



VOLTO ELECTRIC BICYCLE USER MANUAL

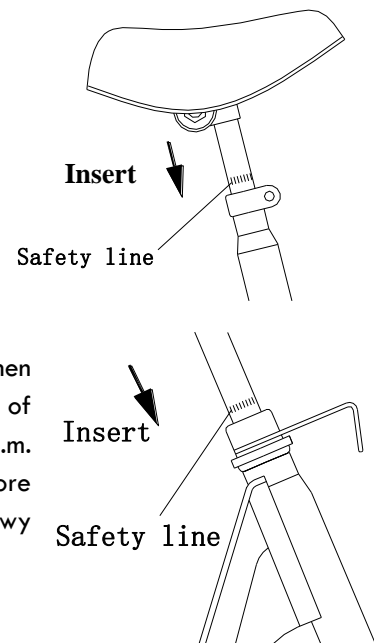
PLEASE READ CAREFULLY

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Safety Precautions

- 1) Don't break traffic rules, follow the road rules carefully.
- 2) Always wear a suitable helmet.
- 3) Always use your lights at night - be visible!
- 4) Don't use your e-bike before reading the user manual, or lend it to others who don't know how to operate it properly.
- 5) When you don't use your e-bike, assure that the power switch is off.
- 6) When raising the saddle don't extend the seat post beyond the safety line. Please note that the tightening torque of the saddle's grip nut and post clamping bolt is 18N.m.
- 7) Avoid revealing the safety line/marker on the handle bar stem when adjusting the handle bar. Please note that the tightening torque of screw rod for handle and the torque of horizontal fixing bolt is 18N.m.
- 8) Regularly check the performance of the brake pads and leave more time for stopping by increasing the braking distance on rainy or snowy days.
- 9) The tightening torques of the front and the rear hub nuts are 18N.m and 30N.m respectively.
- 10) The rear brake uses a roller brake system – this kind of brake does not work when the bike rolls backwards. If you need to secure the bike at a steep point use the front brake. A roller brake system needs to be run in: for the first few 100m please brake with the rear brake a couple of times as strong as you can – you will mention that the brake will start to work more and more, till it comes to the point where you are even able to block the rear wheel. The brake is ready for use.



Operation Guide and Precautions

RIDING THE ELECTRIC BYCYCLE:

- To secure the battery box on the e-bike body, insert the key into the box lock, press down on the upper cover of the battery box, turn the key clockwise for about 180 degrees, and then remove the key after lockup.
- Before riding, insert the key in the battery to turn it on. When the ignition is on, the red indicator lights for the battery meter on the throttle will illuminate, indicating that the power is on.
- There are two riding modes:
 1. Full electrical via throttle, or PAS system.
 2. When the power is on, twist the throttle anti-clockwise (or turn the pedals to engage the motor via PAS) and the e-bike motor will engage. If you are using PAS mode, the motor will only operate while the pedals are turning, and the motor will start after several turns of the pedals.
- While riding and using the motor, the battery indicator will change as power is consumed. When the indicator shows that the battery is out of charge, use the pedals instead. The battery can be used again once it has been re-charged.

Note: The battery level is best judged by the display status of the indicator during the steady running at full speed.

- The riding distance after each battery charge will vary according to factors like road type, hills, user weight, and wind direction. When starting the e-bike uphill, tackling repeated steep

hills or riding upwind, it is better to assist the motor by pedalling in order to save power, and extend the lifetime of the motor and battery.

- After use, turn off the power switch.

Human powered riding

- Simply turn off the ignition switch and ride the e-bike like a normal bicycle.

