



Electric Handcycle

User Manual



Rio Mobility

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Website: www.riomobility.com

IMPORTANT!

Consult with your health care professional to determine if the Firefly™ is appropriate for you.

DO NOT OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL.

IT IS RECOMMENDED THAT INITIAL SETUP OF THIS HANDCYCLE BE PERFORMED BY A QUALIFIED TECHNICIAN, SUCH AS A WHEELCHAIR OR BICYCLE MECHANIC.

AS WITH ANY THREE-WHEELED VEHICLE, SIDE-TO-SIDE STABILITY IS DECREASED COMPARED TO A WHEELCHAIR ALONE, SO USE CAUTION WHEN TURNING AT HIGH SPEEDS.

Follow the recommendations in your wheelchair manual.

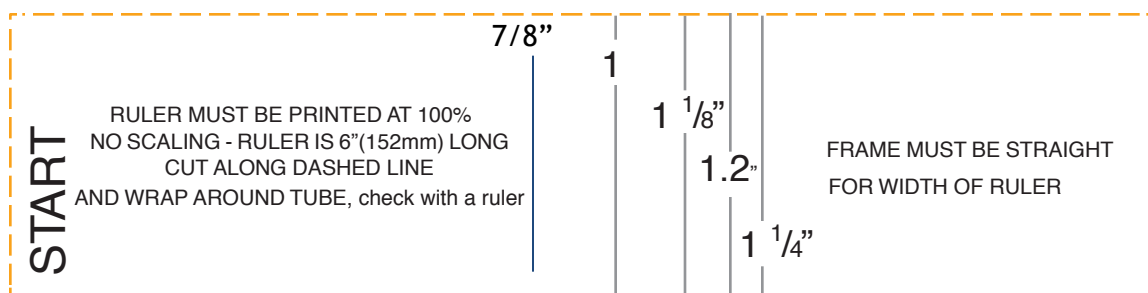
The Firefly™ is not intended as an exclusive means of mobility. Check local vehicle/wheelchair regulations.

Operating in or around a handcycle involves a certain level of risk and inherent danger of serious bodily injury.

2. Wheelchair Requirements

The Firefly™ is compatible with almost all wheelchairs without the need for any special adapters.

<p>Wheelchair Frame Configuration</p>	<p>For a complete listing of compatible wheelchairs, visit riomobility.com. If your wheelchair is not listed, please contact customer service at sales@riomobility.com</p> <p>The Firefly™ can accommodate chairs of seat width 35.5 cm-55.8 cm / 14"-22". If your chair is outside this range, contact customer service.</p>
<p>Wheelchair Frame Tube Diameter</p>	<p>The frame tube diameter must be either:</p> <p>22.2 mm / 7/8 inch, 25.4mm / 1 inch, 28.6mm / 1.125 inch 30.5mm / 1.2 inch, or 31.8mm / 1.25 inch</p> <p>If your tubing is a different shape or diameter contact sales@riomobility.com</p> <p>If you do not know the diameter of your tubing contact your wheelchair manufacturer or dealer, or cut out the ruler printed below to measure. Wrap it around your tubing and note where the markings line up. The tube must be straight, not bent, for the width of the ruler.</p>
<p>Anti-Tips and Seatbelts</p>	<p>When seated in the wheelchair, your center of gravity must be far enough forward as to make "wheelies" or tipping backwards difficult. IMPORTANT: If the chair is set up such that "wheelies" are easy, it may be unstable while attaching or detaching the handcycle. Anti-tips MUST be installed on your wheelchair. A seat belt is also strongly recommended.</p>
<p>Wheel Locks</p>	<p>Wheelchair must have Wheel Locks installed.</p>
<p>Weight</p>	<p>Combined wheelchair and user weight must be less than 130kg/280lb.</p>



