

2. VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U)

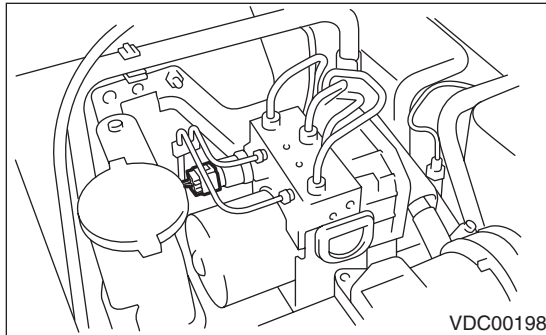
A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Use compressed air to remove moisture and dust around the VDCCM&H/U.

NOTE:

If the terminals become dirty, it may cause improper contact.

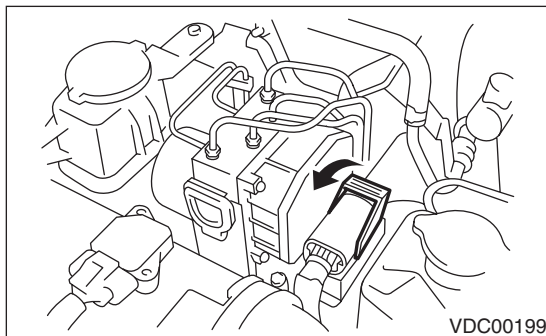
- 3) Disconnect the pressure sensor connector.



- 4) Lift the lock lever and Disconnect the VDC-CM&H/U connector.

CAUTION:

Do not pull on the harness when disconnecting the connector.



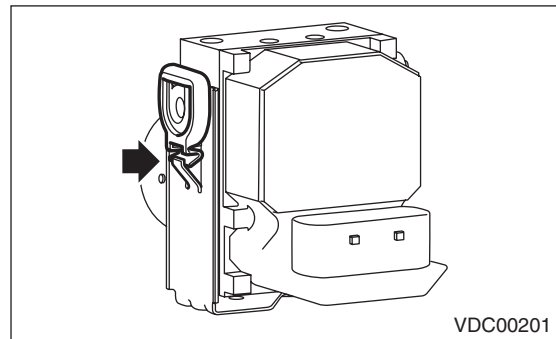
- 5) Disconnect the brake pipes from the VDC-CM&H/U.

- 6) Wrap the brake pipe with a vinyl bag so as not to spill the brake fluid on the vehicle body.

CAUTION:

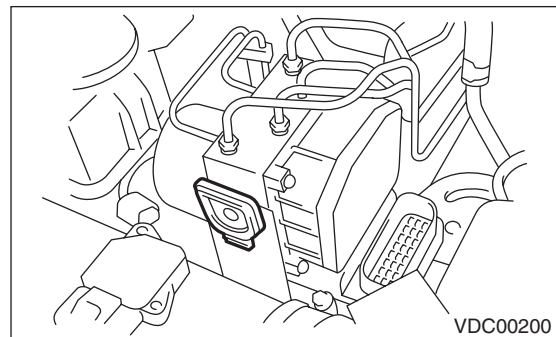
If brake fluid is spilled on the vehicle body, wash it off immediately with water and wipe clean.

- 7) Remove the clips, and then remove the VDC-CM&H/U.



CAUTION:

- The VDCCM&H/U cannot be disassembled. Do not attempt to loosen the bolts and nuts.
- Do not drop or bump the VDCCM&H/U.
- Do not turn the VDCCM&H/U upside down or place it sideways during storage.
- Be careful not to let foreign matter enter the VDCCM&H/U.
- Be careful that no water enters the connectors.



- 8) Remove the VDCCM&H/U bracket.

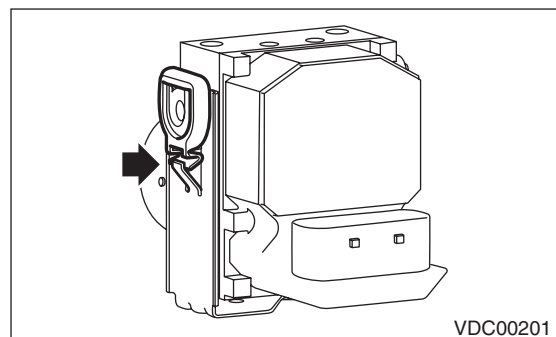
B: INSTALLATION

- 1) Install the VDCCM&H/U bracket.

