



# USER MANUAL

- ◆ Mantus
- ◆ Kalio 27,5
- ◆ e-Fold N4.0 FAT
- ◆ e-MTB MTS 500H



This manual contains important safety, performance and service information.  
Read it before you take the first ride on your new bicycle, and keep it for reference.



## Preface

Sincerely thank you for your love of Benelli electric bicycles, and warmly welcome you to become a Benelli user.

This manual contains a lot of interesting information on how to use your bicycle correctly, how to maintain and operate it, and bicycle design and engineering. Please read this manual carefully, we are sure that you will gain useful and detailed knowledge from it.

Remember that each bicycle model is designed and manufactured for a specific intended use. Please make sure to use it according to the intended use. Otherwise, it may cause an accident due to insufficient strength or strength failure, and the consequences are unpredictable.

City bike are suitable for hard ground roads, such as asphalt, bicycle paths or gravel roads. When driving on public roads, please follow the traffic rules. City bike are not suitable for off-road driving, otherwise it may cause unpredictable consequences or accidents.

Please pay attention to the following warnings:

For your safe use, please read the instructions carefully. Do not use electric bicycles until you understand the product's performance. And please keep the user manual properly.

Riders should abide by traffic laws and pay attention to driving safety:

- 1) It is strictly forbidden for people under the age of 16 to drive electric bicycles on the road;
- 2) Electric bicycles should be driven in non-motorized lanes, and the maximum speed should not exceed 25km/h; on roads without non-motorized lanes, local traffic laws should be strictly observed;
- 3) Don't lend electric bicycles to people who can't manipulate them to avoid injury;
- 4) Electric bicycles should carry people or objects in accordance with laws and regulations;
- 5) It is recommended to wear a helmet and necessary protective gear when riding;
- 6) When riding in rain or snow, the braking distance will be extended; try to avoid traveling in bad weather such as heavy rain.

## Note:

All materials, pictures and technical parameters in this manual are the latest products at the time of publication.

As product changes will lead to changes in technical parameters and performance improvements, if this happens, we will not notify you, please understand. Bicycles and power-assisted bicycles have developed rapidly in recent years. So before starting your bike journey, please make sure to read at least the chapter "Quick Installation Guide". Each step will be explained in detail in the form of illustrations and icons in subsequent chapters. If you need more detailed information about electric assisted bicycles, please refer to the technical parameters.

Please note that cycling is risky and you need to be cautious when riding. As with any sport, there is a risk of injury when riding a bicycle. Please keep in mind that when you decide to ride a bicycle/assisted bicycle, you must accept this risk.

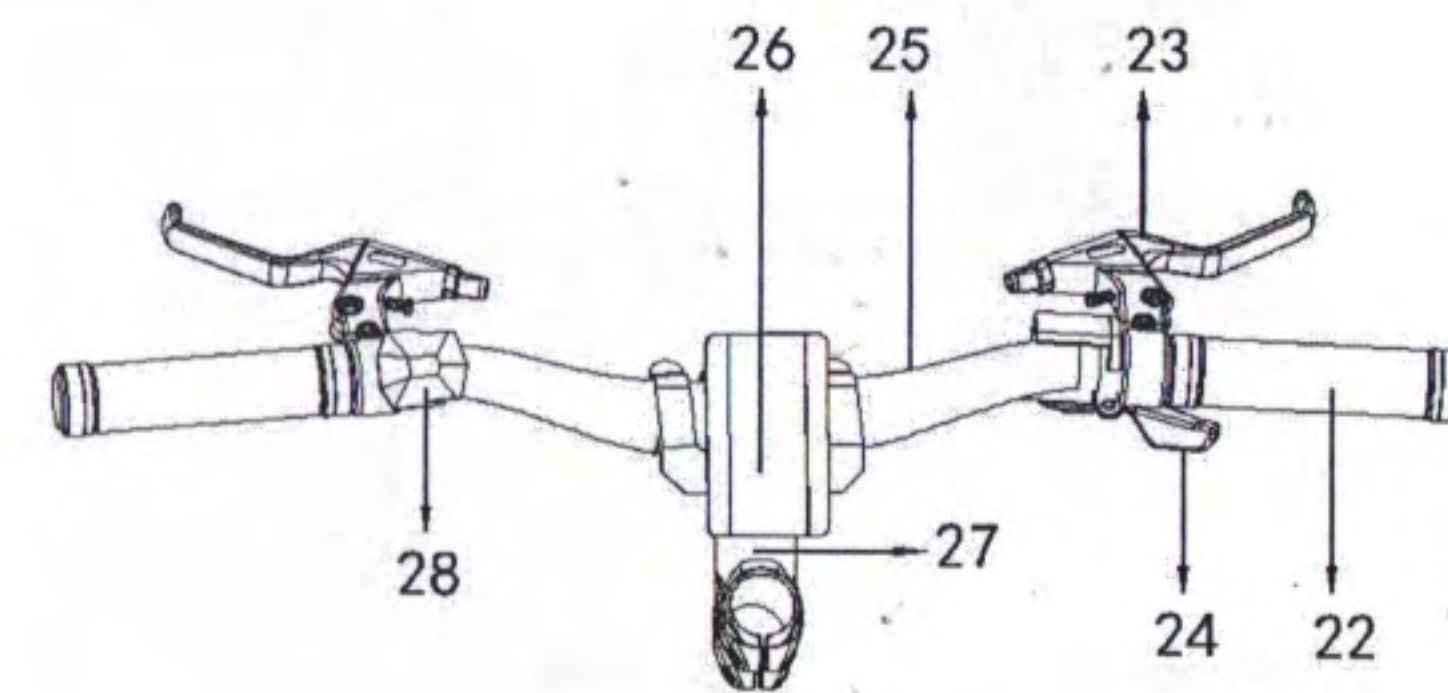
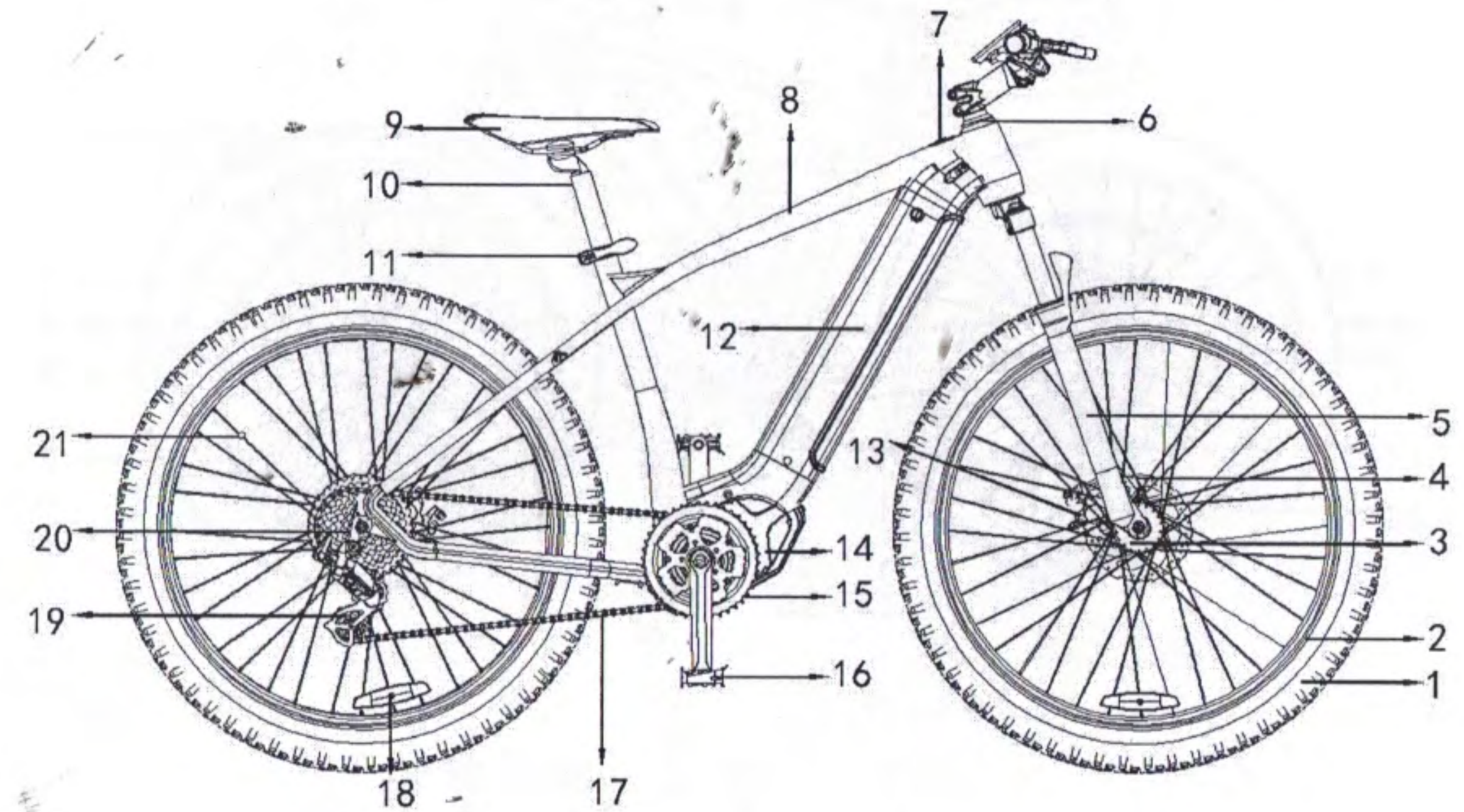


# CATALOGUE

- I Vehicles and their parts
- II Driving Safety Precautions
- III Quick installation guide
- IV Use of electrical function
- V Check before driving
- VI Proper driving
- VII Battery, motor and maintenance
- VIII Regular inspection and simple maintenance method
- IX Recommended tightening torque of fasteners
- X Technical Parameters
- XI Service and warranty
- XII Trouble phenomenon and troubleshooting

## I. Vehicles and their parts

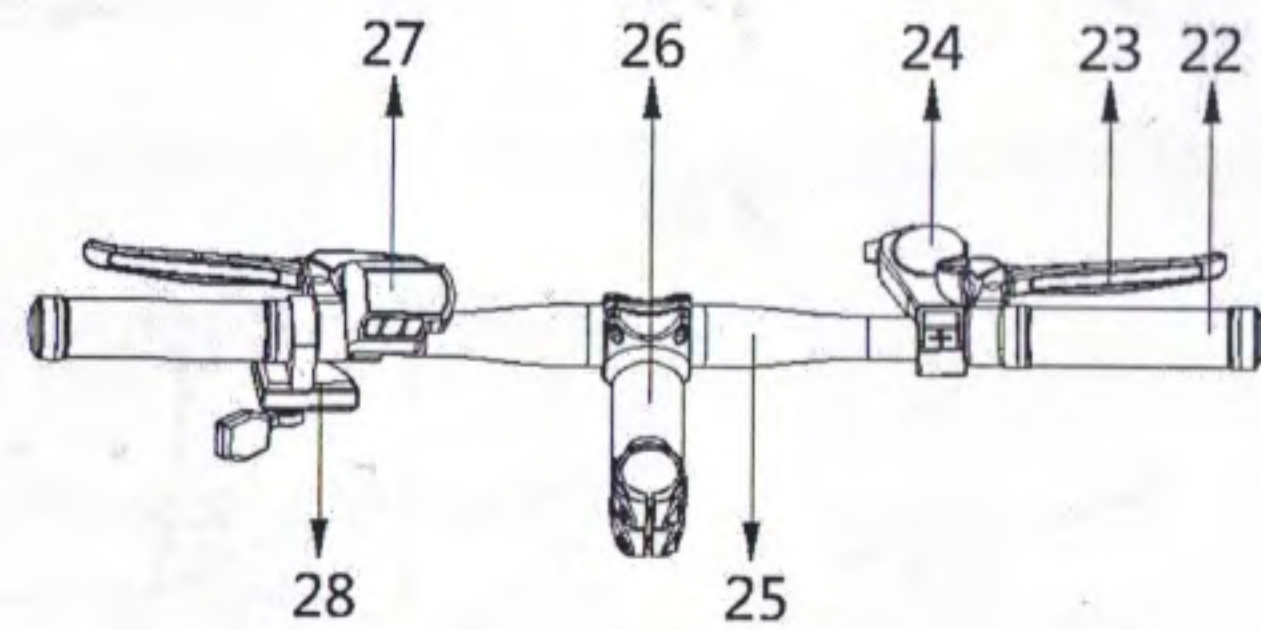
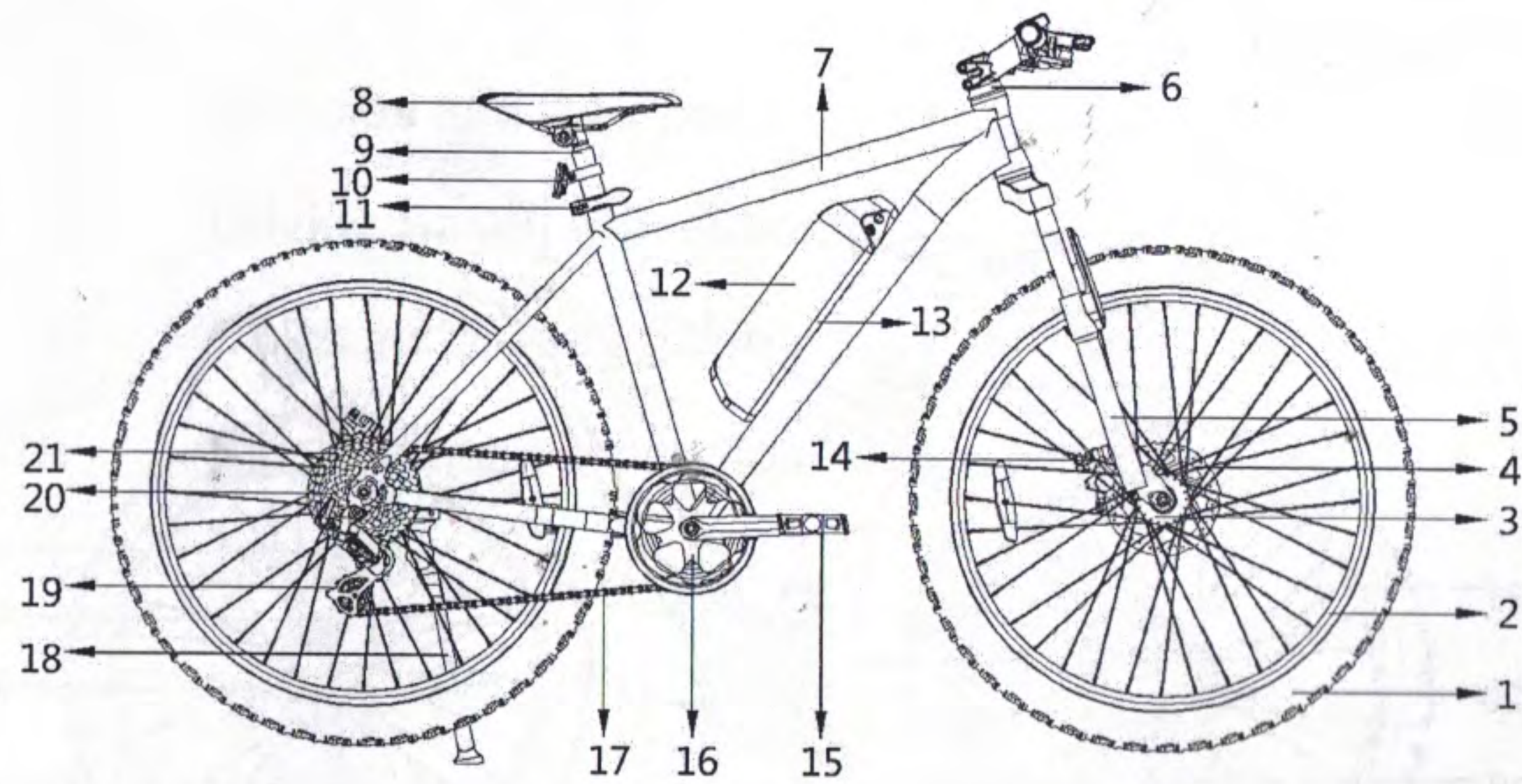
### ➤ Mantus



- |                 |                      |                       |                  |
|-----------------|----------------------|-----------------------|------------------|
| 1、Tires         | 2、Wheel              | 3、Hub                 | 4、Brakes         |
| 5、Front fork    | 6、Integrated headset | 7、Power switch        | 8、Frame          |
| 9、Saddle        | 10、Seat post         | 11、Seat post clamp    | 12、Battery       |
| 13、Disc brake   | 14、Center Motor      | 15、Chainwheel & Crank | 16、Pedal         |
| 17、Chain        | 18、Reflector         | 19、Rear derailleur    | 20、Chainwheel    |
| 21、speed sensor | 22、Grips             | 23、Brake Handle       | 24、Thumb shifter |
| 25、Handlebar    | 26、Displayer         | 27、Stem               | 28、Button        |

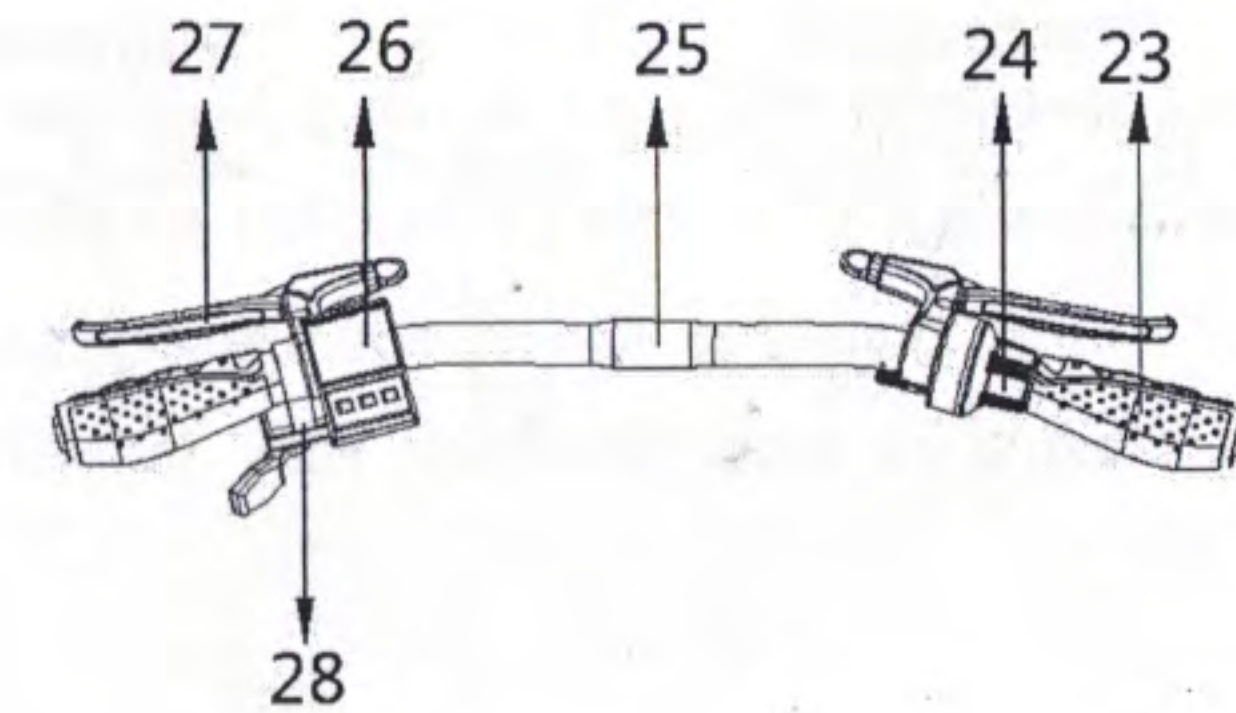
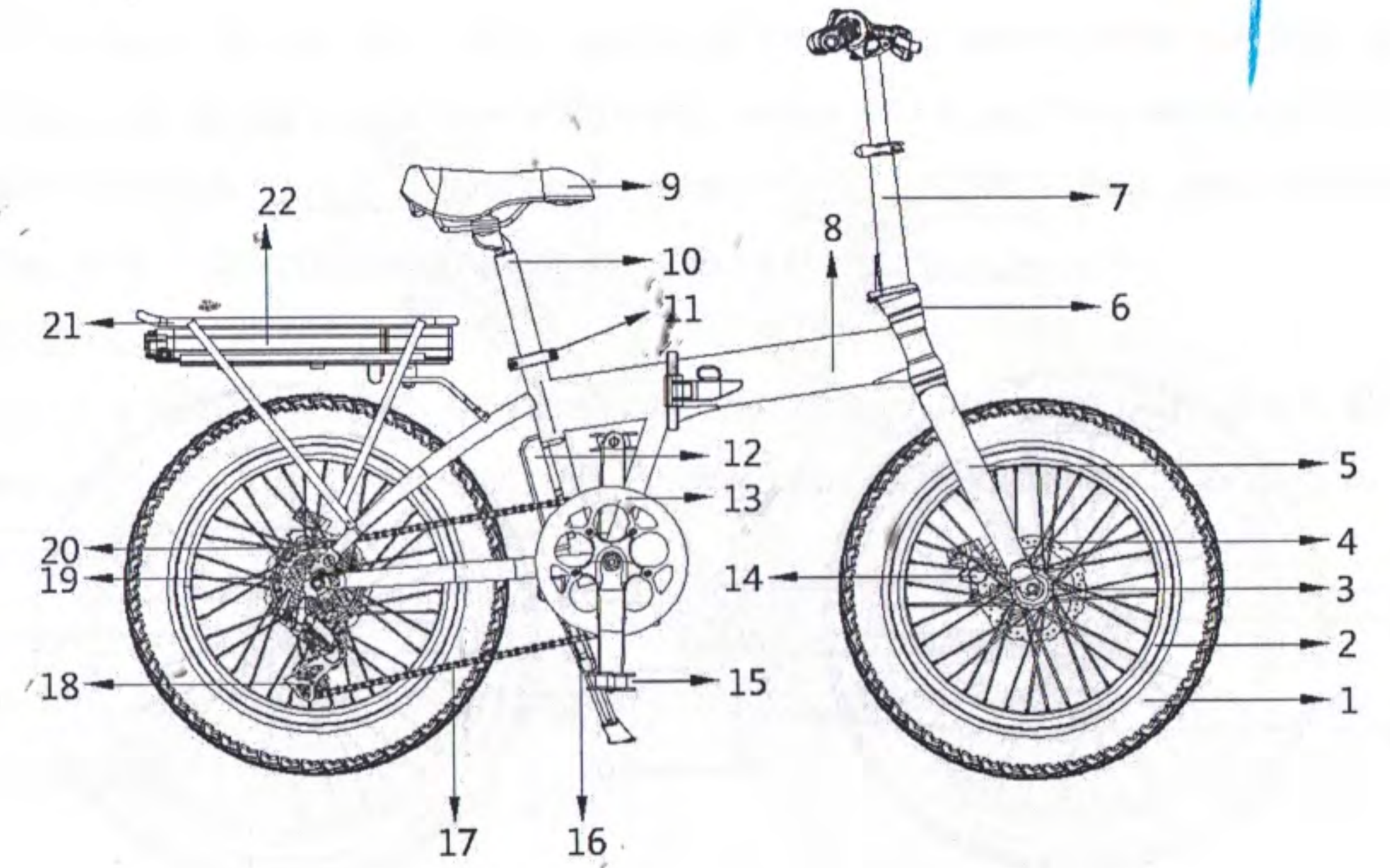


