

Please refer to
the local law in
accordance with
the laws and
regulations

APE RYDER

USER MANUAL FOR EBIKE

Warning:

Persons less than 16 years old (include 16 years old) are not allowed ride e-bikes

Names of Electric bicycle components



fig.1 Electric Bicycle with Carrier Battery-pack

* For handle panel,it may vary from model,such as LCD and LED panels in different design and function, and its user's manual may be provided separately, accompanied with your bike.

Congratulations!

First of all, congratulation on your purchasing of our electric bicycle(or pedelec), which is carefully designed and manufactured under strict quality control according to the current European standard EN 15194.

Please read this instruction manual carefully and thoroughly before riding, as it contains sufficient information, which is very important in safety, maintenance and simple assembly. It is the owner's responsibility for reading this manual before riding this bike.

The user's instruction manual includes two sections, one is mechanical section, and another is electric section. This instruction is applied to the electric bikes with following equipment:

For mechanical equipment:

- Derailleur/ Roller brake Derailleur/
- V-brake or disc brake
- Internal gear hub / Roller brake or coaster brake
- Internal gear hub / V-brake or disc brake

For mechanical equipment, an electric bicycle differs only slightly from a non-electric bike.

For electric equipment:

- The battery-pack with rear carrier or on the down tube
- The motor in the rear or front wheel hub
- The controller on a box next to battery or integrated to the battery-pack
- Operation panel is installed to handlebar

SECTION I

MANUAL FOR MECHANICAL PARTS

Contents:

1. Conditions for Riding This Electric Bicycles
2. Selection and Set-up
3. Safe Cycling and SafetyTips
4. Routine Maintenance Check and Lubrication
5. Assembly Instructions

1. Conditions for Riding this Electric Bicycles

This electric bicycle is designed for riding on a road or a paved surface where the tires do not lose ground contact, and this electric bicycle must be under proper maintained according to the instruction of this manual. The maximum weight of the rider and load is required to be less than 200lb (or 90kg).

 **Warning:** You are warned that you take the consequences such as personal injury,damage,or losses if you breach the above conditions and in the meanwhile,the warranty will be void automatically.

2. Selection and Set-up

2.1 Handlebar Stem Adjustment

Handlebar stem is approximately on the same level as saddle or slightly lower.Pls adjust until you feel comfortable.

**Warning:**

handle stem minimum insertion mark on traditional quill stems must not be visible above the top of headset. If the stem is extended beyond the minimum insertion mark the stem may break or weaken the fork steering tube.

3. Safe Cycling and Safety Tips

3.1 Checking Points Before Riding

Before you ride your electric bicycle at any time, make sure it is in a safe operating condition. Particular check the following items:

- Electric bicycles nuts, bolts, quick-release and parts are fastened tight and no worn or damage;
- Riding position is comfortable;
- Steering is free with no excessive play;
- Wheels run true and hub bearings are correctly adjusted;
- Wheels are properly secured and locked to frame/fork; Tires
- are in good condition and inflated to correct pressure Pedals
- are securely tightened to pedal cranks
- Gears are correctly adjusted
- All reflectors are in position

After you have made any adjustment to your electric bicycle, check that all nuts and bolts are securely tightened and cables are free from kinks and fixed securely to the electric bicycles frame. Every six months, your electric bicycle should be professionally checked to ensure that it is in correct and safe working order. It is the responsibility of the rider to ensure all parts are in working order prior to riding this electric bicycle.

3.2 Do Not When Riding

- Do not ride without wearing an approved helmet, which must meet European/USA standard or the same effect (comply with the law, rule or

regulations in your local area);

- Do not ride on the same side of road as oncoming traffic;
- Do not carry a passenger unless the cycle is equipped to do so;
- Do not hang items over the handlebars to impede steering or catch in the front wheel;
- Do not hold on to another vehicle with another hand; Do
- not ride too close to another vehicle.



Warning of Wet Weather Riding: No brakes work as well under wet or icy conditions as they do under dry conditions. The braking distance in wet weather would be longer than those in dry, and you should take special precautions to assure safe stopping. Ride slower than normal and apply your brakes well in advance of anticipated stops.



Warning of Night Riding: we recommend you minimize the times you ride after dark. If you have to be out on your electric bicycle at night, you must comply with the relative law, rule or regulations in your local area, using a headlight(white) and taillight(red) on your electric bicycle in addition to the all-around reflectors fitted. For more safety, wear light colored clothing with reflective stripes. Check that the reflectors are firmly secured in the correct position and clean and not obscured. Damaged reflectors must be replaced immediately.

4. Routine Maintenance Check and Lubrication



Warning: As with all mechanical components, the bicycle is subjected to wear and high stresses. Different materials and components may react to wear or fatigue in different ways. If the design life of a component has been exceeded, it may suddenly fail possibly causing injuries to the rider. Any form of crack, scratches or change of coloring in highly stressed areas indicate that the life of the component has been reached and it should be replaced.



Warning: It is important to use only genuine replacement parts for several safety-critical components.

To keep the electric bicycle functioning well, the following routine maintenance and lubrication is necessary for you



Half Yearly - Remove and clean, lubricate chain, derailleur gears and all cables. Check and replace as required.

