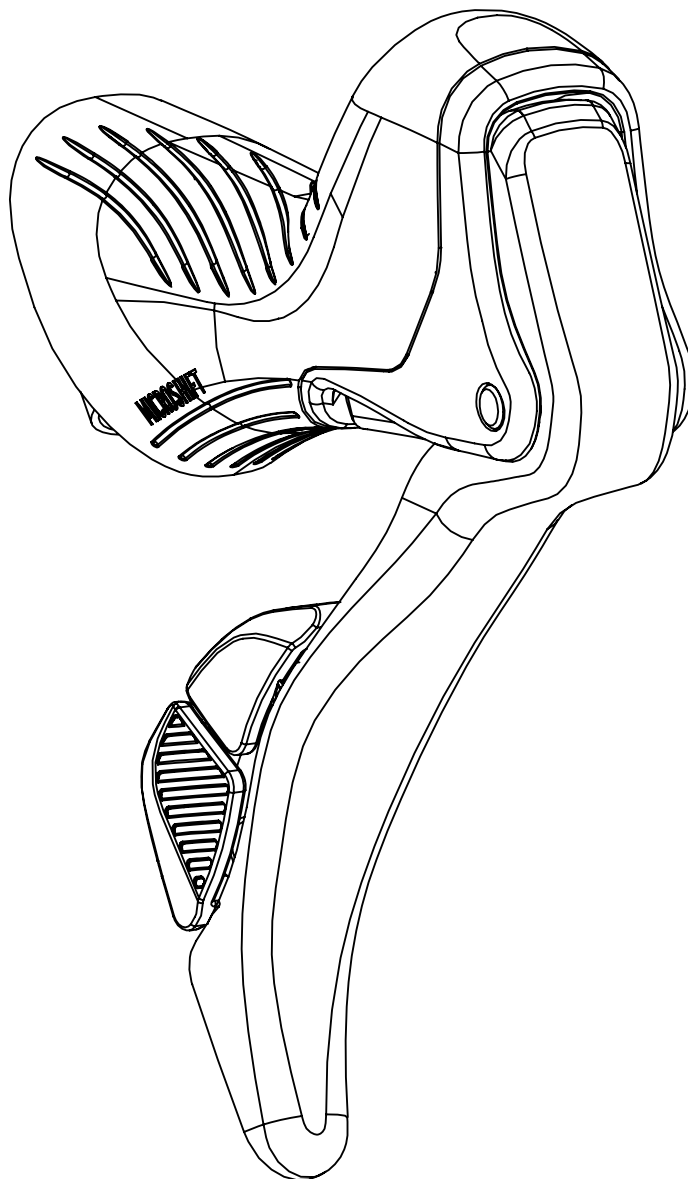


CYPHER

ELECTRONIC SHIFTING SYSTEM INSTALLATION

Drop Bar Controllers: SB-ER3000S-R (Module: SBER3) / SB-ER3000S-L

Electronic Rear Derailleurs: RD-ET5200S / RD-ET5210M / RD-ET5290M / RD-ET5290S (Module: RDET5)



MICROSHIFT

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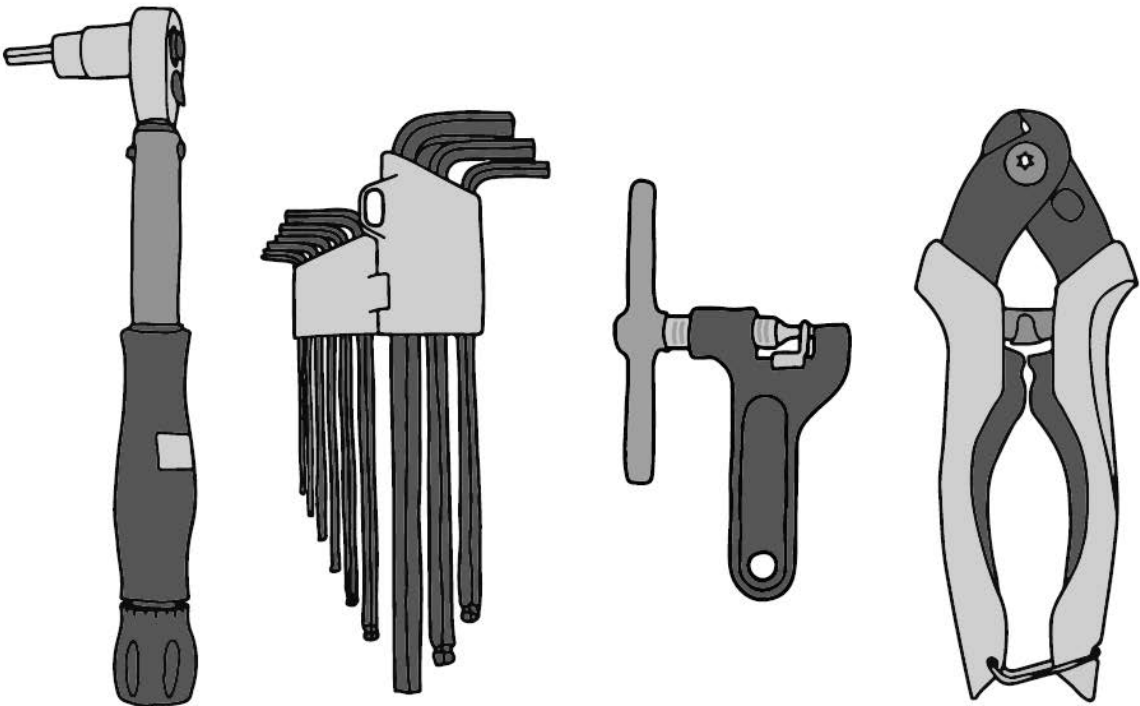
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TOOLS AND SUPPLIES

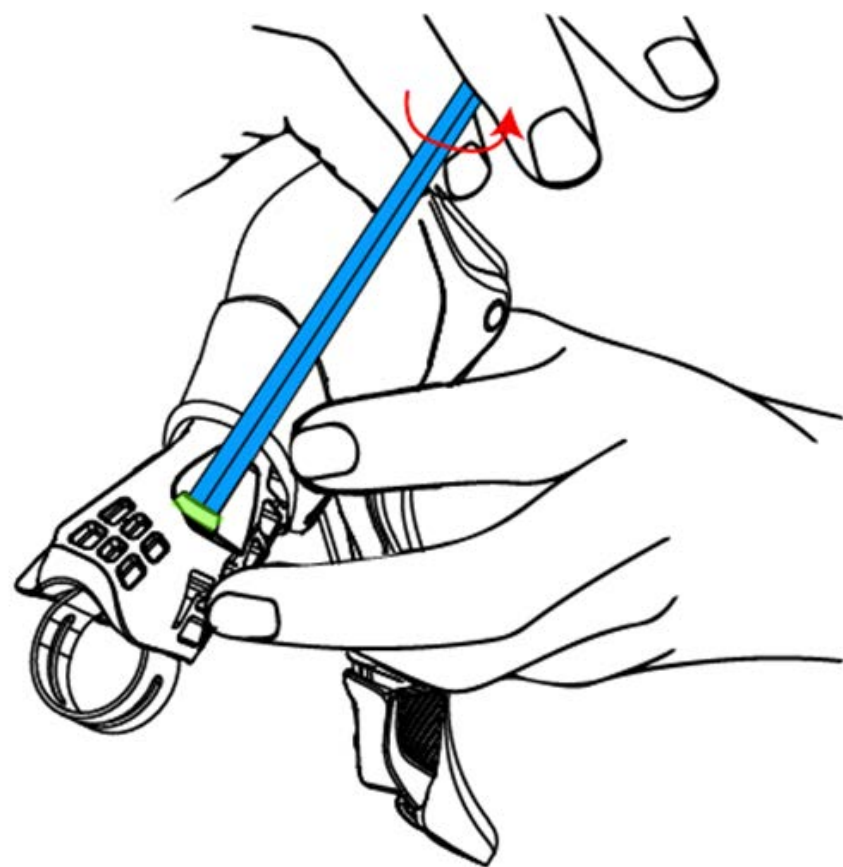
- 1 Torque Wrench
- 2 4mm Hex Bit
- 3 T15 Torx Wrench
- 4 Chain breaker
- 5 Cable cutter



MOUNT THE COMPONENTS: ELECTRONIC DROP BAR SHIFTER

1/5

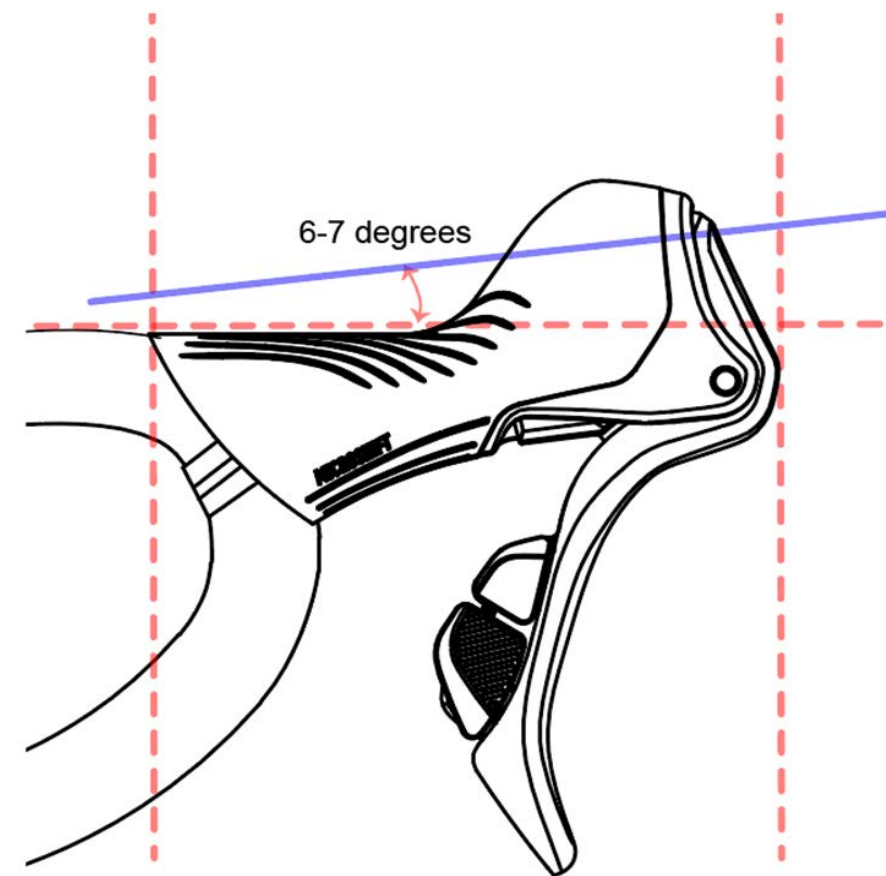
Fold the hood towards the brake lever and loosen the **attachment bolt** with a **5mm hex wrench**.



