

# ET-4

## *ELECTRIC MOBILITY SCOOTER OWNER'S MANUAL*



MODEL : ET-4 COMPACT



MODEL : ET-4 RW

Read this manual completely before riding your Vehicle.



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## FOREWORD

The ET-4 is a highly stylish, environmentally friendly, fossil-fuel-free personal transportation device, incorporating these advanced-design components:

- ⇒ Highly efficient High torque motor.
- ⇒ Controller with battery indicator and protection from over voltage and under voltage.
- ⇒ Brake system with power cut-off, or magnetic brake for safe riding.
- ⇒ High performance battery, delivering stronger current and longer range.

## RIDING SAFETY

Like any sport, bicycling carries the risk of injury and damage. By choosing to ride the ET-4, you assume all responsibility for these risks. Thus, you need to know and practice the rules of safe and responsible riding.

YOUR INSURANCE POLICIES MAY NOT PROVIDE COVERAGE FOR ACCIDENTS INVOLVING THE USE OF THIS BICYCLE. TO DETERMINE IF COVERAGE IS PROVIDED YOU SHOULD CONTACT YOUR INSURANCE COMPANY OR AGENT.

### **SAFETY BASICS: DO'S AND Don'ts**

#### *The Do's:*

- Always conduct a Safety Check before you ride your ET-4. Be thoroughly familiar with the controls of your ET-4.

- Always keep body parts and other objects away From the spinning wheels of your ET-4.
- A/ways wear shoes that will stay on your feet and will stay on the floorboard.
- Wear bright, visible clothing that is not loose that it can catch on moving parts of the ET-4 or objects at the side of the road or trail.
- Think about your speed, and keep your speed consistent with safe operating conditions.

### *The Don'ts:*

- Never ride with headphones. They mask traffic sounds, distract you from concentrating on your surroundings, and their wires can tangle in the moving parts of the ET-4, causing you to lose control.
- Never carry a passenger. The maximum carrying capacity is 300 lbs.
- Never ride barefoot or wearing sandals.
- Don't jump with your ET-4. It puts great stress on everything from frame and forks to drive train. Riders who insist on jumping their ET-4 risk serious damage to their ET-4 as well as to themselves.
- Never carry anything which obstructs your vision or your complete control of the ET-4 or which could become entangled in the moving parts of the ET-4.
- Never hitch a ride by holding on to another vehicle.
- Never ride your ET-4 while under the influence of alcohol or other drugs.
- If possible, avoid riding in bad weather, when visibility is obscured, at dusk or in the dark, or when you are very tired. Each of these conditions increases the risk of accident.

- Never allow children to ride. Never allow others to ride without reading and understanding these instructions.

## **Operating Reminders and Suggestions**

- Review all instructions carefully before riding the ET-4.
- Follow all rules and regulations in your area for operating a motorized vehicle. Obey the same road laws as all other road vehicles, including yielding the right-of-way to pedestrians, and stopping at red lights and stop signs.
- Ride predictably and in a straight line. Never ride against traffic.
- Use the signal lights to indicate turning or stopping.
- Ride defensively. To other road users, you may be hard to see.
- Concentrate on the path ahead. Avoid potholes, gravel and dirt, wet road, oil, curbs, speed bumps, drain grates and other obstacles.
- Be alert for unexpected events, such as opening car doors or cars backing out of concealed driveways.
- Be extra careful at intersections and when preparing to pass other vehicles.
- Familiarize yourself with all the bike's features. Practice signal lights, braking and use of the horn.
- Don't carry packages or passengers that will interfere with your visibility or control of the bike. Don't use items that may restrict your hearing.
- Maintain a comfortable stopping distance from all other riders, vehicles and objects. Safe braking distance and forces are subject to the prevailing weather and road conditions.

## **Wet Weather Riding**

Wet weather impairs traction, braking and visibility, both for the rider and for other vehicles sharing the road. The risk of accident is dramatically increased in wet conditions. In wet weather you need to take extra care. In wet conditions, the stopping power of your brakes (as well as the brakes of other vehicles sharing the road) is dramatically reduced. This makes it harder to control speed and easier to lose control. To make sure that you can slow down and stop safely in wet conditions, apply your brakes earlier and more gradually than you would under normal, dry conditions.

