12.Air Bleeding

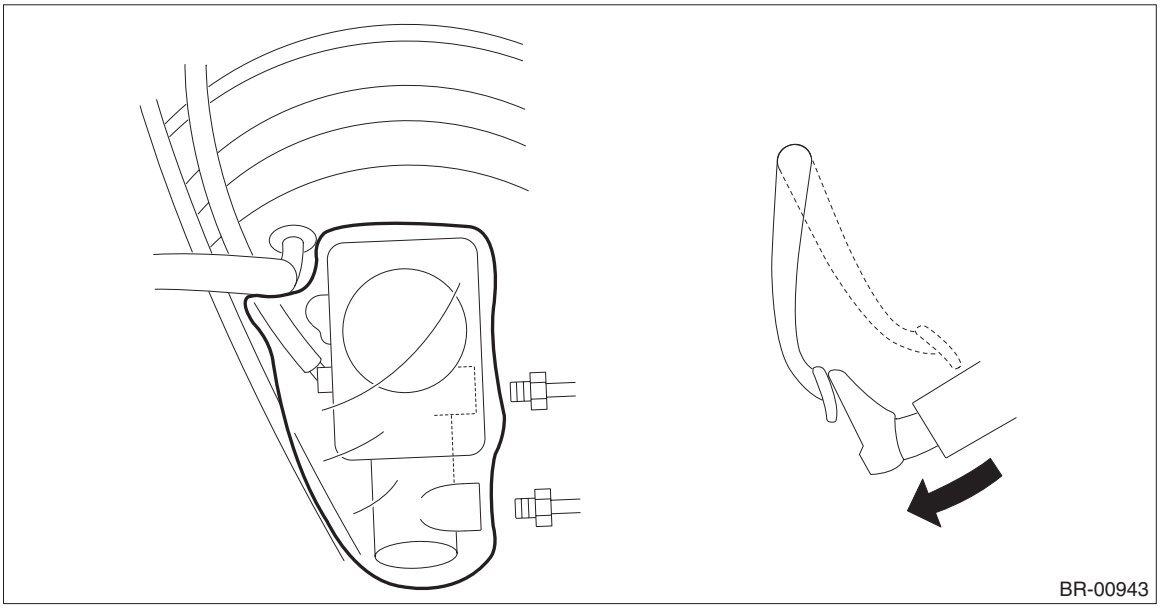
A: PROCEDURE

CAUTION:
• Do not let brake fluid come into contact with the painted surface of the vehicle body. Wash away with water immediately and wipe off if it is spilled by accident.
• Avoid mixing brake fluid of different brands, or reusing the drained brake fluid to prevent fluid performance from degrading.
• Be careful not to allow dirt or dust to enter the reservoir tank.
• For convenience and safety, perform the work with two persons.

