EQUAL Mechanical Disc Brake Caliper
User's Manual

⚠ Important Notice

Do not install the parts if you are not an expert on bicycles. If you are not sure about the work, ask a professional store to do the work.
If you have any questions about the contents of this manual, contact the dealer where you purchased the product . Do not attempt to install if you are unsure for assembling.
GROWTAC Inc shall not be held liable for any damage to your frame or components, as well as injuries or other losses resulting from the use of this product. This includes damages or incidents occurring during use, and we disclaim all responsibility. (Factors include, but are not limited to, improper installation, insufficient maintenance, etc.)
Concept & data regarding the design and features of this product are available on our website. We recommend that you read this information before using the product.
Dealer manuals are available on our website.

For your safety, please read this user's manual carefully before installing and using the product.

⚠ Caution / Warning

[Warnings]
Be sure to follow the instructions when installing.
It is recommended to use genuine EQUAL products for the mounting bolts, brake pads and other consumables. It may cause serious accident if the brakes are not adjusted correctly, they may not work.
The calipers and disc brake rotors will become hot when the brakes are operated. Do not touch them while riding or immediately after riding a bicycle. Otherwise, you may get burned.
Do not allow grease or other oil to get on the rotor or brake pads. If grease or oil gets on the rotor or brake pads, the brakes will not work, which is extremely dangerous. Ask your dealer what to do If grease or oil gets on the brake pads.
Before riding, be sure to check that the thickness of the brake pads is at least 0.5 mm. If the pads are worn out beyond this point, the brakes may not work.
If the pads are worn out, replace them with new brake pads referring to "6-1 Replacing the brake pads".
Standard brake pads: EQUAL disc brake pads DBR-PADA01(Shimano road compatible).
When the brake pads are worn out, adjust the clearance with reference to "5-1 Brake Pad Clearance Adjustment". If the brake pads continue to be used without adjustment, the brakes may become ineffective.
Before riding, make sure that the brake cable is not frayed. If there are any loose ends, the brake cable may break and the brake will not work.
If the front brake is applied too hard, the front wheel may lock, causing the bicycle to fall forward and cause serious injury.
The braking distance becomes longer in rainy weather. In wet condition, the braking distance is longer, so reduce speed and brake earlier.
If you brake suddenly when the road surface is wet, the tires may slip and you may fall over.
When the road surface is wet, braking suddenly may cause the tires to slip, resulting in a fall.
Make sure that the pin does not enter the danger zone of the swing arm when the brake is applied. If the pin enters the “Danger Zone”, replace the brake pad or adjust the clearance.
Make sure that the brake pad mounting screws are properly tightened.

[Cautions]
When the brake pads or rotors are replaced with new ones, the brakes will be less effective. Please test it quite few times in a safe place and in safe speed.
When the brake is applied, a braking sound may be heard.
If you have any questions about installation or adjustment, please contact your dealer .

More Information
More Information: Dealer Manuals, other documents, and FAQs.

GROWTAC Products
Official Website

1. List of specification parts (Component parts list)

Disc brake caliper
2 pcs Disc caliper body
4 pcs Disc brake pad (built into the body)
2 pcs Pad retaining spring (built in)
2 pcs Brake pad fixing screw (built in)
2 pcs Outer pad adjustment hole cap (built in)
2 pcs Rubber ring

Cable set
2 pcs Hard outer casing (1700 mm)
2 pcs Soft outer casing (1000 mm)
2 pcs Slick inner cable for drop handlebar lever (1900mm SHIMANO road lever compatible)
2 pcs Slick inner cable for flat handlebar lever (1900 mm)
4 pcs Outer casing connector (5 mm-5 mm)
4 pcs Outer casing cap 5mm
2 pcs Inner cable cap

