

Electric Bicycle General Manual



* Please note that this is a general manual. So, the frame style of the electric bicycle (e-Bike) that you have may differ from the picture shown in this manual.

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PLEASE NOTE:

This manual is not intended as a detailed user, service, repair or maintenance manual. Please seek assistance from qualified technician for service, repairs or maintenance.

Read This First: Safety and Compliance with the Law

Congratulations on your purchase of your new e-bike. Your new e-bike is an excellent piece of personal transportation equipment that will give you good service for many years.

Before you start using your e-bike, we want you to be aware of a few important points. Please read this section carefully.

- **Observe Laws Regarding the Use of Battery-Operated Bicycles**

Your e-bike is designed and manufactured to meet safety requirements as a battery-operated bicycle. However, state and local laws governing the use of battery-operated bicycles on public roadways, parks, and other open areas may differ. Please check with your local authority before using your e-bike in public areas.

- **Observe Laws Regarding the Use of Bicycles**

Note that all laws regarding the use of bicycles in public areas, such as those mandating the use of helmets and the use of infant seats, will automatically apply for e-bikes. Check with your local authority on what restrictions might apply.

- **The Lithium-ion Battery of Your e-Bike**

Your e-bike is equipped with the latest battery technology. The lithium ion battery is much lighter than lead- or nickel-based batteries that are being used in some older models.

- **Your First Ride**

When you are ready to get on your e-bike for the first time, be VERY CAREFUL because the e-bike, when in active power-assisted mode, moves significantly faster than a regular bicycle. Take your e-bike to an area with a lot of open space before you start. Do not start pedaling hard as soon as you get on the e-bike (as you normally would with a regular bicycle), as the e-bike will accelerate under pedal-assist mode and you may be unprepared for the sudden increase in speed. However, after a few times, you will enjoy using the pedal-assisted function.

Assembling Your New e-Bike

If you purchased your e-bike unassembled, please follow these instructions to assemble your e-bike under the guidance of an adult or a qualified technician. Assembly is quite easy as most of parts are already assembled; you need only to put a few large pieces together to complete the job.

You may click to the following link to view the demonstration of assembling the e-Bike:

<http://www.youtube.com/watch?v=bxA6AZ8NRik&feature=PlayList&p=9D1077C3DB0BED9D&index=0&playnext=1>

Remarks: The link is subject to change without advance notice. For more information, please refer to the following websites:

www.electricbike.net.au

www.electricscooter.net.au

www.electricbike.org.uk

www.electricbike.uk.com

www.electricscooter.org.uk

www.electricscooter.uk.com

www.electricbike.us.com

www.electricscooter.us.com

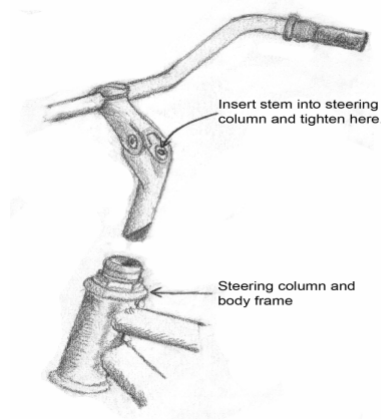
● Check that the Package is Complete and Undamaged

Your e-bike comes in a carton containing the following:

- ✧ The main body of the e-bike – consisting of the frame, the rear wheel, the gear and chain, the rear brake, the battery receptacle, the rear fender.
- ✧ The handle bar subassembly – the handle bar subassembly is not really separate, as it is connected to the main body by the brake cables and electrical wires. The handlebar also has the brake levers and gear controls already assembled. Additionally, the right handle also has an integrated control for the throttle mode power-assisted, and a battery charge level indicator. The throttle control is factory-configured to be disabled, however.
- ✧ The Seat – the seat is attached to its pedestal stem.
- ✧ The front wheel
- ✧ The front wheel fender with supports
- ✧ Battery and charger – these are contained in a separate box.
- ✧ Front light and dynamo assembly
- ✧ Pedals – there are a pair of foot pedals
- ✧ Tools and small parts – One multi-wrench, big hex wrench, small hex wrench, nuts and bolts, keys, and this manual.

