

User's Manual

EX-01 electric bike



1.General Information | Read This Before Your First Ride

Safe Operating

- Even if you are an experienced bike rider, all riders should read and understand this manual before using an electric bike. For your safety and to avoid serious injury or death, please closely review the following safety tips for safe operation of your Electric Bike.

- This E bike is a leisure device. But once they're in a public area, they'll be seen as vehicles, subjecting to any risks faced by vehicles. For your safety, please follow instructions in the manual and traffic laws and regulations set forth by government and regulatory agencies. For example, setting the max. Speed for driving: On/off key settings (1. Power on/off: Press and hold the on/off key for 2 seconds to turn on/off (Figure 5-1), put the NFC card on the (Figure 5-1) interface, unlock after hearing a beep, and after unlocking (Figure 5-2) Enter the normal mode. It will automatically enter the "P" position without any operation for 30 seconds (Figure 5-3). Hold the brake + click the on/off button to release the "P" position (Figure 10-2); 2. Mode Switching: Press the power button "3" times to switch to the power-assist mode and the throttle will be disabled. Press the power button "3" times again to switch the coexistence of throttle and power-assist).

Please note that We are not responsible for any financial loss, physical injuries, accidents, legal disputes, or other conflicts of interest resulting from actions that violate user instructions and local regulations.

- Always wear an approved helmet whenever riding this product.
- Inspect the bike before each use, making sure the correct setup and tightening is done on your bike before using it for the first time. Check the brake function, handlebar grips, tightening and lubricating components regularly.
- Check the operation of the brake motor cutoff before each ride. The brake system, when properly functioning cuts off power to the motor whenever the brakes are squeezed.
- Always use the lowest pedal assist level, or lightest throttle, until you are comfortable with the bike and feel confident with the equipment.
- Users must travel at speeds appropriate for the usage area, riding conditions, and experience level.
- Only transport bikes with hitch racks, trunk racks, roof racks and rails rated for the size and weight of your bike.
- Because electric bikes are significantly heavier than regular bikes, they are not intended for large jumps or stunts of any kind. Bike frames and parts have limitations, and extreme riding should not be performed. EX-01 assumes no liability for any accident, injuries, or property damage incurred as a result of rider's use or misuse of EX-01 bicycles, including any damages resulting from or arising out of off-road usage.
- In the event of a collision or presumed damage, you must consider your bike unsafe to ride until a comprehensive inspection of all components, functions, and operations of the bike can be made by a certified, reputable bike mechanic.

- Do not operate the bike without the battery installed.
- Proper installation, compatibility, operation, and maintenance must be performed on all components. Failure to comply could result in serious injury or death. When installing the battery, any water or ice on the battery connector can cause the battery to burn out. The key is used to remove the battery, inserting the key into the charging port can also cause the battery to burn out. Avoid touching the two metal contacts of the battery box at the same time, as it may generate a large short-circuit current and lead to an accident. Any aftermarket changes or modifications to your bike could void the warranty and create an unsafe riding experience.
- Ride at night only if necessary. Wear reflective clothing; if possible, only bike down roads with ample street lighting. Ensure you have reflectors and lights as required by your regional vehicle laws.
- Take extra precaution when riding in wet conditions. Decrease speeds and prepare for increased braking distance. Pedals and grips will be slippery in wet conditions.
- NEVER operate your bicycle when you are under the influence of alcohol or drugs, including prescribed or over the counter medications.
- Failure to properly charge, store, or use your battery will void the warranty and may cause a hazardous situation.
- Failure to perform and confirm proper installation, compatibility, proper operation, or maintenance of any component or accessory can result in serious injury or death.
- Do not disassemble or modify the bike's components by yourself. If you are not an experienced technician. If parts need to be replaced, if parts need to be replaced, purchase standard parts from the general agency of the company.
- If you have an impairment or disability such as visual impairment, hearing impairment, physical impairment, cognitive/language impairment, and/or a seizure disorder, consult your physician before riding our bikes.
- Be careful to keep your body parts and other objects away from the sharp teeth of chain rings, moving chain, turning pedals and crank, and the spinning wheels of your bicycle.
- The bike is not designed for wading. If water level reaches the wheel hub of the rear motor, it may cause a short circuit and damage the electrical system.
- Do not lend the electric bike to someone who cannot operate it safely to avoid unnecessary damage and accidents.
- Obey traffic regulations and do not carry passengers on the bike.
- At the same time, you should understand that risks cannot be entirely avoided as others may violate traffic regulations and drive incautiously, and you're exposed to road accidents just as when you're walking or biking. The faster the bike is, the longer it takes to stop. On a smooth surface, the bike may slip, lose balance, and even result in a fall. Thus it is crucial that you use caution, keep proper speed and distance, especially so when you're unfamiliar with the place.

