| DTC | P0504 | BRAKE SWITCH ”A”/”B” CORRELATION |
|---|---|---|

## CIRCUIT DESCRIPTION

In addition to turning on the stop lamps, the stop lamp switch signals are used for a variety of engine, transmission and suspension functions. The stop lamp switch is designed with two complementary signal outputs, STP and ST1–. The ECM analyzes these signal outputs to detect malfunctions in the stop lamp switch.

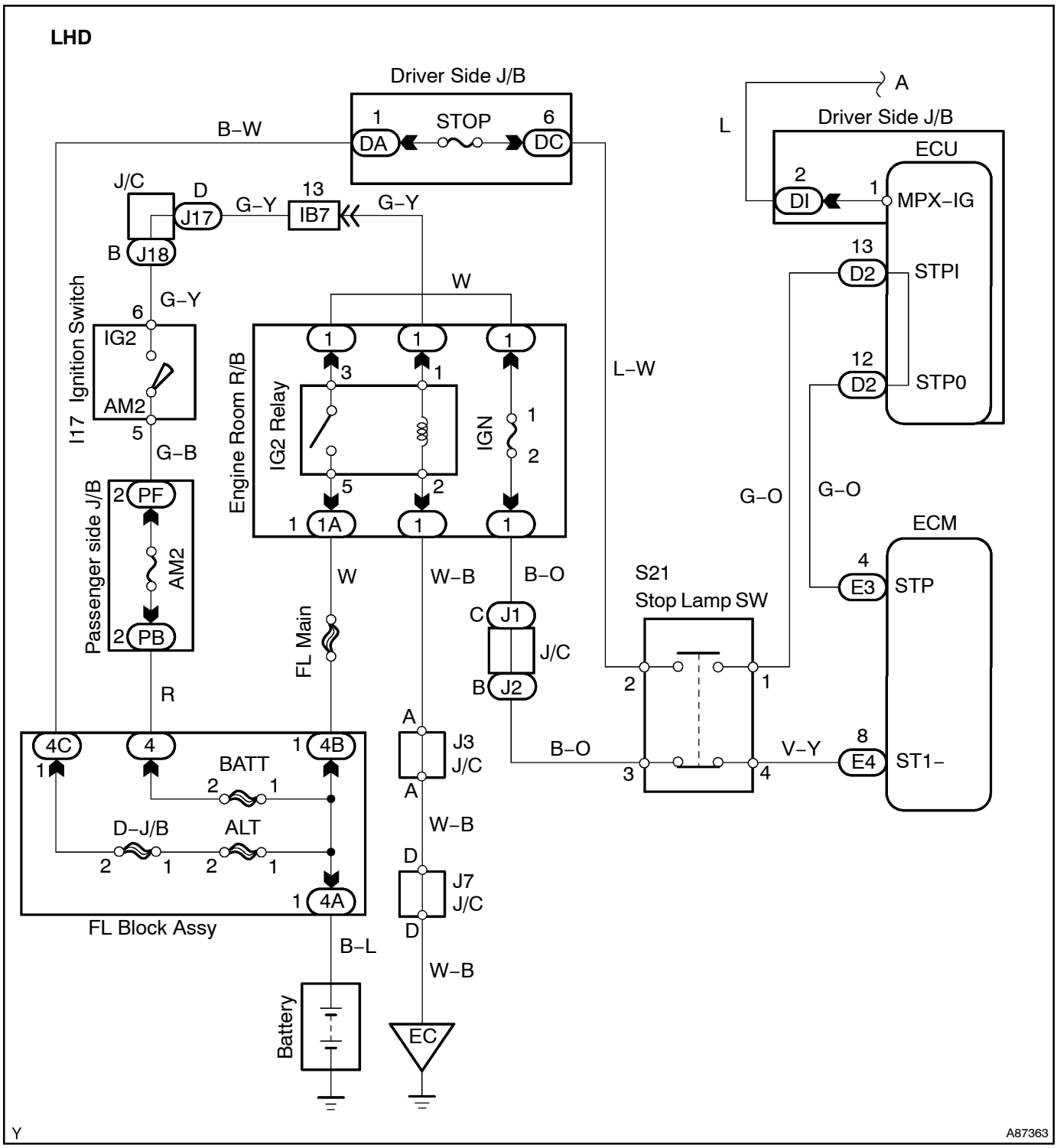
| DTC No. | DTC Detection Condition | Trouble Area |
|---|---|---|
| P0504 | Conditions (a), (b) and (c) continue for 0.5 sec. or more:<br>(a) Ignition switch ON<br>(b) Brake pedal released<br>(c) STP signal is OFF when the ST1– signal is OFF | • Short in stop lamp switch signal circuit<br>• Stop lamp fuse<br>• Stop lamp switch<br>• ECM |

