DTC	C1341/62	MALFUNCTION IN HYDRAULIC SYSTEM (FR)

DTC	C1342/63	MALFUNCTION IN HYDRAULIC SYSTEM (FL)

DTC	C1343/64	MALFUNCTION IN HYDRAULIC SYSTEM (RR)

DTC	C1344/65	MALFUNCTION IN HYDRAULIC SYSTEM (RL)

CIRCUIT DESCRIPTION

The skid control ECU controls braking force according to the hybrid system regenerative braking force and inputs the fluid pressure necessary for operating each wheel cylinder according to the wheel cylinder pressure sensor.

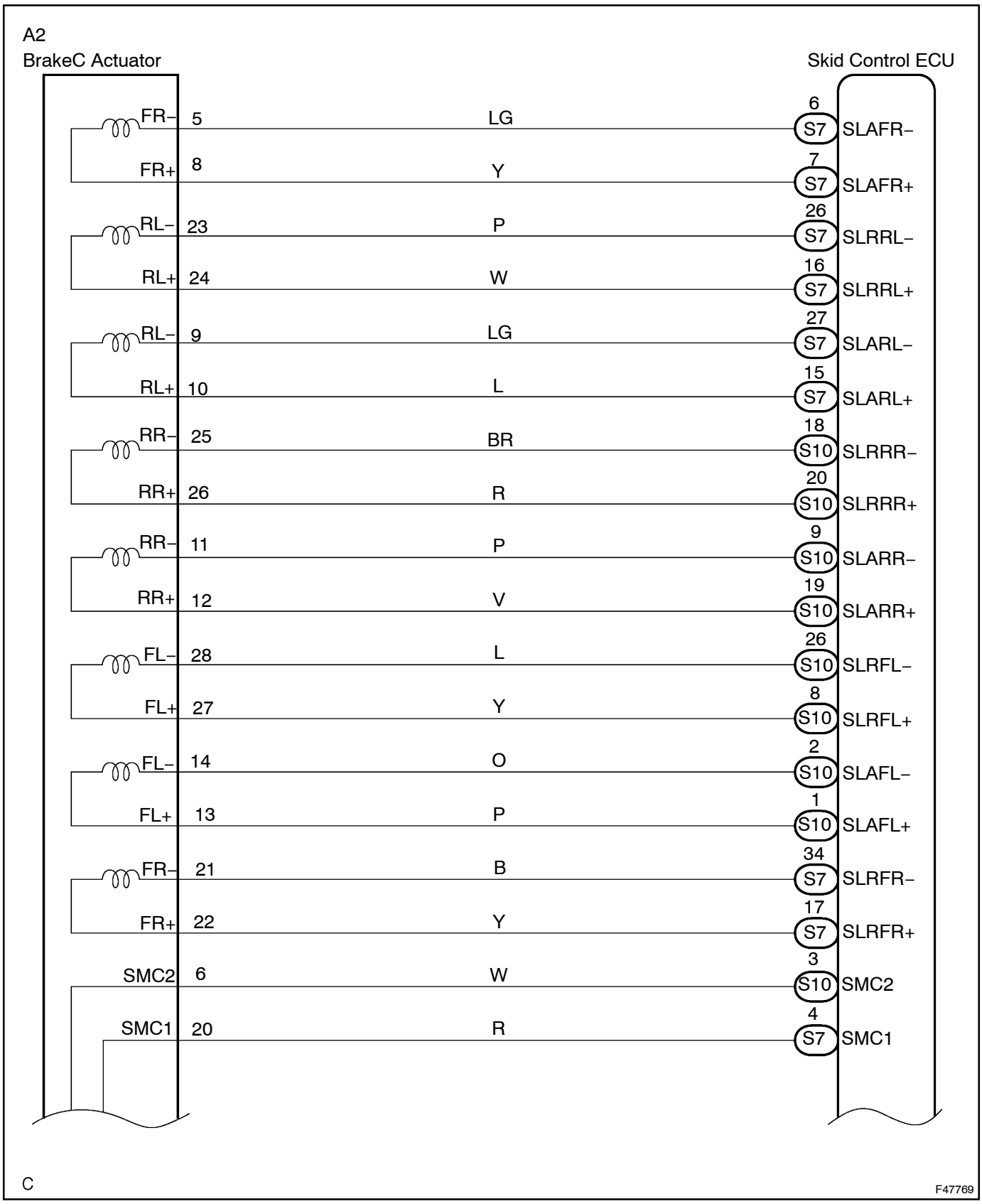
DTCs may be stored if brake fluid leaks, wheel cylinder vibrates due to uneven wear of the brake disc rotor, or foreign matter enters the solenoid valve.

