

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 Detecting Condition	Trouble Area
P0705	2 or more switches are ON simultaneously for P, R, N, 2 and L positions (2-trip detection logic)	<ul style="list-style-type: none"> • Open or 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	

MONITOR DESCRIPTION

The park/neutral position switch detects the gearshift position and sends a signal to the ECM.

For security, the park/neutral position switch detects the gearshift position so that engine can be started only when the vehicle is in P or N shift position.

When the park/neutral position switch sends more than one signal at a time from switch positions P, R, N, 2, or L the ECM interprets this as a fault in the switch. The ECM will turn on the MIL.

MONITOR STRATEGY

P0705

Related DTCs	P0705	Shift lever position select switch/Verify switch input
Required sensors/Components	Park/neutral position switch	
Frequency of operation	Continuous	
Duration	0.5 sec.	
MIL operation	2 driving cycles	
Sequence of operation	None	

P0850

Related DTCs	P0850	Park/neutral position switch/Verify switch cycling
Required sensors/Components	Park/neutral position switch	
Frequency of operation	Continuous	
Duration	30 sec.	
MIL operation	2 driving cycles	
Sequence of operation	None	

TYPICAL ENABLING CONDITION**P0705**

Item	Specification	
	Minimum	Maximum
The monitor will run whenever the following DTCs are not present.	See page 05-369	
The typical enabling condition is not available.	-	

P0805

Item	Specification	
	Minimum	Maximum
The monitor will run whenever the following DTCs are not present.	See page 05-369	
Vehicle speed	70 km/h (43 mph) or more	-
Engine speed	1,500 rpm or more	2,700 rpm or less
Intake air amount per revolution	0.43 g/rev. or more	-

TYPICAL MALFUNCTION THRESHOLDS**P0705**

Detection criteria	Threshold
Number of the following signal input at the same time.	2 or more
Park/neutral position switch	ON
L shift position switch	ON
2 shift position switch	ON
R shift position switch	ON

