DICA4-01

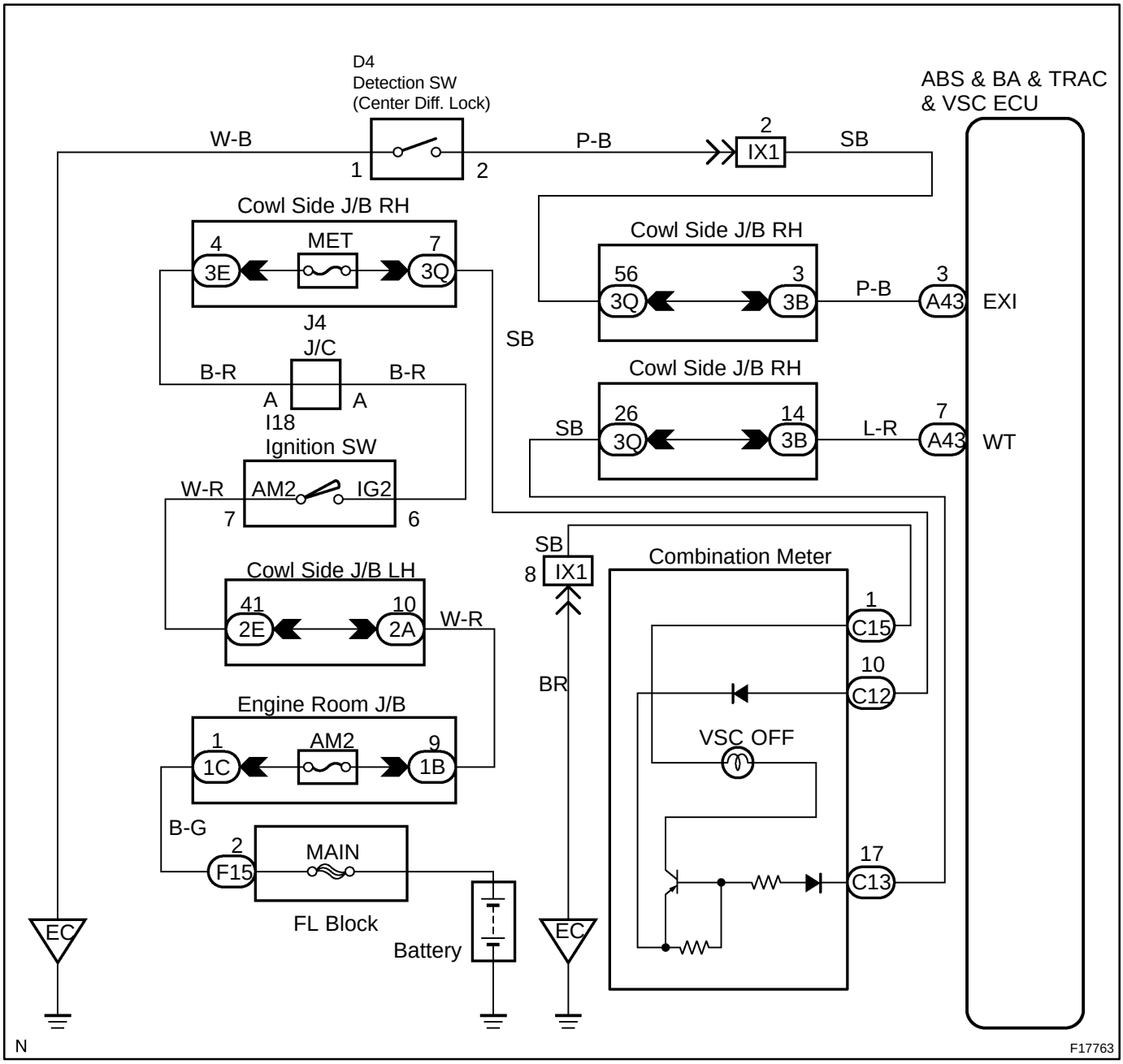
DTC	Always ON	Malfunction in ECU VSC TRAC Warning Light Circuit

CIRCUIT DESCRIPTION

Always ON	There is a malfunction in the ECU internal circuit.	★Power source circuit ★Skid control ECU ★VSC TRAC warning light circuit

HINT:
If the fail safe function is activated in the VSC system, "VSC OFF" indicator light lights up.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Check that the ECU connectors are securely connected to the ECU.**

NO → **Connect the connector to the ECU.**

YES

2	**Is DTC output for VSC?**

Check the DTC on page DI-505 .

YES → **Repair circuit indicated by the output code.**

NO

3	**Does VSC TRAC warning light go off?**

YES → **Check for open or short circuit in harness and connector between ECU-IG fuse and ECU (See page IN-36).**

NO

4	**Check battery positive voltage.**

PREPARATION:
Start the engine.
CHECK:
Check the battery positive voltage.
OK:
Voltage: 10 to 16 V

NG → **Check and repair the charging system.**

OK

5	**Check operation of the VSC TRAC warning light.**

In case of using the hand-held tester:

PREPARATION:

(a) Connect the hand-held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand-held tester main switch ON.
(c) Select the ACTIVE TEST mode on the hand-held tester.