MOUNT THE COMPONENTS: ELECTRONIC DROP BAR SHIFTER

2/5

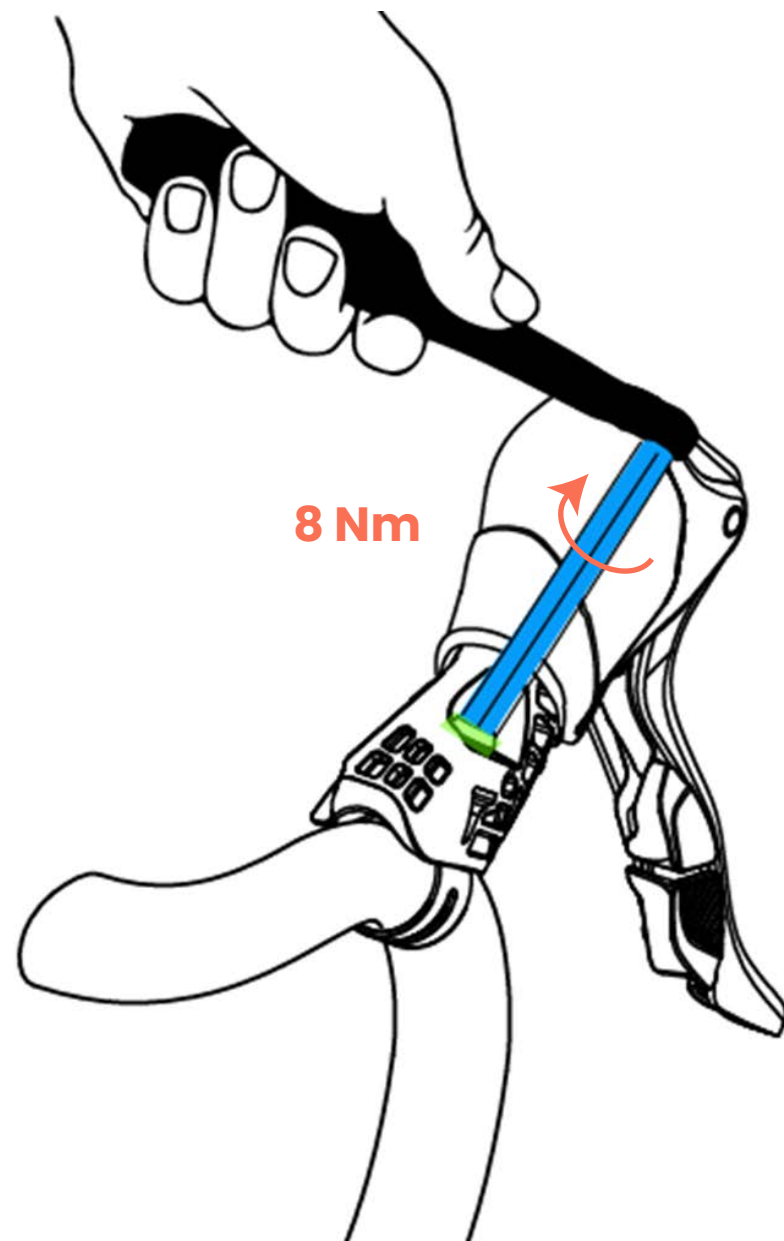
Position the remote on the handlebar in a location that will be comfortably accessible while riding. A good starting point is to form a **6-7 degrees angle** between the top surface of the controller hood with the top of the handle bar.



MOUNT THE COMPONENTS: ELECTRONIC DROP BAR SHIFTER

3/5

Tighten the band clamp to **8 Nm** and roll the hood back into place.

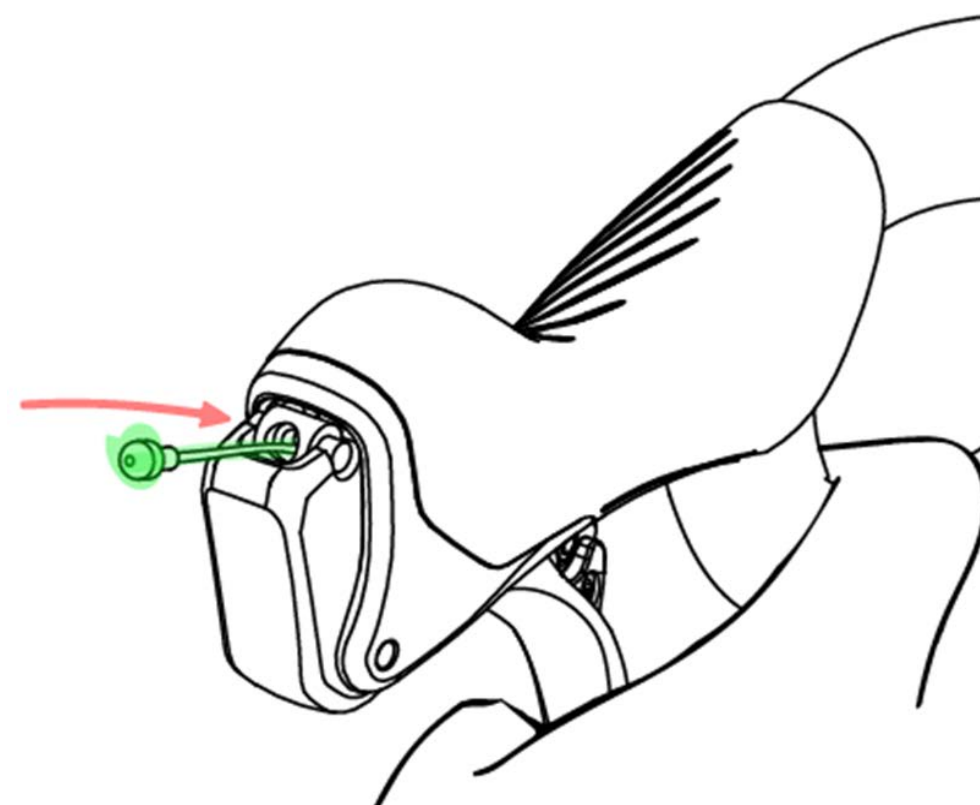


MOUNT THE COMPONENTS: ELECTRONIC DROP BAR SHIFTER

4/5

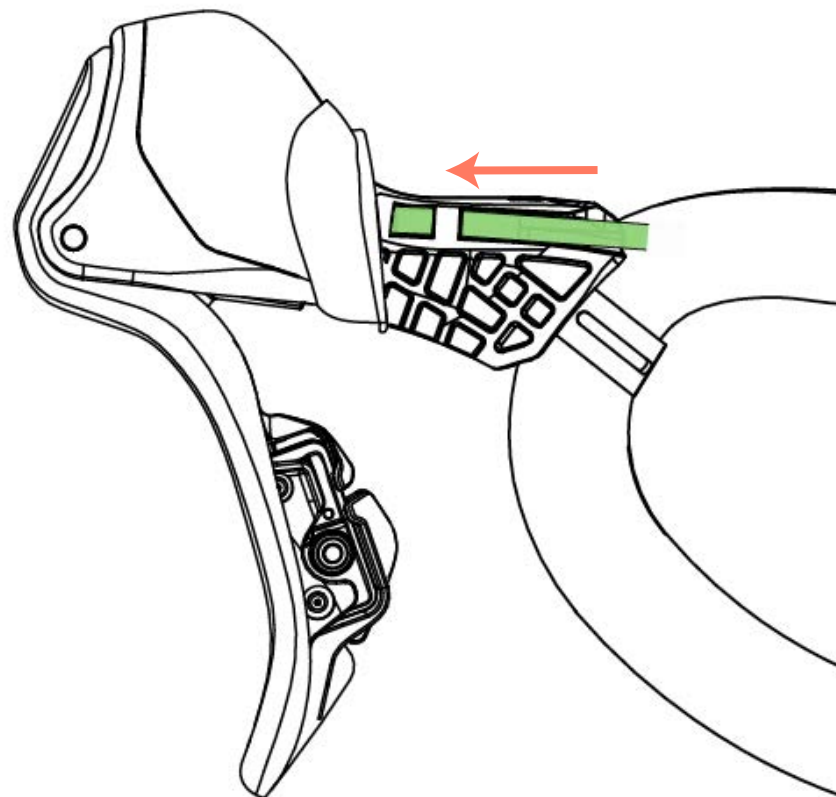
Push the brake lever towards the handlebar.

Pass the **brake cable** through the cable head seat inside the lever body and make sure the head of the cable fully seats in the lever body.



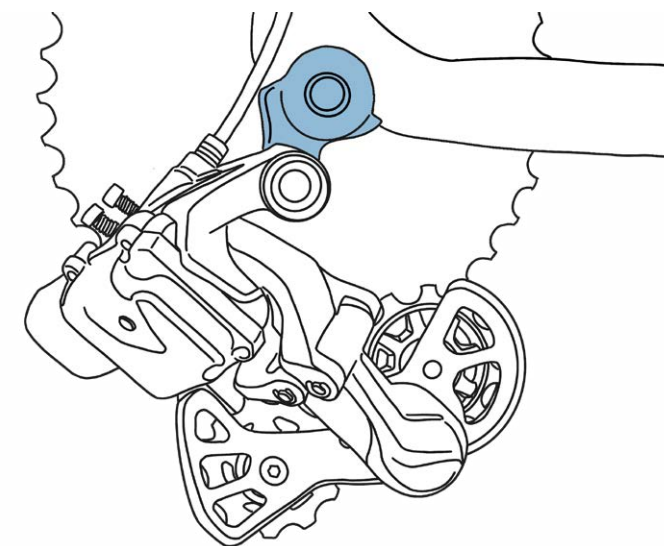
ELECTRONIC DROP BAR SHIFTER

Seat **the cable housing** in the back side of the lever body. Do not use a housing cap between the brake housing and housing stop. The brake lever is compatible with standard road brake cable pull. Follow your frame and brake manufacturer's guidelines for proper cable routing and brake setup.

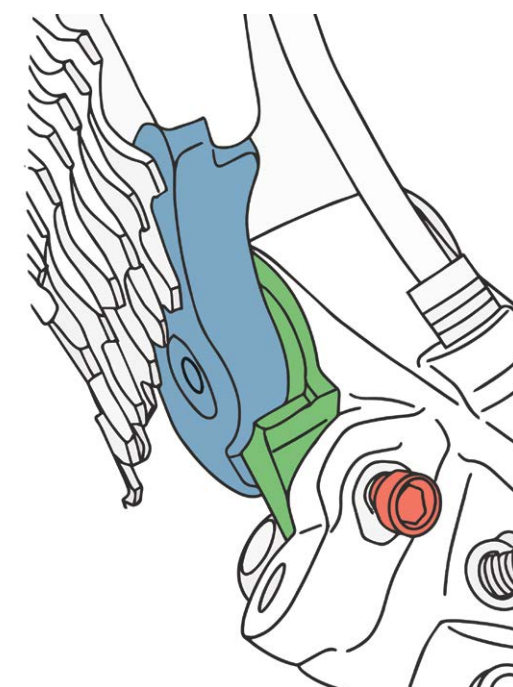


REAR DERAILLEUR

Attach the derailleur to the bike.



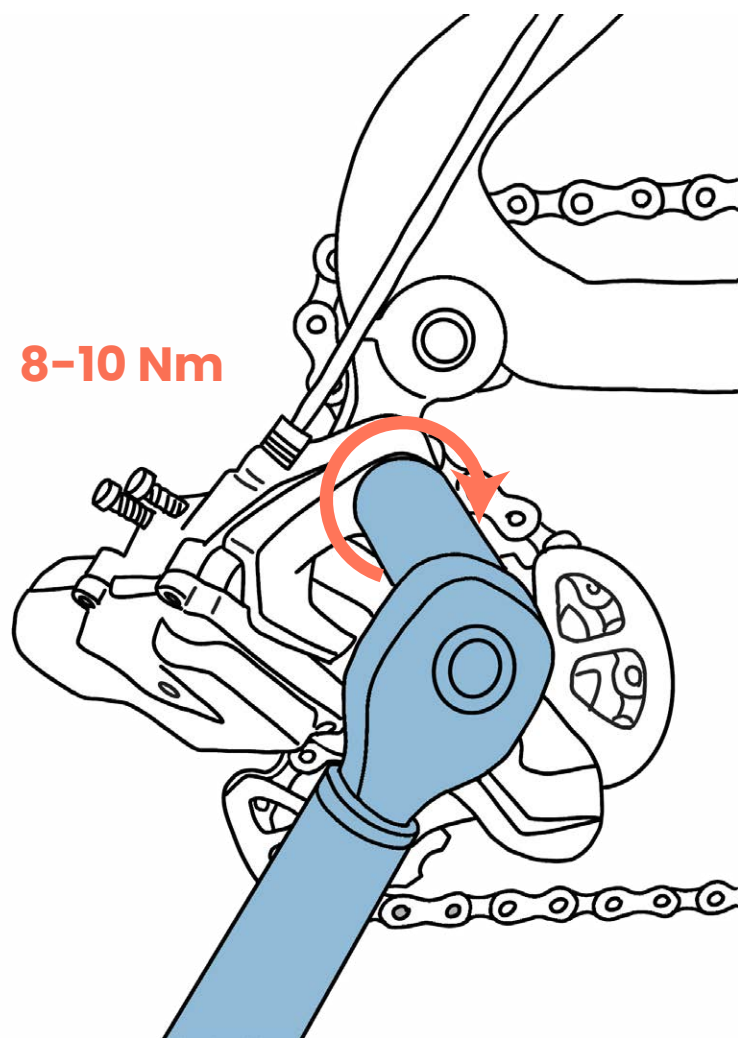
Make sure the **B-tension washer** is above the **derailleur dropout** and engages with **the B-tension adjustment screw**.