➤ Kalio 27.5



- |               |                      |                    |                        |
|---------------|----------------------|--------------------|------------------------|
| 1、Tires       | 2、Wheel              | 3、Hub              | 4、Brake disc           |
| 5、Front fork  | 6、Integrated headset | 7、Frame            | 8、Saddle               |
| 9、Seat post   | 10、Reflector         | 11、Seat post clamp | 12、Battery             |
| 13、Controller | 14、Disc brake        | 15、Pedal           | 16、Chainwheel & Crank  |
| 17、Chain      | 18、side support      | 19、Rear derailleur | 20、Chainwheel          |
| 21、Motor      | 22、Grips             | 23、Brake Handle    | 24、Shift lever         |
| 25、Handlebar  | 26、Stem              | 27、Displayer       | 28、Throttle twist grip |

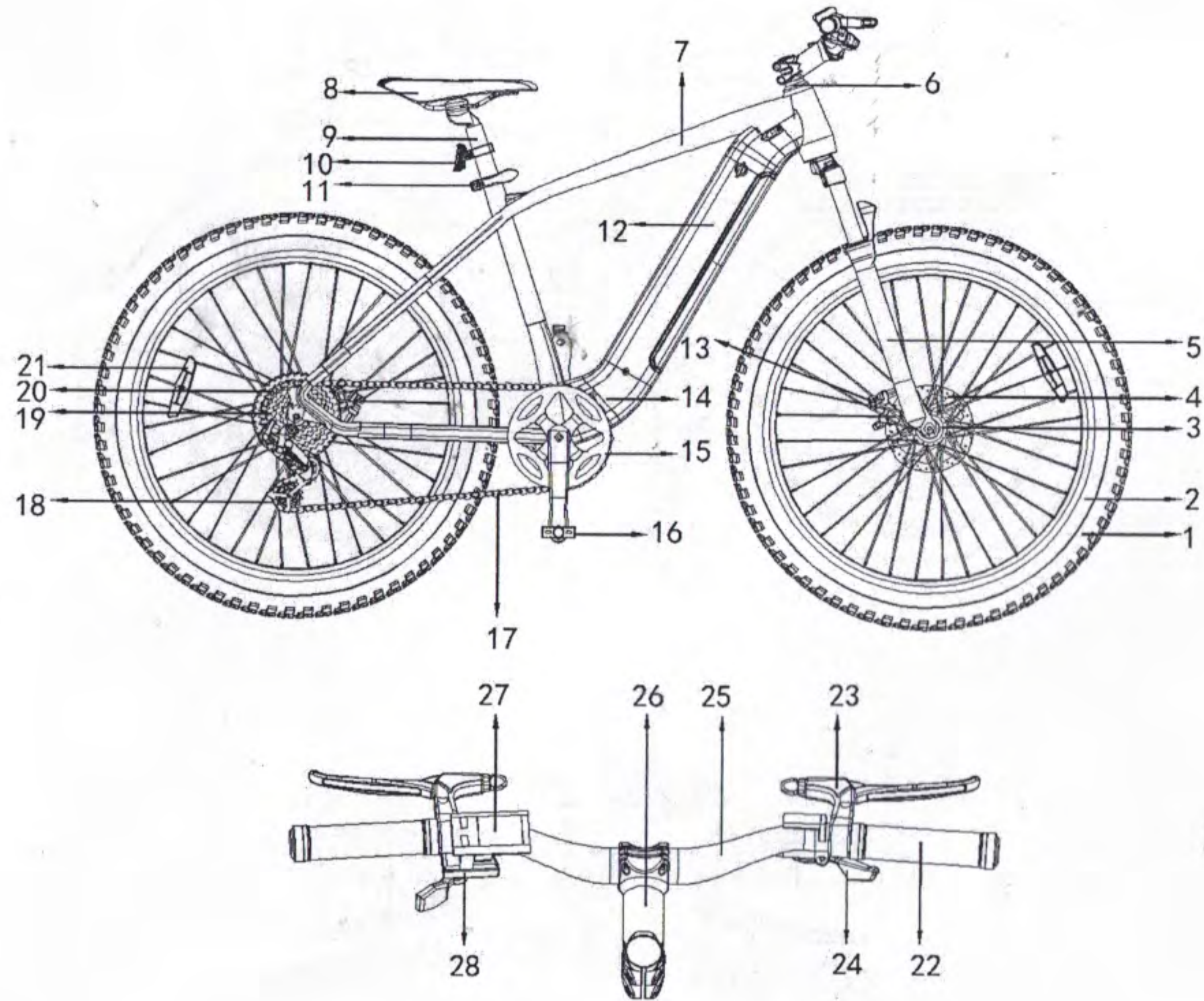
➤ e-Fold N4.0 FAT



- |                       |                      |                    |                   |
|-----------------------|----------------------|--------------------|-------------------|
| 1、Tires               | 2、Wheel              | 3、Hub              | 4、Brake disc      |
| 5、Front fork          | 6、Integrated headset | 7、Setem extension  | 8、Frame           |
| 9、Saddle              | 10、Seat post         | 11、Seat post clamp | 12、Controller     |
| 13、Chainwheel & Crank | 14、Disc brake        | 15、Pedal           | 16、side support   |
| 17、Chain              | 18、Rear derailleur   | 19、Chainwheel      | 20、Motor          |
| 21、Rear shelf         | 22、Battery           | 23、Grips           | 24、Shift lever    |
| 25、Handlebar          | 26、Displayer         | 27、Brake Handle    | 28、Thumb Throttle |



➤ e-MTB MTS 500H



- |                    |                      |                      |                        |
|--------------------|----------------------|----------------------|------------------------|
| 1、Tires            | 2、Wheel              | 3、Hub                | 4、Brake disc           |
| 5、Front fork       | 6、Integrated headset | 7、Frame              | 8、Saddle               |
| 9、Seat post        | 10、Reflector         | 11、Seat post clamp   | 12、Battery             |
| 13、Disc Brake      | 14、Controller        | 15、Chainwheel & Cran | 16、Pedal               |
| 17、Chain           | 18、Rear derailleur   | 19、Chainwheel        | 20、Motor               |
| 21、Wheel reflector | 22、Grips             | 23、Brake Handle      | 24、Thumb Shifter       |
| 25、Handlebar       | 26、Setem extension   | 27、Displayer         | 28、Throttle twist grip |

## I I. Driving Safety Precautions

Please abide by the traffic rules and keep the driving speed within the safe speed (Note: The safe speed of this bike is 25Kmh). Before you drive, familiarize yourself with the contents of this manual. Then find an open field for training to fully grasp the driving essentials of the bike and become familiar with its structure.

**Warning:**

Do not lend or let people who are unfamiliar with or who can't drive use it. Driving with one hand or with both hands off, driving under the influence of alcohol is very dangerous.

- ◆ Do not park e-bikes in building foyers, evacuation stairs, walkways and safe entrances.
- ◆ Electric bicycles should not be charged and parked in residential buildings, charging should be far away from combustibles, charging time should not be too long.
- ◆ Driving in rainy and snowy days should pay more attention to safety: Wet or snowy days can be dangerous because of the wet ground. Therefore, avoid driving at high speeds and take special care in turning. Special should remember: rain and snow days to brake in advance to prevent accidents.
- ◆ Proper helmet use: When driving, put the safety helmet on your head properly and fasten the belt tightly.
- ◆ Wear it Right: Wear brightly coloured or reflective clothing so that you can be easily observed by other road users. Please wear tight pants or use pants clips; Please wear shoes with hard soles, preferably shoes with non-slip function; Wear protective clothing such as hard shoes and gloves.



**Note:**

In order to facilitate maintenance, overhaul and service, the company produces each bike has its frame number and motor

To help the distribution units to provide you with better services.

The frame number is engraved in the pipe, the front pipe or five on the bike; The motor number is imprinted on the outer end cover of the motor.

❖ Highway traffic safety information

**Note:**

- ◆ Please observe the current traffic regulations.
- ◆ Do not ride with your hands out of the way.
- ◆ Children under a certain age are required to ride on designated roads under the supervision of a specified guardian, cross the road and walk on the pavement, and get off the vehicle for implementation. Please familiarize yourself with local laws and regulations.
- ◆ When riding on a slippery road, adjust your control, slow down and pay attention to the brakes.
- ◆ Ride at a speed appropriate to the terrain and your riding abilities.
- ◆ Do not use headphones to listen to music while riding.
- ◆ Do not use your mobile phone to make or receive calls while riding.
- ◆ If you are not allowed to ride on the road, ride on the designated road.
- ◆ Please be ready to brake at any time, especially when the road ahead is unknown and downhill.

❖ Bicycle safety information

When carrying and not carrying, the handle's sense of control is different, carrying too much, the handle is easy to vibrate and dangerous.

The rated load of the electric vehicle is 1 person (75Kg weight). The rear seat can hold less than 25kg, the greater the risk of excessive load.

**Note:**

- ◆ Bicycles that have been approved for use in public places may only be used in accordance with current regulations.

- ◆ Long-term overloading will result in failure or damage of relevant parts (load = rider weight + load baggage weight). In addition to the specified position other parts can not carry arbitrarily, so as not to damage the guard plate.
- ◆ Next to the motor, please keep no flammable items such as cotton yarn and cloth. Do not place flammable items in the receptacle.
- ◆ On days such as fog, rain, dawn or night, ride under the right lighting.
- ◆ If you find that a part is damaged or deformed, please replace it with a new part before using the bicycle. Otherwise, it may affect the important part under the control of the bicycle, leading to the failure of the important part.

❖ Inspection, cleaning and maintenance before driving

Please make sure to develop a habit of inspection before departure, check regularly and clean it often, preferably with a soft cloth.

**Note:**

When washing the bike, do not use steam or high pressure water, not directly to the brake drum, motor and front and rear axle of water, in order to prevent the impact of water performance and life.

Check before riding. If there is any abnormality, please repair in time or seek professional repair

- ◆ Before driving, check the tire pressure should be appropriate, braking is good, whether the battery capacity is sufficient.
- ◆ Whether the power supply circuit and lighting circuit are in good condition;
- ◆ Whether the front and rear switches can work normally;
- ◆ Fixing of handlebars and front and rear wheels;
- ◆ Whether the reflector is damaged or contaminated.



### III. Quick installation instructions

#### Note:

When first used, please recharge the battery once before use, otherwise it will reduce the performance of the battery.

#### Open the package and examine the item

Please take your bicycle and other articles out of the packing case and handle them gently. You may find it easier to remove the bike from the side of the case. Ask for help if you need it.

Please check the following contents, as well as the accessories you ordered separately, as follows:

- ◆ Models, dimensions and specifications of bicycles
- ◆ Bicycle user manual, warranty registration card
- ◆ Battery charger, pedal
- ◆ 2 keys to the bicycle (to remove the battery case from the frame)

Please keep the spare key in a safe place.

#### ❖ Battery charging

After the bicycle is removed from the packing case, put down the side brace. You can choose to charge the battery directly or take the battery case off the bike and charge it. To remove the battery, insert the key into the keyhole near the battery, rotate to unlock and remove the battery.

- 1) After connecting the charger to the battery, the charger indicator shows green.
- 2) When you connect the charger to a power outlet, the charger indicator shows red, indicating that the battery is being charged.
- 3) When the charger indicator light changes from red to green, it indicates that the battery is full.
- 4) Unplug the charger and separate the charger from the battery.

#### Note:

A. Please turn off the battery when charging, which will prolong the service life of the battery.

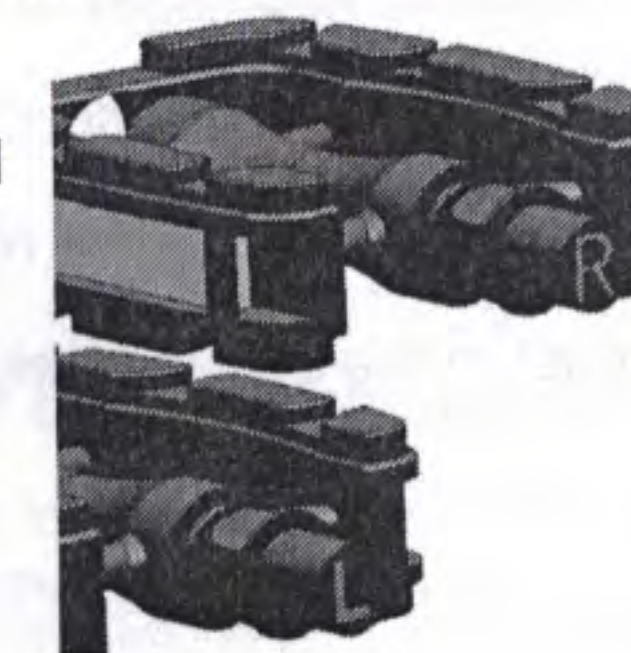
B. The battery is allowed to be charged before the battery is exhausted. Lithium-ion batteries have no "memory effect" and can be used anywhere

When to recharge. It is best to recharge the battery after a short ride so that the battery will still be full on the next ride.

#### ❖ Install pedal

Screw the pedal into the threaded hole of the crank, remember to turn it vertically counterclockwise, and turn it clockwise on the right side, otherwise it will damage the thread of the pedal or crank, which will invalidate the warranty.

Apply grease to the threaded end of the pedal, replace the correct pedal with the corresponding crank arm (left L and right R are generally engraved on the end of the pedal shaft), and tighten the provided pedal wrench. For the thread of the pedals (left L and right R), the direction of rotation toward the front of the bike body is the tightening direction, and the direction of rotation toward the rear of the bike body is the loosening direction.



#### ❖ Adjust the position of the direction knob

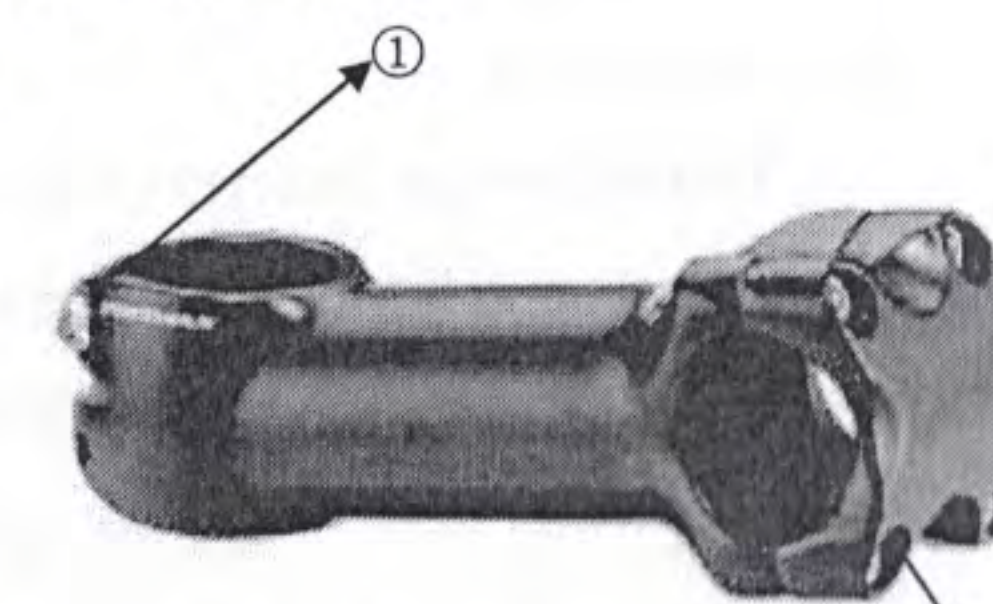
Place the front tire on the floor, use an Allen wrench to loosen the screws in the center of the riser, or the screws on both sides of the riser, align the direction with the frame and the front tire, and then tighten the loose screws.

Adjust the direction to the Angle you want and then tighten it according to your personal needs. The position of the ride can be changed by changing the direction and Angle of the ride. The lower the orientation setting, the more forward the riding posture. This will increase the contortion of the wrists, arms and upper body and require further curvature of the back. The higher the orientation setting, the higher the riding posture. This will increase the pressure on the spine from the vibrations.

Refer to the manual for a method of adjusting the orientation handle and check that the brake handle, gear shift handle, display and other components on the orientation handle are installed in a comfortable position. These adjustments can be made with the appropriate hex wrench.

You can determine the most suitable height by following the steps:

- 1) Sit in the saddle of a bicycle and find someone else to hold it steady if necessary;
- 2) Bend your upper body in the opposite direction until you find a comfortable position for your back;
- 3) Straighten your arm in the direction of the arm;
- 4) Remember the general position of your hand and set the handle at this height.





**Note:**

- ①Screw the standpipe    ②Direction lock screw

Tighten the screws according to the specified torque, otherwise the screws will be cut and the parts will loose or fall off together.

- ③The riser telescopic quick release rod
- ④Directional adjustment quick release lever

Open the ③ quick release lever, stretch the zoom lever vertical tube to adjust to the desired height, and then lock the quick release lever to restore it.

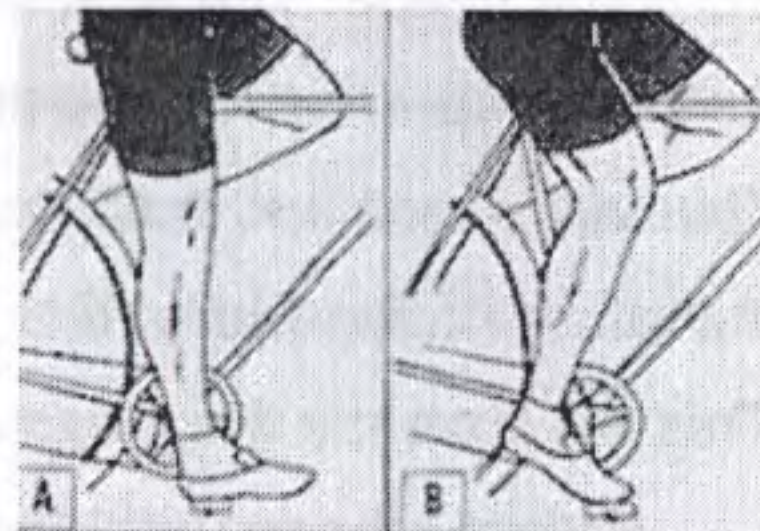
The minimum insertion depth (scale line) of the standpipe must not be exposed to ensure the effective depth of the connection between the standpipe and the frame, which will affect the safety of riding.

Open the ④ quick release lever, rotate the angle of the handlebar to adjust to the required height, and then lock the quick release lever to restore it.



❖ Adjusted saddle height

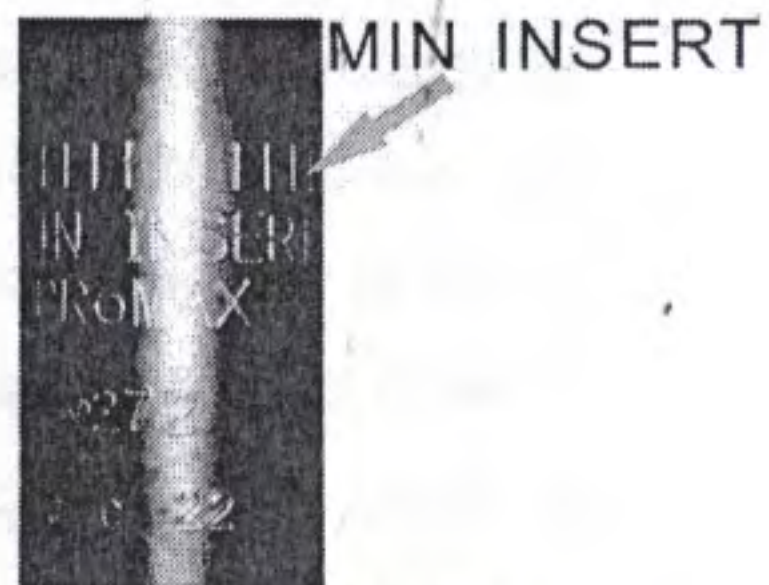
- 1) Sit on the bicycle saddle
- 2) When the pedal is in the lowest position, step on the pedal with your heel, the leg should be nearly straight
- 3) Place your foot in the center of the pedal, and if the leg is slightly bent, the saddle height is just right.



**Note:**

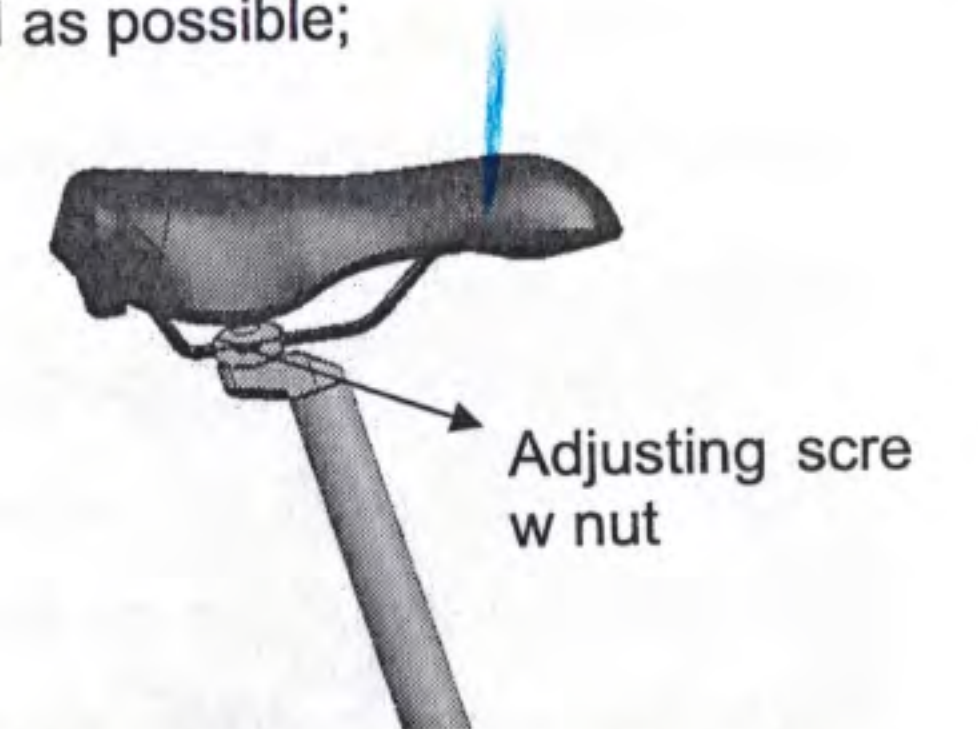
When the minimum insertion depth is higher than the seat tube, do not lock the seat rod. Otherwise you will hurt yourself or damage the rod. Please note the locking torque of the seating rod.

