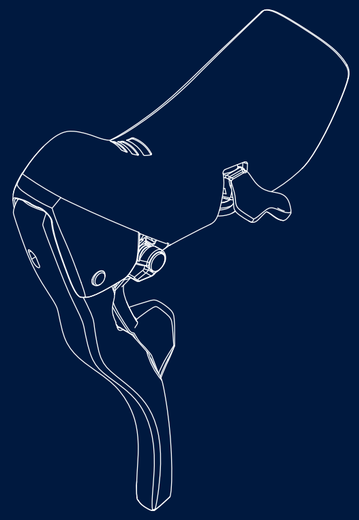


EQUAL

Control Lever

User's Manual

v2_202503

⚠ Important Notice

- If you do not have expertise in bicycles, do not attempt to install the parts. If you are unsure about the installation process, please consult a professional shop or an expert.
- If you have any questions or uncertainties about the instructions, do not proceed with the installation. Please consult the store where you purchased the product.
- Our company will not be held responsible for any damages, injuries, or accidents caused by the installation of this product, except in cases of manufacturing defects. This includes issues caused by incorrect installation or insufficient maintenance.
- We publish the concepts and data related to the design and features of this product on our website. We recommend reading it before using the product.
- A dealer manual for professionals with bicycle-related knowledge is also available on our website.

For your safety, please read this user manual thoroughly before proceeding with installation or use of the product.

⚠ Caution / Warning

[Warning]

- When installing the product, always follow the instructions in the user manual. Incorrect installation can lead to serious accidents and severe injuries.
- Ensure that the control lever is securely attached to the handlebar without any looseness.
- Use a handlebar that can be securely attached. If it cannot be properly installed, it may cause serious accidents and injuries.
- If any "cracks" or "chips" are found, stop using the product immediately.
- Before riding, operate each lever to ensure there are no abnormalities. If you notice any issues, cease use and resolve the problem.
- Before riding, check the brake cables for any fraying. Fraying can cause the brake cables to snap, resulting in loss of braking power.
- Before riding at higher speeds, test the brakes at low speed to confirm their braking power.
- Applying strong pressure on the front brake can cause the front wheel to lock, leading to a forward fall and potentially serious injury.
- Braking distances will increase in wet conditions. Reduce speed and apply the brakes early.
- When the road is wet, sudden braking can cause the tires to slip and lead to a fall. Reduce speed and apply the brakes early.

[Caution]

- Follow the instructions in this manual. Failure to do so may cause parts to break.
- When operating the derailleur, always turn the crank while shifting.
- Do not operate the lever with excessive force. This could lead to damage to the internal mechanism of the control lever, the lever itself, or the connected equipment via cables.
- Do not use high-pressure washers. They can cause malfunctions, damage, and rust.
- Lubricants can be used on the shift inner cable, but not all lubricants guarantee smooth operation.
- Parts with minor cosmetic defects but without functional issues are treated as good parts.
- The specifications of this product may change without notice.

1. Introduction

The EQUAL control lever has many differences from other shifters, so be sure to use it in accordance with this manual.

The EQUAL control lever has a friction structure, allowing it to operate various devices. Each adjustment is necessary depending on the device being operated.

- Derailleur Holding Force: You can easily adjust it by inserting a tool into the friction nut adjustment hole.
- Cable Pulley Size: There are 5 different sizes, and you can easily replace them. Please use the appropriate one.
- Click Plate (Optional): By adding a click plate that matches the combination of [Cassette Sprocket],[Derailleur], and [Cable Pulley] you are using, you can add a click feeling when operating the lever.

*** This document is based on the standard (with shift function) "right side of the main body" and the rear derailleur, but please perform the same work for the left side of the main body and the front derailleur. For shiftless (without shift function), please perform the same work for installation and cable attachment.**

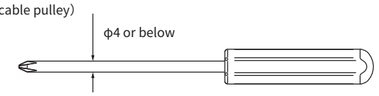
2. Spec

・Cable Operation Amount	Maximum 55mm (theoretical value)
・Brake System	Mechanical. It corresponds to a lever (short pull) for road/cantilever brakes. Please use caliper brakes or mechanical disc brakes. V brakes are not supported.