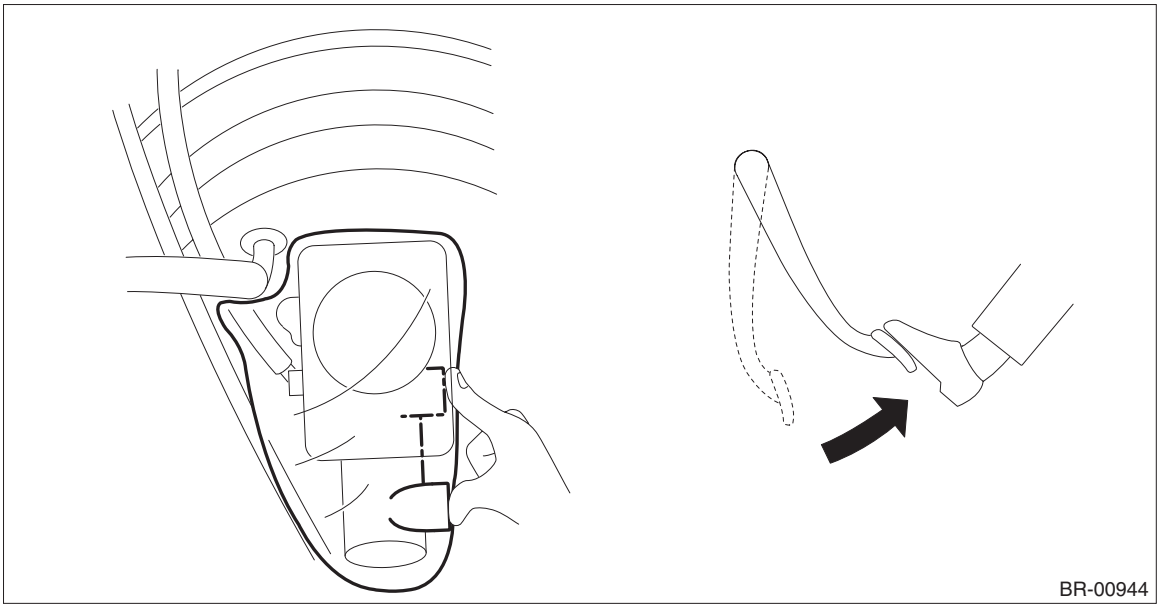
1. MASTER CYLINDER

NOTE:
• When the master cylinder assembly is replaced or the reservoir tank is empty, bleed the brake master cylinder and the clutch master cylinder (MT model).
For the clutch fluid bleeding procedure, refer to “CLUTCH SYSTEM” section. <Ref. to CL-23, PROCEDURE, Clutch Fluid Air Bleeding.>
• If bleeding of the master cylinder assembly is not necessary, omit the following procedures, and perform bleeding of the brake line. <Ref. to BR-64, BRAKE LINE, PROCEDURE, Air Bleeding.>
1) Add the brake fluid to the reservoir tank of the master cylinder assembly.

NOTE:
• Add the brake fluid to MAX level.
• While bleeding air, keep the reservoir tank filled with brake fluid at MIN level or higher to prevent entry of air.
2) Disconnect the brake line at primary and secondary sides.
3) Wrap the master cylinder assembly with a plastic bag.
4) Depress the brake pedal slowly and hold it.



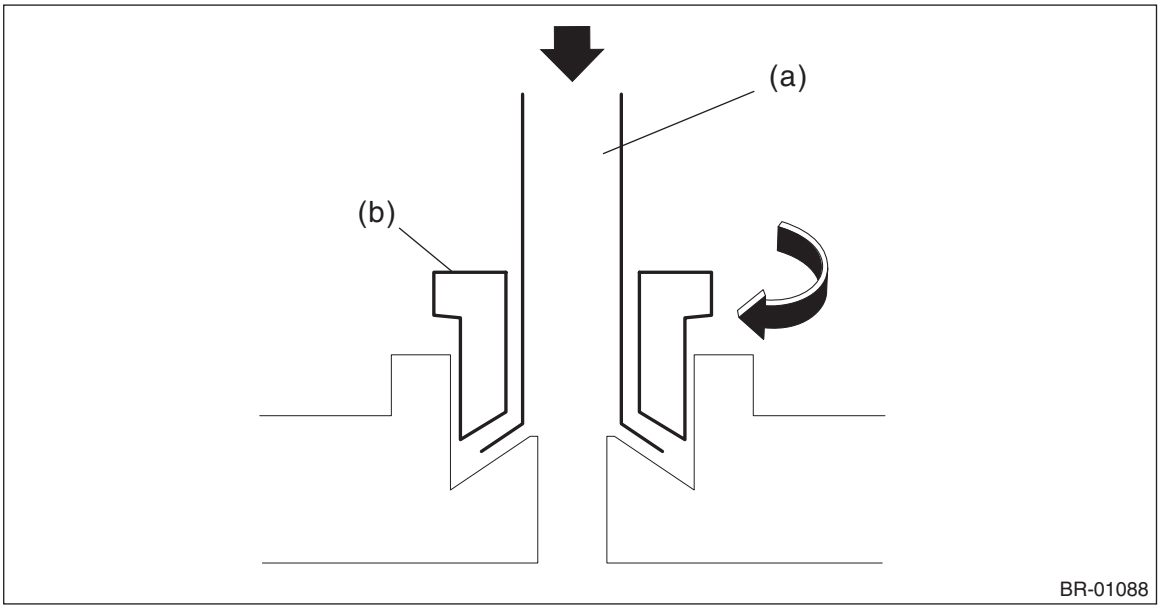
5) Plug the outlet plug with your finger, and then release the brake pedal.



6) Repeat the step 4) and 5) several times.
7) Remove the plastic bag.
8) Install the brake pipe to the master cylinder assembly.
   (1) Turn and tighten the flare nut (b) until its end contacts the back side of brake pipe flare, while pressing the brake pipe (a) toward the master cylinder assembly side.

CAUTION:
Be careful not to make scratches or other damage to the inside surface of the brake pipe flare.