MOUNT THE COMPONENTS: REAR DERAILLEUR

2/3

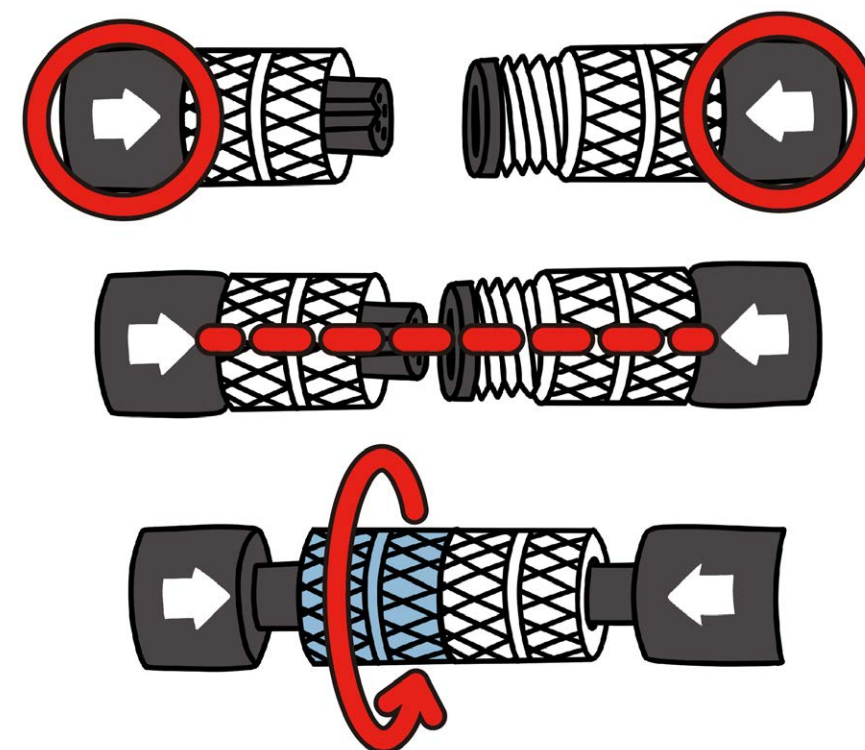
Tighten the derailleur fixing bolt to **8-10 Nm** with a **5mm hex bit**.
Check to make sure the derailleur can rotate freely.



MOUNT THE COMPONENTS: REAR DERAILLEUR

3/3

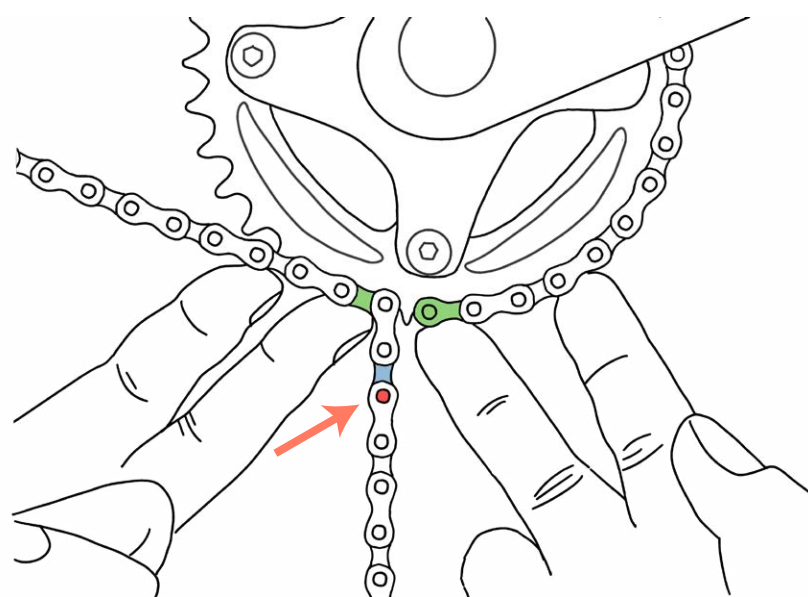
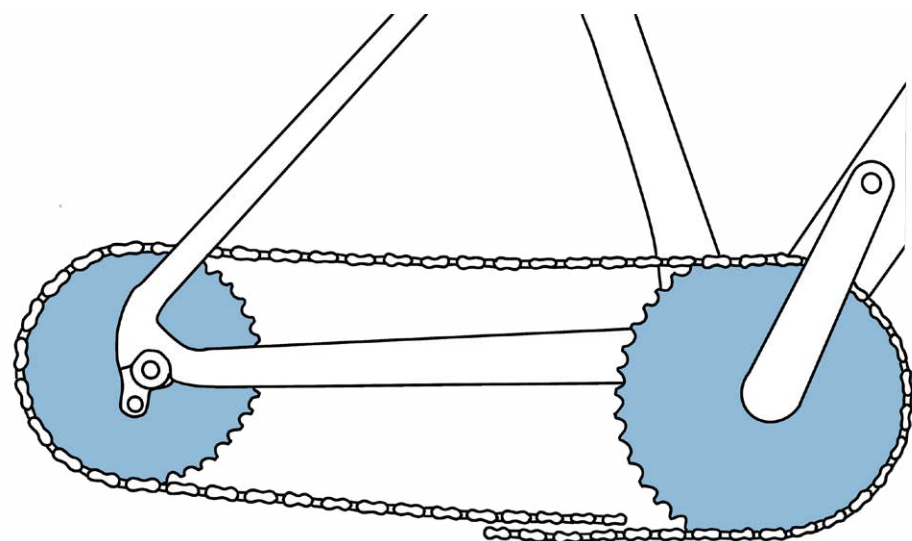
Connect the power cable from the battery to the derailleur, and ensure the cable is fully seated into the socket. Tighten **the connection** until there is no gap between the cable and the socket.



MOUNT THE COMPONENTS: CHAIN INSTALLATION

1/2

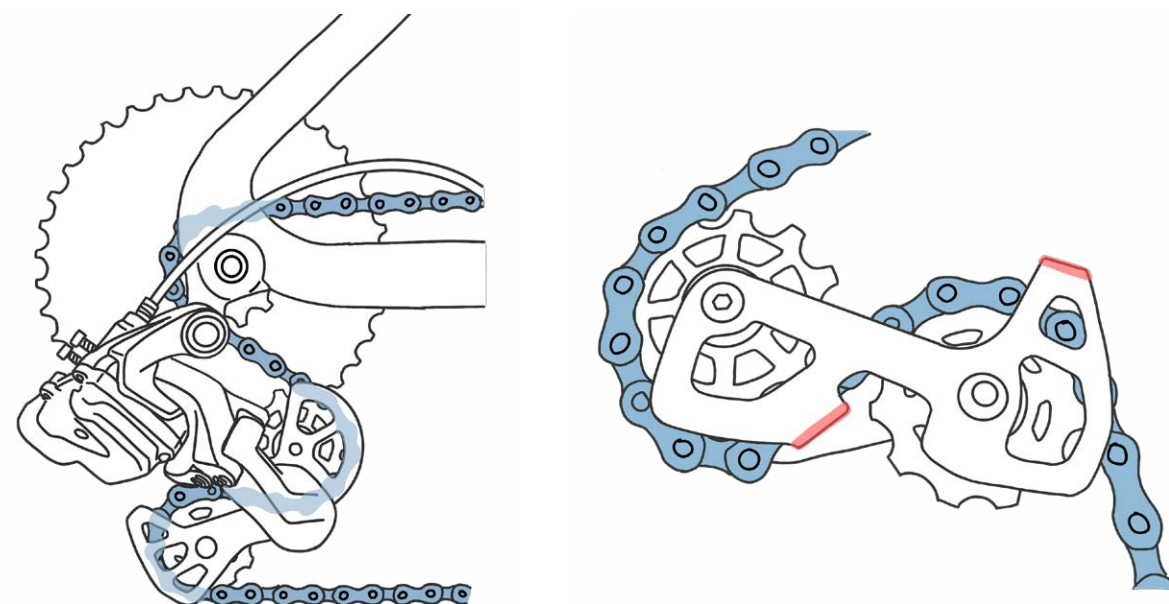
Wrap the chain around the chainring and the largest cassette cog without routing it through the derailleur. Stretch the chain tight. Place **two inner links** next to each other on the chainring. Add **one extra inner link** and **cut the chain there**.



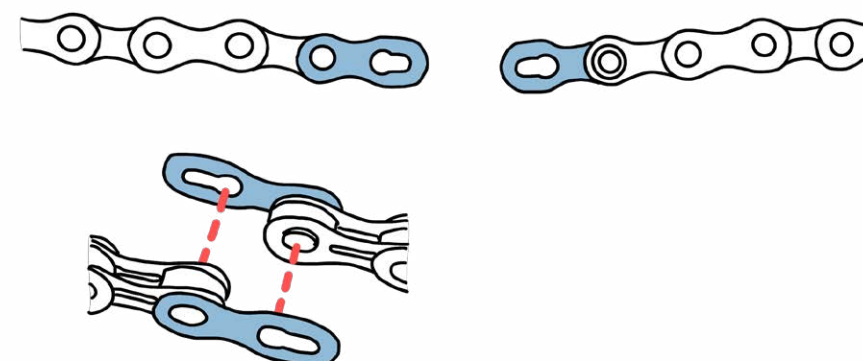
MOUNT THE COMPONENTS: CHAIN INSTALLATION

2/2

Route **the chain** over the smallest cog, in front of the guide pulley, behind **the derailment prevention plate**, and behind the tension pulley.



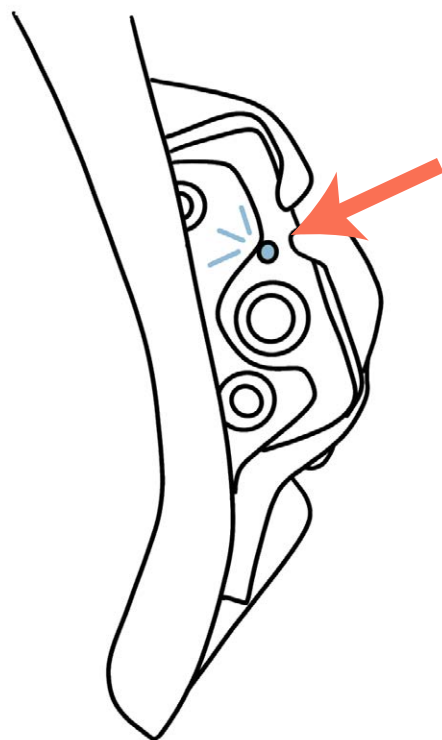
Wrap the chain around the chainring and connect the chain according to the chain manufacturer's instruction manual.



 Green –Tuning

 Blue – Pair / Unpaired

The LED mode indicator is found on the inside of the shift buttons.

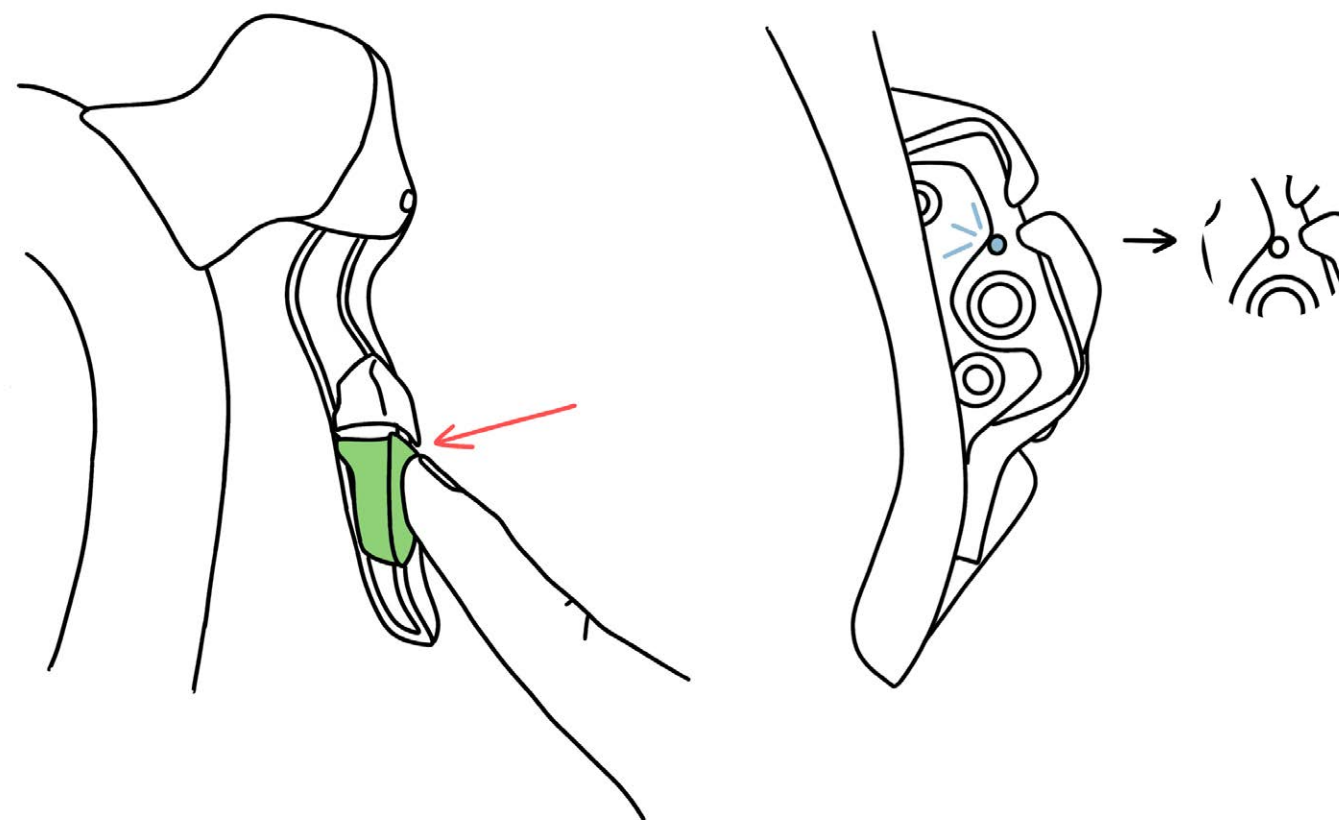


Note Before Pairing:

Make sure the rear derailleur is connected to the battery.