NB - Wash cycle weekly with warm soapy water and dry it by rubbing with a soft cloth

Warning: When the rim become spart of the brake system(such as the conditions of V-brake and caliper brake), it is very important to check the rim wear monthly and adjust the brake shoes accordingly to make the clearance at 1-1.5mm from the track of rim. The wear of rim may destroy the braking and result in persona linjury to the rider or others.

A-Headset Remove, clean and regrease bearing yearly, checking if replacements required.	H-Mudguards Check the mudguards are clean and tight. Ensure the mudguards are secure and undamaged. Replace if neccessary.	O-Bottom Bracket Clean,regrease yearly checking for wear.
B-Stem Nuts Ensure stem nuts and bolts are tight	I-Quick release Check the quick release is tight, ensure the mudguards are secure and undamaged, replace if necessary	P-Gears Front and Rear Lightly oil moving parts. Maintain adjustments of front and rear derailleurs.
C-Handlebars Check handlebar bolt is tight. Check brake lever securely mounted to bars and brakes stop smoothly and efficiently.	J-Wheel Hubs Grease bearings monthly. Adjust cones to avoid free play side to side.	Q-Chain cover Check the chain cover is secure and undamaged, replace it if necessary
D-Brakes Lightly oil exposed cables monthly. Maintain adjustment and replace brake blocks when worn, brake cables when frayed.	K-Reflector(Pedal) Check all fitting are secure.	R-Seat and Stem Nuts Be sure seat and stem nuts are tight
E-Battery light (front and rear) Ensure the front and rear battery light are secure and undamaged. Replace if neccessary.	L-Cranks Grease bearing monthly, check that axle bolts and cotterpin bolts are tight, check for free play in bottom bracket.	S-Pedals Lightly oil bearings monthly
F-Front suspension unit Dealer adjustment only	M-Chain Keep light oiled weekly, clean and lubricate half yealy.	
G-Tyres Check for cuts and wear, Maintain pressure indicated on tires wall for maximum Efficiency.	N-Wheels Check that axles are sealed and secured properly. Rim should be kept free from wax, oil, grease and glue. Check for loose or missing spokes. (see warning below)	U-The electrical parts you can refer to the manual for the electricalparts.

5.Assembly Instruction

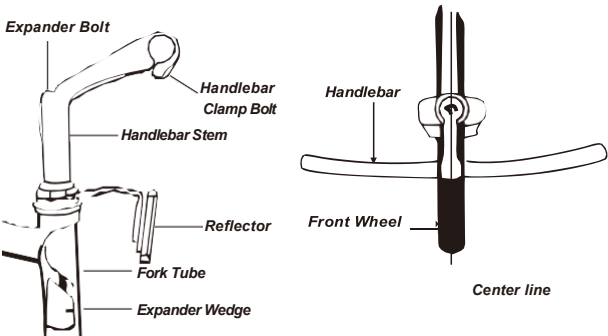
Here is some important information for electric bicycles assembly, which is very useful for your maintaining your electric bicycle, and especially helpful when you purchase our e-bikess which is partly assembled and packed in a carton.

Step 1: Preparation:

Take the electric bicycle and parts out of the carton and detach all parts

Step2: Handlebar & Handlebar Stem Assembly(refer to fig. 9 and 10)

fig 9
fig 10
Handlebar
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a
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m
b
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s an usual situation, in our factory, the handlebar have been pre- assembled together with brake levers, shifter levers and grips. Be sure that the longer cable is fixed to the right lever (rear brake) and shorter cable to the left (front brake), or according to your local rule and practice (Note: In some area, such as UK, the cables are required to be arranged in the opposite way).

Since your cycle may be fitted with an adjustable, a standard stem or an A-

S
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A
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head stem (refer to fig.9), you must always check that all the bolts are tight before cycling. Based on the situation of standard handlebar stem, please follow the instruction below:

- 1) Push the handlebar stem into the fork tube (head of the frame) to the minimum height line that is marked on the side of the handlebar stem.It

might be necessary to loosen the expender bolt so that the stem can slide into the fork tube, until you get your desired height of the handlebar stem

- 2) Align the handlebar stem with the frontwheel(see fig.10). Tighten securely the expender bolt with an adjustable wrench.

Note: Some models require a 6mm allen key.(Tightening torque: 18N.m or 14 footlbs.torque)

- 3) Loosen the handlebar clamp bolt and nut from the stem.
- 4) Position the handlebar at the desired angle. Make sure that the stem is in the center of the handlebar
- 5) Tighten securely the handlebar clamp bolt (Tightening torque: 18N.m or 14 foot.lbs)
- 6) Be sure that your handlebar and stem assemblies are properly tight before riding. The handlebar should not rotate in the stem. When you straddle and grip the front wheel between your knees, the handlebar should not be able to turn when you apply pressure horizontally. Refer to (fig.10)

Note: Under the situation of A-head stem, you make the similar operation as the above. Compression bolt tightening torque: 23N.m or 17 foot lbs. torque; stem clamp bolt tightening torque: 12N.m or 9 foot. lbs

Step 4 Attaching Pedals(refer to fig. 11) :

- 1) The pedals are marked with either a "R" or "L" on the threaded end of the pedal axle.
- 2) Screw the pedal marked "R" into the right side of the crank assembly (chain side of electric bicycles). Turn the pedal (by hand) in the clockwise direction. Tighten securely with an adjustable wrench or the plate wrench special for pedals (Tightening torque: 34N.m or 26 foot.lbs).
- 3) Screw the pedal marked "L" into the left side of the crank assembly. Turn the left pedal (by hand) in the counter clockwise direction. Tighten securely with an adjustable wrench or the plate wrench special for pedals (Tightening torque: 34N.m or 26 foot.lbs).

