DTC	C0278/11	OPEN CIRCUIT IN ABS SOLENOID RELAY CIRCUIT

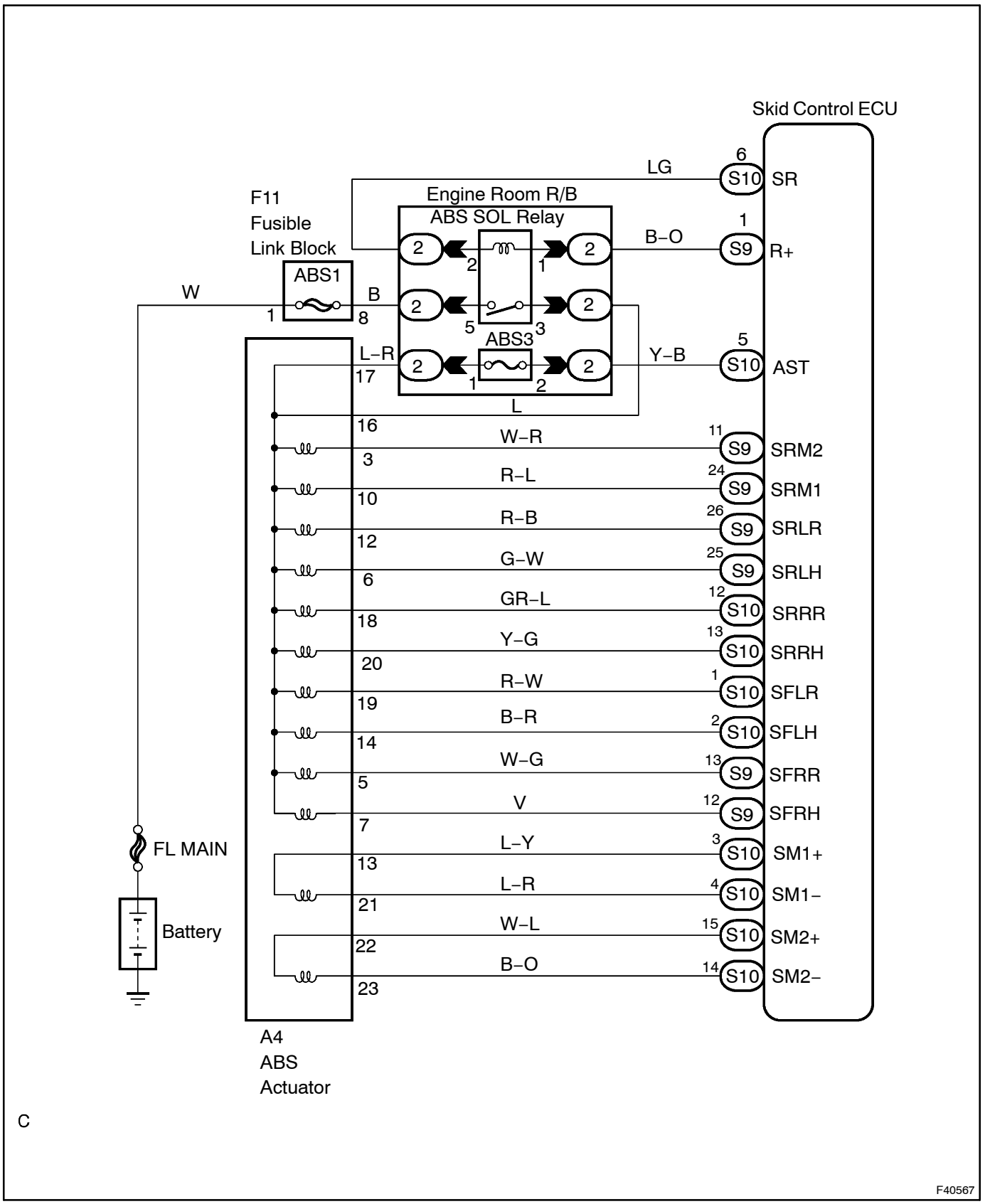
DTC	C0279/12	SHORT CIRCUIT IN ABS SOLENOID RELAY CIRCUIT

CIRCUIT DESCRIPTION

This relay supplies power to each ABS solenoid. After the ignition switch is turned ON, if the initial check is OK, the relay goes on.