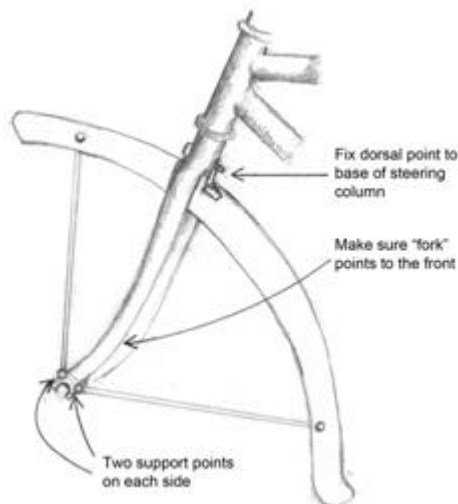
- **Assembly - Step 1: Attach the handle bar subassembly**

Stand the main body of the e-bike on the kickstand. Insert the stem of the handle bar subassembly into the steering column that is at the front of the main body frame. Make sure that the fork (that will hold the front wheel) is pointing forward, and orient the handle bar accordingly. Insert the stem all the way and tighten from the top using the big hex wrench.



- **Assembly - Step 2: Attach the Front Wheel Fender**

Make sure that the fork from the steering column is pointing forward. Place the front fender within the fork: locate the small projection with a screw hole at the top of the fender, fit it to the bolt at the back of the base of the steering column; attach the supports (two on each side) to the base of the fork using four small bolts (supplied). After all five points (the dorsal point and the 4 support points) are properly attached, use the multi-wrench to tighten.



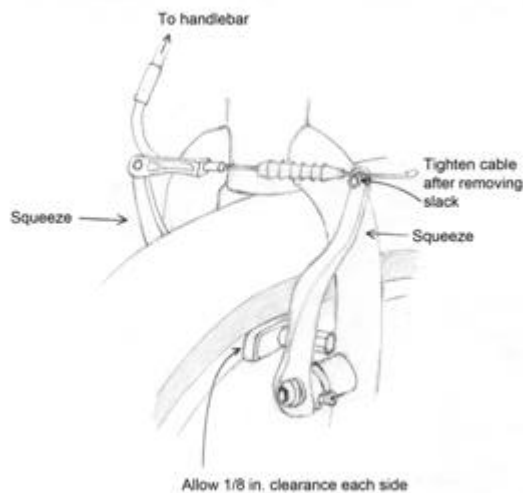
- **Assembly - Step 3: Attach the Front Wheel**

Make sure that the fork from the steering column is pointing forward. Place the front wheel within the fork and between the two brake pads on either side, seat the axial stem properly within the receptacles at the tips of the fork, and tighten the nuts with the multi-wrench. Make sure that the front wheel moves freely and does not wobble from side to side. Reposition the wheel and re-tighten if necessary.

- **Assembly - Step 4: Assembling and Adjusting the Front Brake**

You may need another person to help you with this step. The front brake is installed and assembled except that the cable was relaxed to allow the installation of the front wheel. After properly installing the front wheel, the cable can be tightened again.

Using the small hex wrench, loosen the screw that tightens the cable so that the cable is completely free to slide back and forth. Arrange the several pieces of metal and rubber along the brake cable in their correct positions by referencing the rear brake. Squeeze the brake arms so that the brake pads are against the wheel, but leave sufficient clearance of 1/8 inch on each side (you might want to insert some scrap material, such as a piece of cardboard, between the wheel and the brake pad to ensure there is sufficient clearance). Pull the cable at the end to take out all the slack, tighten the cable by means of the small hex wrench.



Test the brake by lifting the front of the e-bike and setting the wheel in motion (turn it) and apply the brake at the handlebar to stop it. If you could not set the wheel in free motion, or if you could not stop it by apply the brake, you need to re-adjust by increasing or decreasing the clearance.

Caution: Do not operate the e-bike until you are satisfied that both the front and rear brakes are operational.

- **Assembly - Step 5: Installing the Light and Dynamo Assembly**

(Note: Installing of the light and dynamo assembly is optional. Some people prefer battery-powered LED light as opposed to dynamo-powered light.)

Attach the light and dynamo assembly to the special receptacle on the right side of the fork for the front wheel. Tighten slightly. The front light has a wire already connected to the dynamo. Connect the loose electrical wire that runs from the rear light to the same connection point at the dynamo. Operate the lever to check that the two dynamo positions are properly assembled to the effect that the dynamo can engage and disengage from the front wheel. Tighten the nut and bolt. Test the installation again by checking that, in the engaged position with the front wheel turning, the lights are turned ON.

