

DTC	C0273/13	OPEN OR SHORT CIRCUIT IN ABS MOTOR RELAY CIRCUIT
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DTC	C0274/14	SHORT CIRCUIT IN ABS MOTOR RELAY CIRCUIT
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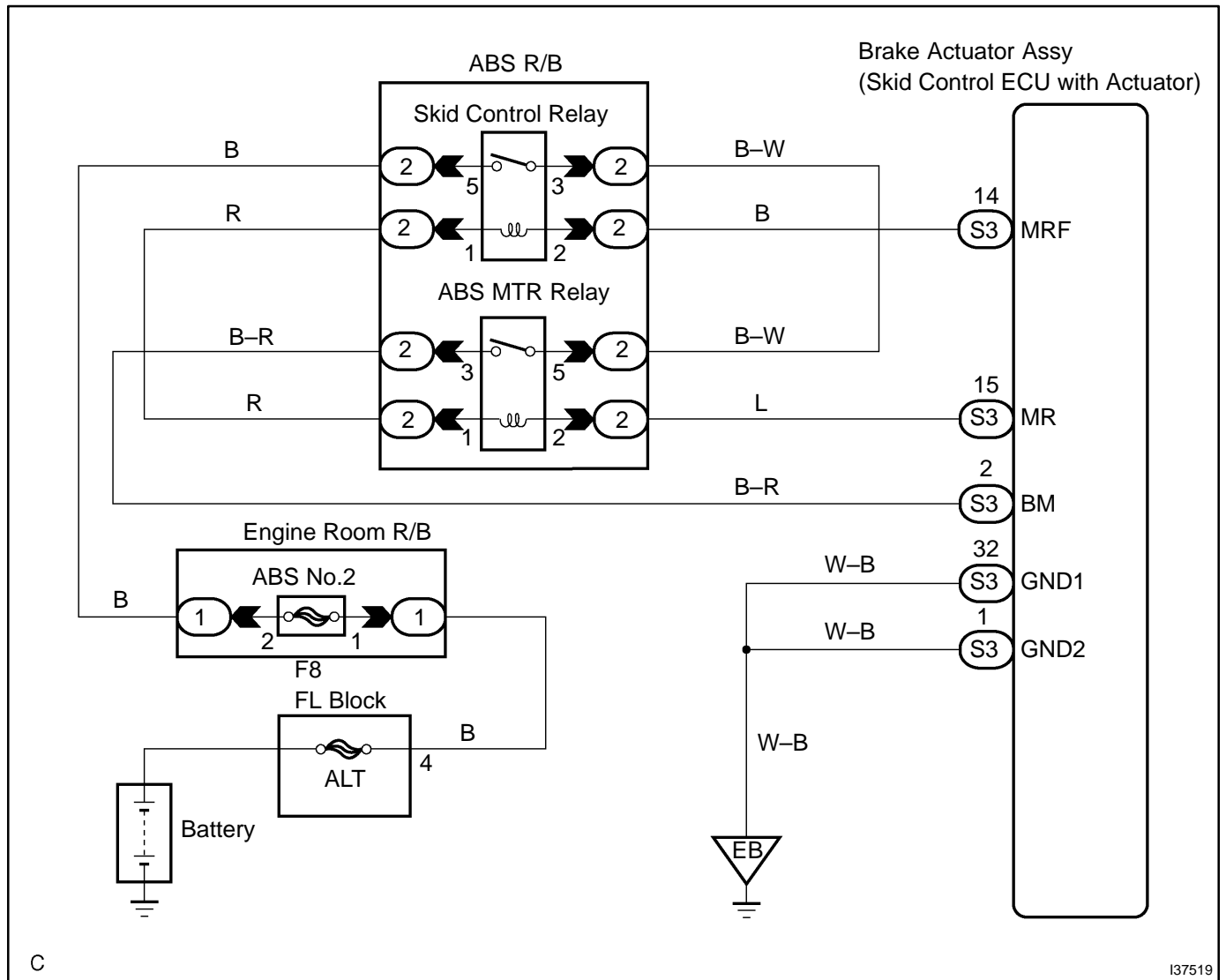
DTC	C1361/91	SHORT CIRCUIT IN ABS MOTOR FAIL SAFE RELAY CIRCUIT
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CIRCUIT DESCRIPTION

The ABS motor relay supplies power to the ABS pump motor. While the ABS & TRAC & VSC are activated, the ECU switches the ABS motor relay ON and operates the ABS pump motor.

DTC No.	DTC Detecting Condition	Trouble Area
C0273/13	<ul style="list-style-type: none"> With IG1 terminal voltage at 9.5 to 17.2 V, during initial check, ABS control, TRAC control VSC control or BA control, pump motor relay is turned ON, and relay contact is "OFF" for 0.12 sec. or more. 	<ul style="list-style-type: none"> • ABS motor relay • Skid control relay • ABS motor relay circuit • ABS No.2 fuse
C0274/14	When pump motor relay is turned OFF, relay contact is "ON" for 4 sec. or more.	
C1361/91	<ul style="list-style-type: none"> Immediately after IG1 is turned ON, when pump motor fail safe relay is turned OFF, relay contact is "ON" for 0.2 sec. or more. 	

