

Edbikes

Owner's Manual

Folding Bike



We strongly recommend that you read this entire manual before using your electric bike

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1 Introduction

Thank you for choosing an Edbike electric bicycle.

Before you use your Edbike electric bike it is important that you read this manual carefully. If there is anything you do not understand completely, please contact us.

Please observe traffic regulations, and do not lend your bicycle to anyone who is unfamiliar with it. We recommend your electric bike only be used by a person aged fourteen years or older, always supervise children until they are competent riders.

We strongly advise you to always wear an approved cycle helmet when riding your bicycle. If you are unfamiliar with cycling, we advise attending a cycle proficiency course prior to using your new bicycle on the public highway.

When using any bicycle, it is important that you stay within safe limits; if you feel as if you are travelling too quickly, you probably are.

Always test your brakes prior to using the bike, and remember the bike will not stop as quickly in the wet as it would in the dry!

Always be careful of using the front brake when turning or on slippery surfaces as locking of the front wheel can be dangerous and result in falling off.

Before you use the bike for the first time, please make absolutely certain that it has been correctly assembled. In particular, you must make sure that the pedals, saddle, handle bars and any self assembled items have been fitted correctly and tightened.

Avoid consuming alcohol before you ride your electric bike. The use of alcohol greatly reduces reflexes and limits your ability to ride safely. The legal limit and penalties for operating a motor vehicle apply to cyclists.

If you need to replace your battery, please dispose of it properly.

Above all, enjoy your Edbike bike, happy cycling!

2 Caring for your Edbike bike and pre-use checks

Your Edbike bike has been thoroughly tested at the factory prior to delivery, and undergone a pre-delivery inspection by your Edbike Stockist.

It is very important that you check the bike thoroughly before its first use. Equally important are frequent and regular spot-checks, as they will protect you and your Edbike bike.

Please read this manual carefully.

2.1 Before you set off for the first time

- 2.1.1 Check the handlebars and handlebar stem are properly tightened.
- 2.1.2 Check all other nuts, bolts and fixings are properly tightened.
- 2.1.3 Check brakes are functioning properly.
- 2.1.4 Check tyre pressures are correct and tyres are not damaged.
- 2.1.5 Check reflectors and lights if fitted, are functioning properly.
- 2.1.6 Make sure the battery is fully charged.
- 2.1.7 Load the battery into bicycle and turn on with the switch located at the rear right hand side of the battery. To remove the battery, turn the battery key, hold in unlocked position and slide the battery out. Remove key from battery and keep safe during operation of the bike.
- 2.1.8 Turn on the bike by pressing the on/off switch adjacent to the left hand grip for two seconds. (Turn off the bike by repeating the same process).



Fig 1

The bike will be ready to ride and the LCD will activate showing battery state, assist level, time, trip and speed. Turning the pedals for more than $\frac{1}{4}$ of a revolution or twisting the throttle (if fitted) will now activate the motor.

- 2.1.9 To avoid unplanned acceleration, always make sure that the LCD assist level is set to 0 when mounting, dismounting and turn the bike off when leaving it unattended.

To set the assist levels, toggle with the up and down arrow buttons. (see fig 1)

- 2.1.10 To reset trip meter double tap the POWER button.

Battery care

- 2.3.1 Your Edbike bike comes with a high quality lithium ion battery. All lithium batteries need to be looked after to ensure years of full use. Following these easy steps will ensure the long life of your battery.
- 2.3.2 Recharge your battery after every use if possible. Keeping your battery charged extends its life and your bike is always ready to go.
- 2.3.3 You do not have to “condition” your battery by charging and discharging before it’s first use. This was the case with old lithium ion technology but is not necessary on modern batteries.
- 2.3.4 Never leave your battery completely discharged for more than 24 hours. Voltage dropping below minimum for any length of time will cause serious damage to your battery cells.
- 2.3.5 Recharge your battery every month even if you are not using the bike. Most lithium Ion batteries will continue to discharge even when the bike and battery are turned off (see above). If your battery falls below minimum Voltage, it may not be recoverable.
- 2.3.6 Do not expose the bicycle or battery pack to fire, heat sources, acid or alkaline substances.
- 2.3.7 When leaving your bicycle during hot weather, always leave in a shaded well ventilated area.
- 2.3.8 For best results, always recharge and store the battery at room temperature.
- 2.3.9 Before unloading the battery, make sure it is turned off and unload the battery using its handle.