- **Assembly - Step 6: Installing the Seat and Pedals**

Insert the pedestal stem of the seat into the seat column of the main body frame, use the built-in lever to tighten.

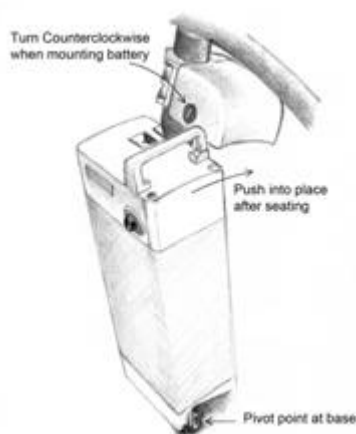
Attach a pedal on each side of the crank, tighten with the multi-wrench.

Inflate the tires to proper pressure.

At this point, your e-bike is a completely functional bicycle, although without any battery operated function as yet. Check all tightening points to make sure. Take a short ride. Adjust the height of the handlebar, and the height and the tilt of the seat, if necessary, for maximum comfort.

- **Assembly - Step 7: Installing and Charging the Battery**

Remove the battery from the box and turn the switch to the ON position. The LEDs on the battery should light up to indicate that the battery is functional and that there is an appreciable amount of charge in the battery. Install the battery by first seating it at the base at an angle and then gently push it into a vertical position. You need to insert and turn the key anti-clockwise to lodge battery snugly into the top bracket. You should also see the charge level indicator at the handlebar will also light up. Remove the key, make sure the battery is in position and not movable. Turn OFF the battery.



Remove the charger from the box, attached the power cord and insert that to any wall outlet. Insert the plug at the end of the smaller cable into the charging terminal of the battery and start charging. The charging terminal is on the side of the battery opposite to that of the switch. The LED on the charger glows RED while charging and glows GREEN when charging is complete. The battery should be turned OFF while being charged. When the LED on the charger turns Green, disconnect the charging cord and cover the charging terminal with the metal cap. The battery has a series of LEDs as charge level indicators. There is a similar series of LEDs on the handlebar. If a battery is installed on the e-bike and turned ON, the LED indicators will show the charge level of the battery.

You are now ready to start using your e-bike.

Operating Your New e-Bike

Your e-bike is driven by a motor embedded in the hub of the rear wheel. The motor is powered by a battery. The amount of power delivered to the motor, and hence the accelerating force on the e-bike, is controlled by you in a way according to the power-assisted mode you choose.

You can configure the e-bike to operate in the pedal-assist-only-mode, or the full power mode (should check against local laws to ensure full power mode is permitted) where you can also use the hand throttle to deliver power to the motor. The e-bike is factory-configured to operate in the pedal-assist-only mode.

● Your First Ride

(Reprinted from the Safety and Compliance with the Law section)

When you are ready to get on your e-bike for the first time, be VERY CAREFUL because the e-bike, when in active power-assisted mode, moves significantly faster than a regular bicycle. Take your e-bike to an area with a lot of open space before you start. Do not start pedaling hard as soon as you get on the e-bike (as you normally would with a regular bicycle), as the e-bike will accelerate under pedal-assist mode and you may be unprepared for the sudden increase in speed. However, after a few times, you will enjoy using the pedal-assisted function.

● Pedal-Assisted

You must turn on the battery to use the e-bike in pedal-assisted mode.

In the pedal-assisted mode, power assist is triggered when you pedal forward, and power assist stops when you stop pedaling. In other words, power assist happens as long as you pedal. You don't need to pedal hard. All you need is to apply a light force to the pedals continuously to maintain the current flow. When you apply one of the brakes, power assist will automatically stop, allowing the e-bike to slow down and stop. Power assist will turn itself off when the e-bike has reached the maximum speed of 15 mph.

You should use the gear shifter at the handlebar to set the gears appropriately according to road conditions and pedal as usual, you will find that you need to exert a lot less effort and the e-bike travels faster and at a more steady speed.

Note that the charge level indicators on the handle bar will show the correct level only when power is not being drawn from the battery. When power assist is active, the indicators will momentarily show low. This is true for both modes.

● Hand Throttle Control

Your e-bike is factory-configured to operate in pedal-assisted mode only. To re-configure it to full power mode where you can also use the hand throttle, please consult the section on Reconfiguring the Power Assist Mode.