Decrease your riding speed, avoid sudden braking, and take corners with additional caution. Keep in mind that there is a direct, but inverse, relationship between speed and controllability.

Be more visible on the road. Wear reflective clothing and use safety lights. Potholes and slippery surfaces such as lane markings and train tracks all become more hazardous when wet.

## **Night Riding**

A rider is very difficult for motorists to see at dusk, at night, or at other times of poor visibility. If you must ride under these conditions, check and be sure you comply with all local laws about night riding; follow the Rules of the Road, and take the following precautions :

Make sure that your ET-4 is equipped with correctly positioned and securely mounted reflectors. Make sure your clothing or cargo does not obstruct a reflector or light. Ensure that the front lights are on.

Wear light colored, reflective clothing and accessories, any reflective device or light source that moves will help you get the attention of approaching motorists, pedestrians and other traffic.

Ride slowly. Avoid hazards, such as potholes and curbs.

Avoid areas of heavy traffic, dark areas, and roads with speed limit over 35 mph. If possible, ride on routes already familiar to you.

Ride at night only if necessary. Slow down and use familiar roads with street lighting, if possible.

### **Other Reminders**

The ET-4 works best on level ground. Use caution while going down an incline, such as a hill or a ramp. Hill climbing and repeated acceleration/braking will exhaust the battery much more rapidly.

The ET-4 has an electrical brake cut-off system. When you engage either brake, the throttle becomes inoperative. Release the throttle before braking. Do not "ride" the brakes. (for magnetic brake model the ET-4 will stop automatically.

The battery does NOT require deep discharging. If your ET-4 is put into storage, re-charge its battery at least once every 30 days.

Do not store your ET-4 in direct sunlight for an extended time.

Store your ET-4 in a dry place. Exposing your ET-4 to rain, snow, or other precipitation may result in damage.



# SPECIFICATIONS

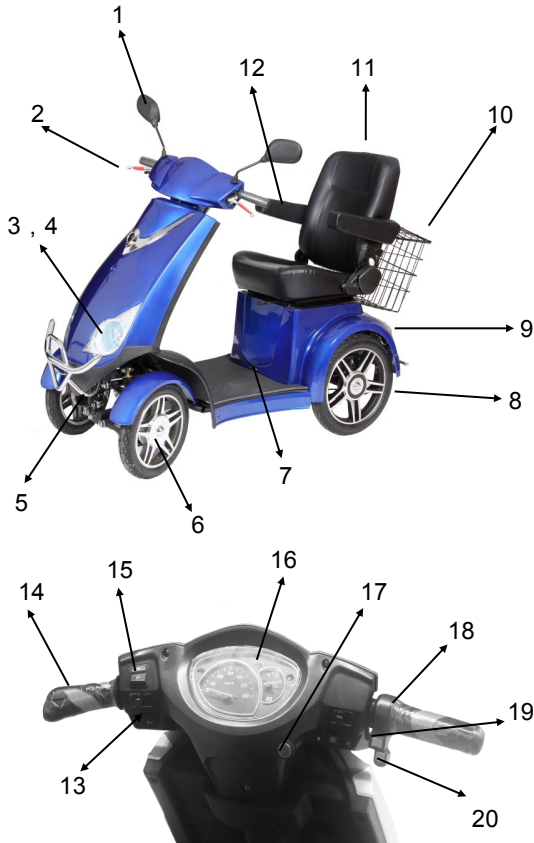
## ET-4 / COMPACT

Product size (L x W x H): .	152x73x102cm
Net weight:	95 Kg
Carrying capacity:	150 Kg
Maximum range:	≤ 60 Km
Maximum speed:	25 Km/h
Motor type:	Brushless
Motor power:	500W
Battery:	48V 20 Ah
Batterie type:	Sealed lead acid battery
Batterie cycle life:	Approximately 300 cycles
Charge input:	AC 110V
Charge time:	4-8 hours
Taille des pneus:	10 "x 3 "

