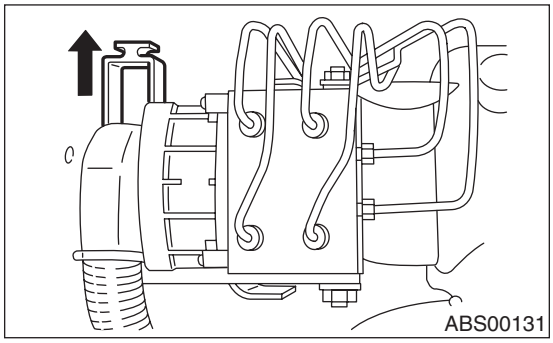
2. ABS Control Module and Hydraulic Control Unit (ABSCM&H/U)

A: REMOVAL

1) Disconnect the ground terminal from battery.
2) Remove the air intake duct from engine compartment to facilitate removal of ABSCM&H/U.
3) Use an air gun to get rid of water around the ABSCM&H/U.

CAUTION:
The contact will be insufficient if the terminal gets wet.

4) Pull off the lock of the ABSCM&H/U connector to remove it.



5) Disconnect the connector from ABSCM&H/U.

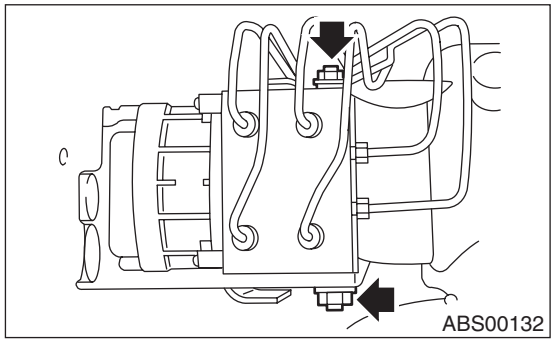
CAUTION:
Be careful not to let water or other foreign matter contact the ABSCM&H/U terminal.

6) Unlock the cable clip.
7) Disconnect the brake pipes from ABSCM&H/U.

CAUTION:
Wrap the brake pipes with vinyl bag to avoid spilling brake fluid on vehicle body.

8) Remove the ABSCM&H/U from engine compartment.

CAUTION:
• ABSCM&H/U cannot be disassembled. Do not attempt to loosen the bolts and nuts.
• Do not drop or bump the ABSCM&H/U.
• Do not turn the ABSCM&H/U upside down or place it on its side.
• Be careful to prevent foreign particles from getting into the ABSCM&H/U.
• Apply a coat of grease (Nippeco LT or GB) to bracket attaching bolt after tightening.
• Do not pull the harness when disconnecting connector.



B: INSTALLATION

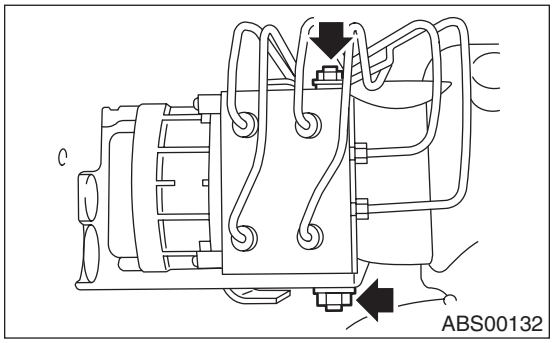
1) Install the ABSCM&H/U bracket.

Tightening torque:
33 N·m (3.3 kgf-m, 24 ft-lb)

2) Install the ABSCM&H/U.

CAUTION:
Confirm that the specifications of the ABSCM&H/U conforms to the vehicle specifications.

Tightening torque:
18 N·m (1.8 kgf-m, 13.0 ft-lb)



3) Connect the brake pipes to their correct ABSCM&H/U connections.

Tightening torque:
15 N·m (1.5 kgf-m, 10.8 ft-lb)

4) Using cable clip, secure the ABSCM&H/U harness to bracket.
5) Connect the connector to the ABSCM&H/U.