CHECK:

Check that ”ON” and ”OFF” of the VSC TRAC warning light can be shown on the combination meter on the hand-held tester.

In case of not using the hand-held tester:

PREPARATION:

(a) Turn the ignition switch OFF.
(b) Disconnect the connector from the skid control ECU.
(c) Turn the ignition switch ON.

CHECK:

Check that the VSC TRAC warning light goes off.

NG → **Check and replace combination meter (See page BE-2).**

OK

6	**Check for short circuit in harness and connector between combination meter and skid control ECU, combination meter and DLC1 (See page IN-36).**

NG → **Repair or replace harness or connector.**

OK

Check and replace skid control ECU.

DICA5-02

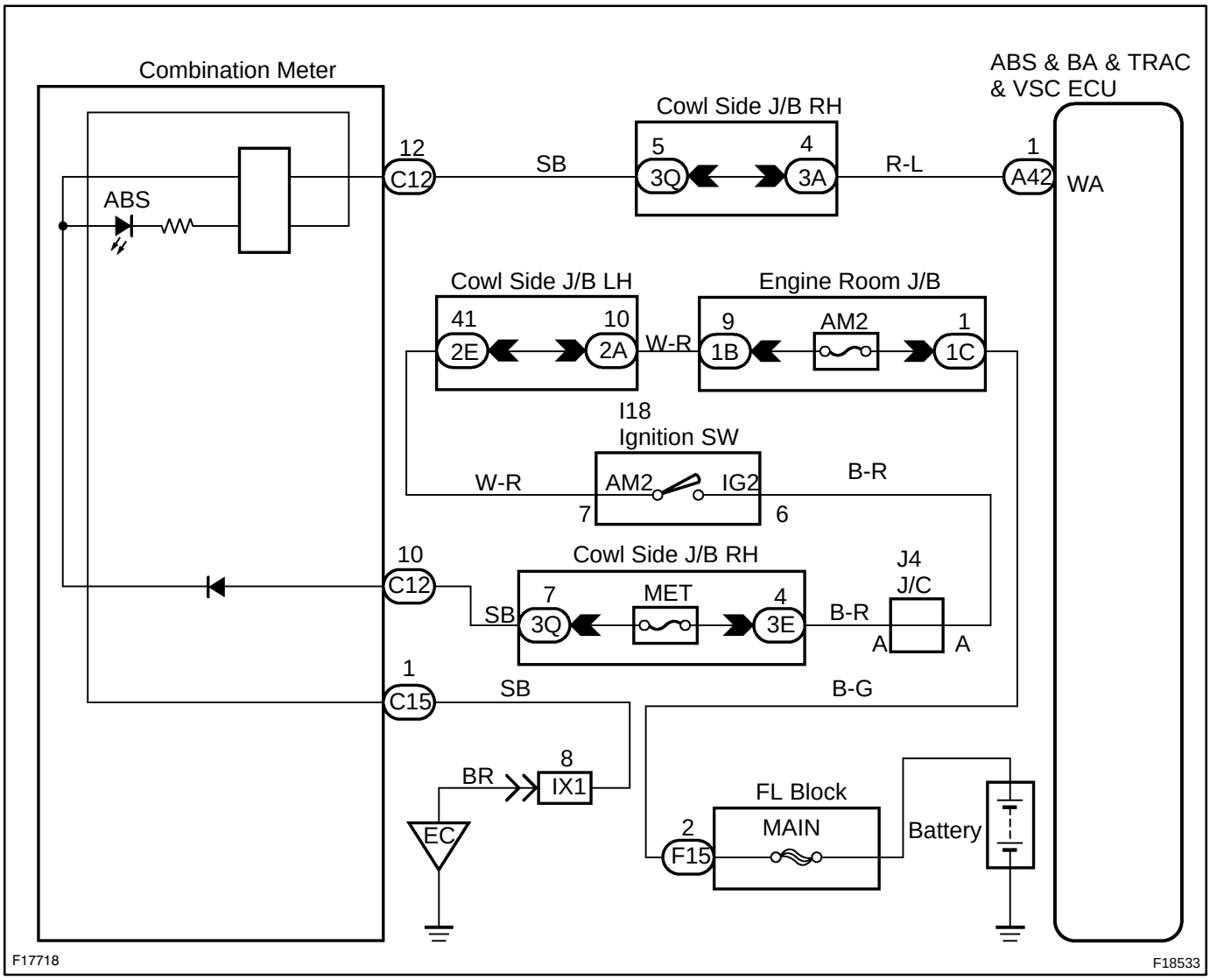
ABS Warning Light Circuit

CIRCUIT DESCRIPTION

If the ECU detects trouble, it lights the ABS warning light while at the same time prohibiting ABS control. At this time, the ECU records a DTC in memory.