USING YOUR BATTERY CHARGER

- Before using the charger, please read the manual, including the warning label on the charger and battery pack.
- Do not expose the charger to rainy, snowy or wet weather, or to low temperatures (below 0°C) or high temperatures (above 35°C). These conditions may destroy the inner parts of the charger and battery pack.
- The charger can only be used with VOLTO rechargeable Lithium batteries and rechargeable polymer batteries. Use with other types of batteries may cause burns or fires.
- When not charging, pull out the jack plug to prevent the plug and power wire from being damaged.
- Do not lengthen the power wire. Never undo the charger and battery pack wiring. Incorrect wiring may cause electric shock or fire.
- Using the charger with other accessories may cause fire, short circuit or injury.
- If the battery or charger is damaged, don't use it any longer. Take it to your service centre to have it checked or repaired.
- Make sure that the power plug is pulled out when cleaning and maintaining the e-bike or battery to prevent electric shock.
- Keep the power wire tidy so people do not trip over it or it is damaged by other objects.
- The charger and battery pack are designed to work together. Never use the charger for batteries of power tools or other different types of battery pack. And don't use other chargers for the e-bike battery.
- Do not store the battery in an environment which is above 50°C (eg in a metal shed or in a car in summer). Exposure to high temperatures will reduce battery life and performance.
- Don't throw the battery pack into the fire, it may cause an explosion. Please always recycle old battery.
- The **INPUT** and **OUTPUT** voltage details are marked on the rating label on the charger. Please operate according to these specifications. Don't insert the plug into wrong voltage power point as this may destroy the charger.
- Take care of the power lead. Don't pull the power wire when holding the charger or when pulling out the power point. Keep hot, oily, sharp objects away from power wire.
- Always charge the battery in a well ventilated location. Don't cover the charger with cloth or other objects.
- Don't make the battery pack short circuit, as this would create a high current surge which may cause the battery pack to overheat or explode.
- Don't let inexperienced people use the charger without guidance or supervision.
- Don't let children play with the charger. Place the charger on a platform which is at least 150cm high.
- If the charger is not used for a long time, please put the charger and battery together with the manual in the packing box, and store in a dry environment.
- **Charge the battery regularly every three month to prevent damage to the battery during periods of none use.**

WARNING: To ensure your safety, do not use your VOLTO charger for any other battery pack or it may cause the battery to be destroyed or even explode.

BATTERY CHARGING

Note: when the battery pack is first being charged, keep charging for ten hours until the battery pack is fully charged.

- To charge, insert the charger's power plug into AC outlet. Then the red indicator light on the charger will illuminate, showing that charging is in process. When the plug is firstly inserted into the socket, a spark will sometimes occur if the power point was not first switched off. This is normal and not dangerous.
- Firmly insert the charging jack into the battery pack.
- During the charging process, the light on the charger will be red. It will turn green when the battery pack is fully charged. Once the charging light is green the charger will supply the battery with a small current.
- The green light will remain illuminated when charging is over.
- If a fully-charged battery pack is inserted into the charger again, the green light will illuminate to indicate charging is complete.
- **CAUTION:** When the battery pack is moved from a location where the temperature is low (below 5°C) to a warmer location it is better to leave it for at least one hour until the temperature of the battery pack is similar to room temperature. Then charging can commence.
- Please disconnect the battery pack from the charger if the charger is short circuited or if charging has stopped. Leaving the charger and battery pack connected after charging is complete may cause the battery pack to discharge.
- When holding the charger, never put your finger into the output hole of the charger.

WARNING:

- * **Never get connect the charger directly to an unregulated generator.**
- * **Don't open holes on the charger or battery pack.**
- * **Keep away from explosive gas, flame or spark during the charging process.**

The Indicator Light (LED):

RED LED: A red light indicates that the charger is working to charge the battery pack, and the current is on.

GREEN LED: A green light indicates that the battery pack is fully charged.

CAUTION

- If the light is green, it means the battery is fully charged. Then the charger will turn to constant low voltage charging status. Normally it takes about 5-10 hours to get the battery pack fully charged, with the actual time varying depending on current supplied.

ATTENTION: The charging time cannot be over 10 hours. If the battery seems to take more than 10 hours to charge, have it and the charger inspected.

- Under the constant voltage charging state (when the light is green), the battery will not be damaged even if it left connected to the charger, but it is preferable to switch off the charger and disconnect it from the battery pack once the battery pack is fully charged.
- After charging is complete, please first pull out the power plug, and then pull out the charger's jack from the battery pack.
- No matter how much or how little power was consumed during a trip, please re-charge the battery promptly to preserve battery life. If the battery is not used for a long time, store it when it's full and charge it once a month.
- During the charging process, the charger and battery box should be in a stable position to prevent the falling over. Don't cover the charger or battery box or restrict ventilation.
- When the life span of the battery is exhausted, return it to NZEBIKES for replacement and recycling. Do not dispose of in domestic rubbish collection. The old battery must be recycled.