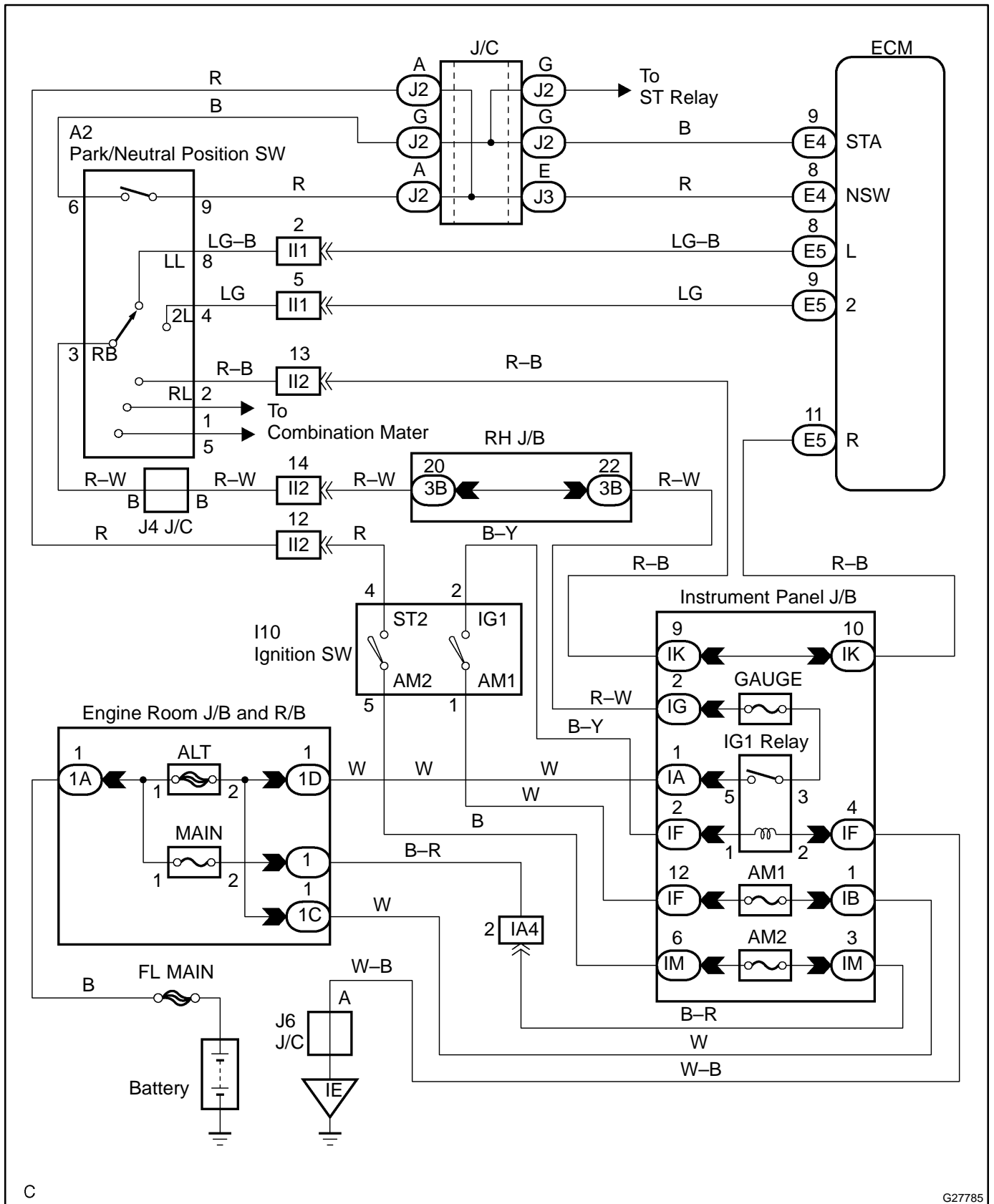
P0850

Detection criteria	Threshold
PNP signal	ON

COMPONENT OPERATING RANGE

Parameter	Standard value
Park/neutral position switch	The park/neutral position switch sends only one signal to the ECM.

WIRING DIAGRAM



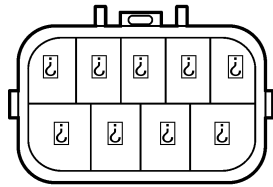
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INSPECTION PROCEDURE

1 INSPECT PARK/NEUTRAL POSITION SWITCH ASSY

Switch Side:
(Connector Front View):



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- (a) Disconnect the park/neutral position switch connector.
(b) Measure resistance according to the value(s) in the table below when the shift lever is moved to each position.

Standard:

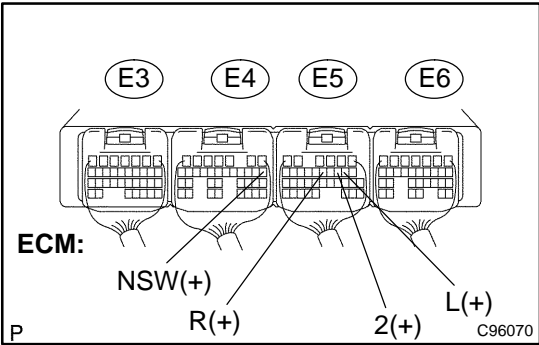
Shift Position	Tester Connection	Specified Condition
P	1 – 3 and 6 – 9	Below 1 Ω
Except P		10 k Ω or higher
R	2 – 3	Below 1 Ω
Except R		10 k Ω or higher
N	3 – 5 and 6 – 9	Below 1 Ω
Except N		10 k Ω or higher
D	3 – 7	Below 1 Ω
Except D		10 k Ω or higher
2	3 – 4	Below 1 Ω
Except 2		10 k Ω or higher
L	3 – 8	Below 1 Ω
Except L		10 k Ω or higher

NG

REPLACE PARK/NEUTRAL POSITION SWITCH ASSY (See page 40-3)

OK

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



- (a) Connect the the park/neutral position switch connector.
- (b) Turn the ignition switch to the ON position, and measure the voltage according to the value(s) in the table below when the shift lever is moved to each position.

Standard:

Shift Position	Tester Connection	Specified condition
P and N	E4 – 8 (NSW) – Body ground	Below 1 V
Except P and N		10 to 14 V
R	E5 – 11 (R) – Body ground	10 to 14 V*
Except R		Below 1 V
2	E5 – 9 (2) – Body ground	10 to 14 V
Except 2		Below 1 V
L	E5 – 8 (L) – Body ground	10 to 14 V
Except L		Below 1 V

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

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (See page 01-30)**

OK

REPLACE ECM (See page 10-11)