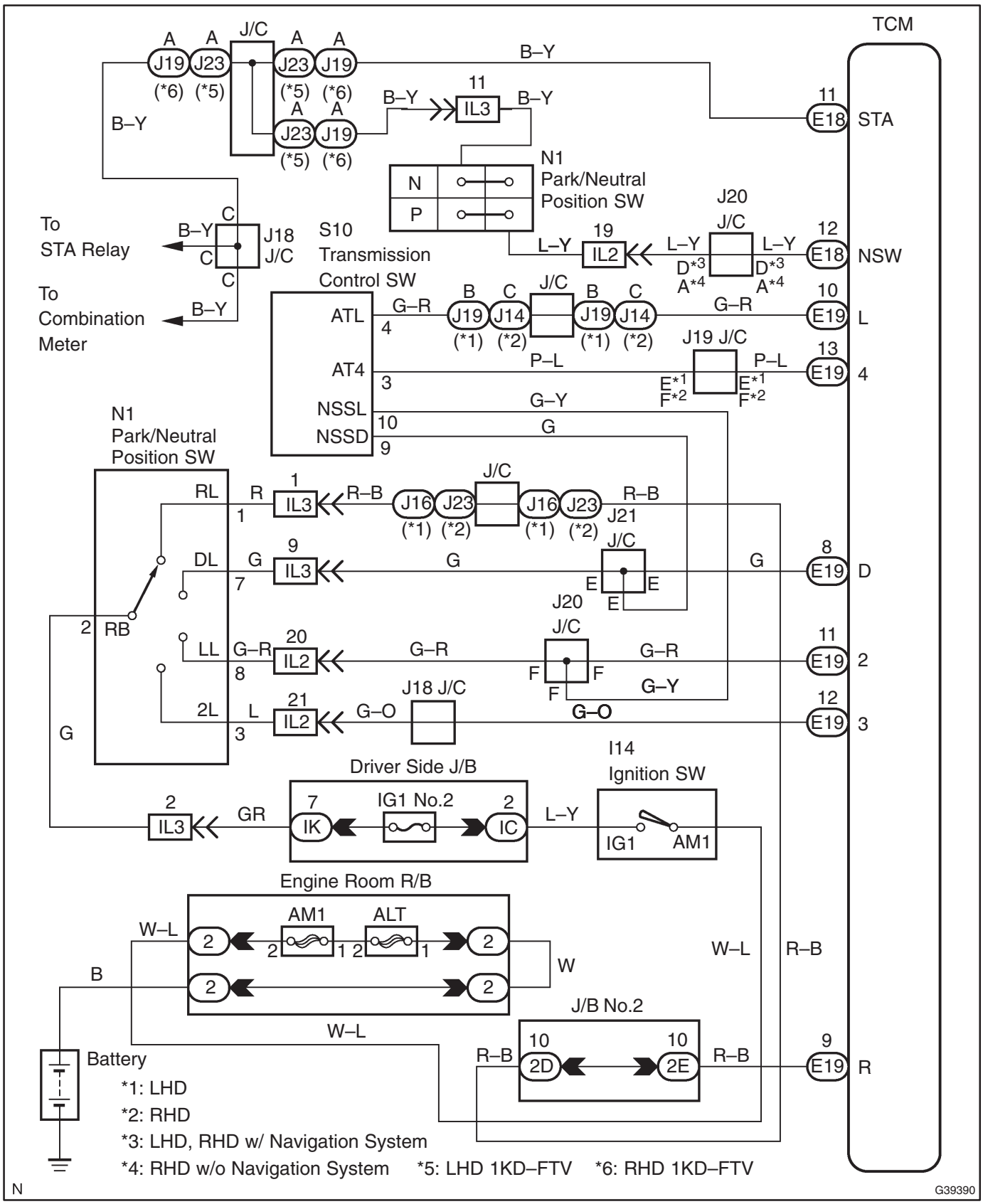
PARK/NEUTRAL POSITION SWITCH CIRCUIT

CIRCUIT DESCRIPTION

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

WIRING DIAGRAM



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.