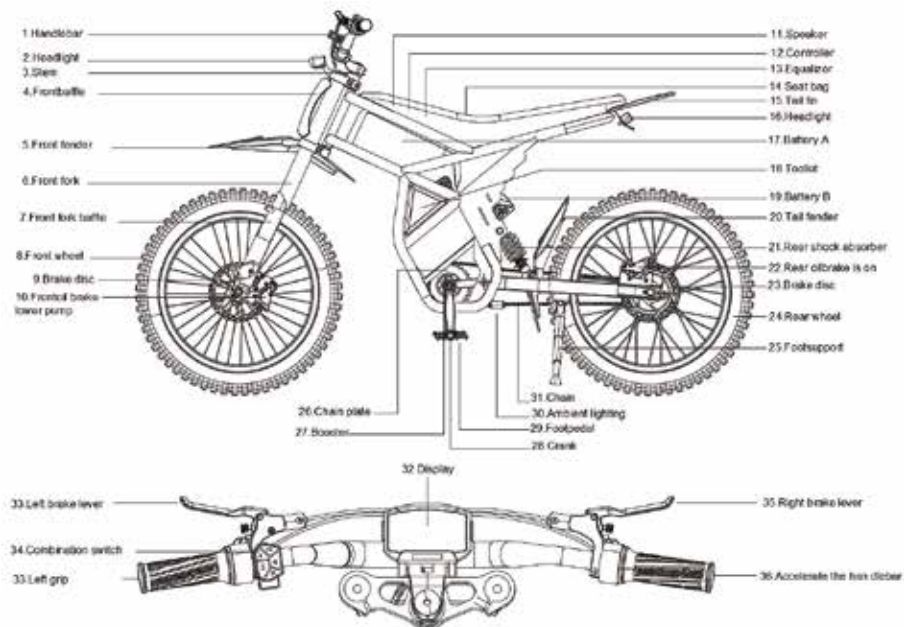
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* Please read and know the instructions described in the user manual carefully before using the electric bicycle and keep it for future reference.

* Please do not dispose of this product casually, it needs to be disposed of in accordance with local recycling regulations.

1.Components Diagram



2.Assemble Electric Bike

2.1.Take out of the electric bike from the box

2.2.Assemble the handlebar: Put the handlebar into the center of the vertical bar (Figure 1), fasten the screws by using NO.4 Allen Wrench

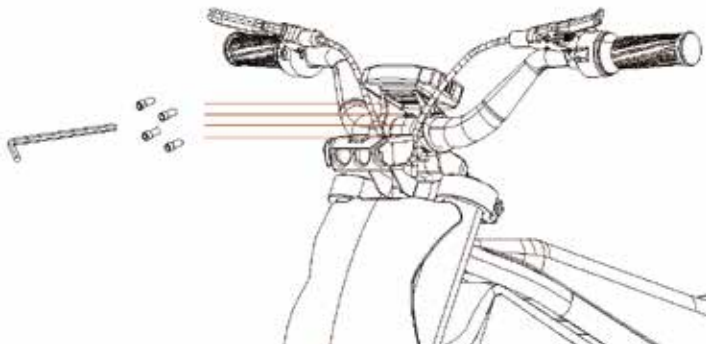


Figure 2

2.8. Assemble the pedal plate: Take out of the left and right pedal plate, “L” is for left side and “R” is for the right side (Figure 1) , put the pedal plate on the crank, fasten it by using the open spanner (Figure 2) .