3. List of required tools

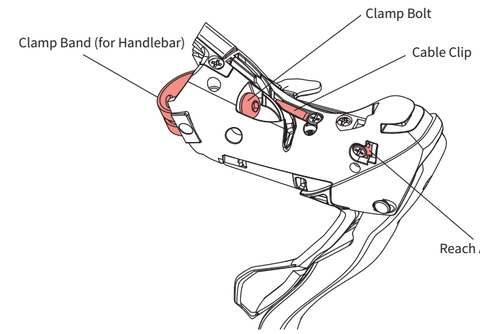
- Hex wrench 2mm/3mm/4mm
- Phillips head screwdriver (#1)

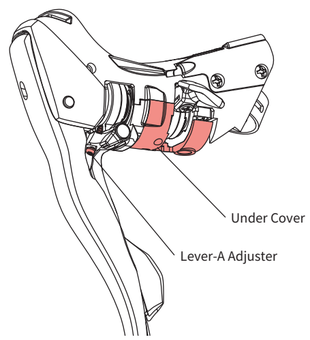
(Please use tools with the dimensions shown in the figure below to avoid interference when replacing the cable pulley)

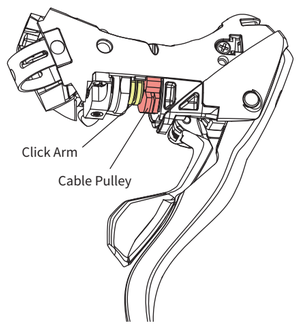


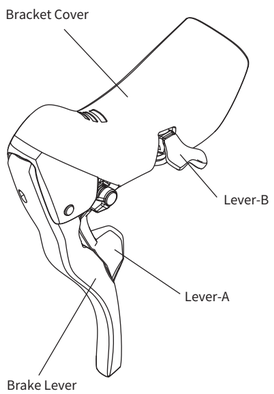
Please prepare any other tools necessary for installing the equipment.

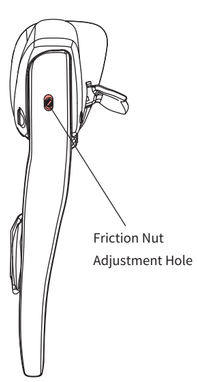
4. Names of each part





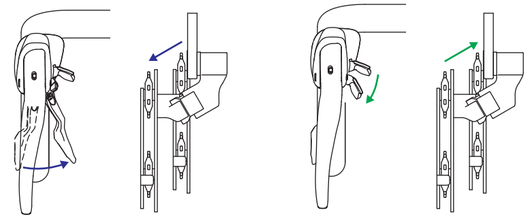




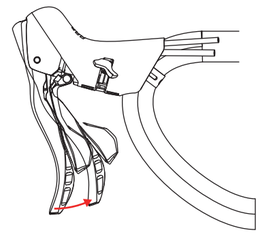


5. Operation Guide

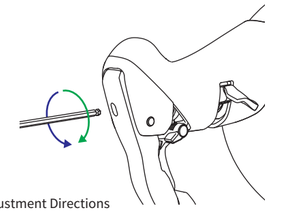
Shifting Operation



Braking Operation



Friction Nut Adjustment (For details, refer to section 6-5)



Adjustment Directions

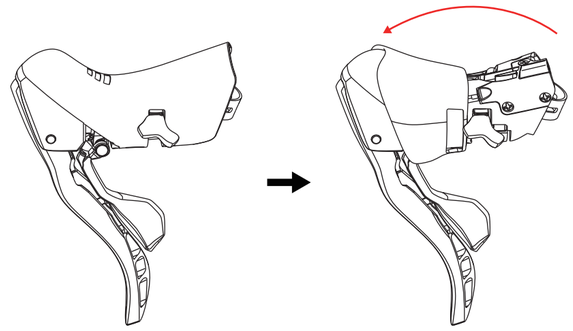
- Clockwise - Tightens (Increases derailleur holding force)
- Counterclockwise - Loosens (Decreases derailleur holding force)

6. Installation Procedure

6-1.Mounting to the Handlebar

Peel back the bracket cover from the handlebar band side.