IMPORTANT

If your battery is damaged due to being left discharged, or not recharging when advised as per this manual your battery is not covered by our warranty.

Battery safety

- 2.3.11 i. **Never leave a battery connected to the charger or mains power over-night.**
- ii. **Never recharge a battery outside, in damp conditions or in temperatures less than 0 degrees centigrade.**
- iii. **Never open a battery case, try and fix the battery or give it to any one other than a registered Edbike Stockist for maintenance. (Failure to comply will void the warranty)**

- iv. If a battery is, or appears to be damaged or overheating for any reason, do not use the bike and immediately return the battery to your retailer for advice and a safety check.

IMPORTANT

Ignoring any of the safety rules above could cause serious injury or fire.

2.2 Recharging your battery

- 2.4.1 Before charging, make sure the charger is turned off and connect your battery to the charger at the charging socket. Plug the charger into a mains socket and turn on the mains socket. A red lamp will light up on the charger indicate the battery is charging. When the red light turns green, the battery is fully charged. To optimize battery life, leave the charger connected for a further hour and then turn off the charger and disconnect it from the mains after charging. Always disconnect the charger from the mains before disconnecting the charger from the battery. It is possible that the battery will take up to six hours to charge on the first three charges.
- 2.4.2 When charging the battery, always do so in a well ventilated area.
- 2.4.3 Do not leave the charger connected to the mains when not in use.

2.3 Water

- 2.5.1 Your electric bicycle is rain and splash proof and can be used in all weathers, but we do recommend storing it out of the weather.
- 2.5.2 The electrical components of the bicycle, such as motor, battery, and controller, must not be submerged in water.

2.4 Maintenance and adjustments

- 2.6.1 **IMPORTANT!** Do not attempt to open the casings of the battery, motor or controller. It could be dangerous and all warranties will become void. If you experience a problem, contact our service department or your Edbike retailer.
- 2.6.2 Wheel spokes should be checked after 500KM of riding, just tap them with a pen or pencil you will quickly tell if any are loose. Handlebar and saddle tubes should never be raised beyond the maximum permissible, indicated by a safety line around the tubes. The recommended torque (tightness) of crucial fixings is as follows:

Back axle nuts.	70N.m
Handle bar and stem clamp bolts.	12N.m

Handle bar stem expander bolt.	10N.m
Seat pillar clamp nut/bolt.	5-8N.m
Seat clamp nuts.	24N.m
Crank axle Allen bolts.	40N.m

Other general torque settings depend on the thread size. M4: 2.5-4.0N.m, M5: 4.0-6.0N.m, M6: 6.0-7.5N.m.

2.6.4 Brake levers should lock the wheels when compressed half way between their open position and touching the handle bars.

2.6.5 Warning: Handlebar hand grips or tube end plugs should be replaced if damaged, as bare tube ends can cause injury.

2.6.6 Front brake pads must be replaced if the pad material wears to less than 1mm.

IMPORTANT! braking distances increase on wet or icy roads.

2.6.7 Lubrication:

Lubricate all pivot points on the derailleur and chain with light oil or chain lube on a regular basis. Do not over oil, excess oil can get on tyres or brake surfaces

Every 2 years, re-grease the headset bearings, front wheel bearings and pedal bearings.

2.5 Technical specifications & performance can vary between models

Motor	Brushless, 250W hi torque brushless rear wheel drive.
Battery	Lithium with advanced battery management system (BMS) Samsung 10.4ah
Battery case	Polycarbonate/ABS mix, non conductive for extra safety, conforms to 2013 90cm drop test.
Mains charger	Lithium 36V output intelligent charger communicates with battery management system (BMS), auto stop when fully charged 2A, Charge time 2.5 to 8hours depending on battery state
Connections	All electronic components and motor wheel have individual connectors for ease of servicing
Assisted range	10.4ah battery Average 50miles/80kilometers Max 70miles/115kilometers battery
Assistance	1. Throttle assist: complete throttle use when pedaling forward 2. Pedelec: with 5 levels of assistance power and safe mode
Max speed	25km with powered assistance.
Controls	Back lit LCD display panel with bike and light on/off switch Power assistance: five levels Speedo, Range, Trip, Battery state
Bicycle weight	25kg approx