The minimum insertion depth of the seat bar has been graduated on it. If this mark does not appear in the seat bar, the minimum insertion depth should be at least 7.5 cm. For frames where the seat nozzle is away from the upper tube, the minimum insertion depth is 10 cm.



❖ Adjust the seat cushion Angle

The seat cushion should be placed as close to the level as possible; You can find the most suitable seat cushion position by riding for a long time. If you need to tilt the seat cushion, try to lean forward little by little. If you tilt the saddle back, you will soon feel pain or physical injury.



Use an Allen wrench or open-end wrench to loosen the lock nut or quick release that fixes the position of the seat cushion, adjust the seat cushion to your own appropriate tilt angle, and then lock the lock nut or quick release. Then loosen the seat tube clamp, adjust the seat cushion to a suitable height, and clamp the seat tube clamp.

❖ Check and adjust tire pressure

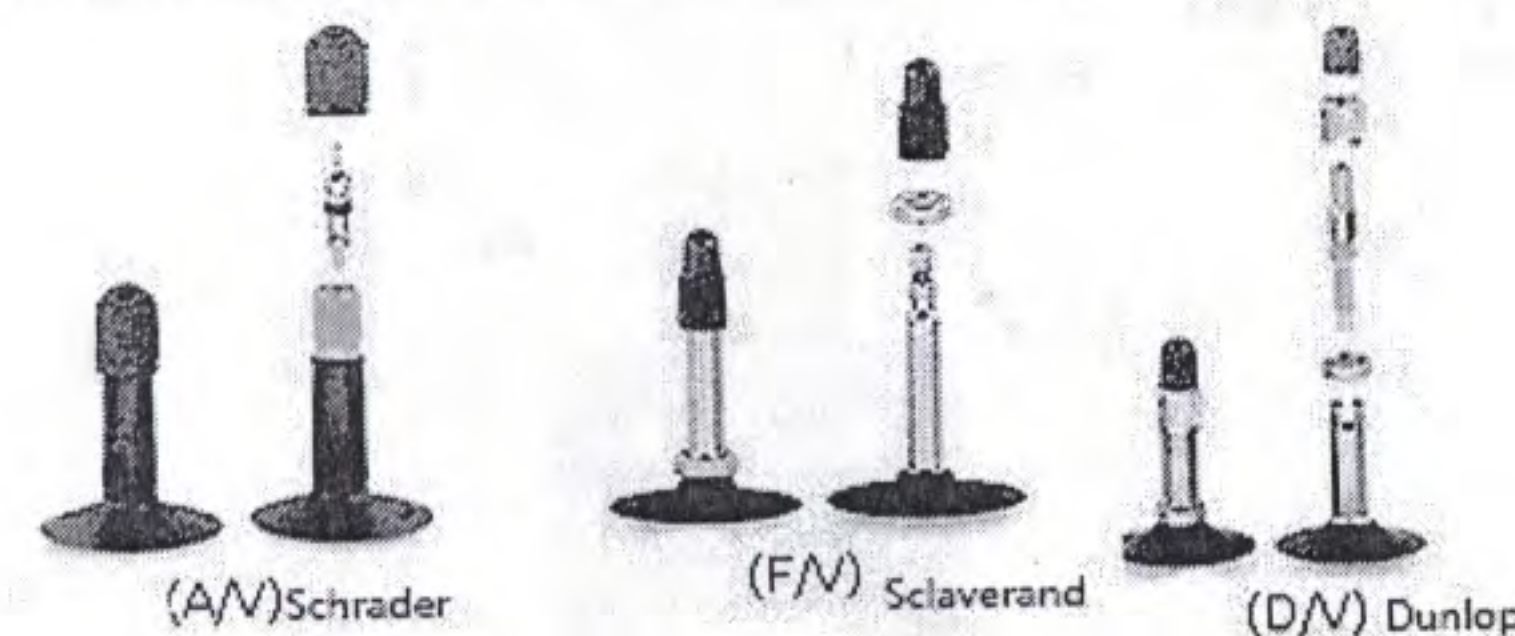
Check the tire pressure. Only inflate the tire according to the maximum allowed tire pressure. Otherwise, the tire will burst. Inflate the tire to a minimum; low tire pressure can cause the tire to come off the rim. The maximum and minimum allowable tire pressures can be found on the side of the tire.

Note the proper tire size. The tire size declaration USES a standard name.

Example 1: "46-622" refers to the width of the tire 46 mm and the diameter of the rim 622 mm  
 Example 2: "28x1.60inches" is 28 inches in diameter and 1.60inches in width

The "technical data" includes a table that converts the PIS value of the tire pressure to the pressure value, expressed in % of the PSI unit.

The inner tube, an essential part of maintaining tire pressure, is inflated through a valve. There are currently three valve types:



(A/V American)    (F/V French)    (D/V German/English)

All three valves are capped to prevent dirt from being sucked in.



❖ Check the lights

Check whether the lamp function is complete. Refer to this manual for more information on how to turn on/off the lights.

❖ Check the power supply and assist system

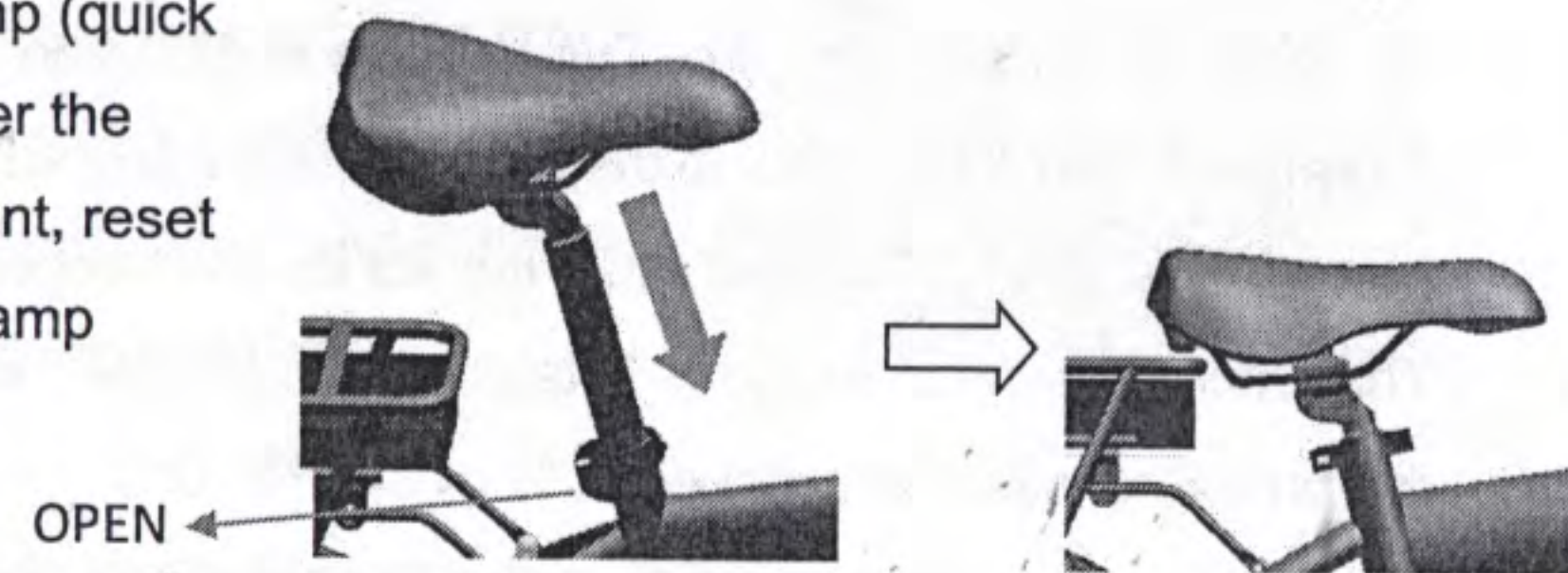
Check whether the battery box is installed in the correct position and whether it is fixed and locked. Turn on the power switch on the battery box to check whether the battery power supply has electricity. You can directly judge from the power display panel on the battery box, or turn on the power assist system and judge according to the display on the display instrument.

Turn on the power-assisted system, tilt the bicycle slightly (the motor wheel is not in contact with the ground), pedal lightly, check whether the motor is rotating, and judge whether the power-assisted system is working.

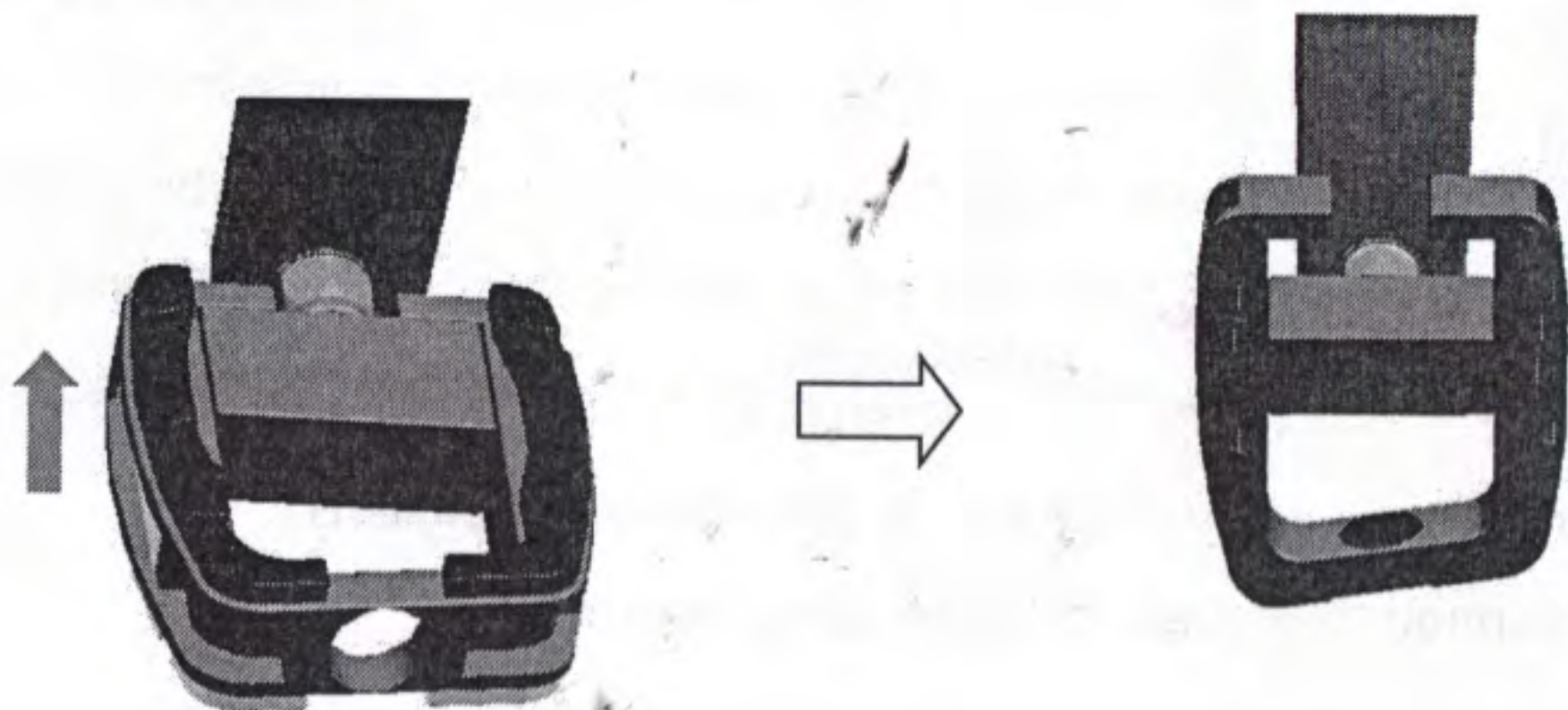
❖ Folding function

e-Fold N4.0 FAT:

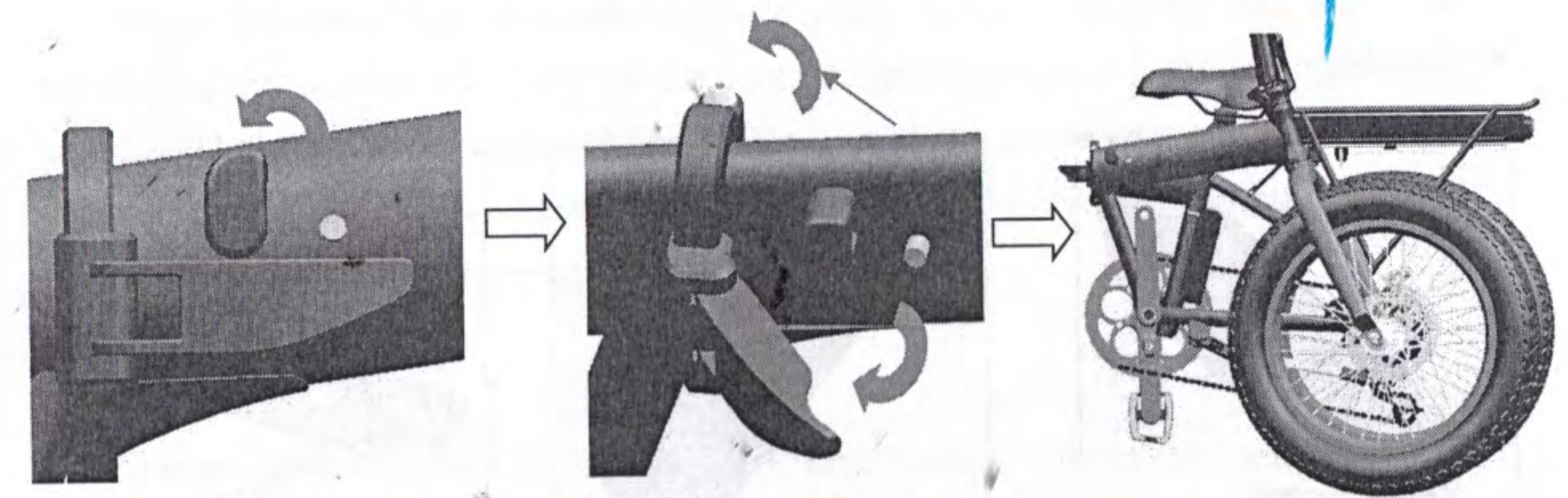
- 1) Loosen the seat tube clamp (quick installation structure), lower the seat tube to the lowest point, reset and lock the seat tube clamp



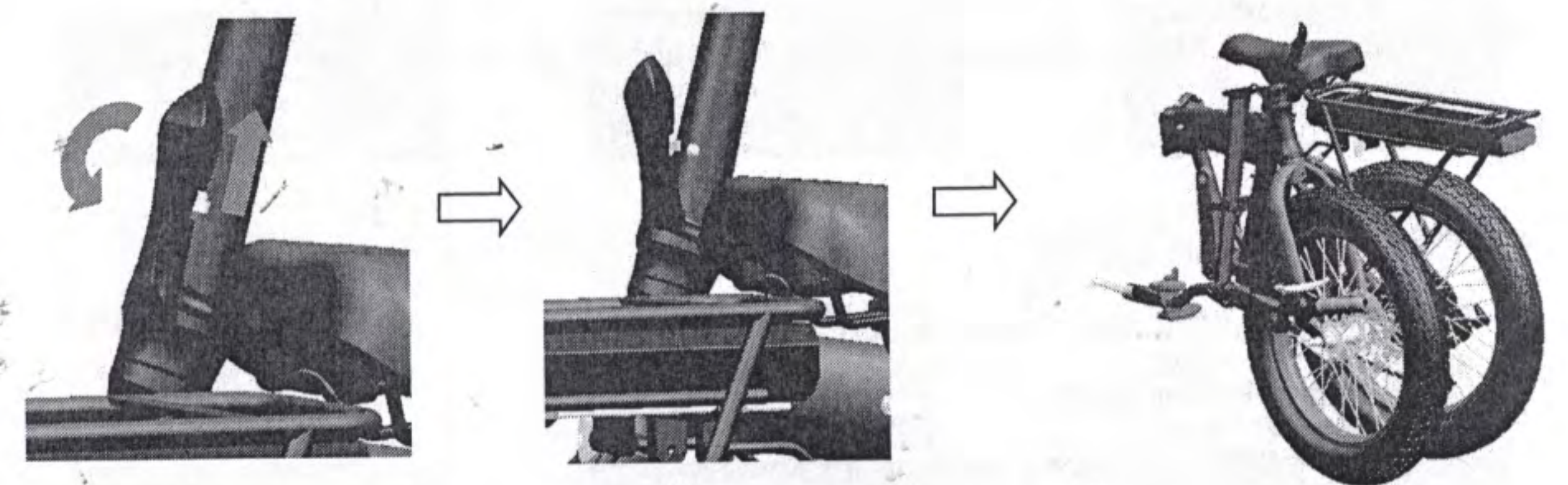
- 2) Push the pedal to the inside and fold it down. The right crank is best adjusted to 7 o'clock direction.



- 3) Open the safety buckle of the folder on the frame, open the folder to the outside, and rotate and fold the front of the frame to the left.



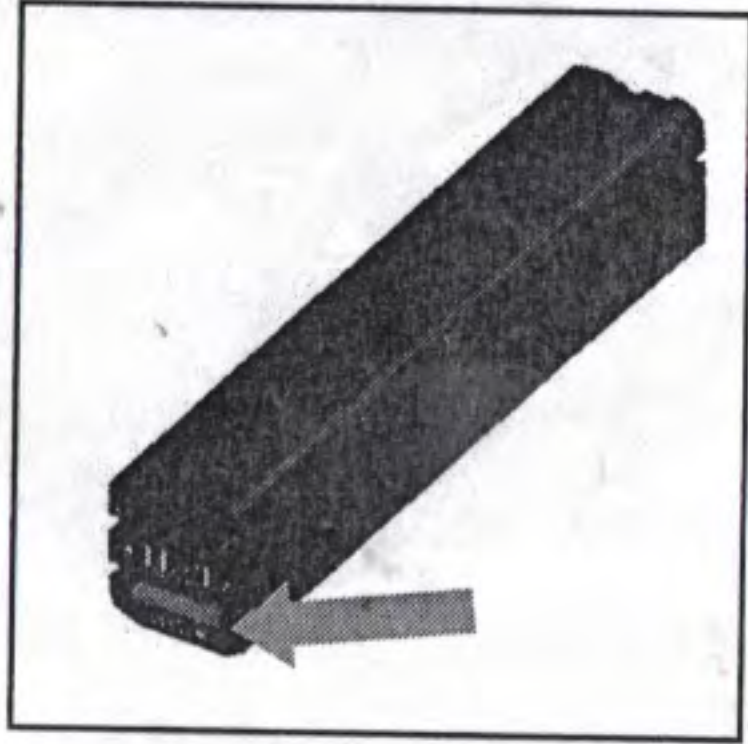
- 4) Lift up the side handle of the standpipe lock and simultaneously open the folding stem safety lock to the outside, and rotate the standpipe down.