HINT:

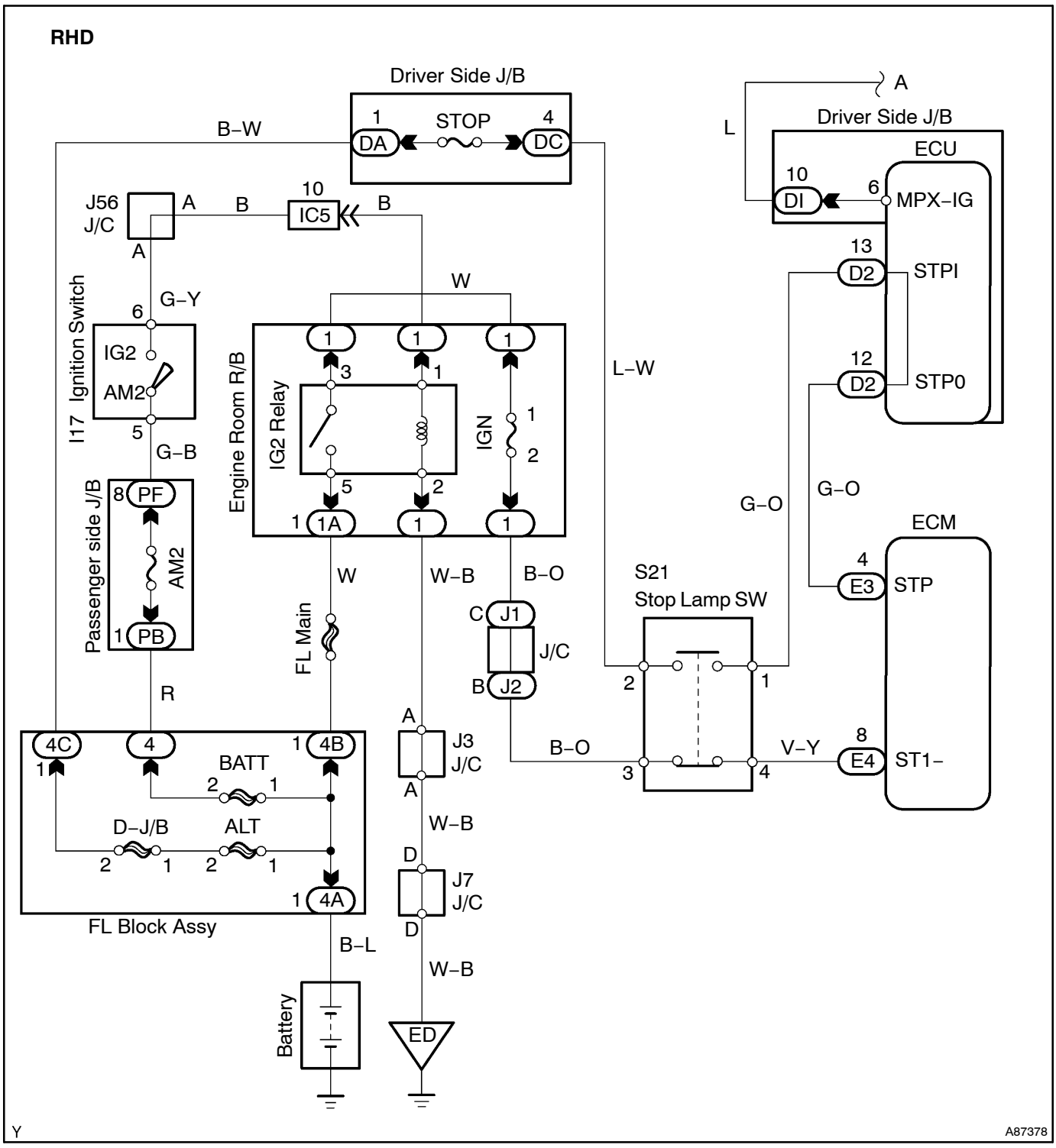
Normal condition is as shown in the table below. The signals can be read using the Intelligent Tester II.

