

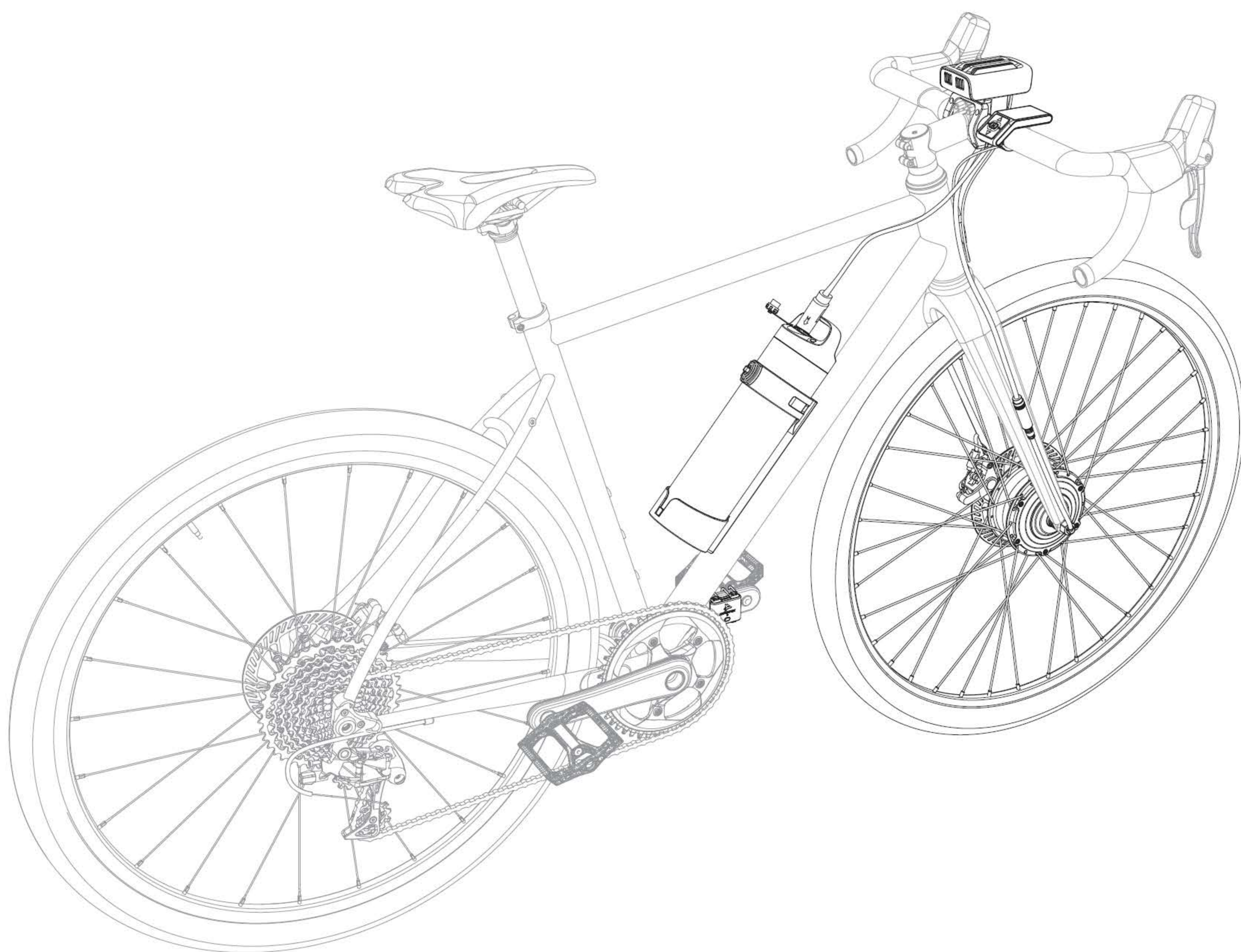
HyperFox FluxKit

eBike Power Assist System

Instruction Manual

V1.2

2026.08.25



www.hyperfoxbikes.com

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Preface

Dear User,

First of all, we sincerely thank you for choosing the HyperFox bicycle assist system. We hereby promise to provide you with excellent quality assurance and professional after-sales service, and will continue to enrich our product line to bring you the endless joy of leisure and sports cycling.

For your safety and benefit, please read this manual carefully before using the HyperFox bicycle. assist system. We shall not be liable for any personal injury, property damage or other losses caused by improper operation not in accordance with the requirements specified in this manual.

- ★ The copyright of this manual belongs to Nimbus Core Co., Ltd.
- ★ The illustrations in this manual are only for explaining the operation method or structure of the same product. In case of any discrepancy with the actual product, the actual product shall prevail.
- ★ This manual is only a general product description; please refer to the actual product for details.
- ★ Nimbus Core Co., Ltd. reserves the right to interpret and revise this manual.

Thank you very much!

Hong Kong Nimbus Core Limited.

Riding Safety and Precautions

Purpose of Riding Safety

Different types of bicycles have different functions, performance, purposes and operating points, and there are different safety factors during riding. However, no matter which model you ride, for your personal safety, please always adhere to the principle of safety first.

Riding Safety Instructions

- ☆ Please abide by the traffic regulations of the country or region where you are.
- ☆ Stay focused, watch out for pedestrians and vehicles, and give way appropriately.
- ☆ Do not ride with both hands off the handlebars, do not speed, and avoid dangerous behavior.
- ☆ Do not hold onto other motor vehicles or non-motor vehicles while riding.
- ☆ Do not touch any other objects on the road with your feet while riding.
- ☆ It is recommended not to drive at high speed. The riding speed should generally not exceed 25 km/h. When driving at high speed, braking should be done with intermittent application of the brakes. Avoid sudden braking at all costs.
- ☆ Do not wear headphones or use a mobile phone while riding.
- ☆ Do not park or stand and rest randomly in the middle of the non-motorized vehicle lanes; it is recommended not to ride on the motorized vehicle roads.
- ☆ At night, even with streetlights, the light intensity is less than 1/10 of daytime. Please reduce speed and ride carefully.
- ☆ Do not ride against the direction of traffic.
- ☆ Follow traffic lights or signs when riding, turning and parking.
- ☆ Mountain biking and long-distance road trips involve risks and uncertainties; riders need to have a high level of concentration and more professional cycling skills.
- ☆ It is recommended not to ride alone in remote areas. If unavoidable, prepare complete communication tools, carry sufficient repair tools, spare parts, identification, cash, etc.
- ☆ When riding outdoors, stay away from all animals and watch for pedestrians. Wear proper safety gear. When riding in the rain, fasten your rain poncho tightly to prevent it from being caught in the wheels or by passing vehicles. Braking performance decreases in wet conditions, so brake earlier.
- ☆ When braking, use the rear brake first or both brakes together. Braking the front wheel first may lead to serious consequences. The left brake lever controls the rear wheel; the right lever controls the front wheel.

Safety Tips During Cycling

- ☆ For your safety, you must wear a helmet, gloves and other necessary safety equipment.
- ☆ Always pay attention to traffic safety to avoid danger. Watch for vehicles, pedestrians, road conditions and weather.
- ☆ If any abnormality is found during riding, stop and check immediately.
- ☆ Maintain and inspect your bicycle promptly after riding.
- ☆ If problems occur during riding, have them repaired by professionals as soon as possible.

Safety Warning

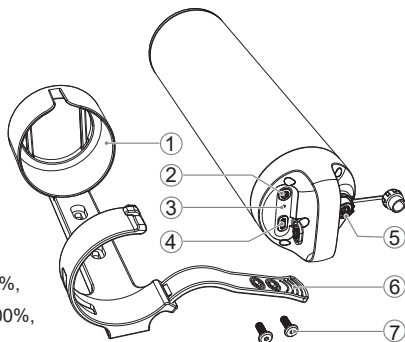
To ensure safe use of the FluxKit bicycle assist system kit, please follow these guidelines:

1. Charge the battery fully before the first use.
Before installing the kit, make sure the battery is fully charged (When charged until the power indicator light goes out).
2. Do not charge the battery unattended.
Avoid charging longer than necessary. Overcharging will shorten battery life.
3. When the battery power cable is connected to the controller's power input interface, make sure the waterproof plug of the battery power cable is properly connected and fully plugged in, and ensure the battery is installed correctly.
4. Before riding, make sure all components are securely fastened, all connection cables are properly connected and tightened, and there is no looseness.
Before riding, make sure all nuts, screws and bolts are tightened. Any loose components may cause damage to the motor during riding. Check and tighten the spokes once every 100 kilometers to ensure the hub is firmly fixed.

About the Components

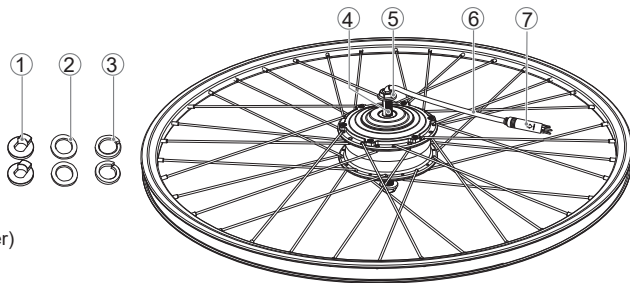
Smart Battery

1. Battery Mounting Bracket
2. Power Button: Long press for 3 seconds time
- to turn on/off the device.
3. Indicator Lights:
Red solid light — Battery $\leq 10\%$,
Yellow solid light — $10\% < \text{Battery} < 50\%$,
Green solid light — Battery $> 50\%$,
Red flashing light (charging) — Battery $\leq 10\%$,
Yellow flashing light (charging) — $10\% < \text{Battery} < 50\%$,
Green flashing light (charging) — $50\% < \text{Battery} < 100\%$,
4. Charging Port
5. Discharging Port (for connecting to controller power cable)
6. Mounting Strap
7. Mounting Screws



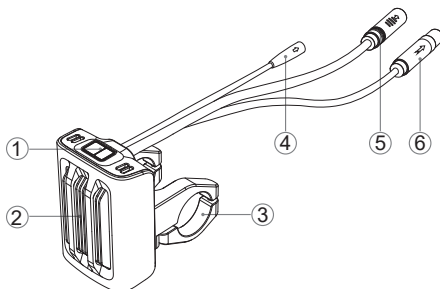
Motor

1. Torque washer
2. Washer
3. Spring washer
4. Fixed axle
5. Lock nut
6. Connecting cable (to controller)
7. Alignment mark



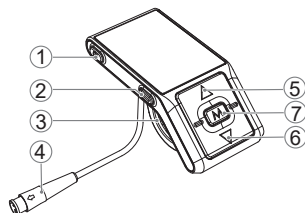
Controller

1. Forward obstacle avoidance radar
2. Heat dissipation grille
3. Mounting bracket
4. Display connector plug (male, for connecting to the display)
5. Motor output plug (female, for connecting to the motor)
6. Power input plug (male, for connecting to the battery discharge port)



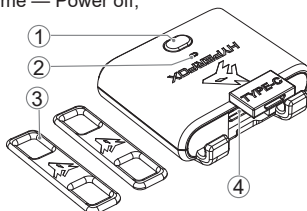
OSD

1. Power button: Long press for 3 seconds time to turn on/off the device.
2. Function button: Short press — Switch OSD pages,
Double click — Adjust OSD brightness (cycle through 3 levels),
Triple click — Switch mileage unit (km/mile).
3. Mounting clamp
4. Connector plug (connects to OSD connector on controller)
5. Up button: Short press when powered on — Increase assist level.
6. Press the bottom key: In the powered-on state, briefly press the — key to reduce the assist level.
7. M key: For pairing of the IMU motion sensor.