#### IV. How to use electrical functions

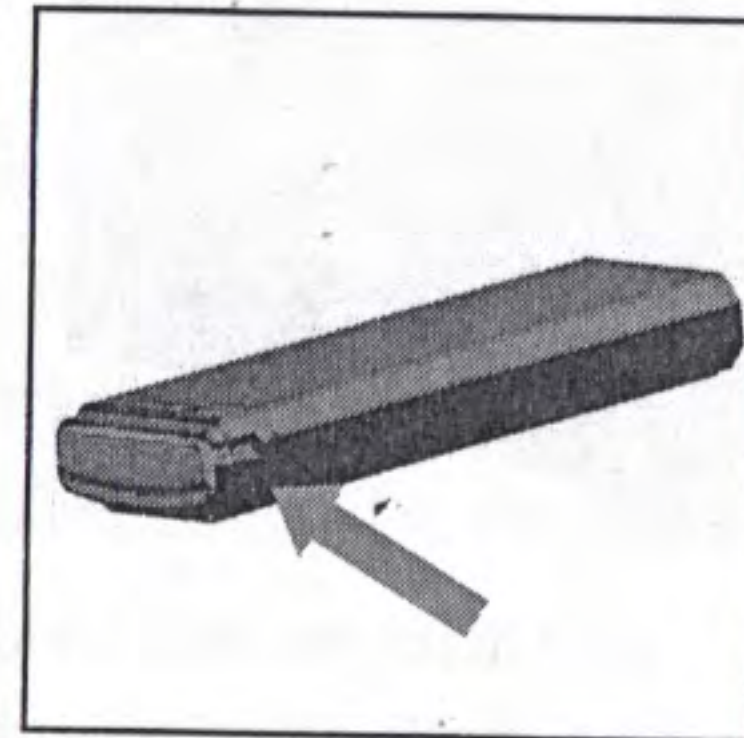
##### ❖ Battery switch:



Mantus e-MTB MTS 500H Battery Switch



Kalio 27.5 Battery Switch



e-Fold N4.0 FAT Battery Switch

##### Note:

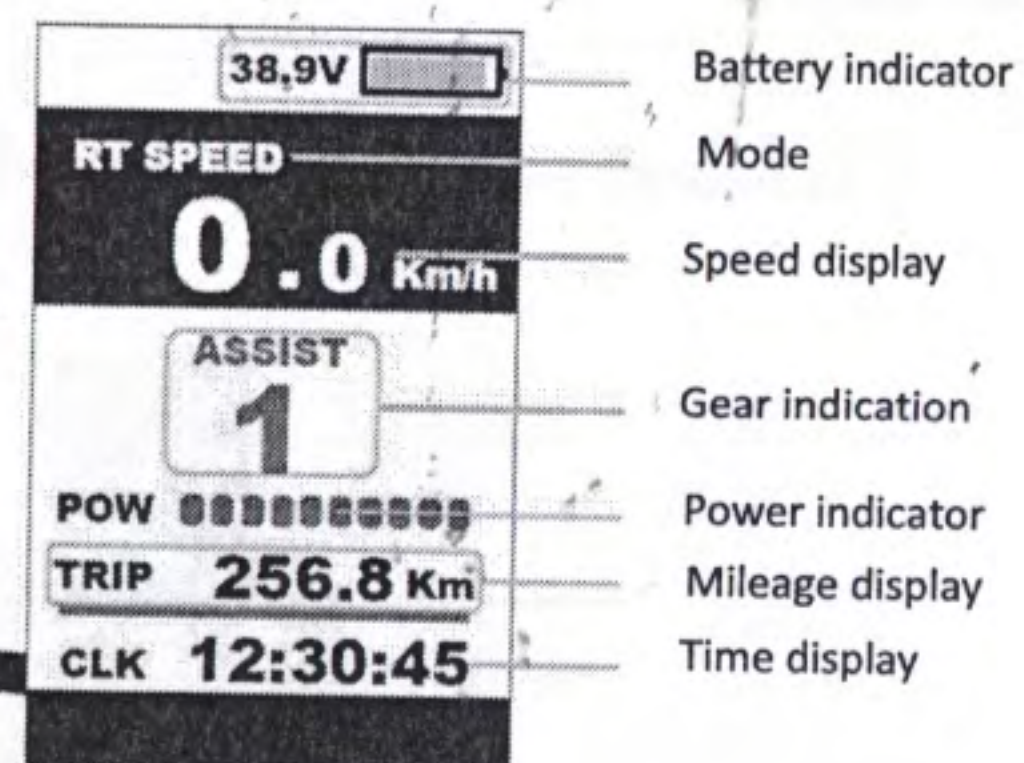
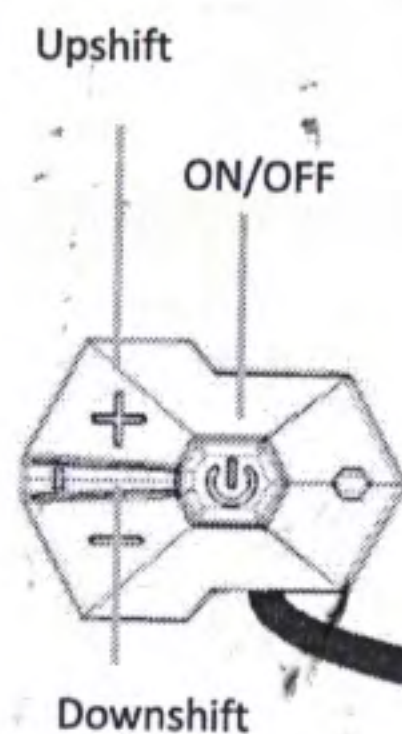
When you leave the bike, please try to remember to turn off the power.

##### ❖ The user of the meter

###### a) 850C button LCD color screen (LCD)

Use function of LCD meter:

- 3.2 inch IPS full viewing angle color screen
- Speed display
- Smart battery display
- Mileage display
- Time display
- Fault prompt
- power push mode
- Headlight indicator
- Brake indication
- Gear indication

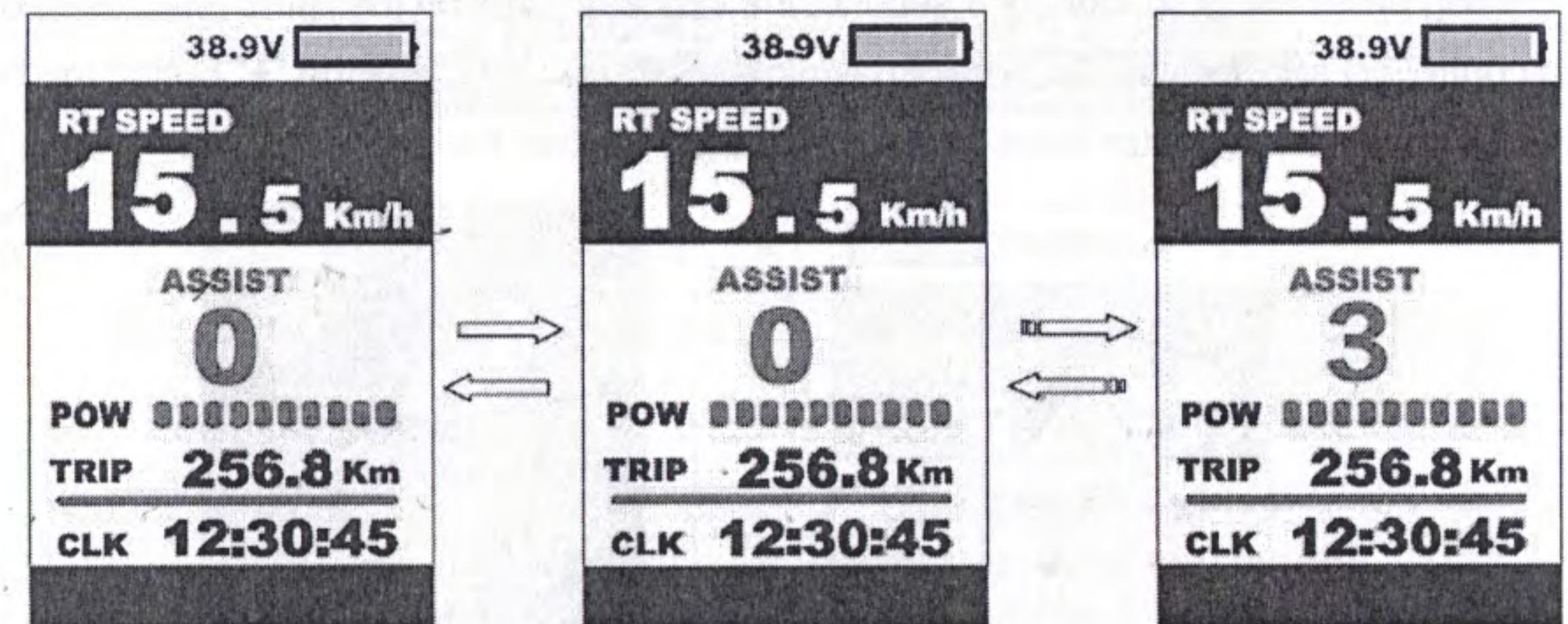


##### ➤ ON/OFF operation

When the meter is off, press and hold the power button (1 second), and the meter will display and start to work, turn on the controller power; when the meter is turned on, press and hold the power button (1 second) to turn off the power of the meter and turn off the controller. If you ride for 5 minutes without operating the meter, the meter will automatically turn off the power.

##### ➤ Gear selection

In manual shift mode, short press the "+" or "-" button to switch the assist gear and change the assist ratio. The lowest gear is 1 gear, and the highest gear is 3 gears. The default is 1 gear when the meter is turned on, and 0 means neutral gear without assistance.

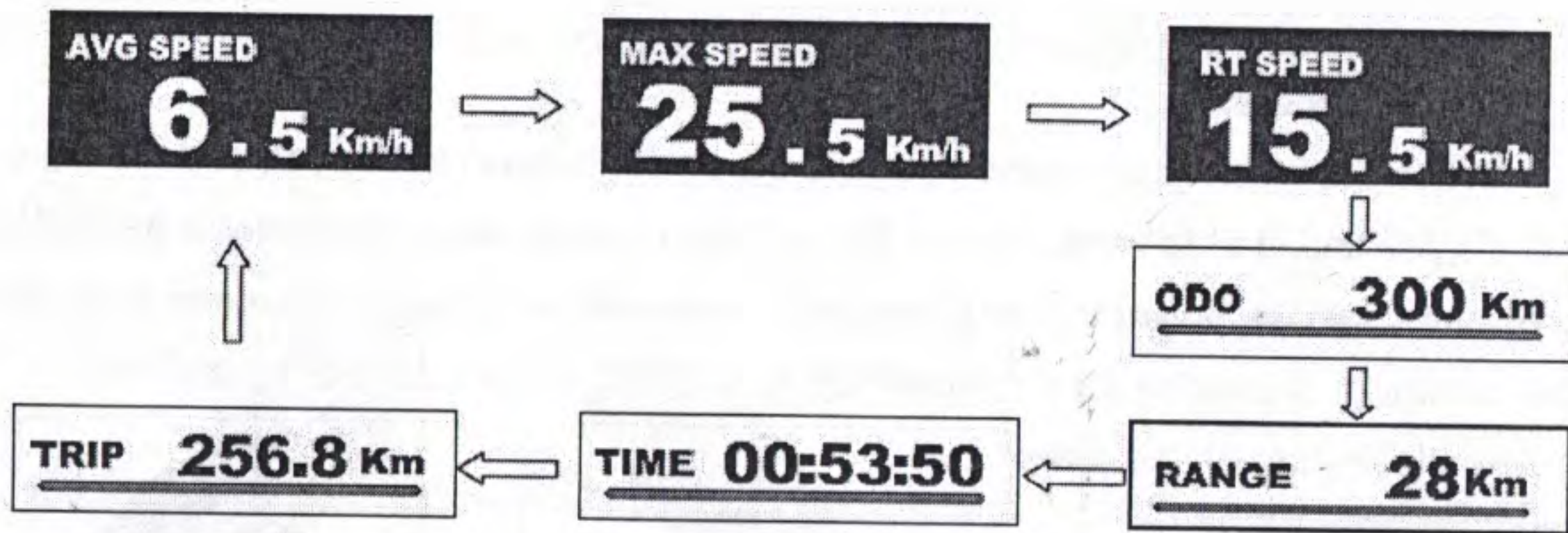


Gear selection display interface

##### ➤ Speed mode and mileage mode switch

In the power-on state, short press the power button to switch the speed display information and mileage display mode, and the following information is displayed in a loop: average speed (AVG SPEED) → maximum speed (MAX SPEED) → real-time speed (RT SPEED) → cruising range (RANGE) → Cumulative mileage (ODO) → riding time (TIME) → single mileage (TRIP).



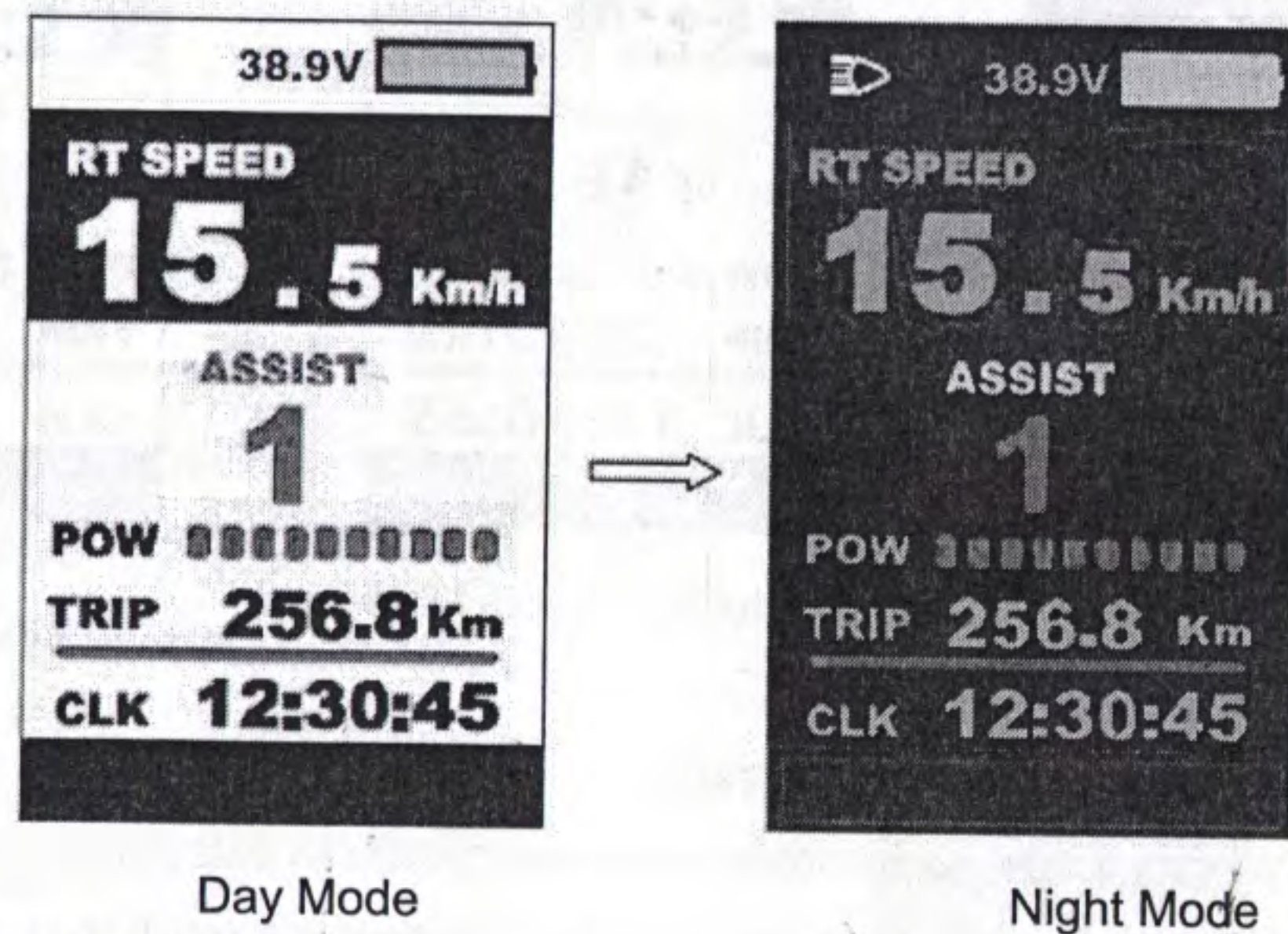


Speed mode and mileage mode switch display interface

※ If there is no key operation for 5 seconds, the meter will automatically return to the real-time speed display state.

➤ Headlight switch/display mode switch

Long press the "+" button for 1 second, the indicator turns on the lights (supported by the controller) and switches to display day/night modes. Long press the "+" button for 1 second again, the indicator turns off the lights and switches the display mode.



➤ Power push mode (6km push)

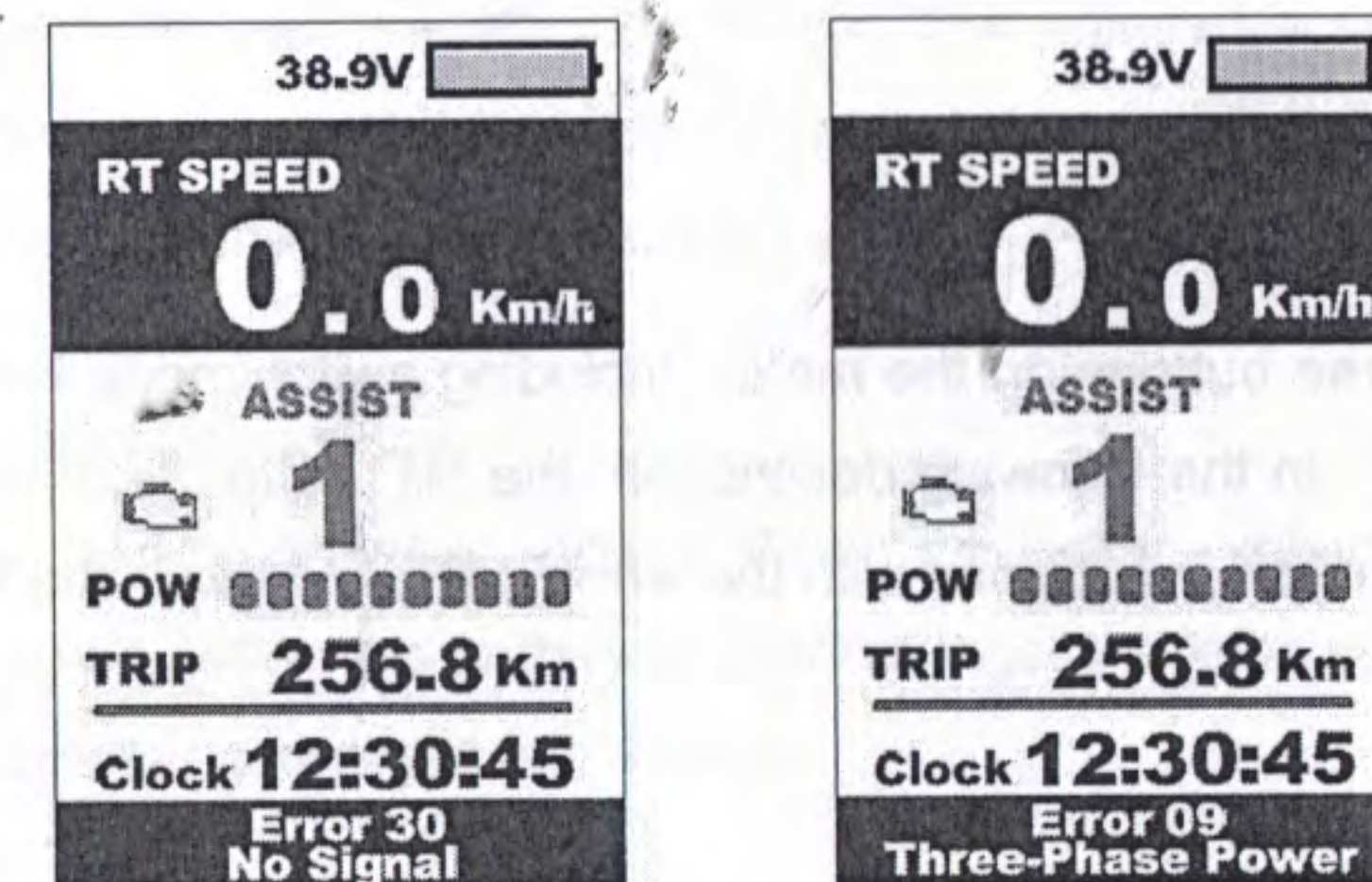
Press the button for a long time, after 2 seconds, the electric vehicle enters the boosting state, the speed displays the real-time speed, the gear position displays P, release the button, the electric vehicle exits the walking mode.

➤ Brake prompt:

Display sign when the brake is powered off (⓪).

➤ Failure prompt

The instrument can provide an error indication for the failure of the whole vehicle. When a failure is detected, the LCD screen displays an icon, and the error code n (n=01 E~FF E) and error description are displayed at the bottom of the screen. The error code comparison table is as follows:



Fault prompt warning display interface

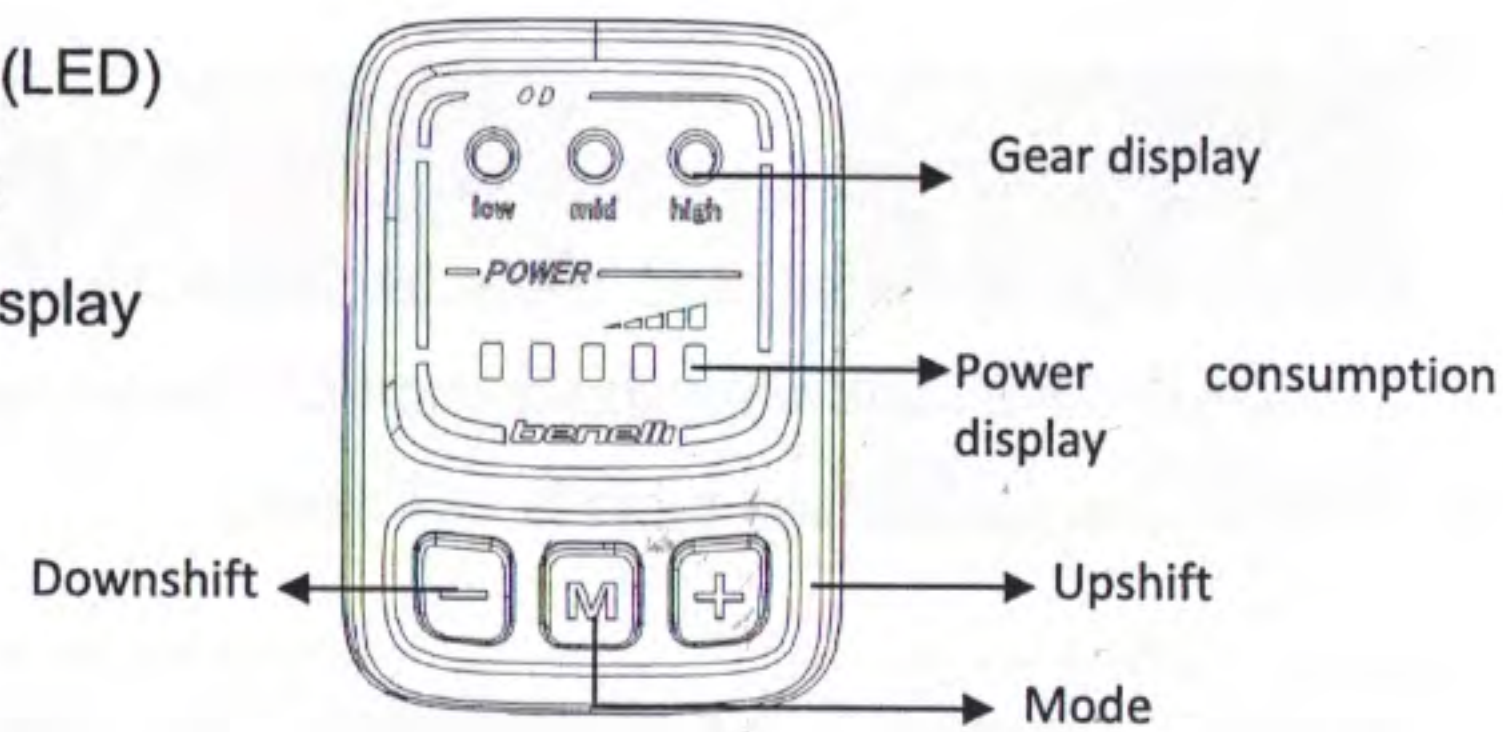
NO.	Status data	Fault code meaning
3	0x04	Handlebar did not return (stopped at high position)
4	0x05	Handlebar failure
6	0x07	Overvoltage protection
7	0x08	Motor Hall signal wire failure
8	0x09	Motor phase line failure
9	0x10	The controller temperature is high and has reached the protection point
10	0x11	Controller temperature sensor failure
11	0x12	Current sensor failure
12	0x13	Temperature failure in the battery
13	0x14	The temperature sensor in the motor is faulty
13	0x21	Speed sensor failure
14	0x22	BMS
15	0x23	Headlight failure
16	0x24	Headlight sensor failure
17	0x25	Torque sensor torque signal failure
18	0x26	Torque sensor speed failure
19	0x30	Communication failure



b) KD26E push-button instrument (LED)

Use of push button LED meter:

- Smart power consumption display
- Gear display
- Power Push Mode
- Headlights ON/OFF



Button definition:

There are three buttons on the meter. Including switch/mode key "M", plus key "+" and minus key "-". In the following description, the "M" button is replaced with the word "MODE", the "+" button is replaced with the word "UP", and the "-" button is replaced with the word "DOWN".