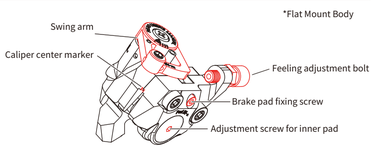
Small Parts in a Flat Mount kit
1 pc Adapter for flat mount (front, 140 mm/160 mm)
2 pcs Front caliper fixing bolt (silver)
2 pcs Frame fixing bolt (black)
Each 2 pcs Rear caliper fixing bolt (20 mm/25 mm/30 mm/35 mm/40 mm/45 mm)
2 pcs Rear caliper fixing washer

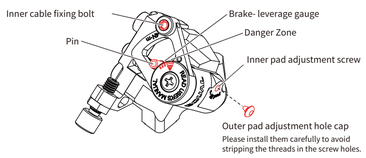
Small Parts in a Post Mount kit
4 pcs Fixing bolts for caliper

2. List of Tools used

Hex key 2.5 mm/3 mm/4 mm (For Flat mount)
2.5 mm/3 mm/5 mm (For Post mount)
Torx wrench T25 (For Flat mount)
Wire cutter

3. Caliper main body part names

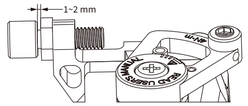




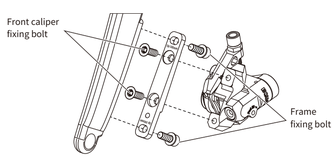
We have an instructional video for flat mount installation available. Please refer to it for guidance.

4. Installation procedure

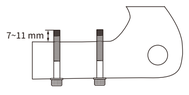
4-1. Initial position setting of the brake-leverage adjustment bolt
Adjust the gap of the brake-leverage adjustment bolt so that it is 1~2mm.



4-2. Temporarily fasten the caliper
For Flat mount
Front caliper
After adjusting the direction of the front adapter to match the rotor size to be used, secure the brake caliper and front adapter with the Front caliper fixing bolt. (T25 Torx wrench, specified torque 6 Nm).
Attach the adapter to the brake caliper. Temporarily fix the adapter to the frame with the frame fixing bolts, lightly enough to allow it to move left and right (4mm hex key).

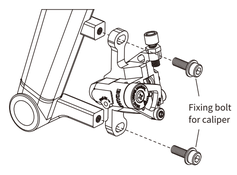


Rear caliper
When using a 140mm rotor
Insert the rear caliper fixing bolt with washer into the caliper mounting hole on the frame and use a bolt that is long enough to protrude about 7~11mm. Insert the Rear caliper fixing bolt with washer into the caliper mounting hole.
As with the front, temporarily fix the caliper to the frame with enough force to allow it to move left and right (4mm hex key).



When using a rotor larger than 140mm
Prepare an adapter from third party and install it according to the instructions of the adapter.

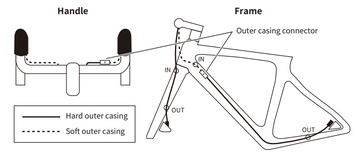
For Post mount
When mounting directly to the frame
Lightly assemble the brake caliper to the frame.
Ensure that the caliper moves in a fragile manner (use a 5 mm hex key) and then adjust to the optimum position.



To change the rotor size
Prepare a third party mounting adaptor.
Assemble according to the adapter manual.

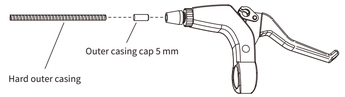
4-3. Outer casing installation
This provides high braking power by using a combination of two types of outer casings designed specifically for this product.*
Soft outer casing
This is a flexible one outer casing that is used for areas with tight bends such as around the handlebar, or where handling may be adversely affected.
Hard outer casing
This has high rigidity. This type of casing is mainly used to improve braking power. we reccomend you to connect with calipers and soft casing.For more details, please refer to the ‘How to handle the hard outer casing’ at the back of this manual.
*** If the hard outer casing is not used, the original braking force may not be achieved.**

Setting Example
At Handlebar Area
Drop handlebar
Use the soft outer casing for areas with tight bends.
Use a hard outer casing for the part where the wiring is straight.