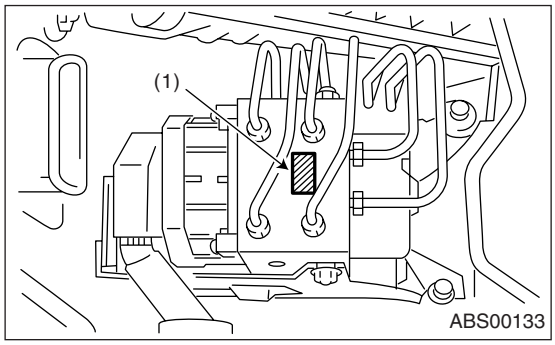
CAUTION:
• Be sure to remove all foreign matter from inside the connector before connecting.
• Ensure that the ABSCM&H/U connector is securely locked.

6) Install the air intake duct.
Non-turbo model:
<Ref. to IN(H4SO)-7, INSTALLATION, Air Intake Duct.>
Turbo model:
<Ref. to IN(H4DOTC)-9, INSTALLATION, Air Intake Duct.>
7) Bleed air from the brake system. <Ref. to BR-44, Air Bleeding.>

C: INSPECTION

1) Check the connected and fixed condition of connector.
2) Check the specifications of the mark with ABSCM&H/U.

Mark	Model
CC	AT
CD	MT



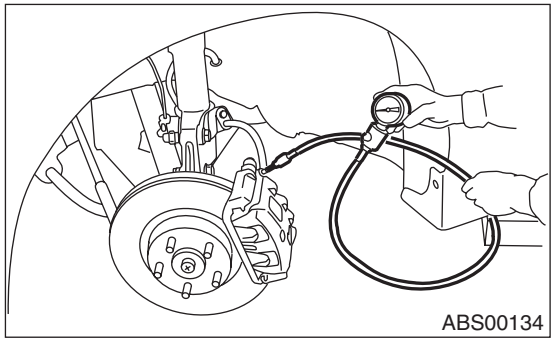
(1) Mark

1. CHECKING THE HYDRAULIC UNIT ABS OPERATION BY PRESSURE GAUGE

1) Lift-up the vehicle and remove wheels.
2) Disconnect the air bleeder screws from the FL and FR caliper bodies.
3) Connect two pressure gauges to the FL and FR caliper bodies.

CAUTION:
• Pressure gauges used exclusively for brake fluid must be used.
• Do not employ the pressure gauge previously used for transmission since the piston seal is expanded and may lead to malfunction of the brake.

NOTE:
Wrap a sealing tape around the pressure gauge.



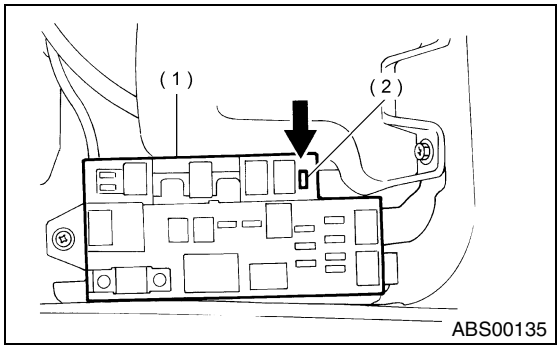
4) Bleed air from the pressure gauges.
5) Perform the ABS sequence control.
<Ref. to ABS-11, ABS Sequence Control.>
6) When the hydraulic unit begins to work, and first the FL side performs decompression, holding, and compression, and then the FR side performs decompression, holding, and compression.
7) Read values indicated on the pressure gauge and check if the fluctuation of the values between decompression and compression meets the standard values. Also check if any irregular brake pedal tightness is felt.

