

# USER GUIDE

## Metro 500p

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popCYCLE.

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The 21st Century will be the one to resolve the problem between the development of means of transportation and the downgrade of the quality of life.

The electric bicycles are means of transportations that are clean and contribute in the upgrade of the quality of life for all.

The electric bicycle is a Product way ahead of its time in this Field, conceived with its strict criteria's of esthetics, ergonomics and transportation.

This bicycle is conceived for a driver, without the possibility of a passenger. It is conceived for usage on the road.

Driving the electric bicycle demands a special effort on your part for safety issues.

Before assembly make sure to perform:

- An inspection of the bike before starting off to avoid accidents and damaging materials.
- Never let an inexperienced driver ride your electric bike.
- Wear bright color clothing while driving at night.
- Do not ride on the blind spot of other drivers.
- Do not cut or fish tail other drivers.
- Respect the vehicle code of your state.
- Respect the speed limits.
- Signal before turning.
- Be very careful at intersections, parking exits, etc.
- Always ride with both hands on the steering and feet on the pedals.

### **Protective Gear**

- For your safety, always wear a helmet, glasses and protective clothing.
- Do not wear loose clothing with risk of getting it tangled on wheels, steering, etc.

### **Bike Modification**

All modification on the electric bicycle is completely forbidden .It could make riding the electric bicycles very dangerous.

### **The Strong Points**

Thanks to a drastic quality control, a severe selection of components and an assembly which complies with the rules of the art, this electric bike is one of the best products in today's market.

- A power assisted wheel equipped with a powerful motor which offers a high resolution ignition ,a very low sound emission ,an easy hill climb and a capacity of prolonged battery life
- Braking system: Brakes of quality (drum brakes in front and expansion brakes in the back) activation of brakes automatically turns the motor off, which causes a braking system which is more efficient.
- Control system: protection against lack of tension, surcharge, motor being blocked, soft ignition to lower noise resolution, electromagnetic brakes by lowering current, display of battery level
- Battery: Especially conceived for electric vehicles.
- Frame: High quality stainless steel frame

## Technical Characteristic

Dimensions (LxlxH)	164.5*62*101cm				
Net weight (without battery)	47.8KGS				
Max loading weight	125KGS				
Maximum speed	<input type="checkbox"/> 20km/h	<input type="checkbox"/> 25km/h	<input type="checkbox"/> 32km/h	<input type="checkbox"/> 42km/h	
Battery life	<input type="checkbox"/> >300 times	<input type="checkbox"/> >500 times	<input type="checkbox"/> >1000 times		
Battery capacity (48V)	<input type="checkbox"/> 14Ah lead-acid	<input type="checkbox"/> 12Ah lithium	<input type="checkbox"/> 14Ah lithium	<input type="checkbox"/> 20Ah lithium	
Charge time	<input type="checkbox"/> 2-4 hours	<input type="checkbox"/> 4-6hours	<input type="checkbox"/> 4-8hours	<input type="checkbox"/> 6-8hours	<input type="checkbox"/> 10-12hours
Rated Motor power	<input type="checkbox"/> 500W	<input type="checkbox"/> 800W			

### Location of the components



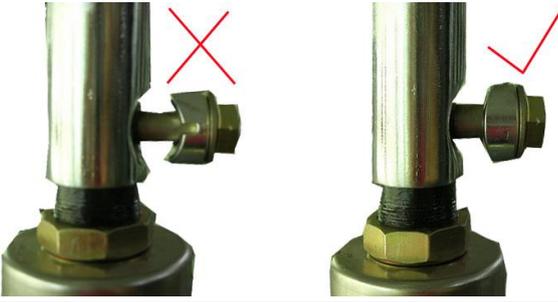
# Pedal Installation

Step	Initial step	Piece	Actions	Intermediary state or final	ATTENTION
1		 Crank	Align the wholes of the crank with the fixation support		
2		 Bolt	Fasten the crank to its support with the bolt that is planned for this effect, screw bolt very tightly		
3		 Cap	Place cap on top of bolt.		
4		 Pedal	Install pedal, proceed with second one paying attention to its direction (see picture on the right).		