IMU Motion Sensor

1. Power button: Short press — Power on (green flashing: Bluetooth connected; red solid: Bluetooth not connected); Long press for 3 seconds time — Power off;
Double-click — Enter pairing mode, indicator flashes red.
2. Status indicator: Red flashing — Pairing mode,
Green flashing — Bluetooth connected / Charging,
Green solid (charging) — Fully charged,
Red solid — Bluetooth not connected.
3. Mounting strap
4. Type C charging port

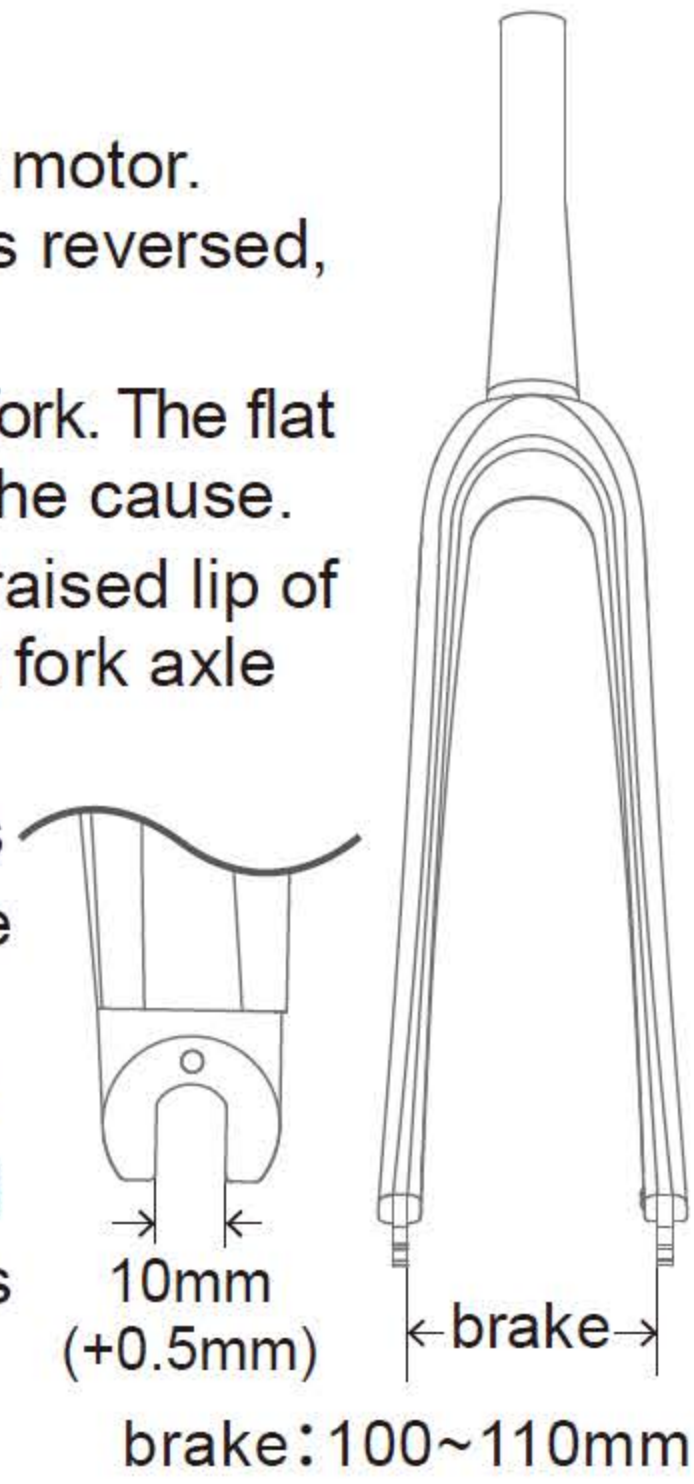


Tip: The device supports automatic wake-up via motion sensing. Frequent power on/off is not required in daily use. It will automatically enter sleep mode after being idle for 10 minutes to save power. When pedal movement is detected in sleep mode, the device will automatically wake up and return to normal operating mode.

Installation

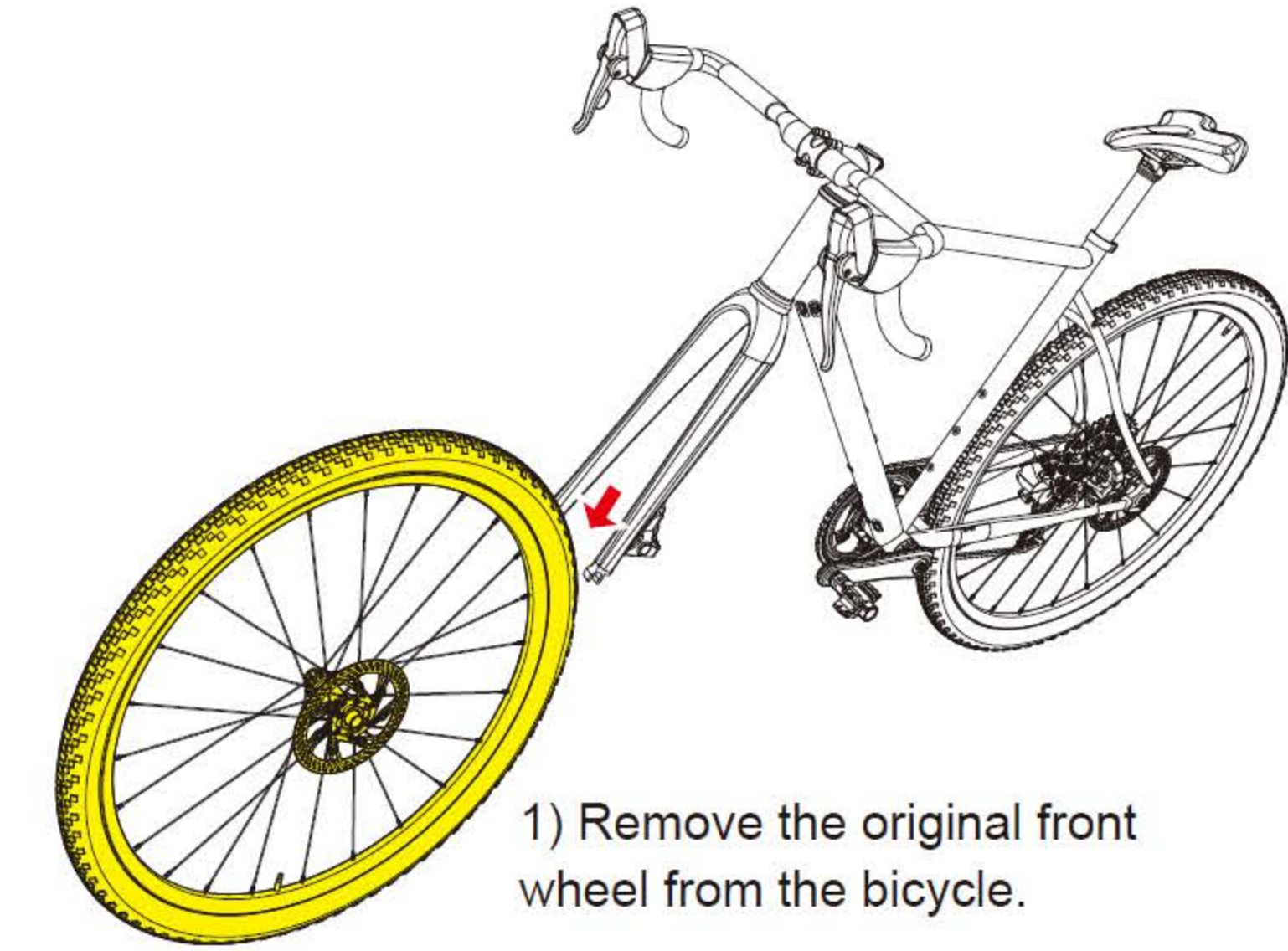
! Notes:

1. When installing the motor, it is necessary to check and confirm the orientation of the motor. The motor connection line should be on the right side of the bicycle. If the direction is reversed, the hub will rotate in the opposite direction, which may damage the motor.
2. When installing the motor, ensure the fixed axle is fully seated into the axle slot of the front fork. The flat side of the fixed axle must fit into the slot. If it cannot be installed properly, troubleshoot the cause.
3. When installing the motor, install the torque washer into the front fork axle slot. The raised lip of the torque washer must fit into the front fork axle slot(required opening width of front fork axle slot: 10 mm).
4. After the installation is completed, it is necessary to check whether the motor rotates normally. Rotate the motor wheel by hand to check if it can rotate freely. Keep the tire straight and centered, and do not deviate left or right or collide with it. If there is any contact, please troubleshoot the cause of the fault. The wheel should be more difficult to turn backward than forward. If it is the opposite, it indicates that the motor is installed in the wrong direction; if the motor housing contacts the front fork, additional spacers (the front fork requires an opening of 100mm to 110mm) should be added.
5. Adjust the brakes if necessary, then test that they function properly. Follow the bicycle manufacturer's instructions for brake adjustment.
6. Use the provided cable ties to secure the motor cable to the front fork, and secure the cables for the button module, display module, and controller to the frame. Leave enough slack to allow the handlebars to turn freely.