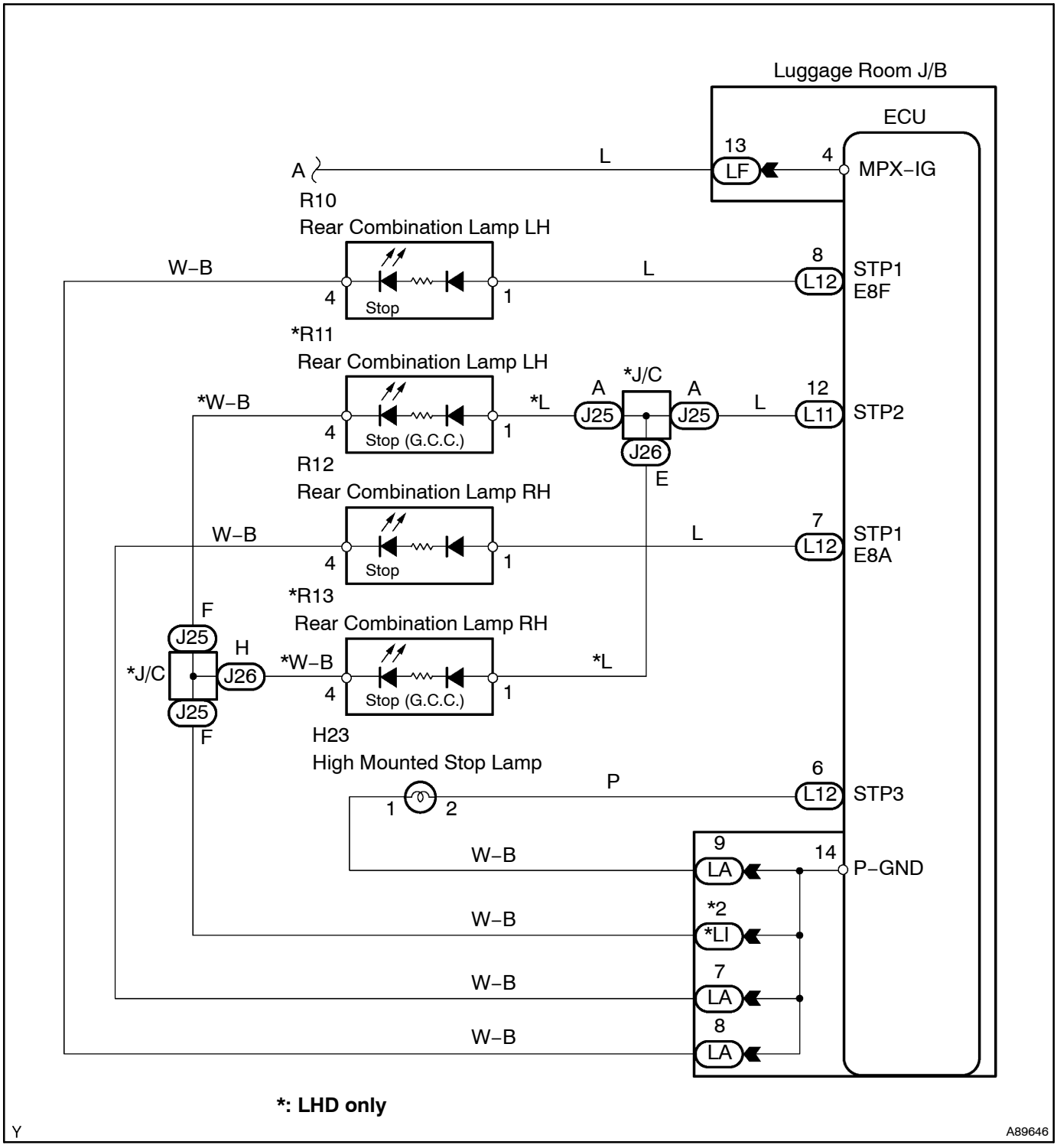
| Signal | Brake Pedal Released | In Transition | Brake Pedal Depressed |
|---|---|---|---|
| STP | OFF | ON | ON |
| ST1– | ON | ON | OFF |