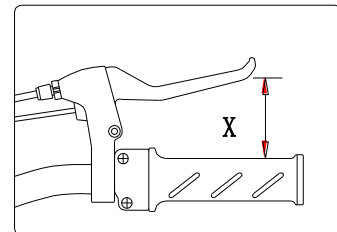
Care and Maintenance

- Before using your e-bike always check that the battery box is locked up, and the battery level meter shows normal status.
- Ensure the bike is clean and that there is no dirt or moisture in the plug connecting the battery pack to the bicycle.
- Regularly check tyre pressure so extend riding range and avoid punctures. We recommend a pressure of 40 psi or 3 kPa for both tyres.
- Regularly check that the brakes are working properly.
- As with non-electric bikes, regular mechanical driving and safety checks are required.
- Your e-bike can work normally on a flooded road if the water depth is lower than the lowest part of wheel hub. Do not immerse your e-bike in water above the hub or above the level of the battery or these units will be damaged.
- Keep the bicycle body away from the moisture, high temperature and toxic gases to avoid chemical corrosion on the electroplated surfaces of metal parts.
- Avoid prolonged exposure to direct sunshine or rain so as to avoid damage to the parts inside the control unit or cause accidents due to other component malfunctions.
- Don't try to reassemble or repair a complex structure in the electrical control unit by yourself.
- It is normal that the bicycle feels much heavier when pushed backwards. It is also normal for the wheel hub to make a slight friction sound as it runs forward.
- To avoid damage to the battery or electric motor do not overload the e-bike (including by carrying objects or people of excess weight).
- Lubrication is an important item in the maintenance of the electrical bicycle. According to your pattern of usage, scrub and lubricate (preferably with specialised bicycle lubricant) once or twice a year all moving parts such as the front, back and middle axles, chain ring, and front fork. Special lubricating oil has been smeared on the driving components inside electrical wheel hub, so it is unnecessary to do scrubbing and lubricating yourself. Take your e-bike to your service centre if you find an unusual situation.

For the details below, if there are differences between the pictures and the actual setup on the e-bike, the actual set-up takes precedence.

Adjusting methods for braking systems

Examine the braking system frequently to ensure its reliability. Please identify your brake system as follows for any maintenance

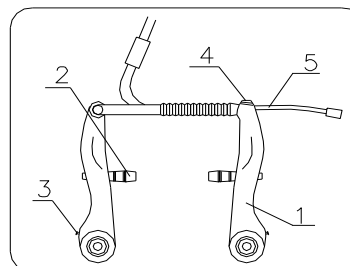


Adjusting the front rim brake (only Folding Bike)

1.1. Check the right brake lever as pic. It should reach full braking when its stroke reaches $1/2X$.

1.2. Loosen the screw on the braking cable seat (4). Then tighten or loosen the braking cable, enabling the average stroke between the two brake blocks (2) and the rims to approximate 1.5~2mm.

1.3. Replace the brake pads, when there are no grooves in the rubber visible any more



1. Brake arm
2. Brake block
3. Spring adjusting screw
4. Braking cable seat
5. Braking cable

Adjust the rear brake (Dia Compe Roller Brake)

2.1 Check the left brake handle as step 1.1.

2.2 Use the cable adjuster at the brake lever to tighten the cable or if necessary use cable adjuster (1) at the brake. Make sure that the brake is not always engaged by tightening the cable too far.

Warning:

Do not re-grease the brake on your own. Using the wrong grease or too much grease can cause a failure of the brake.

Always ask your local Volto service partner if further maintenance is required.