➤ ON/OFF Operation

After long pressing the MODE button for 2 seconds, the meter starts to work and provides the working power of the controller. In the power-on state, long press the MODE button for 2 seconds to turn off the power of the electric vehicle. In the shutdown state, the meter no longer uses battery power.

※ If the electric vehicle is not used for more than 10 minutes, the meter will automatically shut down.

➤ Headlight switch/display mode switch

In the power-on state, after long pressing the UP button for 2 seconds, the indicator will notify the controller to turn on the headlights, and the brightness of the indicator's power indicator and the power-assisted gear indicator will dim. Press the UP button again for 2 seconds and the indicator will notify the controller Turn off the headlights, and at the same time the brightness of the indicator's power indicator and power-assisted gear indicator will be restored to the brightness before the headlights were turned on.

➤ power push mode (6km push)

After holding down the DOWN button for 2 seconds, the electric vehicle enters the assisted push state. The electric vehicle travels at a constant speed of 6 kilometers per hour, accompanied by three gear indicator lights. When the DOWN button is released,

the output of 6Km/h will be stopped immediately and return to the state before boosting.

The power-assisted push function can only be used when the user pushes the electric vehicle, please do not use it in the riding state.

➤ Gear selection

Press the UP/DOWN button shortly to switch the power-assisted gear of the electric vehicle and change the output power of the motor. The adjustable range of the meter output power is 0-3 gears, gear 0 is to stop power output, gear 3 is the highest power. The default gear when the meter is turned on is 1 gear.

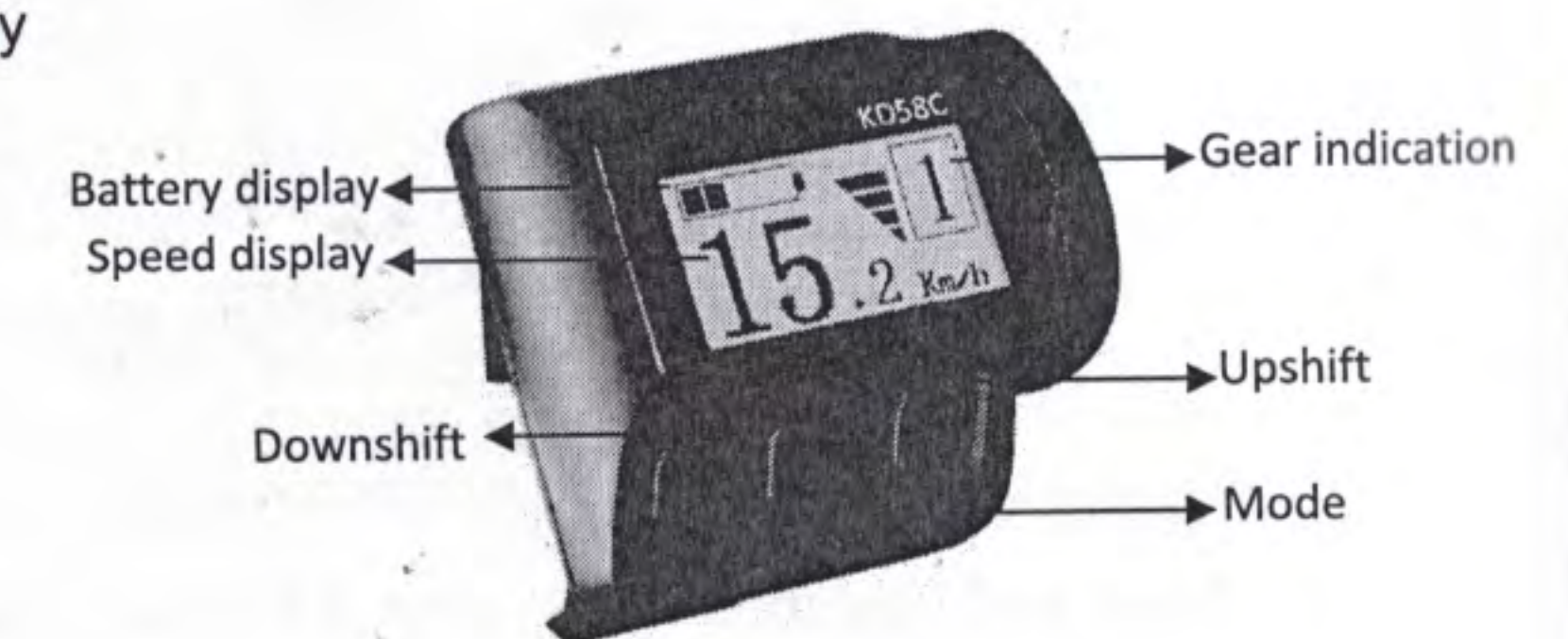
➤ Power consumption instructions:

Five-segment indication of battery power. When the battery voltage is high, the five red LED lights are all on. When the battery is undervoltage, the leftmost red LED flashes, indicating that it needs to be charged immediately.

c) KD58C button LCD screen instrument(LCD)

Use function of LCD meter:

- Smart power consumption display
- Gear adjustment and indication
- Speed display
- Power Push Mode
- Headlights ON/OFF
- Error message display



➤ ON/OFF operation

After long pressing the "M" key, the meter starts to work and provides the working power of the controller. In the power-on state, long press the "M" key to turn off the power of the electric vehicle. In the shutdown state, the meter no longer uses battery power.

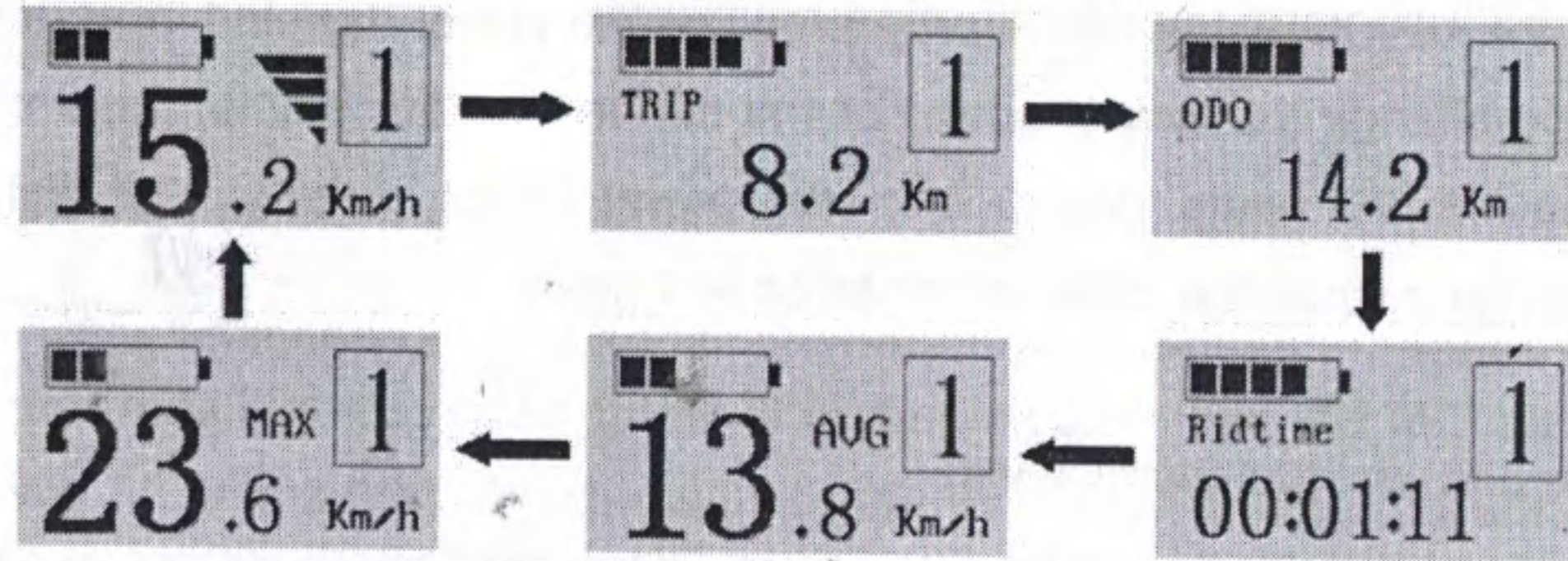
※ If the electric vehicle is not used for more than 10 minutes, the meter will automatically shut down.

➤ Speed mode and mileage mode switch

After the meter is turned on, the default real-time speed display status. Short press



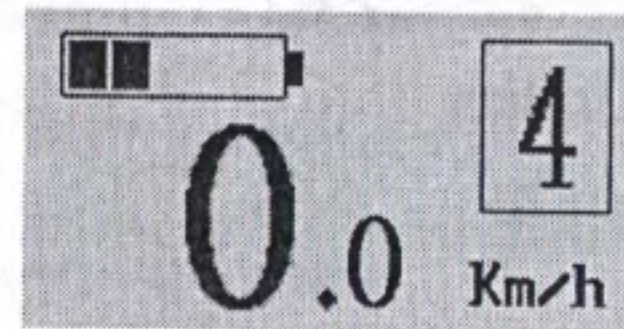
the "M" key to display information in real-time speed (km/h), single mileage (km), total mileage (km), single riding time (hours), average riding speed (thousands) Switch between the maximum riding speed (km/h) and the maximum riding speed (km/h), each state will display for 2 seconds, and then automatically return to the real-time speed display state.



Function display interface switching

➤ Headlight switch/display mode switch

Long press the "+" key for 2 seconds, the meter informs the controller to turn on the front light. Long press the "+" button for 2 seconds again, the meter will notify the controller to turn off the front light.

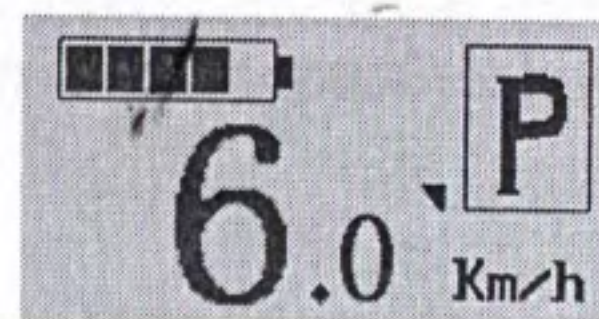


Headlight on indicator

➤ Headlight on indicator

Press and hold the "-" key, after 2 seconds, the electric vehicle enters the state of electric assist. The electric bike travels at a constant speed of 6 kilometers per hour. At the same time, P is displayed in the upper right corner of the screen.

The power-assisted push function can only be used when the user pushes the electric vehicle, please do not use it in the riding state.



power push mode

➤ Gear selection

Short press the "+" or "-" button to switch the electric vehicle booster gear and change the motor output power. The default output power range of the meter is 0-5 gears, gear 1 is the lowest power, and gear 5 is the highest power. The default gear when the meter is turned on is gear 1.



Gear shift display interface

➤ Fault prompt

When the electric vehicle electronic control system fails, the meter will automatically display an error code.



Error code display interface

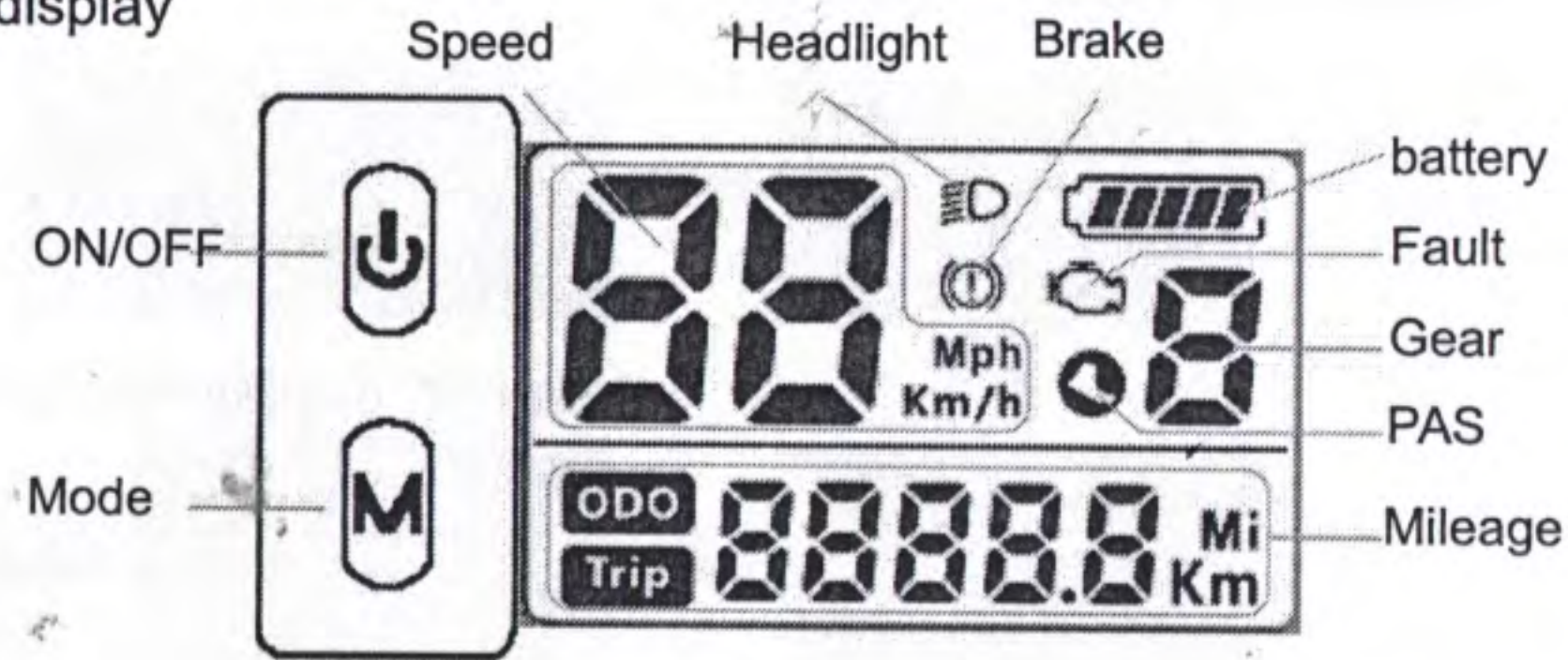
Error code	Definition
21	Abnormal current
22	Handle abnormal
23	Motor phase loss
24	Motor Hall signal is abnormal
25	Abnormal braking
30	Communication abnormal



d) 510S button LCD screen instrument(LCD)

Use function of LCD meter:

- Gear adjustment and indication
- Smart power consumption display
- Speed display
- Power Push Mode
- Headlights ON/OFF
- Error message display
- Brake prompt
- Fault prompt



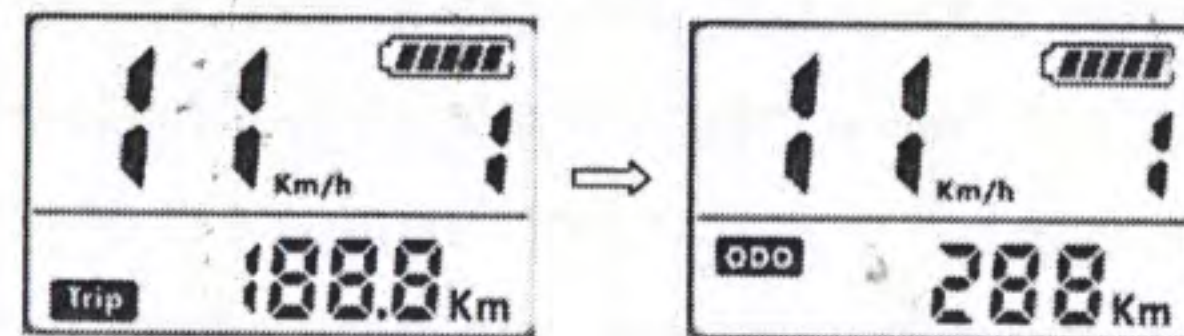
➤ ON/OFF operation

When the meter is off, press and hold the power button (1 second), the meter will display and start to work, and turn on the controller power; when the meter is on, press and hold the power button (1 second) to turn off the power of the meter and turn off the controller.

※ If the electric vehicle is not used for more than 5 minutes, the meter will automatically shut down.

➤ Speed mode and mileage mode switch

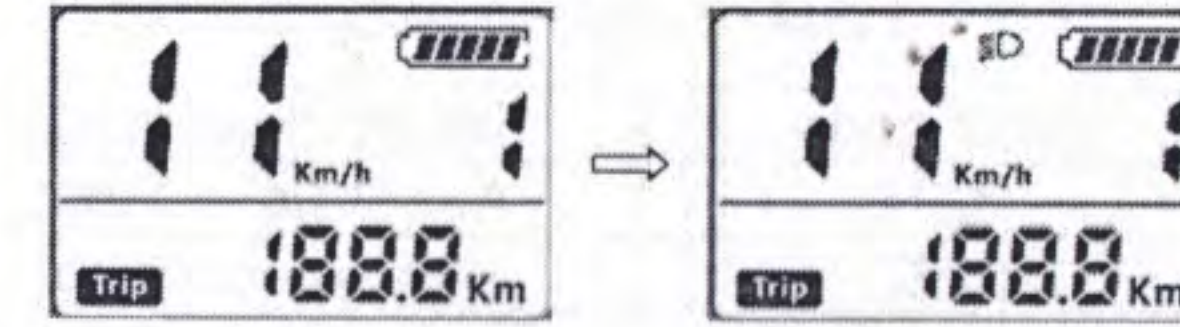
Double-click the mode button (with an interval of less than 0.3 seconds) in the power-on state to switch to the mileage display mode, and the following information will be displayed cyclically: single mileage (TRIP) → accumulated mileage (ODO).



Function display interface switching

➤ Headlight switch/display mode switch

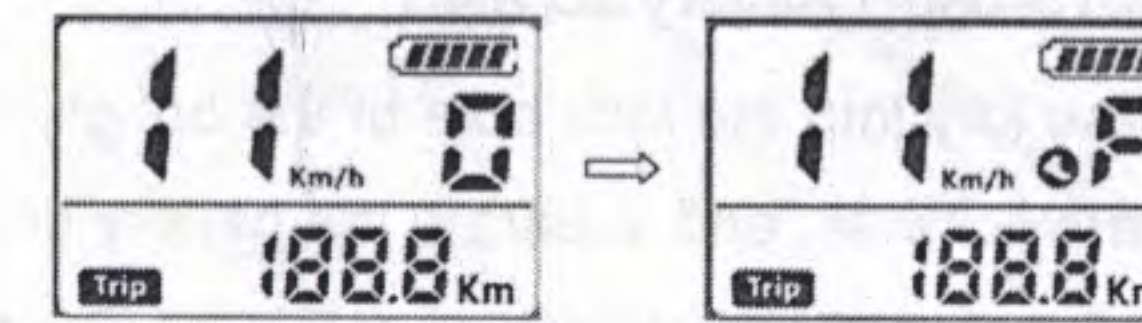
Double-click the switch key (the interval is less than 0.3 seconds), the instrument turns on the lights (supported by the controller). Double-click the power button again, the instrument turns off the lights.



Headlight on indicator

➤ power push mode (6km push)

Short press the mode button to downshift to the assist push status interface, in this interface, long press the mode button, the electric vehicle enters the boost mode, the icon flashes, release the mode button to exit the boost, the icon does not flash. Short press the key to increase the file to exit the assist implementation status interface.



power push mode indicator

➤ Gear selection

In manual shift mode, short press the power button or the mode button to switch the power-assisted gear and change the power-assistance ratio. The lowest gear is 1 gear, and the highest gear is 3 gears. The default is 1 gear when the meter is turned on, and 0 is neutral.