PEDAL IDENTIFICATION

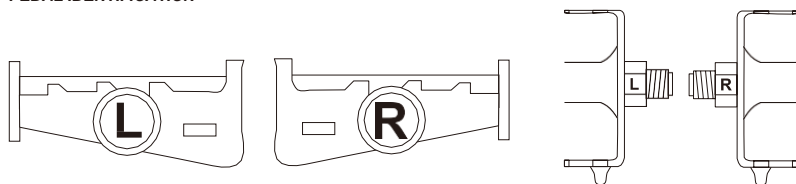


fig. 11 Attaching pedals

Step 5 Brake Adjustments

The brake on your electric bicycle should have been adjusted correctly in our factory, however, as cables do stretch, it is important to check the adjustment of your brakes after your first riding. Most brakes will need some adjustment after being used a few times.

V-brake Adjustment(refer to fig. 12) :

- a. Press the inner cable through the inner cable lead, and after setting so that the total of the clearance between the left and right shoes and the rims is 2mm, tighten the cable fixing bolt, tightening torque: 6-8N.m or 5-6 foot.lbs.
- b. Adjust the balance with the spring tension adjustment screws.
- c. Depress the brake lever about 10 times as in normal brake operation and check that everything is operating correctly and that the shoes clearance is correct before using the brakes.

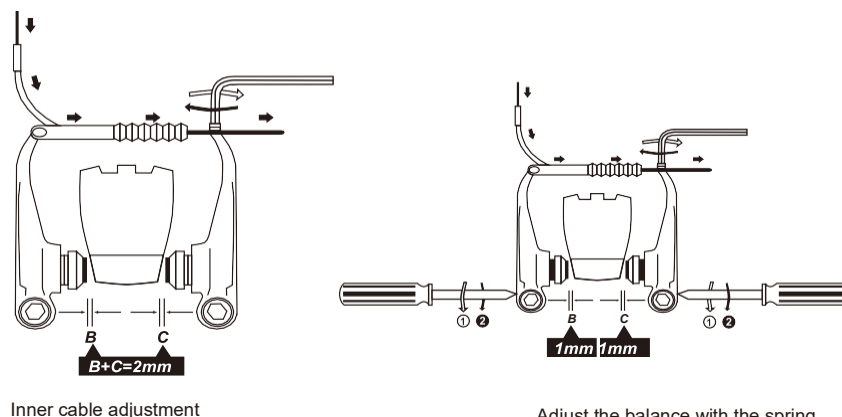


fig. 12

Note: If you are still failed to well adjust the V-brakes, we strongly recommend it being done by professionals. If the distance between the left /right shoes and the rims is more than 2mm after abrasion for a long time, you need to replace the left and right shoes to ensure the safety.

Basic Disc Brake Adjustment

The notes that follows are not exhaustive. If you need further assistance, please take your cycle to your local dealer or a professional cycle shop.

a. Brake Lever and Brake Pad Travel Adjustment

You can alter the amount of braking pressure by altering the travel of the brake lever and by the proximity of the brake pads to the brake disc.

To alter the travel of the brake lever adjust screw A (see fig. 13), unscrew screw A reduce the amount of lever travel and by tightening it increase the lever travel. If you have fully unscrewed screw A and the lever travel is still excessive you will have to adjust the space between the pads and the disc.

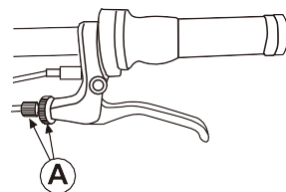


fig. 13 Brake Lever Adjustment

Tighten screw A (Fig.13) up to the brake level. Go to Fig.14 and insert an allen key into the smaller hole inside allen key hole B. Rotating the allen key clockwise pushes the outer brake pad forward by approx.0.8mm After each turn, check the braking performance.

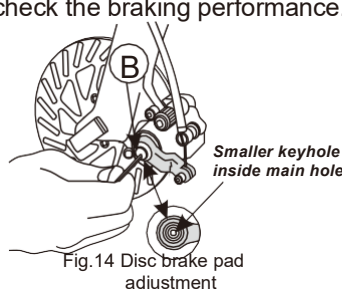


Fig.14 Disc brake pad adjustment



Fig 15 Disc brake pads adjustment

Once the correct amount of travel has been reached, centre the brake Calliper on the disc by adjusting screw C(Fig.15).when the brake pads are centered on the disc the wheel should spin freely, though there may be a slight amount of noise until the pads "bed" in.