Connect terminals Tc and E_1 of the DLC1 or Tc and CG of DLC3 to make the ABS warning light blink and output the DTC.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

Troubleshoot in accordance with the table below for each trouble symptom.

ABS warning light does not light up	*1
ABS warning light remains on	*2

*1: 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.

*2: After inspection with step 4, start the inspection from step 5 in case of using the hand-held tester and start from step 6 in case of not using hand-held tester.

1	**Check operation of the ABS warning light.**

PREPARATION:

(a) Connect the hand-held tester to the DLC3.

(b) Turn the ignition switch ON and push the hand-held tester main switch ON.

(c) Select the ACTIVE TEST mode on the hand-held tester.

CHECK:

Check that ”ON” and ”OFF” of the ABS warning light can be shown on the combination meter on the hand-held tester.

OK → **Check and replace skid control ECU.**

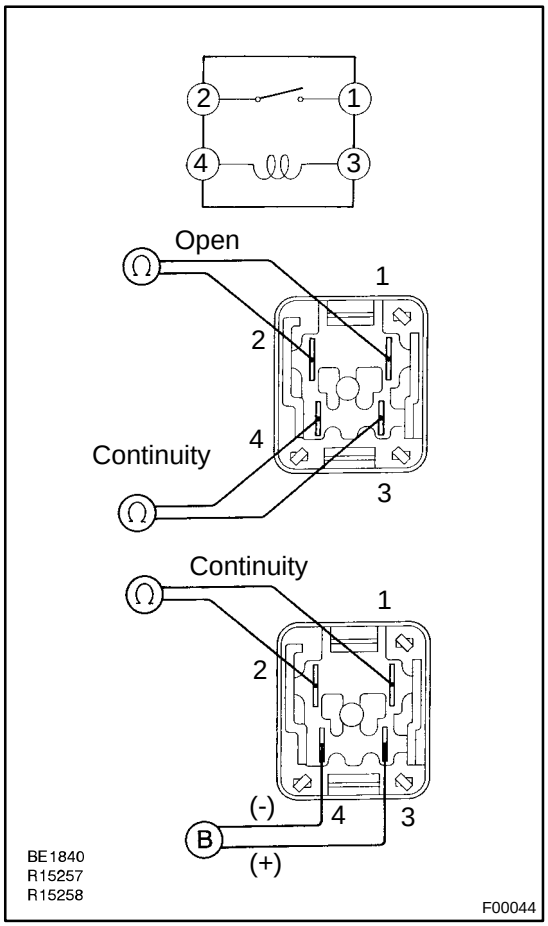
NG

2	**Does the warning lights other than ABS warning light come on?**

YES → **Repair ABS warning light bulb or combination meter assembly.**

NO

3	Check IG1 No. 1 relay.



PREPARATION:

Remove the IG1 No. 1 relay from the engine room J/B.

CHECK:

Check continuity between the IG1 No. 1 relay terminals listed in the table below.

OK:

Terminals 3 and 4	Continuity
Terminals 1 and 2	Open

CHECK:

(a) Apply battery positive voltage between terminals 3 and 4.

(b) Check continuity between terminals.

OK:

Terminals 1 and 2	Continuity

NG → **Replace IG1 No. 1 relay.**

OK

Check for open circuit in harness and connector between IG1 No. 1 relay and combination meter (See page IN-36).

4	**Check that the ECU connectors are securely connected to the ECU.**

NO → **Connect the connector to the ECU.**

YES

5	**Check operation of the ABS warning light (See step 1).**

OK → **Check and replace skid control ECU.**

NG

6	**Is DTC output?**

Check the DTC on page DI-505 .

YES → **Repair circuit indicated by the output code.**

NO

7	**Check for short circuit in harness and connector between ABS warning light and skid control ECU (See page IN-36).**

NG → **Repair or replace harness or connector.**

OK

Check and repair skid control ECU.