DTC No.	DTC Detecting Condition	Trouble Area
C0278/11	When solenoid relay is turned ON, relay contact is OFF for 0.2 sec. or longer.	• ABS solenoid relay • ABS solenoid relay circuit
C0279/12	Immediately after IG1 is turned ON, when solenoid relay is turned OFF, relay contact is ON for 0.2 sec. or longer.	

WIRING DIAGRAM



INSPECTION PROCEDURE

1	PERFORM ACTIVE TEST BY HAND–HELD TESTER(ABS SOLENOID RELAY OPERATION)

(a) Connect the hand–held tester to the DLC3.
(b) Start the engine.
(c) Select the ACTIVE TEST mode on the hand–held tester.

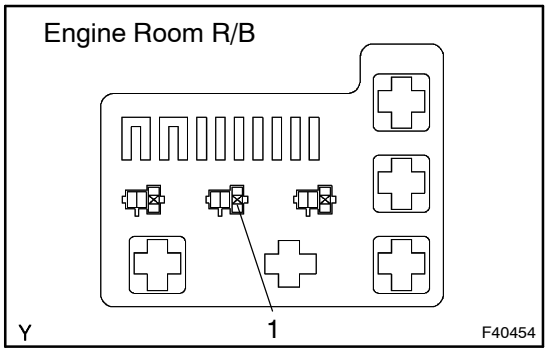
Item	Vehicle Condition / Test Details	Diagnostic Note
ABS MOT RELAY	Turns ABS solenoid relay ON / OFF	Operation of solenoid can be heard

(d) Check the operation sound of the ABS solenoid individually when operating it with the hand–held tester.
OK:
The operation sound of the ABS solenoid should be heard.

OK → **Go to step 4**

NG

2	CHECK TERMINAL VOLTAGE



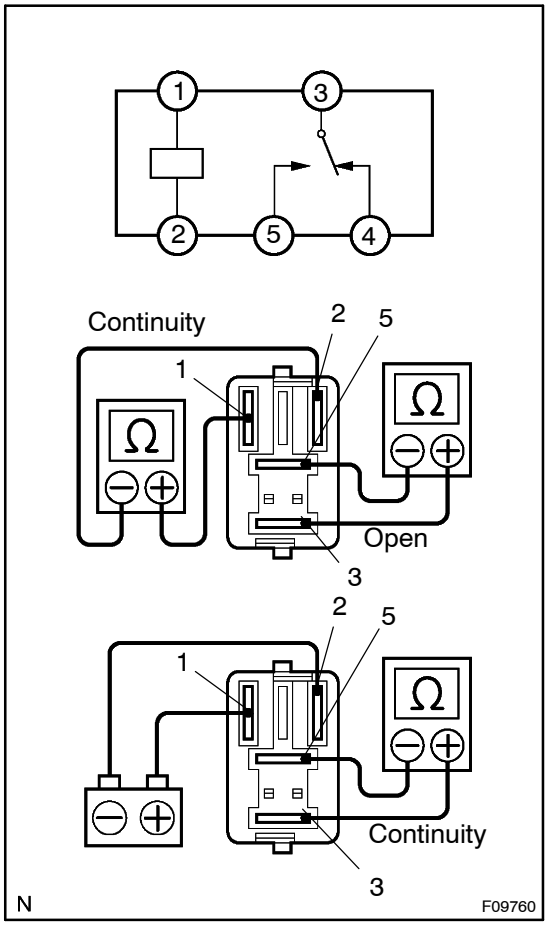
(a) Remove the ABS solenoid relay from engine room R/B .
(b) Turn the ignition switch ON.
(c) Measure the voltage between terminal 1 of engine room R/B (for ABS solenoid relay) and body ground.
Standard:

Terminals 1 – Body ground	10 to 14 V

NG → **Go to step 7**

OK

3 INSPECT ABS SOLENOIDO RELAY



(a) Check continuity between each terminal of ABS solenoid relay.