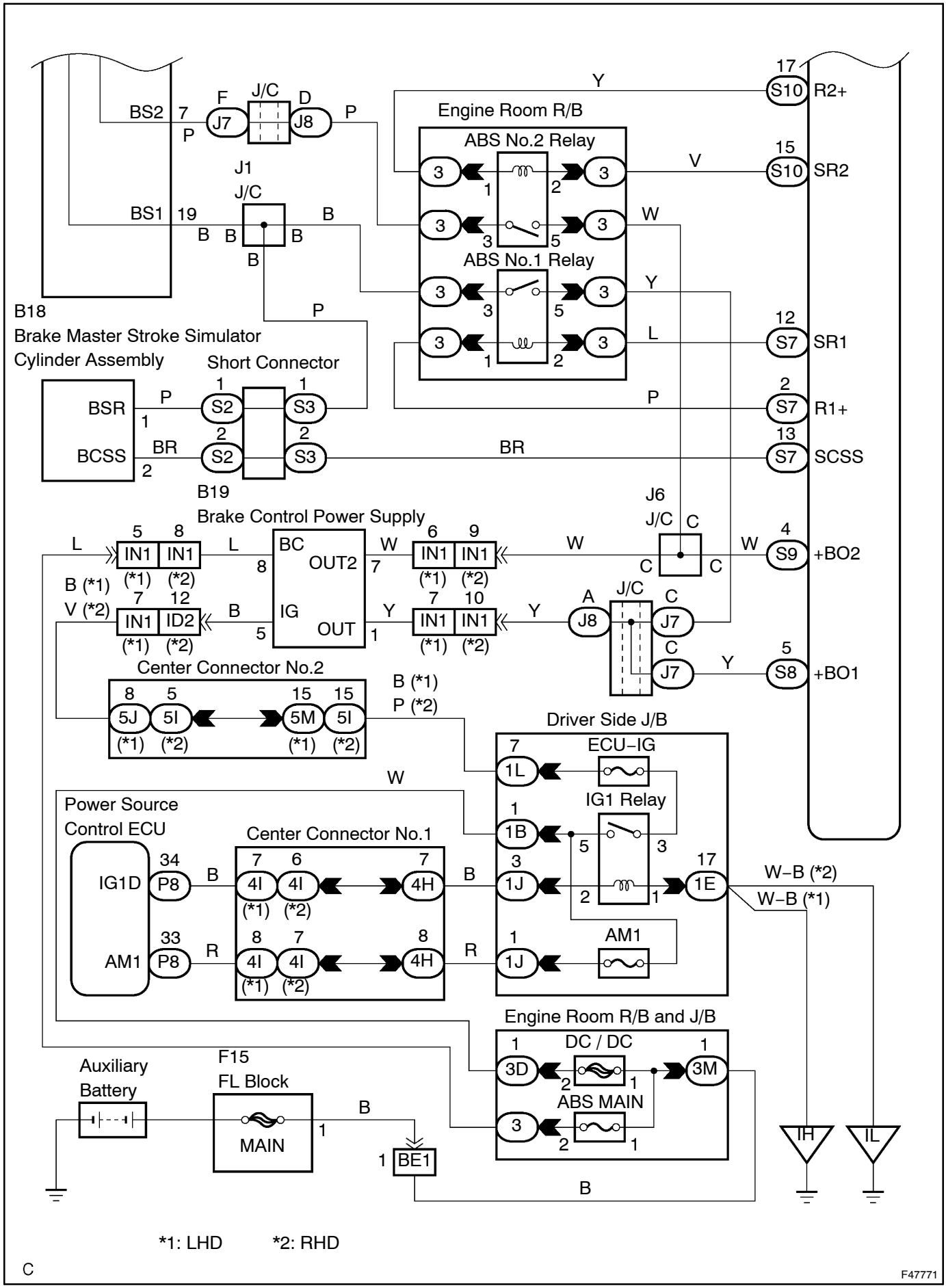
DTCs may be stored if the line pressure drops during air bleeding.