DICA3-01

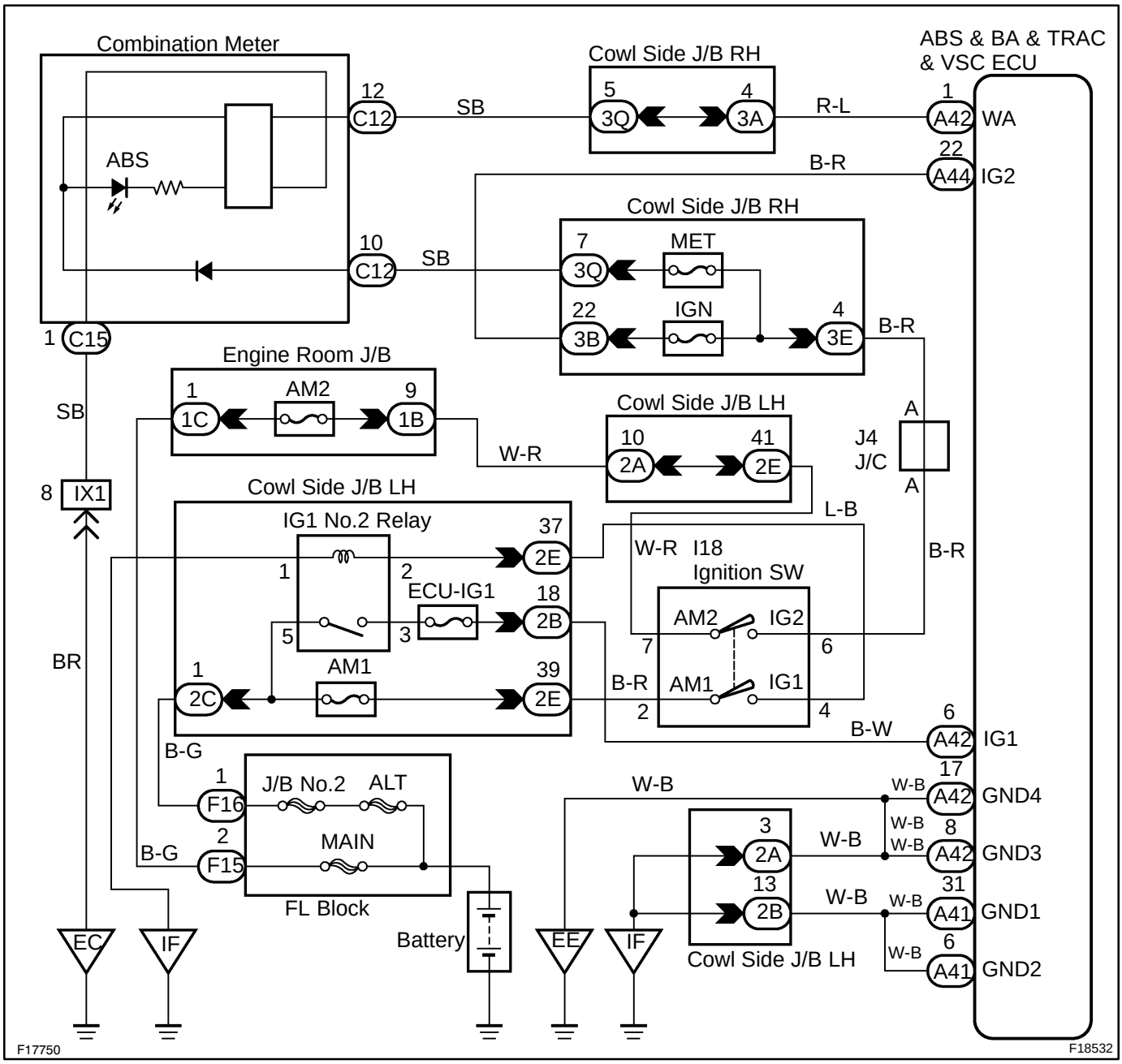
DTC	Always ON	Malfunction in ECU

CIRCUIT DESCRIPTION

DTC No.	DTC Detecting Condition	Trouble Area
Always ON	Either of the following 1. or 2. is detected: 1. The ECU connectors are disconnected from the ECU. 2. There is a malfunction in the ECU internal circuit.	★Battery ★IC regulator ★Power source circuit ★Skid control ECU

HINT:
The hand-held tester may not be used when the ECU is abnormal.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Check that the ECU connectors are securely connected to the ECU.**

NO → **Connect the connector to the ECU.**

YES

2	**Is DTC output?**

Check the DTC on page DI-505 .

YES → **Repair circuit indicated by the output code .**

NO

3	**Does ABS warning light go off?**

YES → **Check for open or short circuit in harness and connector between ECU-IG fuse and ECU (See page IN-36).**

NO

4	**Check battery positive voltage.**

PREPARATION:
Start the engine.
CHECK:
Check the battery positive voltage.
OK:
Voltage: 10 to 14 V

NG → **Check and repair the charging system.**

OK

5	**Check operation of the ABS warning light.**

In case of using the hand-held tester:

PREPARATION:

(a) Connect the hand-held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand-held tester main switch ON.
(c) Select the ACTIVE TEST mode on the hand-held tester.

CHECK:

Check that ”ON” and ”OFF” of the ABS warning light can be shown on the combination meter by the hand-held tester.

In case of not using the hand-held tester:

PREPARATION:

(a) Turn the ignition switch OFF.
(b) Disconnect the connector from the skid control ECU.
(c) Using a service wire, connect terminal WA of the skid control ECU harness side connector and body ground.
(d) Turn the ignition switch ON.

CHECK:

Check that the ABS warning goes off.

OK → **Check and replace combination meter (See page BE-2).**

NG

6	**Check for short circuit in harness and connector between combination meter and skid control ECU, combination meter and DLC1 (See page IN-36).**

NG → **Repair or replace harness or connector.**

OK

Check and replace skid control ECU.