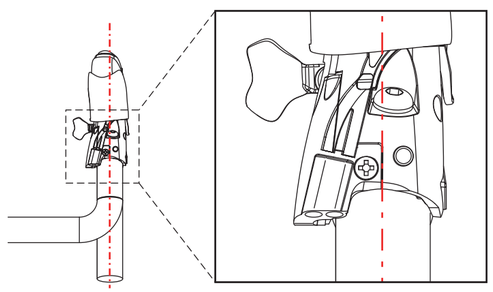
Caution: There are sharp edges on the main unit. Be careful to avoid injury.



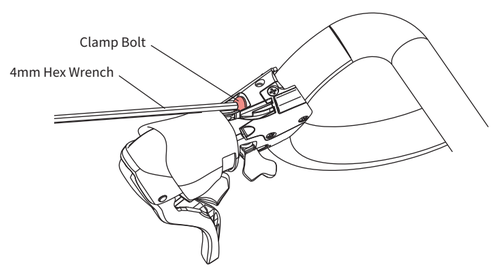
The clamp bolt is tightened at the factory, so please loosen it using a 4mm hex wrench before passing it through the handlebar.

Adjust the installation angle accordingly.

Caution: Excessive inward or outward tilting may cause damage to the main unit or handlebar and lead to insufficient clamping force, resulting in accidents.



Tighten the clamp bolt using a 4mm hex wrench. (Maximum tightening torque 6Nm)



6-2.Installing the Shift Cable

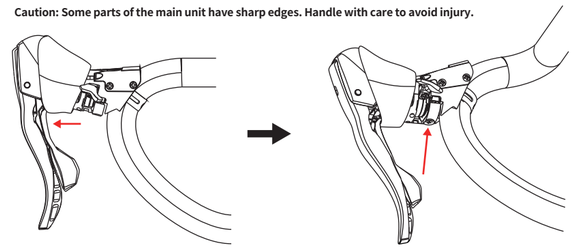
6-2-1.Removing and Installing the under cover

Fold back the bracket cover from the handlebar band side.

To make removal easier, shift the lower part of the bracket cover towards Levers.

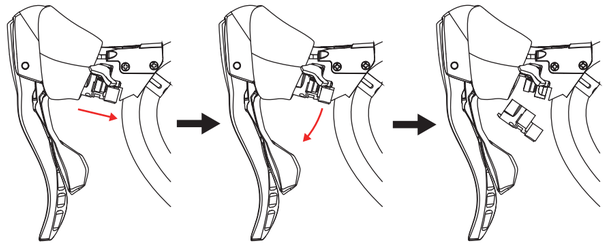
Use a Phillips screwdriver [#1] to remove the screws securing the under cover .

Caution: Some parts of the main unit have sharp edges. Handle with care to avoid injury.



Remove the under cover following the steps below.

Caution: Forcing removal may cause the under cover to crack.



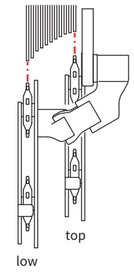
Install the under cover by following the removal steps in reverse order.

*** It is recommended to install the click plate after adjusting the friction nut.**

6-2-2.Derailleur Adjustment

Before proceeding, be sure to adjust the top and low limit screws according to the derailleur' s instruction manual.

After adjusting the derailleur, remove the wheel (sprocket).