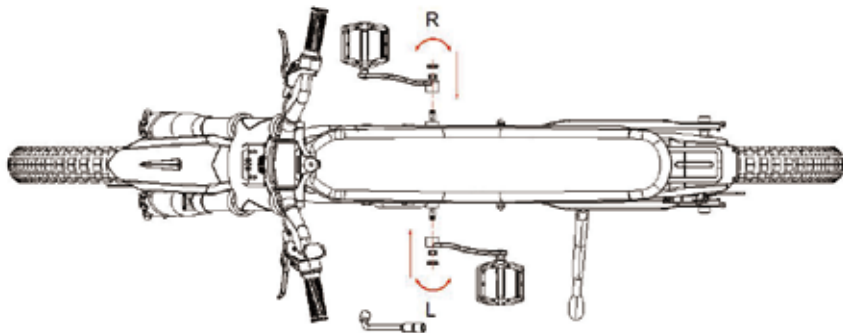


Figure 1

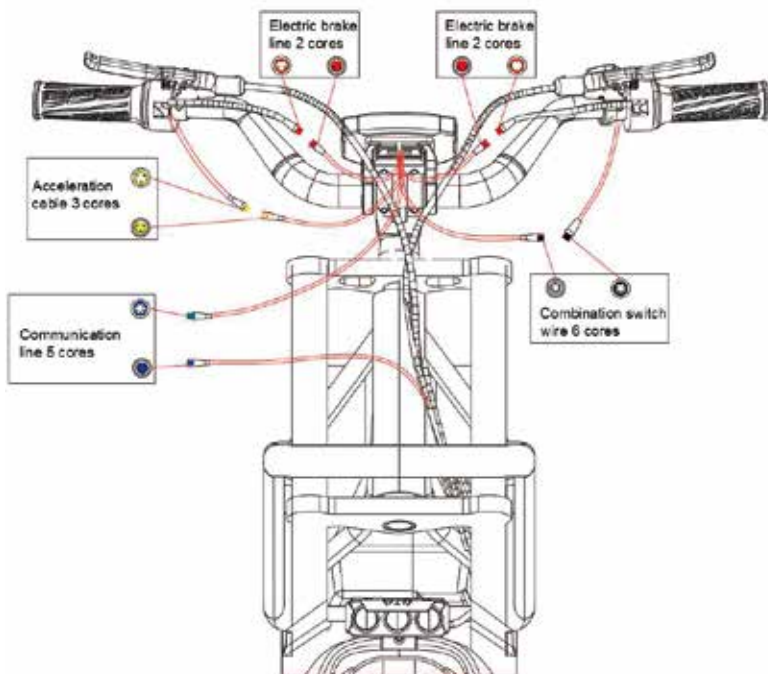


Figure 2

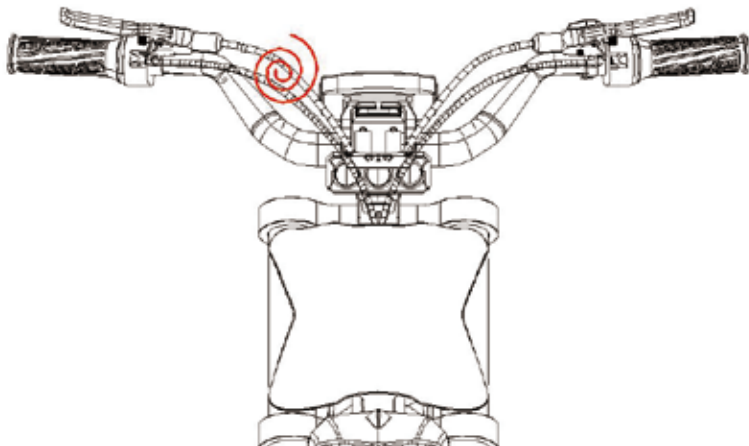
2.9 Install the left and right cranks into the central axis of the frame. 1. Distinguish the left and right cranks first. 2. Install the central axis. 3. Use a No. 14 socket wrench to tighten the nut. 4. Install the rubber plug.



2.10 Schematic diagram of display circuit docking (Note: the corresponding limit of each waterproof head cannot be installed incorrectly to avoid hardware damage).

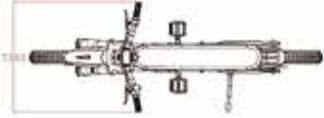


2.11Manage the cable harness: Take out of the winding tube from the accessory box, tie the left and right wire harnesses together.



