THE ELECTRIC BIKE

USER MANUAL

Emu Roam Bike

2020/2021
VERSION

Thank you for purchasing an EMU Electric Bike. It has an electric motor and battery for pedal-assisted cycling with 5 power levels so that you can conquer hills and head winds with ease. Getting to your destination without sweat or stress will give you the freedom to enjoy cycling at its best. Alternatively, you can use the bike normally and exercise freely.

Please read this Manual and the Quick-Start Guide for detailed information on operating the EMU electric bike, instructions on the display panel, battery and much more.

CONTENTS

Getting To Know Your Bike:

Page 3 Bike Components

Page 4 Stem & Handlebar

Page 6 Brake Lever, Display & Bell

Page 7 Saddle

Page 8 Pedals, Bottom Bracket & Cranks

Page 9 Brakes

Page 11 Chain

Page 12 Gears, Mudguards & Lights

Page 13 Wheels & Tyres/Tubes

Page 16 Rims, Spokes & Panniers

Page 17 Understanding the Power Assistance

Page 17 EMU Display Panel

Page 19 Error Code List & Battery and Charger

Page 20 Lights

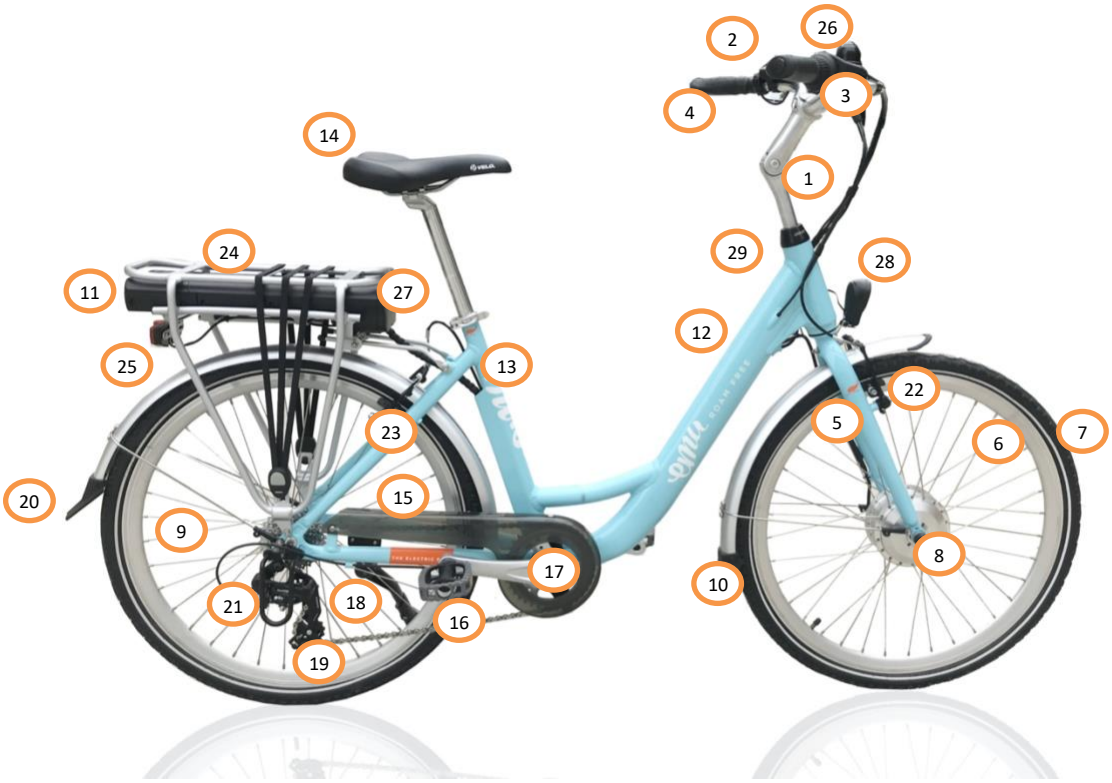
Page 21 Troubleshooting Checklist

Page 23 Cleaning, Servicing & Safety Tips

Page 27 Accessories

Page 25 Declaration of Conformity

BIKE COMPONENTS



1. Stem
2. Display
3. Gear lever
4. Brake lever
5. Front fork
6. Rim
7. Tyres
8. Motor
9. Spokes
10. Front mudguard
11. Battery
12. Frame(Male / Female)
13. Seat post
14. Saddle
15. Chain guard
16. Pedal
17. Crank set
18. Kick-stand
19. Chain
20. Rear mudguard
21. Gear hub
22. Front brake
23. Rear brake
24. Luggage rack
25. Rear light
26. Handlebar
27. Battery connection socket
28. Front light
29. Headset top cap