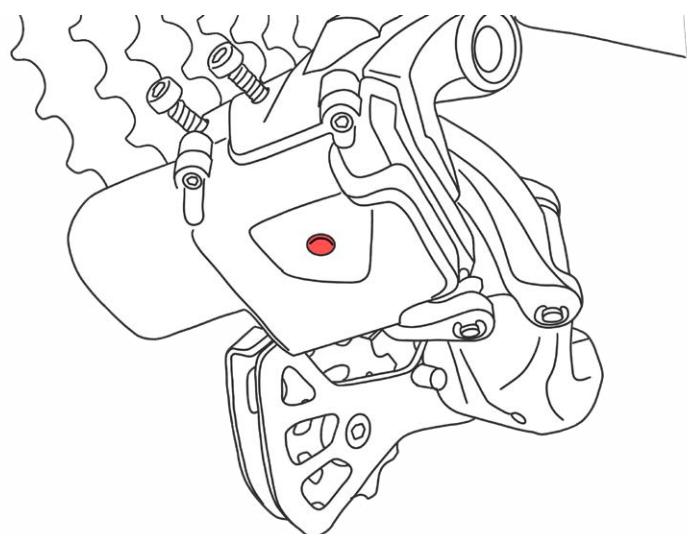
Make sure there are no other devices within a 5 meter radius from the shifter.

Checking the shifter is not paired to any device by quickly pressing the **shift buttons**. The **blue LED light** will illuminate on the back of the shift button.

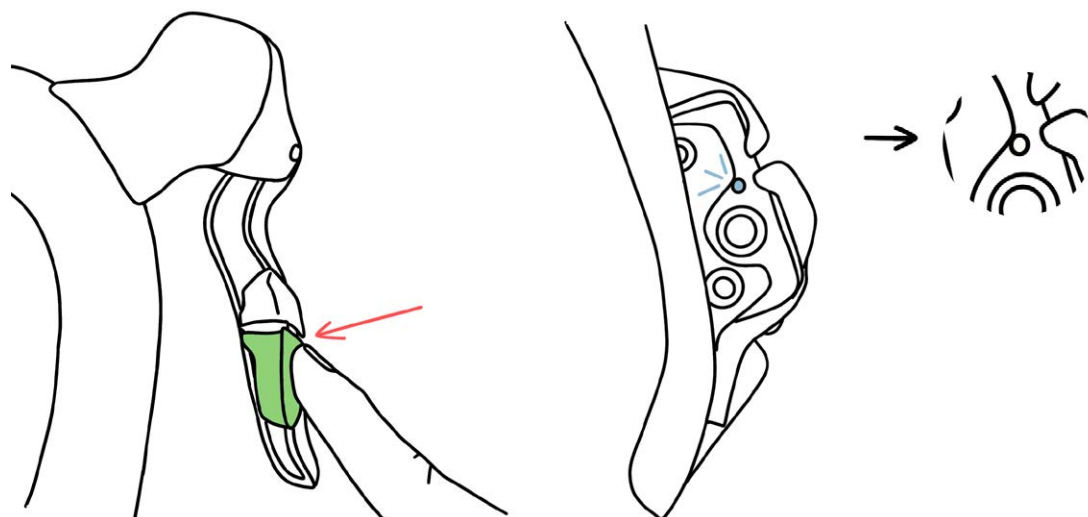


To reset the controller connection, follow the reset procedure in page 36. After the reset is completed, you can proceed with the pairing process.

Begin the pairing process by quickly pressing **the pairing button** on the surface of the rear derailleur once.



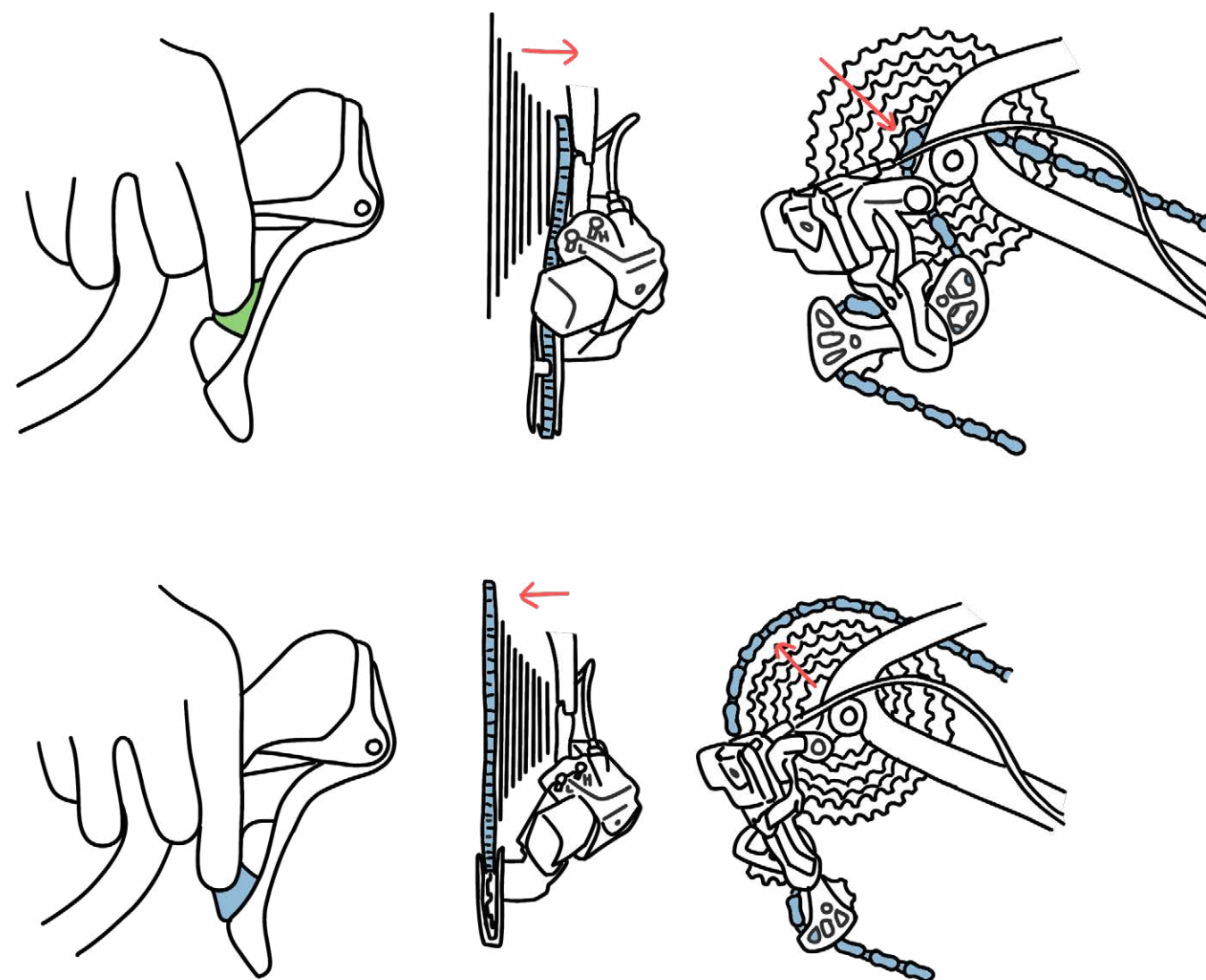
Press and hold **the lower shift button** on the drop bar shifter. The **blue LED** will light up.



After the blue light disappears, the pairing is complete with the derailleur. Check the connection by pressing the upper and lower shift buttons on the controller. The derailleur should move its position.

Note: If the process exceeds one minute, please disconnect and reconnect the rear derailleur cable, then repeat the procedure.

To operate the system, press the shift buttons on the controller. Pressing **the upper shift button** moves the derailleur towards the smaller cog. Pressing **the lower shift button** moves the derailleur towards the larger cog.

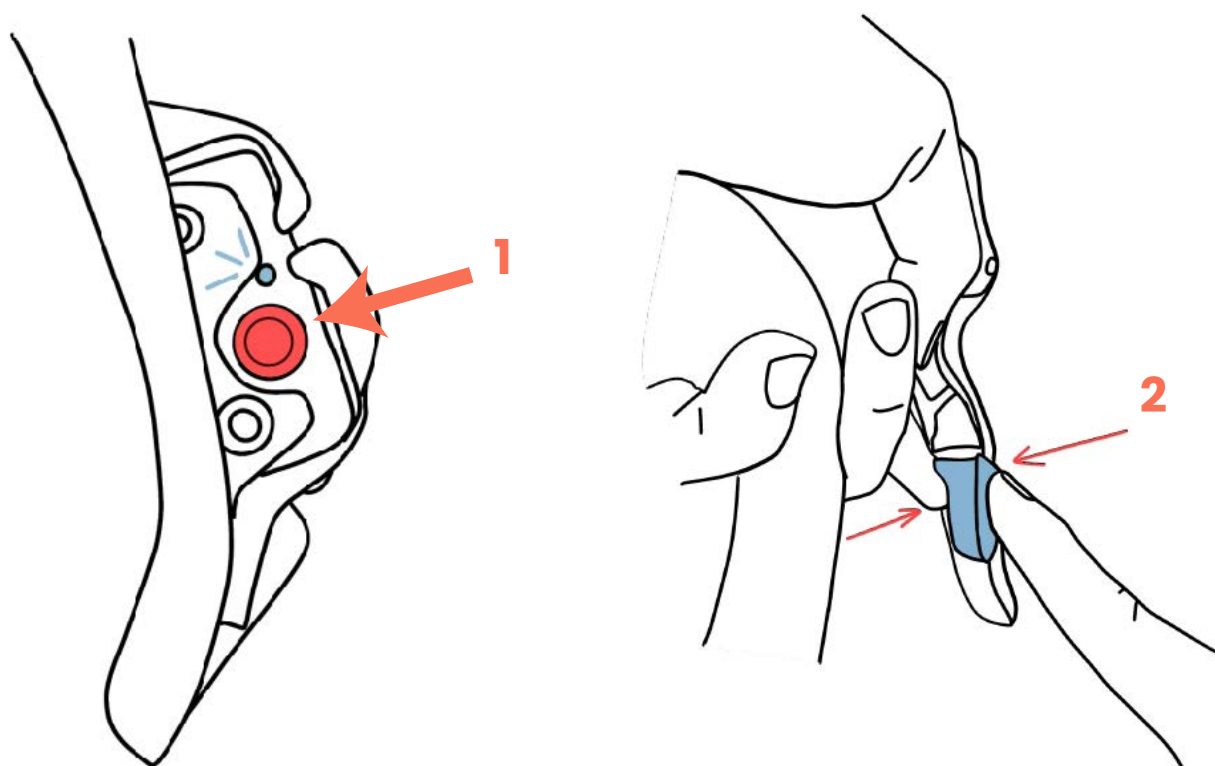


ADJUSTING THE SYSTEM: MICRO-ADJUSTMENT

Start adjusting the system by shifting the derailleur to the highest gear.

