

DTC**P0504****Brake Switch "A" / "B" Correlation****DESCRIPTION**

The stop light switch is a duplex system that transmits two signals: STP and ST1-. These two signals are used by the ECM to monitor whether or not the brake system is working properly. If the signals, which indicate the brake pedal is being depressed and released, are detected simultaneously, the ECM interprets this as a malfunction in the stop light switch and sets the DTC.

HINT:

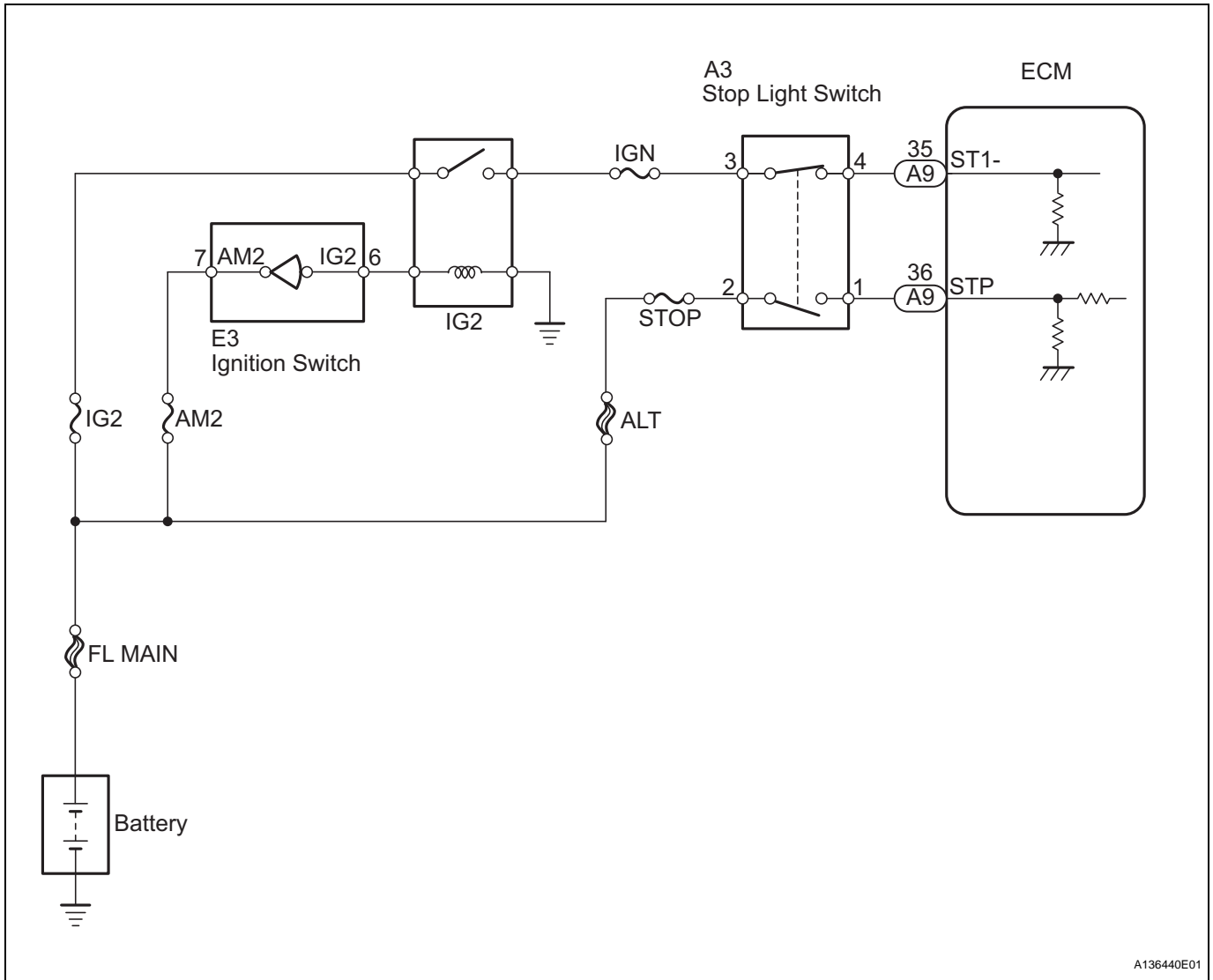
The normal conditions are as shown in the table below. The signals can be read using the intelligent tester.

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

ES

DTC No.	DTC Detection Condition	Trouble Area
P0504	Conditions (a), (b) and (c) continue for 0.5 seconds or more (1 trip detection logic): (a) Ignition switch ON (b) Brake pedal released (c) STP signal OFF when ST1- signal OFF	<ul style="list-style-type: none"> • Short in stop light switch signal circuit • STOP fuse • IGN fuse • Stop light switch • ECM

WIRING DIAGRAM



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A136440E01

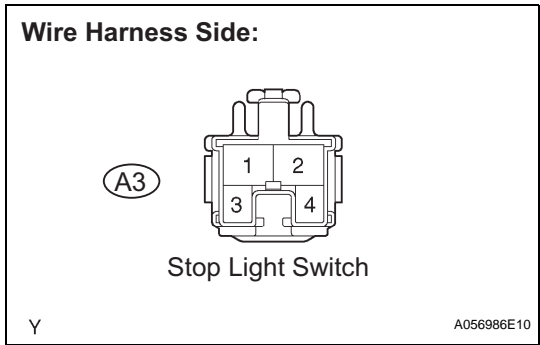
INSPECTION PROCEDURE

HINT:

- Read freeze frame data using the intelligent tester. Freeze frame data records the engine condition when malfunctions are detected. When troubleshooting, freeze frame data can help determine if the vehicle was moving or stationary, if the engine was warmed up or not, if the air-fuel ratio was lean or rich, and other data from the time the malfunction occurred.
- STP signal conditions can be checked using the intelligent tester.
 - (a) Connect the intelligent tester to the DLC3.
 - (b) Turn the ignition switch ON.
 - (c) Turn the tester ON.
 - (d) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DATA LIST / PRIMARY / STOP LIGHT SW.
 - (e) Check the STP signal when the brake pedal is depressed and released.