If your cycle came from, or has recently been overhauled by a professional repair shop. you should be able to maintain good braking performance by adjuster screw C (refer to Fig.15)

Once the correct amount of travel has been reached, center the brake caliper on the disc by adjusting screw C (fig.15). When the brake pads are centered on the disc the wheel should spin freely, though may be a slight amount of noise until the pad bed in.

b. Brake pad wear andreplacement

When you check your brake pads due to falling performance, check their thickness. If they are less than 1 mm (Fig. 16), they will need replacing.

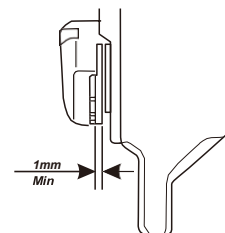


Fig 16

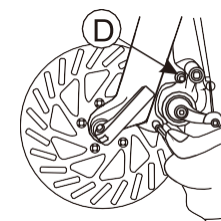


Fig 17

To fit new pads, remove the brake calliper from the fork or frame by unscrewing allien bolts D(Fig.17). Unscrew (anti-clock wise), the smaller allen bolt inside allen bolt B(Fig.14). Lift up and pull the inner pad downward, using the protruding part. Slide a thin slot screwdriver under the outer pad and lift it up. Hold the screwdriver in this position and remove the pad with a pair of longnosed pliers.

Remove the springs from the worn out pads and fit them onto the new pads. Replace the new pads, keeping them slightly inclined into the seat of the Caliper. Check that the spring hooks correctly onto the small piston.(When pulling downwards the pads should not come out).Refit the Caliper to the fork or frame and adjuster screw C(Fig.15)until the pads and the disc are centered and the wheel spins freely. Again there may be some noise from the brake until it "bed" in.

Step 6 Derailleur Gears Maintenance and Adjustment

To ensure that your derailleur gear works efficiently and to prolong its life, it must be kept clean and free from excessive dirt built up and should be properly lubricated.

Note: If the specific instruction manual is provided accompanied with your bike, please follow it.

Before Adjustment, please make sure of the following details: The

- right shifter controls the rear derailleur and sprocket.
- The largest rear sprocket generate low gear for hill climbing; the small rear gear sprocket develop high gear ratios for speed work and downhill riding

- The small chain ring produce low gear ratios while the larger front chain ring produce high gear ratios
- To operate your derailleur gear system efficiently and reduce damage, wear and reduce noise to a minimum, avoid using the maximum crossover gear ratios of large chain ring/large rear sprocket, small chain ring/small rear sprocket

Note: For positive gear selection, observe these four precautions 1)change only when pedals and wheels are moving in a forward motion 2)reduce pedal pressure while changing gears 3)Never back pedal when changing gears 4)Never force the gear levers

Rear Derailleur Adjustments:

Move the shifter all the way forward (toward seat) and with the chain on the smallest rear sprocket and largest front sprocket, check for cable slack at point "B". If there is slack, loosen the cable nut or screw, pull on the cable end with pliers and retighten the cable nut or screw while pulling cable taut(tightening torque: 5-7N.m or 4-5foot.lbs)

Top Adjustment

Turn the "H" adjusting screw(or top rear adjustment screw) on the gear mechanism so that, looking from the rear, the guide pulley is below the outline of the top gear.

Low Adjustment

Turn the "L" adjusting screw (or low gear adjustment screw) so that the guide pulley moves to a position directly below the low gear

1)Operate the shifting lever to shift the chain from top gear to 2nd gear.

- If the chain will not move to the 2nd gear, turn the cable adjusting barrel to increase the tension 1(counter clockwise)

- If the chain moves past the 2nd gear, decrease the tension 2(clockwise)

2)Next, with the chain on the 2nd gear, increase the inner cable tension while turning the crank forward.Stop turning the cable adjusting barrel just before the chain make noise against the 3rd gear. This complete the adjustment Be sure to perform oil maintenance at each part of the transfer mechanism.The optimum oil is dry molybdenum oil or the equivalent.

Step 7: Tighten the front and rear hubs nuts securely.(Tighten torque: about 30 N.m for front wheel, about 25 to 30 N.m for rear wheel) Before

riding, lift the front of the bicycle so that the front wheel is off the ground and give the top of the tire a few sharp downward strikes. The wheel should not wobble or come off.

Step 8: Inner gear adjustment, please refer to the attachment copy inside bike carton.

SECTION II

MANUAL FOR ELECTRIC PART

The model instructed in this manual is made with "start aid". This electric assistance system will help riders to save their energy, while they enjoy their easy sports.

Here is the function of so-called "start aid": when you long press the down button of display for seconds, the bike can be started at speed of 6 km/h. After the bike moving forward, you can easily pedal on and release the "start aid" button.

Also, you can pedal 3/4 round of the chain wheel to start motor without using the "start aid" button.

Content

1. Important Safety Cautions
2. Operation
3. Using and Charging the Battery
4. Using and Maintaining the Electric Hub Motor
5. Maintaining the Controller
6. Simple Trouble Shooting
7. Diagram and Specification

1. Important Safety Cautions:

- We strongly advise wearing an approved helmet, which meet European/USA Standards.
- Obey local road rules when riding on public roads. Be
- aware of traffic conditions
- Parents need to ensure their children are supervised when riding any

bicycle equipment.

