DTC	P0705	TRANSMISSION RANGE SENSOR CIRCUIT MALFUNCTION (PRNDL INPUT)

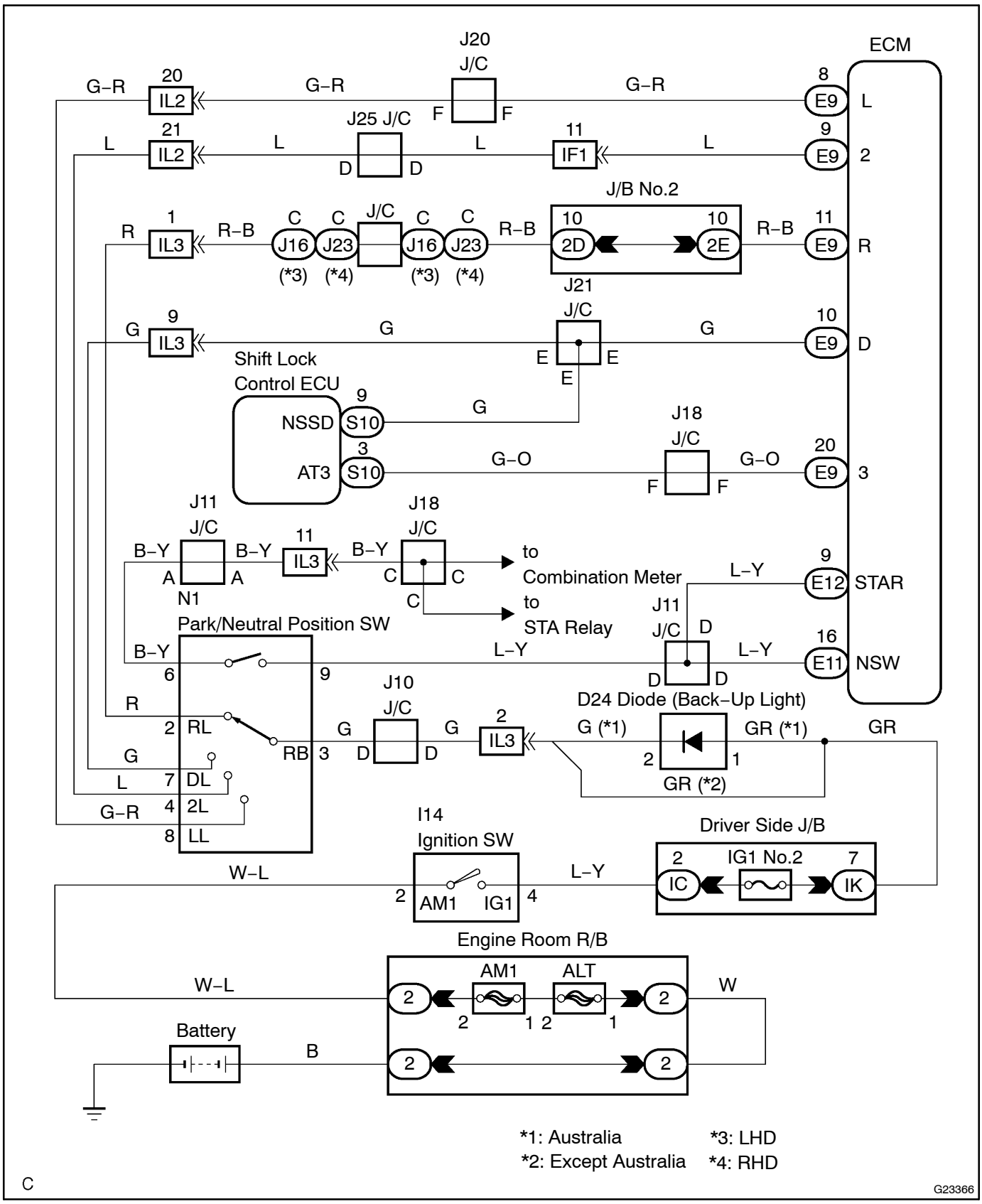
DTC	P0850	PARK/NEUTRAL SWITCH INPUT CIRCUIT