***If you want to put the outer connector inside the frame, you must have a hole of 6.2 mm or more.**

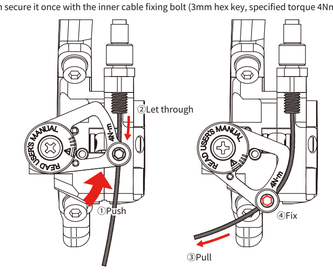
Flat handlebar
Attach the outer cap for the lever to the brake lever and install the hard outer casing.



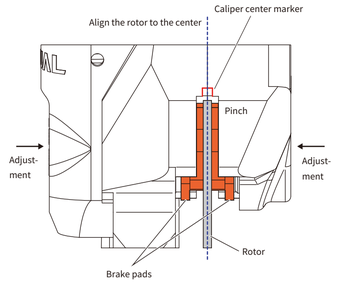
For flat handlebar, it is recommended to use only the hard outer casing, but if the rebound is too strong and you see bad effects on your handling, use the soft outer casing as well as the drop handlebar.

At Caliper Area
Cut the outer casing to the appropriate length, install the outer casing cap for the caliper, and connect it to the caliper body. When routing the inner cable, install it so that the rubber ring is positioned between the outer cap and the feeling adjustment bolt. The rubber ring helps to reduce water ingress into the outer casing.

4-4. Installing the inner cable
Loosen the inner cable fixing bolt on the swing arm sufficiently to allow the inner cable to pass through. Pass the inner cable through while pushing the swing arm fully in the left rotation direction.
After the inner cable is passed through, move the swing arm back, pull the inner cable, and then secure it once with the inner cable fixing bolt (3mm hex key, specified torque 4Nm).



4-5. Fixing the caliper (centering)
Tighten the both side of brake pad adjustment screw to let both pads out until the rotor is fixed (3mm hex key). Pinch the rotor between both pads so that the caliper center marker and the center of the rotor are on the same line.



To operate the pad adjustment screw, refer to "5-1. Brake Pad Clearance Adjustment". When Centering process is done, tighten fixing bolts for caliper to the frame with certain torque.

CAUTION :
Do not operate the pad adjustment screw without brake pads.
Otherwise, the internal parts may come off.

4-6. Breaking-in the cable
Squeeze the brake strongly about 10 times to break in the cable.

4-7. Fixing the inner cable
Loosen the inner cable fixing bolt once, pull the inner cable to remove any slack in the wire, and tight it again with the inner cable fixing bolt (3mm hex key, specified torque 4Nm). Cut off the inner cable leaving about 20 mm of its allowance, and install the inner cable cap.

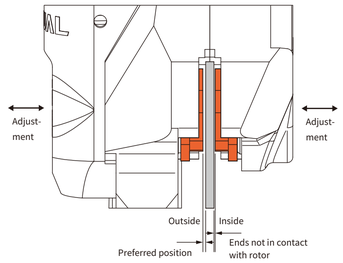
4-8. Adjusting the brake pads
Loosen both brake pads adjustment screws, to increase the clearance between the rotor and brake pads. After widening, refer to "5-1. Brake Pad Clearance Adjustment" to adjust the clearance appropriately.

4-9. Test breaking process to become workable
After replacing the brake pads or rotors, the braking effect will be weakened until they are acclimated. To prevent any trouble, test braking repeatedly in a safe speed in a safe place.
Start using brakes, after the brakes are sufficiently effective.
At the beginning of brake use, there may be some click or clink noise until the pads and rotor match each other.

5. Adjustment

5-1. Brake Pad Clearance Adjustment
It is necessary to adjust the clearance of the brake pads in the following cases.
✓ After initial installing.
✓ After replacement.
✓ When the brake pads are worn out.
If you do not adjust, brake may not work even if you hold a brake lever, which is extremely dangerous. When adjusting the clearance, adjust both the outside and the inside.
Use a 3mm hex key to adjust the pads. Turning the pad adjustment screw to clockwise will narrow the clearance between the rotor and pad. Then turning counter clockwise will widen the clearance.

Caution: Do not operate the pad adjustment screw without brake pads.
Otherwise, the internal parts may come off.