Lighting Front: 36V 15W LED, power from bike e-system
Rear: 36V light, power from bike e-system
Reflectors: front white, rear red, wheels orange and pedal reflectors

Rear Rack Certified to 25kg

Metal fixings A4 grade stainless steel or zinc coated alloy steel

2.6 Simple Trouble shooting

Problem	Possible reason	Solution
Top speed too slow	1. Low battery voltage 2. Handlebar control problem 3. Damage to motor driveline	1. Recharge battery fully 2. Call service 3. Call service
Power on, but motor not working	1. Battery not connected 2. Motor connection damaged 3. Handlebar control problem	1. Re install battery 2. Call service 3. Call service
Low range after recharging the battery	1. Tyre pressures too low 2. Undercharge or charger fault 3. Battery capacity loss or damage 4. Hill climbing, frequent stops, strong headwinds, overloading.	1. Check pressures 2. Recharge completely or have charger inspected 3. Replace battery

3 Controls and equipment

In this section, the functions and any specific maintenance needed on all the main controls and ancillary equipment are described.

3.1 Battery on/off switch and lock

- 3.1.1 Your Edbike bike is supplied with two identical keys. The key locks the battery to the bike.
- 3.1.2 The battery is connected to the electrical system of the bike automatically when you slide the battery into the rack. To turn on the bike's electrical system, press 1 on the switch located on the right hand side at the rear of the battery. To turn off the power, press 0.



Fig 2

- 3.1.3 When the battery has been turned on, the bike is now ready for use. The on/off button on (the top button on the handle bar control) isolates the power from the bike.

When the on/off button is pressed for 3 seconds the LCD symbols will become visible. When the on/off button is pushed again for 3 seconds, the LCD symbols will disappear - you have turned the bike "off". When the bike is "off" you will not get any assistance from the battery and motor and the bike is effectively an unpowered pushbike.

- 3.1.4 To lock the battery into the bike frame, slide the battery into the battery holder in the rack until you hear a click. To unlock the battery, turn the key fully anticlockwise and hold in this position whilst sliding the battery out.
- 3.1.5 The battery can be charged either on or off the bike.

3.2 The ON/OFF button and Light button

- 3.2.1 To turn the power on so the pedelec system is operational, simply press the on/off button on the handle bar control for 3 seconds - the LCD symbols will become visible showing the power is on. When the on/off button is pushed again for 3 seconds and the LCD symbols become invisible you have turned the bike "off". When the bike is "off" you will not get any assistance from the battery and motor and the bike is effectively an unpowered pushbike. If the bike is left for ten minutes without being ridden, the bike will automatically turn off. The battery capacity indicator lights provide an indication of the battery capacity remaining with five bars indicating the battery is at full capacity. The display also incorporates a diagnostic function.

- 3.2.2 The LIGHT button is the on/off If you press when the bike's power is on, the LED headlight and rear light will illuminate. The LCD display will also become back lit. Press it again to switch off the lights. The power for the lights comes from the bike battery, but due to the low power consumption of the LED lights, you will not noticeably reduce your range.

3.3 The Throttle option

- 3.3.1 If fitted the twist grip throttle can be found on the right hand side of the handlebars. The twist and go throttle has two functions:
- i. To power the bike sufficiently to help when walking the bike up a steep grade to 4mph 6km/h
 - ii, To increase the power to the motor when pedaling the bike.

3.4 Pedal assist power

- 3.4.1 When you first ride your Edbike bike, you will notice that the motor will start working when you have turned the pedals through between 90 and 180 degrees.
- 3.4.2 You will find the assist buttons(marked with up and down arrows)on the handle bar control. Each time the UP button is pressed, the LCD will move between 1 and 5 levels and the corresponding power level increases in increments of 25%. Setting 5 provides 100% power. The default level is set to 1 when the bike is first turned on. We recommend that you only turn on the bike after you have mounted the bike so the motor is deactivated. Once on the bike, press the on button for three seconds and the assistance will be turned on. You can start off in any level, if you are on a hill for instance you may want to start in level 2,3,4 or even 5.
- 3.4.3 Setting 5 is generally used when you need the maximum amount of assistance from the motor, but this will drain the battery the fastest. Lower settings are used when you do not need the assistance at 100% power. In high traffic situations or poor conditions such as ice and snow, instant full power could be dangerous. Power settings can be changed when the bike is stationary or when on the move.