STEM & HANDLEBAR

1. Stem height:
    - Using the 6mm Allen key, loosen the stem bolt and slide the stem up or down for your preferred handlebar height. Take care to ensure you do not extend beyond the maximum height marker as indicated.

2. Stem tilt:
    - To adjust the tilt on the Emu quill stem you need to loosen the single bolt located underneath the stem.

    - It is very important you DO NOT loosen the bolts found on the side of the stem; these are the pivot points that allow the stem to tilt up and down.

    - Once the bottom bolt is loosened you can adjust the angle of the stem to a more flat or upright riding position. Retighten the bolt securely to the recommended torque.

3. Handlebar angle:
    - To adjust the angle of the handlebars, loosen the handlebar bolts using the 5mm Allen key and move the handlebars to a comfortable riding position. Tighten the bolts to 10Nm

BRAKE LEVER, DISPLAY & BELL

1. Brake lever angle:
    - Loosen the brake lever clamp screw with the 5mm hex key to adjust the brake lever position.
    - The rider's fingers, hand and lower arm should be in a straight line when sitting on the saddle. Tighten screw to 6~8Nm.

2. Handlebar display position:
    - Loosen the handlebar display clamp screw with the 3mm hex key to adjust the handlebar display position, then tighten the screw securely to 2~3Nm.
    - The same applies for the display controls.

SADDLE

1. Saddle height:
    - To adjust the saddle height, loosen the seat post bolt using the 4mm Allen key and slide the post up or down. Ensure the post is extended no further than the maximum mark shown on it. Tighten the bolt securely to 10NM with the 4mm Allen key.
    - Do not move the saddle beyond the minimum insert line as this will damage the bike or cause potential injury.

2. Saddle angle:
    - The bike saddle is supported underneath by a “holder”. The holder allows you to slide the saddle forward or backwards. Use the 8mm Allen key to loosen the clamp that secures the saddle to the seat post. After positioning the saddle correctly, re-tighten the bolt to 20Nm.
    - The seat clamp also allows you to raise or lower the nose of the saddle. Set this initially so the saddle is horizontal. Once you have ridden a few miles you may wish to adjust the nose for improved comfort.

PEDALS

1. Fitting the pedals:
    - Look closely at the pedal axles, you should see a small “R” and “L” for the “right” and “left” (when sitting on the bikes)
    - Choose the appropriate pedal for each side and insert it into the correct crank arm, turn the pedal axle towards the front of the bike (both pedals thread in this direction, so the left pedal turns anti-clockwise and the right pedal turns clockwise). If it doesn’t turn easily, do not force it. Check you have the correct pedal and are inserting it level at 90°to the crank
    - Thread both pedals into the crank arm as far as you can by hand. Then fully tighten to 30Nm using the 15mm spanner.
    - Pedals are assigned to left and right, they are not interchangeable.

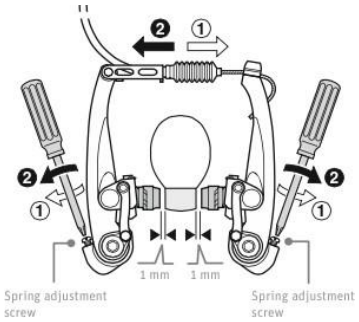
BOTTOM BRACKET AND CRANKS

1. Chainrings:
    - Chainrings are subject to wear; their service life depends on various factors such as maintenance, type of use and distance travelled.

2. Cranks:
    - Cranks must be securely fastened as this could otherwise damage the crankset.
    - Cranks can come loose which is why you should regularly check whether they are securely fastened by attempting to rock them to and from the frame.
    - If there is play in the cranks, have the bike checked and the cranks fastened securely by a professional bike workshop.