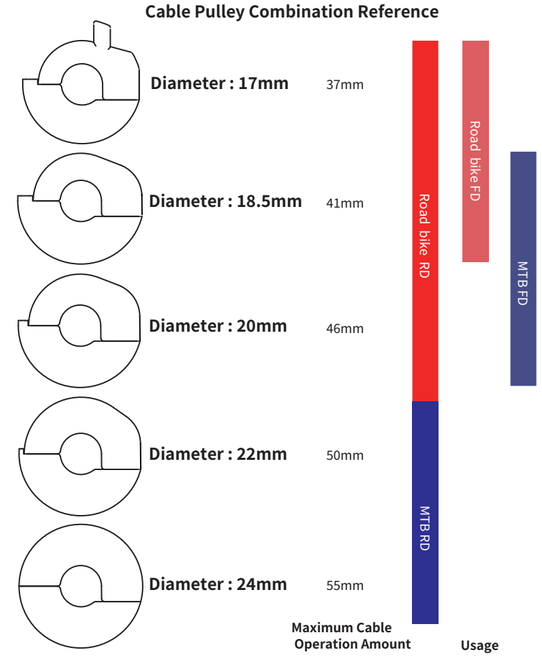
6-2-3.Selecting the Cable Pulley

Replacing the cable pulley not only changes the maximum cable take-up amount but also alters the ratio between lever stroke and cable take-up. Choose a cable pulley size that ensures the required cable take-up for the connected component while considering personal preference.

(Example)

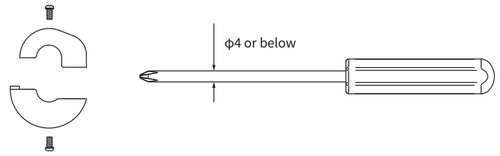
ϕ18.5mm	→ ϕ20mm	Reduces the lever stroke required for one gear shift. Increases lever operation resistance (feels heavier).
ϕ18.5mm	→ ϕ17mm	Increases the lever stroke required for one gear shift. Decreases lever operation resistance (feels lighter).

Cable Pulley Combination Reference



6-2-4.Replacing the Cable Pulley

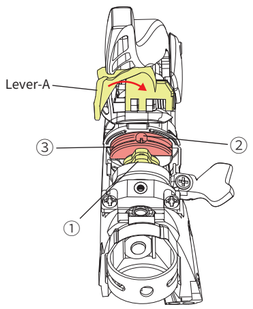
Replace the cable pulley as needed.
For instructions on removing the under cover , refer to "6-2-1. Removing and Installing the under cover ."
ϕ18.5mm cable pulley is pre-installed on the right side of the unit, and a ϕ17mm cable pulley is pre-installed on the left side.
The cable pulley consists of two separate parts. Use a Phillips screwdriver [#1] to replace it.
(*To avoid interference when replacing the cable pulley, refer to the diagram and use a tool of appropriate dimensions.*)

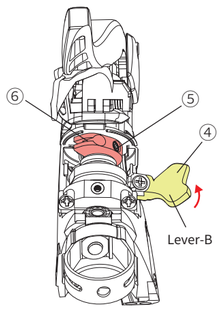


The cable pulleys are the same for both sides, but they will be installed with the opposite orientation. Please be sure to pay attention to the orientation when installing.

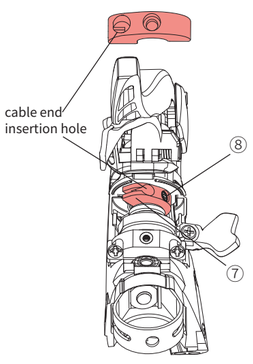
[Reference Procedure for Changing the cable Pulley] The diagram below shows the right lever

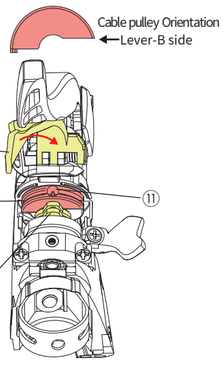
Caution: When the under cover is not installed, ensure that the angle of operation for lever-B does not exceed 45°.
Excessive movement beyond the recommended angle may cause deformation of the spring that returns the lever, potentially leading to malfunction.





