

DTC	P0504	BRAKE SWITCH "A"/"B" CORRELATION
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CIRCUIT DESCRIPTION

In this system, the signal of the stop lamp switch is used to judge whether the brake system is abnormal or not.

The stop lamp switch has a duplex system (signals STP and ST1-) to detect abnormality. When the signals of depressing and releasing the brake pedal are detected simultaneously, the ECM interprets this as a malfunction of the stop lamp switch.

HINT:

Normal condition is as shown in the table below.

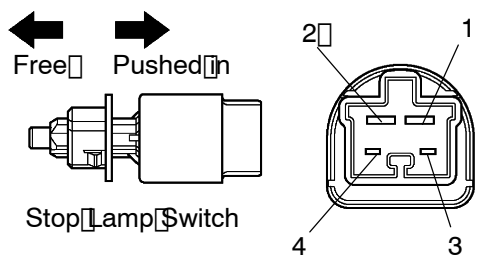
Signal	Brake Pedal Released	In Transition	Brake Pedal Depressed
STP	OFF	ON	ON
ST1-	ON	ON	OFF

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

AVENSIS VERSO/PICNIC Supplement (RM1032E)

2 INSPECT STOP LAMP SWITCH ASSY

Component Side:



Y

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- (a) Remove the S38 stop lamp switch.
 (b) Check the resistance between each pair of terminals.

Standard:

Switch Position	Tester Connection	Specified Condition
Switch pin free	1 – 2	Below 1 Ω
	3 – 4	10 k Ω or higher
Switch pin pushed in	1 – 2	10 k Ω or higher
	3 – 4	Below 1 Ω

- (c) Reinstall the stop lamp switch.

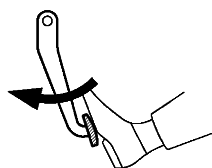
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REPLACE STOP LAMP SWITCH ASSY

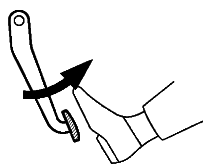
OK

3 READ VALUE OF INTELLIGENT TESTER II (STP SIGNAL AND ST1-VOLTAGE)

Brake Pedal
Depressed



Brake Pedal
Released



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- (a) Connect the Intelligent Tester II to the DLC3.
 (b) Turn the ignition switch to ON and turn the Intelligent Tester II ON.
 (c) Select the following menu items: Powertrain / Engine and ECT / Data List / Stop Light SW.
 (d) Read the value.

Standard:

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

- (e) Measure the voltage between the specified terminals of the E8 and E11 ECM connectors.

Standard:

Tester Connection	Brake Pedal	Specified Condition
ST1 – (E8-23) – E1 (E11-22)	Depressed	Below 1.5 V
	Released	7.5 to 14 V

OK

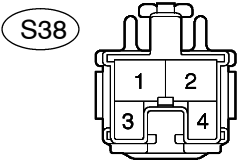
CHECK FOR INTERMITTENT PROBLEMS
(See page 05-440)

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4 CHECK HARNESS AND CONNECTOR (STOP LAMP SWITCH – ECM)

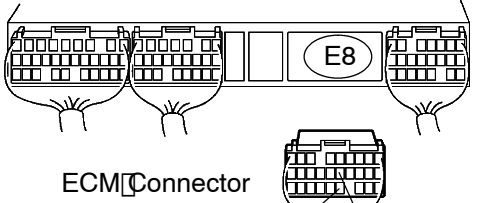
Wire Harness Side:

Stop Lamp Switch Connector



Front View

Y A56986



ECM Connector

ST1 STP

Y A56853

- (a) Disconnect the S38 stop lamp switch connector.
- (b) Disconnect the E8 ECM connector.
- (c) Check the resistance.

Standard (Check for open):

Tester Connection	Specified Condition
Stop lamp switch (S38-1) – STP (E8-14)	Below 1 Ω
Stop lamp switch (S38-4) – ST1 (E8-23)	

Standard (Check for short):

Tester Connection	Specified Condition
Stop lamp switch (S38-1) or STP (E8-14) – Body ground	10 kΩ or higher
Stop lamp switch (S38-4) or ST1 (E8-23) – Body ground	

- (d) Reconnect the ECM connector.
- (e) Reconnect the stop lamp switch connector.

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REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE ECM (See page 10-30)