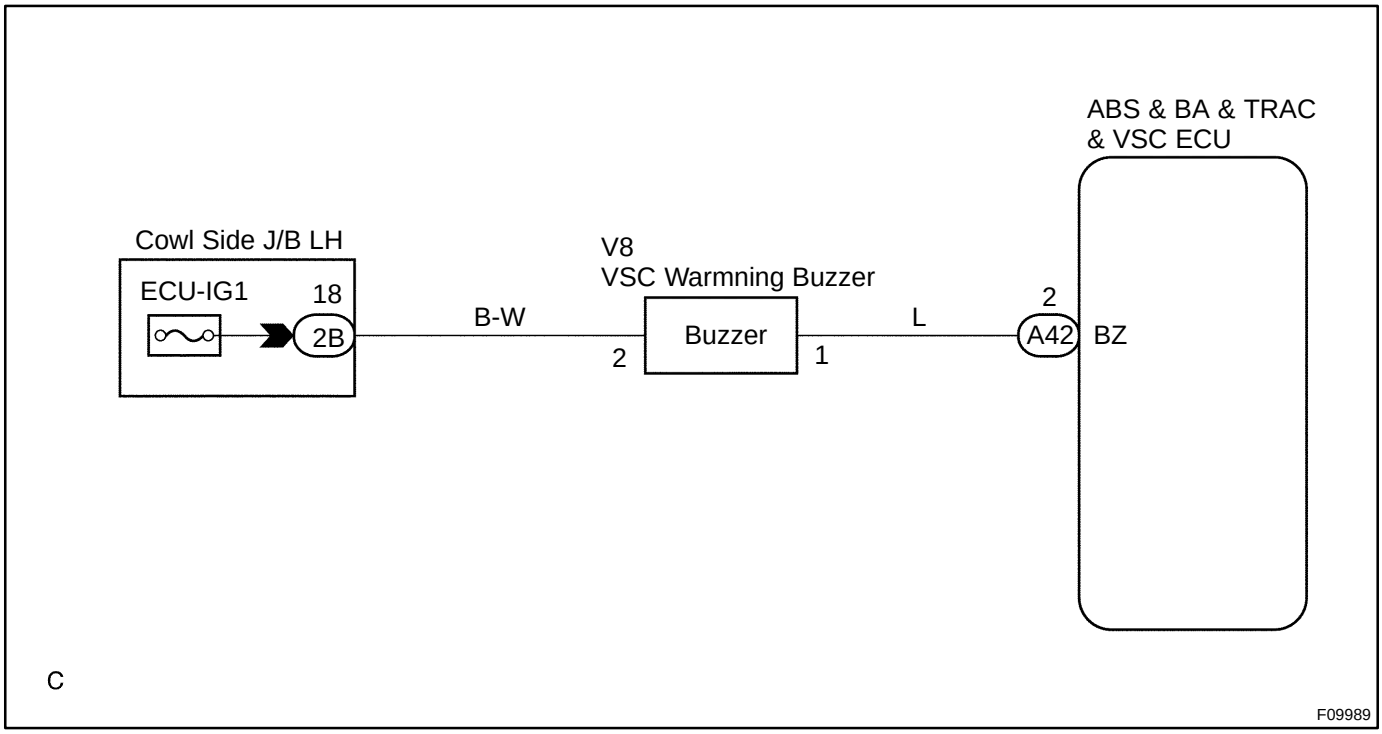
DICAB-01

Brake Warning and VSC Buzzer Circuit

CIRCUIT DESCRIPTION

The brake warning and VSC buzzer sounds while the accumulator pressure is abnormally low or an abnormality casing low fluid pressure occurs VSC is activated.

WIRING DIAGRAM



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	**Check operation of the brake warning and VSC buzzer.**

PREPARATION:

(a) Connect the hand-held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand-held tester main switch ON.
(c) Select the ACTIVE TEST mode on the hand-held tester.

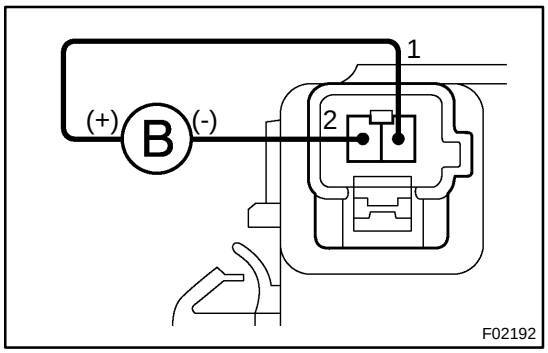
CHECK:

Check that brake warning and VSC buzzer sounds ”ON” and ”OFF” with the hand-held tester.

OK → **Check and replace skid control ECU.**

NG

2	**Check brake warning and VSC buzzer.**



PREPARATION:

Disconnect the brake warning and VSC buzzer connector.

CHECK:

Apply battery positive voltage to terminals 1 and 2 of the brake warning and VSC buzzer connector. Check that the brake warning light comes on and the VSC buzzer sounds.

NG → **Replace brake warning and VSC buzzer.**

OK

3	**Check for open and short circuit in harness and connector between skid control ECU and brake warning and VSC buzzer (See page IN-36).**

NG → **Repair or replace harness or connector.**

OK

Check and replace skid control ECU.