Adjust the front disc brake (StepThrough and Trekking Bike)

3.1 Check the right brake handle as step 1.1.

3.2 Use the cable adjuster at the brake lever to tighten the cable. Make sure that the distance between brake pad A and B to the discs is still equal

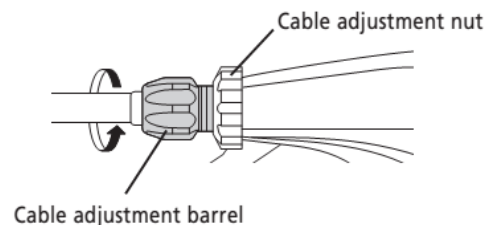
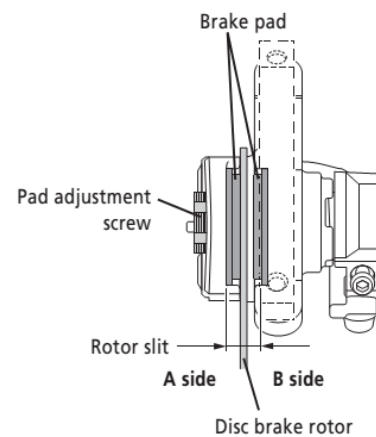
3.3 The brake pads can be used as long as their thickness is 0.5 mm or more.

3.4 Adjust clearances A and B between the disc brake rotor and brake pads to be equal. Adjust each clearance to between 0.2 mm and 0.4 mm.

Adjust the clearances when the brake pads are worn down. Make sure to adjust both clearances A and B concurrently.

Adjusting only one of the clearances A or B may cause the following problems:

- Contact between the pads and the disc brake rotor may occur during operations other than braking.
- Sufficient braking force may not be obtained when the clearance becomes much greater on one side.
- The disc brake rotor contacts the calipers during braking.



For further adjustments and maintenance please refer to the Shimano Maintenance Manual.

Troubleshooting

Problem	Trouble Description Causes	Solution
The power indicator is not on and the bicycle doesn't start when the switch is turned on.	Poor contact of the electrodes of the battery box or battery seat.	Check for dirt on the electrodes of the battery box or seat, and remove it.
After the switch has been turned on, the power indicator is on but the bicycle doesn't start	Check whether the plug at the outlet of the battery is properly inserted or in poor contact.	<ol style="list-style-type: none"> 1. Press the plug tightly to ensure it is locked in places. 2. If the above solution has no effect, check whether the conductive core inside the cable is loose. If it is replace it.
The motor immediately starts running once the switch is on. (Note: immediately turn off the switch to avoid accident.)	<ul style="list-style-type: none"> ● The throttle is not reset. ● The controller is damaged. 	<ul style="list-style-type: none"> ● Check whether the throttle is jammed. If so, release it. ● Replace the controller.
Slow speed, and the riding distance after each charge is short.	<ul style="list-style-type: none"> ● The tyres are not inflated enough. ● Frequent uphill starting, or climbing, or riding against the wind ● Battery capacity is in reduced. 	<ul style="list-style-type: none"> ● Inflate the tyres. ● Pedal at the start or while climbing. ● Replace the old battery with a new one.
The green power indicator is not on after the charger is connected to a power supply	<ul style="list-style-type: none"> ● AC outlet has no power. ● Input 2A fuse inside the charger is fused. 	<ul style="list-style-type: none"> ● Check another appliance to test if the outlet has power; or connect the charger to another outlet. ● Undo the 4 screws at the bottom of the charger, open the upper cover, and replace the 2A fuse which lies close to the transformer ● If the above steps are not effective take the charger to your service centre.
Green power indicator on the charger is on, and the red one is always on, but unrelated with charging status.	<ul style="list-style-type: none"> ● 5A output fuse inside the charger is fused. ● The charging plug seat inside the battery box is in poor contact. ● The fuse of the box (15A) is fused. 	<ul style="list-style-type: none"> ● Open the upper cover of the charger, and replace the 5A fuse which lies away from the transformer. ● Repeatedly insert and pull out the charging plug to ensure good contact. ● Replace the fuse of the battery box. ● If the above steps are not effective take the charger to your service centre.

IMPORTANT!

- The figures in this manual are used only for the purpose of explanation and showing the operation, not as criteria to examine the products.
- Our company has the right to change some modifications for higher performance without further notice.

"WARNING - In the interests of safety it is recommended that you have this cycle assembled and serviced by a skilled mechanic."

WARNING: THIS BICYCLE IS NOT DESIGNED FOR OFF-ROAD USE OR FOR STUNTING

**Declaration of Conformity:
This bicycle meets the AS/NZS 1927:2010 Standard for Pedal Bicycles**

**For further information visit
www.volto.co.nz**