3.Product Parameters/Features

3.1Product Parameters

EX-01 electric bike sheet		
  	Model	EX-01
	Product name	Electric bike
	Configuration	NFC card
	APP	none
	Battery model	52V 15AH*2
	Battery weight	About 5.16 KG
	Motor	Motor*1*1200W
	Charger	58.8V/2A*2
	Charging time	Single charger 9-10H
	Display	Digital display instrument LED
	Brake	Front and rear hydraulic brakes
	Special function	Quick release battery pack
	Damping	Front hydraulic double wishbone shock absorber/rear shock absorber
	Tire specifications	70/100-19 off-road motorcycle tires
	Weight	About 54.6KG
	Expand Size	1990*1070*750MM (length*width*height)
	Package Size	1590*330*890MM (length*width*height)
	Maximum load capacity	180KG
	Test environment	Outdoor 26" constant speed 25 flat road 75kg riding test
	Gradeability	25<
	Top speed: 60KM/H	
	Maximum pure electric mileage: 110-250KM	
	Note:	There are certain errors in the manual measurement of the above data. The data may not be updated in time. Please understand!

3.2.Product Features

3.2.1. Speed mode:

3.2.2.Pure assist mode: factory default 25KM/H.

3.2.3. Throttle and assist coexistence mode: ECO gear 25KM/H, STD gear 35KM/H, TURBO gear 60KM/H.

3.2.4. Braking method: power-off braking.

3.2.5. Tail light: The light is always on when turned on, and highlighted when the brake is applied.

3.2.6. MOS tube breakdown protection: Before the controller is powered on or during operation, if the D and S poles of the upper arm or lower arm of a phase MOS tube are short-circuited, the controller will stop driving and have no output. It needs to be powered on again after troubleshooting before it can work normally.

3.2.7. Anti-speeding function: When the electric door lock is opened, if the voltage of the speed control handle is greater than 1.3V, or the voltage of the speed control handle changes from less than or equal to 1.3V to greater than 4.0V, the controller will have no output and the motor will not rotate. Only when the speed control handle is returned to its original position can the protection be exited. This solves the overshooting phenomenon of the brushless electric vehicle controller caused by handlebar or circuit faults and improves the safety of the system.

3.3Power display

1) Voltage 39V- 42.9V	The last bar light and battery box flash
2) Voltage 42.9V-45.1V	The first light is always on
3) Voltage 45.1V-46.9V	The second grid light is always on
4) Voltage 46.9V-48.6V	The third grid light is always on
5) Voltage 48.6V-50.3V	The fourth grid light is always on
6) Voltage 50.3V-54V	The fifth grid light is always on
7) Voltage Below 39V	Motor stalls
8) Voltage Higher 60V	Motor stalls

Battery Instructions

4.1 Battery charging

This bicycle is an external lithium battery, which can be removed for charging. When the battery is low, open the key and take out the battery. Hold the battery tightly with both hands to prevent it from falling. Take out the charger, plug the input end into the power supply. Insert the M16 aviation head of the output terminal into the battery charging hole. When the red light is on, it is charged (10-12 hours for single charging, 5-6 hours for double charging). When the green light is on, the battery is fully charged.

4.2 Warnings

4.2.1 Load circuit may cause voltage and current, and the voltage or current may add to the pack, the voltage or current must be controlled as lower than RvW and RWI, a larger voltage or current may damage the PCM of the pack.

4.2.2 To prevent the possibility of the pack from leaking, heating fire, please observe the following precautions:

- Do not immerse the pack in water and seawater Guard against Damp.
- Do not use and leave the pack near a heat source such as fire or heater.
- When recharging, use the battery charger specifically for that purpose.
- Do not connect the pack to an electrical outlet.
- Do not discard the pack in fire or heat it.
- Do not short-circuit the pack by directly connecting the positive and negative terminal with metal object such wire.
- Do not transport and store the battery together with metal objects such as necklaces, hairpins, etc.
- Do not strike or throw the pack.
- Do not directly solder the pack or battery and pierce the battery with a nail or other sharp object.
- As installed safety device in the battery, please do not resolve or change any other sections of the battery to protect the inherent safety functions.

4.3 Cautions

4.3.1 Do not use or leave the pack at very high temperatures (for example in strong direct sunlight or a vehicle in extremely hot conditions).

4.3.2 Do not use it in a location where static electricity is great, otherwise the safety devices in the pack may be damaged, which will cause hidden trouble safety.

4.3.3 If the pack leaks and the electrolyte get into the eyes, do not rub eyes, instead, rinse the eyes, with clean running water, and immediately seek medical attention. Otherwise, eye injury can result.