DTC No.	Detailed Code	DTC Detecting Condition	Trouble Area
C1341/62	551	Hydraulic pressure control on FR wheel has deteriorated.	• Fluid leakage • Brake actuator assy
C1341/62	552	Hydraulic pressure control on FR wheel has deteriorated.	• Fluid leakage • Brake actuator assy
C1341/62	553	There is a malfunction, such as leakage in the pressure increase control valve of FR wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1341/62	554	There is a malfunction, such as leakage in the pressure decrease control valve of FR wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1341/62	555	There is a malfunction, such as leakage in the pressure decrease control valve of FR wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1342/63	561	Hydraulic pressure control on FL wheel has deteriorated.	• Fluid leakage • Brake actuator
C1342/63	562	Hydraulic pressure control on FL wheel has deteriorated.	• Fluid leakage • Brake actuator
C1342/63	563	There is a malfunction, such as leakage in pressure increase control valve of FL wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1342/63	564	There is a malfunction, such as leakage in pressure decrease control valve of FL wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1342/63	565	There is a malfunction, such as leakage in pressure decrease control valve of FL wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1343/64	571	Hydraulic pressure control on RR wheel has deteriorated.	• Fluid leakage • Brake actuator
C1343/64	572	Hydraulic pressure control on RR wheel has deteriorated.	• Fluid leakage • Brake actuator

DTC No.	Detailed Code	DTC Detecting Condition	Trouble Area
C1343/64	573	There is a malfunction, such as leakage in pressure increase control valve of RR wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1343/64	574	There is a malfunction, such as leakage in pressure decrease control valve of RR wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1343/64	575	There is a malfunction, such as leakage in pressure decrease control valve of RR wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1344/65	581	Hydraulic pressure control on RL wheel has deteriorated.	• Fluid leakage • Brake actuator
C1344/65	582	Hydraulic pressure control on RL wheel has deteriorated.	• Fluid leakage • Brake actuator
C1344/65	583	There is a malfunction, such as leakage in pressure increase control valve of RR wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1344/65	584	There is a malfunction, such as leakage in pressure decrease control valve of RR wheel.	• Fluid leakage • Brake actuator assy • Disc rotor
C1344/65	585	There is a malfunction, such as leakage in pressure decrease control valve of RL wheel.	• Fluid leakage • Brake actuator assy • Disc rotor

WIRING DIAGRAM




BS2
BS1
J/C
J7
J8
J1
Engine Room R/B
ABS No.2 Relay
ABS No.1 Relay
S10
R2+
SR2
SR1
R1+
SCSS
B18
Brake Master Stroke Simulator
Cylinder Assembly
Short Connector
BSR
BCSS
S2
S3
S7
B19
Brake Control Power Supply
BC
OUT2
IG
OUT
IN1
ID2
J6
S9
+BO2
S8
+BO1
Center Connector No.2
5J
5I
5M
Driver Side J/B
ECU–IG
IG1 Relay
AM1
1L
1B
1J
1E
Power Source
Control ECU
IG1D
P8
Center Connector No.1
4I
4H
W–B (*2)
W–B (*1)
Engine Room R/B and J/B
DC / DC
ABS MAIN
3D
3M
Auxiliary
Battery
F15
FL Block
MAIN
BE1
IH
IL
*1: LHD
*2: RHD
F47771

INSPECTION PROCEDURE

HINT:
When C1364/61 is output together with C1341/41, C1342/63, C1343/64 and C1344/65, inspect and repair the trouble areas indicated by C1364/61 first.

1	CHECK BRAKE FLUID LEAKAGE

(a) Check that there is no fluid leakage in the brake line between the brake actuator and the wheel cylinder which is the cause of DTCs.
(b) Check that the brake is not dragging.
OK:
There is no fluid leakage or dragging.

NG → **REPAIR OR REPLACE APPLICABLE PART**

OK

2	PERFORM AIR BLEED (SEE PAGE 32–4)

(a) Bleed the air out of the front and rear systems (see page 32–4).