Switch the controller into tuning mode. To enter tuning mode:

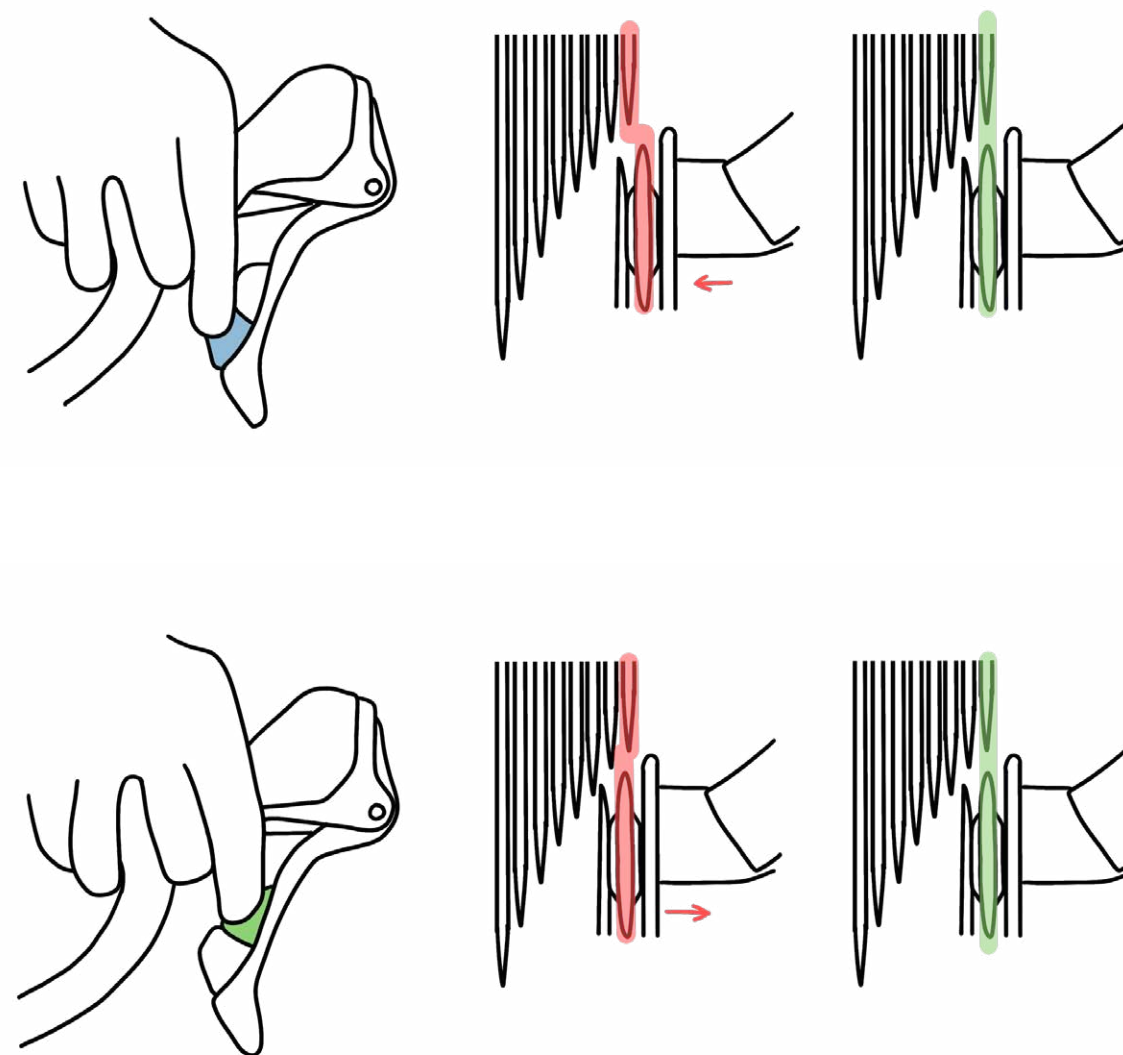
1. Press and hold **the program button** on the inboard side of the lower shift button.
2. Within 3 seconds of step 1, briefly press **the lower shift button**.



ADJUSTING THE SYSTEM: MICRO-ADJUSTMENT

Use the controller to align the guide pulley with the outer edge of the 11t cog. A quick press of **the lower shift button** will move the guide pulley towards larger cogs.

A quick press of **the upper shift button** will move the guide pulley towards smaller cogs.



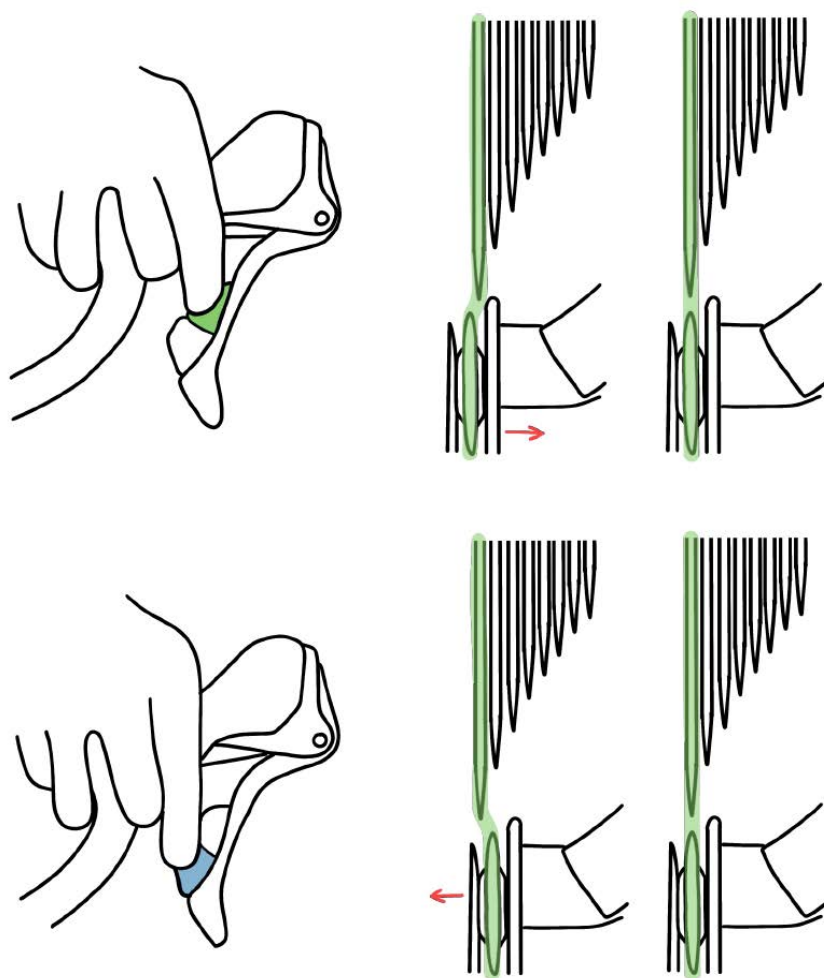
ADJUSTING THE SYSTEM: MICRO-ADJUSTMENT

Once the guide pulley is aligned, exit the tuning mode by pressing the program button then press the lower shift button. The LED light will simultaneously blink green once.

Shift through the gears and confirm if each gear engages correctly.

While spinning the drive crank arm, shift the chain up and down the cassette. If you experience interference or noise, enter the tuning mode again to adjust the derailleur.

If the derailleur is slow to shift to a larger cog, move the guide pulley towards larger cogs by pressing **the lower shift button**. If the derailleur is slow to shift to a smaller cog, move the guide pulley towards smaller cogs by pressing **the upper shift button**.

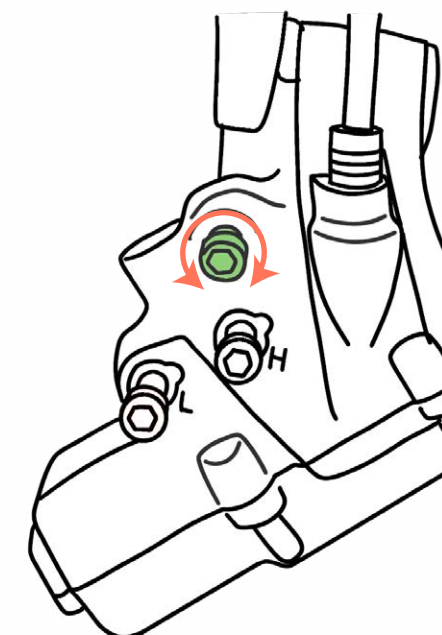
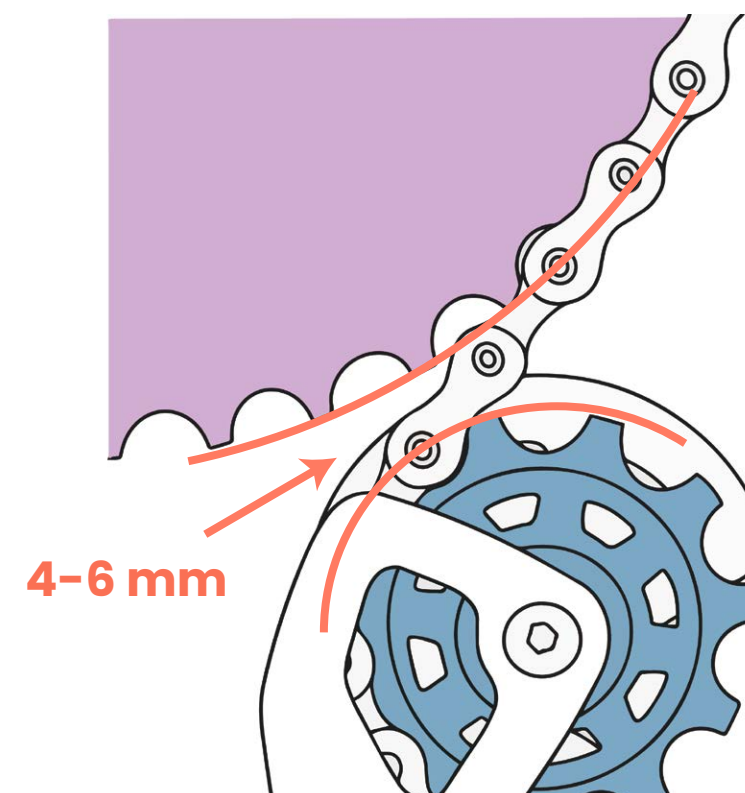


ADJUSTING THE SYSTEM: B-TENSION ADJUSTMENT

Shift to the largest cog position, use a ruler to measure the pulley gap between the guide pulley and the tallest teeth of the largest cog.

Turn the **B-tension screw** to move the pulley further or closer to the cog.

There should be a **4-6mm gap** between the **guide pulley** and the **tallest tooth of the largest cog**.



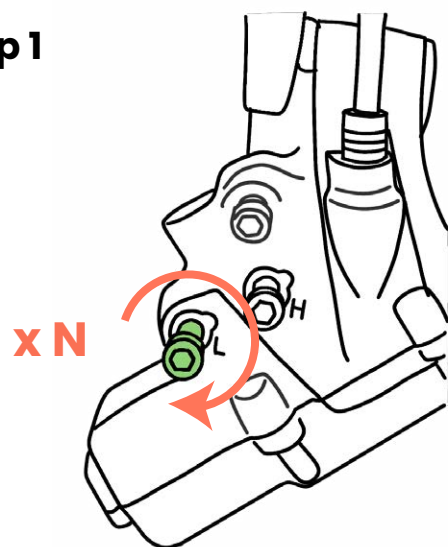
ADJUSTING THE SYSTEM: LOW LIMIT ADJUSTMENT

⚠ The motor may be damaged due to overload (irreparable)

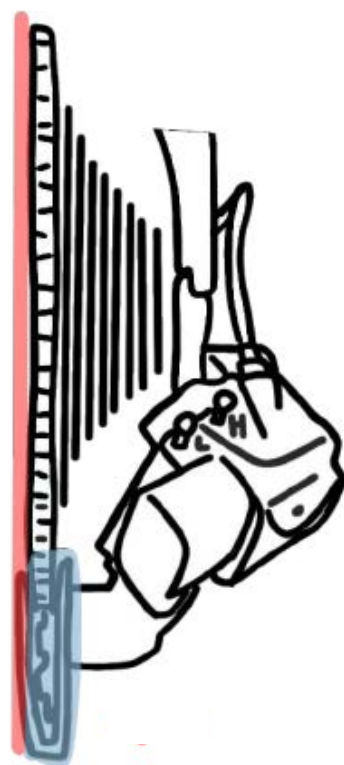
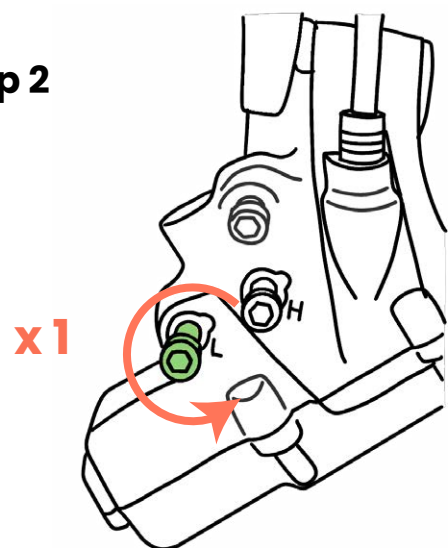
Shift to the largest cassette cog.