## ET-4 / RW

Product size (L x W x H): .	186x75x110cm
Net weight:	125 Kg
Carrying capacity:	150 Kg
Maximum range:	≤ 60 Km
Maximum speed:	25 Km/h
Motor type:	Brushless
Motor power:	500W
Battery:	48V 20 Ah
Batterie type:	Sealed lead acid battery
Batterie cycle life:	Approximately 300 cycles
Charge input:	AC 110V
Charge time:	4-8 hours
Taille des pneus:	Front 14 " / 2.125, Rear 16 " / 2.5

## Components (Compact)



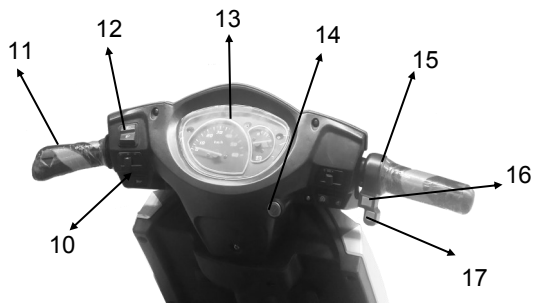
- |                      |                              |
|----------------------|------------------------------|
| 1. Rear view mirror  | 11. Seat                     |
| 2. Brake             | 12. Armrest                  |
| 3. Flasher           | 13. Horn                     |
| 4. Head light        | 14. Steering handle          |
| 5. Front suspension  | 15. high/low beam switch     |
| 6. Wheel             | 16. Dashbord                 |
| 7. Charger connector | 17. On/Off Switch            |
| 8. Tire              | 18. Throttle                 |
| 9. Rear light        | 19. Forward / Reverse switch |
| 10. Basket           | 20. Speed selector           |

# Components (ET-4 RW)



- 1. Rear view mirror
- 2. Brake
- 3. Flasher
- 4. Head light
- 5. Front suspension
- 6. Wheel
- 7. Seat
- 8. Tire
- 9. Rear light

- 10. Horn
- 11. Steering handle
- 12. High & low beam switch
- 13. Dashboard
- 14. On/Off switch
- 15. Throttle
- 16. Forward / Reverse switch
- 17. Speed selector



## ASSEMBLY AND SETUP

If your ET-4 was removed from its carton and "set up" by retail store personnel, there is no guarantee it was properly set up. Please observe and follow this checklist, even if your ET-4 was out of its carton when you purchased it. This will ensure its safe and reliable operation.

- 1) Remove your ET-4 from its shipping carton. The ET-4 weighs about 150 kg, so get help, and use care. Cut away any residual packing materials with a sharp knife Or scissors.
- 2) Inflate the front and rear tires to 35 psi.
- 3) To make sure the alignment is correct, stand in front of the vehicle, using both legs to hold the front wheel in straight-forward position. Use both hands to grab the handle bar and turn it into normal driving position (90 degree angle from the front wheel).
- 4) Attach the Rear View Mirrors to the mounting holes. A wrench can be used to tighten the lock-nuts at the base of each mirror.
- 5) Check if the brakes are properly adjusted. The brake handles should stop short of touching the hand-grip, when fully engaged. The rear brake cable can be adjusted in two places:
  - At the cable end bracket, just before the lever, with 8 and 10 mm wrench adjustments, and
  - At the end of the lever, with a 10 mm nut fastener.

The front brake is adjusted at the end of the cable, at the saddle nut.

6) Your ET-4 has been in transit and storage. You must charge the batteries before riding it. Charge the battery by plugging in the charger cords into the ET-4's Charger Ports.

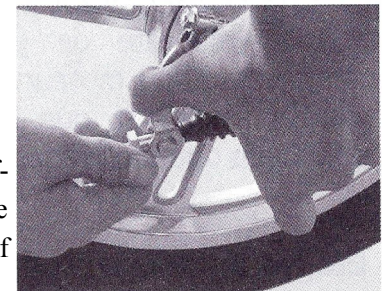
## ROUTINE OPERATION

### A ) Pre-Ride Check

- 1) Be sure the tires have enough air. A low tire pressure risk rim pinching (tube failure) and lowers your range (distance per charge).
- 2) Be sure the battery is fully charged. Riding on a low state-of-charge will reduce range, and can. damage the battery.
- 3) Verify the proper adjustment and function of the brakes.
- 4) Make sure the ET-4 is in good mechanical order. Visually inspect and hand-check the vehicle, and snug any loose bolts, screws, or other fasteners.
- 5) With the ET-4 visually inspected, turn the Key switch and apply the throttle, to verify the motor's smooth operation. Apply the brake to stop the motor. Verify that the throttle is inoperative when either brake is applied.

