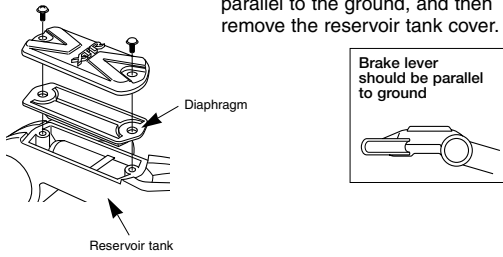


# Adding mineral oil and bleeding air

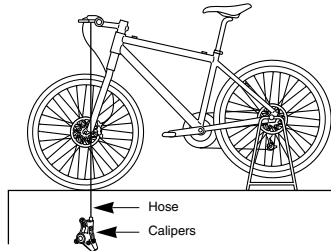
## ■ Adding oil and bleeding air at the reservoir tank

1. With the spacer for bleeding (yellow) still attached to the calipers, place the bicycle into a bicycle stand or similar as shown in the illustration.

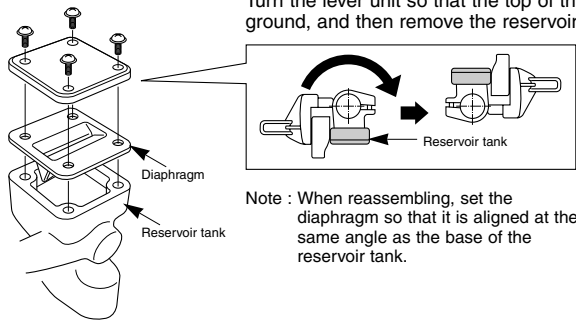
< BL type >



Set so that the brake lever is parallel to the ground, and then remove the reservoir tank cover.

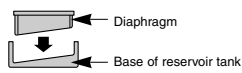


< ST type >

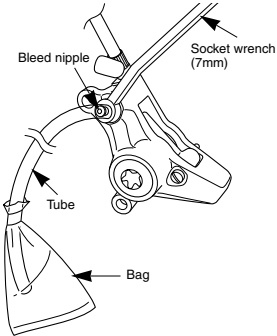


Turn the lever unit so that the top of the reservoir tank is parallel to the ground, and then remove the reservoir tank cover.

Note : When reassembling, set the diaphragm so that it is aligned at the same angle as the base of the reservoir tank.



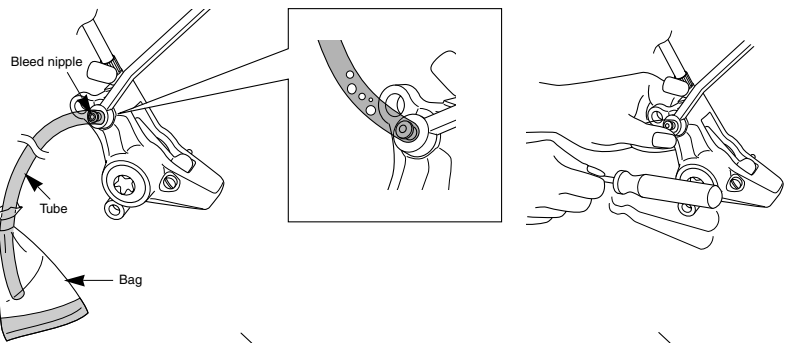
2. Set a 7mm socket wrench in place, attach a bag to the tube, and then place the tube onto the bleed nipple as shown in the illustration.



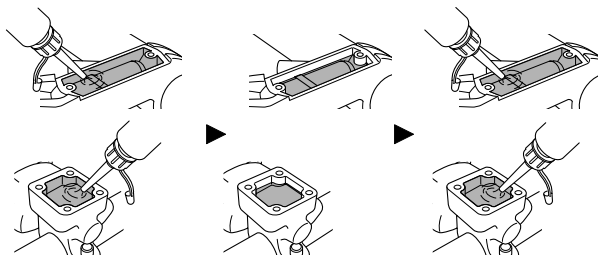
3. Loosen the bleed nipple by 1/8th of a turn to open it, and then pour oil into the reservoir tank. Gently operate the brake lever while doing this to help prime the system with the oil.