1. Tighten **the low limit screw** clockwise until the screw lightly contacts the derailleur.
2. Then loosen **the low limit screw** counter clockwise by one full turn.

Step 1



Step 2



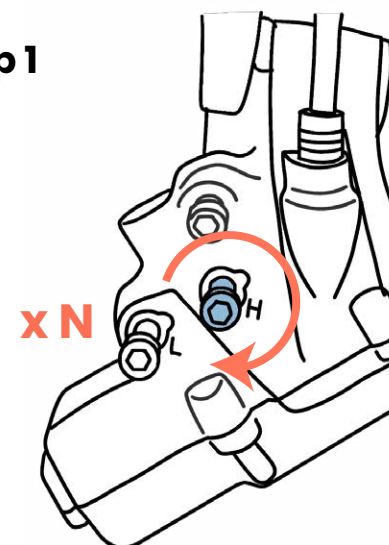
ADJUSTING THE SYSTEM: HIGH LIMIT ADJUSTMENT

⚠ The motor may be damaged due to overload (irreparable)

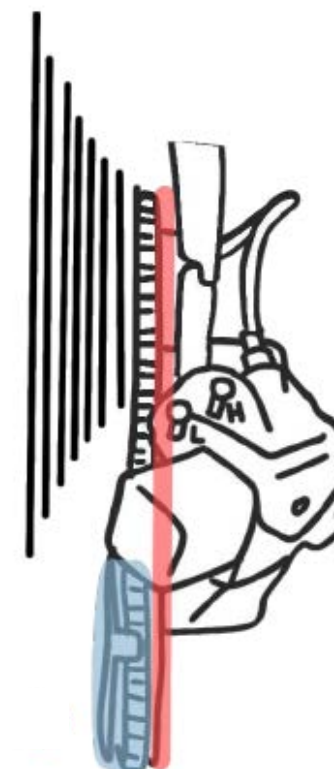
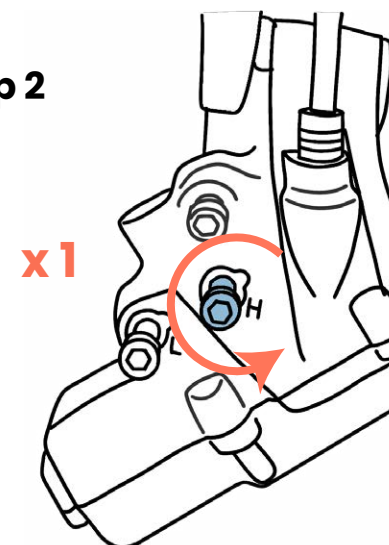
After confirming that each gear engages correctly, shift to the smallest cog.

1. Tighten **the high limit screw** clockwise until the screw lightly contacts the derailleur.
2. Then loosen **the high limit screw** counter clockwise by one full turn.

Step 1



Step 2



 Red – Recharge derailleur battery

 Yellow – Replace shifter battery

REAR DERAILLEUR BATTERY OPERATION AND STORAGE

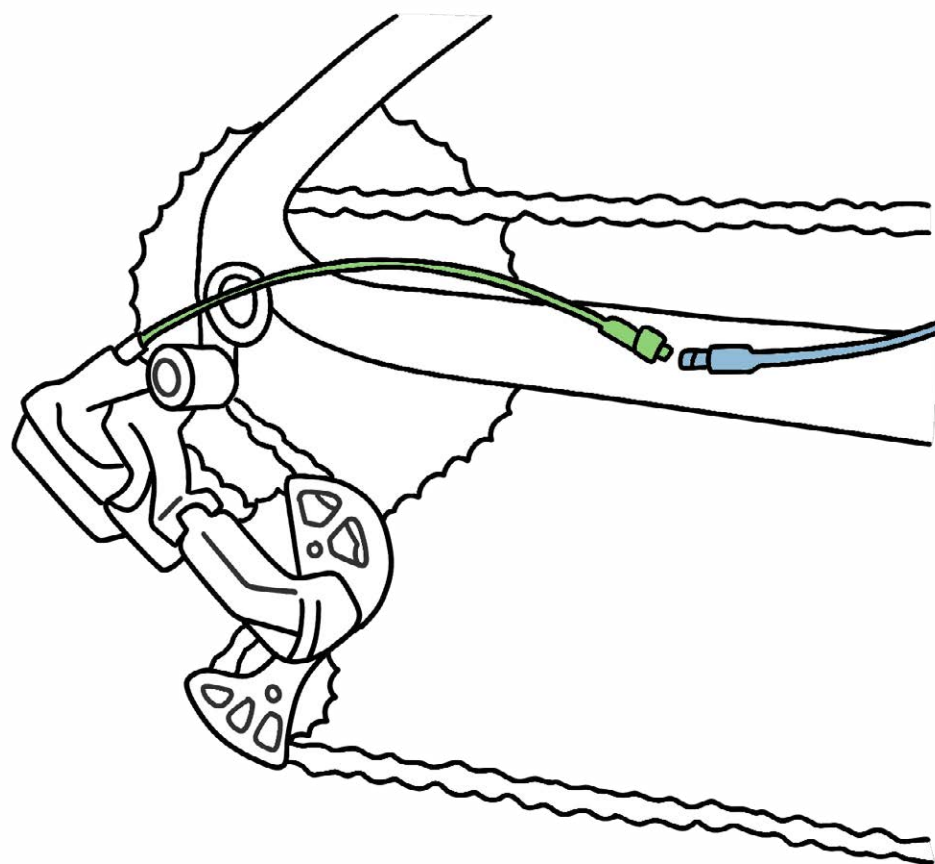
Ensure battery is operating in below conditions:

- Charging Temperature: 0 ~ +40°C (For Lithium battery pack)
- Operating Temperature: -10°C ~ +55°C
- Recommended Storage Environment: Temperature 25±2°C, Humidity ≤75% RH, Air Pressure 86-106 Kpa.

If the battery is exposed to above 55°C, battery life may decrease.

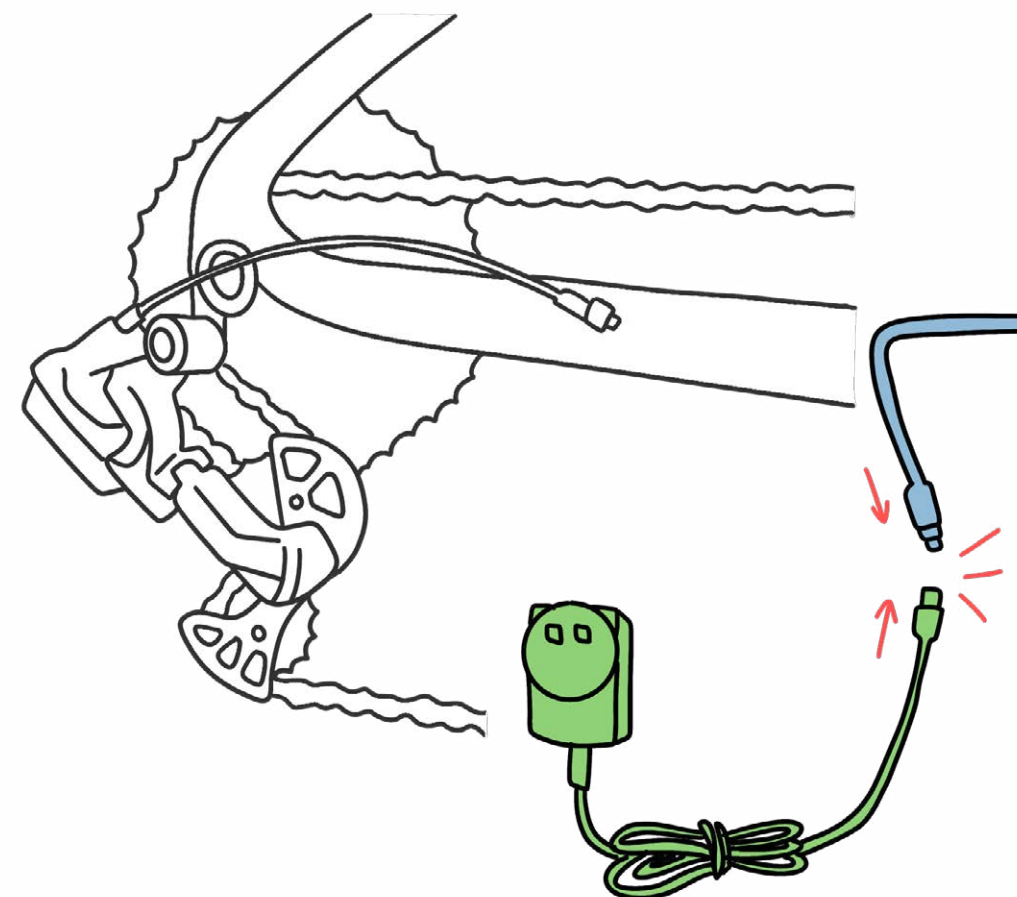
REAR DERAILLEUR BATTERY CHARGING

To charge the rear derailleur battery, disconnect the **extension cable** from the **rear derailleur connection cable**.



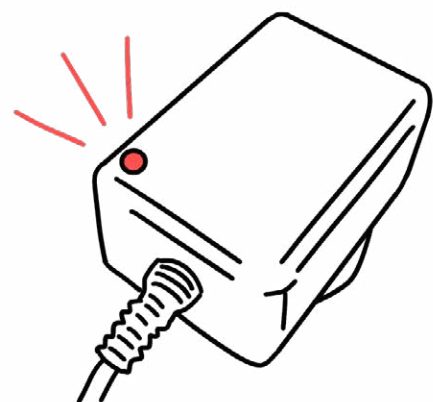
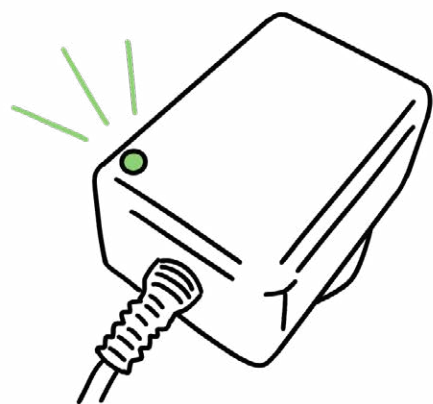
REAR DERAILLEUR BATTERY CHARGING

Connect **the charger cable (female)** to **the battery extension cable (male)**. Tighten the connector until there is no gap visible.



REAR DERAILLEUR BATTERY CHARGING

While **charging**, the LED light on the charger illuminates red.
When the **charging is complete**, the LED light turns green.