### B) Steps to Startup

- 1) Adjust the Rear View Mirrors so that you can see clearly behind you.
- 2) Insert the Key into the Key switch and turn the Key from OFF to ON.
- 3) The ET-4 has an onboard Voltmeter, indicating the Battery's approximate state-of-charge. It is normal for this reading to "sag" somewhat during acceleration. Excessive Voltage "sag" is a sign of a depleted or damaged battery. When a battery is exhausted, if



you force it to supply energy, it will dramatically damage the battery. At this time, the low-voltage protector will shut off the power automatically, protecting the battery from further damage.

4) Hold onto the handlebars with both hands. Assume a well-balanced position. Your right hand will control the accelerator. Twist the accelerator slowly to avoid a sudden rush of speed forward. The speed of the vehicle will increase as you twist the accelerator more. Release the accelerator and apply the brakes to stop your bike. You will control the speed of the vehicle by using both the accelerator and the brakes. When the brake handle is squeezed it cuts power to the accelerator. For magnetic model just release throttle and it will stop automatically.

5) Give the ET-4 some acceleration and speed by first applying the throttle gently. Try not to brake and accelerate needlessly.

6) Return the Key to the OFF position and take out the Key after riding, to secure your property and to save battery power.

## **BATTERY CARE AND MAINTENANCE**

### **What to expect of your battery, ideally**

The battery is a sealed lead-acid type, with a gel electrolyte. With normal use, it can last for well over 300 charge/discharge cycles.

Thus, it is good to charge the battery after each ride. A partial discharge will require less time on the chargers.

## **What to Expect, Realistically**

The battery can keep its performance for about 200 charge/discharge cycles, with high current and deep (80%) discharging. The storage capacity of the battery will decline after 200 times recharging. If you re-charge the battery before it is exhausted, you dramatically extend the battery's cycle life.

### **In summary**

Always try to recharge the Battery Pack within 24 hours after use to maximize battery cycle life and prevent damage.

## **What's Inside Your ET-4 Battery**

The Battery is composed of four 12 Volt, 20 Amp-hour capacity batteries, in series, for a total capacity of 48 V, 20 Ah.

The component batteries are a standard, commercially available size. Keep three things in mind, however, should you choose to service your battery.

- 1) The batteries are soldered into place. Replacing batteries will require soldering equipment and skills.
- 2) Batteries can be extremely dangerous. If allowed to short-circuit, they can cause burns, create blinding arcs, or explode, causing serious injury. If you accept this risk, work slowly, and exercise utmost care! Work with only one wire at one time.
- 3) Batteries solder, and soldering vapors contain lead, a toxic substance that can build up in your body, Minimize your exposure to lead by wearing gloves, providing good ventilation when soldering, and washing hands after soldering or handling batteries, you should NEVER simultaneously solder and eat snack foods!

## **Batteries trouble**

Should a battery ever leak, do not touch, the battery liquid. If you are exposed to the solution, flush the affected area with water. If you must handle the battery, wear disposable gloves.

Replace the battery if there are leaks, visible breaks or cracks.

Dispose of used batteries by taking them to a recycling center, or according to state and local laws.

## **Battery Temperature Sensitivity**

Ambient temperature will affect almost every kind of battery. Usually, the battery shows good discharging capability at higher air temperature. When the air temperature is under 0 °F, the battery power will decline more than one third. So it is natural that the ET-4 will not reach its normal mileage in winter or in cold weather. When the air temperature is up to 68 °F, the ET-4 will achieve its normal range capability.

When the ambient temperature is over 110 oF (as when exposed to summer sunshine for a long period), batteries and other electric components usually run in an abnormal fonction.