3.5 Battery capacity meter, riding style and affect on range

- 3.5.1 The range of the bike (distance covered between recharging of the battery) is greatly influenced by the level of assist selected, the amount of pedal assistance provided by the rider and the use of the throttle.
- 3.5.2 If a high level of assist is selected, then the range of the bike will be reduced compared to using a lower level of assist.
- 3.5.3 The sensor system detects the speed the pedal cranks are turning and this information is fed into the on board computer (controller) to give the rider the most natural riding experience possible.

- 3.5.4 The battery capacity indicator is provided to give an approximation of battery capacity remaining. Each bar on the LCD approximates to a ¼ of the capacity. However, this indicator relies on sensing battery voltage that will rise and fall depending on the amount of power being demanded at any given time, ambient temperatures etc, hence the meter should only be used for indication purposes.
- 3.5.5 The battery capacity indicator, built into the top of the battery (four LEDs) provides a similar indication and operates on the same principle.
- 3.5.6 Under heavy power situations (full throttle or high levels of assist) the battery voltage will temporarily dip resulting in the capacity meter showing a lower level of charge. When the heavy power usage is reduced, the capacity meter will rise again as the battery naturally recovers its voltage.

3.6 Brakes

- 3.6.1 Disc brakes are fitted to the front and V brakes to the rear wheels of the bicycle. Disc brakes offer several advantages over traditional rim brakes, including better braking in wet, muddy or other adverse conditions and less braking power fade over extended downhill braking.
- 3.6.2 Details of how to adjust and maintain your brakes are as follows:
- 3.6.3 Regularly inspect the brake pads for wear. If the front brake pads have reached the wear limit of 1mm, replace them immediately. The rear brake blocks should be checked by a bicycle mechanic and replaced when necessary.
- 3.6.4 Front brake, remove the caliper from the fork leg, complete with the mount adapter by removing the two 6mm Allen caliper fixing screws. The pads can then be removed by removing the split pin (which passes through the tabs of the brake pads) Then lift the pads complete with the spring out of the rotor slot in the caliper body.

Warning! Do not loosen any other screws on the caliper.

- 3.6.5 To refit the pads, hold the pads complete with spring as an assembly and insert into the caliper slot with the metal backing towards the pistons. Refit the pad retaining split pin ensuring it passes through the holes in the pad tabs and through the hole in the spring and bend one side of the split pin to secure it in place. Refit the caliper loosely using the two Allen screws, apply the brake lever and tighten securely to 6 to 8N.m whilst continuing to apply the brake lever. (N.B. use of a thread locking compound is recommended on the caliper fixing screws).

Warning: If you are unsure about any part of the brake installation process you should seek advice from a qualified mechanic.

Caution: The pads and rotor must be kept clean and free from oil or grease based contamination. If the pads become contaminated, you must discard them and replace them

with a new set. A contaminated disc should be cleaned with a proprietary brake cleaning solution.

3.7 Stem and handle bar clamps

3.7.1 Your folding bike has been fitted with an adjustable handlebar and stem clamp that allows you to change the angle and height of the bars to find the most comfortable riding position.

3.7.2 The handlebars can be adjusted before you use the bike by slackening the clamp in the middle of the handle bars. Once a comfortable position is achieved, securely tighten the clamp and lock into position.



3.7.3 To alter the height of the handlebars, slacken clamp at the front of the stem. Slide the handlebars to the required position and securely clamp into position making sure there is no movement in the clamp or handle bar stem.