Tightening torque:

33 N·m (3.3 kgf-m, 24 ft-lb)

- 2) Install the VDCCM&H/U to the bracket.
- 3) Install the clip.



NOTE:

Hook the clip on the claw of the bracket securely.

VDC Control Module and Hydraulic Control Unit (VDCCM&H/U)

VEHICLE DYNAMICS CONTROL (VDC)

4) Connect the brake pipes to their correct VDC-CM&H/U positions.

Tightening torque:

<Ref. to BR-7, FRONT BRAKE PIPES AND HOSES, COMPONENT, General Description.>

5) Connect the VDCCM&H/U connector.

NOTE:

- Be sure to remove all foreign matter from inside the connector before connecting.
- Make sure the VDCCM&H/U connector is securely locked.

6) Connect the pressure sensor connector.

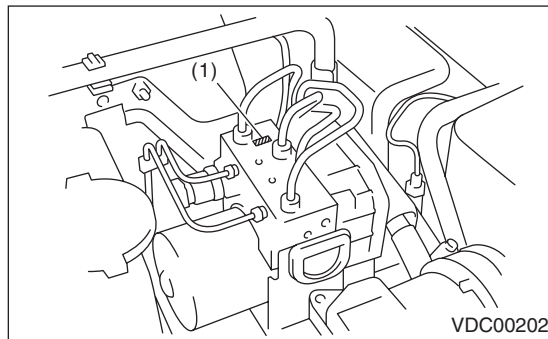
7) Bleed air from the brake system.

C: INSPECTION

1) Check the condition of connection and settlement of connector.

2) Check the mark used for VDCCM&H/U identification.

Refer to "SPECIFICATION" for the identification mark. <Ref. to VDC-2, SPECIFICATION, General Description.>



(1) Identification mark

1. CHECKING THE HYDRAULIC UNIT ABS OPERATION BY PRESSURE GAUGE

<Ref. to ABS-7, CHECKING THE HYDRAULIC UNIT ABS OPERATION BY PRESSURE GAUGE, INSPECTION, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>

2. CHECKING THE HYDRAULIC UNIT ABS OPERATION WITH THE BRAKE TESTER

<Ref. to ABS-8, CHECKING THE HYDRAULIC UNIT ABS OPERATION WITH THE BRAKE TESTER, INSPECTION, ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>

3. CHECKING THE HYDRAULIC UNIT VDC OPERATION USING A PRESSURE GAUGE

- 1) Lift up the vehicle, and remove the wheels.
- 2) Remove the air bleeder screws from FL and FR caliper bodies.

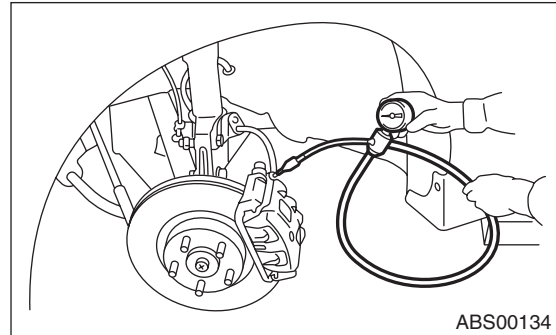
3) Connect two pressure gauges to FL and FR caliper bodies.

CAUTION:

- Use a pressure gauge used exclusively for brake fluid measurement.
- Do not use a pressure gauge used for the measuring transmission oil pressure, as the piston seal may expand and deform.

NOTE:

Wrap sealing tape around the pressure gauge.



4) Bleed air from the pressure gauge.

5) Perform VDC sequence control.

<Ref. to VDC-11, VDC Sequence Control.>

6) When the hydraulic unit begins to work, first the FL side performs compression, hold, and decompression, and then the FR side performs compression, hold, and decompression.

7) Read values indicated on the pressure gauge and check if the fluctuation of the values between decompression and compression meets specification. Depress the brake pedal and check that it is not abnormally hard, and tightness is normal.

	Front wheel	Rear wheel
When pressurized	3,000 kPa (31 kgf/cm ² , 441 psi) or more	3,000 kPa (31 kgf/cm ² , 441 psi) or more
When depressurized	500 kPa (5 kgf/cm ² , 73 psi) or less	500 kPa (5 kgf/cm ² , 73 psi) or less

8) Disconnect the pressure gauges from FL and FR caliper bodies.

9) Install the air bleeder screws of FL and FR caliper bodies.

10) Remove the air bleeder screws from RL and RR caliper bodies.