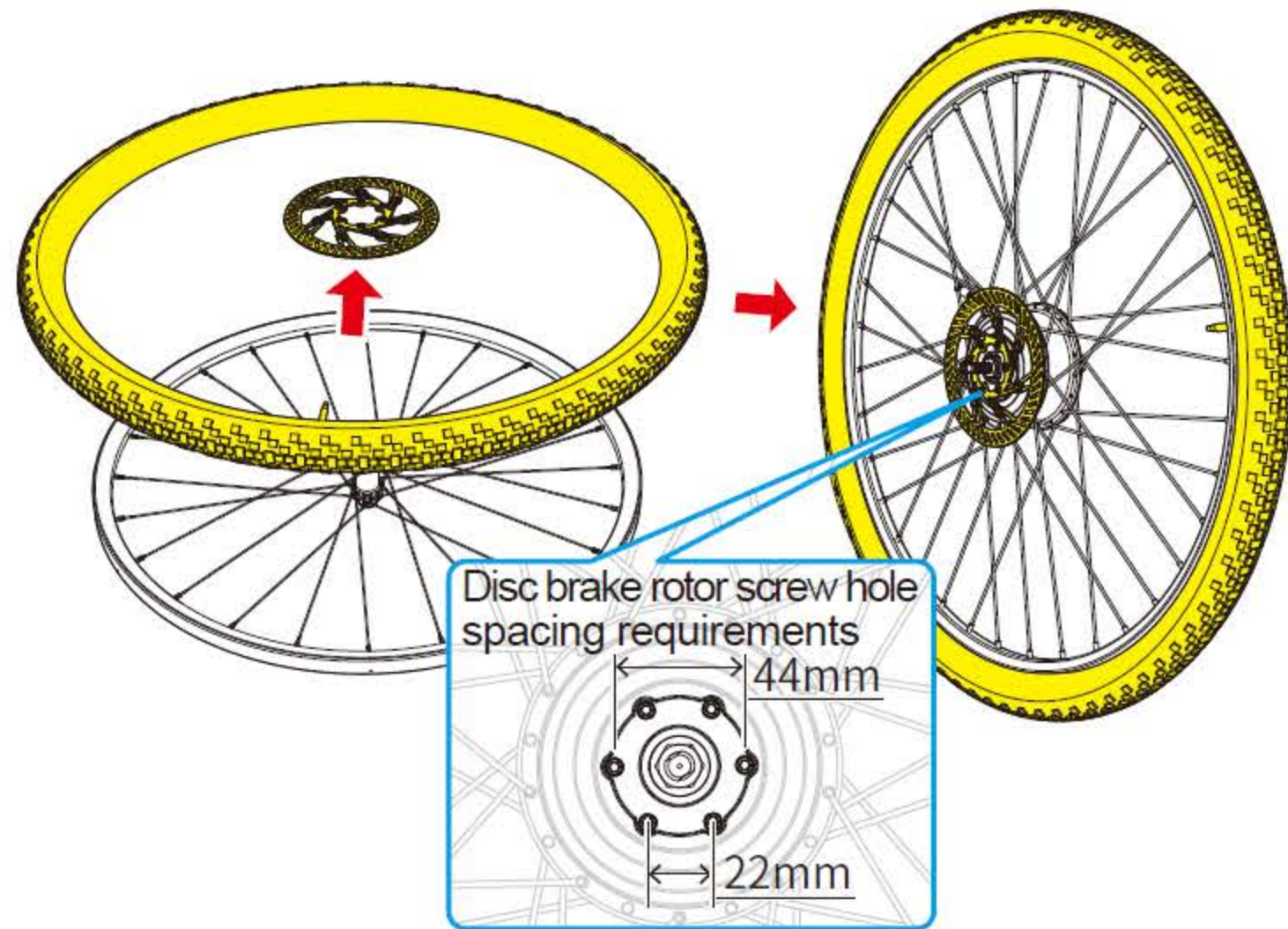


Install the Motor

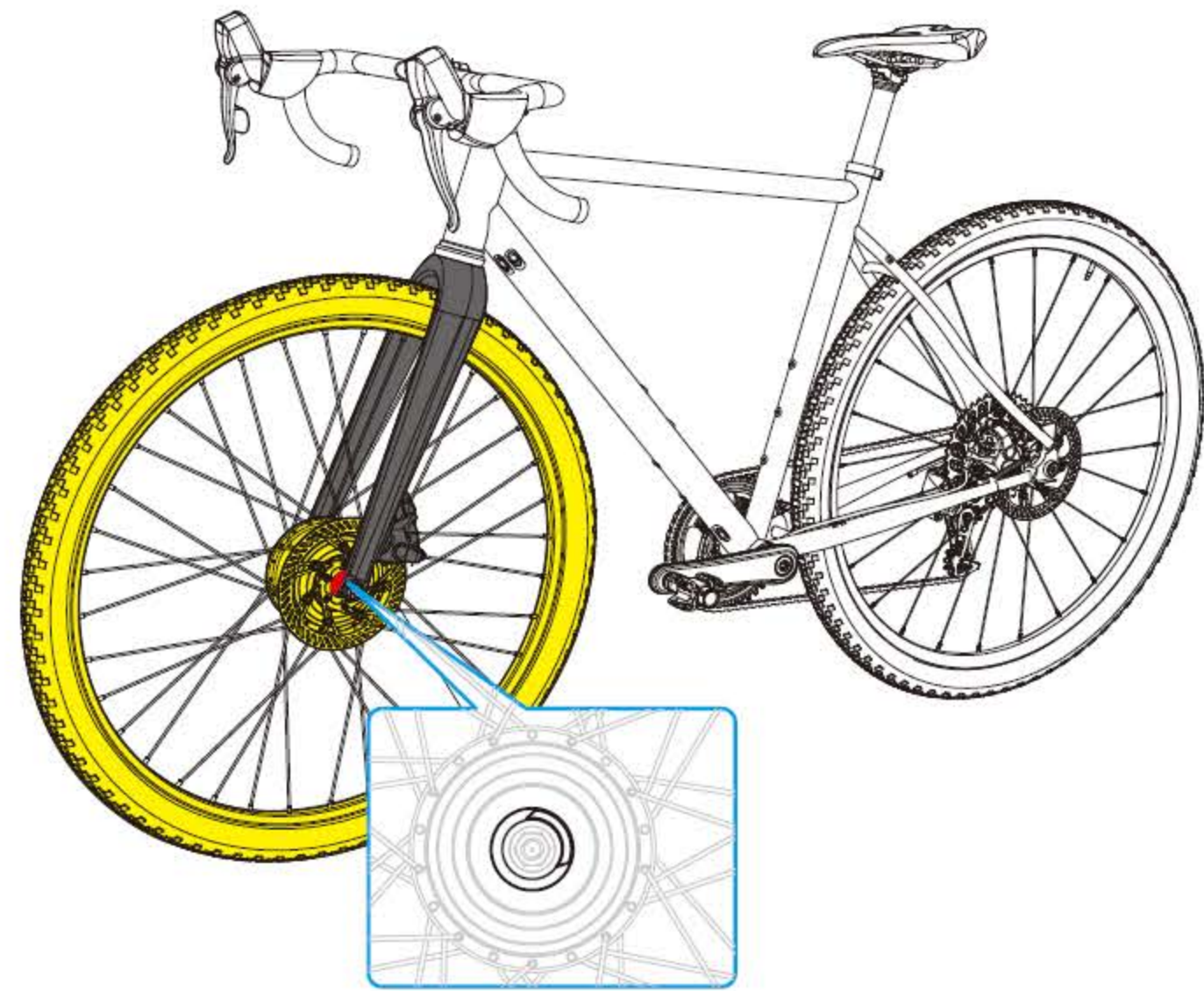
1. Install the open fork motor



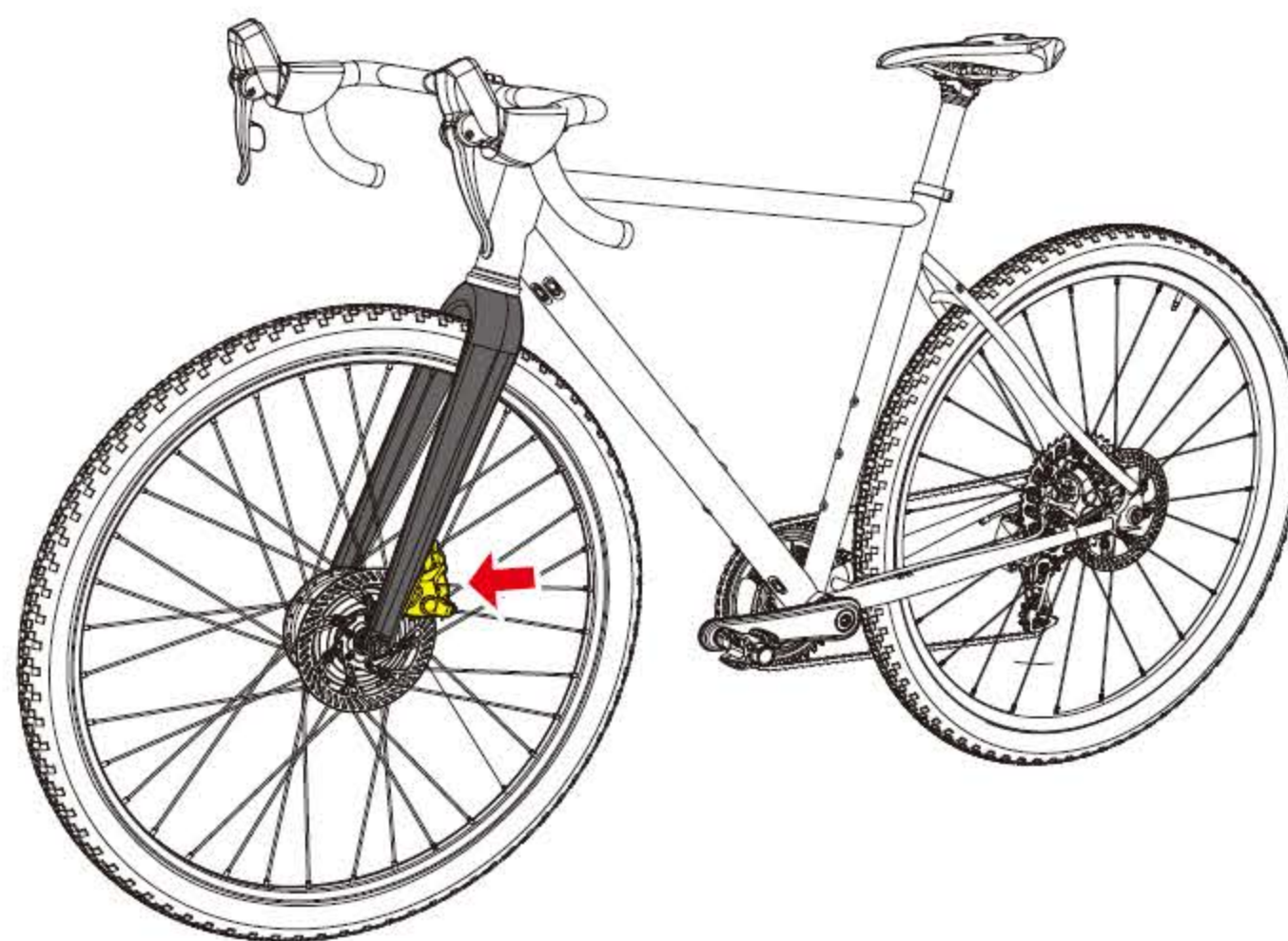
1) Remove the original front wheel from the bicycle.



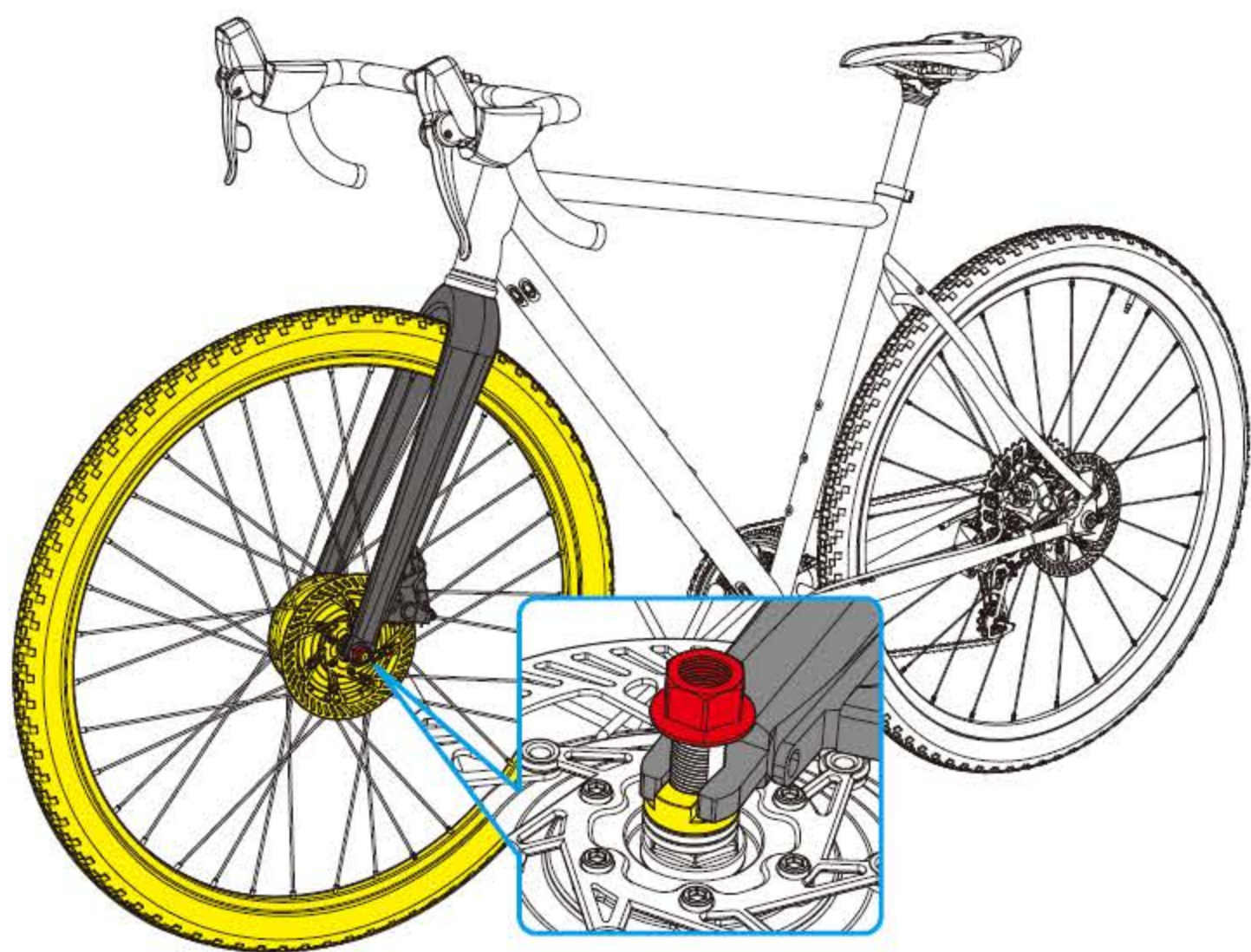
2) Remove the original disc brake rotor (if equipped) and tire from the stock front wheel, then install them onto the motor. (If the tire has a directional tread pattern, be sure to install it in the correct direction.)



3) If the opening is 110mm, then before installation, add an additional washer on both sides of the motor to fit the opening. If the opening is 100mm, proceed to the next step.

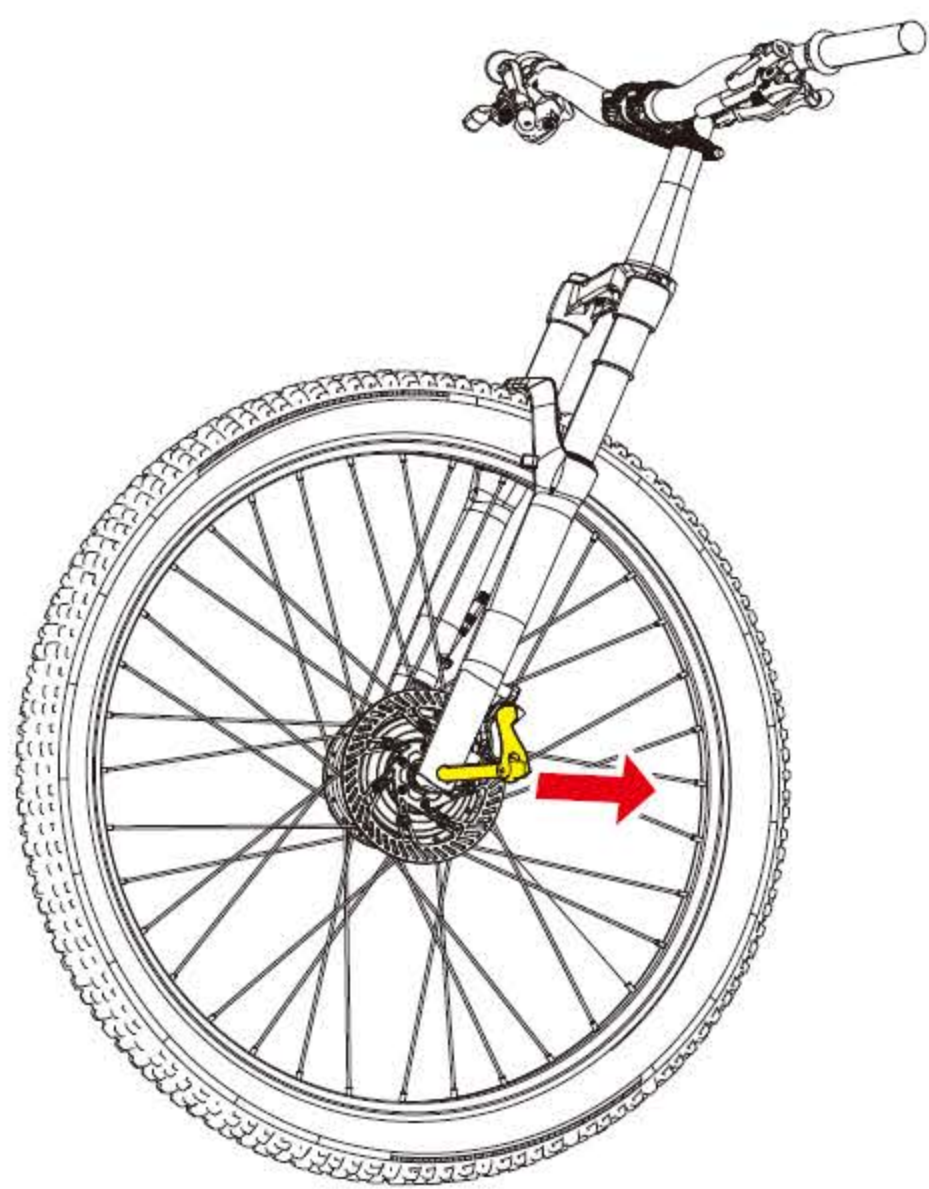


4) Brake adjustment: After ensuring the wheel hub is installed properly, rotate the wheel hub to check if it rubs against the disc. If there is rubbing, loosen the two screws of the brake seat to move it in and out for adjustment. Rotate the wheel hub so that the brake disc is located in the middle of the gap between the brake pad and the brake ring. Then tighten the screws.