4. Oil will come out periodically from the bleed nipple about every 5 minutes.

5. After a little while, the oil and air will flow naturally from the bleed nipple into the tube. In this way it will be possible to easily extract the greater part of the air remaining inside the brake system. It may help to shake the hose gently or to tap the reservoir tank or caliper gently with a screwdriver or move the position of the caliper at this time.

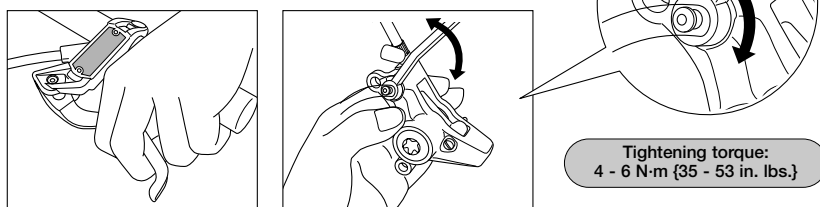


The oil level in the reservoir tank will drop at this time, so be sure to keep adding oil to maintain the oil level so that air is not drawn in through the port (so that air does not enter through the port).



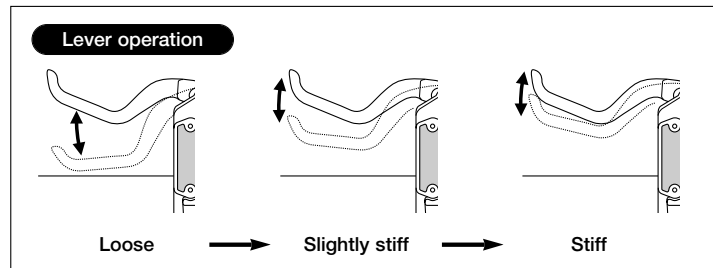
6. Once air stops coming out from the bleed nipple, temporarily tighten the bleed nipple.

7. With the brake lever depressed, open and close the bleed nipple in rapid succession (for approximately 0.5 seconds each time) to release any air bubbles which may be in the calipers. Repeat this procedure about 2 to 3 times. Then tighten the bleed nipple again.

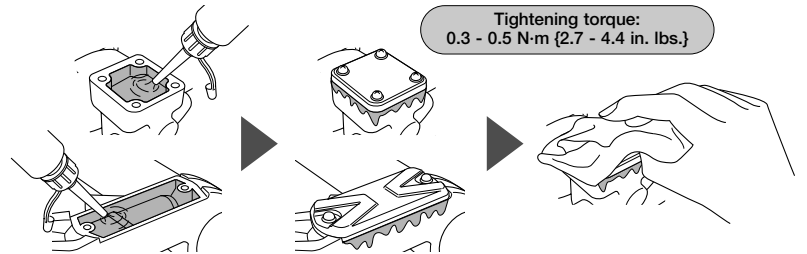


Tightening torque:  
4 - 6 N·m {35 - 53 in. lbs.}

8. If the brake lever is then operated, air bubbles in the system will rise up through the port into the reservoir tank. Once the bubbles stop appearing, depress the brake lever as far as it will go. The normal condition is for the lever to be stiff at this point.



9. Fill the reservoir tank with oil and then replace the reservoir tank cover. Fill the reservoir tank to overflowing with oil while replacing the cover to ensure that no air bubbles remain inside the reservoir tank. In addition, be careful not to get any oil on parts such as the rotor and brake pads.



Tightening torque:  
0.3 - 0.5 N·m {2.7 - 4.4 in. lbs.}

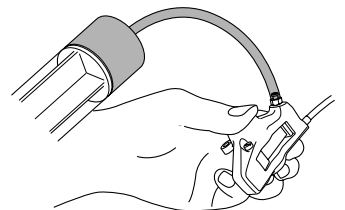
10. Return the brake lever to its original position.

**Note:**  
Do not use brake fluid fillers, as they can cause small bubbles of air to form, and such bubbles can cause severe drops in braking performance.