3	RECONFIRM DTC

(a) Clear the DTCs.
(b) Turn the power switch ON (READY).
(c) Check if the same DTCs are recorded (see page 05–738).
Result:

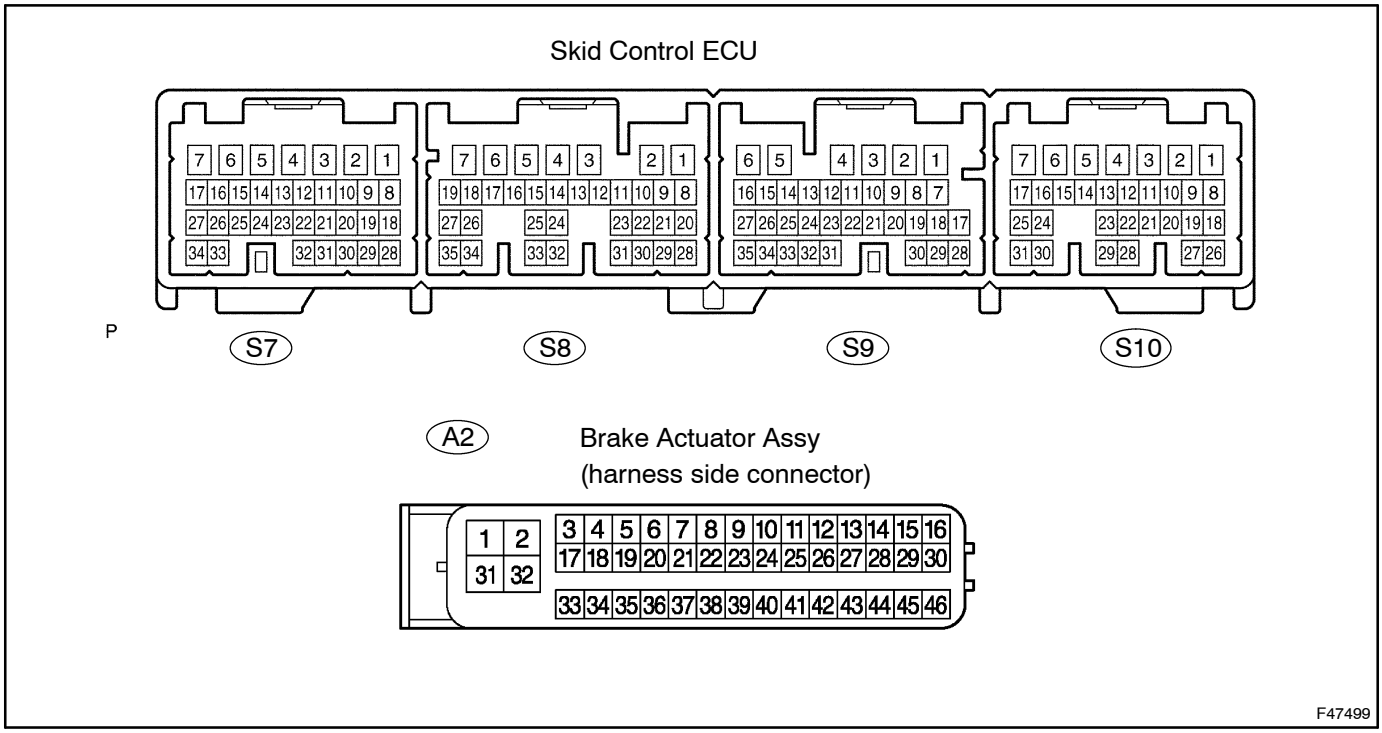
DTC is output	A
DTC is not output	B

B → **END**

HINT:
DTC may be stored if foreign matter or air enters the solenoid valve.

A

4	CHECK HARNESS AND CONNECTOR(SKID CONTROL ECU – BRAKE ACTUATOR ASSY)



(a) Disconnect the skid control ECU connectors and brake actuator connector.

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

Standard:

Tester Connection	Specified Condition
S7–6 (SLAFR–) – A2–5 (FR–)	Below 1 Ω
S7–7 (SLAFR+) – A2–8 (FR+)	Below 1 Ω
S7–15 (SLARL+) – A2–10 (RL+)	Below 1 Ω
S7–16 (SLRRL+) – A2–24 (RL+)	Below 1 Ω
S7–17 (SLRFR+) – A2–22 (FR+)	Below 1 Ω
S7–26 (SLRRL–) – A2–23 (RL–)	Below 1 Ω
S7–27 (SLARL–) – A2–9 (RL–)	Below 1 Ω
S7–34 (SLRFR–) – A2–21 (FR–)	Below 1 Ω
S10–1 (SLAFL+) – A2–13 (FL+)	Below 1 Ω
S10–2 (SLAFL–) – A2–14 (FL–)	Below 1 Ω
S10–8 (SLRFL+) – A2–27 (FL+)	Below 1 Ω
S10–9 (SLARR–) – A2–11 (RR–)	Below 1 Ω
S10–18 (SLRRR–) – A2–25 (RR–)	Below 1 Ω
S10–19 (SLARR+) – A2–12 (RR+)	Below 1 Ω
S10–20 (SLRRR+) – A2–26 (RR+)	Below 1 Ω
S10–26 (SLRFL–) – A2–28 (FL–)	Below 1 Ω

