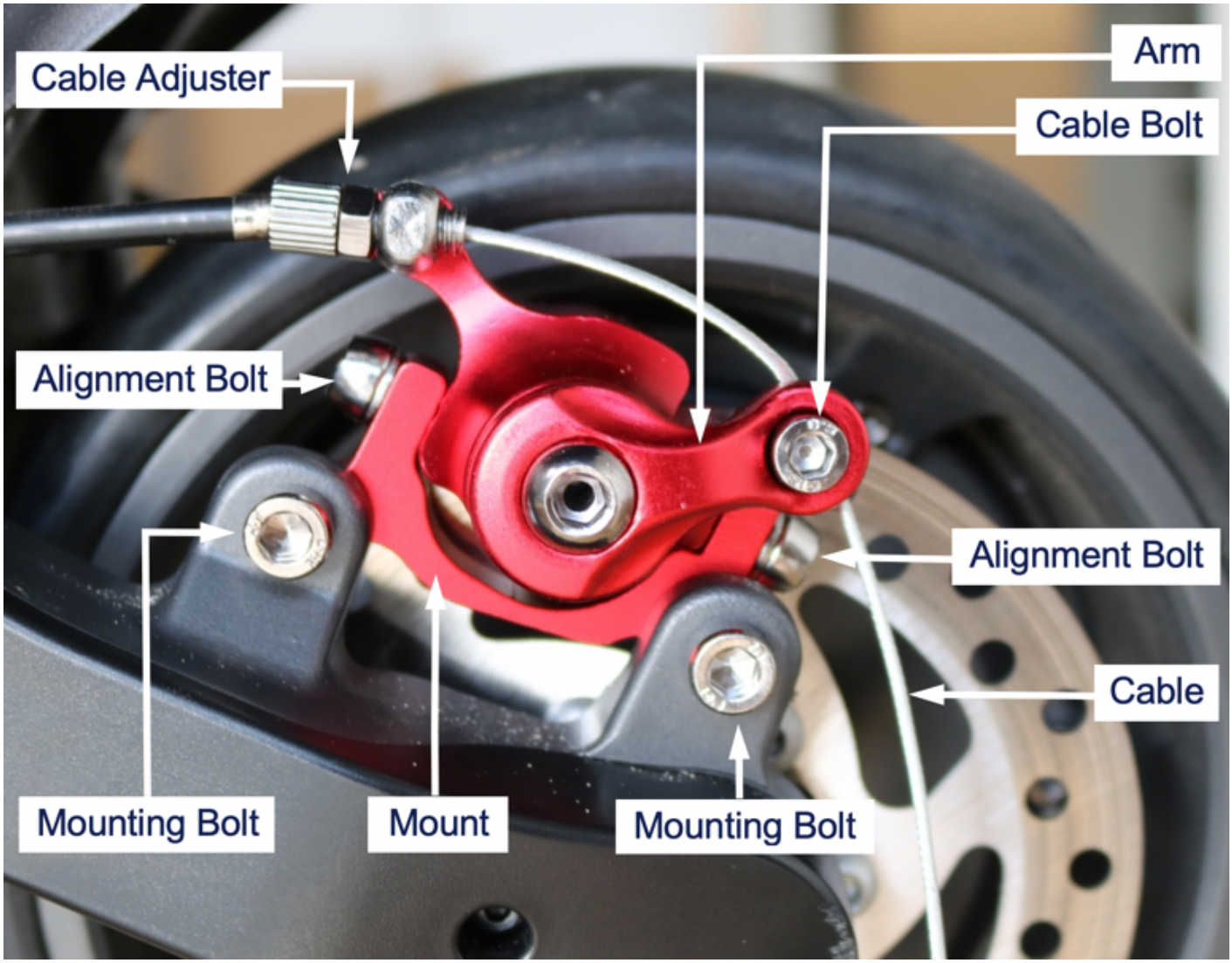
Mercane WideWheel Electric Scooter

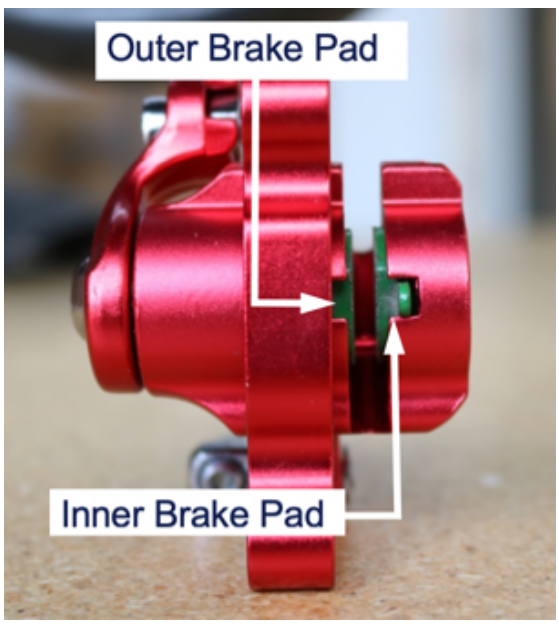
Caliper Replacement Guide
Disc Brake Maintenance and Adjustment Guide

his guide is intended to enable a quick replacement of your caliper as part of the recall (pages 1-4). Since **all disc brakes need ongoing care and maintenance**, it should also be used as future reference for ensuring your disc brakes remain properly set up and adjusted (pages 5-7).

Check out fluidfreeride.com/WWbrakes for the pdf version and corresponding videos.

1 Terminology
What's all this called?





2 Brake Caliper Replacement and Initial Adjustment

I. Prepare your scooter

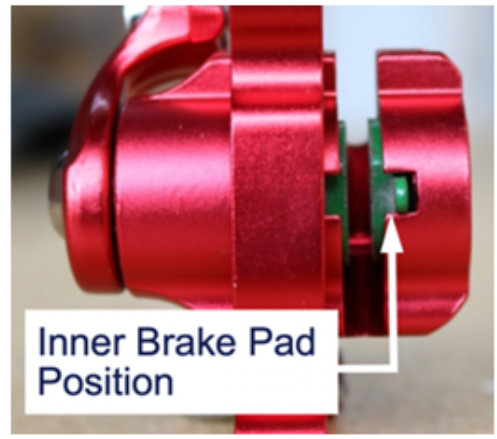
- Best to put your scooter up on a table with the body resting on a box so that the rear wheel can move freely.
- Alternatively, a chair can work, too.
- Ensure the brake lever adjuster is all the way screwed in.

II. Detach the caliper

- Use the 4mm Allen Key to unscrew the Cable Bolt and remove the Cable.
- Use the 5mm Allen Key to unscrew the two Mounting Bolts. You may need some strength to loosen these bolts.
- Remove the old caliper and dispose of it in your household trash

III. Prepare the replacement caliper

- Double check the correct positioning of the Inner Brake Pad.
- It should be approximately positioned as shown in the picture.
- We have checked these calipers before sending them out. If you ever have a need to adjust the position of the rear brake pad, have a look at the advanced adjustments ahead.
- Loosen the two Alignment Bolts to enable the caliper to move on its Mount for alignment later on
- Screw in the cable adjuster all the way in as shown in the picture



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IV. Attach the replacement caliper

- Thread the end of the Cable through the Cable Adjuster on the caliper
- Position the new caliper over the disc brake and attach it with the Mounting Bolts.
- Use the 5mm Allen Key to tighten the Mounting Bolts. Torque to 6 Nm – use considerable force.

V. Align the replacement caliper

- Position yourself behind the scooter so you can see the disc in between the brake pads
- Since you have loosened the Alignment Bolts, you can use your hand to position the Inside Brake Pad as close as possible to the disc.
- Once properly positioned, tighten the Alignment Bolts.
- Alternate in tightening the bolts, fastening each one a little more at a time. Torque the Alignment Bolts to 6 Nm.