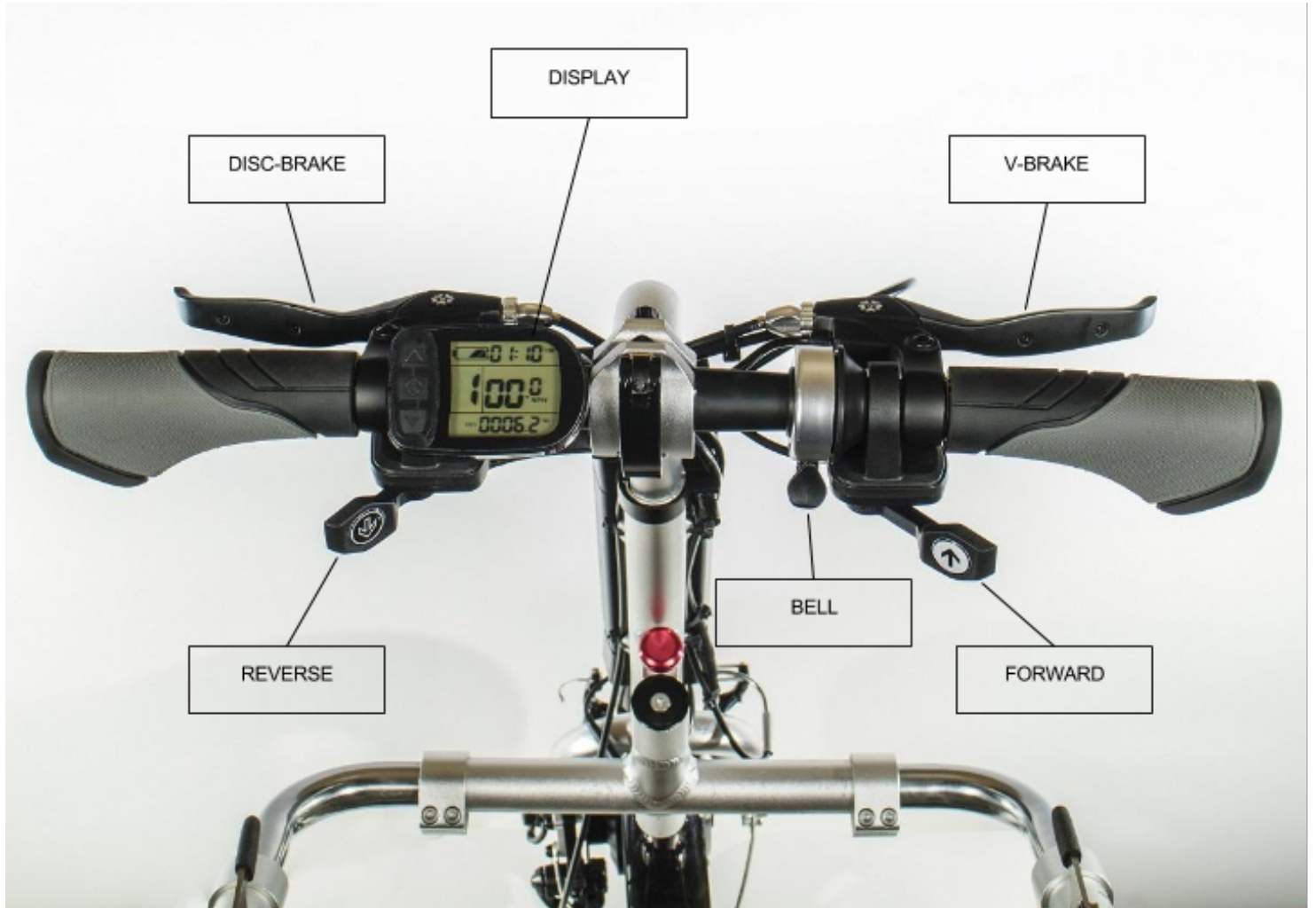
3. Installation The Firefly

Visit our Youtube channel to view the Firefly installation video:

Channel Name: Rio Mobility

Link to Channel: <https://www.youtube.com/channel/UCPsZ-ogTLwUKJxBsy6-7tKA>

4. Handle Bar



5. Maintenance

Inspection / Maintenance Item	Initially	Weekly	6 Months
Check and Tighten Hardware	✓	✓	
Brake Pad Wear			✓

All bolts must be tightened using a torque limiter wrench (included in packaging). The torque required is 12 Newton Meter (Nm). Do not over tighten or under tighten your bolts.