What Does "Maximum Range" mean?

To determine the ET-4's maximum per-charge distance, the testing environment was:

- Rider weight : 300 lbs.
- Air temperature : 77 °F
- No headwind, smooth, level road, infrequent braking and steady speed . Under these conditions, the ET-4's maximum range is up to 45 km.

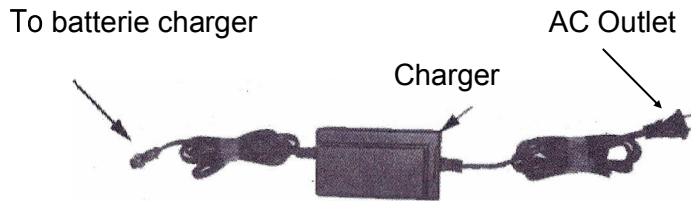


- Frequent braking and acceleration, driving into headwinds, up hills or with cargo will all cost a lot of battery energy. In these conditions, the ET-4 will not reach its normal range.

## Batterie charging

Be sure to charge the battery completely if you will not use it for a long period. Ideally, you should charge it every 20 days. Even a healthy battery will discharge itself slowly. Even with its power off, the ET-4 Battery state-of-charge will decline gradually over time.

Remember to fully charge the battery before your first ride. The battery may be low when you receive your new ET-4.



- 1) While charging the Battery, keep the key switch OFF.
- 2) Verify that you are using the correct charger for your vehicle, and that the charger input power is compatible the "house current" in your area.

- 3) Keep the charger and battery away from water to prevent electrical shock and shorting. The charger is intended for indoor use only.
- 4) Plug the end of the charger's cord into the socket of the adaptor first. Next connect the adaptor to the ET-4 (the charger port is located below the front of the seat). Then plug the chargers' AC cords into the wall outlet .
- 5) Read the charger label to learn about the charger indicator lights, and their meanings.
- 6) Generally, a short drive will require a short time to re-charge, and a long ride will require a longer time. A complete (90%) discharge may require 6 hours to recharge. To prevent electrolysis (battery fluid 1055 by hydrogen generation,) do not charge for longer than eighteen hours.
- 7) Always connect charger when recharging. Before riding the electric bike for the first time, you must charge the batteries for 4-6 hours. To charge, pull the protective cover from the charging sockets. Then plug the charger into the charging sockets, and plug the chargers into a wall outlet.

## **IMPORTANT**

The electric bike is powered by four 12V/20Ah batteries wired in series to provide 48 volts of potential. All batteries charge simultaneously. You should charge your ET-4 after each ride. You should charge your ET-4 if it has not been used for 30 days or more.

## **WARNING**

Do not place the battery near heat or fire. Do not expose the chargers to water.

## **OTHER MAINTENANCE**

Your ET-4 should be returned to your servicing dealer or bicycle/scooter mechanic once a year for a thorough inspection and adjustment. This can guarantee the comfort, safety and the normal operating life of the ET-4.

### **Front and Rear Brakes**

The adjustment of the front brake is the same as in a common motorcycle. It is very important to brake effectively and to be sure that the battery shut-off device is in good condition. When the brake lever is released, the wheel should spin without resistance. If it drags, it will waste a lot of electric power. You should change the brake's shoes when they are worn to one-third of their original thickness.

The rear drum brake is very similar to the brakes on electric scooter products. When this brake is exhausted, a squealing sound will be heard upon brake application.

### **Front and Rear Tires**

The changing method of the front tire is the same as common bicycle. It is more complex to change the rear tire because of the motor and brake assemblies, and associated wiring and cabling. If you are, not comfortable with undertaking this operation, you can ask your servicing dealer or mechanic to change it.

## **Lubrication**

You should inspect and maintain your ET-4 and lubricate the mechanical power transmission components. The brake cables may also need lubrication.

Lubricate the brake cables with silicone or graphite lubricant. Maintenance period: one month.

Lubricate the fork Shock Absorber tube, axle rim, and the axle bail bearing with SH/T0386 lubricant, bicycle or lithium grease. Maintenance period: one year.