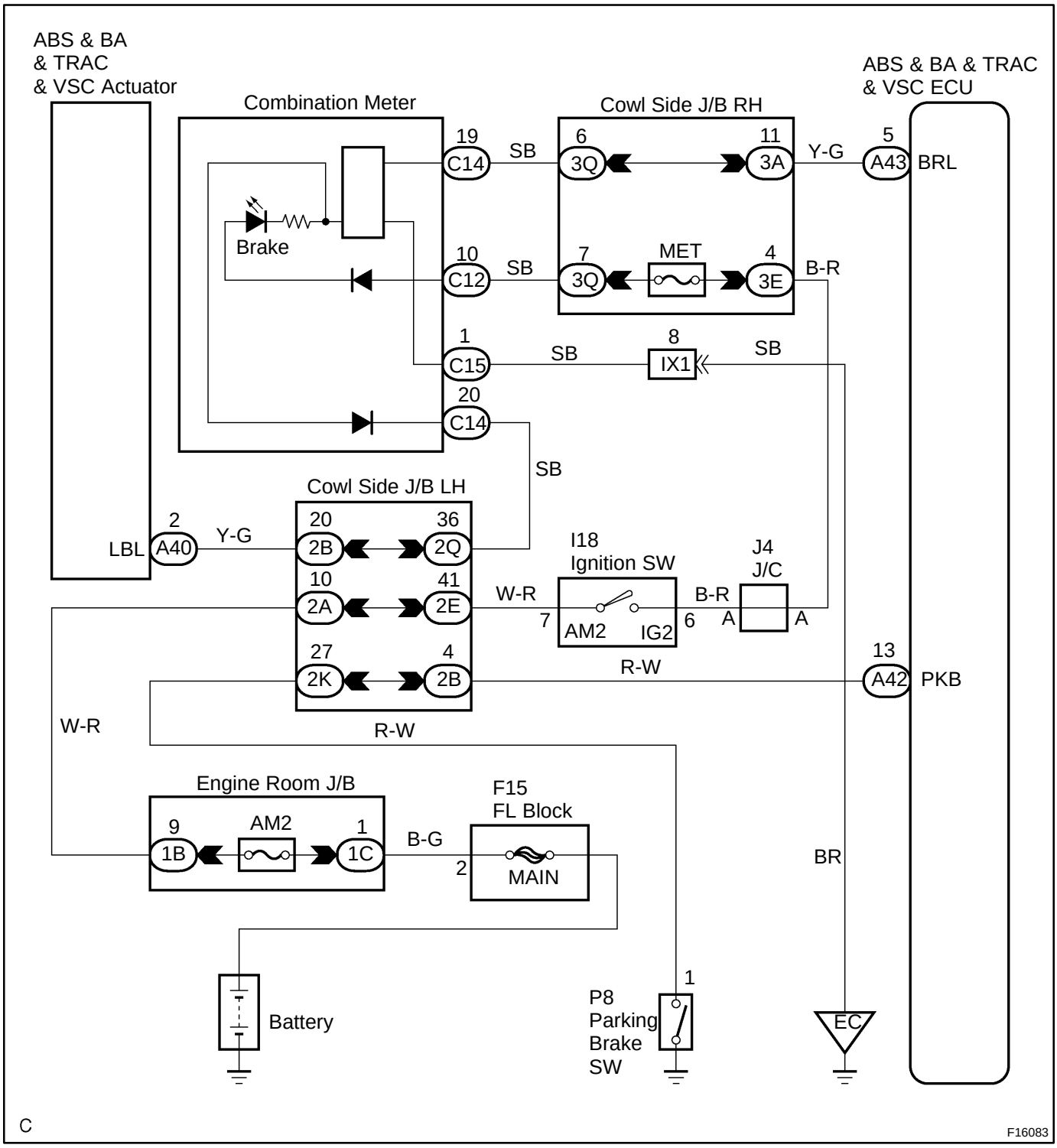
DICA7-02

BRAKE Warning Light Circuit

CIRCUIT DESCRIPTION

The BRAKE warning light lights up while the brake fluid is insufficient and EBD is abnormal.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	Check parking brake switch circuit (See page BE-63).

NG → Repair or replace parking brake switch circuit.

OK

2	Check brake fluid level warning switch circuit (See page BE-63).

NG → Repair or replace brake fluid level warning switch circuit.

OK

3	Is DTC output for ABS?

YES → Repair circuit indicated by the output code.