- Have your bike serviced only by local authorized bicycle shops. Regular servicing will ensure a better and safe riding performance.
- Do not exceed more than 90kg load on bicycle, including rider. Do not "dink"
- or have more than one rider at a time on the bicycle.
- Ensure regular maintenance is carried out on the bike according this owner's manual
- Do not open or attempt to maintenance on any electrical components.
- Contact your local bicycle agent for qualified service and maintenance if needed.
- Never jump, race, perform stunts or abuse your bicycle.
- Never ride under the influence of intoxicating drugs or alcohol.
- We strongly recommend switching-on the lighting system, when riding in the dark, fog or poor visibility.
- When cleaning this bike, please wipe surface with a piece of soft cloth. For the very dirty spot, you can wipe it with a little neutral cleaning agent.

⚠Warning: Do not wash this electric bike direct with spraying water, to avoid water entering electric components, which may result in damage of the electric components and then, the electric assistance bicycle can not be normally used.

Operation

2.

Your new electric bicycle is a revolutionary transporting means, applied with alloy aluminum frame, Lithium battery, a super high efficient electric hub motor and controller with pedal assistance system, to make easy biking. The above mentioned equipment will ensure high safe riding with excellent performance. It is important for you to learn the following guideline in order to get the best possible experience with your electric bicycle.

2.1 Checking Before Riding

2.1.1 please ensure tires are fully inflated to 45psi, before riding.

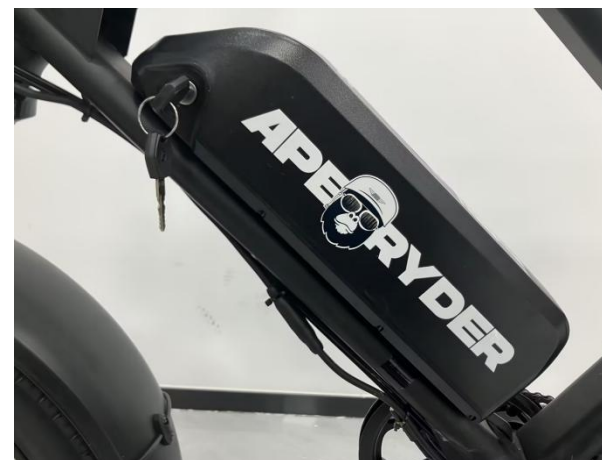
Remember, performance of the bike is directly related to the weight of the rider and baggage/load, together with the stored energy in the battery;

2.1.2 Charge over night, prior to riding the next day;

2.1.3 Apply chain oil periodically and clean if dirty or gummed up, using a degreaser, then wipe clean and oil bicycle chain again.

2.2 Switching on the battery

In this manual, we shall instruct you how to use the following battery-pack, this battery is placed on the down tube of frame and can be taken out.



First of all, please make sure the battery pack is well installed and its power plug is securely inserted to controller box.

There are two buttons of this battery pack as below pictures show. The right one is used for checking the battery capacity, "F" means full battery capacity, "E" means low battery capacity. The left one is used for switching on/off the battery.

For electric bikes with this battery pack, it's controlled by display. After switching on the battery, you must turn on the display, then this battery begin to supply the power.



2.3 Functions of the display

Pls refer to below LCD display, there are five buttons for this display, top button “+” is for UP, the bottom button “-” is for DOWN, the middle button “i” is for confirm, the

left button  is for pedal assist, the right button  is for on /off.



2.3.1 Turn on display with NFC card, it will show as below, Or if you forget

the NFC card, Press  button for seconds, enter into pass word menu, press “+”/“-” to input “9999”,



2.3.2 When you turn on the display, it is with PAS 1, when you ride it, press UP button, can change from PAS 1 to PAS 5, the down button is from PAS 5 to PAS 1.

2.3.3 If you stop riding, pls press MODE button for seconds to turn off the display. For detail information, pls refer to the display user manual attached with the e-bike.

2.4 Functions of the independent switch

There are three buttons on this independent switch, the top one is switching on/off for

front light and rear light. The middle one is used for controlling the rear light steering function, and the right/left side of the rear light will flash when switch to the right/left. The last one is controlling the horn function.



3. Using and Changing the Battery

3.1 Advantages of a Lithium Battery

Your electric bicycle is equipped with high quality lithium batteries, which are light and create no pollution to the environment, as a typical green energy source. As well as the above features, the lithium batteries have the following advantages:

3.1.1 Charging without memory effect

3.1.2 Big electric energy capacity, small volume, light in weight, with large current output, suitable for high power vehicles.

3.1.3 Long life

3.1.4 A wide working range of temperature: -10°C to +40°C

3.2 Removing and Installing the Battery Pack.

3.2.1 If an AC outlet is available within reach of your bike, you can charge your bike direct there, pls check below picture where the charger plug locates:



3.2.2 Removing the battery is useful for charging in a location where the bicycle may not fit or when no reachable AC power supply exists at the place where the bike is parked. Pls check below pictures about how to remove the battery:



- There is a key on the left side of this battery pack, hold the key and twist it to the left



Then you can take out this battery pack at upwards.

- Finally this battery pack is taken out.