In the hand throttle mode, amount of power assist is determined by the throttle switch controlled by your right hand. You control the throttle by twisting it from its resting position, the farther the throttle switch is from its resting position, the more power is delivered to the motor to accelerate the e-bike. When you want to slow down, you simply release the throttle and let it return to its resting position, and simultaneously apply the brakes if necessary.

You do not need to pedal the e-bike if you use the hand throttle. However, you can pedal while commanding power assist. If you do pedal to help the movement, you conserve energy and the charge in the battery will last longer.

● Charging Your e-Bike Battery

Your e-bike battery is a lithium ion battery. Lithium ion battery requires specially designed chargers. You should never charge your battery with a substitute charger that is not designed for this use. Use of an unsuitable charger to charge a lithium ion battery will result in over-heating, fire or even explosion. If your charger is lost or damaged, contact your dealer to order a replacement.

Charge your battery while the e-bike is not in use. You should turn off the battery before you charge it. You may charge your battery while it is mounted on the e-bike, or after it has been removed from the e-bike.

Do not place either the charger or the battery near flammable substances while charging is taking place. Charging should not be done in the vicinity of infants and small children. It is also prudent to remove valuable objects from the immediate vicinity of the battery while it is being charged.

The length of charging time depends on the level of charge the battery still holds. If a battery is completely discharged, it will take 4 hours to be fully recharged. When a battery is fully charged, the LED on the charger will transition from RED to GREEN. At this point, you should disconnect the charger. Do not leave the charger connected to the battery for very long period of time after charging is complete. (Leaving it connected for an overnight charging is OK.)

It is normal for the charger and the battery to be slightly hot while charging is on-going.

● Removing the Battery from the e-Bike

The battery is an important and costly part of the e-bike. It is designed to be locked into position with a key to prevent theft. You can take further precaution by removing the battery while the e-bike is parked unattended. You may also have a need to remove the battery from the e-bike to recharge it at a location where you cannot park your e-bike.

Use the key to unlock the battery and pull out the top first, and then lift to extract the entire battery from the bottom socket. The battery is quite heavy and you should take care not to drop it.

● Maximizing the Riding Range

Many factors affect the rate of use of the electrical energy and the riding range.

- ✧ You should fully charge the battery before a long journey.
- ✧ Rough road conditions and hilly terrain will consume more energy.
- ✧ Frequent change of speed will consume more energy.
- ✧ Carrying more weight on the e-bike will consume more energy.
- ✧ Keeping the tires properly inflated and keeping the e-bike clean and well lubricated will save energy.
- ✧ Making sure that both wheels move freely when brakes are not applied will save energy. You should check brake adjustments frequently.
- ✧ Pedaling as you ride will consume less electrical energy and increase the riding range.
- ✧ When the battery is turned off, your e-bike functions as a regular bicycle. If you embark on a very long journey, you might want to turn off the battery for long stretches where the road is level or downhill, and pedal the e-bike as a regular bicycle so that you can conserve electrical energy stored in the battery.

Care and Maintenance for Your New e-Bike

You should in general take care of your e-bike the way you would with a regular bicycle by keeping it dry, clean and the moving parts well lubricated. You should also avoid parking your e-bike in exposed areas whenever possible.

You should check the effectiveness of the brakes before each use.

● For your e-Bike, you should also take note of the following:

- ✧ Your e-bike is designed for regular road use for a single person. Using your e-bike for extreme maneuvers, such as extreme off-road use, jumping, or carrying excessive load will damage the e-bike and could cause serious injury.
- ✧ Do not use high pressure water streams to clean your e-bike, as water might seep inside the motor or the wiring compartment and cause rusting of electrical parts or short circuits.
- ✧ Avoid parking your e-bike outside when there is rain or snow. At the end of a trip where there was rain or snow, bring the e-bike inside and use a clean, dry towel to eliminate any wetness.
- ✧ Be sure you do not lose both keys. If you lost one key, you should immediately make a copy as a back-up. If you lost both keys, you will be unable to remove the battery from the e-bike.

● Special Care for the Battery and the Charger

- ✧ Use only the supplied charger to charge your battery. Do not use an unauthorized substitute. If your charger is lost or damaged, contact your dealer to order a replacement.
- ✧ Do not open or alter the battery or the battery charger.
- ✧ Do not place the battery near fire or corrosive substances. Do not immerse in water or other liquids.
- ✧ Avoid subjecting the battery to high temperature, such as directly under the hot sun, for prolonged periods of time.
- ✧ Do not connect (short circuit) the two poles of the battery.
- ✧ After much use, your battery's charge holding capacity will decrease. If you find that your battery does not hold sufficient charge even for short trips, you should contact your dealer to order a replacement. Under normal use, the battery will undergo 1000 charging and discharging cycles.
- ✧ If the battery will not be used for an extended period of time, charge it fully and recharge it every 3 months. Store it in a cool place.
- ✧ Your e-bike battery is engineered with precision for high capacity and a long useful life. We do not recommend that you use it to power other electrical devices. Improper use of the battery will damage the battery and shorten its useful life, and may cause fire or an explosion.