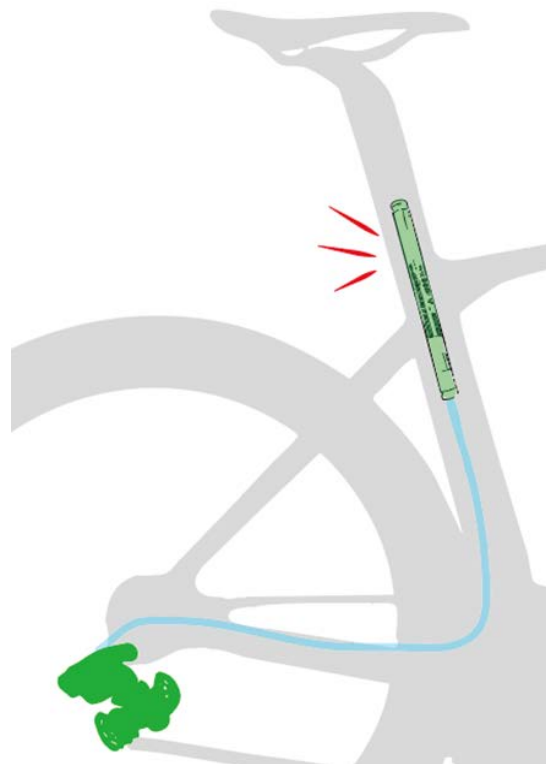
REAR DERAILLEUR BATTERY CHARGING



Unplug the cable as soon as the battery is fully charged.
Do not charge the battery in a humid or wet environment.
To unplug the cable, loosen the connector and separate the cables.
Reconnect the extension cable to the rear derailleur cable.

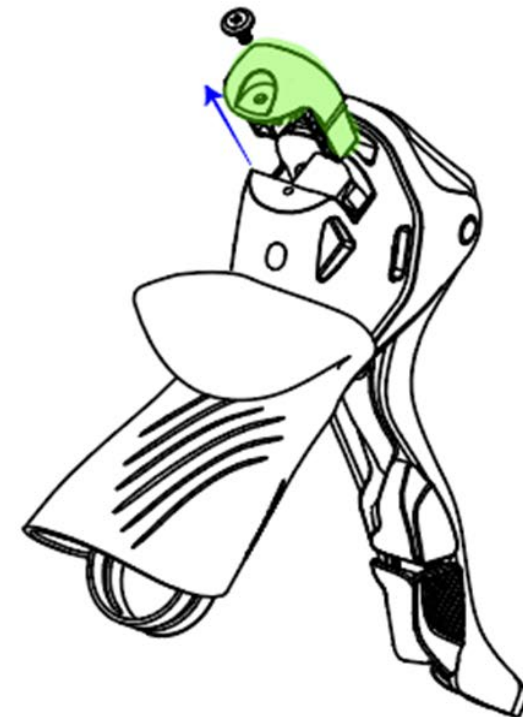
REAR DERAILLEUR BATTERY REMOVAL

The rear derailleur battery is designed to be inserted into the seat post. Follow the bike and component manufacturers' guidelines to remove the seat post from the bike. Disconnect the battery cable from the extension cable in the bike. Loosen the connector and unplug the cables. Remove the battery from the seat post by following the bike frame and mounting hardware manufacturer's guidelines.



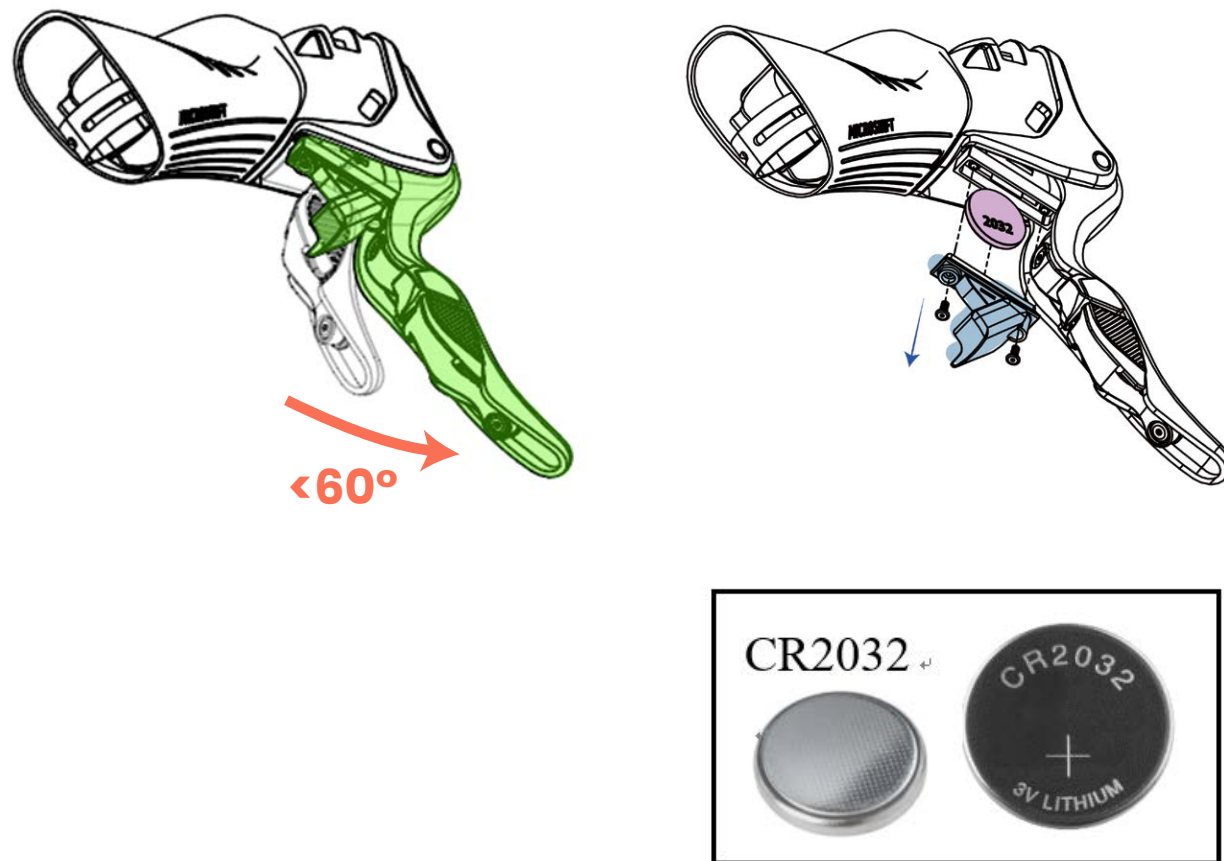
DROP BAR SHIFTER BATTERY REPLACEMENT

Unroll the hood from the shifter body to expose the top cap. With a phillips screwdriver, unscrew the top cap screw and remove the top cap.



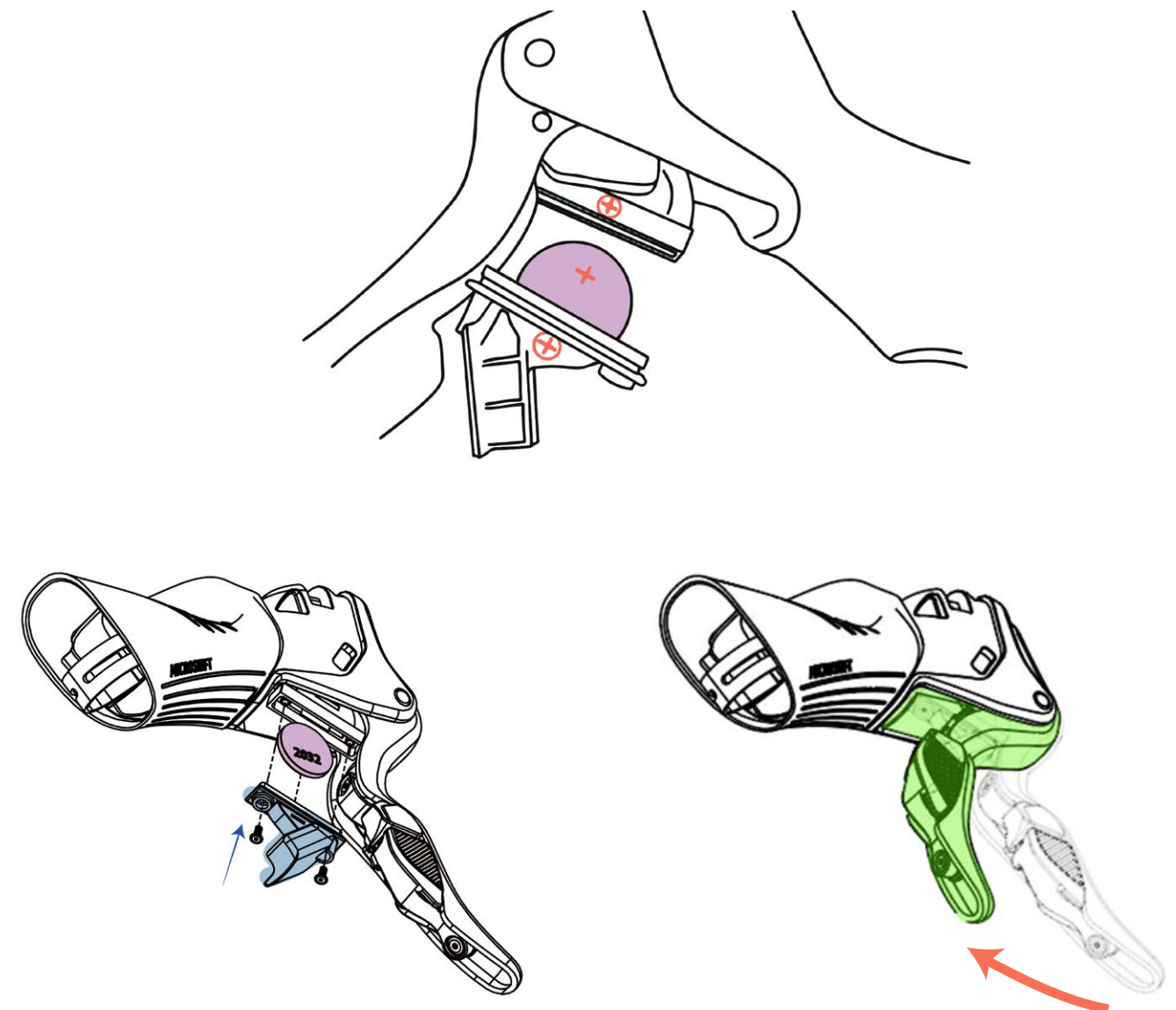
DROP BAR SHIFTER BATTERY REPLACEMENT

Push the **brake lever** forward by 60 degrees to expose the **battery cover**.
Be careful to not push the lever beyond 60 degrees as this will dislocate the return spring inside the body.
 Unscrew the 2 phillips screws from the **battery cover**. Remove the **battery cover** and remove the **CR2032 battery** from the compartment.



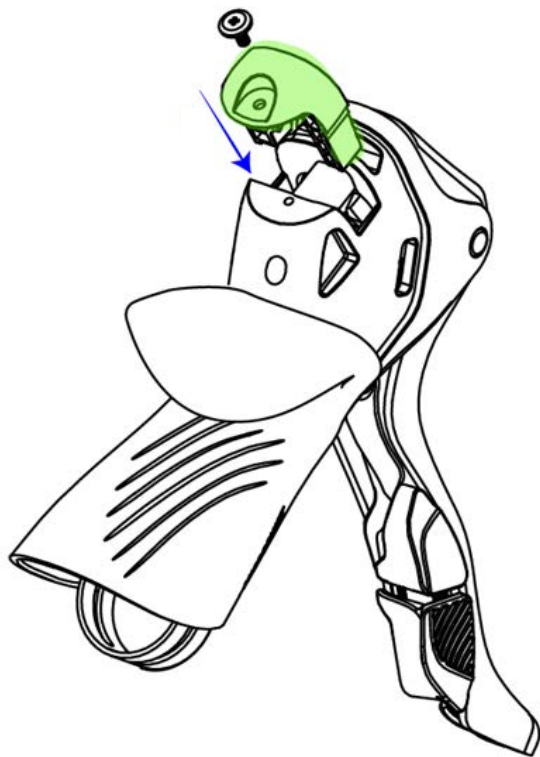
DROP BAR SHIFTER BATTERY REPLACEMENT

Insert a **new CR2032 battery** with the negative side (-) facing the shifter buttons. Check that the positive side (+) is facing the inboard side of the shifter as shown in the picture below. Reinstall the **battery cover** and tighten the phillips screws to snug (about 1.5 Nm).
 Push the **brake lever** back into position.