# Installation of front storage box

Step	Initial state	Actions
1		<p>Unscrew the 2 top screws with the help of a Phillips screw driver, keep screws on the side. Locate the 4 fixation points.</p>
2		<p>Take storage box out of packaging and open as shown in the picture on left. You will then be able to locate the 4 holes of fixation.</p>
3	  <p>View from inside</p>	<p>Coincide the holes of the storage box with the fixation points on frame, and then fasten the storage box to the fixation points with the screws that were put on the side in step 1 and the 2 screws from inside the storage box.</p>
<p>NOTE: The storage box is mostly preassembled prior to delivery.</p>		

## Installation of steering (handle bars)

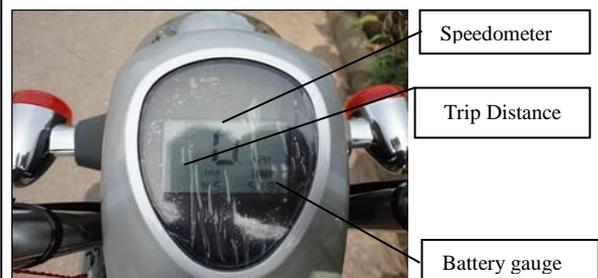
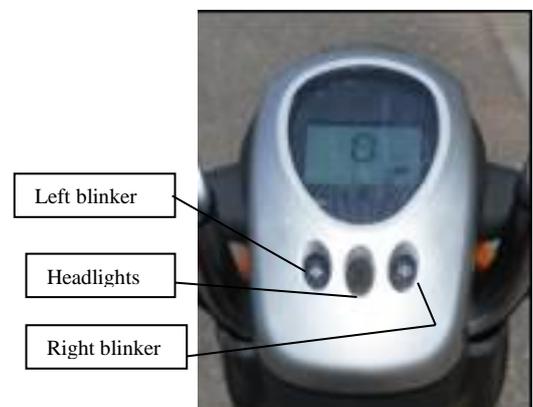
Step	Initial state	Actions
1		Remove plastic cover to access steering column.
2		 <p>Remove handle bars from its packaging and place on steering column as is shown in the picture opposite. Coincide all the wholes and insert the fixation bolt.</p>
3		Tighten bolt and put the plastic cover back.
		NOTE: There is no need to carry out this operation .If on these pictures the careening is removed, it is just for a clearer demonstration.

# Operation

## Safety tips

- 1) We strongly recommend to attentively read this user guide before using your electric bicycle so as to really understand the way it functions.
- 2) Please respect the codes of the road (laws) and ride on appropriate roads.
- 3) Your electric bicycle rides faster than a conventional bike, slow down on rainy days and keep your distance from other vehicle.
- 4) Do not ride in places where water emerges at the third of the wheels.

The control system is composed of a main controller, a battery gauge, a speedometer, a handle throttle, and 2 handle brakes. This display allows acceleration, deceleration, stopping of motor when brakes are engaged and protects the motor from over charging or not being charged enough.



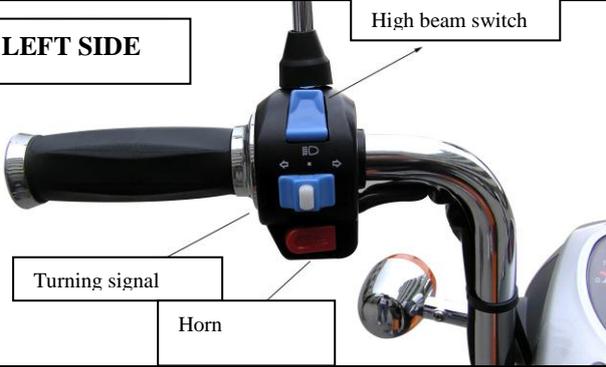
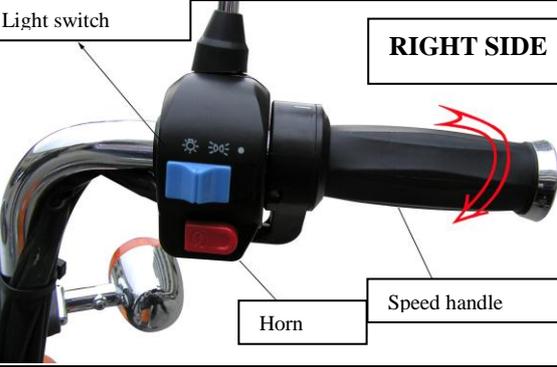
**Speedometer:**Indicates speed in km/h