4.3.4 If the battery emits peculiar smell, heating, discoloration, deformation during use or storage or any abnormal phenomenon occurs during charging, immediately remove the battery from the charger or device, stop using the primary charge, and discharge to activate the battery.

4.3.5 In case the pack terminals art dirt, clean the terminals with a dry cloth before use. Otherwise, power failure or charge failure may occur due to the poor connection with the instrument.

4.3.6 Be aware that discharged batteries may cause fire or smoke, tape the terminal to insulate them.

4.3.7 The pack should be stored at room temperature, charged to about 40% to 60% of capacity. In case of over-discharge, the pack should be charged for one time every 3 months while storing, and batteries should be discharged and charged after being stored for more than a year in order to activate it and restore energy.

4.3.8 Prohibition of short circuits

Never make short-pack circuits. It generates very high current which causes heating of the cells and may cause electrolyte leakage, gassing, or explosion that are very dangerous. The LIP tabs may be easily short-circuited by putting them on conductive surface. Such outer short circuits may lead to heat generation and damage to the cell.

4.3.9 Mechanical shock

LIP cells have less mechanical endurance than metal-can-cased LIB.

Falling, hitting, bending, etc. may cause degradation of LIP characteristics.

5. Instructions of Dashboard

5.1. Product Introduction

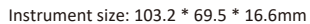
Product Name: E-bike/Scooter Mid-mounted Instrument Cluster

Product Series: Digital Tube Color Screen Series

Product Model: XF019



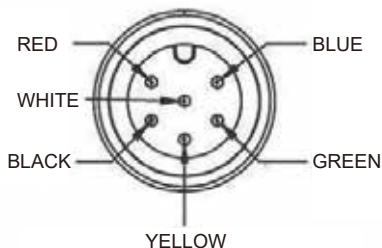
5.2.1 XF019 Appearance and Dimensions



XF019 Appearance and Dimensional Drawing

5.2.2 XF019 Interface Definition

Interface model (standard model interface): IL-F-7609AG, male end



Front view of the public end

Figure 5-2-1 XF019 Interface Definition Diagram

Table 2-1 Interface Definition

Number	Color	Description	Remark
1	Red	VCC	Instrument power cord
2	Blue	ACC/VLOCK	Controller power control line
3	Green	UART_RX	5V level, instrument receiving
4	Yellow	UART_TX	5V level, sent by the instrument
5	Black	GND	Instrument grounding wire
6	White	DO	Instrument headlight line

5.2.3 Appearance Material and Craftsmanship

- 1) Appearance material: The whole machine adopts PC+ABS;
- 2) Display area: digital tube color display screen;
- 3) External buttons and electronic control connections: using high-strength anti-aging waterproof wires, with waterproof connectors;
- 4) The whole machine has passed RoHS and REACH standards;

5.3.Product specifications and parameters

5.3.1 Product standard parameter indicators

Parameter	Performance	Remark
Working Voltage	DC24V ~ DC70V	
Standby current	$\leq 3\text{mA}$ (average current)	36V power supply
Power on current	$\leq 35\text{mA}$ (average current)	36V power supply
ShutDown Current	$\leq 1\text{mA}$ (average current)	36V power supply
Connector	The plug-in spring and plug are reliably connected to the wire, and can be pulled with a force of 10 kilograms for 1 minute. The plug spring and plug piece cannot detach from the wire.	
Waterproof rating	IP67	
Operating Temperature	-20~70 C	
Operating Humidity	10%~95%	No condensation

5.3.2 Product Bluetooth communication specification

Parameter	Performance	Remark
Bluetooth communication distance for vehicle loading	5 to 15 meters	Depending on the equipment installation environment

5.4.Product function introduction

5.4.1 UI display



5.4.2 Display Content Introduction

1) Battery Level Indicator:



2) Multi-Function Display Area:



Total Odometer (ODO)、 Trip Odometer (TRIP) (units: MILE / KM)、 Single Power-On Time (TIME)、 Battery Voltage (VOL)

3) Speed Display Area:



AVG: Average Speed、 MAX: Maximum Speed、 SPEED: Current Speed (units: MILE/H / KM/H; the displayed speed is derived from the controller-reported rotational speed or real-time speed)

4) Vehicle Assist Level & Walk Mode Adjustment:



5) Vehicle Status Display Area:

Brake Indicator:



Bluetooth Connection Icon:



Headlight Icon:



Boost Assist Icon:



Cruise Control Icon:



Single/Dual Drive Icon:



Left/Right Turn Signal Icons:



Lock Icon (Vehicle Anti-Theft):



5.4.3 Meter Functions Introduction

1) Control and Settings Functions:

Power switch control, wheel diameter setting, idle auto-sleep time setting, backlight brightness setting, start mode setting, drive mode setting, voltage level setting, and controller current limit setting.