● Re-Configuring the Power Assist Mode

- ✧ State and local laws governing the driving mode of battery-operated bicycles on public roadways, parks, and other open areas may differ. Please check with your local authority before adjusting the mode.
- ✧ You may click to the following link to view the instruction of exchange of pedal assist and full power:

http://www.youtube.com/profile_videos?user=ebikeuk

Remarks : The link is subject to change without advance notice. For more information, please refer to the following websites:

www.electricbike.net.au www.electricscooter.net.au

www.electricbike.org.uk www.electricbike.uk.com

www.electricscooter.org.uk www.electricscooter.uk.com

www.electricbike.us.com www.electricscooter.us.com

- ✧ Your e-bike is pre-configured for pedal assist mode. However, it is very simple to reconfigure it to the full power mode. The full power mode allows both pedal assist and handle throttle control. To do so, use a screwdriver to open up the bottom part of the battery holder, which is a wiring compartment. Set aside the cover plate with 4 screws and be careful not to damage the rubber gasket.
- ✧ Carefully take out the control module, which is a rectangular metal box, to allow the wires to be taken out. Be careful not to arbitrarily disconnect any wires. Identify a connection where one side is a bundle of 5 colored wires (red, black, green, gray, and yellow) and the other side is a bundle of 2 colored wires (red and black). Label the 5-wire bundle as "common", and the 2-wire bundle as "pedal-assist-only." Find also a 4 colored (red, black, yellow, green) wire bundle that is loose (unconnected). Label it as "full-power." Note that on some models, the color of the wires might differ.
- ✧ The re-configuration involves changing the "pedal-assist-only" to "common" connection into a "full-power" to "common" connection. Disconnect the original connection by compressing the two wings and depressing the center stub as you pull the sockets apart. Then, insert the "full-power" socket into the "common" socket, and make sure it is secure. The "pedal-assist-only" socket is to be left unconnected.
- ✧ You should perform the above change with care not to damage any of the wires, or twist and bend them unnecessarily. After you have reconnected the wires, carefully replace the control module and all the wires back into the wiring compartment properly. Replace the cover plate with gasket to the wiring compartment and tighten the screws to achieve a water-tight seal.

Specifications

Frame Construction: Aluminum Alloy

Wheel base: 1174mm / 1150mm / 1188mm / 1169mm

Gear Range: 6-speed type

Tyre Model: 26" (660.4mm)

Climb Grade: 7 degree

Maxload: 90kg (198 lb)

Speed: 24km/h (15mp/h)

Power: 200W

Battery Capacity: 9Ah

Battery Charger Input Voltage: 115/220 volt AC

Battery Operational Temperature: 0^o to 40^o Celsius (32^o to 104^o Fahrenheit)

Battery Life: Approximately 1000 complete charge/discharge cycles

The following assumes an 80kg (176 lb) load (rider weight + any carry-on weight) on a level road:


Maximum Riding Range in Pedal Assist Mode: 45km (28 miles)






Maximum Riding Range in Hand Throttle Mode: 24km (15 miles)

Safety

These safety precautions are provided for your benefit to protect you and those around you. Please read and follow them carefully to avoid unnecessary injury, damage to the product, or damage to other property.


Battery








CAUTION

<ul style="list-style-type: none"> ■ Do not throw the battery into a fire. Do not overheat the battery. 	<ul style="list-style-type: none"> ■ Do not connect the battery to other appliances other than your battery.  <p style="text-align: center;">Specified rechargeable battery</p>	<ul style="list-style-type: none"> ■ Use only the specified charger to charge the battery. 
<ul style="list-style-type: none"> ■ Do not take apart or modify the battery.  <p style="text-align: center;">Disassembly Prohibited</p>	<ul style="list-style-type: none"> ■ Do not connect positive and negative terminals by using metallic objects. 	

(Electrolyte leakage, overheating and/or rupture may result in this type of abuse.)