3.8 Folding Mechanism

- 3.8.1 Your Edbike folding bike has been fitted with ultra strong clamps to enable you to fold the frame and handle bar stem. It is vitally important that these clamps are tight, secure and locked before using the bike.
- 3.8.2 The Stem clamp has a chromed locking mechanism. To unclamp the stem, slide the chromed locking knob up towards the handle bars and pull the lever away from the stem, the stem will now fold away from the clamp. When unfolding the stem make sure the clamp is solid against the stem, the chromed locking knob is pushed back up into position and the clamp is locked.



3.8.3 The main frame clamp

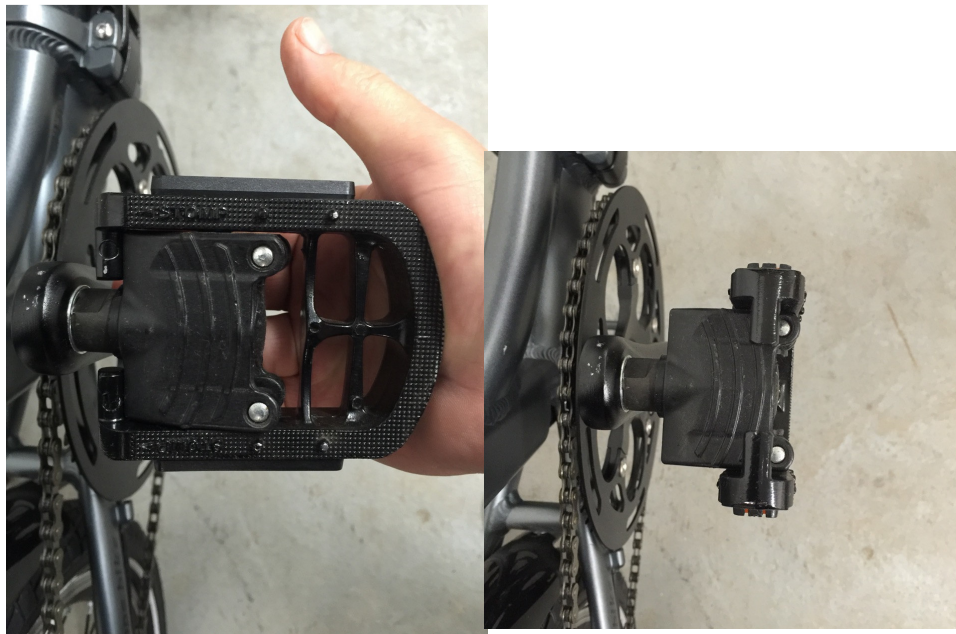
To unclamp, first turn the black plastic lock into the upright unlocked position. Then pull the clamp arm forward, unhitch the catch and push the clamp arm forward again. Finally fold the bike away from the clamp arm. To unfold repeat the same procedure in reverse, making sure you do not trap the cables inside the frame in the clamp.





3.8.4 Folding the pedals is very straight forward.

Simply push the pedal in towards the bike with your hand or foot and fold down. To unfold lift the pedal back to its normal position. Make sure it has located properly.



3.9 Quick release saddle height adjustment

- 3.10.3 Adjust the seat to the correct height and close the lever firmly. When you sit on the saddle there should be no vertical movement at all in the saddle post beyond the seat post suspension movement. Never apply grease to the saddle post, also make sure the clamp holding the seat to the post is very tight

3.10 Rims and spokes

- 3.11.1 It is essential to have your spokes checked and tightened after 500 km. This is a free service provided by your supplier. If this service has not been undertaken at the correct time, this may cause damage to the wheels and spokes that will not be covered under our Warranty.