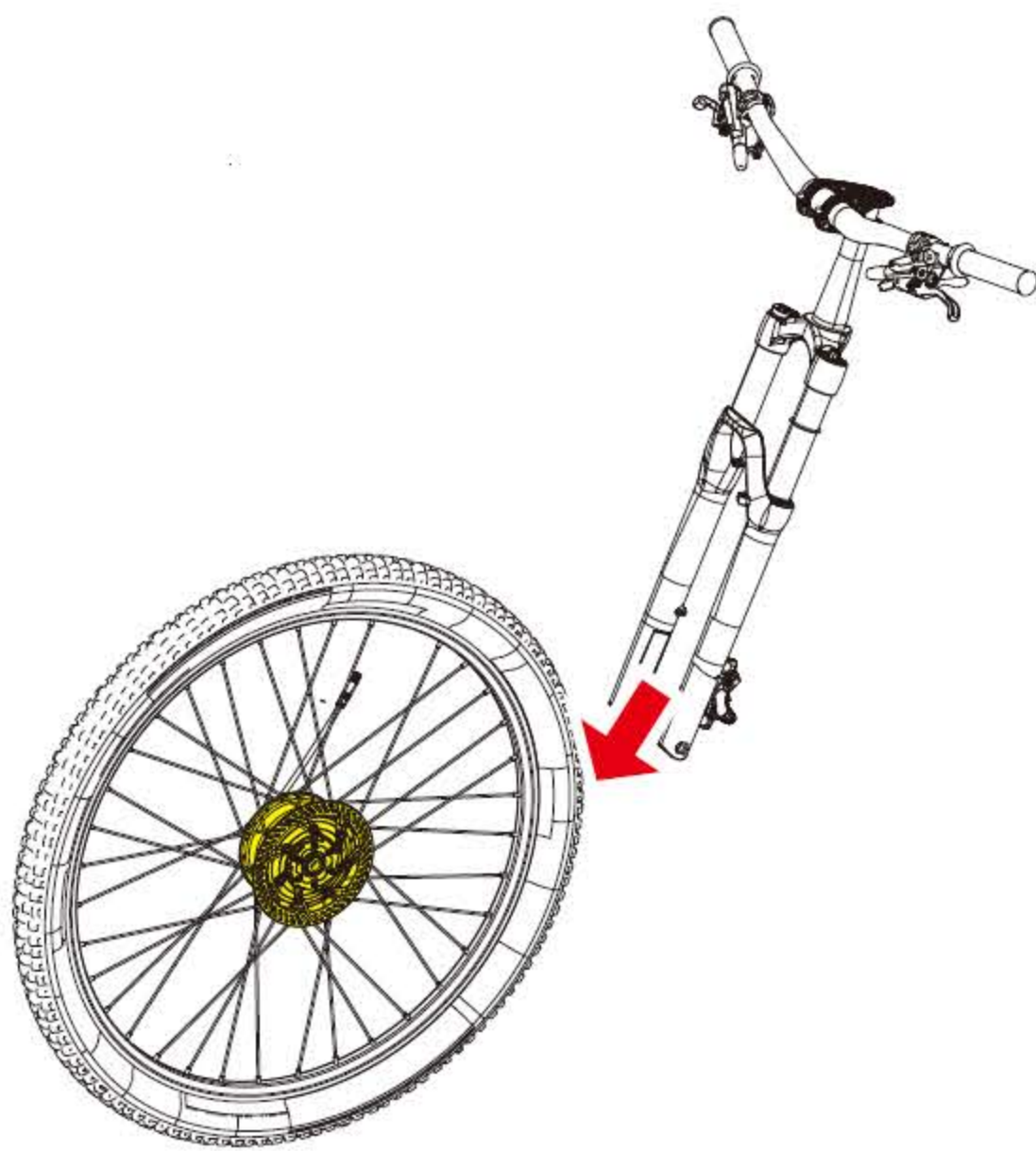


5) Use the axle fixing nut and torque washer to assemble the motor into the axle fixing slot of the bicycle front fork. The brake disc is on the brake side (on the left).

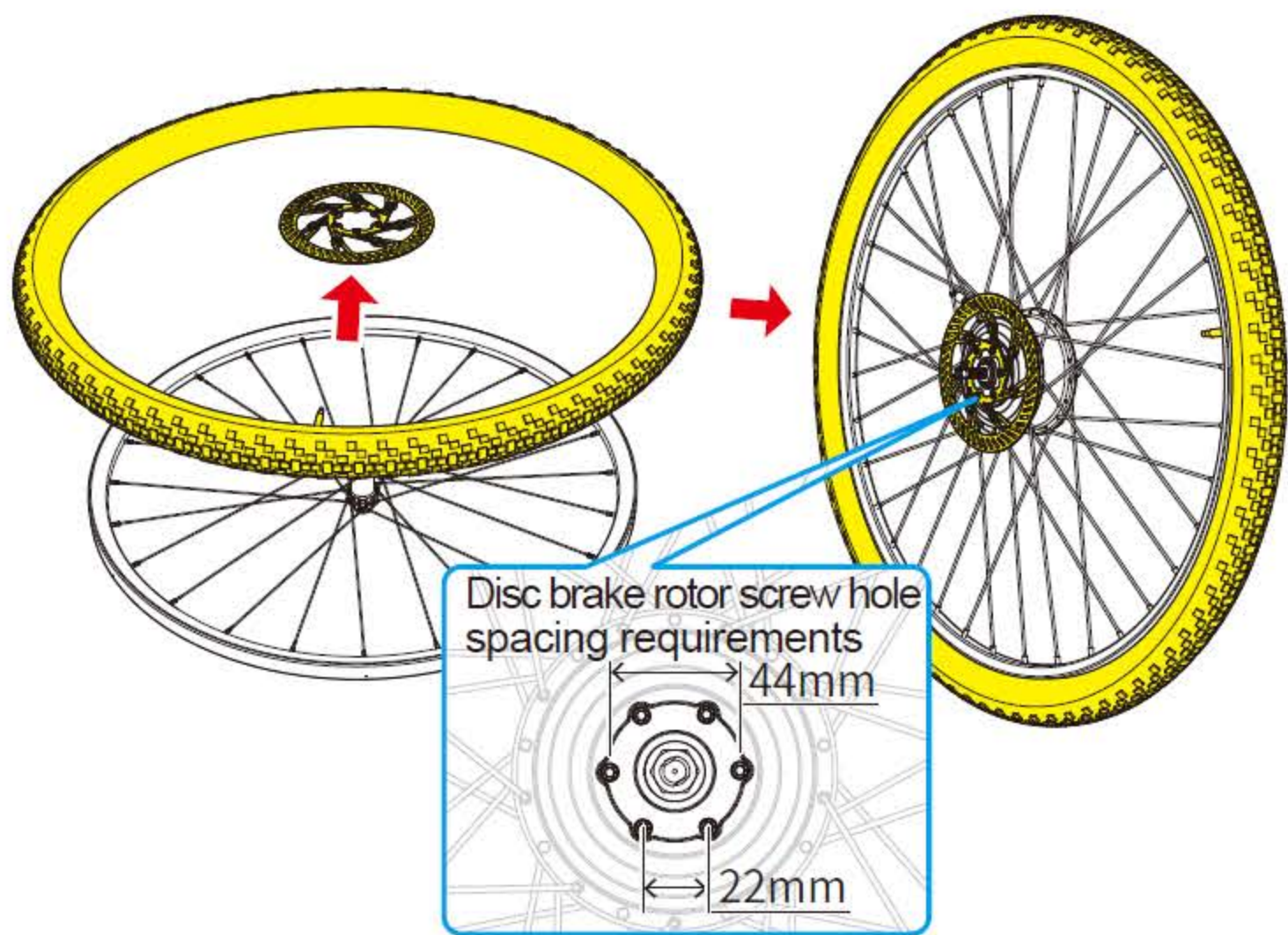
2. Install the thru-axle fork motor



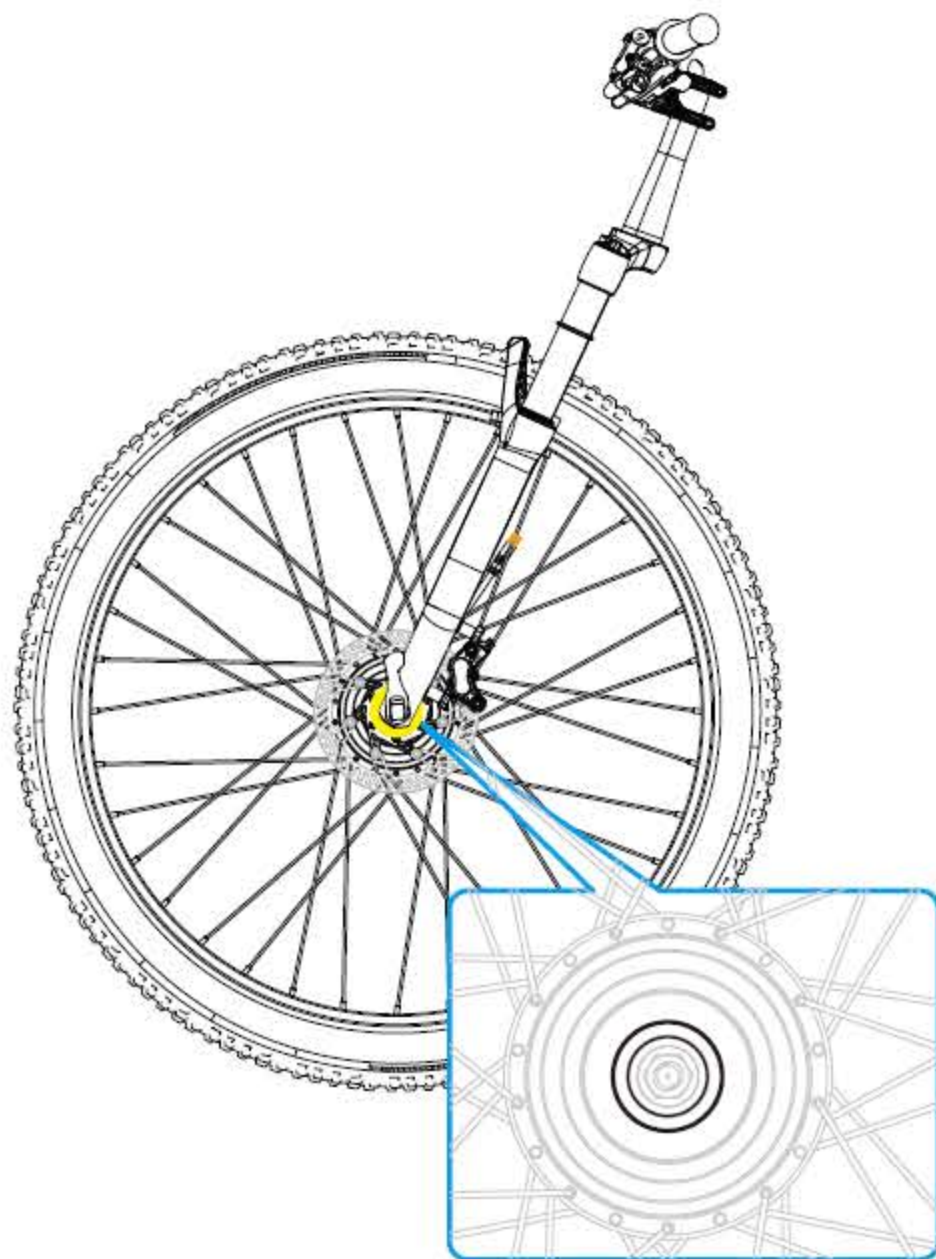
1) Loosen the front wheel axle of the bicycle.



2) Remove the original front wheel from the bicycle.