BRAKES

1. Check the brakes:
   - Pull the front wheel and then the rear wheel hand brake lever with the same amount of force as you would apply when braking sharply during a ride. Then push the bike forwards.
   - The rear wheel should lock and the front wheel should decelerate so rapidly that the bike starts to tip forwards.
   - The gap between the brake block and the rim should be roughly 1 mm.
   - If required, you can readjust the rebound force via the spring adjustment screw so that both brake arms move symmetrically.
   - Once you have done this, check that the brake is working properly.



2. Adjusting the brake with brake cable adjusting bolt:
   - If the brake is not working properly or the travel distance of the brake lever is too great, you can adjust the brake using the cable adjusting bolt on the brake lever
   - Turn the cable adjustment bolt to adjust the clearance between the brake pad and the rim.
   - Turn the bolt inwards (clockwise) to increase the brake-pad clearance.
   - Turn the bolt outwards (anticlockwise) to reduce the brake-pad clearance.
   - The clearance between the brake blocks and rim should be roughly 1 mm.

3. Wear of brake pads:
    - Most brake pads for rim brakes come with grooves or notches. If these grooves are worn and can no longer be seen, this is normally a sign that the brake pad is worn.
    - Do not ride your bike if the brake pads are worn. Have them replaced by a professional bike workshop instead.
    - Check the brake blocks regularly for signs of wear.
    - If notches or grooves are no longer visible, it is normally a sign that the brake pad is worn and needs to be replaced (image below).
    - Have them replaced by a professional bike workshop.

Worn: Ok:

CHAIN

1. Lubricating the chain:
   - Clean and lubricate your bike chain regularly, especially if the bike has been ridden in rain.
   - For lubricating the chain, only use products recommended for bicycle chains.

2. Check the wear of the bike chain:
   - Take the section of the chain that rests on the front chainring between your thumb and forefinger.
   - Pull the bike chain off the chainring. If the bike chain can be lifted by a significant amount, it is worn and must be replaced by a new one.
   - With hub gears, the chain tension must be adjusted so that vertical play of one to two centimeters is present in the unsupported chain span between the chainring and sprocket wheel.
   - The chain should be replaced by a professional bike workshop after roughly 3000km.

3. Adjusting the chain tension:
   - Loosen rear wheel nuts with the #15 spanner.
   - Pull the wheel back into the dropouts until the right amount of play is in the chain.
   - Tighten the rear wheel nuts to 30–40Nm. Tighten the chain tug nut if necessary.

GEARS

1. Operating your gears:
   - Turn the twist-shift lever to select between all 7 gears.
   - For a higher gear and to go faster, move the indicator towards 7.
   - For a lower gear to set off or go up a hill, move the indicator towards 1.

2. Adjusting gears:
   - For derailleur gear adjustment and alignment, we recommend you visit your local bike shop or one of our registered stockists.

MUDGUARDS

1. Checking the mudguards:
   - Regularly check that the mudguard stay bolts are secure to 5Nm.

Front Back

FRONT LIGHT

1. Front light angle:
   - Loosen the fastening screw with a #10 spanner and a 4mm Allen key to adjust the front light angle.
   - Tighten to 3Nm.

FRONT WHEEL

1. Front wheel removal:
   - Ensure the bicycle is turned off.
   - Squeeze the brake pads or brake arms against the rim. Detach the brake cable at one of the brake arms.
   - Disconnect the motor cable connector.
   - Unscrew the C-clips on the fork with a Phillips screw driver.
   - Remove the black plastic cover from the wheel nuts.
   - Loosen the wheel nut with a #18 spanner.
   - Remove the front wheel from the front dropout.

2. Removing the tyre and inner tube:
   - Unscrew the valve cap from the valve.
   - Allow the remaining air to escape from the inner tube.
   - Place the tyre lever on the inner edge of the tyre opposite the valve.
   - Lever the tyre sidewall over the rim flange.
   - Push the second tyre lever between the rim and tyre approx. 10 cm away from the first one.
   - Continue levering the tyre off the rim until the tyre has detached round the entire circumference.
   - Take the inner tube out of the tyre.