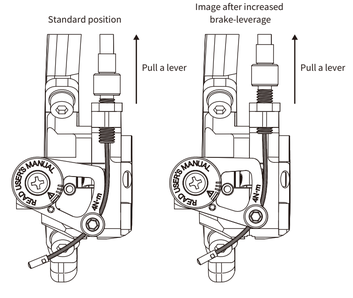


Adjustment Procedure
I Adjust the inner pad
Adjust the clearance between the inner brake pad and the rotor to the point where no contact noise is heard when the wheel rotates.

Tips
Gradually widen the pad clearance from the point where the brake pads and rotors are in full contact. Turn the pad adjustment screw counter clockwise while turning the wheel, and stop there when there is no more contact sound with the rotor.

II Adjust the outer pad
While operating the brake lever, adjust the pad position to achieve the desired amount of pull.
III Checking the brakes
Grip the brake lever and check that the brake is applied correctly.

5-2. Adjusting the Brake-Leverage
This has a function to adjust the braking force. Hence, you can make adjustments according to your comfortable braking.
It is recommended that you use the default settings at first, and then optimize them with your favorite settings.
After “5-1. Brake Pad Clearance Adjustment”, lightly apply the brake lever, and when the pad touches the rotor, the position of the brake-leverage gauge indicated by the pin will be the standard position.



*** The standard position depends on the adjustment of the brake pad clearance.**

Adjustment Procedure
I Release the outer pad from the rotor
Turn the outer pad adjustment screw to the left to increase the clearance between the rotor and pad.
II Adjust the brake-leverage
When the brake-leverage adjustment bolt is turned to the counter clockwise, the swing arm will move in conjunction with it in the direction of left rotation. When adjusting to left direction, the brake's braking power will be stronger.
III Adjust the clearance of the outer pad
With reference to "5-1. Brake Pad Clearance Adjustment", turn the outer pad adjustment screw to the clockwise to adjust the clearance.
IV Confirmation by actual riding
Check the “brake-leverage” by actual riding. Repeat steps I to III and make adjustments until you achieve your preferred feel.

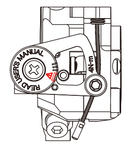
Tips
The tip to adjusting the brake-leverage is to first adjust the scale significantly and then try to feel the difference in braking force between each. After that, make fine adjustments.



⚠ CAUTION

Adjust the brake-leverage so that the pin does not enter the Danger Zone when the brake lever is depressed.Brakes may not work if the pin enters the “Danger Zone” , which is very dangerous. Be sure to check the position of the feeling gauge before riding, and if you feel any discomfort in the braking while riding, check the position of the brake-leverage gauge and adjust it as necessary.

Always check the gauge position not for pin to point “Danger Zone”

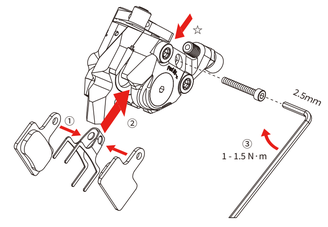


6. Maintenance

6-1. Replacing the brake pad
If the thickness of the brake pad becomes less than 1mm, it is recommended to replace the pad. If the thickness of the brake pad becomes 0.5mm or less,be sure to replace the brake pad.
Follow the procedure below to replace the left and right pads at the same time.



Replacement Procedure
I Widen the clearance between pads and the rotor.
Before removing the pads, loosen the pad adjustment screws to increase clearance between the rotor and pads.
II Remove the wheel from the frame.
III Use a 2.5mm hex key to remove Brake pad fixing screw .
IV Remove the pad.
The pad can be easily removed by pressing it from the top with a hex key (see ☆ below).
V Install new pads (see. ① - ③).
VI Install the wheel on the frame.
VII Adjust the clearance of the pads.
See reference to “5-1. Brake Pad Clearance Adjustment”.