5.4.4 Introduction to Instrument Buttons

【POWER】 Button : When the meter is off: Press and hold for 2 seconds to turn on. When the meter is on: Press and hold for 2 seconds to turn off.

【POWER】 Button : On the main screen: Short press to switch riding data items. In the menu interface: Short press to switch menu options.

【POWER】 Button : On the password screen: Short press to switch password input positions; short press at the 4th digit to confirm the password.

【+】 : Button : On the main screen: Short press to increase the assist level; press and hold for 2 seconds to turn the headlight on/off.

【-】 : Button : On the main screen: Short press to decrease the assist level; press and hold for 2 seconds to activate walk/boost mode.

【POWER】 + 【+】 Button : Press and hold both buttons for 2 seconds to toggle between SPEED / AVG SPEED / MAX SPEED display modes.

【+】 + 【-】 Button : On the main screen, press and hold both buttons for 2 seconds to enter the menu.

5.4.5 Introduction to Instrument Power-On Methods

1) Power-on without password:

When the meter is off, press and hold the [POWER] button for 2 seconds to enter the main interface.

5.4.6 Meter Menu Description

Item	Description	Parameter Range	Default Value
P01	Backlight brightness: Level 1 = dimmest; Level 2 = medium; Level 3 = brightest	1-3	
P02	Odometer unit: 0 = KM ; 1 = MILE	0-1	
P08	Speed limit: Range 0-100 km/h The value sets the vehicle's maximum operating speed	0-100	
P16	Odometer (ODO) reset setting	Varies with total system mileage	Press + key for over 5s to clear ODO; Press - key for over 5s to restore factory settings

5.5.Instrument Fault Codes

Instrument Code	Status Meaning	Troubleshooting
E04	Hall Sensor Fault	Return to factory for repair
E05	Brake Lever Fault	Replace brake lever / Return to factory for repair
E06	Low Battery Voltage	Charge the battery
E07	Motor Fault	Return to factory for repair
E08	Throttle Fault	Replace throttle / Return to factory for repair
E09	Controller Fault	Return to factory for repair
E10	Communication Reception Fault	Return to factory for repair

5.6.Packaging Requirements

1. Corresponding packaging standards shall be formulated and strictly implemented based on product characteristics, to meet moisture-proof, shock-proof, mildew-proof, rough handling prevention and related quality assurance requirements throughout the specified service and storage period.
2. The outer packaging shall be clearly marked with: supplier name/logo, product model and specifications, inner quantity, production date/batch number, and order number.
3. Packaging and boxing plans are subject to customer requirements, with specific details negotiated by both parties and confirmed against the sealed sample.
4. Packaging method: Each individual instrument is first wrapped in a bubble bag, then placed in divided compartments. Each layer contains 10 compartments, with 5 layers per carton, resulting in 50PCS/100PCS per carton.

Note: The software version of the instrument used on some complete vehicles may differ slightly from this manual; the actual in-use version shall prevail.

6.Considerations

Please use it safely, and do not plug or unplug the display when it is powered on.

- Please avoid bumping as far as possible.
- Please do not alter the background parameter settings of the display at will otherwise normal riding cannot be guaranteed
- If the display fails to work normally, it should be repaired as soon as possible.
- Due to product upgrades of the company, part of the displayed contents or functions of the product you bought may be different from the manual, depending on the actual model.

7.Maintenance and Cleaning

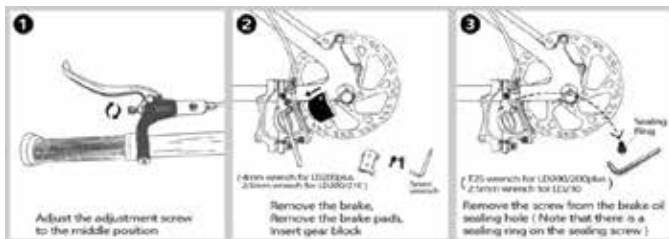
- (1) If your bike is very dirty, please clean it with water or mild detergent and nonabrasive sponge driving.
- (2) Do not use high pressure to wash the bicycle.
- (3) Never wash the bearing points or electronic components of the electric bicycle directly.
- (4) Do not use irritant chemicals or alcohol wipes to clean the bike.
- (5) Please use lubricating oil to wipe the metal parts of the bicycle body for maintenance.
- (6) It is strictly forbidden to oil the brake and wheel hub.