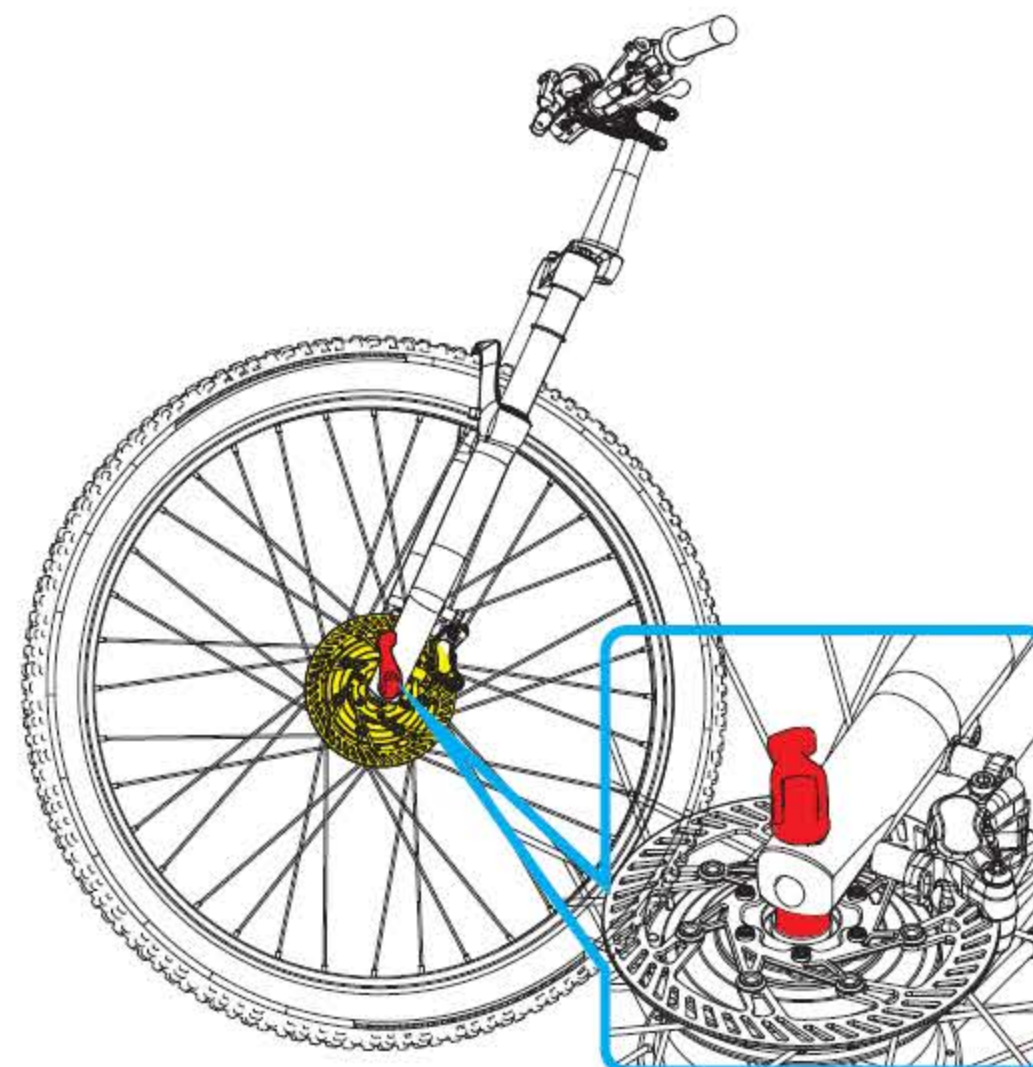
3) Remove the original disc brake rotor (if equipped) and tire from the stock front wheel, then install them onto the motor. (If the tire has a directional tread pattern, be sure to install it in the correct direction.)



4) If the opening is 110mm, then before installation, add an additional washer on both sides of the motor to fit the opening. If the opening is 100mm, proceed to the next step.



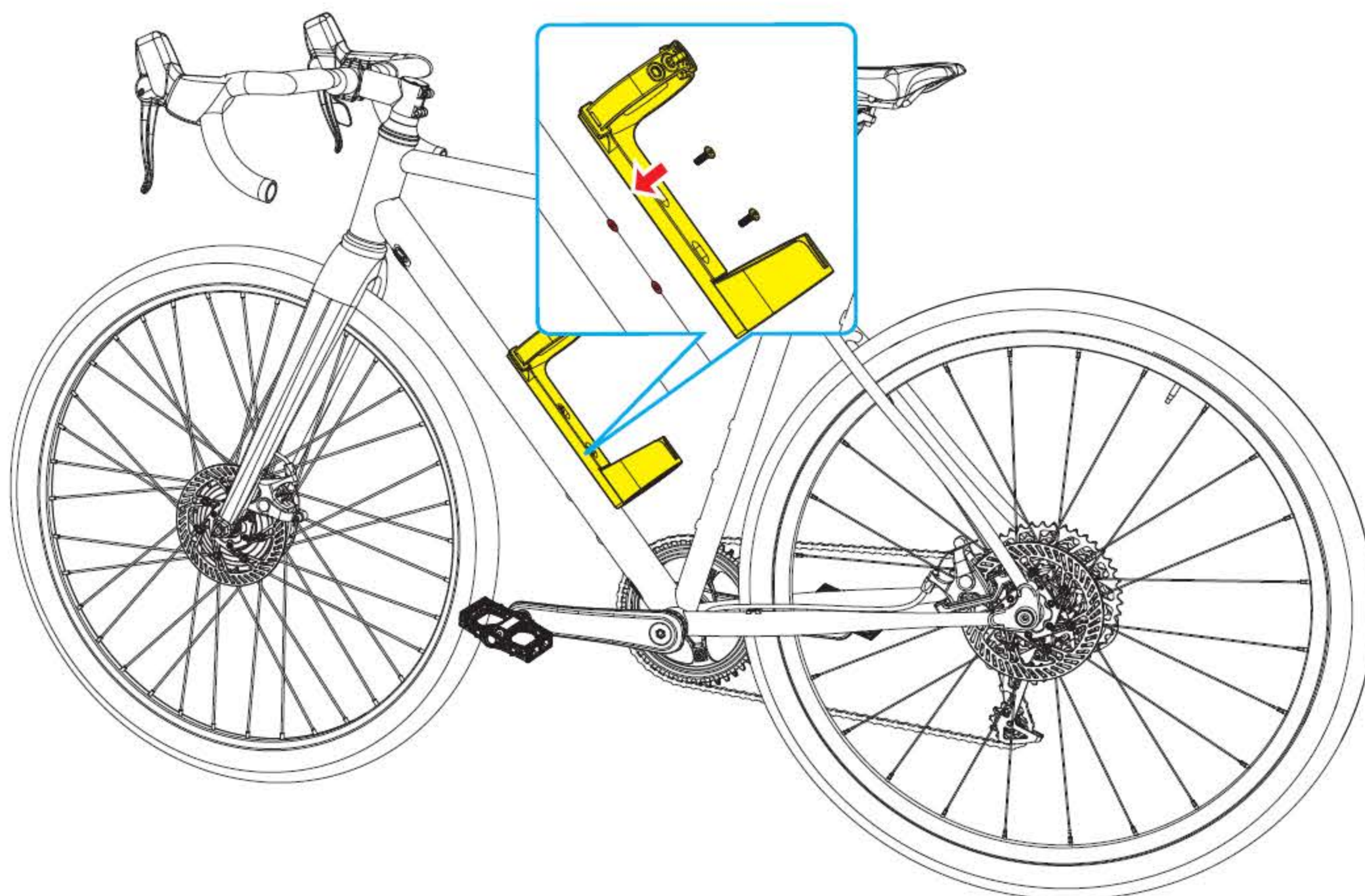
5) Brake adjustment: After ensuring the wheel hub is installed properly, rotate the wheel hub to check if it is rubbing against the disc. If there is rubbing, loosen the two screws of the brake seat to move it in and out for adjustment. Rotate the wheel hub so that the brake disc is in the middle of the gap between the brake pad and the brake ring. Then tighten the screws.



6) Use the axle fixing nut and torque washer to assemble the motor into the axle fixing slot of the bicycle front fork. The brake disc is on the brake side (on the left).

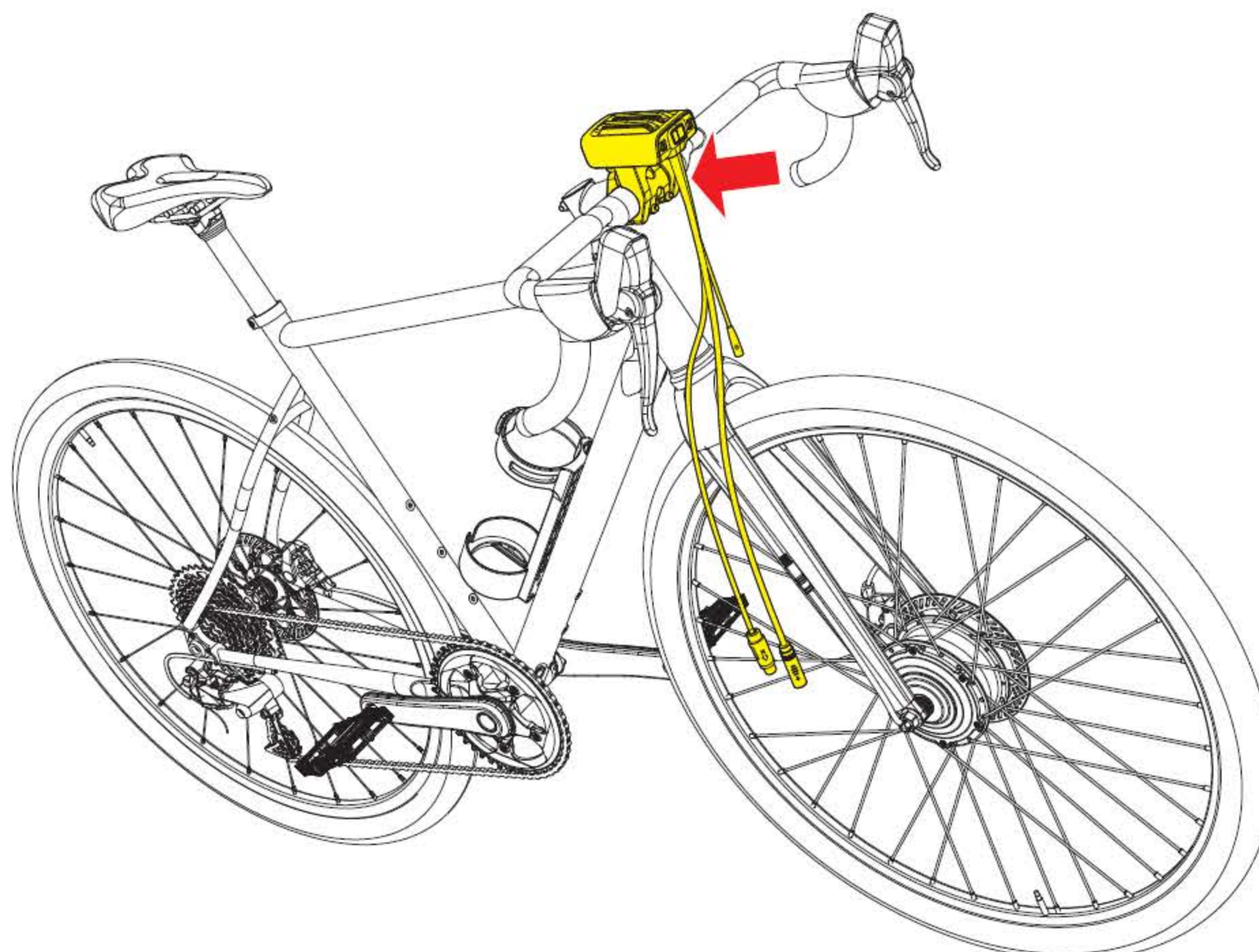
Install the Battery Holder

Attach the battery mount to the bottle cage mounting holes on the bicycle.



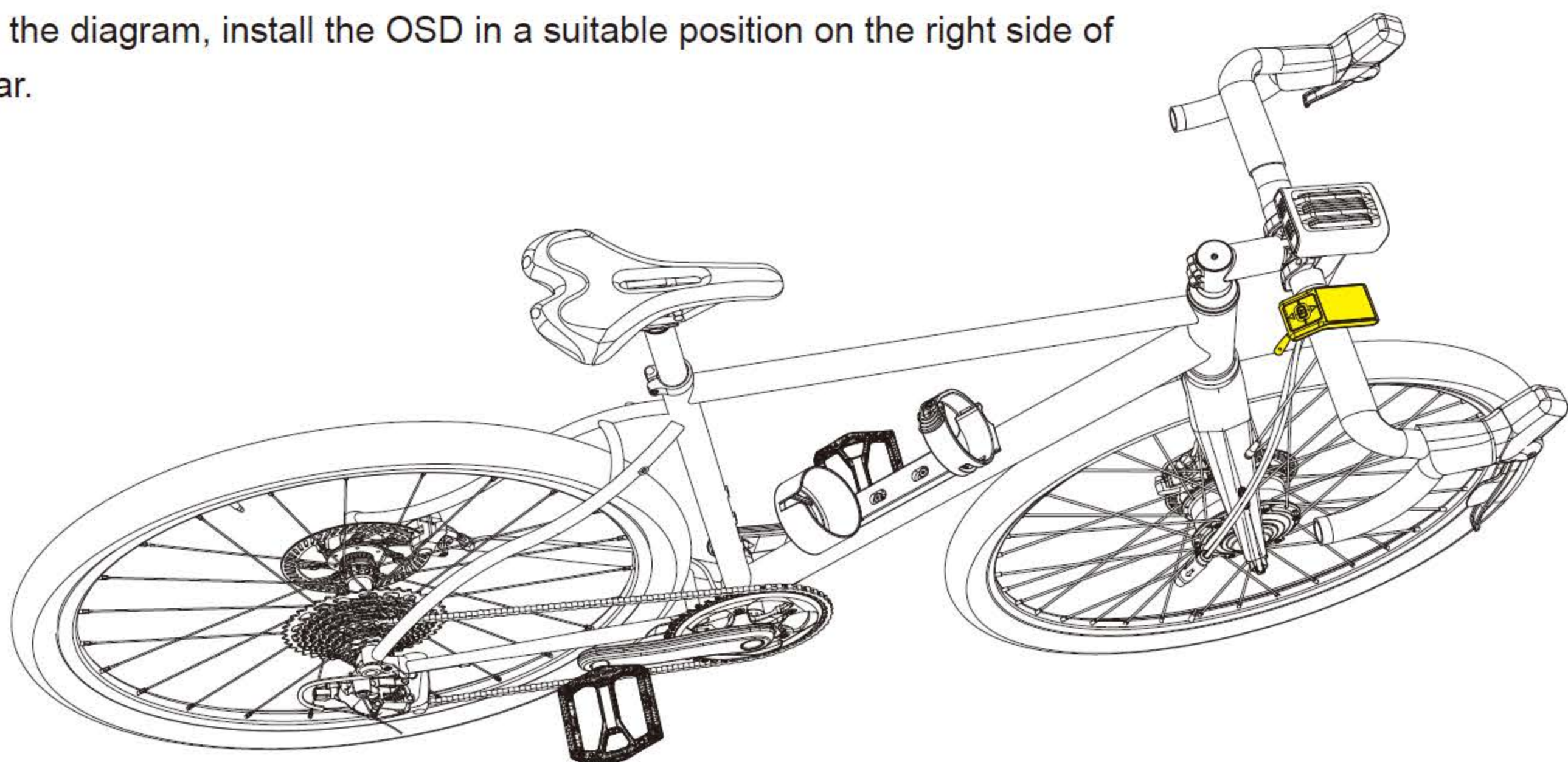
Install the Controller

As shown in the figure, install the controller in the center of the bicycle handlebar. Ensure the controller is kept horizontal, then tighten the screws.