11) Connect two pressure gauges to RL and RR caliper bodies.

12) Bleed air from RL and RR caliper bodies, and pressure gauge.

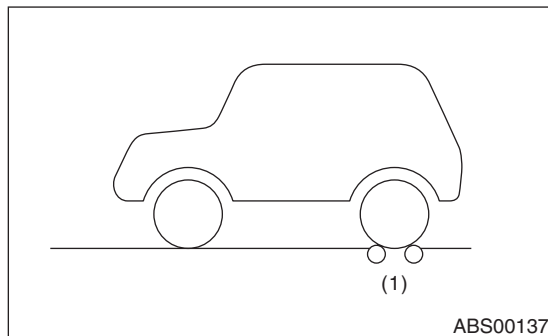
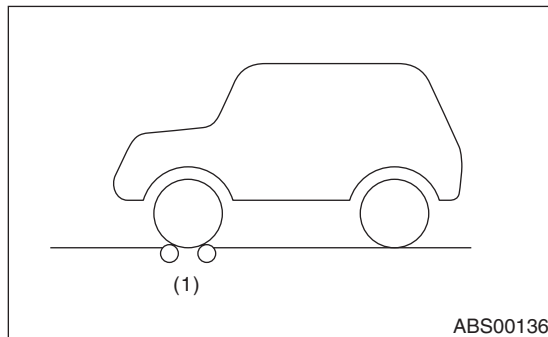
13) Perform VDC sequence control.

<Ref. to VDC-11, VDC Sequence Control.>

- 14) When the hydraulic unit begins to work, first the RR side performs compression, hold, and decompression, and then the RL side performs compression, hold, and decompression.
- 15) Read the values indicated on the pressure gauges and check if it is within specification. Depress the brake pedal and check that it is not abnormally hard, and tightness is normal.
- 16) Disconnect the pressure gauge from the RL and RR caliper bodies.
- 17) Install the air bleeder screws of RL and RR caliper bodies.
- 18) Bleed air from the brake line.

4. CHECK HYDRAULIC UNIT VDC OPERATION WITH BRAKE TESTER

- 1) Set wheels other than the one to measure free rollers.
- 2) Prepare to operate the VDC sequence control.
<Ref. to VDC-11, VDC Sequence Control.>
- 3) Set the front wheels or rear wheels on the brake tester and set the select lever position to the "N" range.



(1) Brake tester

- 4) Operate the brake tester.
- 5) Perform VDC sequence control.
<Ref. to VDC-11, VDC Sequence Control.>

6) When the hydraulic unit begins to work, check the following work sequence.

- (1) The FL wheel performs compression, hold and decompression in sequence, and subsequently the FR wheel repeats the cycle.
 - (2) The RR wheel performs compression, hold and decompression in sequence, and subsequently the RL wheel repeats the cycle.
- 7) Read values indicated on the brake tester and check if the fluctuation of the values between decompression and compression meets specification.

	Front wheel	Rear wheel
When pressurized	2,000 N (203 kgf, 447 lb) or more	2,000 N (203 kgf, 447 lb) or more
When depressurized	500 N (51 kgf, 112 lb) or less	500 N (51 kgf, 112 lb) or less

8) After the inspection, depress the brake pedal and check that it is not abnormally hard, and tightness is normal.

D: ADJUSTMENT

When the following replacement, removal and installation are performed, be sure to perform the centering of the steering angle sensor and zero point setting of yaw rate & lateral G sensor.

- VDCCM&H/U
- Steering angle sensor
- Yaw rate & lateral G sensor
- Steering wheel parts (Including airbag)
- Suspension parts
- Wheel alignment adjustment

- 1) Park the vehicle straight on a level surface. (Engine operation in the "P" or "N" range)
- 2) Check that steering wheel is positioned at the center. (When the center position is not correct, adjust the wheel alignment.)
- 3) Set the Subaru Select Monitor to the vehicle, and select {Set up mode for Neutral of Steering Angle Sensor & Lateral G Sensor 0 point} in the "Function check sequence" screen. (Follow the steps on the display.)
- 4) On the "Brake Control System" display screen, select {Current Data Display & Save}, and check that the steering angle sensor shows "0 deg".
- 5) When the "0 deg" is not displayed, repeat the above steps and check that the "0 deg" is displayed.
- 6) Drive the vehicle for 10 minutes, and check that the ABS and VDC warning light is not illuminated.
- 7) Check that there is no unnecessary VDC operation or steering control loss. If there is a problem, repeat the steps above.