3.3 Procedure for Charging

Note: Before charging, please also read carefully the manual accompanied with the bike, if any, for the charger and battery issued by the relative manufacturers, to know more details.

Please charge the bike battery according to the following procedure:

- 3.3.1 Make sure the battery main switch is turned off. Then open the charging socket cover.
- 3.3.2 Insert the charger output plug into the battery securely and then, plug the main cable of the charger into a reachable AC outlet;
- 3.3.3 When charging, the LED on the charger will become red, showing the charging is on. It becomes green, after the battery is fully charged.
- 3.3.4 To finish charging, you must disconnect the charger input plug first from the AC outlet, and after that, disconnect the charger output plug from the battery pack. Finally, close the cover on the charging socket of the battery pack and check the socket, if covered for sure!

Warning:

- 1) You should only use the charger provided with the electric bike, otherwise damage could occur to your battery and void the guarantee.
- 2) When charging, both battery and charger should be minimum 10cm away from the wall, or under a condition of ventilation for cooling. Place nothing around the charger, while in use!

3.4 Using and Maintaining the Battery.

To ensure a longer battery life and protecting it from damage, please use and maintain it according to the guideline below:

3.4.1 ALWAYS charge the battery after riding your bike;

3.4.2 If the bike is ridden less frequently, then a long and full charge each month will be necessary for assisting battery life and capacity.

3.4.3 If the battery will be not used and stored for quite a long time, it is necessary to be fully charged every month, and make a full discharge and recharge every three months.

3.4.4 Lithium battery should be used at the places which remain between -10°C to +40°C in temperature and 65±20% in moisture, and stored under normal temperature 0°C to +40°C, 65±20% in moisture.

**Warning:**

- 1) The battery life may be reduced after long storage without regular charging as instructed above, due to long natural over discharge;
- 2) Never use any metals directly to connect the two poles of the battery, otherwise, the battery will be damaged due to short circuit.
- 3) Never put the battery near to fire or heating it.
- 4) Never strongly shake, punch and toss the battery.
- 5) When the battery pack is removed from the bike, keep it out of reach of children, to avoid any unexpected accident.

3.5 Using and Maintaining the Battery Charger.

Before charging the battery, please read the bike owner's manual and the charger manual accompanied with your bike, if any. Also, please note the following points regarding battery charger.

3.5.1 This charger is forbidden to be used under the environment with explosive gas and corrosive substances.

3.5.2 Never strongly shake, punch and toss this battery charger, to protect it from damage.

3.5.3 It is very necessary to protect the battery charger from rain and moisture!

3.5.4 This battery charger should be normally used under temperature, ranged between 0°C to +40°C

4. Using and Maintaining the Electric Hub Motor.

4.1 To avoid damaging the motor, it is better to start the motor working after the bike has been pedaled from standstill. Under usual condition, our intelligent e-bikes are programmed in our factory, to start the electric assistance when pedaling 3/4 circle of the chainwheel.

4.2 Do not use the bike in a rainstorm or thunderstorm. Nor use the bike in water. Otherwise, the electric motor may be damaged.

4.3 Avoid any impact towards the hub motor, otherwise, the casting alloy aluminium cover and body may break.

4.4 Make regular check on the screws on both sides of the hub motor, fasten them even if there is just a little bit loose.

4.5 It is necessary to check the cable connection to the motor often, to ensure the hub motor to work always normally.

5. Maintaining the Controller.

It is very important to take care of this electronic component, according to the following guideline:

5.1 Pay more attention to protect from raining and soaking water, which may damage the controller.

Note: In case the controller box may soak into the water, please switch off the power immediately and pedal without electric assistance. You can pedal with electric assistance as soon as the controller is dried up!

5.2 Pay more attention to protect from any strong shaking and punching, which may damage this controller

5.3 The controller should be working under the temperature ranged from -15°C to +40°C



Warning: you may not open the controller box. Any attempt to open the controller box, modify or adjust the controller will void the warranty. Please ask your local dealer or authorized service to repair your bike.

6. Simple Trouble shooting.

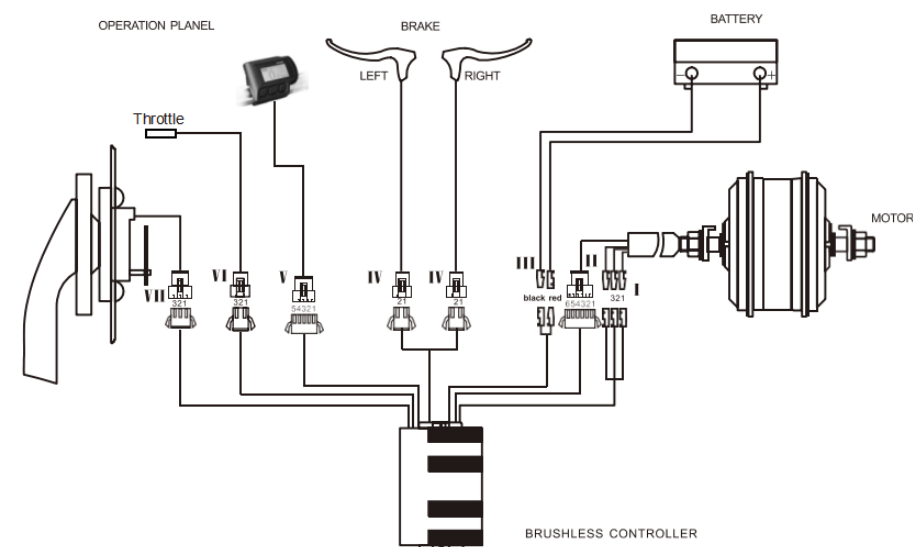
The information below is for purpose of explanation, not as a recommendation for user to carry out repair. Any remedy outlined must be carried out by a competent person who is aware of the safety issues and sufficiently familiar with electrical maintenance.