Battery Charger


CAUTION

<ul style="list-style-type: none"> ■ Do not Take apart or modify the charger.  <p style="text-align: center;">Disassembly Prohibited</p>	<ul style="list-style-type: none"> ■ Do not subject the charger to shocks, e.g. by dropping. Keep the charger away from water. 	<ul style="list-style-type: none"> ■ Do not touch the charger with your skin for long periods during charging.  <p style="text-align: center;">Burning of the skin may result, as external temperature of the charger during charging may become 40C~60C (104F ~ 140F)</p>
Overheating, fire or electric shock may result.		
<ul style="list-style-type: none"> ■ Do not cover the charger or place objects on it.  <p style="text-align: center;">Overheating, fire or electric shock may result.</p>	<ul style="list-style-type: none"> ■ Place the charger firmly on a flat dry surface.  <p style="text-align: center;">Using the charger upside-down or stretching the cable tight may result in malfunction, fire or electric shock.</p>	<ul style="list-style-type: none"> ■ Do not short-circuit the terminals by using metallic objects.  <p style="text-align: center;">Overheating, fire or electric shock may result.</p>



WARNING

- Keep the battery away from water. Pouring water on the battery may result in short-circuit, overheating or permanent damage of the battery.
- Do not submerge the battery. Soaking the battery in water may cause irreparable damage.



WARNING

- Do not apply pressure to the cable or the plug
 - ⊘ Placing the cable tightened between a wall and a window frame, or placing heavy objects on the cord or the plug may result in electric shock or fire.
- Be sure to insert the plug securely into a wall socket.
 - ⊘ Electric shock and overheating may result, causing fire.
- Do not touch the plug with wet hands.
 - ⊘ Electric shock may result.
- Keep out of reach of children or pets.
 - ⊘ Electric shock or injury may result.
- Do not attempt to use another make or model's charger to charge the battery.
 - ⊘ Overheating, fire or electric shock may result.
- Do not use the charging plug and/or the power source plug when they are dirty, wet or dusty.
 - ⊘ Insulation failure due to moisture absorbed in the dust may result, causing fire.
 - Pull out the power source plug and clean it with a dry cloth.
 - To remove a cable from a socket, pull the plug, not the cable.
- ⊘ Always pull the charging cable gently.
- Do not rotate the pedals when charging the battery while it is mounted on the bicycle.
 - ⊘ The cord may twist around the pedal or the crank, and the damage to the plug may result, causing electric shock or fire.
- Do not apply voltage over the rated value to the charger.
 - ⊘ Do not use sockets, connectors and other wiring devices with a power source other than standard rated voltage (AC110~240 volts) power supply.
 - Overheating, fire or electric shock may result.
- Do not use damaged components such as charge case, power cord, plug etc.
 - Electric shock, short-circuit or fire may result.

Trouble Shooting

Failure Phenomena	Causes of Failure	Solutions
<ul style="list-style-type: none"> • Can not adjust speed • Speed is less than 10km/h 	<ul style="list-style-type: none"> • Battery's voltage is too low • Throttle governing bar is damaged • Poor contact of the controlling line • Spring failure or being locked 	<ul style="list-style-type: none"> • Fully charge the battery • Replace the throttle governing bar • Replace the spring
<ul style="list-style-type: none"> • e-Bike's mileage is obviously inadequate after fully charged 	<ul style="list-style-type: none"> • Inadequate tyre pressure • Failure of charger • Battery can not be fully charged • Failure of controller • Battery aging or battery damaged • e-Bike has not been well assembled • Too much upgrade road • Strong wind • Bad road • Overweight • Too many brake times 	<ul style="list-style-type: none"> • Inflate tyre with appropriate air pressure • Repair the charger • Examine and repair the controller • Replace the controller • Replace the battery • Re-adjust the e-Bike • Boost the e-Bike by manpower
<ul style="list-style-type: none"> • Wheel hub stop running after switching on the power 	<ul style="list-style-type: none"> • Connection of battery is loosen • Poor contact of controlling line • Connection of wheel hub is loose or damaged • Fuse of battery is broken 	<ul style="list-style-type: none"> • Re-connect the battery • Replace the connection line • Replace the battery's fuse with a new one

As one or more causes of failure might lead to the failure phenomenon, you should find out the true cause(s) and then take the appropriate solution(s) to rectify the problem. In case of doubt, please consult qualified technician for service, repairs or maintenance.