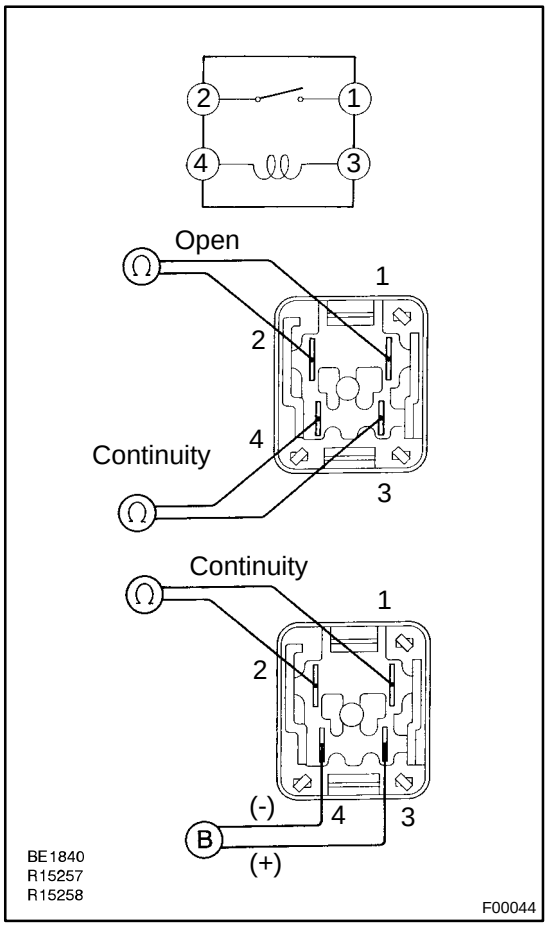
NO

4	Do the warning lights other than BRAKE warning light come on?

YES → Go to step 6.

NO

5	Check IG1 No. 1 relay.



PREPARATION:

Remove the IG1 No. 1 relay from the engine room J/B.

CHECK:

Check continuity between the IG1 No. 1 relay terminals listed in the table below.

OK:

Terminals 3 and 4	Continuity
Terminals 1 and 2	Open

CHECK:

(a) Apply battery positive voltage between terminals 3 and 4.

(b) Check continuity between terminals.

OK:

Terminals 1 and 2	Continuity

NG → **Replace IG1 No. 1 relay.**

OK

Check for open circuit in harness and connector between IG1 No. 1 relay and combination meter (See page IN-36).

6	Check that the ECU connectors are securely connected to the ECU.

NO → **Connect the connector to the ECU.**

YES

7	**Check BRAKE warning light.**

Check if that the open circuit in the combination meter circuit (See page BE-58).

NG → **Repair brake warning light bulb or combination meter assembly.**

OK

8	**Check for short circuit in harness and connector between brake warning light and skid control ECU (See page IN-36).**

NG → **Repair or replace harness or connector.**

OK

Check and repair skid control ECU.

DIC95-01

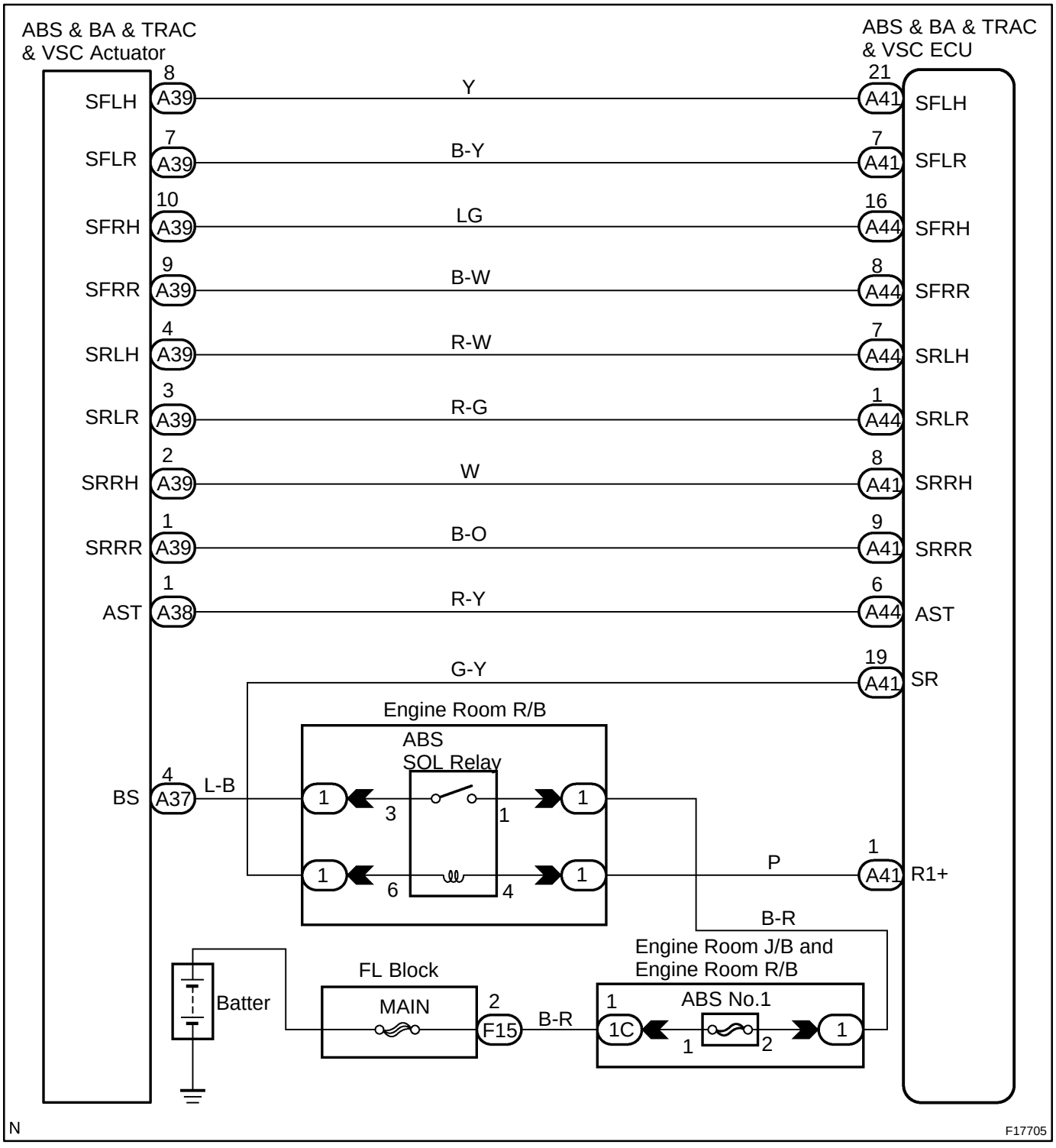
DTC	C0226 / 21 - C0256 / 24	ABS Solenoid Circuit