Trouble Description	Possible Causes	Troubleshooting Method
After the main battery switching on, the motor does not generate assistance when press the "6km/h" button or pedaling	The motor cable waterproof connection joint is loose	Check if the connection is securely fixed. If loose, joint them tightly
	Brake lever have not well returned, which makes power off	Make the brake lever come back to its normal position without braking
	Battery Fuse is broken	Open the battery pack top handle, and check if the fuse is broken. If yes, please come to your dealer or authorized service for installing a new fuse
		If the above has no effect, please contact your vendor or authorized service
The distance per charge become short (Note: performance of the bike battery is directly related to weight of the rider and any baggage/load)	Charging time is not enough	Please charge the battery according the instruction Chapter 3.3
	The environment temperature is so low that it affect the battery working	In winter or under 0°C, you'd better store the battery in room
	frequently going up slop, or going again wind, or on the poor road condition	It will be normal if the riding conditions are improved as regular
	The tires are failed to be inflated	Pump the tires and ensure tires are fully inflated to 45psi for your bike.
	Frequently braking and starting	It becomes normal when the riding situation become better. No worry about such a trouble
	Battery have been stored without using for quite a long time	Make regular charging according to this instruction manual
After plug the power outlet, no charger indicator LED is bright	Trouble from the power outlet.	Check and repair the power outlet.
	Poor contact between charger input plug and power outlet.	Check and insert the power outlet tightly
		If the above has no effect, please contact your dealer or authorized service
After charging 4-5 hours more, the charge indicator LED is till red, while the battery is still not full (Note: it is very important to charge your bike strictly according to this instruction stated in Chapter 4. 4, to avoid any trouble and damage occurred to your bike)	Environment temperature is 40°C and above.	Charge the battery in an area under 40°C, or according to this instruction chapter 3.5
	Environment temperature is under 0°C.	Charge the battery in room, or according to this instruction chapter 3.5
	Failed to charge bike after riding, resulting in over discharge.	Please contact your dealer or authorized service and try to recover the electric capacity
	The output voltage is too low to charge the battery.	No charging when he power supply is lower than 100V

7. Diagram and Specification

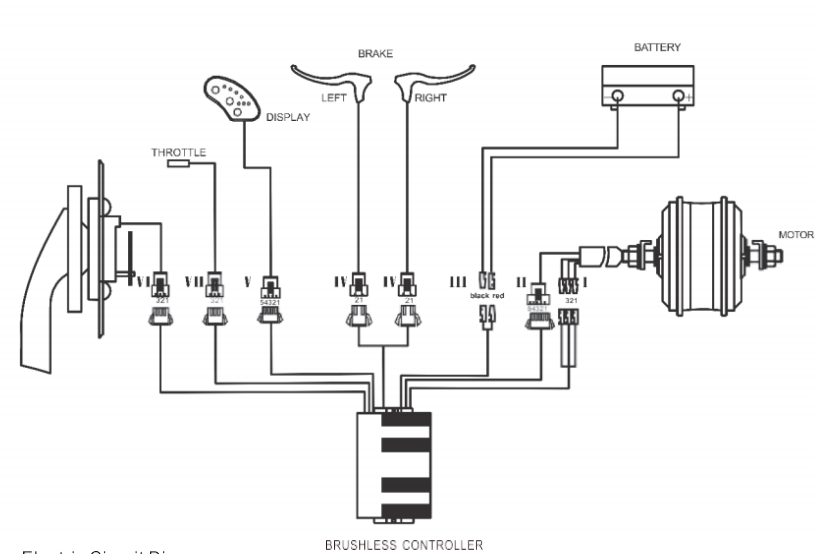
Here are the main technical specification details regarding the bike. SUNGENS reserve the right, without further notice, make modifications to the product. For further advice, please contact your vendor.