① Operate lever-A so that the click arm is positioned as shown in the diagram.
② Remove the screw.
③ Remove half of the cable pulley.
④ Gradually move lever-B and operate it until it reaches the end.
⑤ Remove the screw.
⑥ Remove the remaining half of the cable pulley.



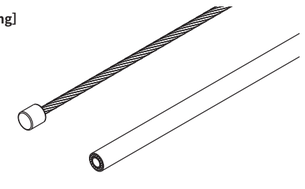


⑦ Without operating the lever, carefully install the cable pulley with the cable end insertion hole, following the diagram.
⑧ Tighten the screw to secure the cable pulley.
⑨ Operate lever-A so that the click arm is positioned as shown in the diagram.
⑩ Install the remaining half of the cable pulley, carefully following the diagram and paying attention to its orientation.
⑪ Tighten the screw to secure the cable pulley.

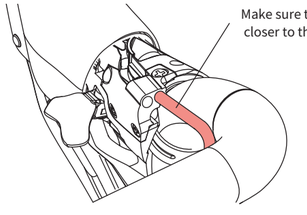
Once the cable pulley replacement is complete, operate Shift lever-A /B and rotate the cable pulley to position it in a way that makes it easy to attach the shift inner cable.

6-2-5.Installation of Shift Cable

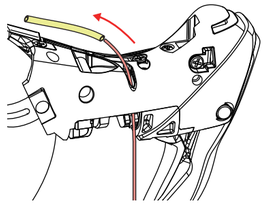
[Compatible Shift Cable/Outer Casing]
Shimano Road Type
Inner shift cable diameter：1.2mm
Outer casing diameter ：4mm

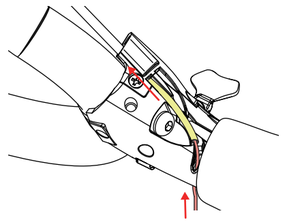


To install the shift inner cable, it is necessary to remove the under cover.
Please refer to "6-2-1. Removal/Installation of the Under Cover" for instructions on how to remove it.
Insert the shift outer casing at the position shown in the diagram below.



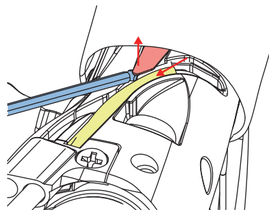
As shown in the diagram below, pass the shift inner cable through the bracket body, followed by the liner tube and then the outer casing.
From this inserted position, feed the inner cable until the cable end reaches the area near the pulley.

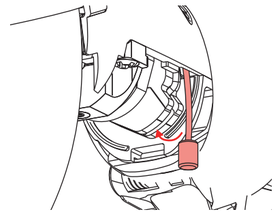




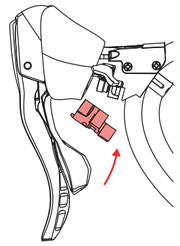
As shown in the diagram below, use a thin tool, such as a 2mm hex wrench, to lift the cable clip a few millimeters and fit the liner tube into the groove.
Next, hook the cable end onto the cable pulley.

Caution: If you lift the cable clip too much, it may become bent and will not return to its original position.



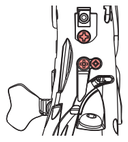


Fix the shift cable to the derailleur and confirm that the cable end is properly inserted before reattaching the under cover .
For instructions on attaching the under cover , please refer to "6-2-1. Removing/Attaching the Under Cover."



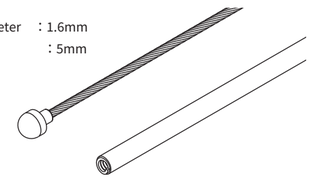
⚠ Caution/Warning

The screws in the right diagram holds the internal mechanism.
Do not remove or reinstall it.