3. Spare tyres and tubes:
   - Replace tyres and tubes with size 26 x 1.75.

4. Fitting the tyre and inner tube:
   - Make sure that the rim tape covers the spoke nipples and is undamaged.
   - Put the rim with one edge inside the tyre.
   - Push one side of the tyre completely into the rim.
   - Insert the valve through the valve hole in the rim and fit the inner tube inside the tyre.

- Push the tyre over the rim sidewall.
- Pull the tyre forcefully into the centre of the rim.
- The area that has already been fitted will slip into the base of the rim.
- Check once again that the inner tube is seated correctly.
- Push the other side of the tyre completely over the rim flange using the heel of your hand.
- Inflate the inner tube slightly.
- Check that the tyre is correctly seated and is true using the indicator ring on the rim sidewall.
- Adjust the seating of the tyre by hand if it does not run straight.
- Inflate the inner tube up to the recommended tyre pressure.

5. Pumping the tyre:
   - Unscrew the valve cap to inflate the tyre.
   - Inflate to the recommended tyre pressure (45-65PSI).
   - The optimum and maximum pressure values are also embossed on the sidewall of the tyre.
   - Never exceed the maximum value!
   - When inflating tyres out and about, if you press your thumbs hard into the inflated tyres, there should not be much give.

6. Front wheel reinstallation:
   - Replace the washers in the correct order.
   - Place wheel on dropout ensuring that the cable is on the right-hand side and is facing away from the fork, not to the fork!
   - Tighten the wheel nut to 30-40Nm with a #18 spanner.
   - Reconnect the front brake cable and check that the brake is working.
   - Connect the motor cable connector ensuring that the arrows line up.
   - Screw the C-clips on to the fork, using a Phillips screw driver.

REAR WHEEL

1. Removing the rear wheel:
   - Shift the gears so the chain is on the smallest gear (7).
   - Squeeze the brake arms against together and detach the brake cable at one of the brake arms.
   - Loosen the wheel nuts with a #15 spanner.
   - Remove the C-Clips of the shifting cable underneath the chainstay.
   - Pull the derailleur gently towards the back of the bike to make the chain slack and remove the rear wheel from the rear dropout.

2. Installing the rear wheel:
   - Press the derailleur down to open the chain and create slack.
   - Place the chain on the smallest gear of the wheel and pull the wheel up, keeping it straight.
   - Adjust the wheel so the axle fits snug within the dropouts on the frame.
   - Fit the fixing washers so the projections precisely engage in the slits in the dropouts on the front or rear of the axle.
   - Ensuring the wheel is centered, tighten the wheel nuts to 30-40Nm with a #15 spanner.
   - Check he chain has the correct tension, the derailleur is correctly aligned and the wheel spins freely.
   - Close the quick-release brake arm and check that the brake is working.

RIMS & SPOKES

1. Checking the rims and spokes:
   - Check spokes are tight, check rims for wear and distortion.
   - V- Brakes can cause wheel rims to become worn.
   - If you notice cracks or form changes in the rims, have them checked or replaced by a professional bike workshop.
   - Check the condition of the wheel rims regularly (check carefully every 500km)

REAR PANNIER

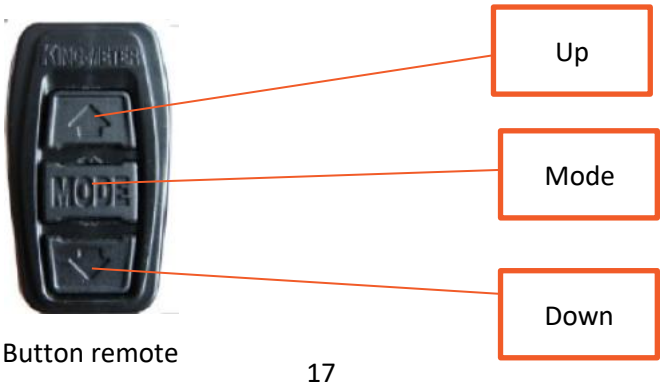
1. Using the rear pannier:
   - When loaded with luggage, the pannier rack may affect steering and braking.
   - If fitting a child seat or a large item of luggage, read all manufacturer instructions carefully to ensure safety and prevent damage to goods or the bicycle.
   - Ensure no straps can become caught in the wheels.
   - When loading, ensure luggage is evenly distributed on the pannier rack.
   - Ensure all pannier fastenings are secure – check them regularly.
   - The pannier rack is designed for luggage only.
   - The maximum permitted weight of the bike is 120kg. This compromises the weight of the bike, the rider as well as any additional luggage or a trailer.
   - Do not carry more than 20kg of weight on the rear pannier rack.