- Be sure to maintain the caliper in position while tightening, since your force may move the caliper in the process.
- Turn the wheel to verify that the Rear Brake Pad is close to but does not touch the disc. A very slight drag is OK.

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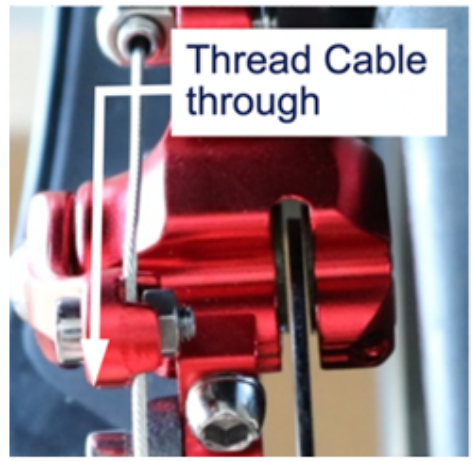
VI. Attach the Cable and tighten if necessary

- Loosen the Cable Bolt and thread the Cable through.
- Leave the Arm in relaxed position and tighten the Cable Bolt with the 4mm Allen Key. Use medium force only.
- Engage the brake lever and check if the you have sufficient brake pressure. The lever should be fully engaged when parallel to the handlebar.
- If this is the case fully tighten the Cable Bolt. Torque to 6Nm.



- If your lever gets too close to the handlebar, loosen the Cable Bolt and use your thumb to move the Arm a bit upwards so the Outside Brake Pad moves closer to the disc.
- While holding the Arm, retighten the Cable Bolt. Torque to 6Nm.
- Engage the brake lever and ensure proper braking pressure.

VII. Final Check

- Double check all bolts are properly tightened.
- Pull the brake lever a few times with **maximum force** to ensure everything is tight and operates properly.
- Trim the brake cable if necessary, leaving no more than 1-1.5 inches of length after the Cable Bolt.
- Crimp the cable end cap onto the end of the cable to prevent it from fraying. The end cap was included with your replacement caliper.

5 Ongoing Disc Brake Maintenance and Advanced Adjustments

Brake Pad wear

- The brake pads are consumable items. The more you brake, the more they will wear. You will feel this over time as the brake lever will need to be pulled more to achieve the same braking result.
- You can initially compensate for this wear by tightening your brake using the Cable Adjuster at the caliper and/or the adjuster at the brake lever.
- When using these adjusters, ensure you keep them properly secured at all times:

- Once you feel a reduction in braking power that cannot be adjusted anymore, it is time to replace the brake pads. Follow the caliper replacement steps to remove the caliper (I-II), replace the brake pads and re-attach the caliper (III-IV). Align the replacement caliper (V-VII)

Rubbing sounds from the brake

- If your brake is rubbing, it may need to be adjusted or re-aligned. For example, the brake may have been impacted during transport or a small stick from the road may have gotten caught in the brake pads causing the disc to bend.
- Under no circumstances should you use lubricant like WD-40 or other oils to get rid of the noise. This will impact proper braking function.
- Position yourself behind the scooter and turn the wheel. Ensure that the disc rotor is true. If the disc is turning unevenly you may have to replace it.
- Check if the Outer Brake Pad or the Inner Brake Pad is rubbing the disc.