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, 2 and L positions. • 2 or more switches are ON simultaneously for P, R, N, (D 3), 2 and 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	

WIRING DIAGRAM

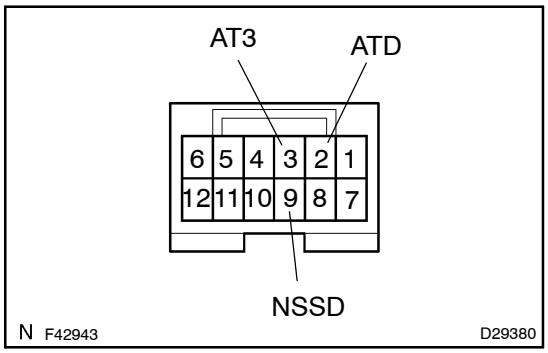


INSPECTION PROCEDURE

HINT:

Start the inspection from the step 1 when the malfunction is found in the 3 position, and start from step 2 when the malfunction is in the other position.

1 INSPECT SHIFT LOCK CONTROL ECU SUB–ASSY



(a) Disconnect the shift lock control ECU connector.

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

OK:

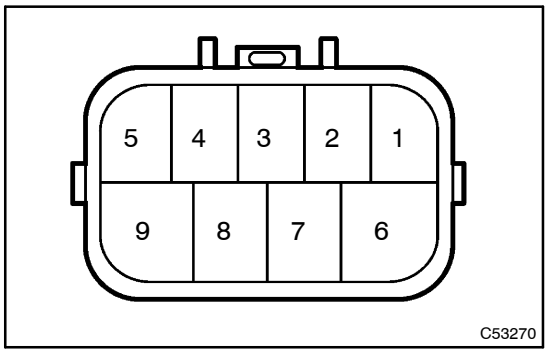
Standard:

Shift position	Tester connection	Specified valve
D	9 – 2 (NSSD – ATD)	Continuity
3		No continuity
D	9 – 3 (NSSD – AT3)	No continuity
3		Continuity

NG → **REPLACE SHIFT LOCK CONTROL ECU SUB–ASSY**

OK

2 INSPECT PARK/NEUTRAL POSITION SWITCH ASSY



(a) Connect the shift lock control ECU connector.

(b) Jack up the vehicle.

(c) Disconnect the park/neutral position switch connector.

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

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

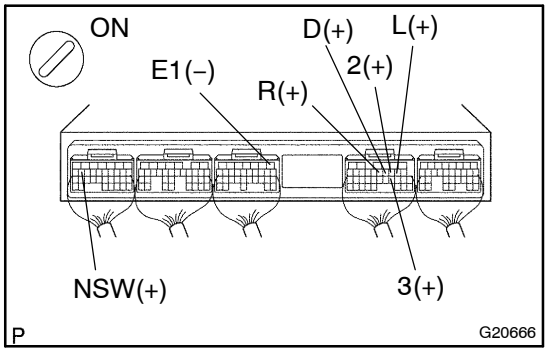
OK:

There is continuity.

NG → **REPLACE PARK/NEUTRAL POSITION SWITCH ASSY**

OK

3 CHECK HARNESS AND CONNECTOR (PARK/NEUTRAL POSITION SWITCH – ECM)



(a) Connect the park/neutral position switch connector.

(b) Turn the IG switch ON and measure the voltage between each terminal shown below when the shift lever is shifted to the following position.

OK:

Tester connection	Condition	Specified condition
NSW – E1	Shift lever position: P and N	Below 1 V
	Shift lever position: Except P and N	Battery voltage
R – E1	Shift lever position: R	Battery voltage*
D – E1	Shift lever position: D and 3	Battery voltage
3 – E1	Shift lever position: 3	Battery voltage
2 – E1	Shift lever position: 2	Battery voltage
L – E1	Shift lever position: L	Battery voltage

HINT:

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

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (See page 01–35)**

OK

CHECK AND REPLACE ECM (See page 01–35)