Gear selection interface

➤ Fault prompt

The instrument can provide an error indication for the whole vehicle failure. When a failure is detected, the LCD screen displays an icon, and the error code n (n=01 E~FF E) and error description are displayed at the bottom of the screen. The error code comparison table is as follows:





### Fault prompt warning display

Error code	Failure description
0x21	Abnormal current
0x22	Handle abnormal
0x23	Three-phase power abnormality
0x24	Motor Hall abnormal
0x25	Brake failure
0x26~99	Keep
0x30	Communication fail

### ❖ Battery, controller box open

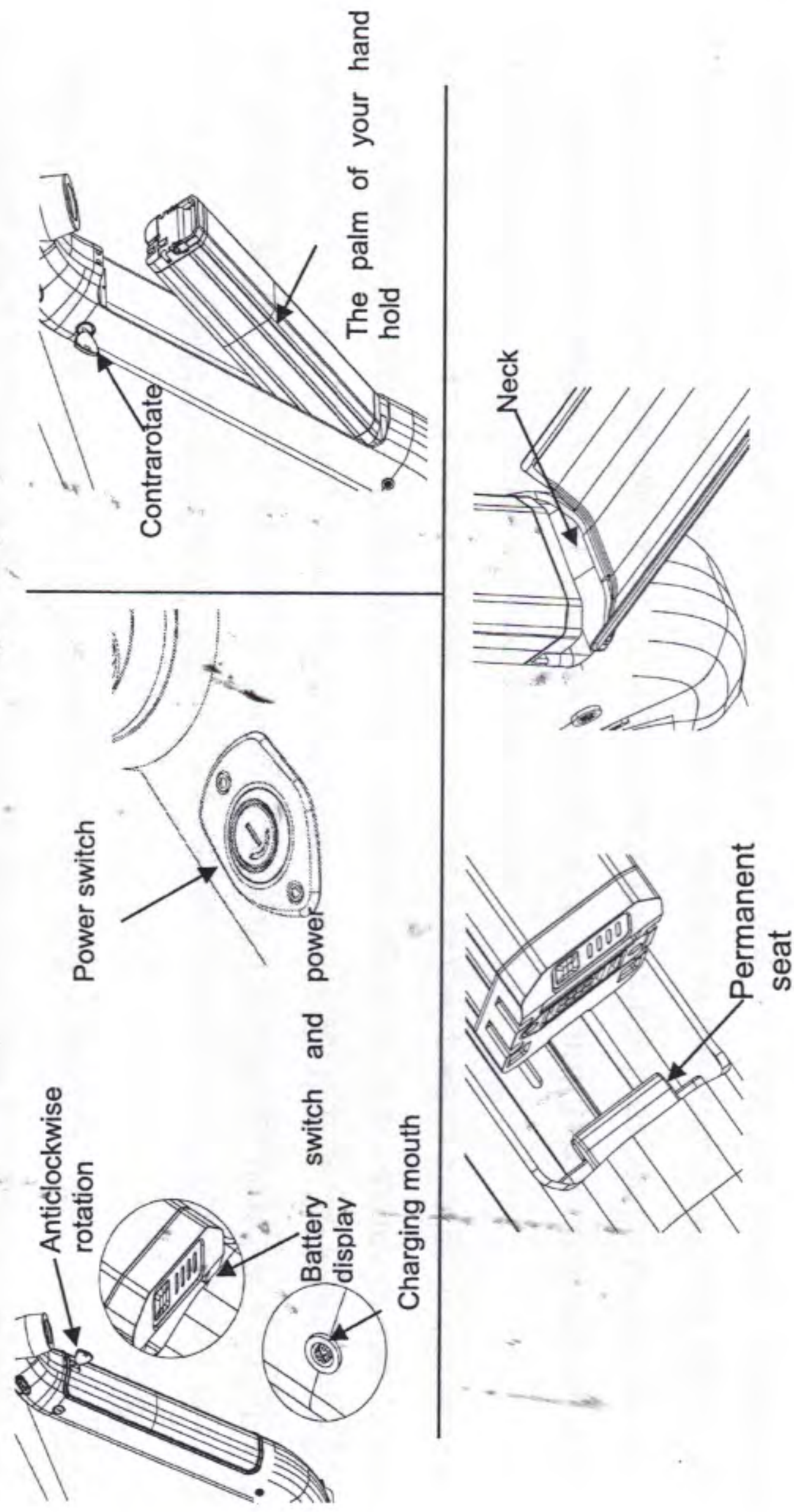
a) Mantus, e-MTB MTS 500H. Battery access:

1) Battery switch: insert the key into the lock hole of the battery box cover (do not fully insert it), rotate 90° counterclockwise, and separate the battery box cover from the lower tube. The battery switch is located at the bottom, click to turn on or off the battery output. Or directly touch the power switch on the upper tube of the frame, the button will show a blue light to indicate that the power is on, press the button again, the light goes out, and the power is off.

2) Battery charging: Check the battery level by pressing the display panel at the bottom of the battery or the battery indicator on the meter. If the battery is low, please charge it in time. The charging port is located on the lower right side of the lower tube of the frame.

3) Take out the battery: After the battery box cover is opened, insert the key into the lock hole and turn it counterclockwise, and the battery will be automatically separated from the holder (before turning the key, you need to support the battery with your palm to prevent it from falling directly to the ground after separation);

4) Install the battery: first align the bottom end of the battery with the holder, then move the upper end of the battery closer to the holder and apply force until you hear a "click" sound, the battery installation is complete. The slot at the bottom of the battery box cover clamps the wall of the lower tube, and the battery box cover is restored to the locked state

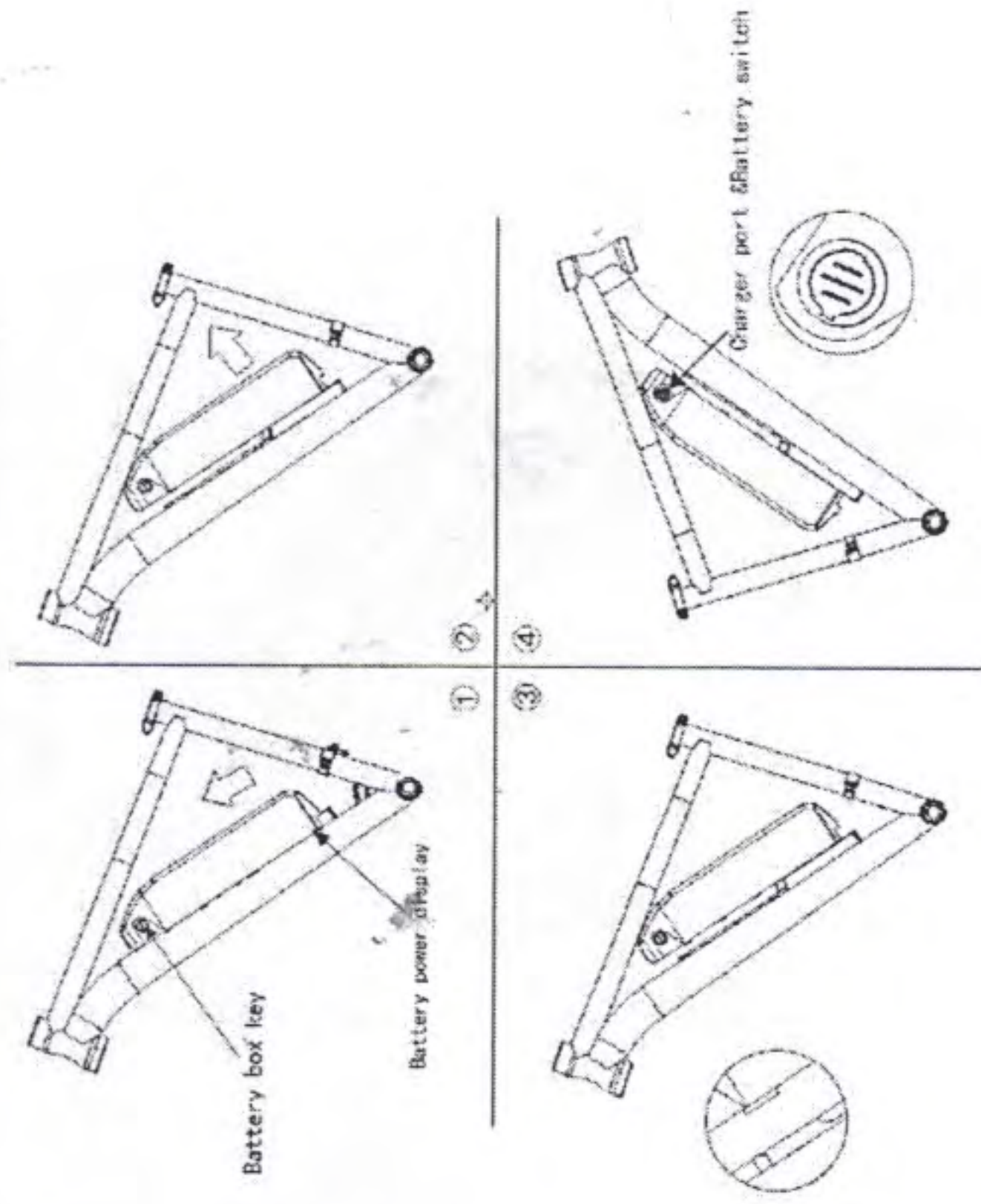


b) Kalio 27.5 Battery access:

1) Battery switch: The switch is located on the upper right side of the battery

2) Battery charging: Press the bottom left side of the battery or the indicator power display to check the power. If the battery power is low, please charge it in time. The charging port is located at the upper right side of the battery.

3) Take out the battery: insert the key into the lock hole and turn it clockwise, push the battery up along the rail until the battery buckle is separated from the rail; after the battery buckle is separated from the rail, lift the battery up and then take it out.





4) Install the battery: When replacing the battery, please make sure that the buckle is aligned with the groove of the guide rail and slide down along the guide rail. The key is closed.

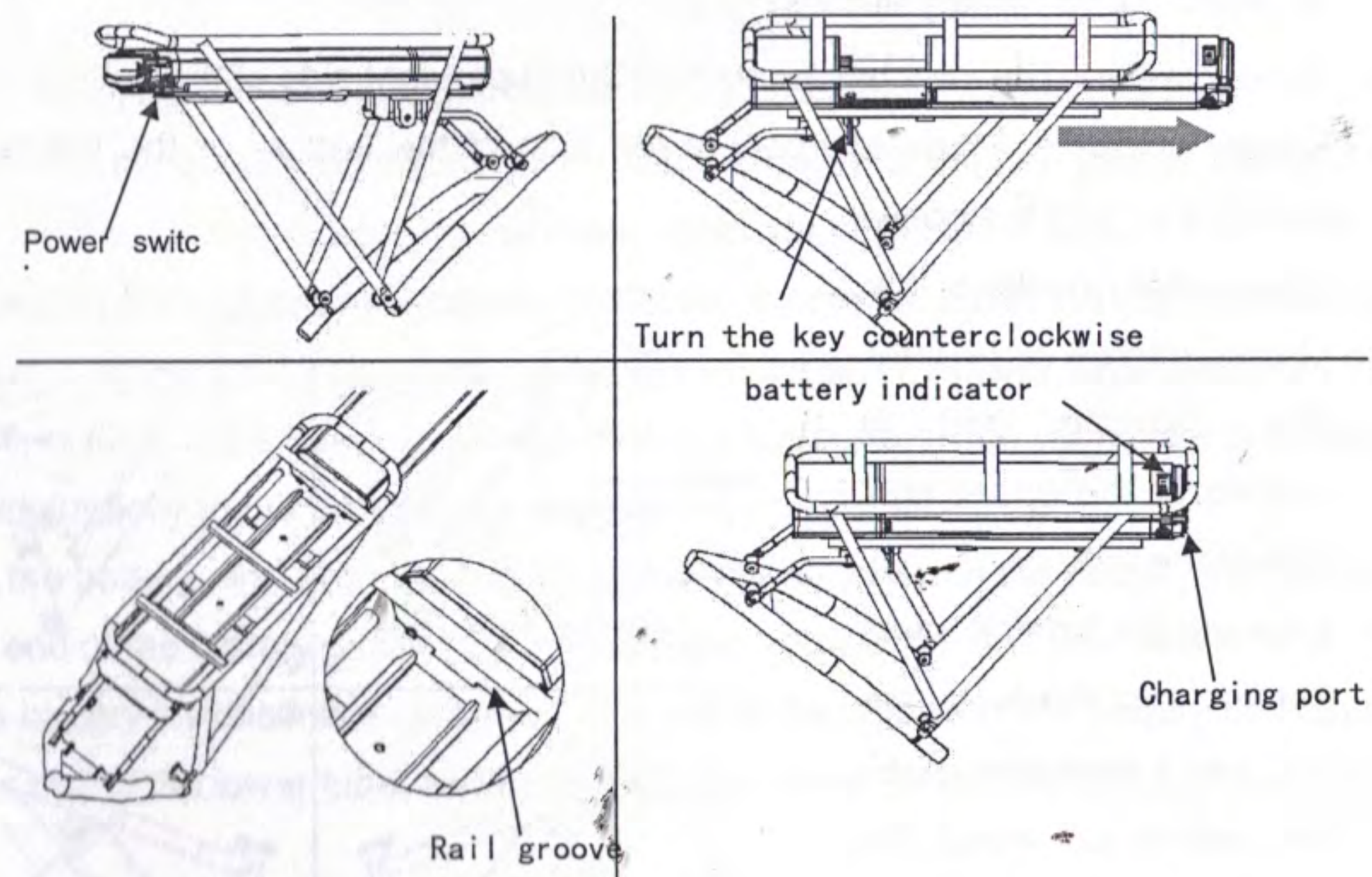
c) e-Fold N4.0 FATBattery access:

1) Battery switch: the red button on the right side of the battery; press the switch (no rebound), that is, the battery is on; press the switch (rebound), that is, the battery is off.

2) Charging the battery: Press the upper display panel of the battery or the power display of the meter to check the power. If the battery is low, please charge it in time. The charging port is located at the left end of the battery.

3) Take out the battery: insert the key into the lock hole and turn it counterclockwise, and force the battery backwards along the rail until the battery is separated from the rail.

4) Install the battery: Align the rail groove at the bottom of the battery with the frame rail, and push forward along the horizontal direction of the rail until the battery position is restored, the key is turned clockwise, and the key can be separated. (If the key cannot be separated, the battery may not be installed properly).



#### ❖ Battery replacement

Lithium batteries will affect the cruising range due to time and number of uses, so the batteries need to be replaced in time. Please contact your dealer for battery replacement.

#### **Note:**

Do not throw away the batteries randomly to avoid environmental pollution. The waste batteries of this product will be recycled at the outlets designated by the company, distributors and the government.



## V. Check before driving

### ❖ Tire inspection:

- 1) Whether the tire pressure is normal.

Determine whether the air pressure is appropriate according to the indentation of the grounding part of the tire. When the air pressure is abnormal, check it with a tire measuring device and adjust it to normal pressure. Generally speaking, the recommended air pressure range is clearly marked on the tire.

For example: 280-450KPa (40-60PSI/2.8-4.5BAR) MIN.-MAX.

- 2) Whether the tires are cracked or worn out.
- 3) Whether there are nail stones, glass embedded in the wheel.

#### **Note:**

Irregular tire pressure, cracked tires, damage and abnormal wear are all causes of poor steering and tire bursts.

- 4) The depth of the tire grooves. Replace the new tire when the bump on the tire has worn out 2/3.

### ❖ Inspection of lighting installations:

- 1) Turn on the power, operate the lighting switch, check whether the front light and tail light are on, and whether the front light beam is normal.
- 2) Check the front and rear brake levers separately to see if there is a power failure.
- 3) Check the lighting device for damage, in order not to affect the driving, please check carefully.

### ❖ Dirt and damage of the reflector:

- 1) Check the reflector for dirt and damage.

### ❖ Handlebar and front and rear wheel inspection:

- 1) Swing the handlebar up, down, left, right, front and back, and see if there is any looseness.
- 2) Is there any over-tightening.
- 3) Whether the handle is bumped. If the handlebar is loose or there is a knocking sound, please contact the dealer to provide you with the most complete after-sales service.
- 4) Whether the front and rear wheels are loose and whether the tightening torque meets the requirements.

## VI. Proper driving

### ❖ Start method:

Before starting: stand on the left side of the bike, prop up the bike, and check whether the whole bike is abnormal.

- 1) When the battery switch is turned on, start the electrical switch, check whether the various lights are on, whether the switches are working, and whether the handlebar switch is normal; if there is no abnormality, put the bike back away.
- 2) The motor starts. When you sit firmly on the bike, slowly rotate the electric handle inward, and the bike will start driving, and then slowly accelerate.

#### **Note:**

After the bike supports are closed, the person is not riding steadily and cannot turn the electric handle.

### ❖ Gear adjustment:

The motor boost output can be adjusted through the meter gear. The electric turn handle (electric finger dial) rotates...accelerate slowly. Accelerate slowly when you just start or go uphill. The motor power will increase. The electric switch (electric finger dialing) returns to the position... slow down.

### ❖ Use of brake:

- 1) After quickly returning the power adapter to the position, hold the brake grip firmly.
- 2) It is ideal to brake slowly and then tighten.
- 3) Do not brake or steer sharply. Emergency braking and sharp steering are the main factors causing sideslip or rollover, which is extremely dangerous.

#### **Note:**

Only the front or rear wheels are braked, and the bike may slide horizontally, which is extremely dangerous.

### ❖ Precautions while driving:

- 1) Maintain a natural posture to drive freely.
- 2) The operating safety of a two-wheeled vehicle has an impact on the seating position. Please always keep it in the middle of the seat cushion when sitting to prevent the



front wheel load from being reduced and the handle trembling and causing danger.

- 3) It is difficult to accelerate on damaged roads or gravel-paved roads. Drive slowly and observe carefully.
- 4) Rainy and snowy days, wet roads are prone to skidding, so concentrate on preparing and braking in advance. After cleaning the vehicle or driving in water, pay special attention to the working conditions of the brakes. After cleaning or driving in water, the braking effect may be reduced. When driving slowly, pay attention to safety, and brake gently until it returns to normal state.
- 5) In heavy rain and heavy rain, when the road surface water exceeds the lowest position of the outer edge of the wheel motor, please do not ride in the water to avoid possible performance failures of the motor and rear brake.
- 6) If the tire is punctured, please repair it nearby to avoid damage to the rim.

#### ❖ Parking method:

- 1) Return the speed control handle and use the front and rear brakes earlier.
- 2) When the vehicle comes to a complete stop, the instrument switch is off and the battery switch is off.
- 3) When parking, people stand on the left side and on a flat ground to prop up the bike.

#### **Note:**

- A. Do not park on soft sloped ground to prevent the vehicle from tipping over. When parking the vehicle, please prop up the vehicle.
- B. When you leave the bike, in order to prevent the bike from being stolen, please be sure to lock the battery box lock and take away the key.
- C. It is not allowed to ride the bicycle with large objects and overloaded objects in the back seat, and must abide by traffic laws and keep in mind the safe speed.

## VII. Battery, motor and maintenance

### ❖ Battery charging and maintenance:

The lithium batteries used in this product are all maintenance-free products. The operating environment is  $-20^{\circ}\text{C}\sim 60^{\circ}\text{C}$ , exceeding the range will affect the capacity and life of the battery. Use in low temperature conditions, the continued mileage will be shortened, and will naturally recover when the temperature rises.

- ◆ Lithium batteries have no so-called memory effect, so they can be fully charged after each ride.
- ◆ Lithium batteries are equipped with a battery management system. If a short circuit occurs, the battery management system will shut down the battery without damaging the battery; you can also leave it while charging, because it will prevent overcharging.
- ◆ It is strictly prohibited to store the battery under long-term power loss. If the battery is not used for a certain period of time, fill it with three-quarters of its power and store it at a temperature of 10 degrees Celsius above zero. The battery will enter sleep mode to protect its power from being discharged.

On the surface of the battery case, there is a power control display board with LED lights and a button. Press the button and the LED lights will light up. According to the number and the way the LED lights light up, the battery information and charging status can be determined.

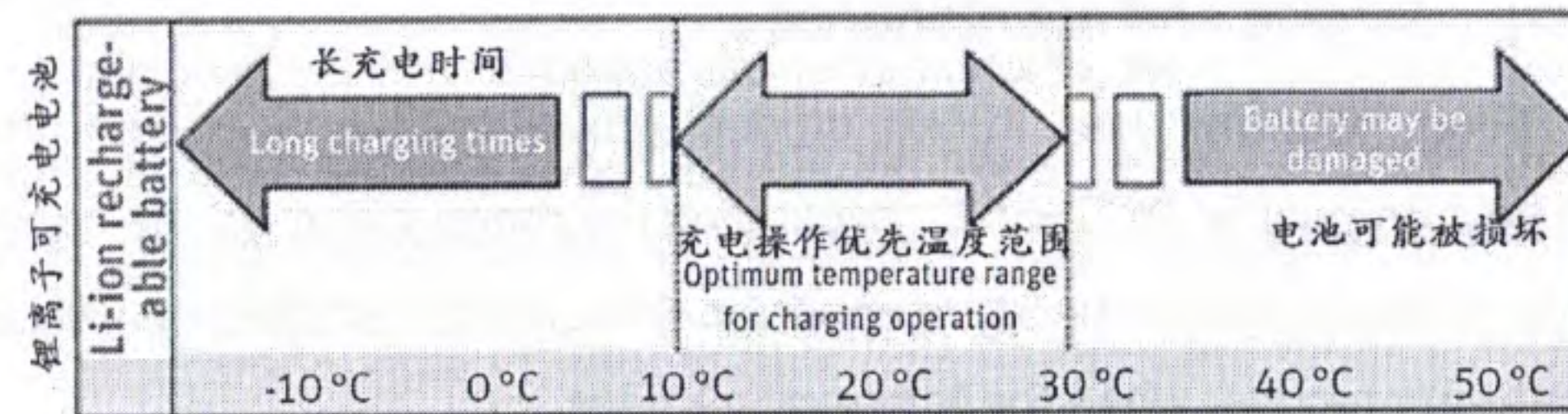
To replace the battery, please contact a professional service point. Used lithium batteries cannot be thrown away at will, and cannot be dismantled without authorization. Relevant professional departments should organize recycling.

### ❖ The use and maintenance of the charger:

Check carefully whether the rated input voltage of the charger is consistent with the grid voltage. The battery can be charged directly in the bike, or it can be removed and taken to a suitable place indoors for charging. It is better to charge indoors in cold winter areas. Please connect the output end plug of the charger to the charging jack of the battery properly, and then connect the input end plug of the charger to the AC power supply, and the power indicator red light is on. This procedure is not allowed to operate in reverse. At this time, the red light of the charging indicator of the charger is on, indicating that the battery is energized; when the green light is on, it indicates that the battery is fully charged. The charging time is about 2-4 hours (the length of the charging time depends



on the amount of electricity remaining in the battery). Under special circumstances, the maximum continuous charging time does not exceed 6 hours.



Charging times at different temperatures  
在不同温度的充电时间

#### Notes on charging:

- 1) The user must operate according to the instructions when charging;
- 2) The original charger must be used, do not use other brands of chargers, and other types of lithium batteries should not use this charger;
- 3) When the charger is working, please place it in a safe place out of the reach of children. It should be placed in a ventilated environment. It is strictly prohibited to charge in a confined space or in a hot sun and high temperature environment. Do not place the charger on a saddle or rear shelf to charge ;
- 4) When charging, insert the battery first, then connect to the grid; when it is full, first cut off the mains, and then unplug the power plug;
- 5) It is forbidden to connect the charger to the AC power supply without load for a long time without charging;
- 6) Do not cover anything on the charger while charging. This charger is for indoor use. Please use it in a dry and well-ventilated environment during the charging process. If the indicator light is abnormal, there is a peculiar smell or the charger casing is overheated, stop charging immediately and send it to the dealer for inspection.
- 7) During the use and storage of the charger, pay attention to avoid the entry of foreign objects, especially avoid influx of water or other liquids and metal particles from penetrating into the charger to avoid short circuit inside the charger.
- 8) Beware of falling and impact to avoid damage.
- 9) Do not disassemble or replace the parts in the charger by yourself. When replacing the charger, it should match the lithium battery model.

