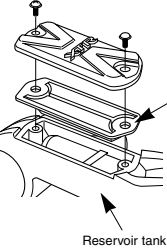


Adding mineral oil and bleeding air

■ 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.

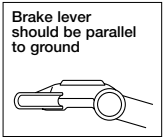
< BL type >



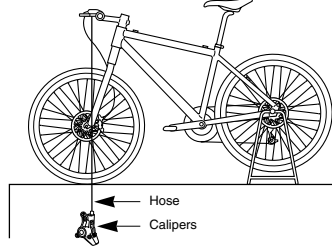
Diaphragm

Reservoir tank

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



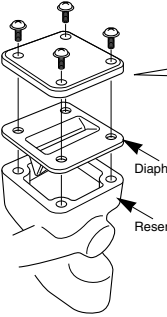
Brake lever should be parallel to ground



Hose

Calipers

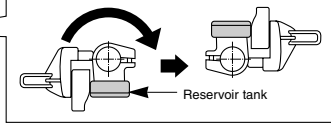
< ST type >



Diaphragm

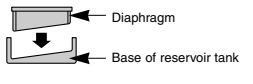
Reservoir tank

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



Reservoir tank

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



Diaphragm

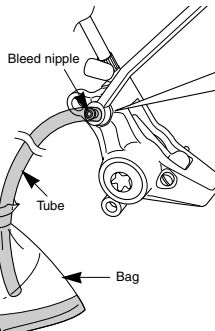
Base of reservoir tank

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.

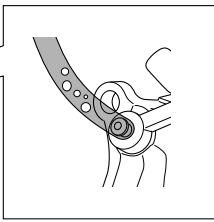
5. After a little while, the oil and air will flow naturally from the bleed nipple into the tube. In this way it will be possible to easily extract the greater part of the air remaining inside the brake system. It may help to shake the hose gently or to tap the reservoir tank or caliper gently with a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

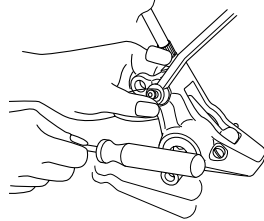


Bleed nipple

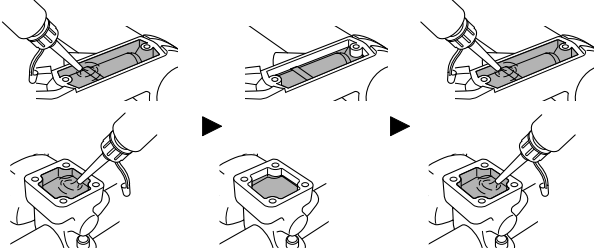
Tube

Bag



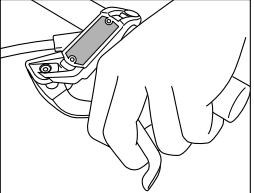


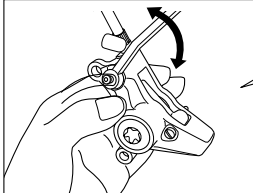
The oil level in the reservoir tank will drop at this time, so be sure to keep adding oil to maintain the oil level so that air is not drawn in through the port (so that air does not enter through the port).

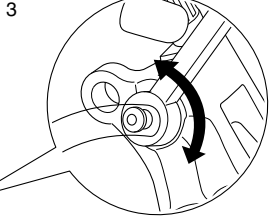


6. Once air stops coming out from the bleed nipple, temporarily tighten the bleed nipple.

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.



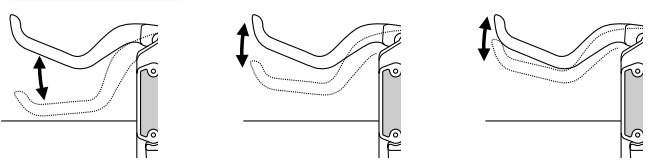




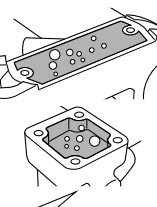
Tightening torque:
4 - 6 N·m {35 - 53 in. lbs.}

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.

