

DTC	P0705	TRANSMISSION RANGE SENSOR CIRCUIT MALFUNCTION (PRNDL INPUT)
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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	Any 2 or more signals of the following are ON simultaneously (2-trip detection logic) <ul style="list-style-type: none">• NSW input signal is ON.• R input signal is ON.• D input signal is ON.• 2 input signal is ON.• L input signal is ON.	<ul style="list-style-type: none">• Open or short in park/neutral position switch circuit• Park/neutral position switch• ECM

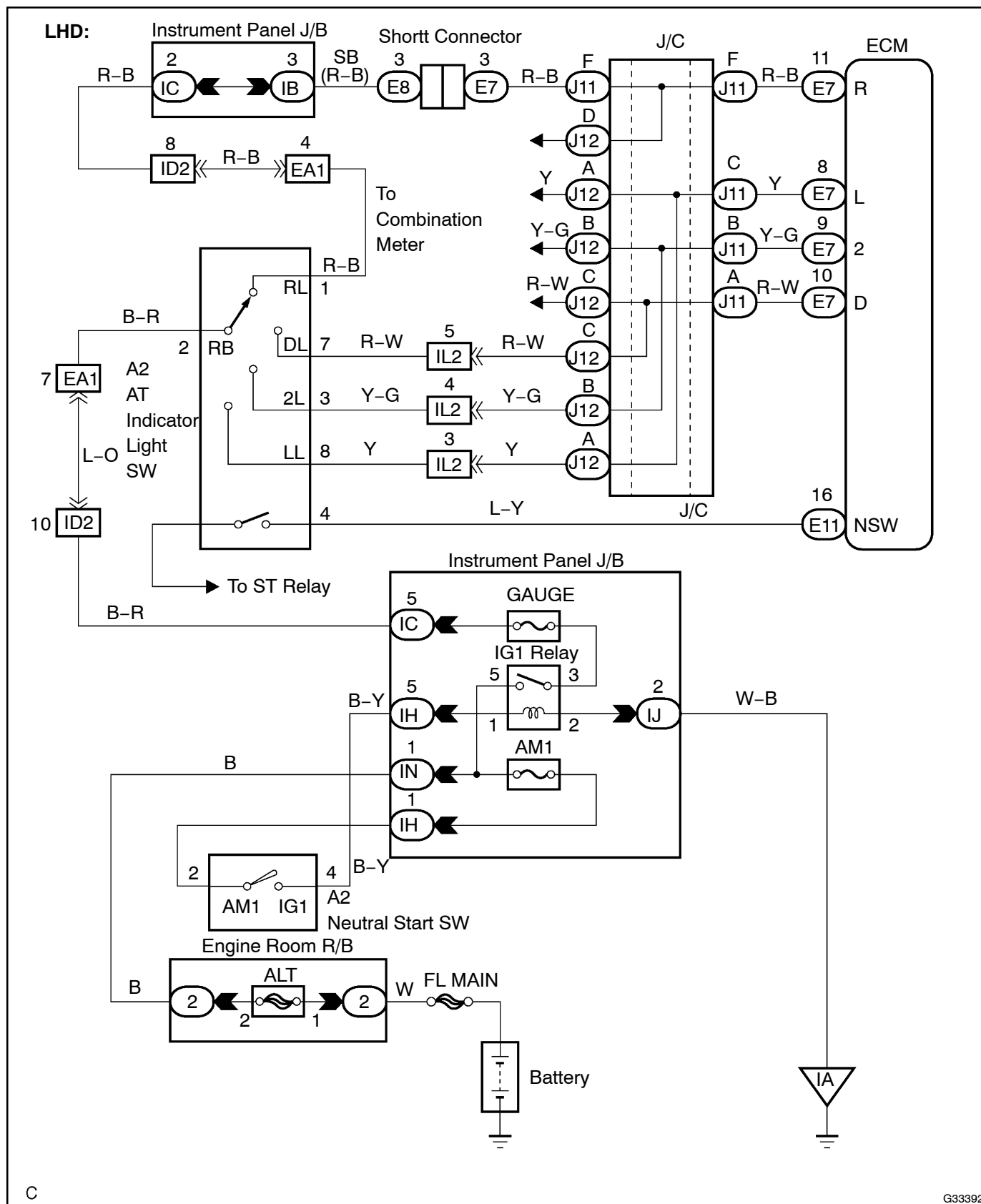
MONITOR DESCRIPTION

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

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

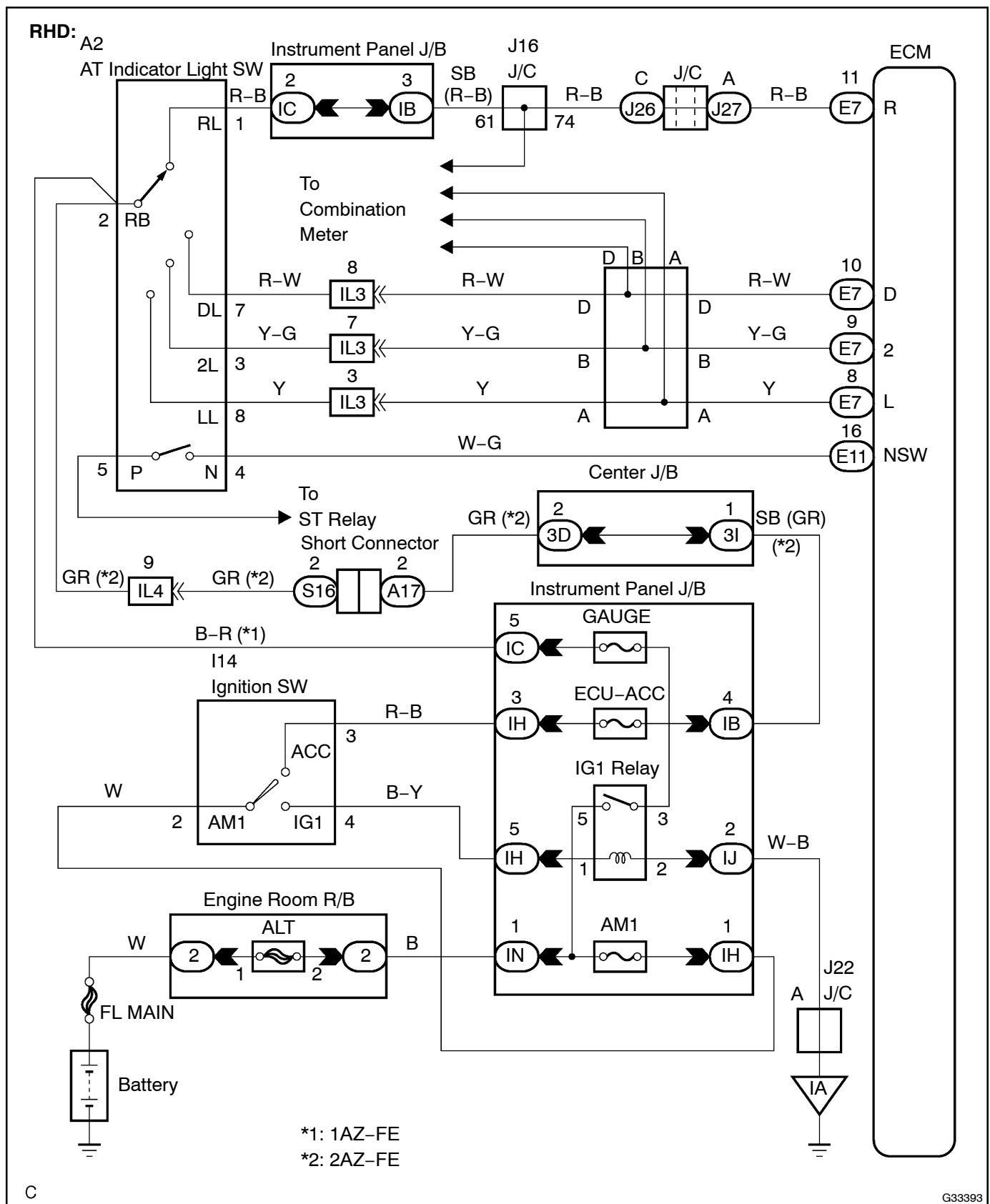
When the park/neutral position switch sends more than one signal at a time from switch positions P, R, N or D, the ECM interprets this as a fault in the switch. The ECM will turn on the MIL and store the DTC.

