

elMundo

Electric Cargo Bike

USER MANUAL



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1. INTRODUCTION

Congratulations on the purchase of your new Yuba eMundo/eZee Hybrid-electric Cargo Bike. You have taken a very significant step toward realizing a whole new way of transportation for commuting and those short grocery trips that is fast, fun, efficient, and friendly to our environment. The eZee hub motor is brushless and uses a technology called Pulse Wave Modulation Control, meaning the wear of a traditional brushed DC motor is eliminated. Translation: far lower maintenance costs and very long life.

Planetary reduction gears incorporated into the hub provide high torque in a compact and light weight package which works *with* you to flatten out those pesky hills and still those ferocious headwinds. Under normal cruising conditions (26 kmh/16 mph) the motor draws about 5 amps at 140 watts with 5 Nm of torque and has an efficiency of around 80%. The electric consumption is about 1.0 kWh for 100 km/62 miles in ebike mode – even less energy than the food consumed under leg power alone! Making it by far one of the most efficient vehicles ever made!

While the Yuba/eZee pledge to quality means our components are of high value and reliable, it is your responsibility to understand the safety implications and possible risks of cycling, particularly when adding the extra speed electric-assist systems allow. So please take the time to read this manual, which details the basic elements of care and use, as well as visit our website electric-cargo-bike for more in-depth information. There you will find videos and articles to further guide and instruct. With simple care and attention, your new Yuba eMundo Electric Cargo Bike will bring you many years of reliable use. Please feel free to email electric@yubaride.com with specific questions or comments. We encourage and appreciate your feedback!

Note: For assembly instructions regarding the Mundo Cargo Bike, please refer to the Mundo manual or assembly sheet.

2. LEGAL REGULATIONS

European Union

EU regulations state that your vehicle is an Electric Powered Assist Cycle (EPAC) when the following conditions are met, and is now governed by the latest European regulation EN15194:2009 for EU.

Extract [EU directive 2002/24/EC Chapter 1 Article 1 1(h)]

“Cycles with pedal assistance which are equipped with an auxiliary electric motor having a maximum continuous rated power of 0.25 kW, of which the output is progressively reduced and finally cut off as the vehicle reaches a speed of 25 km/h or if the cyclist stops pedaling.”

Conforming to EN reg., the power assist of the eZee motor/ battery can only function while the rider is pedaling. The means of controlling the power level of the assistance is provided with either a dial or throttle system.

North America

In the USA it is governed by Consumer Product Safety Commission 16 CFR Part 1512 requirements for low speed electric bicycles. The regulations allow a power assisted maximum speed

of 20 mph. The eZee motor/battery made for the USA has a motor rated at 350 watts up to a max of 700. The power assist can function without the aid of pedaling, should you choose to. However, as a Human-electric hybrid drive system, the more you pedal, the more speed and range will be gained. As a legal low speed electric assist bicycle, you are not required to have a license, there is no age limitation, and you are allowed on all cycling paths. It is regulated as a normal bicycle. Legal requirements concerning insurance of your bicycle may differ by location, so please find out about any rules and regulations in your country.

3. GUARANTEE CONDITIONS:

The following guarantee conditions complement your legal rights.

Limited Warranty: As the manufacturer, we guarantee against possible material or construction defects. Provided the following conditions are satisfied. Please refer to page 17 to learn more about the limited warranty for the Mundo bike and components (electric components excluded)

- Proof of purchase; the guarantee starts on the date of purchase.
- Only the first owner is entitled to the guarantee.
- The bike is guaranteed for 1 year, this comprises of the frame, fork, all mechanical and electrical parts, except normal wear and tear items.
- 1 year for the battery up to 70% depth of discharge from its original rated capacity. This can be verified by the eZee dealer you've purchased the bike from.

The following are not covered under the warranty:

- Negligent use resulting in damage or due to a traffic accident.
- Damage ascribed to normal wear and tear.
- Poor maintenance, or modification that no longer complies with regulations or original technical specifications.
- Damage due to external causes.
- The bicycle is put up for hire.
- The battery pack or controller are used incorrectly or tampered with.
- Compensatory costs arising from damages or accidents, or costs incurred through loss of the bicycles usage.

How does the warranty apply?

- Original defective parts that are sent to the manufacturer for assessment will be replaced by the same or equal value part.
- Labor and transportation or all other charges are not included. These are borne by the owner.
- Yuba Bicycles LLC exclusively determines whether or not the warranty applies.

4. TECHNICAL DATA:

EN 15194:2009 | USA CPSC 16 CFR Part 1512

Weight: 26kg (56lbs) including battery

Motor: DC brushless hub motor 200 W (AUS)/ 250W (EU) / 350W (US) with planetary reduction gears

Battery Pack: Advanced Lithium + Polymer with Battery

Management System, 37V 10ah (370 Wh capacity) 3.1kgs (6.8lbs).