CAUTION :
Do not reuse the brake pad mounting screws.
Be careful not to get any oil or grease on the rotor or pads.
When replacing the pads, wipe off any brake debris or other dirt from the caliper itself.
When replacing with new brake pads, the brakes will be less effective until they fit in.
Repeat testing brakes from a safe speed in a safe place and start using the brake pads only after the brakes have been applied and the brakes are fully effective.
Due to individual differences in brake pads, some of them may not fit into the caliper due to their large width. If this is the case, you can use a file or similar tool to shave off a little of the width on both sides.

7. Daily Inspection before Riding

Before riding, be sure to check the following topics. If any error is found, adjust, replace, or contact your dealer or mail to GROWTAC (winfo@growtac.com). We will reply to you within 3 business days.
✓ The front and rear brakes should work properly.
✓ The brake lever has the correct amount of pull.
✓ There should be no fraying or cracking of the outer casing or inner cable.
✓ The thickness of the brake pads must be 0.5 mm or more.
✓ The pin must not enter the Danger Zone when the brake lever is depressed.

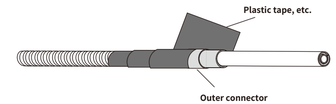
How to handle the hard outer casing

[About the hard outer casing]
Hard outer casings are used to improve the transmission efficiency of the rider's brake lever pull force.
Therefore, it is recommended that Soft outer casings be used only in cockpit areas where the curvature is sharp and likely to affect handling.

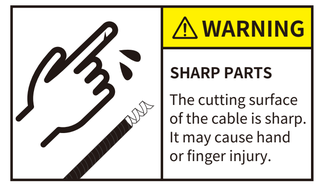
[Cutting the hard outer casing]
Cut the hard outer casing so that the cross-section is straight before use.



[Install and secure the outer connector]
Attach the outer connector at the part where the outer casing is as straight as possible without any bends. It is also recommended that you secure the outer casing connector with plastic tape or the like to prevent it from coming off the outer casing during assembly.



[Breaking-in]
Due to the use of multiple outer casings and outer connectors, it may take some time for the outer casing to break in (initial stretching becomes stable). When replacing the outer casing with this product, be sure to carefully break in brakes (e.g., by holding the brake lever repeatedly). Even after replacement, adjust the brake frequently until the outer casing becomes accustomed.



EQUAL Warranty Policy

Please keep your receipts from the purchase of EQUAL products for after-sales service of our products. If you are online, please capture the evidence such as mail. Please note that products that are more than one year old from the date of purchase will not be supported.

1. The product is warranted against defects in materials and workmanship for a period of one year from the date of purchase.
2. The warranty period is one year from the date of purchase.
3. If you want to make a warranty request for this product, please contact the site of purchase or the store where you purchased the product.
4. The warranty does not cover the following cases, even during the warranty period.
   a. If the product is not accompanied by a receipt or delivery note proving the date of purchase.
   b. The product has been deliberately misrepresented in the repair request.
   c. If the failure or damage is caused by faulty use. (Including lack of maintenance)
   d. In case of failure or damage caused by fire, earthquake, flood, other natural disaster, pollution, salt damage, gas damage. (Sulfide gas, etc.)
   e Replacement of parts due to natural wear, abrasion or deterioration of serviceable parts or consumables, e.g. brake pads, cables, etc.
   f. In the event of failure or damage caused by improper handling by the customer, such as transportation, moving or dropping the product after purchase.
   g. Malfunctions or damage caused by the environment in which the product is used or by the way it is maintained. (e.g. damage caused by dust, rust, mold, insects, etc.)
   h. Minor scratches and dents that do not cause any problems in terms of function or performance, or color fading due to ageing.
5. We are not responsible for any damage or injury caused by accidents that occur during use, other than due to a defect in this product. (This includes faulty installation, lack of maintenance, etc.)
6. Without prior notice, the specification and design of the product may be changed for the purpose of product improvement.

Please have your receipt or delivery note ready to prove the date of purchase of the product before contacting us.
A photograph of the receipt or delivery note must be included with your order for repair under warranty.

User Registration Page

GROWTAC