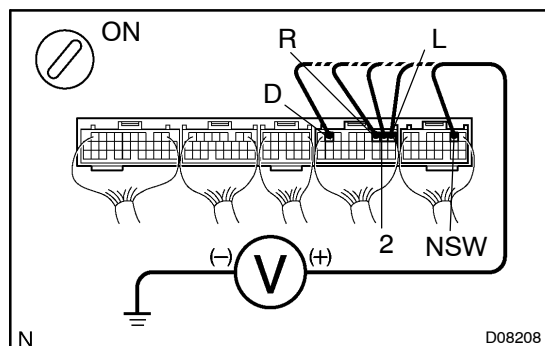
HINT:

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

OK

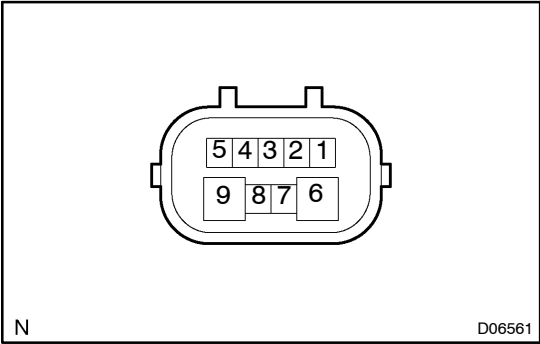
Check and replace the ECM (See page IN-34).

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Check park/neutral position switch.



PREPARATION:

Remove 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	
P	6 – 9	1 – 3
R	2 – 3	–
N	6 – 9	3 – 5
D	3 – 7	–
2	3 – 4	–
L	3 – 8	–

OK

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Replace the park/neutral position switch.

Repair or replace harness and connector between battery and park/neutral position switch, park/neutral position switch and ECM (See page [IN-34](#)).