Lubrication part	Lubrication cycle	Recommended lubricating oil
Front fork assembly	1 year	Butter (lithium grease)
Front and rear axles	1 year	Butter (lithium grease)
Central axis	1 year	Butter (lithium grease)
Pedal shaft	1 year	Butter (lithium grease)
Sprocket	1 week	Lubricating oil
Chain	1week	Lubricating oil
Inside the wheel	1 month	Lubricating oil
Brake handle	1 month	Lubricating oil

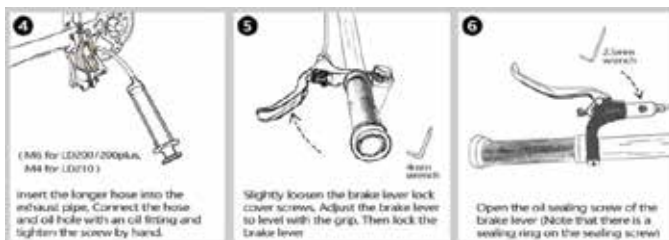
8. Oil brake maintenance

- 8.1. Please read the manual before maintenance and do not leave it to inexperienced personnel.
- 8.2. The upper and lower pumps of this product produce braking function by extrusion through the oil pipe output. The internal oil should be maintained after 10 months under normal use (except for other improper use) to avoid air generated inside the brake pump causing braking. If the effect is not good or fails, please go to a professional repair shop or professional repairman for maintenance.
- 8.3. Operation steps (scan the second microcode on the homepage and there is a video explanation)

1. Adjust the screw to the middle position
2. Remove the brake, remove another piece, and insert the gear plug
3. Remove the brake oil seal screw



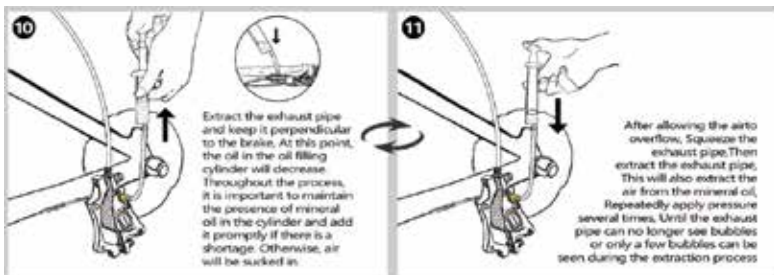
4. Insert the long hose into the oil injection barrel, connect the hose and the oil hole with the oil injection nozzle, and tighten the screws manually
5. Slightly loosen the handbrake lever lock cover screw, adjust the handbrake lever to be flush with the handle, and then tighten the screw
6. Open the oil seal screw of the handbrake lever (note that there is a sealing ring on the oil seal screw)



7. Insert the short hose into the oil filling barrel, connect the hose and the oil cylinder with the M4 oil filling nozzle connector, and then tighten the screws by hand.
8. Use another oil filling cylinder to extract 20ml of new engine oil
9. Inject engine oil into the oil filling cylinder



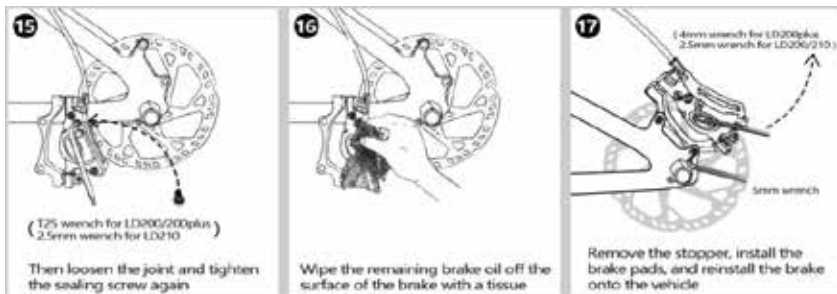
10. The oil filling barrel should be kept vertical. The oil injected into the barrel will gradually decrease. Make sure there is oil in the barrel throughout the process, otherwise air will be sucked in.
11. Push out the air and squeeze the oil filling cylinder. The oil priming cartridge is then extracted, which draws air from the oil. Apply extraction several times until bubbles are no longer visible in the oil filler barrel, or only a small amount of bubbles are visible in the extraction extraction