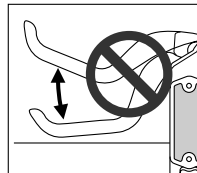
## ■ Adding oil and bleeding air at the caliper using a syringe (including Shimano bleeding kit)

1. Place the reservoir tank so that it is parallel to the ground, and then remove the reservoir tank cover. (Refer to step 1 in "Adding oil and bleeding air at the reservoir tank")

2. Attach a 7 mm socket wrench, and fill the syringe with oil and connect a hose to the bleed nipple. Then loosen the bleed nipple by 1/8 of a turn to open it. Push the plunger of the syringe to add oil. The oil will start coming out from the reservoir tank. Continue adding oil until there is no more air mixed in with the oil that is coming out. (If using the Shimano bleeding tool, be sure to read the service instructions for the Shimano bleeding tool.)

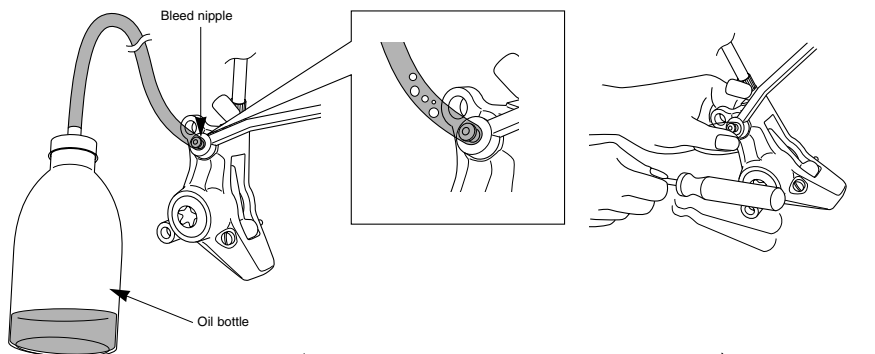


3. Once air stops coming out, temporarily close the bleed nipple. (If the Shimano bleeding tool has been installed to the brake lever at this time, remove the Shimano bleeding tool.)

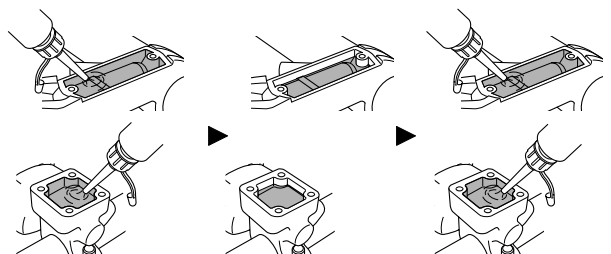


**Do not continually squeeze and release the lever at this point.**  
If this is not observed, air bubbles may remain mixed in with the oil inside the caliper, and it will take longer to bleed the air. (If the lever is continually squeezed and released, drain out all of the oil and then add oil again.)

4. Connect the oil bottle to the bleed nipple, and then loosen the bleed nipple. After a little while, the oil and air will flow naturally from the bleed nipple into the tube of the oil bottle. In this way it will be possible to easily extract the greater part of the air remaining inside the brake system. It may help to shake the hose gently or to tap the reservoir tank or caliper gently with a screwdriver or move the position of the caliper at this time.



The oil level in the reservoir tank will drop at this time, so be sure to keep adding oil to maintain the oil level so that air is not drawn in through the port (so that air does not enter through the port).



5. Carry out steps 6 to 10 in "Adding oil and bleeding air at the reservoir tank".

## SHIMANO

SHIMANO AMERICAN CORPORATION  
One Holland, Irvine, California 92618, U.S.A. Phone: +1-949-951-5003

SHIMANO EUROPE B.V.  
Industrieweg 24, 8071 CT Nunspeet, The Netherlands Phone: +31-341-272222

SHIMANO INC.  
3-77 Oimatsu-cho, Sakai-ku, Sakai-shi, Osaka 590-8577, Japan

Please note: specifications are subject to change for improvement without notice. (English) © May 2008 by Shimano Inc. XBC IZM Printed in Japan.