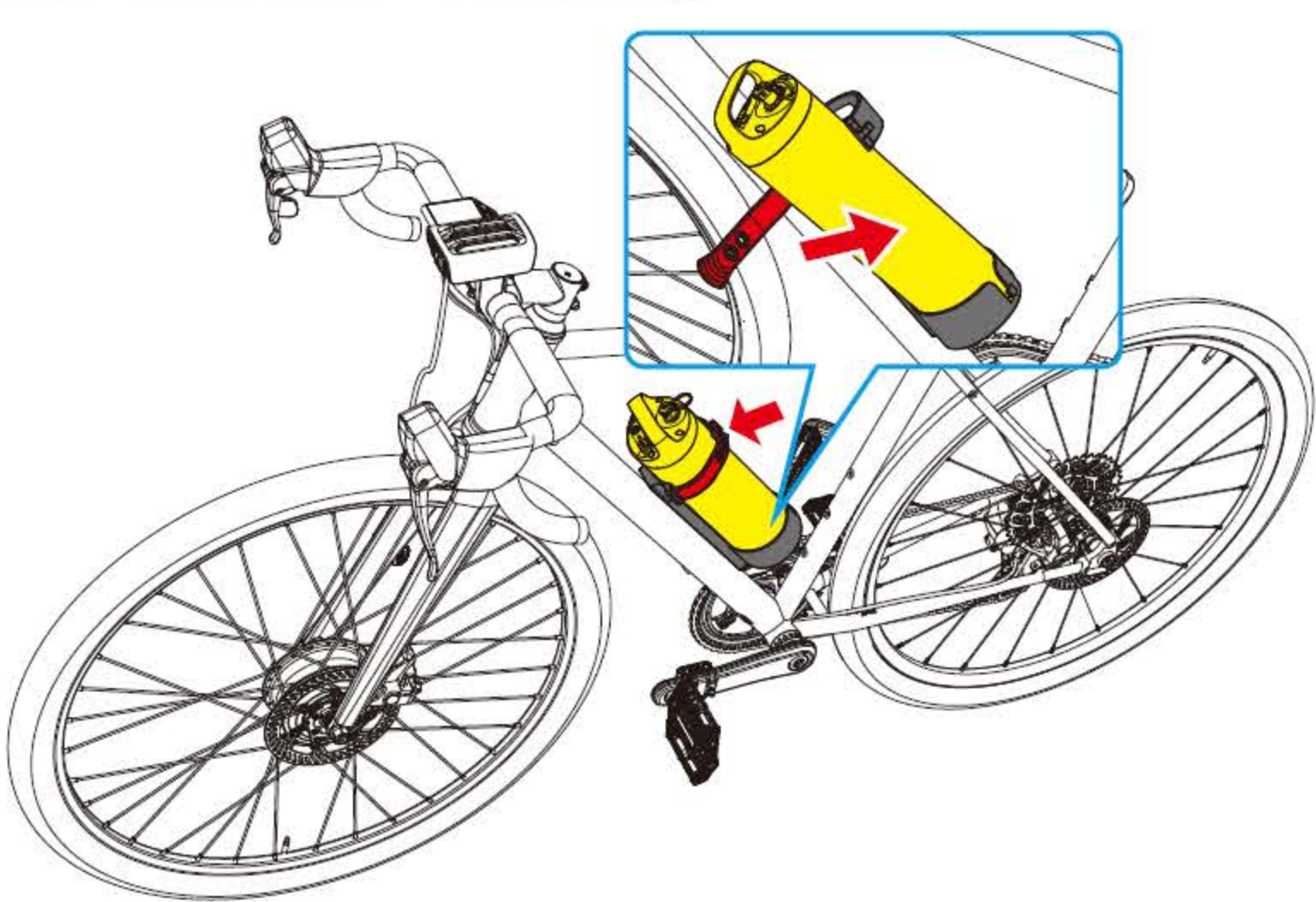


Install the OSD

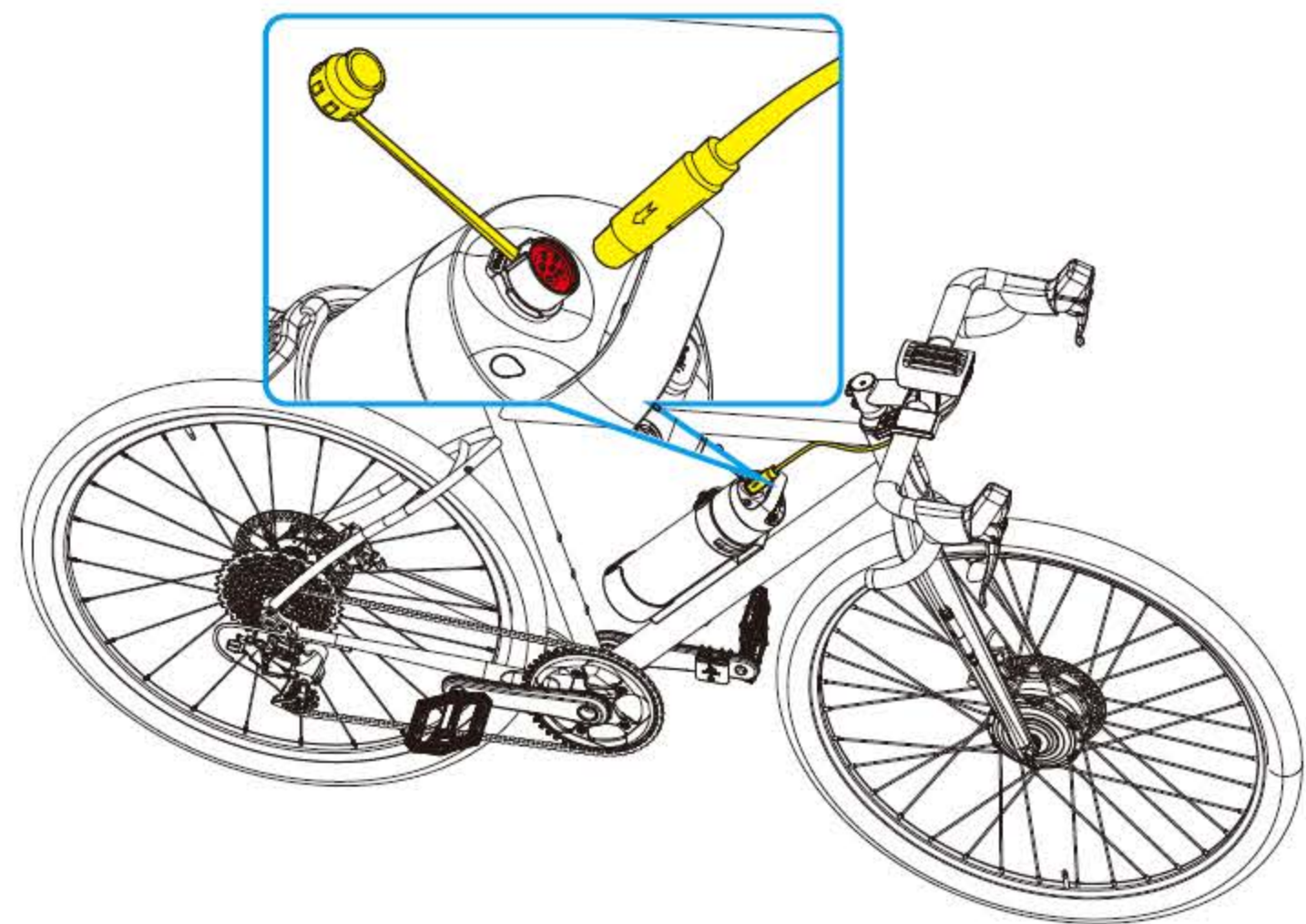
As shown in the diagram, install the OSD in a suitable position on the right side of the handlebar.



Install the Battery



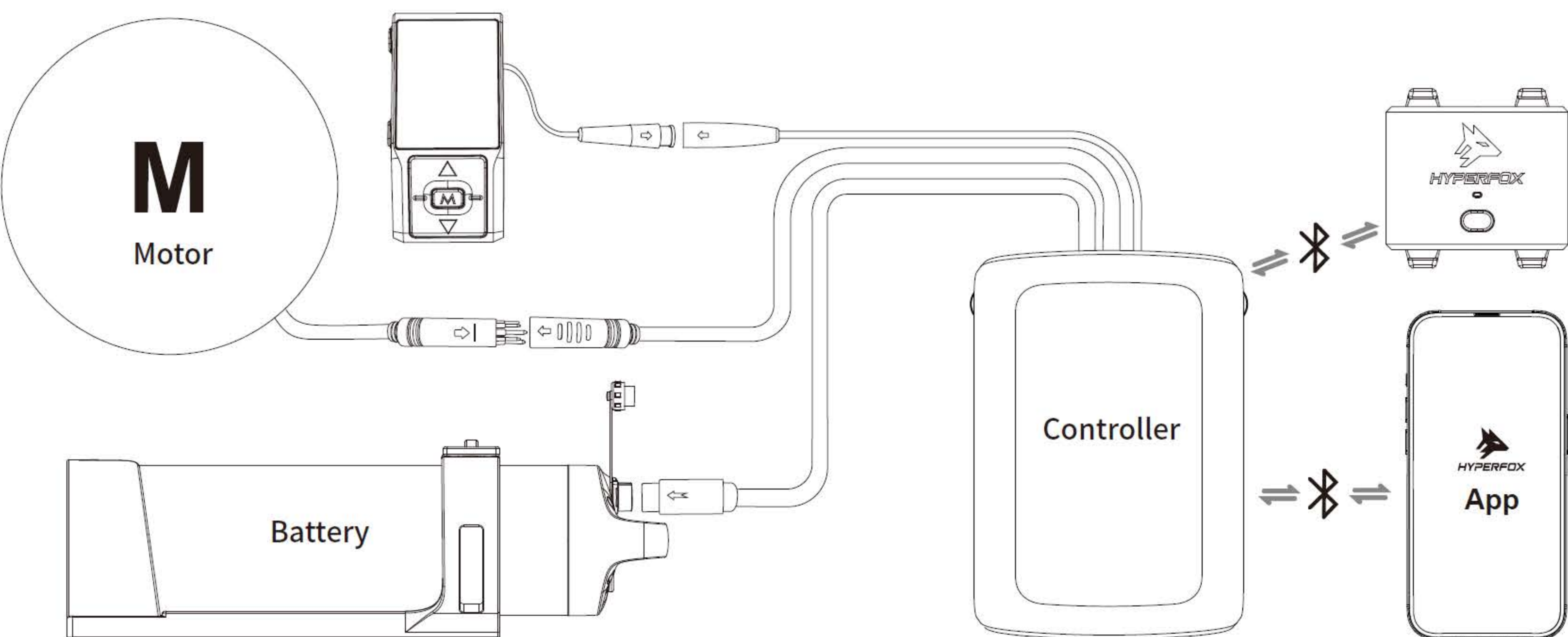
1.First release the battery strap, then insert the fully charged battery into the mount from the left side of the bicycle.Once properly seated, fasten the battery strap securely.