# WIRING DIAGRAM



**RHD**


Driver Side J/B
1
STOP
4
DA
DC
B–W
J56
J/C
A
B
10
IC5
B
A
I17 Ignition Switch
6
G–Y
IG2
AM2
5
G–B
Passenger side J/B
8
PF
AM2
1
PB
R
Engine Room R/B
IG2 Relay
IGN
W
L–W
W–B
B–O
FL Main
C
J1
J/C
B
J2
S21
Stop Lamp SW
2
1
3
4
B–O
V–Y
A
J3
J/C
A
W–B
D
J7
J/C
D
W–B
4C
4
4B
BATT
D–J/B
ALT
4A
FL Block Assy
B–L
Battery
ED
L
A
Driver Side J/B
ECU
10
DI
6
MPX–IG
13
D2
STPI
12
D2
STP0
G–O
G–O
ECM
4
E3
STP
8
E4
ST1–
Y
A87378


Luggage Room J/B
ECU
13
LF
4
MPX–IG
A
L
R10
Rear Combination Lamp LH
W–B
4
Stop
1
L
8
L12
STP1
E8F
*R11
Rear Combination Lamp LH
*W–B
4
Stop (G.C.C.)
1
*L
*J/C
A
J25
A
J25
J26
E
L
12
L11
STP2
R12
Rear Combination Lamp RH
W–B
4
Stop
1
L
7
L12
STP1
E8A
*R13
Rear Combination Lamp RH
F
J25
H
J26
J25
F
*J/C
*W–B
4
Stop (G.C.C.)
1
*L
H23
High Mounted Stop Lamp
1
2
P
6
L12
STP3
W–B
9
LA
14
P–GND
W–B
*2
*LI
W–B
7
LA
W–B
8
LA
*: LHD only
Y
A89646

# INSPECTION PROCEDURE

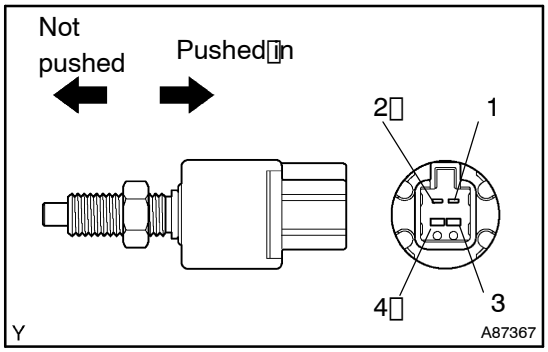
**1 CHECK STOP LAMP SWITCH ASSY**

(a) Check if the stop lamps turn on and off normally when the brake pedal is depressed and released.

NG → **REPAIR OR REPLACE STOP LAMP SWITCH CIRCUIT**

OK

**2 INSPECT STOP LAMP SWITCH ASSY**




(a) Measure the resistance between each pair of the terminals.