DROP BAR SHIFTER BATTERY REPLACEMENT

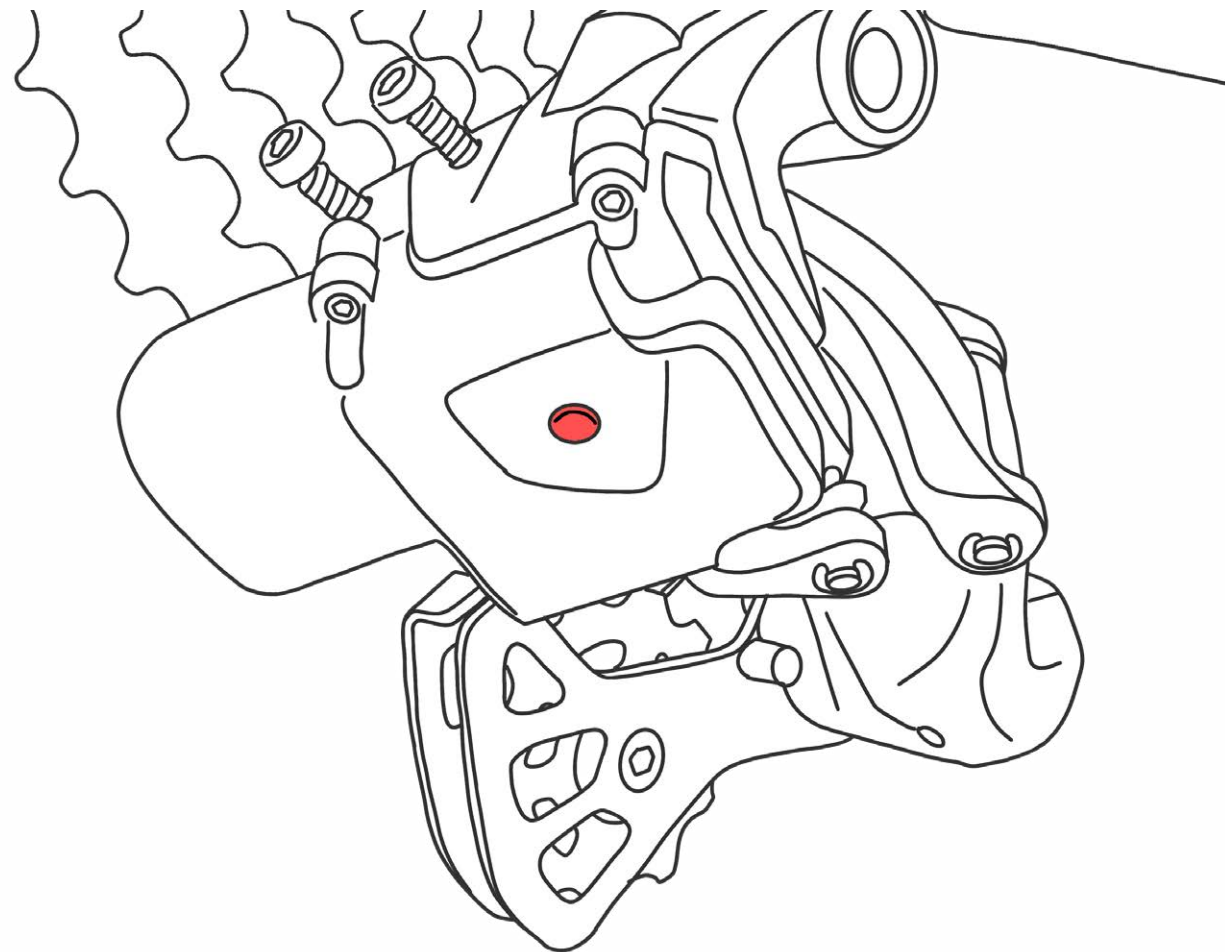
Insert the top cap into the shifter body and tighten the phillips screw to 1.5 Nm.



The LED indicator on the controller represent the following error states:

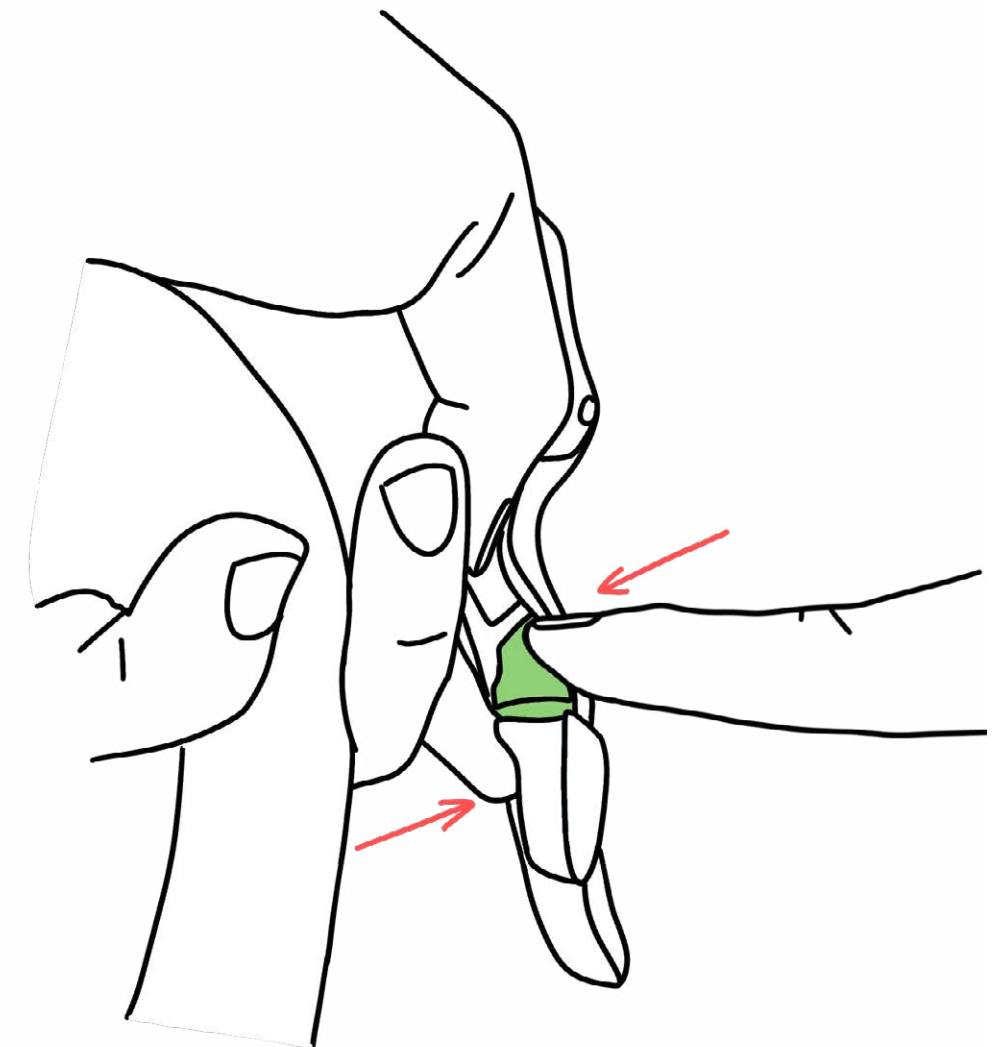
- ☐ White – The rear derailleur has a safety protection mechanism. If it detects an obstruction during a gear shift, it will revert to the original gear position. Check for device or chain interference. The system will automatically resume in 6 seconds.
- ☐ Magenta – Overload, system will auto-recover in seconds. If the magenta light persists, contact Microshift service for assistance. The system will automatically resume in 6 seconds.

The rear derailleur automatically enters sleep mode after a period of inactivity. After a longer pause, it will shut off completely. To reactivate it, simply press **the button** on the derailleur.



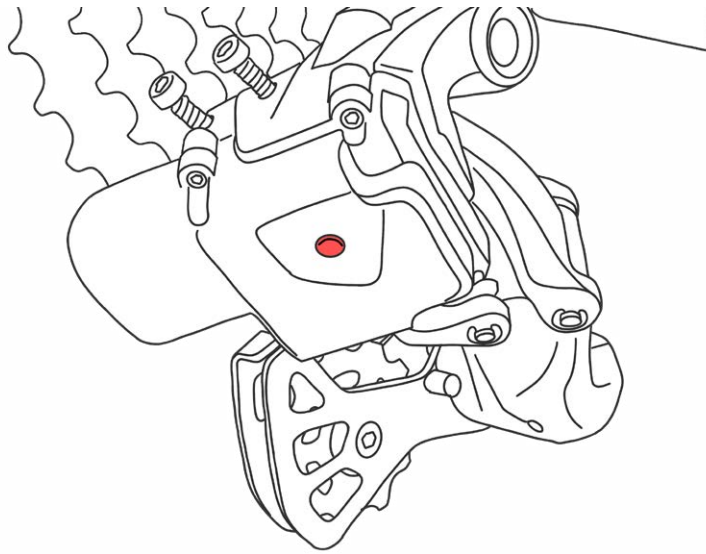
Simultaneously press and hold **the program button** and **the upper shift button** for 10 seconds.

When the blue LED lights up, the connection has been reset.

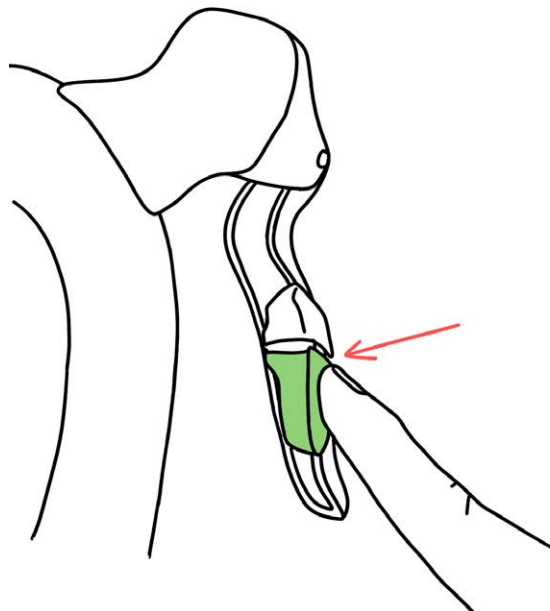


To pair the shifter and derailleur again, press the button on the rear derailleur. Then, press **the lower shift button** on the drop bar shifter. The blue LED will light up. When the blue LED turns off, pairing is complete.

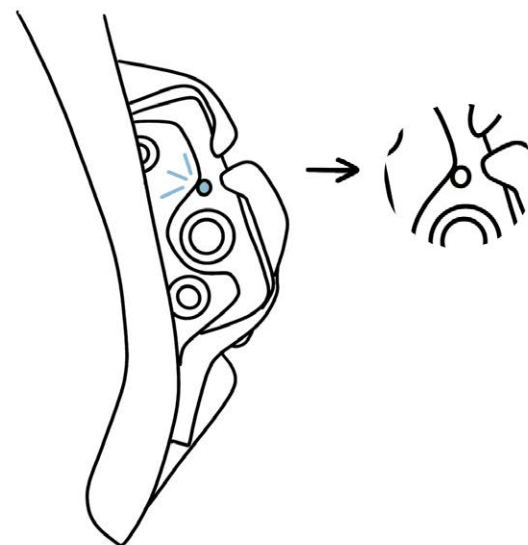
Step 1



Step 2



Step 3



4 Years: Rear Derailleur Mechanism / Brake Lever / Buttons
 2 Years: Cables / Charger / Other Electronic Components
 1 Year: Battery

Federal Communications Commission (FCC) Statement

15.105(b)
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
1) this device may not cause harmful interference and
2) this device must accept any interference received, including interference that may cause undesired operation.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

FCC RF Radiation Exposure Statement:
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. For portable operation, this device has been tested and meets FCC RF exposure guidelines. When used with an accessory that contains metal may not ensure compliance with FCC RF exposure guidelines.

ISED Statements

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada’s licence-exempt RSS(s). Operation is subject to the following two conditions:
1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L’émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d’Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes :
1. l’appareil ne doit pas produire de brouillage, et
2. l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.

Caution: Exposure to Radio Frequency Radiation
1. To comply with the Canadian RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
2. For portable operation, this device has been tested and meets RF exposure guidelines when used with an accessory that contains no metal. Use of other accessories may not ensure compliance with RF exposure guidelines.

Attention: exposition au rayonnement radiofréquence
1. Pour se conformer aux exigences de conformité RF canadienne l’exposition, cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.
2. Pour portable utilisation, cet appareil a été testé et respecte les directives sur l’exposition aux RF lorsqu’il est utilisé avec un accessoire sans métal. L’utilisation d’autres accessoires peut ne pas garantir la conformité aux directives d’exposition aux RF.

NCC
根據 NCC LP0002低功率射頻器材技術規範_章節3.8.2：
取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。
前述合法通信，指依電信管理法規定作業之無線電通信。
低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

MICROSHIFT

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