Motor: Recommended hydraulic HL68.

## **Cleaning**

- 1) Never wash the bike using high-pressure water, as it will cause damage to the electric bike.
- 2) Never use lubricant to clean the metal parts of the bike and never apply lubricant to the drum brake and the tire.

## **Scheduled Maintenance**

ET-4 should be checked from time to time. Refer to the maintenance schedule in the following chart :

Check ● adjust ◆ Change ▲ Lubricate ■

Parts	daily	30 days	180 days
Bolts, nuts, screws etc, to insure that nothing is loose	●	● ◆	● ■
Footboard, to ensure It is not worn out	●	● ■	● ■
Tire pressure, to ensure good tire pressure	●		
Drive equipment, to ensure good position; not too loose, not too tight	●	● ◆	● ■
Brake pads, to ensure it is not worn out		● ◆	● ◆
Wheel rim, to ensure it is not distorted			
Steering Linkage, to ensure it is not distorted			● ■
Front light, bugle, to ensure functioning properly	●	●	
Brake, to ensure it is working properly	●	● ◆	● ◆
Throttle, to ensure that it is working properly	●		
Steering system, to ensure operation is normal.	●	■	
Wheel axle, to ensure if it is loose	●		■
Motor	●	■	

If you find problems that you cannot solve them yourself during your inspection and maintenance, please send your vehicle to your servicing dealer for help. Never take apart or repair the bike by yourself. If it causes any problem and voids the warranty, a service fee will be imposed.

## TROUBLESHOOTING GUIDE

Problem	Cause	Solution
Battery gauge does not register anything when, vehicle is ON	<ul style="list-style-type: none"> <li>• Loose connection near the power switch or battery pack.</li> <li>• Battery is completely discharged.</li> </ul>	<ul style="list-style-type: none"> <li>• Check the connections, Reconnecting any that are loose.</li> <li>• Charge the battery.</li> </ul>
Battery gauge register but vehicle still does not work	<ul style="list-style-type: none"> <li>• Motor wire is loose or disconnected.</li> <li>• Throttle is defective.</li> <li>• Control is defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Send to service to repair the wiring.</li> <li>• Replace throttle.</li> <li>• Replace controller.</li> </ul>
Cliking noise coming from motor	<ul style="list-style-type: none"> <li>• Magnets in motor have come loose.</li> </ul>	<ul style="list-style-type: none"> <li>• Send to customer service to replace a new motor.</li> </ul>
Vehicle does not stop when throttle returns to original position	<ul style="list-style-type: none"> <li>• Controller or throttle is defective.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace controller or throttle. Customer service can assist in diagnostic.</li> </ul>
Vehicle is losing speed	<ul style="list-style-type: none"> <li>• Battery is low.</li> <li>• Defective battery.</li> <li>• Defective throttle.</li> </ul>	<ul style="list-style-type: none"> <li>• Charge battery.</li> <li>• Replace battery.</li> <li>• Replace throttle.</li> </ul>
Distance per charge is reduced	<ul style="list-style-type: none"> <li>• Tire pressure is low.</li> <li>• Battery is not fully charge.</li> <li>• Battery is damage.</li> <li>• Headwind, slopes, overloading, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Fill tires with sufficient pressure.</li> <li>• Charge battery for 6-8 hours.</li> <li>• Replace battery.</li> <li>• Reduce these factors.</li> </ul>
Battery could not be charge	<ul style="list-style-type: none"> <li>• Loose wiring near the charging socket.</li> <li>• Loose wiring and battery pack.</li> <li>• Defective charger</li> </ul>	<ul style="list-style-type: none"> <li>• Check the wiring, reestablish connection.</li> <li>• Send to a qualified service technician.</li> <li>• Replace charger.</li> </ul>

**NOTE:** if other problems occur, do not attempt to disassemble the vehicle on your own, please proceed to the dealer or to call Customer Service.

## **WARRANTY**

The ET-4 is covered by a 6-month warranty. This warranty covers parts, and in some cases, labor against factory defects. Failures caused by shipping damage, accident or missuse are not covered by warranty.



Quebec, Canada