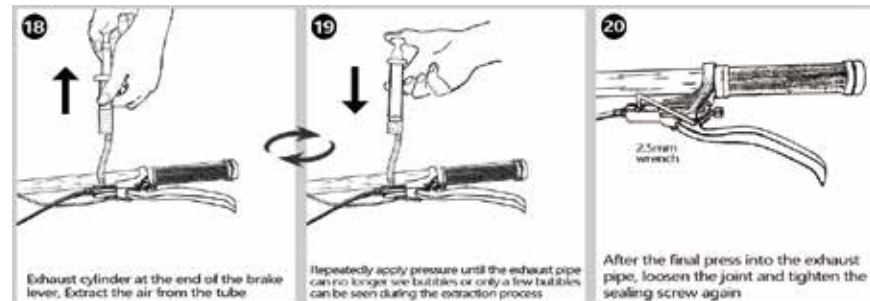
12. During the last pump, a little oil is left in the oil filling barrel.
13. Replace the oil filling cylinder with the exhaust gas cylinder. When pulling out the oil filling barrel, wrap it with a cloth to prevent oil from overflowing.
14. Apply as much pressure as possible on the brake side.



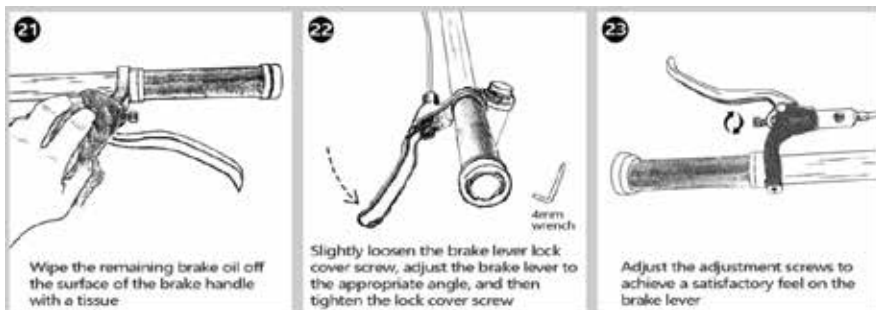
15. Then loosen the grease nipple and tighten the sealing screw again
16. Use paper towels to wipe off the remaining oil on the upper surface of the brakes
17. Remove the gear plug, install the brake pads, and reinstall the brakes to the vehicle.



18. Bleed the air from this end of the handbrake lever and extract the air from the tube
19. Repeat extraction several times until no bubbles or very few bubbles are visible in the tube.
20. After the last injection, loosen the interface and tighten the oil seal screw.



21. Use a paper towel to wipe off the remaining oil on the surface of the handbrake.
22. Slightly loosen the handbrake lever lock cover screw, adjust it to the appropriate angle and retighten the screw.
23. Adjust the elastic screw on the handbrake lever to achieve a satisfactory feel.



9.Troubleshooting Instructions

Display error code

Fault code	Fault name	Fault code	Fault name
E02	Brake failure	E08	Throttle Handle failure
E06	Lack voltage protection	E09	Controller failure
E07	Motor Hall failure	E10	Controller/Display communication failure

10.Warranty

(1). Warranty information

- For the faults caused by the quality of the product under normal use, the company will be responsible for providing a limited warranty during the warranty period.
- The warranty period of the product is 12 months. (Battery, motor and controller warranty is 12 months)

(2). Non-warranty scope

- All man-made damage, such as wading, improper access to power, use of improper accessories.
- Damaged and unreasonable maintenance due to not using the reference product specification requirements.
- Damage caused by the unreasonable dismantling by Party A is not covered by the warranty commitment.
- The closure is opened; The connector is damaged.
- The enclosure of ebike and the outgoing line of display are scratched or damaged after delivery.
- Faults or damage caused by force majeure (such as fires, earthquakes,etc.) or natural disasters (such as lightning strikes, etc.)
- The warranty period has expired