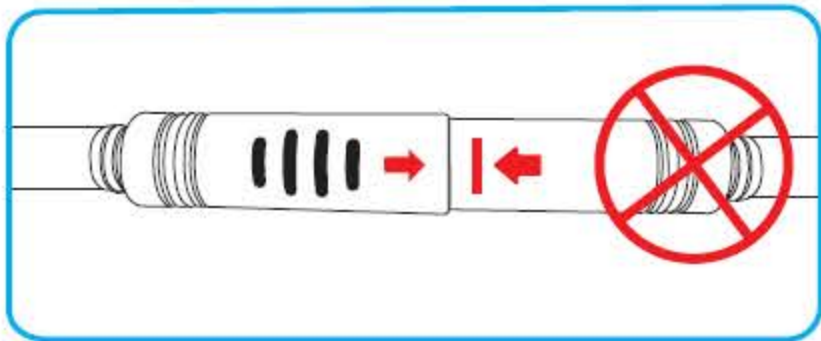
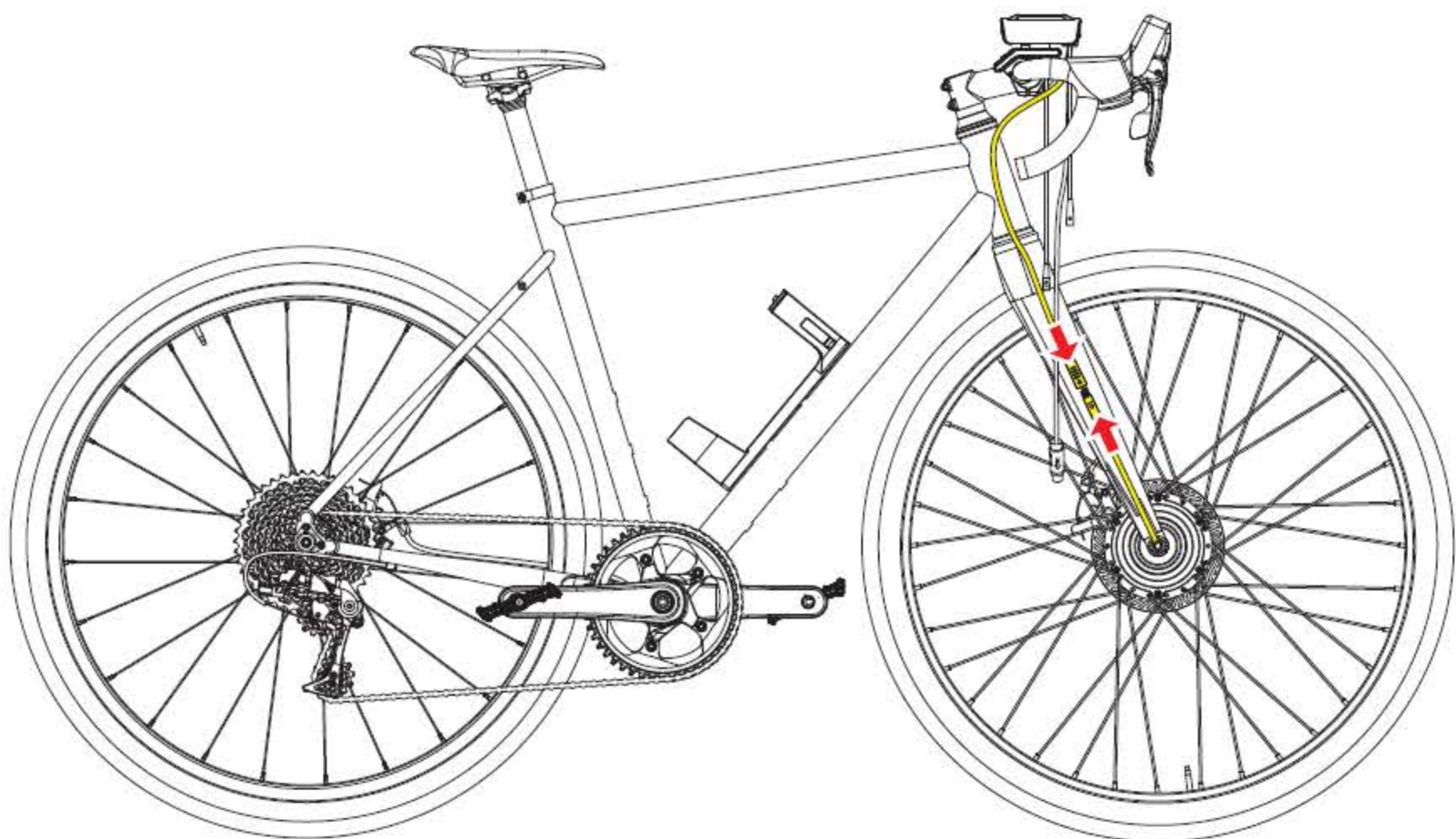
2.First remove the protective cover from the battery discharge port, then align and insert the controller power plug into the battery discharge port.

Note: When connecting the power cable, make sure the battery is turned off.

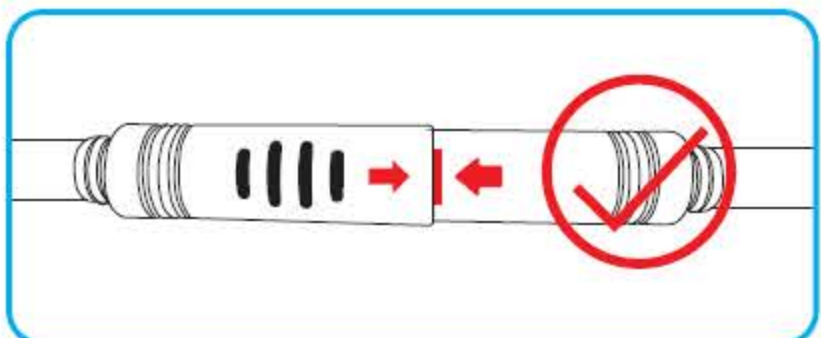
Wiring Connection



1.Align and firmly insert the waterproof male connector of the motor cable and the waterproof female connector of the controller's motor cable arrow to arrow, until the arrow on the motor cable connector touches the arrow on the controller's motor cable connector.

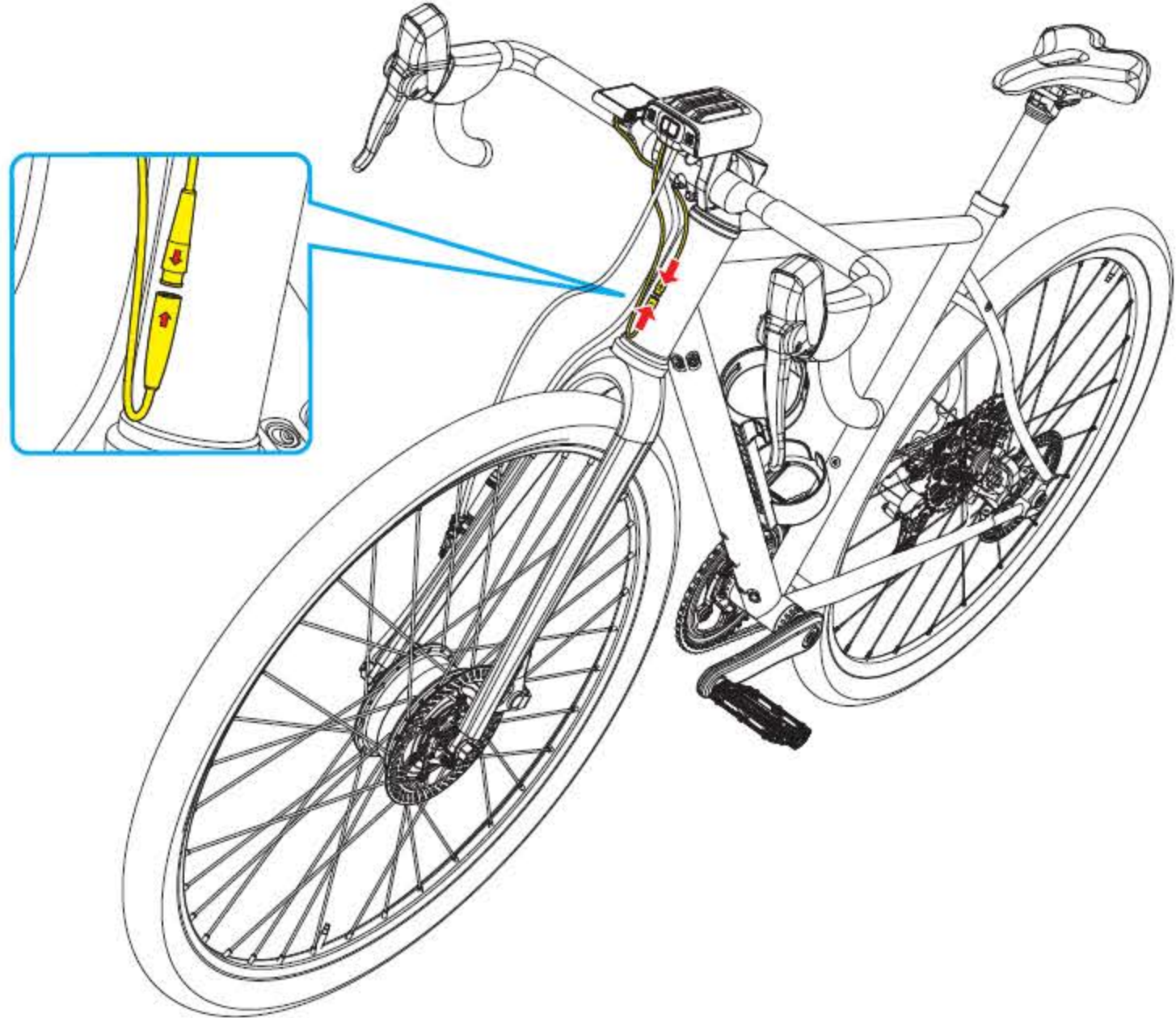


Not fully connected
(poor contact, not waterproof)

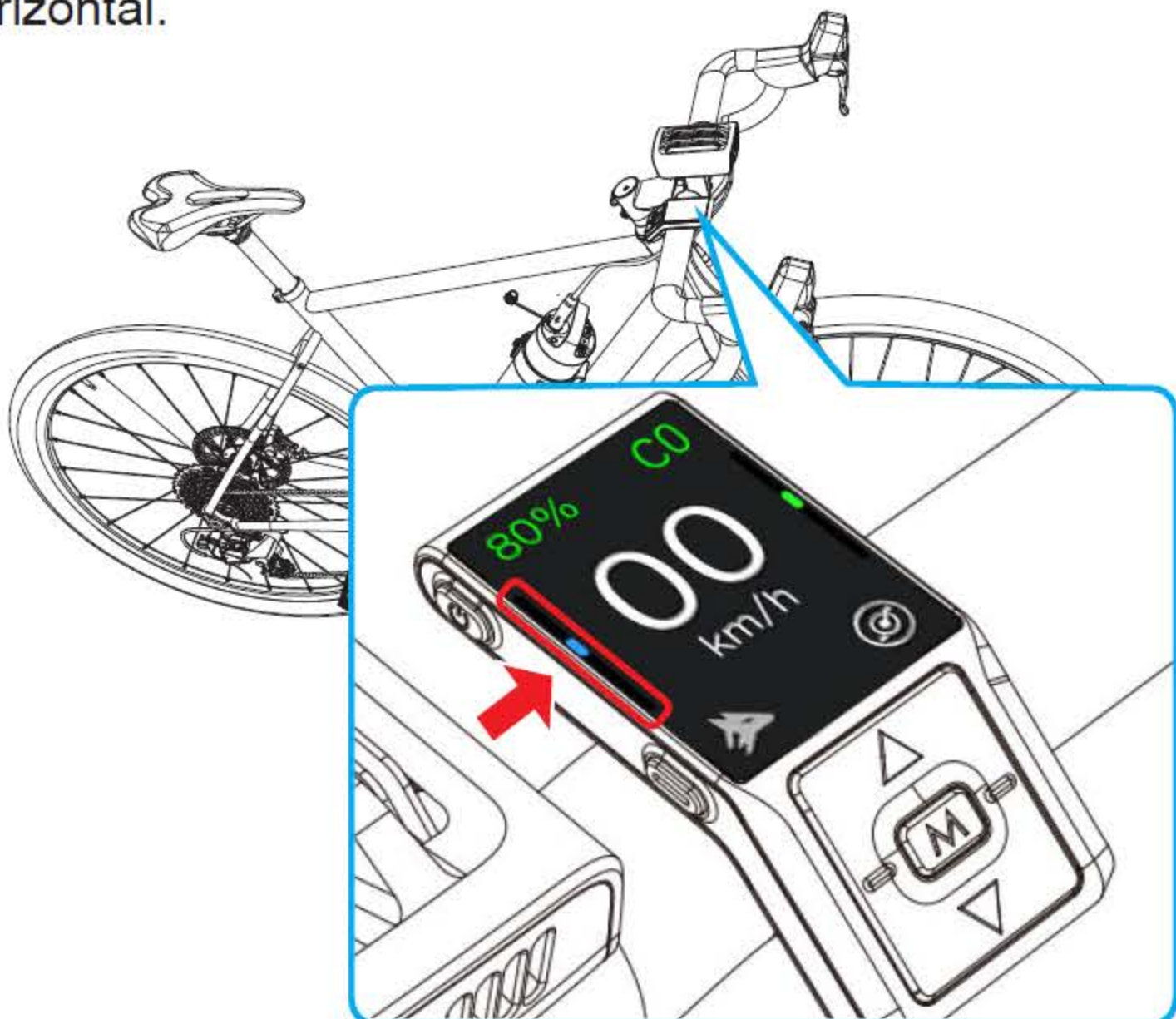


Fully connected
(good contact, waterproof)

2.Insert the display cable connector (male) and the controller display cable connector (female) arrow to arrow, until they are fully inserted into place.