UNDERSTANDING THE POWER ASSISTANCE

1. The electric motor smoothly kicks in as you start to pedal with a barely audible sound. Being integrated into the front wheel hub, the motor is hardly visible, in keeping with the EMU bike's sleek and chic design.
2. The power assistance provided by the motor enables you to cycle longer distances and with minimum effort to enjoy a comfortable, sweat-free ride, yet still arriving at your destination faster than a normal bike. If you add your own pedaling power you can gain a physical work-out and take even more time off your journey.
3. The power-assist function kicks in once you start pedaling and stops shortly after you stop pedaling and immediately upon braking. The motor will switch off when the bike is stationary for more than 3 minutes.
4. In accordance with EU regulations, the motor is restricted to giving a maximum output of 250 watts. The maximum speed permitted is 25km/hr.
5. The motor is maintenance-free and any work should only be carried out by a recommended specialist cycle workshop. Contact us at www.emubikes.com for advice and information. Any work done on the motor or electrical parts by a non-recommended cycle shop will void the warranty.

EMU DISPLAY PANEL

Display



Button remote

The Display Panel is connected and ready for operation. DO NOT CONNECT OR DISCONNECT WHILE THE POWER IS ON.

USING POWER ASSISTANCE MODE

1. Press and hold MODE button for 1 second to turn on/off the display and bike. The Display will automatically shut down when it is not in use.

2. Short press UP/DOWN button can change the assist level. Top assist level is 5, 0 for neutral. Levels can be adjusted according to the customer's requirements.

3. Press and hold UP button for 1 second to turn on/off the headlight and display backlight. The motor does not work when the battery voltage is low, although the headlight will remain on for a while.

4. Press and hold DOWN button for 2 seconds to get into walk mode and release the button to stop the walk mode (6 Km/h).

5. Press M button for 2 seconds to get into setting menus, press UP/DOWN buttons to change the parameter setting, press M button to switch to next item. Press M button for 2 seconds to exit from menu.

    *Display will automatically quit menu when there is no operation for 30 seconds.
    *For safety reasons MENU can't be used when riding.
    *Display will quit Menu when you start riding.
    *Press UP/DOWN button to switch between Metric / Imperial.
    *Press UP/DOWN button to change the brightness of the backlight, | is darkness，|||| is brightness.
    *Single Trip Clearance (TC) can be selected to clear the trip.

A complete instruction manual for the display is available at www.emubikes.com

ERROR CODE DEFINITONS

When there is a warning message, the ⚠ icon shows on the screen, and an error code 21~30 appears at the bottom of the screen. For error code definitions see the table below.

Error Code	Definition
21	Abnormal Current
22	Abnormal Handlebar
23	Motor Phase Loss
24	Abnormal Motor Hall Signal
25	Abnormal brake
30	Abnormal Communication

BATTERY AND CHARGER

The lithium battery is a high performance battery which combines a long-lasting capacity of 10.4Ah or 14Ah (Samsung) with a lightweight body. Just like your phone battery, overextended duration of use and unnecessary additional stress will reduce its lifespan. . For advice on prolonging the life of your battery or If you need a new battery, we can supply one; details can be found online at www.emubikes.com

CHARGING THE BATTERY

1. Unpack the battery and charger and place on a level surface.
2. Remove the charge connection cover and connect the charger to the battery.
3. Plug the charger into a wall socket.
4. It is important to charge the battery fully before using it for the first time.
5. When the light on the charger turns from red to green the battery is fully charged. You can also check this by pressing the battery capacity level indicator on the top of the battery
6. Unplug the charger from the wall socket when the battery is fully charged.
7. Do not leave the battery plugged in once it is fully charged.