WIRING DIAGRAM



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137519

INSPECTION PROCEDURE

HINT:

Start the inspection from step 1 in case of using the hand-held tester and start from step 2 in case of not using the hand-held tester.

1 PERFORM ACTIVE TEST BY HAND-HELD TESTER(ABS MOTOR 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.
- (d) Check the operation sound of the ABS motor individually when operating it with the hand-held tester.

Item	Vehicle Condition / Test Details		Diagnostic Note
ABS MOT RELAY	ABS motor relay / ON or OFF	ON : Motor relay ON	-

Standard:

The operation sound of the ABS motor should be heard.

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Go to step 2

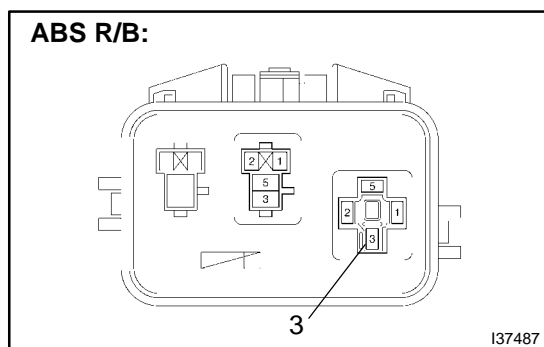
OK

REPLACE BRAKE ACTUATOR ASSY(See page 32-39)

NOTICE:

When replacing the brake actuator assy, perform the zero point calibration (See page 05-279).

2 CHECK TERMINAL VOLTAGE(ABS MOTOR RELAY 3 TERMINAL OF ABS R/B)



- (a) Remove the ABS MTR relay from the ABS R/B.
- (b) Turn the ignition switch to the ON position.
- (c) Measure the voltage according to the value(s) in to the table below.

Standard:

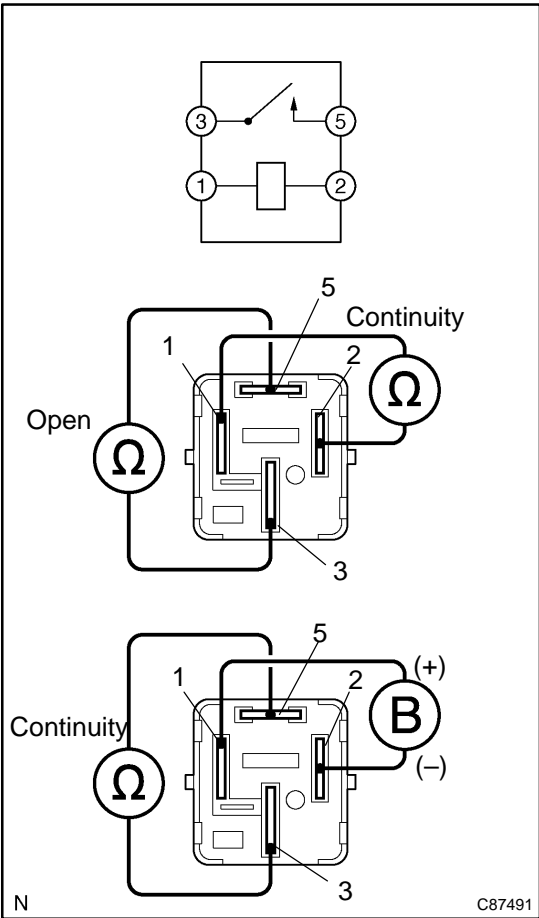
Tester Connection	Specified Condition
Terminals 3 – Body ground	11 to 14 V

NG

Go to step 5

OK

3 INSPECT ABS MOTOR RELAY



(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
Terminals 1 – Terminals 2	Reference value 80 Ω
Terminals 3 – Terminals 5	10 kΩ or higher

(b) Apply battery positive voltage between terminals 1 and 2.
 (c) Measure the resistance according to the value(s) in the table below.