WIRING DIAGRAM



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INSPECTION PROCEDURE

HINT:

Using the Intelligent Tester II Data List allows switch, sensor, actuator and other item values to be read without removing any parts. Reading the Data List early in troubleshooting is one way to shorten labor time.

NOTICE:

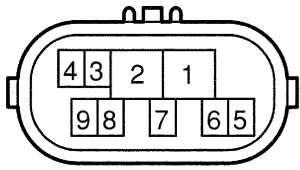
In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

- (a) Turn the ignition switch off.
- (b) Connect the Intelligent Tester II to the DLC3.
- (c) Turn the ignition switch to the ON position.
- (d) Turn on the tester.
- (e) Select the item "Enter / Diagnosis / OBD-MOBD / Power train / Engine and ECT / Data List".
- (f) Follow the instructions on the tester and read the Data List.

Item	Measurement Item/ Range (display)	Normal Condition	Diagnostic Note
Neutral Position SW Signal	PNP SW Status/ ON or OFF	Shift lever position is; P and N: ON Except P and N: OFF	When the shift lever position displayed on the hand-held tester differs from the actual position, adjustment of the PNP switch or the shift cable may be incorrect.
Shift SW Status (L Range)	PNP SW Status/ ON or OFF	Shift lever position is; L: ON Except L: OFF	↑
Shift SW Status (2 Range)	PNP SW Status/ ON or OFF	Shift lever position is; 2: ON Except 2: OFF	↑
Shift SW Status (R Range)	PNP SW Status/ ON or OFF	Shift lever position is; R: ON Except R: OFF	↑
Shift SW Status (D Range)	PNP SW Status/ ON or OFF	Shift lever position is; D: ON Except D: OFF	↑

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:

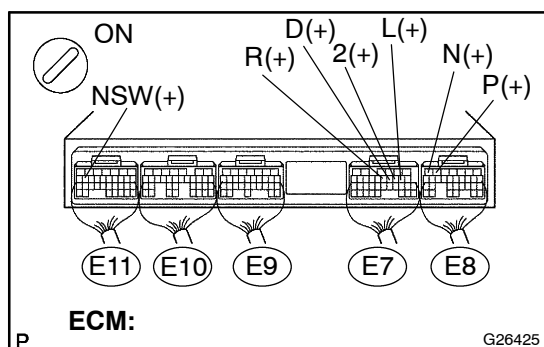
Shift Position	Tester Connection	Specified Condition
P	2 – 6 and 4 – 5	Below 1 Ω
Except P	↑	10 kΩ or higher
R	2 – 1	Below 1 Ω
Except R	↑	10 kΩ or higher
N	2 – 9 and 4 – 5	Below 1 Ω
Except N	↑	10 kΩ or higher
D	2 – 7	Below 1 Ω
Except D	↑	10 kΩ or higher
2	2 – 3	Below 1 Ω
Except 2	↑	10 kΩ or higher
L	2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

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REPLACE PARK/NEUTRAL POSITION SWITCH ASSY

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



- Connect the park/neutral position switch connector of shift lock control unit Assy.
- 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	E11 – 10 (NSW) – Body ground	Below 1 V
Except P and N	↑	10 to 14 V
R	E7 – 11 (R) – Body ground	10 to 14 V*
Except R	↑	Below 1 V
D	E7 – 10 (D) – Body ground	10 to 14 V
Except D	↑	Below 1 V
2	E7 – 9 (2) – Body ground	10 to 14 V
Except 2	↑	Below 1 V
L	E7 – 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.

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REPAIR OR REPLACE HARNESS OR
CONNECTOR (SEE PAGE 01-32)

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REPLACE ECM (SEE PAGE 10-30)