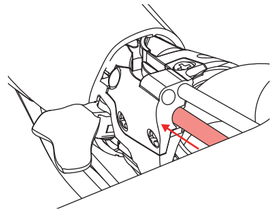
6-3.Installation of Brake Cable

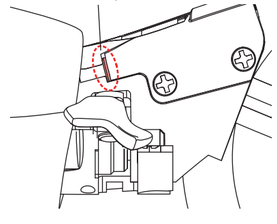
[Compatible Brake Cable/Outer Casing]
Shimano Road Type
Inner brake cable diameter ：1.6mm
Outer casing diameter ：5mm



Insert the brake outer casing at the position shown in the diagram below.
When you lift the bracket cover, confirm that the brake outer end cap is visible in the area shown in the diagram (this is pre-assembled during shipment).

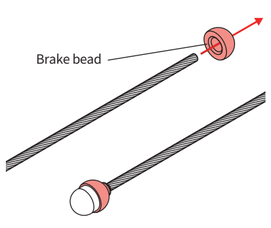
Caution：Always use the "brake outer end cap."
Without the end cap installed, the brake may not function properly.

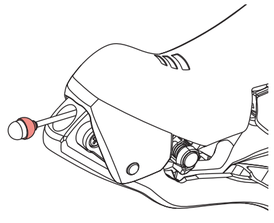




Thread the brake bead onto the brake cable and install it as shown in the diagram below.

Caution: Always install the brake bead.



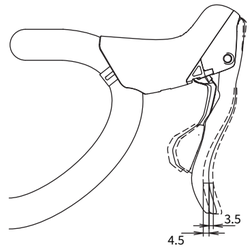


6-4.Brake Reach Adjuster / Lever-A Adjuster Adjustment

The brake lever reach can be adjusted in three stages using the adjuster.

*** Be sure to adjust lever-A at the same time.**
*** The small brake reach adjuster is pre-assembled at the time of shipment.**
*** The large brake reach adjuster is included as an accessory.**

When the large brake reach adjuster is installed, the brake lever will move approximately 4.5mm closer than the shipped position.
When the small brake reach adjuster is removed, the brake lever will move approximately 3.5mm farther away from the shipped position.



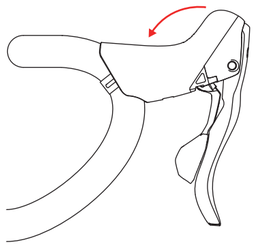
Large Brake Reach Adjuster

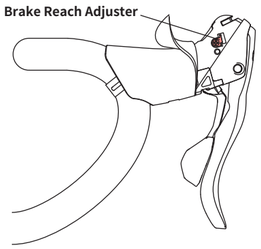
Small Brake Reach Adjuster

6-4-1.Brake Reach Adjuster Replacement

Lift the bracket cover and use a Phillips screwdriver [#0] to replace the brake reach adjuster.
(Maximum tightening torque: 0.7 Nm)

*** When the brake reach adjuster is replaced, it is essential to adjust the lever-A adjuster.**

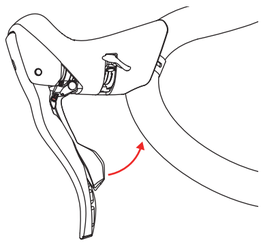


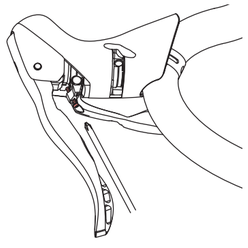


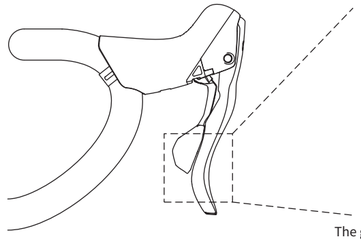
6-4-2.Adjusting Lever-A Adjuster

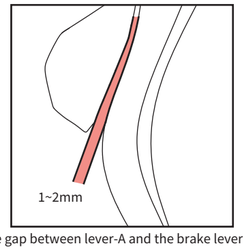
The lever-A adjuster is used to prevent interference between lever-A and the brake lever. If there is interference, the brake may not function properly, and shifting operations may become impossible. Therefore, it is essential to adjust the lever-A adjuster.