**Battery gauge:** Indicates the level of battery charge.

**Signal lights:** Indicates that the blinkers (left or right) are on.

**Head light:** Turns on when head light is on.

## The commands

<p><b>LEFT SIDE</b></p> 	<p><b>RIGHT SIDE</b></p> 
<p><b>High beam switch:</b> Controllee who allows switching between high beams and head lights.</p> <p><b>Turning signals :</b> Push on the switch right or left to signal right or left, press on middle of switch to turn signal off.</p>	<p><b>Light switch:</b></p> <ul style="list-style-type: none"><li>Position  lights off</li><li>Position  dashboard light on</li><li>Position  lights on</li></ul> <p><b>Throttle:</b> Turn the handle in the direction shown above to accelerate. Release throttle to slow down.</p>
<p><b>Horn switch :</b> Press anyway you like on the switch on the right or the left to blow the horn.</p>	



**Attention:** When starting to accelerate on when climbing a hill, we strongly recommend helping with pedaling so as to not tire the motor.

**Attention:** Handle the throttle gently.

**Attention:** The main controller heats up when in use, do not expose to high heat or strong rain.

## Before taking the road

- 1) Check tire pressure (2.0 bars in front and 2.2 bars in back)
- 2) Check battery level.
- 3) Check braking system efficiency and if motor shuts off when brakes are applied.

### Ignition:

- 1) Insert the key and turn it to the symbol on (↻), the dashboard lights up and the motor is ready to go
- 2) Pedaling before using the throttle will help saving battery life.



## Driving

The electric bicycle is easy to drive. On hills help by pedaling to save battery and motor. Smooth ride could help considerably the life of the battery and the duration of its charge.

Release the throttle to slow down, and when throttle goes back to its original position, the motor will shut off automatically.

In case of emergency press on both brakes front and back, this will shut off motor and stop the bike.

Once the brakes are released the motor is ready to go again.

## Parking

Put the electric bicycle on the stand, turn the key toward the left to the off position and pull the key out.

## Locking the steering.

Put the steering towards the left and turn the key to the position of parking/lock  and the steering column will be locked.

**Note:** To unlock perform the opposite operation.

## Use and Maintenance of the battery

Your electric bicycle is equipped with a high quality battery, which has these advantages:

- 1) Low self discharge
- 2) Leak proof Structure

Make sure to fully charge your battery before the first usage, or after long usage. In case of prolonged non usage, make sure to retrieve it from the electric bicycle and store it in a dry place and make sure to charge it at least once a month to avoid crystallization of lead sulfates.

The battery could be charged on the electric bicycle or while removed from it. The original charger which was provided has to be used, as the use of a different charger could irreparably damage the battery.

**Battery indicator:**

The level indicated is actual when the electric bicycle is in motion. If the level is weak, make sure to pedal and charge the battery as soon as possible.

**Attention:** Do not touch the battery terminals with wet hands. Do not provoke a short circuit with metal .That would surely cause accidents.