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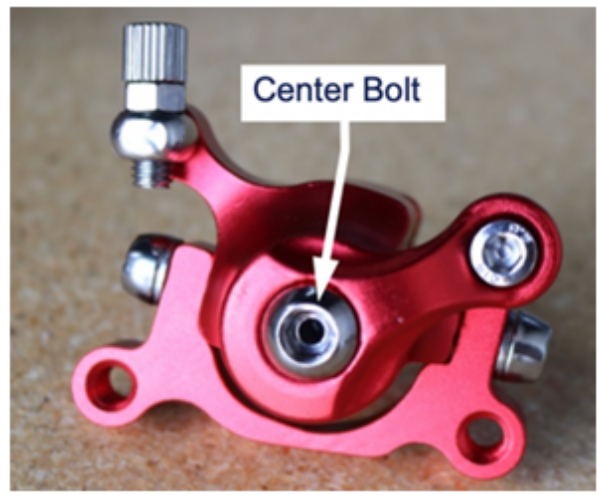
Rubbing sounds from the brake (continued)

- If the Inner Brake pad is rubbing, loosen the Alignment Bolts and follow the alignment steps above (V-VII).
- If the Outer Brake pad is rubbing while the Inner Brake Pad is closely positioned to the disc, remove a little bit of braking pressure by changing the Arm position on the Cable (second section of VI) or by using the adjuster at the brake lever or the Cable Adjuster.
- If the Outer Brake pad is rubbing while the Inner Brake Pad is positioned too far away from the disc, follow the alignment steps (V-VII).

Adjusting the position of the Outer Brake Pad



- As some customers have pointed out, there is a small screw accessible by sticking a 2.5mm Allen Key inside the hole in the caliper's Center Bolt. Turning this screw will adjust the position of the Outer Brake Pad, but it could cause the brake pad to become loose.
- This adjustment screw is not made for consumer adjustments. **Do not turn this screw.**
- You can adjust the position of the Outer Brake Pad by changing the Arm position on the Cable (second section of point VI) or by using the adjuster at the brake lever or the Cable Adjuster.

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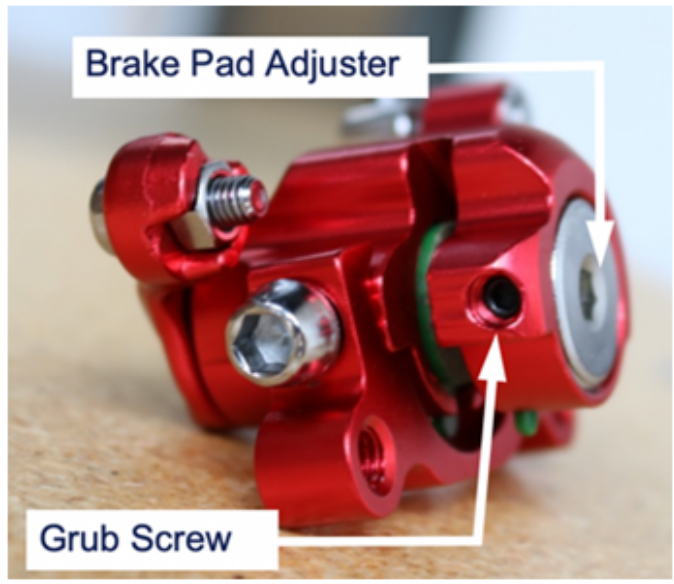
ADVANCED Adjusting the position of the Inner Brake Pad

- Because only the Outer Brake Pad moves towards the disc, you may want to permanently adjust the Inner Brake Pad position.
- This could be the case if you notice that the Inner Brake Pad does not sufficiently extend beyond the caliper body.
- You will need to remove the caliper for this adjustment.

- Use the included 2.5 Allen Key to loosen the Grub Screw by half a turn. This screw locks the Brake Pad Adjuster to keep it in place and ensures that vibration cannot make it come loose. Do not loosen it further than half a turn as there is a little plastic insert at the bottom of the screw that may fall out.



- Use the 5mm Allen Key to turn the Brake Pad Adjuster and move the Inner Brake Pad into the desired position.
- Tighten the Grub Screw and attach the caliper back to the scooter. You will likely have to go through the caliper alignment steps (V).

We hope this guide is useful. If you have trouble adjusting your brake properly, check out our videos at fluidfreeride.com/WWbrakes or contact us at support@fluidfreeride.com for further help.