Low voltage protection at 28V, discharge temperature limit -15°C to +55°C (5°F to 131°F).

Controller: PWM (Pulse Width Modulation), LED self diagnostic system, 20 amp overload protection.

Charger: 2 amp smart charger, maximum charge time 6 hrs, charging temperature 5°C to 35°C (41°F to 95°F)

Interface: Forward magnetic motion sensor with 0 - 4.5 V VPA dial or throttle with light switch

Fuse: 30 amps



5. ASSEMBLY

Please refer to the Mundo assembly sheet and elMundo assembly sheet regarding the assembly of the bike and its components.

The elMundo Bicycle carton should contain:

- 1 elMundo Cargo Bike (7 Speed) with electric front wheel installed, electric components mounted and a battery installed into the frame.
- 1 part box with pedals, stem and Owner's manual & Assembly instructions.
- 1 small box with electric charger, 2 30 amp fuses, zip ties.
- 3 Ignition lock key attached to the handlebars.

Front wheel: The front wheel is assembled. But in case you need to remove the front wheel and reinstall it, please respect the following guidelines. Insert the hub motor wheel into the fork, ensuring that it is properly seated in the dropout slots. Tighten the nuts on both sides evenly until the wheel is secured. Be sure to use the torque arm washer (and bolt it to the fork)! Also, it is a very good idea to check the tightness of the bolts periodically, as they could loosen during use. Tightening torque value is 35 Nm. We strongly recommend placing the bike upside down to remove or insert the front wheel.

Battery: Locate the keyhole by the controller box and turn the key counter clockwise while pressing in, this will release the lock pin. Ensure that you keep the key in the "Lock" position until you are ready to ride. When installing the battery, do not use excessive force, as this could damage the battery or the connection pins. If there is an outlet near where the bike will be parked, it is not necessary to remove it. However, avoid leaving the battery out in cold weather, as this could damage the cells and degrade its performance.

Keys: 3 ignition/lock keys are provided, please safely store any keys not in use where you can find them. Use only one key at a time! It is not uncommon to have customers lose all 3 keys!

6. OPERATING:

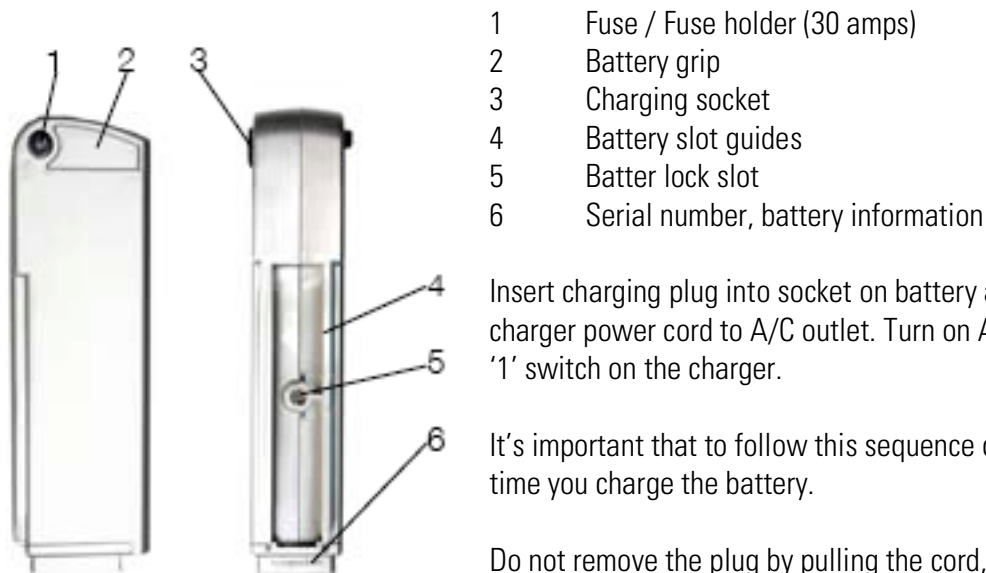
To learn more about operating the Mundo Cargo Bike refer to the Mundo Owner's manual.

Battery Charging:

Locate the keyhole by the controller box and turn the key counter clockwise while pressing in, this will release the lock pin. If you wish to be able to remove the battery from the bike easily, you will need to cut the forward portion of the utility deck off. Ensure that you keep the key in the "Off" position until you are ready to ride. When installing the battery, do not use excessive force, as this could damage the battery or the connection pins. If there is an outlet near where the bike will be parked, it is not necessary to remove it.