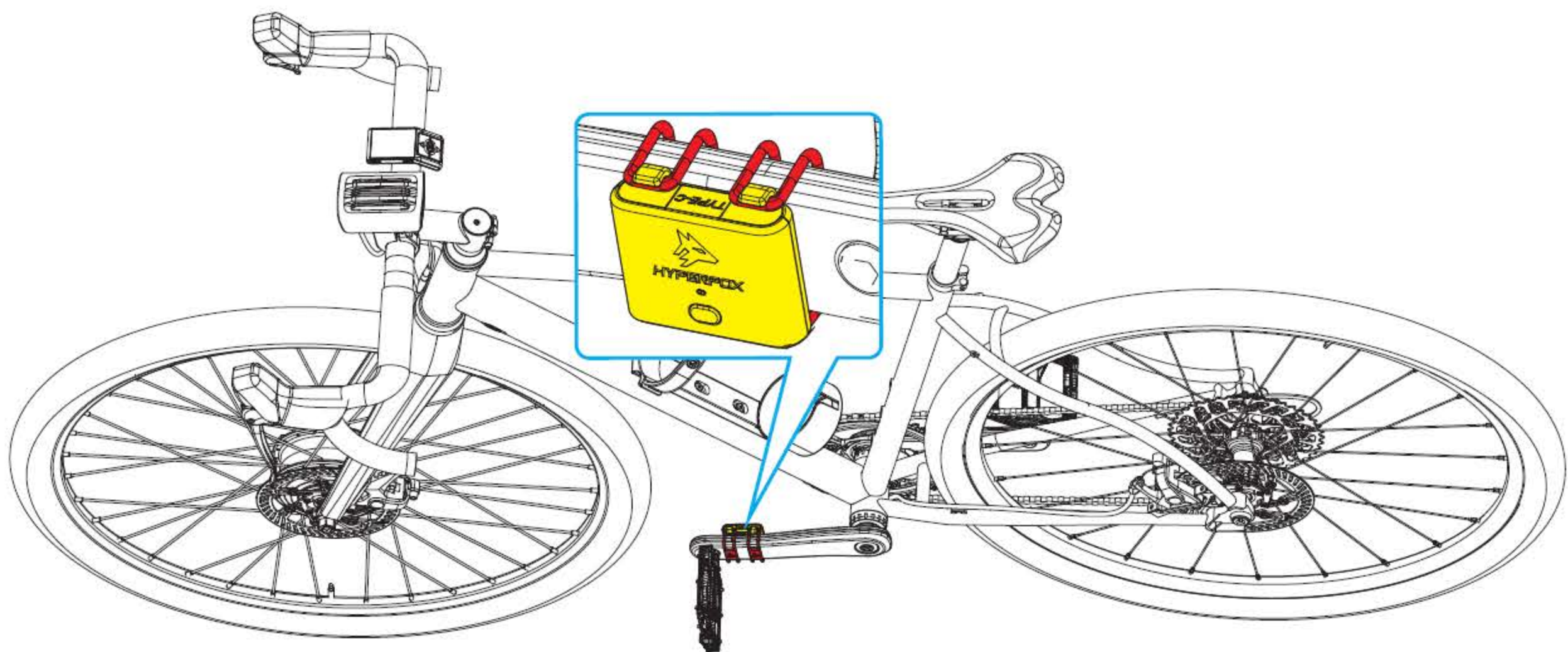


3.After wiring is complete, power on and adjust the controller to a horizontal position. Check on the OSD whether the controller is level, and adjust until the controller is perfectly horizontal.



Install the IMU Motion Sensor

As shown in the figure, use the provided rubber strap to fix the IMU motion sensor on the inner side of the left crank arm of the bicycle.



Download and install the HF Bikes App

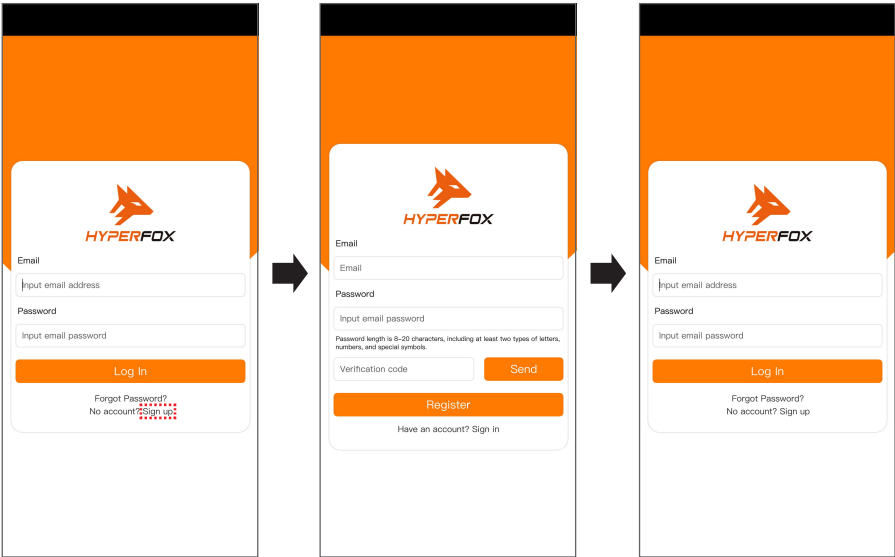
For Android phones, open the browser and enter the URL: <https://app.hyperfoxbikes.com/> or scan the QR code on the right to download and install the app. You can also seFluxKith for HF Bikes App on Google Play to download and install it for your Android device.



Bind the Device

When using the HF Bikes App for the first time, you need to register your information and add/bind the device.

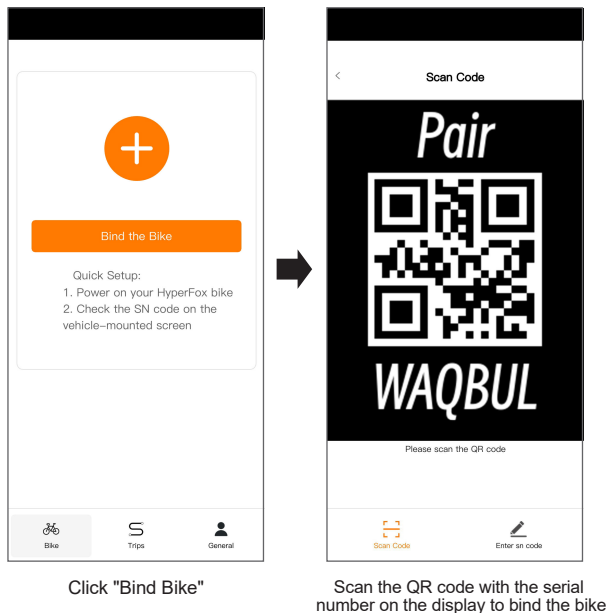
- 1.Enable Bluetooth on your phone → Launch the HF Bikes App → Register your account information.
- 2.Turn on the battery and the display.
- 3.Long press the function button on the left side of the display until the QR code with the device serial number appears on the screen.
- 4.Tap the  icon at the bottom left of the HF Bikes App interface → Tap the "Bind Bike" button → Scan the QR code (device serial number) shown on the display.The HF Bikes App will automatically connect and bind the device. After binding, tap the  button → You can adjust preferences, and configure/manage your bike in Device Management.
- 5.Long press the function button on the left side of the display again until the QR code with the device serial number appears on the screen.



Click "Register"

Register via email

Log in



Usage Steps

1. Long press for 3 seconds time battery power button or the display power button to turn on the device.
2. Press the power button of the IMU motion sensor briefly to turn on the IMU motion sensor.
3. Turn on your phone's Bluetooth, launch the HF Bikes App. After successfully connecting to the device, configure parameters such as speed limit, kinetic energy recovery switch and obstacle avoidance switch with in the App.
4. Start riding. During riding, you can briefly press the up or down button on the display to switch assist gears. There are 4 gears (0, 1, 2, 3) available: Gear 3: the fastest, Gear 1: the slowest, Gear 0: assist off.
5. After riding, Long press for 3 seconds time power button to turn off battery discharge.
6. If you need to remove the battery for charging: Hold the waterproof connectors of the battery power cable and the controller battery cable respectively, then pull out the battery power connector firmly (do not pull by holding the power cord). Loosen the rubber fixation strap of the battery from the clip, then pull the battery out from the left side of the bicycle.

Maintenance

1. After every ride

Check the battery level and charge it in a timely manner.

2. Every 20 hours of cycling or every 500 miles of riding

Clean the waterproof connection plugs of the battery power cable and the controller battery connection cable. Check whether the fixing nuts of the motor axle and the IMU motion sensor are still firmly installed.

3. Every 6 months, or 100 riding hours, or 3,000 miles

Check the tension of the motor wheel spokes.

Check for loose connectors on all parts of the assist system.

Check that the IMU sensor and assist system are functioning normally.

Charge the battery once a month if storing it unused for 6 months.

4. Every 12 months, or 200 riding hours, or 6,000 miles

Check that the motor wheel runs smoothly and quietly.

Check for damage to the smart battery.

Check for damage to the waterproof connectors between the smart battery power cable and the controller battery cable.

Charge the battery once a month if storing it unused for 12 months.

Additional Notes



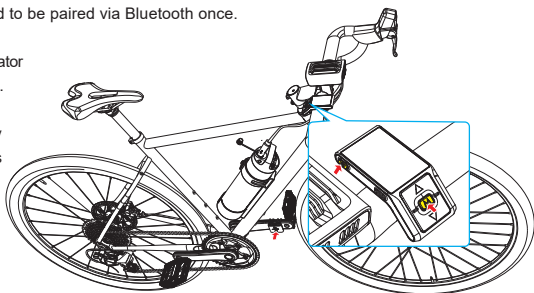
Note: The device has been calibrated and paired upon factory production. No need for self-calibration or re-pairing! Only when the motor is replaced, calibration is required; and when the IMU motion sensor is replaced, re-pairing is necessary.

Bluetooth pairing

Note: The IMU motion sensor and controller need to be paired via Bluetooth once.

Operation:

1. Double-click the power button until the status indicator of the IMU motion sensor flashes and then release.
2. When the device is powered off (display screen turns off), hold down the M key and simultaneously perform the operation of (Long press for 3 seconds time the power button) to turn on the device. The display will show a flashing red pedal pattern, indicating that the IMU motion sensor and controller have entered the Bluetooth pairing mode. When the display shows the flashing red pedal pattern, it means that the Bluetooth pairing has been successful.



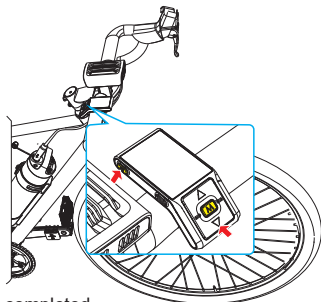
Motor Calibration

It is recommended to perform a motor parameter calibration.

During calibration, the motor must be suspended, and it will rotate for approximately 10 seconds to complete the calibration.

Operation:

1. Mount and suspend the front-wheel motor.
2. With the device turned off (display screen off), press and hold the down button, and at the same time perform the power-on action (Long press for 3 seconds time the power button).
3. Wait for the motor to rotate for about 10 seconds until calibration is completed.



Component Parameters

Smart Battery

Voltage	48V
Number of cells	12S
Capacity	10000mAh
Battery capacity	480 Wh
Equilibrium	Active equilibrium
Protection	Overvoltage, lowvoltage, overcurrent, over-temperature, and long-term fully charged storagecharged storage

Hub Motor

Maximum instantaneous power	700W
Maximum continuous power	400W/350W/250W optional
Maximum output torque	70Nm
Maximum no-load speed	4000rpm on the shaft
Hub size	18 to 26 inches mountain tires/road tires
Frame and fork spacing requirements	V-brake: 8.8cm(+0.1cm)/ Disc brake: 10cm(+0.1cm) The opening spacing of the axle fixing groove: 10mm(+0.5mm)

Main Controller

Motor control algorithms	inductive FOC, non-inductive FOC
Maximum input voltage	80V
Rated input voltage	50V
Maximum bus current	80A
Continuous bus current	20A
Maximum supported electrical speed	200000rpm

Screen Display

Resolution	240*296
Light source	TFT-LCD
Size	2 inches
Refresh rate	30Hz

IMU Motion Sensor

Protection grade	IPX6 water resistance
Angular velocity measurement range	±2000dps
Acceleration measurement range	±24g
Refresh rate	2000Hz
Battery capacity	400mAh
Pure battery life	Continuous use for 120 hours, standby for 160 days

FCC Warning

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.

NOTE 1: 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.



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Website: www.hyperfoxbikes.com

Email: help@hyperfoxbikes.com

The diagrams in this manual are for reference only, and the actual product shall prevail.
If the manual is updated, no further notice will be given.