CIRCUIT DESCRIPTION

This solenoid goes on when signals are received from the ECU and controls the pressure acting on the wheel cylinders thus controlling the braking force.

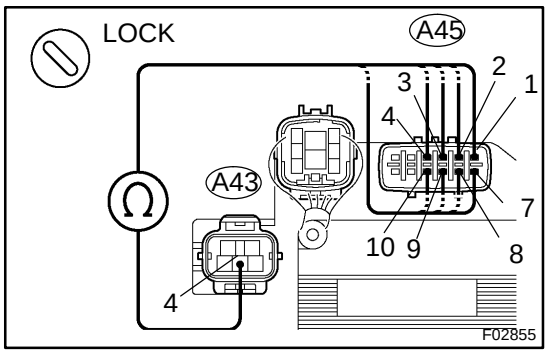
DTC No.	DTC Detecting Condition	Trouble Area
C0226 / 21	Open or short in SFRH or SFRR circuit continues for 0.015 sec. or more.	★Hydraulic brake booster ★SFRH or SFRR circuit
C0236 / 22	Open or short in SFLH or SFLR circuit continues for 0.015 sec. or more.	★Hydraulic brake booster ★SFLH or SFLR circuit
C0246 / 23	Open or short in SRRH or SRRR circuit continues for 0.015 sec. or more.	★Hydraulic brake booster ★SRRH or SRRR circuit
C0256 / 24	Open or short in SRLH or SRLR circuit continues for 0.015 sec. or more.	★Hydraulic brake booster ★SRLH or SRLR circuit

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**Check hydraulic brake booster solenoid.**



PREPARATION:

Disconnect the 2 connectors from the hydraulic brake booster.

CHECK:

Check continuity between terminals A43 - 4 and A45 - 1, 2, 3, 4, 7, 8, 9 and 10 of the hydraulic brake booster connector.

OK:

Continuity

HINT:

Resistance of each solenoid at 20 °C (68 °F):

SFRH, SFLH, SRRH, SRLH: 6.95 to 7.45 Ω

SFRR, SFLR, SRRR, SRLR: 2.00 to 2.40 Ω

NG → **Replace hydraulic brake booster.**

OK ↓

2	**Check for open and short circuit in harness and connector between skid control ECU and actuator (See page IN-36).**

NG → **Repair or replace harness or connector.**

OK ↓

If the same code is still output after the DTC is deleted, check the contact condition of each connection. If the connections are normal, the ECU may be defective.

DIC98-02

DTC	C0278 / 11, C0279 / 12	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	Conditions 1. and 2. continue for 0.2 sec. or more: 1. ECU terminal IG1 voltage is 9.5 V to 17.0 V and the solenoid relay is ON, however, the contact point of the solenoid relay is OFF. 2. With solenoid relay ON, ECU terminal IG1 voltage becomes 9.5 V or less and the contact point of the solenoid relay does not become ON.	★ABS solenoid relay ★ABS solenoid relay circuit
C0279 / 12	Immediately after ECU terminal IG1 becomes ON, and solenoid relay is OFF, however, when the condition that the solenoid relay due to the contact point is ON continues for 0.2 sec. or more.	

WIRING DIAGRAM

Refer to DTC C0226/21 on page DI-528 .

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	**Check ABS solenoid relay operation.**

PREPARATION:

(a) Connect the hand-held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand-held tester main switch ON.
(c) Select the ACTIVE TEST mode on the hand-held tester.

CHECK:

Check the operation sound of the ABS solenoid relay when operating it with the hand-held tester.

OK:

The operation sound of the ABS solenoid relay should be heard.

OK → **Go to step 6.**

NG