FITTING THE BATTERY

1. Place the end of the battery first (opposite end to the charging connection) into the holder in the rear carrier.
2. Lock the battery in place using the keys and lock barrel on the left side of the rear carrier.
3. Remove the key and keep safe.
4. To remove the battery, unlock by turning the key anti clockwise, pull the battery using the handle out from the carrier.
5. To check the existing level of battery charge, look at the Display Panel where the battery level is indicated or the battery level indicator on top of the battery (see Display Panel section for details).

BATTERY CARE

- Fully charge the battery before its first use.
- If you are not using the battery, place in storage not below 10^{o}C at approximately 50% of its charging capacity. Charge it every 2 months for 1 hour.
- During colder months, the battery may lose up to 25% of its capacity. It also takes longer to charge it at low temperatures, so it is best to store and charge the battery indoors at room temperature between 10-30^{o}C.
- Only charge the battery using the charger provided. Any misuse can be dangerous and will void the warranty.
- Do not use the charger for other electrical items.
- Do not cover the charger as this may cause it to overheat and catch fire.
- Do not use water near the charger as this could damage and short-circuit it.
- If you have a problem with the battery, always consult a recommended specialist Cycle workshop or contact us via our website www.emubikes.com.

LIGHTS

The Emu bike is fitted with high quality Spaninga front and rear lights with integrated reflectors.

Both lights are operated from the controller on the handlebars, to switch on press and hold the + button, to switch off simply repeat.

Troubleshooting Check List	Checked?
Problem: No Power and display is OFF	
1. Check the battery is properly seated and locked in place.	
2. Check that the battery is charged by pressing the button on the battery.	
3. Check the connections and make sure the battery power line is connected to the switch and the gauge is connected to the display panel. If the power works then it is a connection problem with the gauge.	
4. If all is fine please charge the battery for 4 hours and try again. If still no power, contact us at www.emubikes.com.	
Problem: No Power and display is ON	
1. Ensure the electronic brakes are returning to the normal brake 'off' position, if not they will be disengaging the power.	
2. If the problem persists after you check the above then disconnect the electronic brakes at the display panel. If the power returns then you may have a faulty brake sensor.	
Problem: Intermittent power	
1. If a power failure occurs after stopping it is almost certainly the brake levers. Have them serviced to ensure they return to the full off position. Servicing normally involves the proper set-up of the brakes and application of water expelling/lubricant solution to the brake cables.	
2. If the moving crank sensor disc has become dirty or damaged you may experience an intermittent loss of power while pedalling. Check the magnetic disc sensor for damage and dirt. It is located on the bottom bracket axle and is likely to require periodic cleaning.	
3. If loss of power is experienced after bumps it is most likely to be caused by a loss of connection.	
4. Check the battery contacts and ensure they are clean and making good contact.	
5. Completely discharge and recharge the battery twice. This is the least likely scenario but it is a required fault check.	
6. When the power cuts out, test the voltage across the battery terminals using a multimeter and call us with this information.	

Problem: Battery not charging	
1. Check if the charger is working. If no light, check the plug fuse on the charger.	
2. Are you connecting the charger in the right order (see charging the battery).	
3. If you have a multimeter check the voltage across the battery terminals. If it is below 20 Volts the charger may not be able to start charging and the battery may be damaged.	
Problem: Lower than expected range of battery power	
1. Ranges can vary dramatically from customer to customer under different riding conditions.	
2. Your bike may have an adjustable power/range setting on the controller, this may need to be changed if you require a longer range.	
3. Hills and loads over 90Kgs reduce the range significantly.	
4. Please check the brakes are correctly set up i.e. brake blocks not rubbing on the rims & the tyres are correctly inflated to 45 to 65 psi – this is the number one cause of reduced range.	
5. If it is a new battery it may take a few cycles (charge/discharge) before it fully opens up the capacity.	
Problem: Motor noise	
1. Be exact about when the noise is experienced: when running motor off load or under load, when cycling with motor switched off, when using pedals, before or after braking etc. Often a service will rectify noises.	
2. Motors with durable metal gearing will make more noise and outlast motors that use plastic cogs.	
3. If the noise of your motor suddenly gets louder it is a good idea to have it checked out. Contact us.	