3.11 Chain and drive wheel removal

- 3.12.1 To completely remove the rear wheel, it is necessary to disconnect the main motor cable connecting the motor to the bicycle electrical system. This operation is best achieved by turning the bicycle upside down.
- 3.12.2 Locate the motor cable where it emerges from the centre of the wheel axle on the left hand side of the bicycle, slide back the top hat protector to locate wheel nut.
- 3.12.3 Trace the route of the motor cable along the rear stays and locate the quick release motor cable connector shown in the image above. Disconnect the two halves of the connector, taking care not to strain the cables, and unclip the motor cable from the frame. Note the alignment marks on the two halves of the connector.
- 3.12.5 Loosen the two large motor axle nuts and remove the nut from the right hand side, taking care to note the position of any tab washers fitted. Unscrew the left hand nut as far as is possible towards the cable exit from the motor axle, being careful not to damage the cable, remove the brake caliper to avoid damaging brake rotor
- 3.12.6 Lift the wheel from the frame dropouts, being careful not to snag or strain the motor cable.
- 3.12.7 Installation is the reverse of the above. Take care to locate the tab washers correctly in the drop out slots and tighten the axle nuts to the torque specified in the manual, it is sometimes necessary to spread the frame to refit the wheel, place the brake side in first then push on the axle while pulling the frame leg out the wheel will drop into the slots, give the wheel a good push to ensure it is fully seated into the slots, tighten wheel nuts . Reconnect the two halves of the quick release connectors, taking care to ensure the pins and alignment arrows align correctly. Re-clip the cable to the frame, ensuring that the cable cannot rub against the tyre and that the cable exits in a downwards direction from the axle to avoid water ingress into the motor. Refit the rubber top hat cover. Refit the brake caliper referring to section 3.6 for instruction. Because the bicycle has a rear derailleur, the chain will be automatically adjusted.

3.12 Derailleur and gear change

3.13.1 Full details on how to adjust and maintain your derailleur can be found on the Shimano website

If difficulty is experienced with changing gear after initial operation of the bicycle, it is likely that some cable stretch will have occurred in the gear change cable. To compensate for this turn the knurled adjuster shown in the centre left hand side of the image below by pulling it away from the outer cable stop towards the rear of the bicycle and turning it ½ turn anticlockwise when viewed from the rear. This will compensate for the cable stretch. If necessary, repeat the operation again until smooth gear selection is obtained



3.13.2 To change gear, use the 7 speed rapid fire gear shifter located on the right side of the handlebar.

4 Warranty, battery maintenance and user responsibilities

Repair or replacement of components

IMPORTANT! To validate this warranty, the retail customer must register the bike by emailing sales@edbikes.co.nz within 30 days of purchase, with the following details:

Your name, address, phone number, bike serial number (located on underside of crank) and date of purchase .

Terms and conditions

1.	We offer a 12 month return to base warranty on all components, 2 years on motor and controller
2.	The period of assurance shall commence from the day delivery was made to the retail customer, or from the day the retail customer collected the bike from the retailer.

Exceptions to Limited Warranties

Your Edbike bike may not be covered by our warranty for any of the following reasons:

1.	Damage resulting from misuse, not maintaining the bike or not following the guidelines within our user guide or using the bike for any kind of competitive sport.
2.	Accidental or deliberate damage.
3.	Damage due to private repair or alteration by user or unauthorised service centre.
4.	Failure to produce invoice or proof of purchase.
5.	Parts and components worn in normal use, eg: brake pad wear dependant on use
6.	Motor or rim damage due to loose spokes

4.1 Battery maintenance and user responsibilities

- 4.1.1 Your Edbike bike is equipped with a powerful, high quality lithium ion battery. Lithium ion is recognised as being the very best type of battery for electric bicycle use.
- 4.1.2 All lithium ion batteries must be well cared for to optimise useful life and range. It is the responsibility of the bike owner/operator to ensure the battery is looked after properly. Incorrect use or storage of your battery may cause damage and void your warranty.

- 4.1.3 It is not unusual for a well-maintained battery to last for several years. Though your bike will feel less powerful as the battery gets older, and the range will diminish, you can continue using the battery for many years to come.

A key point to remember when choosing a battery is to check the battery capacity ($V \times Ah = Wh$ the battery's capacity) i.e. $16Ah \times 36V = 576Wh$. When such a battery loses 30% of its capacity, it will still have nearly 400Wh left, still more than a new 36V 10Ah (378Wh) battery.

- 4.1.4 The key to having a long lasting battery is to look after it. This means never leaving your battery fully discharged and always conditioning the battery when not in use i.e. in the winter.
- 4.1.5 If a battery is not cared for as per our instructions, it will not reach its optimum performance and may not be covered by our warranty.

We reserve the right to check batteries claimed under warranty to ensure they have been maintained as per our instructions.

5 Service

For after sales service please contact our Edbike Support team: support@edbikes.co.nz

In some areas we offer a free 500km service check (conditions apply)