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

Tester Connection	Specified Condition
S7–6 (SLAFR–) – Body ground	10 kΩ or higher
S7–7 (SLAFR+) – Body ground	10 kΩ or higher
S7–15 (SLARL+) – Body ground	10 kΩ or higher
S7–16 (SLRRL+) – Body ground	10 kΩ or higher
S7–17 (SLRFR+) – Body ground	10 kΩ or higher
S7–26 (SLRRL–) – Body ground	10 kΩ or higher
S7–27 (SLARL–) – Body ground	10 kΩ or higher
S7–34 (SLRFR–) – Body ground	10 kΩ or higher
S10–1 (SLAFL+) – Body ground	10 kΩ or higher
S10–2 (SLAFL–) – Body ground	10 kΩ or higher
S10–8 (SLRFL+) – Body ground	10 kΩ or higher
S10–9 (SLARR–) – Body ground	10 kΩ or higher
S10–18 (SLRRR–) – Body ground	10 kΩ or higher
S10–19 (SLARR+) – Body ground	10 kΩ or higher
S10–20 (SLRRR+) – Body ground	10 kΩ or higher
S10–26 (SLRFL–) – Body ground	10 kΩ or higher

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

OK

5	READ VALUE OF INTELLIGENT TESTER II

(a) Connect the pedal effort gauge.
(b) Install the LSPV gauge (SST) and bleed air (see page 32–4).
SST 09709–29018
(c) Connect the intelligent tester II to the DLC3.
(d) Select the DATA LIST mode on the intelligent tester II.

Item	Measurement Item / Range (Display)	Normal Condition
FR Wheel Cylinder	Front Right pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V
FL Wheel Cylinder	Front Left pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V
RR Wheel Cylinder	Rear Right pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V
RL Wheel Cylinder	Rear Left pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V

(e) Check the output value of the wheel cylinder pressure at each fluid pressure during the ECB control.
Standard:

Front:

Fluid Pressure MPa (kgf/cm^2, psi)	FR PRESS SENS (DATA–LIST)	FL PRESS SENS (DATA–LIST)
3 (30.6, 435)	1.0 to 1.2 V	1.0 to 1.2 V
5.9 (59.8, 851)	1.6 to 1.8 V	1.6 to 1.8 V
7.9 (80.2, 1141)	2.0 to 2.2 V	2.0 to 2.2 V
9.9 (101.0, 1437)	2.35 to 2.6 V	2.35 to 2.6 V

Rear:

Fluid Pressure MPa (kgf/cm², psi)	RR PRESS SENS (DATA–LIST)	RL PRESS SENS (DATA–LIST)
3.8 (38.7, 550)	1.15 to 1.35 V	1.15 to 1.35 V
4.0 (40.8, 580)	1.25 to 1.5 V	1.25 to 1.5 V

NG → **REPLACE BRAKE ACTUATOR ASSY (SEE PAGE 32–66)**

OK

6 CHECK BRAKE DISC

(a) Disconnect the brake pedal stroke sensor connector.

(b) Carry out the running and braking test according to freeze frame data or customer problem analysis. Check the brake line pressure vibration caused due to uneven wear of the disc according to brake pedal vibration.

OK:

Brake pedal is not vibrates during braking.

HINT:

- The brake pedal does not kick back due to wheel cylinder piston vibration during ECB control.
- If the brake pedal stroke sensor connector is disconnected, the failsafe function prohibits ECB control.
- The active test does not prohibit ECB control when the vehicle is running, so disconnect the stroke sensor connector and carry out inspection.
- Disc wear can be checked by measuring the disc thickness.

NG → **REPLACE BRAKE DISC**

OK

REPLACE BRAKE ACTUATOR ASSY (SEE PAGE 32–66)

NOTICE:

When replacing the skid control ECU assy, perform initialization of linear solenoid valve and calibration (see page 05–721).