However, avoid leaving the battery out in cold weather, as this could damage the cells and degrade its performance.

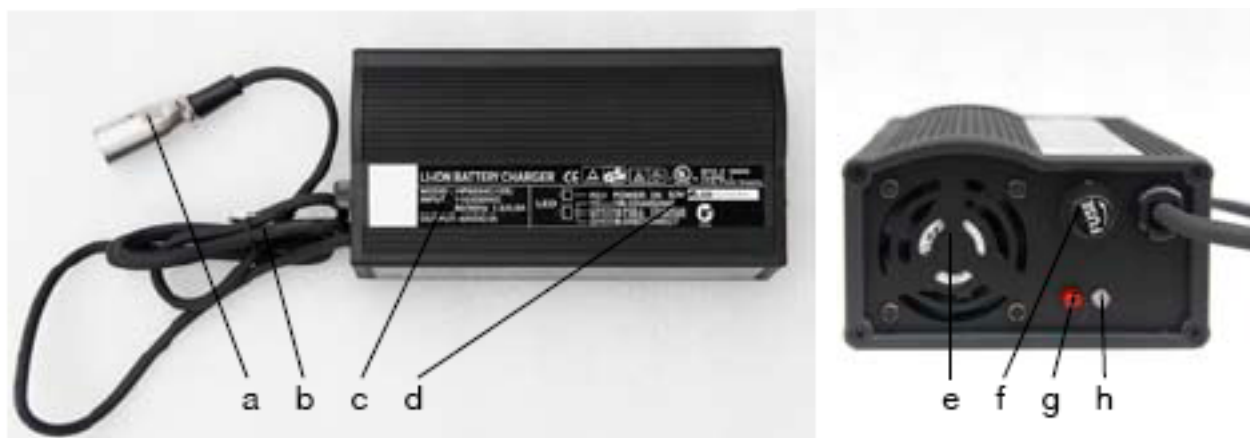
Before your first ride, the battery needs to be fully charged. Plug the charger into the battery charge port (located on the top left side under a rotating cover) near the key, make sure the charger switch is in the off position, plug the charger into a wall socket (220V - 230V AC EU other countries or 115V AC US) or extension cord, then switch the charger on. You should see a green light which will cycle to yellow when it begins charging. The sound of the fan running indicates charging has been initiated. When the light is green again, the battery is fully charged. **Do not remove the charge plug by pulling the cord, always grip the metal when pulling.**



Insert charging plug into socket on battery and connect charger power cord to A/C outlet. Turn on A/C outlet. Turn the '1' switch on the charger.

It's important that to follow this sequence of actions every time you charge the battery.

Do not remove the plug by pulling the cord, always grip the charging port by its metal body. .



Check the indicator lights on the front of the charger

RED: light indicates that the charger is connected and running from an A/C outlet.

YELLOW: light indicates that the battery is charging

GREEN: light indicates that the battery is fully charged

- It will take roughly 3 hours to charge to 10ah battery, and around 4 to charge the 14ah battery. You may interrupt the charging at any time.
- Lithium batteries do not suffer from "memory" effects, so it is not necessary to discharge the battery totally before charging. In fact, it is best to charge the battery whenever possible..
- Used with proper care, your Lithium battery will perform at least 350 full charge cycles retaining at a minimum 70% of it's original capacity.

Please use only the charger as provided.

- Male charging plug
- Charging cord
- Charger specifications
- Charger serial no.
- Cooling fan
- Fuse 10 Amps
- Charger 'ON' LED
- Charging status LED
- Warning label
- Power switch
- A/C voltage switch
- Power cord socket



A new battery may take 2-3 charges before it performs to it's full capacity. Occasionally after a temporary disconnect, the charge light may indicate a false green. To verify complete charging, switch the charger off, wait a few seconds, then switch it back on. It should cycle from amber to green very quickly if fully charged.

If the battery refuses to accept a charge, refer to your dealer for further support. Battery charging is automatically regulated, so there is no danger of overcharging. It is advised to disconnect and switch off the charger when complete.

Do not charge the battery in wet conditions.

Never allow children to play with the battery or charger.

Do not leave your battery in a fully discharged state, as this will damage the cells.

If storing for extended periods, charge fully; and if possible, arrange for it to be charged at least once a month to maintain cell health.

7. HOW THE EZEE/ YUBA eIMUNDO WORKS

Before your first ride, we recommend you practice handling the bike in a safe, traffic-free area. The motor may look small, but it's powerful! With the extra speed it allows, you will need to take special care while adjusting to its capabilities. Please visit our website for more detailed instructions on the use and care of your new Yuba/eZee eIMundo. yubaride.com/electric-cargo-bike

EPAC/Pedelec: As you pedal, a sensor picks up the motion and allows the drive system to be engaged. A twist of the throttle then provides power-on-demand.