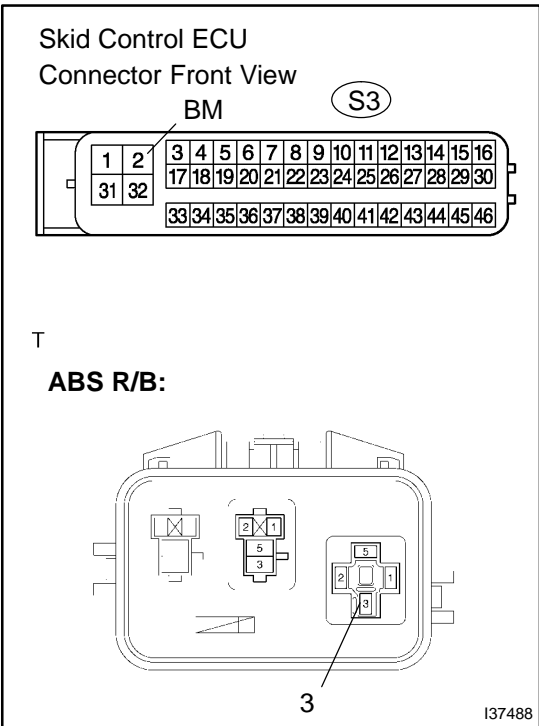
Standard:

Tester Connection	Specified Condition
Terminals 3 – Terminals 5	1 Ω or less

OK

NG → **REPLACE ABS MOTOR RELAY**

4 CHECK HARNESS AND CONNECTOR(ABS MOTOR RELAY – SKID CONTROL ECU ASSY)



- (a) Disconnect the skid control ECU connector.
- (b) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
BM (S3-2) – ABS R/B (3)	1 Ω or less

- (c) Measure the resistance according to the value(s) in the table below.

Standard:

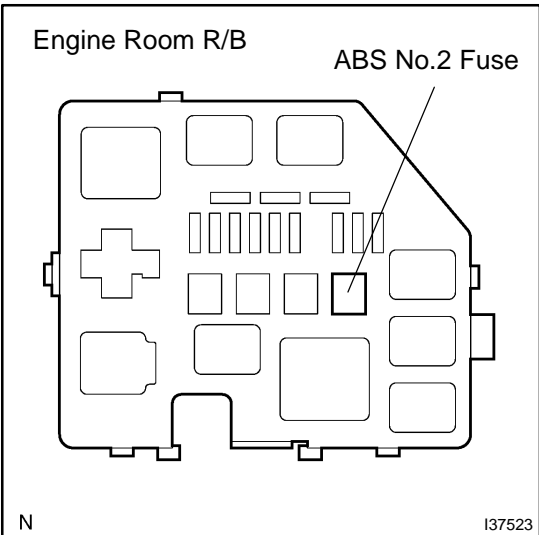
Tester Connection	Specified Condition
BM (S3-2) – Body ground	10 kΩ or higher

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

CHECK AND REPLACE IF THE SAME CODE IS STILL OUTPUT AFTER THE DTC IS DELETED, CHECK THE CONTACT CONDITION OF EACH CONNECTION

5 INSPECT FUSE(ABSNO.2 FUSE)



- (a) Remove the ABS No.2 fuse.
- (b) Measure the resistance according to the value(s) in the table below.

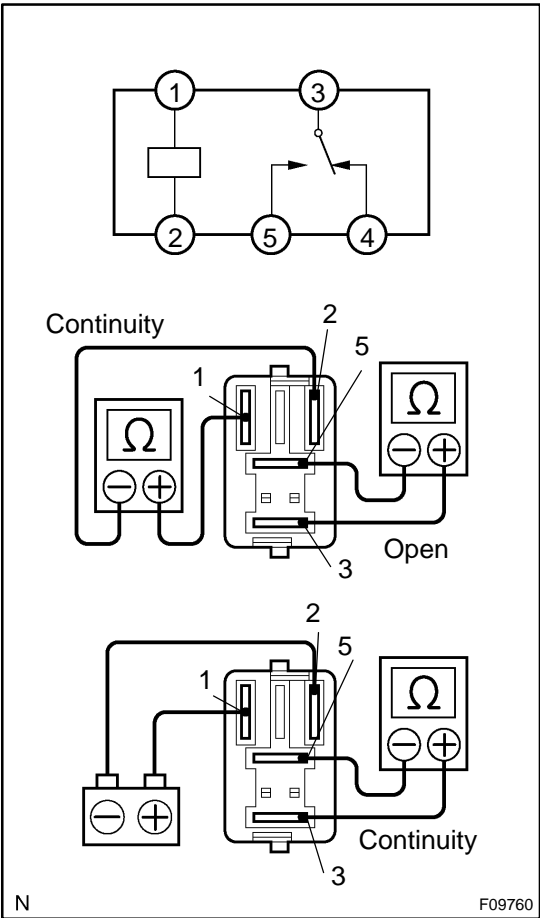
Standard:

Tester Connection	Specified Condition
ABS No.2 fuse	1 Ω or less

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

OK

6 INSPECT SKID CONTROL RELAY



(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
Terminals 1 – Terminals 2	Reference value 100 Ω
Terminals 3 – Terminals 5	10 kΩ or higher

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

(c) Measure the resistance according to the value(s) in the table below.

Standard:

Tester Connection	Specified Condition
Terminals 3 – Terminals 5	1 Ω or less

NG → **REPLACE SKID CONTROL RELAY**

OK

REPAIR OR REPLACE HARNESS AND CONNECTOR