Adjustment Procedure:
1.Fold lever-A .
2.Use a #1 Phillips screwdriver to adjust the lever-A adjuster.
・Adjust until the interference between lever-A and the brake lever is resolved.







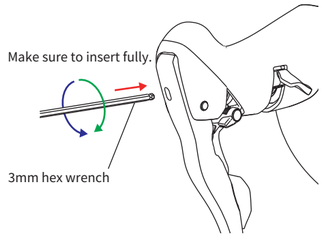


The gap between lever-A and the brake lever should be approximately 1 to 2 millimeters.

6-5.Friction Nut Adjustment

The friction nut adjustment is a unique procedure not found in other shift systems, so be sure to follow the precautions carefully during the process.

Precautions:
・If too much force is applied while turning, internal components may be damaged.
・Always remove the hex wrench before operating any levers (brake lever, lever- A/B).
・When adjusting the tightness, make sure to tighten the friction nut slightly, then operate lever- A/B and check the derailleur's movement. Repeat this process to confirm proper operation.
・The amount of tightening per adjustment should be between 10° and 45°.



Clockwise: Tightens (Increases derailleur holding force)
Counterclockwise: Loosens (Decreases derailleur holding force)

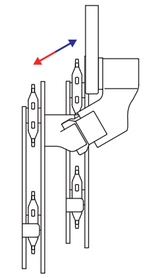
—Before starting the work—
If the derailleur does not move when operating lever-A or B, or if you feel any abnormalities such as heavy operation of lever-A , stop the work and remove the under cover. Check whether the cable end is properly installed and whether the shift cable is assembled to operate smoothly.
***Forcing the lever to operate in an abnormal condition may damage the product.**

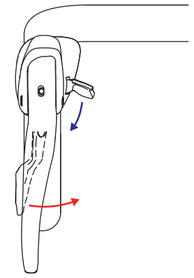
When lever-A is operated, the derailleur moves to the low side.
If the derailleur returns to the top side as soon as lever-A returns to its original position after being released, slightly tighten the friction nut to increase the derailluer holding force.
Repeat this process until the derailleur stays in the position set by lever-A .

***The required amount of friction nut adjustment varies depending on the type of derailleur.**
***The feel of lever-A 's operation is not affected by the friction nut adjustment.**

Next, operate lever-B.
Check that the derailleur moves to the top side.
If the shifting operation feels too stiff when using lever-B, slightly loosen the friction nut to reduce the derailluer holding force.

***If loosened too much, the derailleur may move to the top side on its own.**



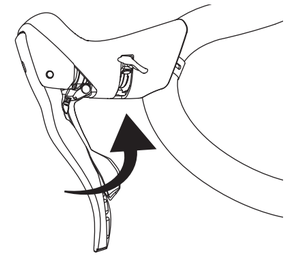


—Tips—
During the shakedown period, the friction disc has not yet fully settled, making it more likely for the derailluer holding force to decrease.
For the initial adjustment, it is recommended to tighten the friction nut slightly more than usual, as long as it does not cause issues when operating lever-B.
Additionally, until the friction disc settles, it is advisable to carry a 3mm hex wrench for adjustments.
Once the disc has settled, the need for frequent adjustments will decrease.
Significant temperature changes may also affect the derailluer holding force.

7. Vital Precautions to Follow

7-1.Prohibition of Oil Injection and Use of Parts Cleaner

Do not apply oil to the internal mechanism.
Do not clean using a parts cleaner or degreasers.
If oil or parts cleaner enters the internal mechanism, it may cause operational malfunctions.



7-2.Prohibition of Lever Disassembly

Do not disassemble the lever.
The lever consists of many small parts, and disassembly may result in lost components.
Incorrect reassembly, such as misaligned parts, may cause the lever to malfunction.

7-3.If the Lever Stops Moving

Lift the bracket cover and use a screwdriver to turn the screw next to the one holding the cable clip 45° clockwise. Check if this improves the issue.
Do not turn the screw more than 90°
If the lever still does not move after adjusting the screw, return the screw to its original position and contact the store where you made the purchase.