#### ❖ Use and maintenance of motors and controllers:

Regularly remove the dirt and dirt on the end covers on both sides of the motor to facilitate heat dissipation when the motor is working, extend the demagnetization time of the motor, and thus extend the service life of the motor.

Regularly check whether the cover screws at both ends of the motor and the fastening nuts of the shafts at both ends are loose. If there is any looseness, tighten them in time to avoid damage to the motor during riding.

Regularly go to the maintenance point to check the insulation of the motor wiring and the casing. If there is no insulation, find out the cause and repair it in time.

Regularly check whether the connecting plug-in of the controller is loose, and regularly check whether the fuse box of the whole vehicle is loose, and deal with it in time if it is loose. The vehicle should be started and accelerated slowly when starting to reduce the impact of high current on the controller, motor and lithium battery and prolong the service life of electrical components.



## VIII. Regular inspection and simple maintenance method

In order to prolong the service life of the vehicle and enable it to drive safely and comfortably, please check and maintain it regularly. When the vehicle is out of service for a long time, it should also be checked regularly. The new bike should be inspected and maintained when it is driving 300Km.

### ❖ Pay full attention to safety during inspection:

Choose a spacious and flat place to support the bike. When driving inspections are required, they must be carried out in a safe place while paying attention to the surrounding safety. If an abnormality is found through the inspection, please eliminate the abnormality before driving. If you have a project that is difficult to solve by yourself, you can entrust a repair station for inspection.

### ❖ Inspection of operating parts:

Check whether the front fork is bent, damaged, or shake the handlebar up and down. Check for abnormal noises caused by the bending of the front fork. If the front fork is abnormal, please go to the dealership for inspection and repair.

Brake inspection: Whether the free gap of the brake is within the specified range (10-15mm). The measurement shows that if it is not right, it should be adjusted. The brake pads are severely worn (more than 2/3) and require timely replacement.

#### Note:

After adjusting the brake, be sure to tighten the brake wire fixing screws to prevent danger when driving, and at the same time, keep the power off before braking.

### ❖ The effect of braking:

Drive at low speed on dry and flat roads, use the front and rear brakes respectively to check their respective braking effects.

#### Note:

When holding the brake lever, if the effect is still not achieved, the distance between the brake shoe and the rim should be adjusted. Riding in rain or snow will increase the braking distance.

If you do not have a special mechanical tool measuring instrument, please go to the

repair station for inspection and replacement. Do not disassemble it by yourself before you master the technology, so as not to damage other parts.

### ❖ Tire inspection:

When the tire is cold, check it with a tire pressure gauge.

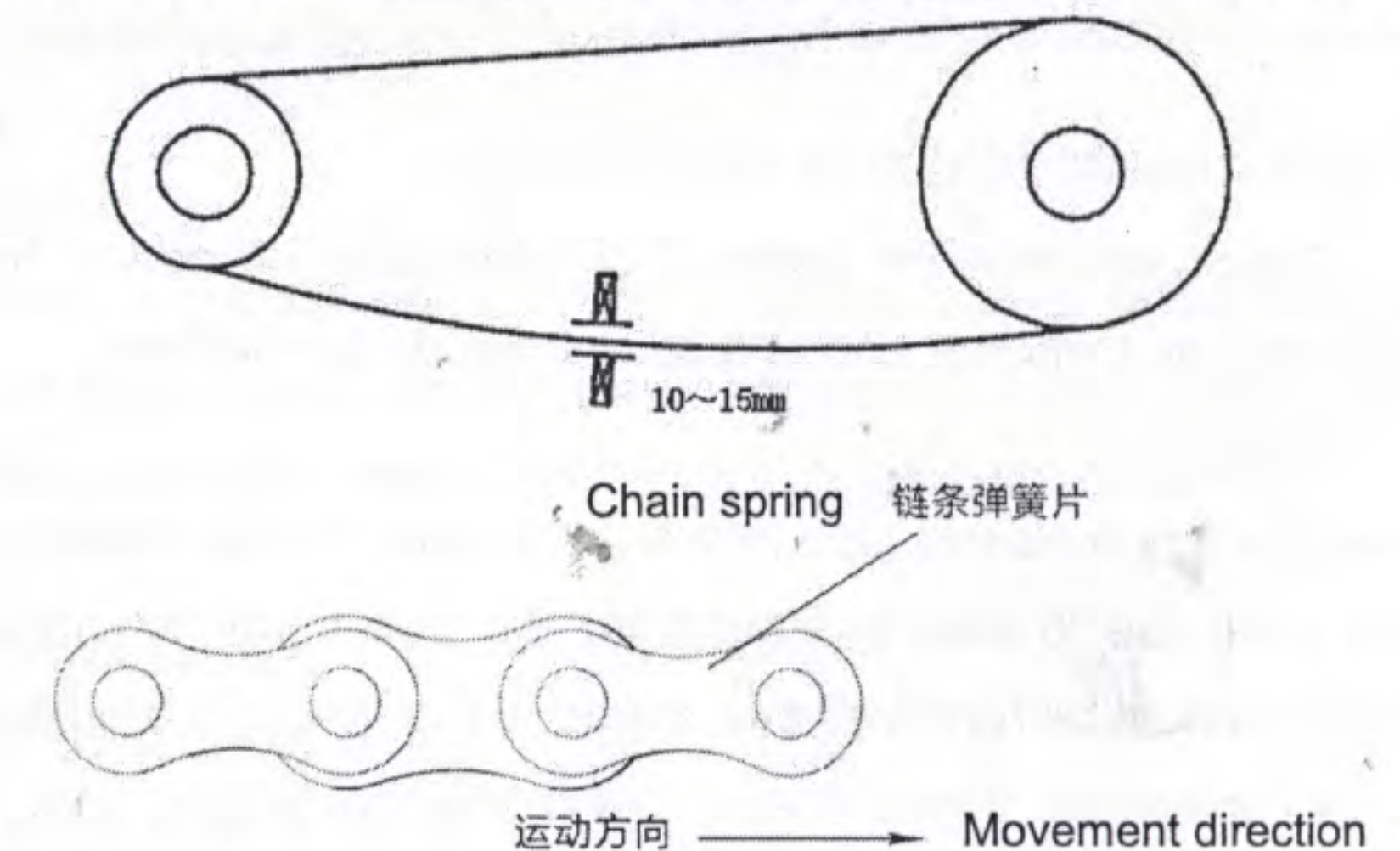
#### Note:

Tire pressure abnormalities, cracks, damage and abnormal wear are one of the reasons for poor steering and tire bursts

Your vehicle is often in contact with the ground. The stones, glass, and nails on the ground can cause damage to your vehicle. Therefore, you must pay attention to observation when driving. In addition, always check the tire contact surface and sides for obvious cracks. , Damage, whether it has penetrated sharp objects such as nail stones, glass, etc., and whether there is abnormal wear due to long-term driving.

### ❖ Chain adjustment:

First loosen the rear axle nut and turn the adjusting nut to the left or right to correct the slack of the chain. While adjusting the chain, you must also keep the front wheel chain aligned to become a straight line. After adjustment, re-fix the rear axle nut, lock the adjustment nut and perform a final check to make the loose distance between the two sprockets 10-15. Mm.



#### Note:

The open end of the chain spring should be opposite to the chain movement direction

### ❖ Handlebar adjustment and inspection:

Please turn the handlebar up, down, left and right, and make sure that the handlebar



is not loose. And make sure that the handlebar and the front wheel are at right angles. When adjusting the height of the handlebar, make sure that the safety wire on the stem tube should not be exposed. After the adjustment is completed, the screw fixing screws should be tightened.

❖ Adjustment and inspection of the saddle:

Pull the saddle to check whether the saddle is loose or skewed.

The height of the saddle surface should be suitable for comfortable riding. When adjusting the height of the saddle, be careful not to expose the handlebar. After the safety line mark of the saddle is adjusted, the saddle fixing screws should be tightened.

❖ Tire groove depth:

Check the tire groove wear, check the depth of the groove, and replace the tire when 2/3 of the tire bump is worn out. When the tire is abnormal, please go to the dealership to check or replace with a new tire.

❖ Lithium battery check:

The battery is a consumable part and has a two-year warranty. If you feel abnormal, please go to the repair station for inspection.

❖ Lubrication status of each part:

Check whether the amount of lubricating oil added to each part of the body is sufficient, and whether the operation handles are flexible.

**Note:**

Because it is a closed type, the battery must not be disassembled. If it is not used for a long time due to natural discharge, the power will gradually decrease. Therefore, the battery should be removed and stored. If it is stored in the bike, the discharge plug should be disconnected. When storing the battery for a long time, please recharge it at least once every three months.

❖ Brake adjustment method and maintenance:

Brake shoes are easy to wear parts, and the wear of these parts should be checked regularly. It can be judged by a mark. For example, the grooves on the brake blocks are worn out. Always replace the left and right brake blocks at the same time.

Use original spare parts, otherwise it will impair the function of the bicycle or cause damage. To obtain the correct brake matching, only use brake pads suitable for the rim, otherwise it will extend the braking distance and increase wear.

**Note:**

Rubber brake pads should not be contaminated with any grease. If they are contaminated with grease, their braking performance will be greatly reduced, and they must be replaced.

Disc brakes can produce a very high braking force. Therefore, the rider should be familiar with the brake system and use the brake step by step. Practice emergency braking until the rider can maintain full control of the bicycle when it is determined to use the brakes when necessary.

If the additional shock-absorbing elements in the brake system (power regulator) are used improperly, this can cause serious accidents. The specified spring force of the power regulator depends on the total weight of the bicycle.

If the brake shoes are so worn that you can no longer see the marks on them, ask a professional bicycle repair station to replace them.

The brakes on the bicycle have been correctly set at the factory or by the bicycle seller. The width of the gap between the brake shoe and the rim is about 1 to 1.5 mm. However, due to the wear of the brake pads, this gap will gradually increase, and the brake lever must travel a greater distance to achieve the same braking effect. Therefore, it is necessary to check the brakes regularly and adjust them when the brake lever moves too far or the brakes are bad.

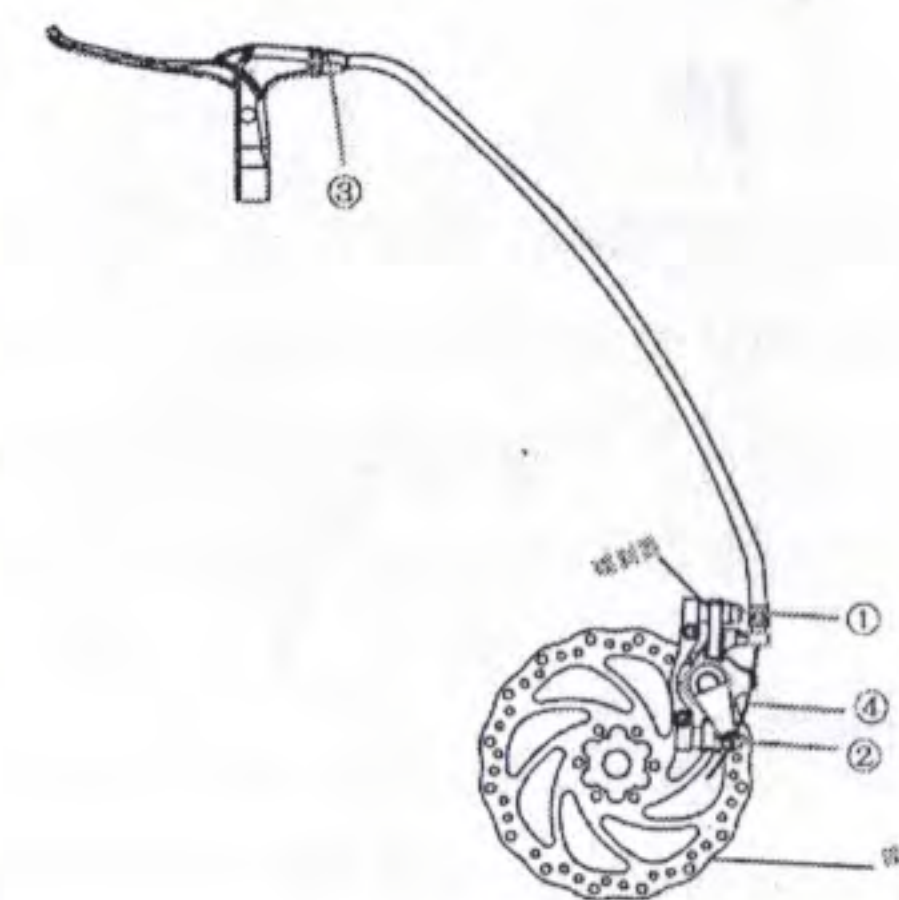
Check the brakes as follows:

With the force of the emergency brake during riding, press the manual brake handles of the front and rear wheels in sequence to ride the bicycle forward, the rear wheels will lock and the front wheels will quickly slow down and the bicycle will lean forward.

A. Adjustment of the front brake system

- 1) Manually manipulate the front brake lever. When the stroke of the brake lever is 1/3 of the total stroke, the front brake should start to brake. When the stroke of the brake lever reaches 2/3 of the total stroke, the brake should fully brake the wheel effectively.

- 2) If adjustment is required, turn the front





brake tie rod nut to a proper position.

- 3) Brake several times. When the brake is released for inspection, the front wheel must be able to rotate freely.

#### B. Adjustment of the rear brake system

- 1) Check the rear brake lever in the same way as the front brake lever.
- 2) Adjust the adjusting screw until the requirement is reached. If the adjustment is invalid, loosen the nut on the brake wire fixing seat and tighten or loosen the wire until the requirement is reached.

#### ①Adjusting nut ②Brake wire fixing seat ③Gap fine adjustment screw ④Brake cable

If only the above method is not ideal, you can also adjust the gap fine-tuning screws at the same time to ensure that the gaps on both sides of the internal brake block are the same. Use several methods to coordinate adjustments until the requirements are met.

#### Warning:

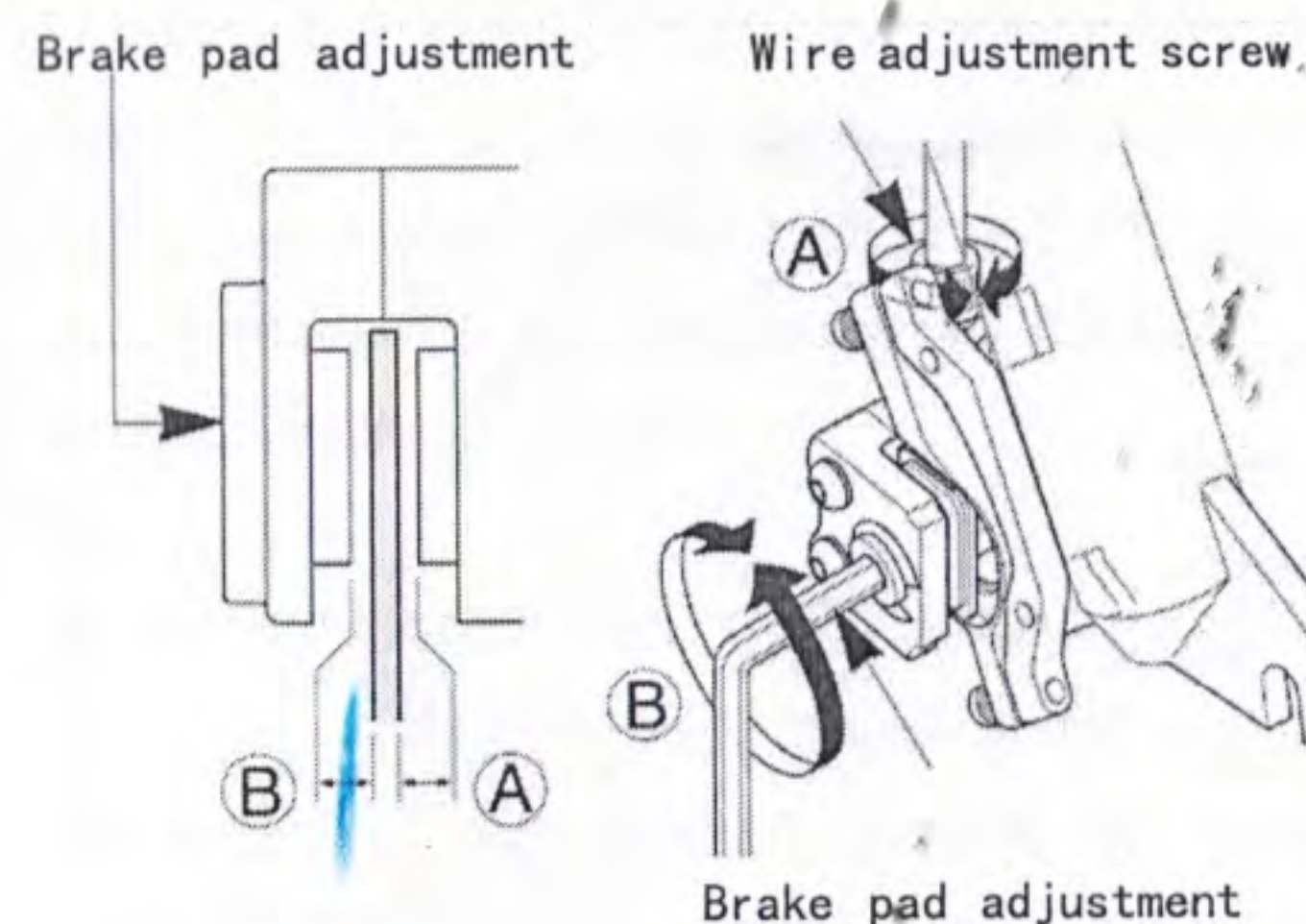
Tighten the screws according to the specified torque, otherwise the screws will break and the parts may loosen or fall completely.

The brake cable is a wear-prone part. Check the wear condition of the brake cable regularly and replace it if necessary. Check the brake cable for rust and wear, and replace it if there is a problem. If you don't do this, the brakes may fail.

#### Adjustment of brake pad wear time

When the brake pads wear out, please use the cable adjustment screw of the brake lever and the brake pad adjustment screw to adjust the gap. In addition, the use limit of brake pads is as long as the pad material of the brake pads is 0.5mm thick.

Adjust the gap between A and B to 0.2-0.4mm respectively.



#### Warning:

When adjusting when the brake pads are worn, operate both the wire adjustment screw and the brake pad adjustment screw at the same time. If only the wire adjustment screw is operated, the brake pads cannot be used to the extent of 0.5mm as the replacement target. At the same time, it will also cause a collision between the brake pads and the disc when there is no brake operation.

If the brake pads have worn out, don't ride the bicycle again. Find a professional bicycle repair point to replace it.

#### ➤ Replacement of brake pads

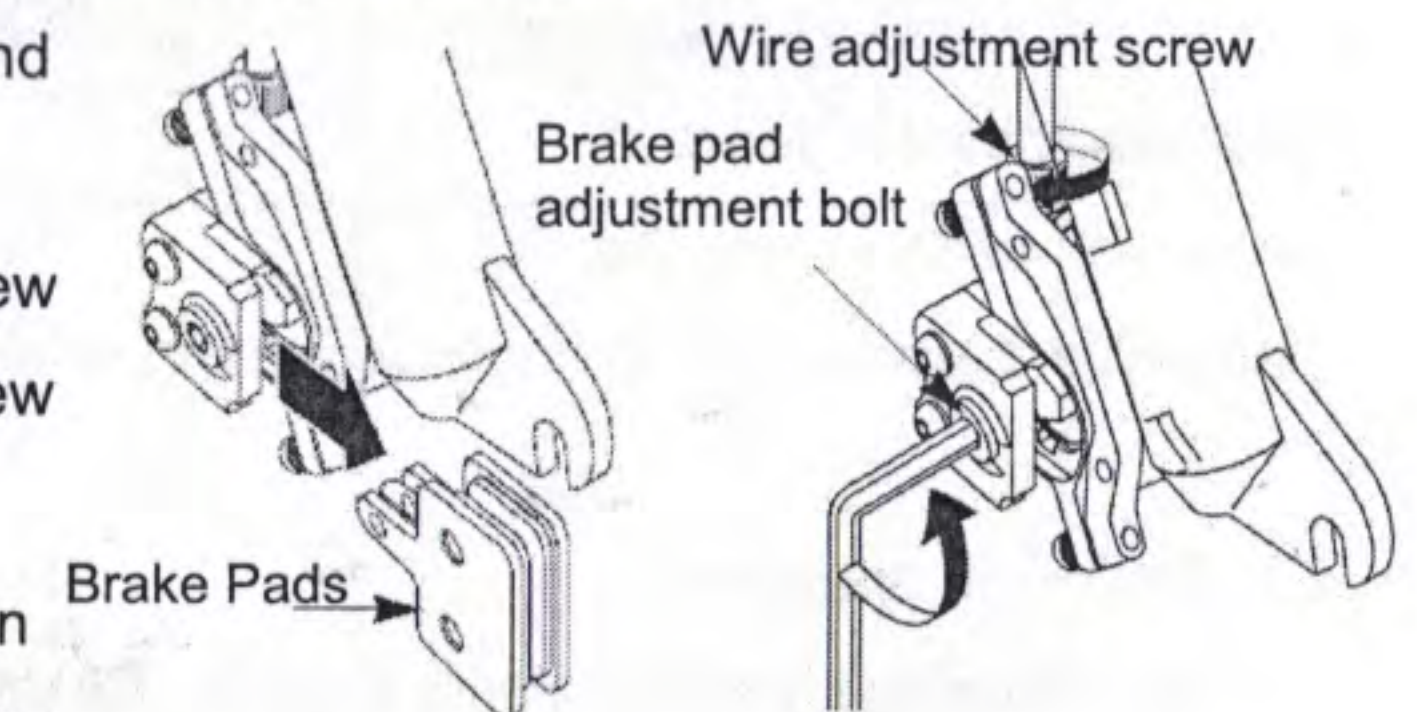
When the brake pads are worn to about 0.5mm, please replace the brake pads.

Remove the wheel from the frame, and then remove the brake pads;

Loosen the brake pad adjustment screw and then restore the wire adjustment screw of the brake lever (clockwise);

Install new brake pads. Finally, tighten the brake pad adjustment screws to make the gap between the remaining discs reach about 0.2-0.4mm;

After confirming that there is no contact between the brake pads and the disc, then confirm that there is no abnormality even if the brake lever is held.