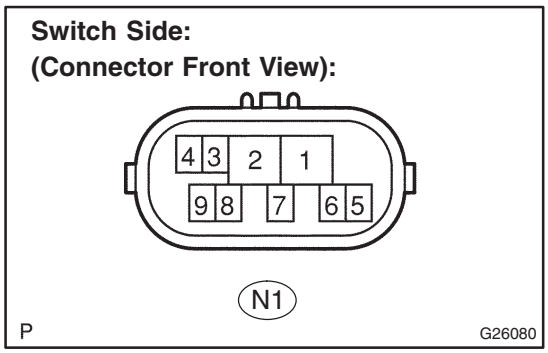
NOTICE:

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) Warm up the engine.
(b) Turn the ignition switch off.
(c) Connect the Intelligent Tester II to the DLC3.
(d) Turn the ignition switch to the ON position.
(e) Turn on the tester.
(f) Select the item ”Enter / Power train / ECT / Data List”.
(g) 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 Intelligent tester II 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 and L: ON Except 2 and L: OFF	↑
Shift SW Status (3 Range)	PNP SW Status/ ON or OFF	Shift lever position is; 3: ON Except 3: OFF	↑
Shift SW Status (4 Range)	PNP SW Status/ ON or OFF	Shift lever position is; 4: ON Except 4: 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 and 4: ON Except D and 4: OFF	↑

1 INSPECT PARK/NEUTRAL POSITION SWITCH ASSY



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

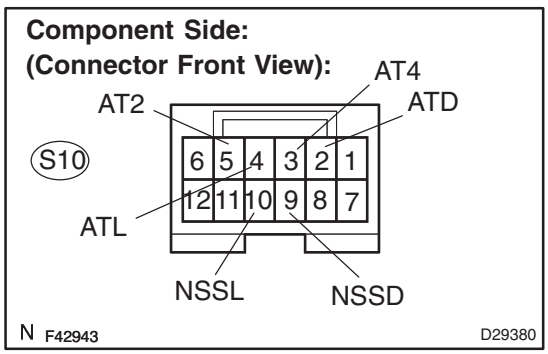
Standard:

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 and 4	2 – 7	Below 1 Ω
Except D and 4	↑	10 kΩ or higher
3	2 – 3	Below 1 Ω
Except 3	↑	10 kΩ or higher
2 and L	2 – 8	Below 1 Ω
Except 2 and L	↑	10 kΩ or higher

NG → **REPLACE PARK/NEUTRAL POSITION SWITCH ASSY (SEE PAGE 40–14)**

OK

2 INSPECT SHIFT LOCK CONTROL ECU SUB–ASSY



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

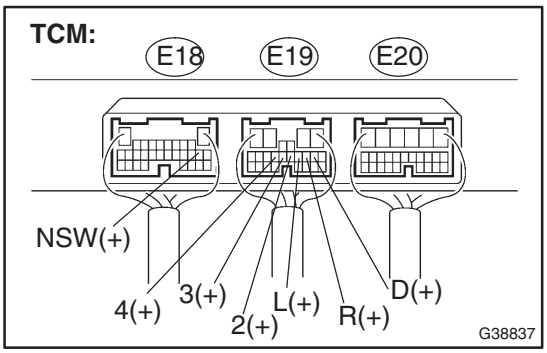
Standard:

Shift position	Tester connection	Specified condition
D	9 – 2 (NSSD – ATD)	Below 1 Ω
4		10 kΩ or higher
D	9 – 3 (NSSD – AT4)	10 kΩ or higher
4		Below 1 Ω
2	10 – 5 (NSSL – AT2)	Below 1 Ω
L		10 kΩ or higher
2	10 – 4 (NSSL – ATL)	10 kΩ or higher
L		Below 1 Ω

NG → **REPLACE SHIFT LOCK CONTROL ECU SUB–ASSY (See page 40–77)**

OK

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



(a) Connect the shift lock control ECU 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	E18 – 12 (NSW) – Body ground	Below 2 V
Except P and N	↑	10 to 14 V
R	E19 – 9 (R) – Body ground	10 to 14 V*
Except R	↑	Below 1 V
D and 4	E19 – 8 (D) – Body ground	10 to 14 V
Except D and 4	↑	Below 1 V
3	E19 – 12 (3) – Body ground	10 to 14 V
Except 3	↑	Below 1 V
2 and L	E19 – 11 (2) – Body ground	10 to 14 V
Except 2 and L	↑	Below 1 V
L	E19 – 10 (L) – Body ground	10 to 14 V
Except L	↑	Below 1 V

HINT:

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

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (SEE PAGE 01–36)**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–1171)