Tightening torque:
Brake pipe flare nut: 19 N·m (1.9 kgf-m, 14.0 ft-lb)

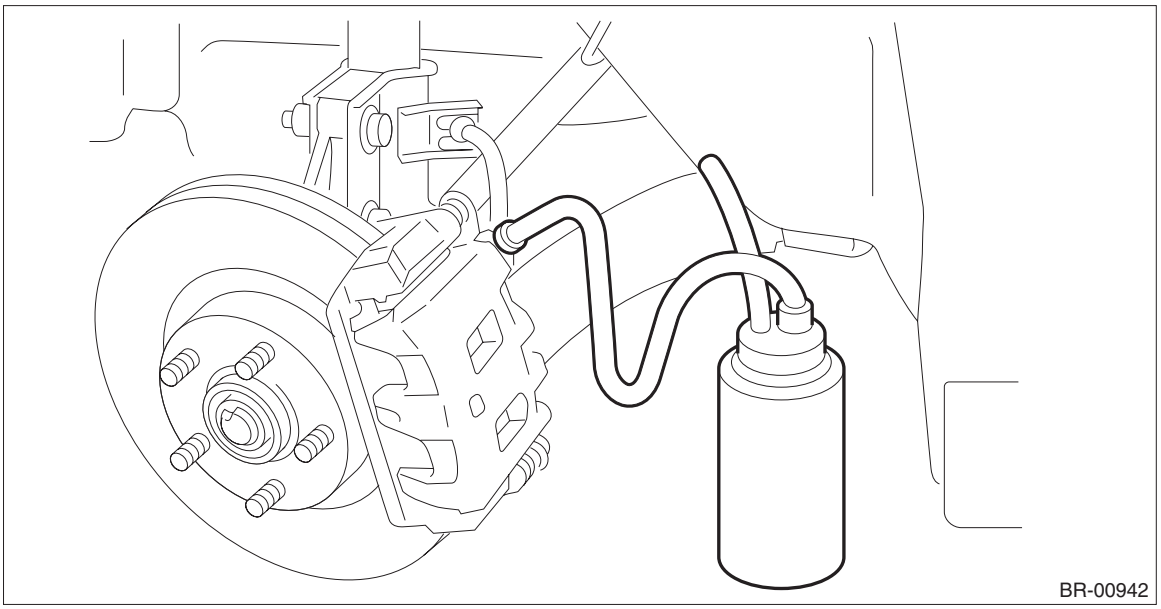


9) Bleed air from the brake line. <Ref. to BR-64, BRAKE LINE, PROCEDURE, Air Bleeding.>

2. BRAKE LINE

1) When the master cylinder assembly is replaced or the reservoir tank is empty, bleed the master cylinder assembly before bleeding the brake line. <Ref. to BR-62, MASTER CYLINDER, PROCEDURE, Air Bleeding.>
2) Fill the reservoir tank of the master cylinder assembly with brake fluid.

NOTE:
While bleeding air, keep the reservoir tank filled with brake fluid to prevent entry of air.
3) Attach one end of the clear vinyl tube to the bleeder - screw and the other end to the brake fluid container.



4) Loosen the bleeder - screw, and repeat the procedure of depressing the brake pedal to its full stroke 20 times or more until there are no air bubbles in the brake fluid in the clear vinyl tube.
5) Tighten the loosened bleeder - screw, firmly depress the brake pedal five to six times and hold it.
6) Loosen the bleeder - screw, and drain the brake fluid. When the brake pedal reaches to its full stroke, quickly retighten the bleeder - screw, and release the brake pedal.
7) Repeat the steps 5) and 6) until there are no air bubbles in the clear vinyl tube.
8) Perform the steps described in 2) through 7) for each caliper.

NOTE:
Bleed air in the order starting from the brake caliper farthest from the master cylinder assembly.
Rear LH → rear RH → front LH → front RH
9) Tighten the bleeder - screw to the specified torque.

Tightening torque:
Bleeder - screw: 8 N·m (0.82 kgf-m, 5.9 ft-lb)
10) Check that there is no brake fluid leakage at the flare nut portion or the entire brake system.
11) Perform the ABS and VDC sequence control modes both for the hydraulic control unit.
- ABS sequence control: <Ref. to VDC-28, ABS Sequence Control.>
- VDC sequence control: <Ref. to VDC-31, VDC Sequence Control.>

NOTE:
- The normal bleeding operation cannot remove air that entered into the pressure control area of hydraulic control unit. By performing the sequence control, air in the pressure control area moves to the pass for normal bleeding operation.
- When air entry in the pressure control area of hydraulic control unit is suspected (ex. VDC or ABS operated while air existed in the pass for normal bleeding operation), perform the ABS and VDC sequence control modes both.

12) Perform the bleeding procedure from step 2) through 10) again.
13) Fill the reservoir tank with brake fluid up to the “MAX” level.
14) Perform a road test and ensure that the brakes operate normally.