Electric Circuit Diagram 1(P111)



I. Motor 3 phase wire is connected with motor 1. Green(motor HA) 2. Yellow(motorHB) 3. Blue(motorHC)	II. Motor 1. Red(+5V) 2. Yellow(motorHB) 3. Green(motor HA) 4. Blue(motorHC) 5. Black(ground) 6. White(wheel speedsensor)	III. Power wire is connected with the power 1. Red(+5V) 2. Black(ground)
IV. Brake lever wire is connected with the brake lever 1. Blue(lock) 2. Red(brake leversignal)	V. Displayer 1. Red(+36V) 2. Blue(lock) 3. Black(ground) 4. Green(signal) 5. Yellow(A/D)	VI. Light 1. Red(+5V) 2. White(signal) 3. Black(ground)
VII. Power wire of the speed sensor is connected with the controller 1. Blue(speed signalwire) 2. Red(+5V) 3. Black(ground)		

Electric Circuit Diagram 2(P103,P112,P123)

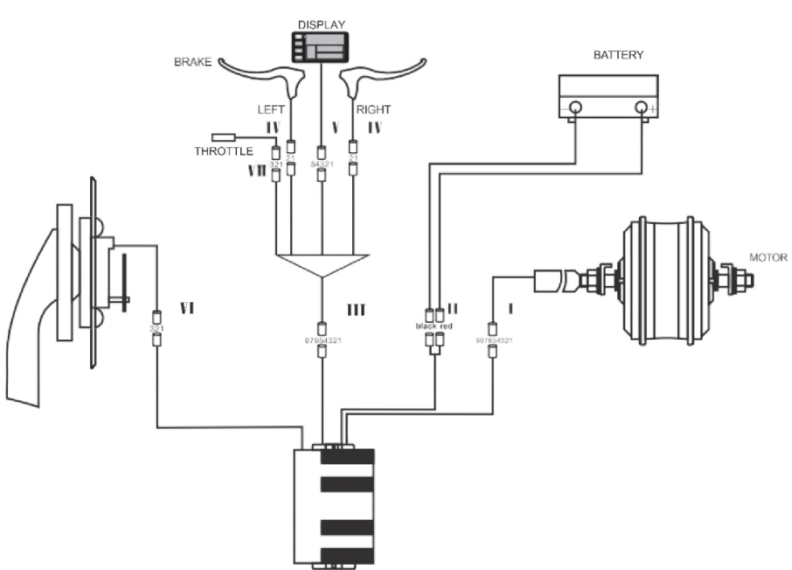


Electric Circuit Diagram

BRUSHLESS CONTROLLER

I. motor 3 phase wire is connected with motor 1. Green(motor HA) 2. Yellow(motor HB) 3. Blue(motor HC)	II. Motor 1. Red (+5V) 2. Yellow(motor H3) 3. Green(motor H2) 4. Blue(motor H1) 5. Black (ground)	III. power wire is connected with the power 1.Red (36V) 2.Black(ground)
IV. Brake lever wire is connected with the brake lever 1. Blue(ground) 2. Red(brake lever signal)	V. Displyer wire is connected with the displayer 1.Red(+36V) 2.Blue(lock) 3.Black(ground) 4.White(Signal of display) 5.Green(signal of display)	VI. Power wire of the speed sensor is connected with the controller 1. Blue(signal) 2. Red(+5V) 3. Black(ground)
VII. Throttle 1.Red(current source of throttle +5V) 2.White(signal) 3.Black(ground)		

Electric Circuit Diagram 3(P102)



Electric Circuit Diagram

BRUSHLESS CONTROLLER

I. motor wire is connected with motor 1. Green(motor HA) 2. Yellow(motor HB) 3. Blue(motor HC) 4. Red (+5V) 5. Yellow(motor H2) 6. Green(motor H3) 7. Blue(motor H1) 8. Black (ground) 9. White(wheel speed signal)	II . power wire is connected with the power 1.Red (36V) 2.Black(ground)	III. 1.Yellow(displayer signal ZF) 2.Green(displayer signal IL) 3.Blue(lock wire) 4.Black(-) 5.Red(+) 6.White(brake signal) 7.Purple(5V) 8.Grey(throttle)
IV. Brake lever wire is connected with the brake lever 1.White(brake signal) 2.Black(5V)	V . Displyer wire is connected with the displayer 1.Yellow(displayer signal ZF) 2.Green(displayer signal IL) 3.Blue(lock wire) 4.Black(-) 5.Red(+)	VI. Power wire of the speed sensor is connected with the controller 1. Blue(signal) 2. Red(+5V) 3. Black(ground)
VII. Throttle 1. Grey(+5V) 2. Purple(signal output) 3.Black(ground)		

Main Technical Specification Sheet

Here are some general technical Data for electric bikes:

Maximum Speed with Electric Assistance	25km/h
Over Current Protection Value	25A +/- 1A
Under Voltage Protection Value	40V +/- 0.5V

Please find the technical data regarding your bike motor below:

Motor Type:	Brushless with gears with hall
Rated Power:	250W
Maximum output Power:	
Rated Voltage:	48V

Battery Type:	Lithium Battery
Voltage:	48V
Capacity:	15Ah

Please find the technical data regarding your bike below

A Length (front wheel to rear wheel)	164CM
B Length (Handlebar to ground height)	114CM
C Length (Saddle to the ground min height)	83CM
D Length (Saddle to the ground max height)	90CM
E Length (Handlebar width)	68CM
NET WEIGHT INC BATTERY	46.2KG
BATTERY NET WEIGHT	3.8KG
MAX LOAD	120KG

with an auxiliary electric motor having a maximum continuous rated power of less than or equal to 250 W, where the output of the motor is cut off when the cyclist stops pedalling and is otherwise progressively reduced and finally cut off before the vehicle speed reaches 25 km/h.

Please find the technical data regarding your bike battery and charger below

EPAC: Pedal cycles with pedal assistance which are equipped