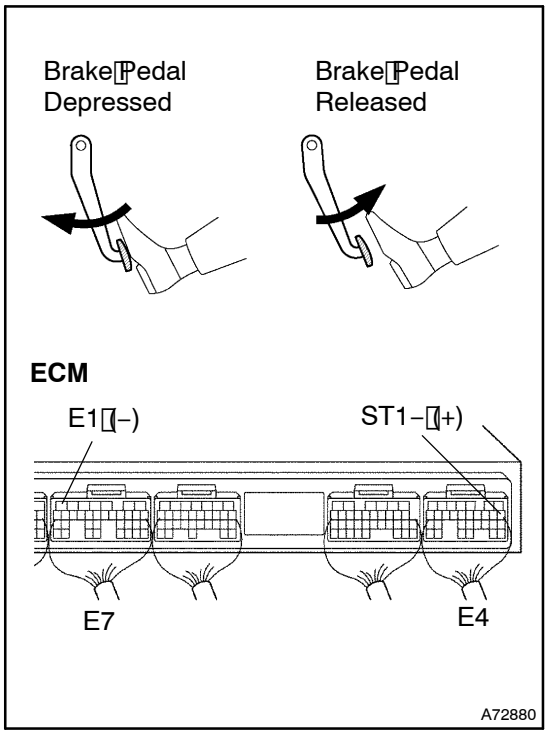
**Standard:**

| Switch Position | Tester Connection | Specified Condition |
|---|---|---|
| Switch pin not pushed | 1 – 2 | Below 1 Ω |
| Switch pin not pushed | 3 – 4 | 10 kΩ or higher |
| Switch pin pushed in | 1 – 2 | 10 kΩ or higher |
| Switch pin pushed in | 3 – 4 | Below 1 Ω |

NG → **REPLACE STOP LAMP SWITCH ASSY**

OK

**3 READ VALUE OF INTELLIGENT TESTER II**




(a) Turn the ignition switch ON.

(b) Enter the following menus: Enter/ Diagnosis/ OBD·MOBD/ Power train/ Engine and ECT/ Data List/ All Data/ Stop Light Switch.

(c) Confirm the stop lamp switch condition.

**Standard:**

| Brake Pedal | Specified Condition |
|---|---|
| Depressed | STP Signal ON |
| Released | STP Signal OFF |

(d) Measure the voltage of the ECM connectors.

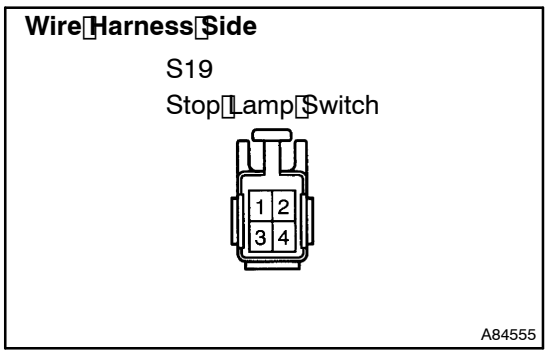
**Standard:**

| Tester Connection | Brake Pedal | Specified Condition |
|---|---|---|
| E4–8 (ST1–) – E7–7 (E1) | Depressed | Below 1.5 V |
| E4–8 (ST1–) – E7–7 (E1) | Released | 7.5 to 14 V |

OK → **CHECK FOR INTERMITTENT PROBLEMS (See page 05–11)**

NG

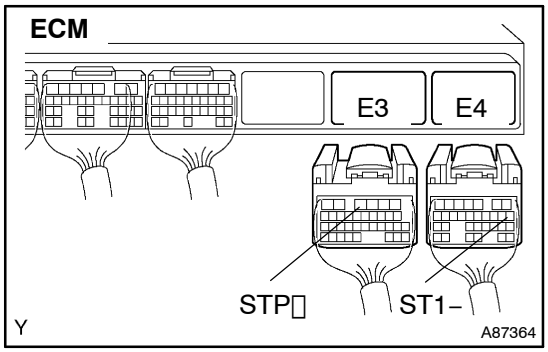
| 4 | CHECK WIRE HARNESS (STOP LAMP SWITCH – ECM) |
|---|---|




(a) Disconnect the S19 stop lamp switch connector.
(b) Disconnect the E3 and E4 ECM connectors.
(c) Measure the resistance of the wire harness side connectors.

**Standard:**

| Tester Connection | Specified Condition |
|---|---|
| S19–1 (Stop lamp switch) – E3–4 (STP) | Below 1 Ω |
| S19–4 (Stop lamp switch) – E4–8 (ST1–) | Below 1 Ω |
| S19–1 (Stop lamp switch) or E3–4 (STP) – Body ground | 10 kΩ or higher |
| S19–4 (Stop lamp switch) or E4–8 (ST1–) – Body ground | 10 kΩ or higher |




NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

**REPLACE ECM (See page 10–21)**