**Use of the battery charger:**

How to charge the battery:

1. Lift open the seat to access the battery
2. Disconnect the main power cable
3. Connect the exit of the charger onto the battery to charge
4. Connect the plug of the charger to an regular electrical socket
5. The red light is on while charging
6. The light will become green when the battery becomes fully charged
7. Unplug the plug of the charger from the socket, the exit of the charger from the battery and reconnect the main power cable

**Attention:** 1. As usual the processes of charging are completed on the electric bicycle.  
2. Remove the key from the ignition while charging the battery.

**State of charge:**

The charge, automatically controlled, stops as soon as the battery is fully charged and the red light of the charger turns off.

Note: In case of need, the charging process could be interrupted before it is complete.

**Attention:** During the battery charge, place the battery and the charger out of the reach of children.

While riding or in storage make sure that water or metal particles don't come in contact with the charger .That could result in a short circuit

During the charging, the charger blows out some heat. Do not cover or put it next to flammable materials. The charging process has to be in a dry and aired out place in order to dissipate the heat. If the charger doesn't stop charging after 10 hours, stop charging and call customer service.

Use only the original charger.

Don't leave the charger in the electric bicycle; it could be damaged by the vibrations of the bike.

**Attention:** In case the charger overheats ( $\geq 65^{\circ}\text{C}$ ), stop immediately the charging.

## **The motor and the power assisted wheel**

The electric motor supplies more power, even with a slow rotation speed, it has better efficiency, a lower sound level and longer autonomy.

**To preserve the life span of your motor, it is recommended that a complete check up of the electric bicycle be done.**

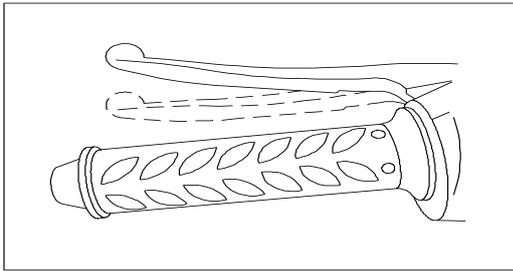
**Attention:** On a steep hill carrying a heavy load the motor could overheat and get stuck. In this case, make sure to pedal so the motor gets freed from whatever was blocking it.

Don't ride on a road where the water submerges more than a third of the power assisted wheel, because water could penetrate into the motor and cause a malfunction to the motor.

**Special Declaration:** Concerning Lithium battery

### **Attention:**

1. Do not connect the positive and negative terminals of this battery.
2. Do not expose this battery to high temperature such as on or beside heating appliances or in direct sunlight.
3. Do not submerge this battery in liquid of any kind.
4. Do not disassemble this battery unless you are a qualified electrician and then only after reading the technical guide. Disassembly of this battery voids all guarantees unless opened by an electrician authorized by Popcycle Motors.
5. Store in a cool, dry area out of direct sunlight. If this battery is to be stored for more than two months please charge the battery for two hours every two months of storage.
6. Do not use any other charger except for the one supplied with this battery.
7. When this battery is no longer of use please dispose of properly by returning to a retailer or battery collection point. Do not dispose of this battery with your household waste.



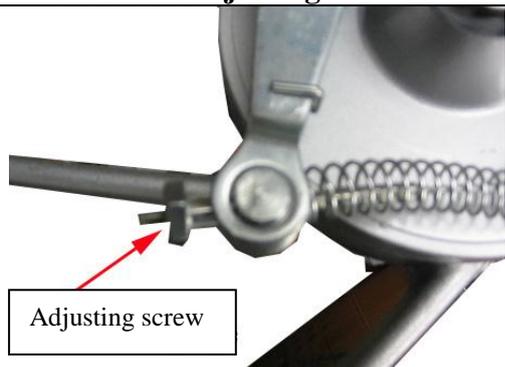
Tighten the adjusting bolt until the leeway of the lever of the back brake is about 10 to 20 mm.

**Attention:** After the adjusting done, the back wheel should be able to spin freely.



Adjustment tool

### Front brake adjusting



Tighten the adjusting bolt to get a firmer response from your brakes.