	Front wheel	Rear wheel
Initial value	3,500 kPa (35 kgf/cm^2, 498 psi)	3,500 kPa (35 kgf/cm^2, 498 psi)
When decompressed	500 kPa (5 kgf/cm^2, 71 psi) or less	500 kPa (5 kgf/cm^2, 71 psi) or less
When compressed	3,500 kPa (35 kgf/cm^2, 498 psi) or more	3,500 kPa (35 kgf/cm^2, 498 psi) or more

8) Remove the pressure gauges from FL and FR caliper bodies.
9) Remove the air bleeder screws from the RL and RR caliper bodies.
10) Connect the air bleeder screws to the FL and FR caliper bodies.
11) Connect two pressure gauges to the RL and RR caliper bodies.
12) Bleed air from the pressure gauges and the FL and FR caliper bodies.
13) Perform the ABS sequence control.
<Ref. to ABS-11, ABS Sequence Control.>
14) When the hydraulic unit begins to work, at first the RR side performs decompression, holding, and compression, and then the RL side performs decompression, holding, and compression.
15) Read the values indicated on the pressure gauges and check if they meet the standard value.
16) After checking, remove the pressure gauges from caliper bodies.
17) Connect the air bleeder screws to RL and RR caliper bodies.
18) Bleed air from the brake line.

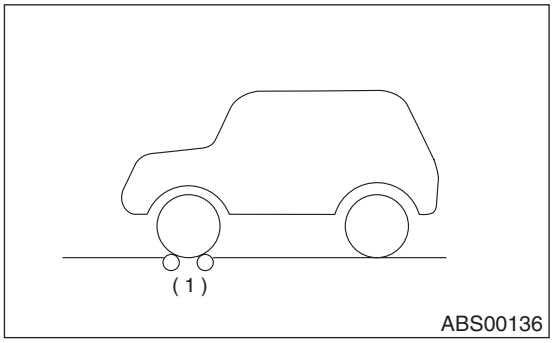
2. CHECKING THE HYDRAULIC UNIT ABS OPERATION WITH BRAKE TESTER

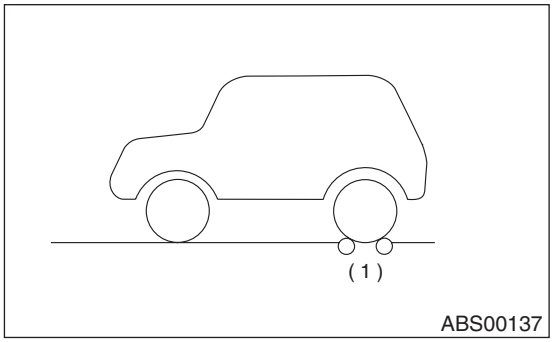
1) In the case of AWD AT Non-turbo vehicles, install a spare fuse with the FWD connector in the main fuse box to simulate FWD vehicles.



(1) Main fuse box
(2) FWD connector

2) Prepare for operating the ABS sequence control.
<Ref. to ABS-11, ABS Sequence Control.>
3) Set the front wheels or rear wheels on the brake tester and set the select lever's position at "neutral".





(1) Brake tester

4) Operate the brake tester.
5) Perform ABS sequence control.
<Ref. to ABS-11, ABS Sequence Control.>
6) Hydraulic unit begins to work; and check the following working sequence.

(1) The FL wheel performs decompression, holding, and compression in sequence, and subsequently the FR wheel repeats the cycle.
(2) The RR wheel performs decompression, holding, and compression in sequence, and subsequently the RL wheel repeats the cycle.

7) Read the values indicated on the brake tester and check if the fluctuation of values, when decompressed and compressed, meet the standard values.

	Front wheel	Rear wheel
Initial value	1,000 N (100 kgf, 221 lb)	1,000 N (100 kgf, 221 lb)
When decompressed	500 N (50 kgf, 110 lb) or less	500 N (50 kgf, 110 lb) or less
When compressed	1,000 N (100 kgf, 221 lb) or more	1,000 N (100 kgf, 221 lb) or more

8) After checking, also check if any irregular brake pedal tightness is felt.