Brake Pedal Operation	Specified Condition
Depressed	STP signal ON
Released	STP signal OFF

1 CHECK STOP LIGHT SWITCH ASSEMBLY (TERMINAL B VOLTAGE)



- (a) Disconnect the A3 stop light switch connector.
 - (b) Measure the voltage between the terminals of the A3 stop light switch connector and body ground.
- Standard voltage**

Tester Connection	Condition	Specified Condition
A3-2 - Body ground	Always	9 to 14 V
A3-3 - Body ground	Ignition switch ON	9 to 14 V

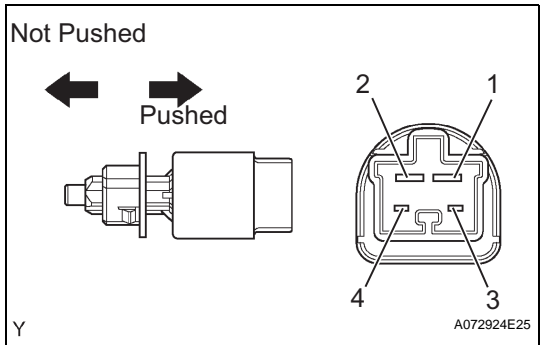
- (c) Reconnect the stop light switch connector.

NG → **Go to step 4**

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OK

2 INSPECT STOP LIGHT SWITCH ASSEMBLY



- (a) Remove the stop light switch.
 - (b) Check the resistance.
- Standard resistance**

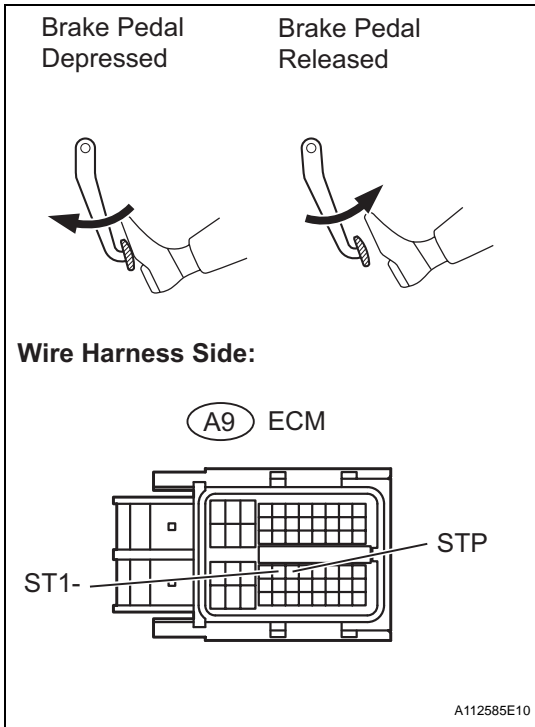
Tester Connection	Switch Position	Specified Condition
1 - 2	Switch pin not pushed	Below 1 Ω
	Switch pin pushed	10 kΩ or higher
3 - 4	Switch pin not pushed	10 kΩ or higher
	Switch pin pushed	Below 1 Ω

- (c) Reinstall the stop light switch.

NG → **REPLACE STOP LIGHT SWITCH ASSEMBLY**

OK

3 CHECK ECM (STP AND ST1 - VOLTAGE)



- (a) Disconnect the A9 ECM connector.
- (b) Turn the ignition switch ON.
- (c) Measure the voltage between the terminals ST1- and STP of the A9 ECM connector and body ground.

Standard voltage

Tester Connection	Brake Pedal Operation	Specified Condition
A9-35 (ST1-) - Body ground	Released	9 to 14 V
	Depressed	0 to 3 V
A9-36 (STP) - Body ground	Released	0 to 3 V
	Depressed	9 to 14 V

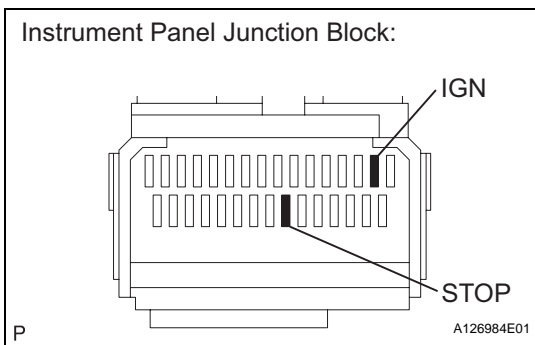
- (d) Reconnect the ECM connector.

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

OK

REPLACE ECM

4 INSPECT FUSE (STOP AND IGN FUSE)



- (a) Remove the STOP and IGN fuses from the instrument panel junction block.
- (b) Measure the resistance.

Standard resistance:
Below 1 Ω

- (c) Reinstall the STOP and IGN fuses.

NG → **CHECK FOR SHORTS IN ALL HARNESSES AND CONNECTORS CONNECTED TO FUSE AND REPLACE FUSE**

OK

REPAIR OR REPLACE HARNESS AND CONNECTOR

ES