**Attention:** After the adjusting done, the front wheel should be able to spin freely.

### Chain adjusting

- 1) Unscrew the fixation bolt.
- 2) Adjust, with the adjusting bolt, the tension of the chain.
- 3) Retighten the fixation bolt.

**Attention:** The chain has to be mostly extended the leeway cannot exceed 0.6 inches.

The fixation bolt has to be tightened at 3,0 N.m . Or more.

The wheels have to stay parallel between them.



Adjusting screw

Fixation screw

## **Maintenance**

The following maintenances have to be done as regularly as possible, general rule, once a week:

- 1) Clean the surface of the motor and of the entire electric bicycle.
- 2) Verify the motor and the pod of connection.
- 3) Check the fixation of each element, retighten the screws if necessary.

### Regular maintenance:

Check up every 6 months:

- Check and adjust the braking system
- Check and tighten the fixation screws
- Check the wear and tear of tires
- The output of voltage from the charger
- The battery capacity
- Check and adjust the lights
- Check the control system
- Check the state of chains

Every 6 months:

Greasing the front and back axles, the stand, the chains crank and the brake cable.  
Be aware of the state of usage of the brake lining. If the cables get stuck, you must take apart, clean and grease and put back together.

## Repair

Symptom	Possible causes	Solution
Ignition on ,and the display board doesn't turn on	<ol style="list-style-type: none"><li>1. Mischarge of the battery</li><li>2. The fuse has melted</li><li>3. The Niemen is defective</li><li>4. Wrong connection of dashboard</li><li>5. Low battery charge</li></ol>	<ol style="list-style-type: none"><li>1. Clean the battery terminal</li><li>2. Change the fuse</li><li>3. Change the Neiman</li><li>4. Observe and remedy</li><li>5. Charge the battery</li></ol>
Ignition on, the motor doesn't engage when throttle is activated	<ol style="list-style-type: none"><li>1. The motor is not activated</li><li>2. The throttle not connected properly</li><li>3. The controller out of service</li></ol>	<ol style="list-style-type: none"><li>1. Check the connection</li><li>2. Check the connection</li><li>3. Contact customer service</li></ol>
Throttle released and motor still engaged	<ol style="list-style-type: none"><li>1. Defective throttle</li><li>2. The controller out of service</li></ol>	Contact customer service
Lack of power	<ol style="list-style-type: none"><li>1. Low battery level</li><li>2. Brakes are applied</li></ol>	<ol style="list-style-type: none"><li>1. Charge the battery</li><li>2. adjust the brakes</li></ol>
Speed unstable	<ol style="list-style-type: none"><li>1. Bad connection with the battery</li><li>2. Brake lever is defective</li></ol>	<ol style="list-style-type: none"><li>1. Check the ignition</li><li>2. Check and change if need be</li></ol>
The charger does not function	<ol style="list-style-type: none"><li>1. Short circuit in wall socket Charger fuse is burned</li><li>2. Battery fuse is burned</li><li>3. Charger is out of service</li></ol>	<ol style="list-style-type: none"><li>1. Check and repair</li><li>2. Change the fuse</li><li>3. Change the fuse</li><li>4. Change the charger</li></ol>

### In case of problem

#### The braking system becomes inefficient

A braking system that fails represents a grave danger of accident. It is strongly recommended to check the efficiency of the brakes and to do the necessary adjustments before taking the road.

In the case where, while on the road, you realize that the brakes are inefficient make sure to slow down and to stop immediately in order to adjust the brakes.

#### Temporary motor failure

The causes for a temporary motor failure are multiple, before calling customer services:

1. Dust and dirt build up on the battery terminal.
2. The main cable not connected to the battery terminal
3. The switch of the braking system that shuts motor off might be wet and is creating a short circuit, dry the switch if needed. Avoid prolonged exposures of the electric bicycle to the rain.
4. The switch of the braking system that shuts motor off should be at its original position, if it is not or if it is blocked by a foreign object. Place back to its original and remove blocking object

**Connector controller:**