E-Bike: The motor runs as soon as you engage the throttle. Ensure that you are ready to ride before you use the throttle.

In **E-Bike** mode, the range of your bike will be approximately 40kms (25 mi.) which will vary depending on your effort, the terrain, and the cargo load. With **EPAC**, judicious use of gears and your own efforts contribute to a range of around 40-60kms (25-40 mi.). As you use the system, you will gain a better sense of range that will allow you to plan your trips without fear of running out of juice! And, you can always carry your charger with you.

Please refer to the website for detailed instructions on the use of the Cycle Analyst computer, and it's ability to precisely monitor your battery state. With proper planning and monitoring, you should never run out of power if you wish to avoid that.

Battery level gauge: When riding a fully charged bicycle, the battery level gauge shows 'green'. Powerful acceleration or uphill riding causes the battery voltage to drop and may bring the level gauge to 'amber' or even 'red' (in the cases of very steep hills). As you continue to cycle and the battery power drops, the level gauge will correspond to the state of charge remaining. When it remains in 'amber' and dips into 'red', you have approximately 20% of the charge left. Best to recharge the battery soon.

Continued use of an empty battery by 'pulsing' will cause deep discharge, this is detrimental to the battery and reduce its life.

Lock: When parking your bike, turn the key to the "Off" position and remove it. This will shut the system off and lock the battery in place. And of course, use a strong lock to secure your bike properly. We also recommend insuring your bike against theft. Consult your dealer for more information.

8. MAINTENANCE

Tire puncture: If you have the misfortune of experiencing a puncture, we recommend bringing it to a bike shop to carry out the repair. You can of course do it yourself if you're comfortable with such repairs; but be aware that the hub motor requires some extra steps. Be sure to have the correct tools if you intend to complete this repair yourself. This requires a 19mm box wrench for both front and rear wheels, as well as a small phillips-head screwdriver for the junction box on the fork. Be mindful of the order of things, and be sure to replace everything correctly.

We recommend to position the eIMundo upside down to remove or insert the front wheel with the hub motor.



Hub Motor and General Inspection: After 5,000kms (3,000 mi.) of cycling, we recommend arranging to have a thorough inspection of your system at a dealer. This includes opening up the hub motor to inspect and lubricate the gears. Proper maintenance will significantly extend the life and performance of your Yuba/eZee eIMundo.

9. TROUBLESHOOTING:

Electronic self-diagnostic system

When the system is functioning normally, the red LED on the controller near the battery is lit continually. In the case of a malfunction, the controller is programmed with diagnostic capabilities to determine where the fault lies. The red LED will emit a series of blinks, count them and refer to the table below.

No. of blinks	Explanation	Solution
2	Brake lever cut off in contact	check brake lever spring, brake levers should return to position (applicable with electric cut-off levers)
3	Brake lever cut off in contact	check wiring connection, inspect for damage to the battery level gauge
4	Throttle not in position	check if throttle spring is faulty
5	Throttle failure	check throttle connections or replace
6	low voltage	recharge battery or loose battery cable connection
7	excessively high voltage	measure battery voltage, contact your eZee dealer
8	sensor fault	contact your eZee dealer
9	motor incompatibility	contact your eZee dealer
10	overheat, thermostat activated	allow to cool, reboot system
11	thermostat failure	replace controller
12	amps control / controller failure	replace controller
No light	Power failure	check battery, power cables or replace controller

If there is no power to the motor, and the red LED diagnostic light is on, open the junction box at the fork and check to ensure all connectors are properly seated. Loose connectors are very often the source of common issues. The faults listed do not cover all possible failures. In the event of moisture entering the controller, motor, etc., haphazard signals may appear. Storing the bike in a dry, heated spot will usually cure this. Since this manual cannot cover every possible eventuality, please refer to our website for more details and tutorials; or contact us directly with any questions you may have.

10. REGISTER:

yubaride.com/register

Serial Numbers: Record the serial numbers found on your motor, frame, controller, charger and battery here for reference. These are important data for us to understand and troubleshoot your eZeebike.

Motor s/no. :

Charger s/no. :

Controller s/no. :

Battery serial no. :

Frame no. :

Ignition key no. :

Proof of purchase: Keep your proof of purchase with vendor's receipt, with the date of purchase clearly marked.

For anything not covered in this manual, please visit our website, yubaride.com, for more information. And please feel free to contact us! Thank you for your Yuba/eZee eIMundo purchase! We are confident you will enjoy your newfound mobility and freedom afforded by this fantastic machine...
Ride on!