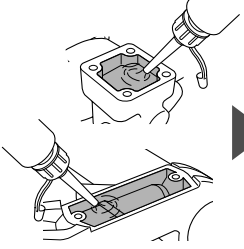
Lever operation

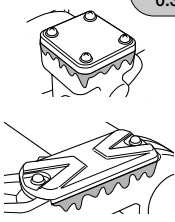


Loose → Slightly stiff → Stiff




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.

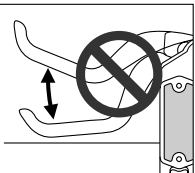
Note:
Do not use brake fluid fillers, as they can cause small bubbles of air to form, and such bubbles can cause severe drops in braking performance.

■ 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")

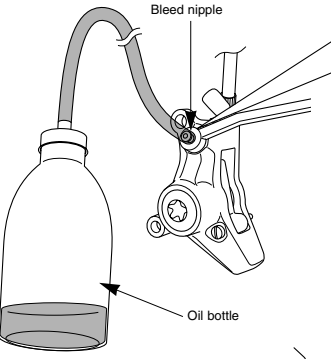
2. Attach a 7 mm socket wrench, and fill the syringe with oil and connect a hose to the bleed nipple. Then loosen the bleed nipple by 1/8 of a turn to open it. Push the plunger of the syringe to add oil. The oil will start coming out from the reservoir tank. Continue adding oil until there is no more 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.)



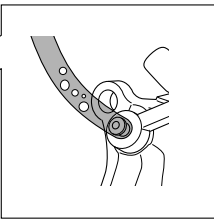
Do not continually squeeze and release the lever at this point. If this is not observed, air bubbles may remain mixed in with the oil inside the caliper, and it will take longer to bleed the air. (If the lever is continually squeezed and released, drain out all of the oil and then add oil again.)

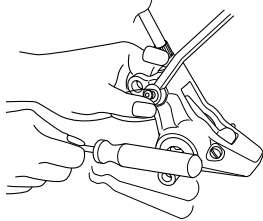
4. Connect the oil bottle to the bleed nipple, and then loosen the bleed nipple. After a little while, the oil and air will flow naturally from the bleed nipple into the tube of the oil bottle. In this way it will be possible to easily extract the greater part of the air remaining inside the brake system. 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.



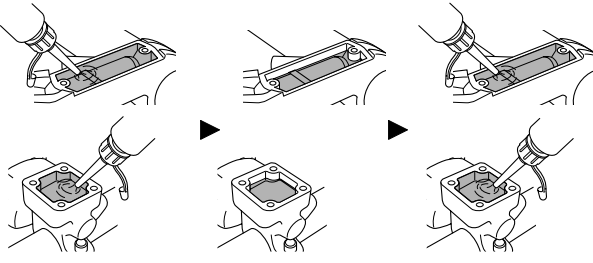
Bleed nipple

Oil bottle





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".

Points to note for bleeding the air when adjusting the brake hose

If cutting the brake hose in order to adjust the length of the hose, or when changing over the brake hose from left to right or vice versa, be sure to bleed the air from the hose by carrying out steps (5), (8) to (10) given in "Adding mineral oil and bleeding air" in the Service Instructions.

(English)

Puntos a tener en cuenta para purgar el aire cuando ajuste la manguera de frenos.

Si corta la manguera de frenos de manera de ajustar el largo de la manguera, o cuando cambia la manguera de frenos de izquierda a derecha o vice versa, asegúrese de purgar el aire de la manguera de acuerdo con los pasos (5), (8) a (10) indicados en "Agregando aceite mineral y purgando el aire" en las Instrucciones de servicio.

(Spanish)

Remarques pour purger l'air lors de l'ajustement du tube de frein

Si l'on coupe le tube de frein pour ajuster la longueur du tube, ou lorsqu'on permute le tube de frein de gauche à droite ou vice versa, veiller à purger l'air du tube en effectuant les étapes (5), (8) à (10) indiquées dans la section "Ajout de l'huile minérale et purge de l'air" des instructions de montage.

(French)

ブレーキホース調整時の 気泡抜きに関するご注意

ブレーキホースの長さを調整するためにホースの切断や、ブレーキホースの左右の入替えを行った場合は、必ず“ミネラルオイルの注入と気泡抜き”の取扱い説明書(5)および(8)から(10)の手順に従って、気泡抜き作業を行ってください。

(Japanese)

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