Standard:

Terminals 1 and 2	Reference value 62 Ω
Terminals 3 and 5	10 kΩ or highere

(b) Apply battery positive voltage between terminals 1 and 2.

(c) Check continuity between terminals 3 and 5 of ABS motor relay.

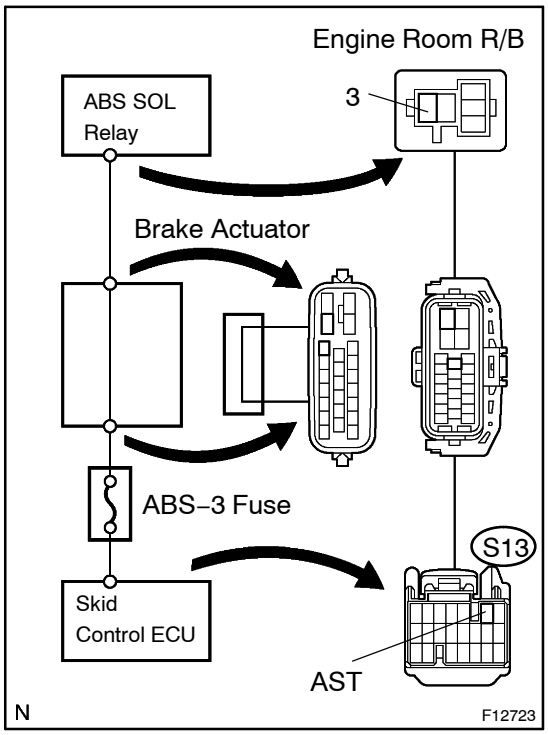
Standard:

Terminals 3 and 5	Below 1 Ω

NG → **REPLACE ABS SOLENOIDO RELAY**

OK

4 CHECK CONTINUITY(ABS SOLENOID RELAY – SKID CONTROL ECU)



(a) Disconnect the connector (S13) from the skid control ECU.

(b) Check continuity between terminal 3 of engine room R/B (for ABS solenoid relay) and terminal AST of skid control ECU

Standard:

Below 1 Ω

NG → REPAIR OR REPLACE HARNESS OR BRAKE ACTUATOR

OK

5 CHECK HARNESS AND CONNECTOR(ABS SOLENOID RELAY – SKID CONTROL ECU)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6 CHECK RECONFIRM DTC

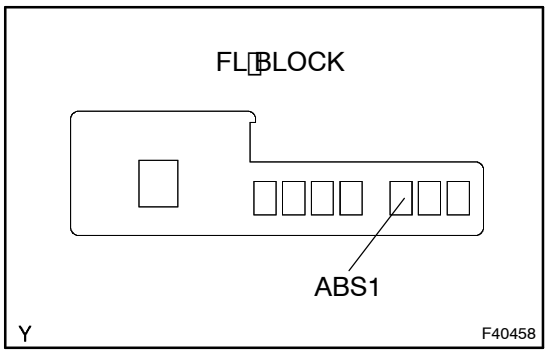
A	Same Code
B	Normal Code

B → PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–130)

A

REPLACE SKID CONTROL ECU ASSY (SEE PAGE 32–54)

7 INSPECT FUSE(ABS1 FUSE OF FL BLOCK)



(a) Remove ABS1 fuse from the FL BLOCK.
(b) Check continuity of ABS1 fuse.
Standard:

ABS No.2 fuse	Below 1 Ω (Continuity)

NG → CHECK FOR SHORT IN ALL HARNESS AND CONNECTOR CONNECTED TO FUSE AND REPLACE FUSE

OK

CHECK AND REPAIR HARNESS OR CONNECTOR