Troubleshooting

You will find a troubleshooting guide on our website www.emubikes.com where you will also find an email helpline and telephone number to call should you have any queries.

CLEANING AND SERVICING YOUR EMU BIKE

1. Always remove the battery before cleaning your EMU bike.
2. Use a damp cloth or brush to clean the bike. Suitable cleaning materials are supplied by specialist cycle suppliers.
3. Do not use a hose or high pressure cleaner as this could damage the bike.
4. Make sure water does not enter the battery and that you do not touch the electrical contacts either in the frame, or on the battery.

SERVICING

An annual service is required to keep the warranty valid.

Contact us at www.emubikes.com for details of recommended specialist cycle shops.

Maintenance and repairs must only be done by a specialist cycle shop, recommended by us at EMU bikes.

SAFETY TIPS

- Always ride wearing a helmet.
- Be visible to other users of the road. Wear a reflective jacket at all times. See the Accessories section on our website or in this Manual.
- Always switch on front and rear lights when the light conditions are poor and as dusk approaches.
- Your EMU electric bike can be considerably faster than a non-electric bike. Stopping distances will therefore be marginally longer. Take the time to get to know your electric bike before riding near traffic, or pedestrians.
- Adjust your speed and expectations according to the road conditions. In icy, or wet, weather the roads become more slippery and you will need to allow greater braking distances.
- Avoid potholes, loose terrain, spills, and obstacles.
- Do not carry adult passengers, or overload the bike.
- You do not legally need a driving licence to ride an electric bike, but you should know the Highway Code relating to Rules for Cyclists – on www.gov.uk website.
- Be aware that live parts connected to the electric motor may be live if covers or wires are exposed. Do not allow children to play with the Emu electric bike.

- Eye protection - good vision is vital for cycling safely. Many cyclists find it more

comfortable to wear visors or glasses, to avoid such hazards as insects, dust or spray from rain.

- Braking - learn how to stop your bike safely. Apply both front and rear brakes at the same time with a steady pull on the levers. A good habit in traffic is to keep two of your fingers placed over the brake levers as you cycle so that you can brake quickly if necessary. Practice breaking in dry and wet conditions so that you feel in control at all times. Wet conditions greatly increase the stopping distances needed and make roads slippery. Be aware of how your bike reacts in different conditions and adjust your speed accordingly.

  Cycling with the power assistance turned on enables you to go faster with less effort. You should be aware that the increase in speed means you need to allow for a greater stopping distance.

- Pedalling - always pedal with the ball of your foot, not the instep. To pedal efficiently ensure your foot is tilting slightly downwards as you reach the bottom of the pedalling stroke and then slightly upwards at the top of the stroke.

- Using the gears - the EMU bike has 7 hub gears. The lowest gear, 1, is used to start off or to climb hills. As you increase your speed change into gear 2 etc. moving up into top gear.

  The gears enable you to keep a relatively steady pace as you pedal. In traffic it is best to change gears frequently as you slow down, stop at lights etc. and accelerate. Hub gears enable you to change down to a low gear whilst stationary, doing so will make it easier to move off again. The power assistance kicks in after a few pedal strokes.

- Finally, always remember, be alert and anticipate so that you can react in good time to other road users, road conditions and potential hazards like potholes etc. Position yourself well on the road so that you are visible and have good visibility yourself. Be seen! Be safe!

ACCESSORIES

A full range of cycling accessories is available at www.emubikes.com

Enjoy riding your EMU electric bike!

DECLARATION OF CONFORMITY

This product satisfies the provision for CE marking according to the following standard:
EN15194:2017

Type of equipment:	EPAC Bicycle
Brand name or trademark:	EMU
Type designation:	Crossbar & Step through, PIBDL011
Manufacturer:	EMU Electric Bike Company
Address:	PO Box 772 Rickmansworth WD3 5RL
Telephone No:	0203 7977 555
Email:	salessupport@emubikes.com