#### ❖ Transmission adjustment:

If the transmission parts are loose, worn, damaged, or improperly adjusted, this will pose a risk of injury to the rider. The transmission gear transmission system should be adjusted in a professional bicycle repair shop.

#### Note:

In the following situations, you need to contact a special bicycle repair point: the chain falls off the sprocket teeth while riding, or abnormal noise is heard, or the gear position or front and rear transmission system cannot be easily changed, or other transmission parts are loose or damaged Or when it is twisted, or when the chain connection is faulty or worn.

The bicycle chain must not be put on the smallest chain plate of the front crank and the smallest sprocket of the rear flywheel at the same time. The bicycle chain must not be



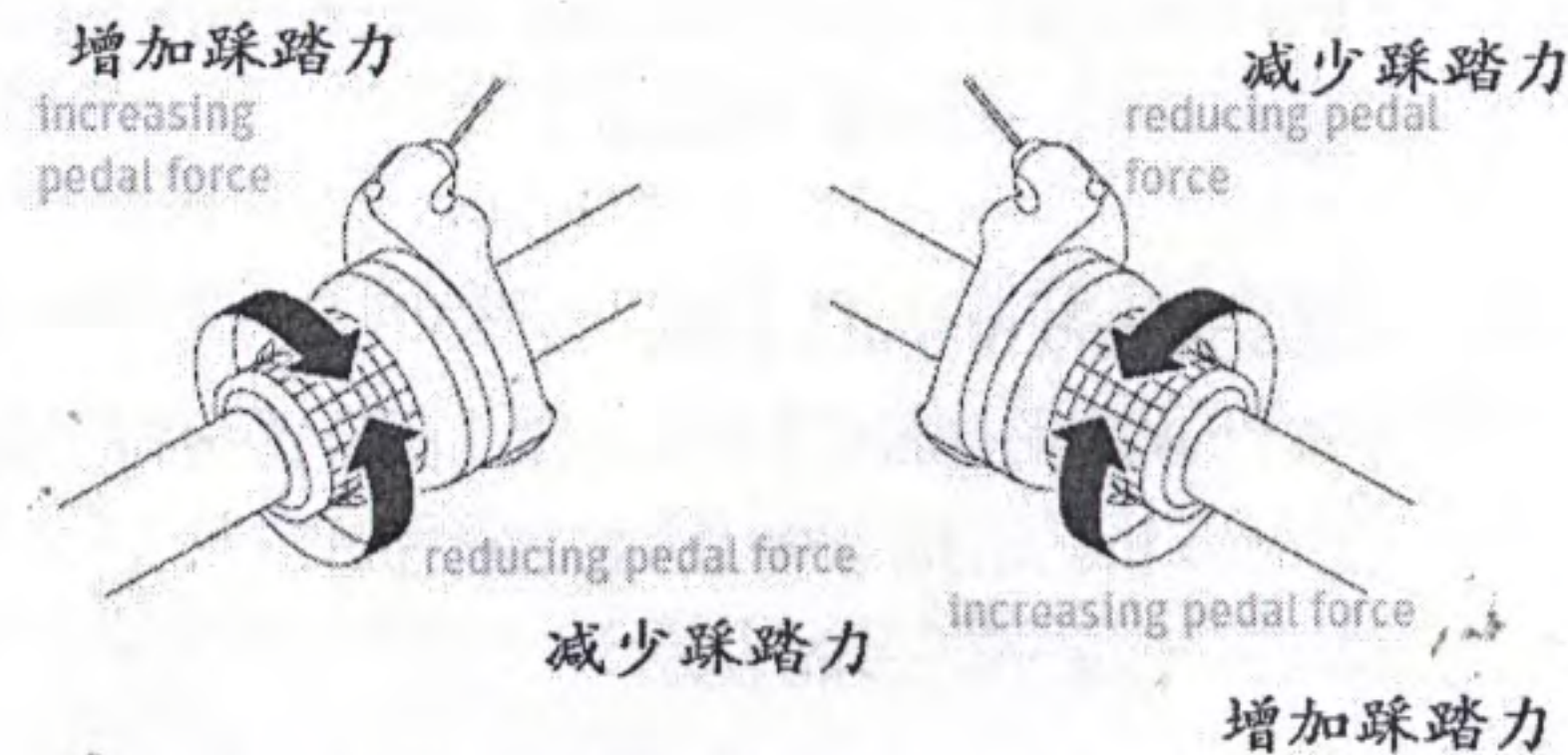
put on the largest chain plate of the front crank and the largest sprockets of the rear flywheel at the same time. Otherwise the chain will fall off. When shifting, never push the pedal backwards, because this will damage the shifting mechanism.

Make sure to keep turning the crank during lever transmission.

1) Handlebar transmission:

To upshift or downshift a gear, use only a small increment of forward or backward rotation of the handlebar transmission;

If you want to increase or decrease several gears at once, you need to turn the handlebar transmission to continue turning several gears in the required direction.



2) Gear shift operation:

(A) When you want to lightly step on the pedal, push the lever in the direction of the arrow to change to each gear one by one.

	Front (left side)	Front (left side)
Split finger transmission SL-TX SL-FT		
Derailleur shifter SL-TZ		
Chain position	 Large tooth → Small tooth	 Small tooth → Large tooth

(B) When you want to step on the pedal again, push the lever or button in the direction of the arrow to change to each gear one by one.

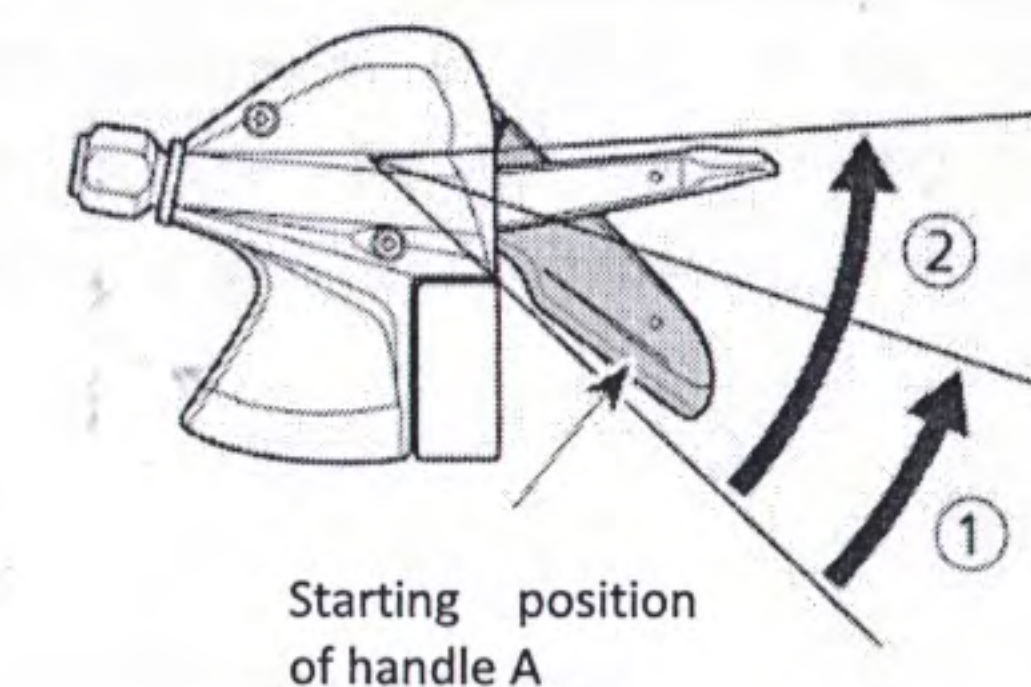
For LN (friction type), gear shifts are not graded.

	Front (left side)	Back (right side)
Split finger transmission SL-TX SL-FT		 Button (press)
Derailleur shifter SL-TZ		
Chain position	 Small tooth → Large tooth	 Large tooth → Small tooth

(C) It is operated to the 1 position when only the first gear is shifted, and to the 2 position when the second gear is shifted. By analogy, you only need to operate the stroke of the gear you want to shift.

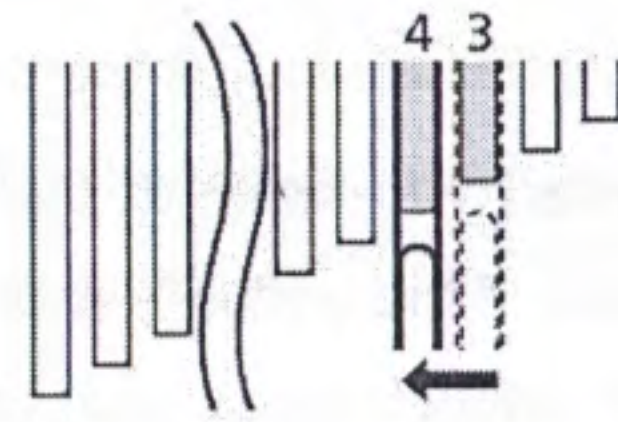
Precautions during operation: After the shifting of handle A and handle B is finished, the handle will return to the starting position after the fingers are removed.

• Handle A: The gear shift from the rear small gear to the big gear. (The pedaling force becomes lighter.)

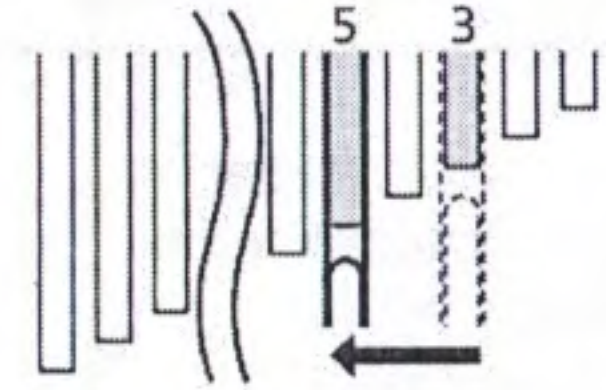




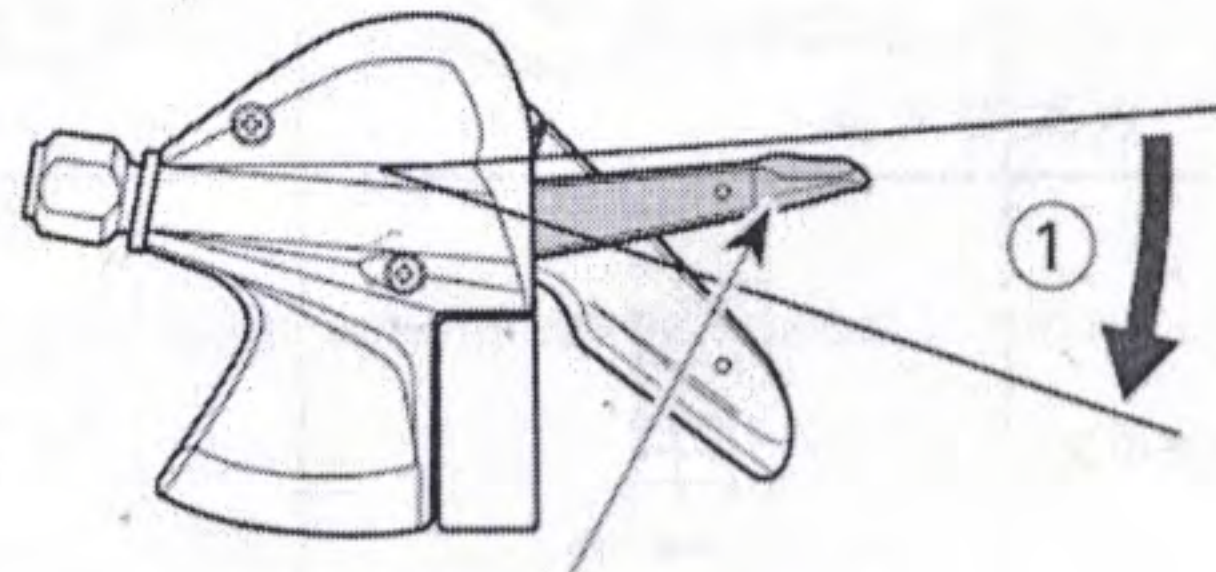
- Only shift one gear  
Example: From the third gear to the fourth gear.



- Two gears at one go  
Example: From the third gear to the fifth gear.



Handle B: Gear shifting from the large gear to the small gear on the rear side. (The pedaling force becomes heavier.)



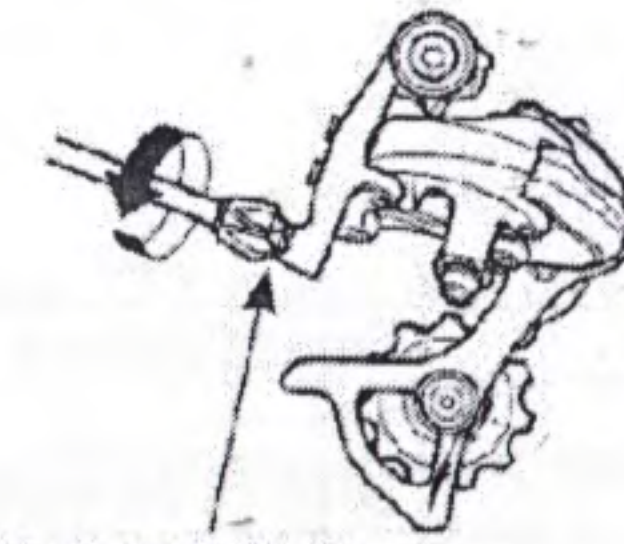
Starting position of handle B

Example: From fourth gear to third gear.

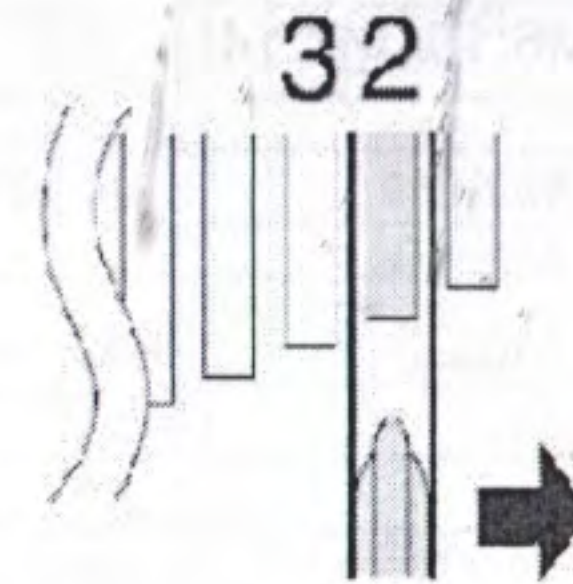
### 3) SIS rear derailleur:

Operate the shifting lever to change the chain from the smallest sprocket to the second sprocket, and then press the shifting lever to tighten the shifting cable. And turn the crank.

Tighten the casing adjustment barrel shaft until the chain returns to the second flywheel from the smallest sprocket (clockwise).



外壳调节筒轴  
Shell adjustment tube shaft



Once the shift lever lifts the shift cable clearance, theoretically the chain will rub against the third flywheel and make a sound.

Loosen the shift lever on the second flywheel and turn the crank. If the chain rubs against the third flywheel, gently turn the adjusting screw counterclockwise until the crushing noise stops.

#### Note:

If the chain is in the position shown in the figure, it will rub the chainring or the front derailleur and make a sound. If this is the case, the chain can be changed to the second or next larger flywheel.

#### ❖ Adjustment and maintenance:

It is recommended to conduct a comprehensive inspection and maintenance of the bike after the initial 300 kilometers of riding. In the future, carry out a more comprehensive inspection of the bike for every 1,000 kilometers of riding, and appropriately lubricate the parts that need lubrication, such as chains, brake lines, and bike supports.

#### Note:

It is strictly forbidden to refuel the following parts!

Rim surface, brake pad surface, tire surface, electrical switch



## IX. Recommended tightening torque of fasteners

As follows:

Parts	Specifications	Torque (N.m)
Crank arm	M8	30
Pedals	9/16 of an inch	30
Axle, Front	general	25
Axle, Rear	general	30
Stem wedge bolt	M8	23
Stem, fork end fixture	M5/M6/M7	M5:5/ M6:10/ M7:14
Stem,direction fixation device	M5/M6/M7	M5:5/ M6:10/ M7:14
Rod end, outer band	M5/M6	M5:5/ M6:10
Seat post, hoop	M8/M6	M8:20/ M6:10
Seat post clamp	M7/M8	M7:14/ M8:20
Brake pad	M6	10
Brake cable clamp	M6	10
Brake handle clamp	M5	5
V-type brakes, fastening screws	M6	10
Flywheel fastens screw	None	40
Flywheel, lock ring	None	30

### Note:

The above values are only reference values, please follow the attached parts manufacturer's operating instructions.

## X. Technical Parameters

MODLE	Mantus	Kalio 27.5	e-Fold N4.0 FAT	e-MTB MTS 500H
Dimensions (L*W*H)	1890*700*1100mm	1810*660*1100mm	1600*600*1160mm	1870*700*1120mm
Wheelbase	1160mm	1110mm	1050mm	1140mm
Weight	25kg	22kg	23kg	26kg
Max Speed	38km/h	28km/h	38km/h	38km/h
Recharge Mileage	90km	60km	90km	90km
100 km power consumption	0.7 (kw h) /100km	0.7 (kw h) /100km	0.7 (kw h) /100km	0.7 (kw h) /100km
Deadweight	75kg	75kg	100kg	75kg
Type of Battery	lithium battery	lithium battery	lithium battery	lithium battery
Battery Capacity	11.6Ah	7.5Ah	10.4Ah	10.4Ah
Motor type	Center Modor	Brushless DC Hub Motor	Brushless DC Hub Motor	Brushless DC Hub Motor
Rated Power	350W	350W	500W	500W
Rated Speed	270r/min	210r/min	400 r/min	270r/min
Rated Voltage	36V	48V	48V	48V
Controller undervoltage protection value	31±1V	41±1V	41±1V	41±1V
Controller overcurrent protection value	17±1A	12±1A	20±1A	20±1A



## XI. Service and warranty

Dear user: Thank you for using the electric bicycle produced by our company. To protect your legal rights, please keep the manual properly.

### ❖ Maintenance and precautions:

- 1) In order to ensure the service life of your bike, please use the parts specially provided by our company and the parts of the company designated by the company. When the vehicle needs to be repaired or replaced, please contact the local dealer in time. Please select the designated replacement parts. For parts and components, the user shall bear the responsibility and loss caused by the use of parts other than those specified.
- 2) The charger must use the original factory designated parts. When charging, it should be placed in a cool and ventilated place, away from high temperature or fire. Do not let the charger enter water or melt to avoid accidents caused by electrical damage.
- 3) To develop a good habit of timely charging, please charge the battery in time when there is only one bar left on the battery power indicator.
- 4) It is recommended to go to the dealer or service station for a battery maintenance after 3 months. When the vehicle is not used for more than 1 month, please recharge the battery in about 3 months.
- 5) The user should not accelerate rapidly during driving, and try to avoid sudden braking. Frequent braking will affect the mileage.
- 6) Avoid vehicle exposure and rain, and the depth of wading cannot be higher than the center of the rear wheel when driving in rainy season to prevent water from entering the motor and damaging components.
- 7) Please do not modify the bike's body, cables, electrical components, and the structure and function of the bike without permission; unauthorized changes to the parameters of cables and electrical components will cause deterioration of handling performance, increased noise, failure of electrical performance and other situations. Occurs, resulting in the shortening of the life of the bike, causing safety hazards, and the performance cannot be effectively guaranteed; the resulting liability losses; the company is not responsible, and the user will be responsible for it.

### ❖ Warranty conditions:

Please read the bicycle care and maintenance chapter carefully, and perform

inspections according to the inspection and maintenance intervals listed in the periodic inspection chapter. Compliance with maintenance intervals is a prerequisite for the use of warranty claims. The legal warranty period is 2 years, starting from the delivery of the bicycle to the customer. As proof of the purchase and delivery date, please keep the delivery documents and purchase records signed by all parties, such as invoices and/or sales receipts, for calculating the duration of the warranty period.

### ❖ The premise of the validity period of the warranty claim:

- ◆ Errors in production, materials or information
- ◆ Problems or errors that existed at the time of delivery to customers

### ❖ Warranty exception conditions:

Warranty claims can only be made at the first defect of a defective component. The following is an example that is not covered by the warranty:

- ◆ In competitive applications, improper use and damage caused by force majeure;
- ◆ All wear, production or material leaks related to functionality;
- ◆ Damage caused by incorrect or inadequate maintenance of the bicycle's spare parts and non-professional repair, conversion or replacement.

This user manual contains detailed information on how to take care of the bicycle.

Accident damage, or damage caused by an accident;

Repairs done with old parts, or damage caused by the consequences;

Special equipment or accessories or non-standard equipment;

Special technical changes, such as the geometry of the transmission system or the front fork and the frame;

Incompatible additional parts, those parts that are not part of the scope of delivery at the same time as the product delivery, or these additional parts;

Damage caused by non-professional installation of accessories.



## XII. Fault phenomena and troubleshooting

No.	The fault phenomenon	The cause of the problem	Elimination method
1	Failure or low maximum speed of the switch	(1) Battery voltage is too low; (2) The connection of the rotary joint is loose; (3) The electric rotation will jam or fail the internal spring.	(1) Fully charge the battery; (2) Clamp after reinsertion; (3) Find suppliers for replacement.
2	The motor hub does not work after the power is switched on	(1) Battery wiring is loose; (2) Left and right brake bars of power failure; (3) The wiring plug of the motor hub is loose or damaged.	(1) Repair and reconnection; (2) Repair and reconnection; (3) Find a professional repair or repair shop repair.
3	Short range on a single charge	(1) Insufficient tire pressure; (2) Insufficient charging or charger failure; (3) Battery aging or damage; (4) More uphill, strong headwind, frequent brake start, load Major.	(1) Sufficient air; (2) Sufficient electricity or check whether the charger plug is in bad contact; (3) To find a professional repair or repair station repair; (4) It is suggested to use human power to help in these situations.
4	Charger not charging	(1) The charger socket falls off or the plug is disconnected from the socket; (2) The internal fuse of the charger is blown out; (3) Battery wiring comes off.	(1) Tighten socket box connectors; (2) Replace the fuse; (3) Welding line
5	Other fault	(1) When you encounter any problem that cannot be excluded by yourself under the above instructions Obstacles or undetermined faults; (2) Motor hub, controller, charger and battery pack are damaged At the right time.	In case of any of the above, please contact the supplier or maintenance station. Do not open the above parts without authorization, or you will lose our warranty commitment.