Only use the included smart charger when charging your Battery. **You must recharge the Battery at least every two months if it is not being used or risk a permanent decrease in capacity.**

Operation and storage temperatures must not exceed $0^{\circ} - 100^{\circ} \text{F}$ ($-20^{\circ} - 40^{\circ} \text{C}$).

The Firefly is water resistant, not water proof. We recommend to cover the battery and controller with a plastic bag if caught in the rain.

Clean the handcycle with a damp cloth. Do not soak or spray with water or use detergent. Lubricate as necessary after cleaning.

Immediately replace any damaged, missing, or badly worn parts with manufacturer or approved parts. Please contact your dealer or sales@riomobility.com for information on replacement parts.

You may want to retain the box that your Firefly™ was shipped in, as it makes a handy container for storage of your handcycle, your handcycle accessories, the included tools, and the manual for storage and travel. It can also be used for shipment to the factory in case of maintenance and warranty repairs.

6. Trouble Shoot

When climbing a hill, the front wheel slips.

The Front Wheel is too far forward of your center of gravity. Please adjust the handcycle so that the Front Wheel is as close as possible to the footrest without interference while driving straight or turning. If possible, you may also want to move the rear axles further back. When climbing hills, sometimes leaning forward in your chair is necessary.

Check that the front caster wheels are at least 5 cm/ 2" off the ground when the handcycle is installed.

The Firefly™ won't power on.

Make sure that the battery is fully charged. Ensure that both power switches (on the Battery and on the Handlebar) are in the ON position.

Error Codes

01_info Throttle Abnormality:

Check all wire connections. Contact your dealer if problem persist.

03_info Motor Hall Signal Abnormality:

Check all wire connections. Contact your dealer if problem persist.

06_info Motor or Controller has Short Circuit Abnormality:

Check all wire connections. Contact your dealer if problem persist.

Refer to the display manual for more trouble shooting information.

7. Safety

Safety Checklist

- A helmet and safety belt is recommended.
- **ALWAYS** engage the Wheel Locks on your wheelchair before attaching or detaching the handcycle.
- **ALWAYS** check to make sure that your latches are fully engaged before operating your handcycle.
- Check to make sure all nuts and bolts are tight and all latches are secured.
- Make sure the hand brakes work properly before riding your handcycle.
- Do not add any parts or accessories not authorized by Rio Mobility to your handcycle, this could be unsafe and you will void your warranty.

Before You Ride

Make sure that your Firefly™ is installed, adjusted, and maintained properly. Do not use the Firefly™ until you and your health care professional determine that you have the ability to use it in an uncontrolled environment.

Use your wheelchair as described in your wheelchair manual and use the Firefly™ in the same safe manner that you would your wheelchair with pushrims. Follow all additional warnings and instructions for the Firefly™ in this manual.

Outdoor Use

Always watch out for traffic and pedestrians when riding on the road and sidewalk – follow traffic regulations. Follow any and all local regulations which apply to this device.

The Firefly is water resistant, not water proof. We recommend to cover the battery and controller with a plastic bag if caught in the rain.

Turning Stability

Always mind your speed, especially when turning. You should have full control of your wheelchair at all times. Do not exceed the maximum allowable speed recommended by your wheelchair manufacturer.

Three wheeled vehicles are less stable in turns compared to wheelchairs alone, so be careful to keep all three wheels on the ground and moderate your speed when approaching curves.

Be very careful when reaching and leaning left or right from your wheelchair with your handcycle attached – the longer wheelbase makes it less stable in sideways leans than your normal wheelchair. Narrow wheelchairs are less stable, so be extra careful if your wheelchair is particularly narrow.

Obstacles

Be very careful going over bumps and curbs over 2” (50mm) high. Your front casters may contact these surfaces, causing a loss of control. Use your pushrims to get over these bumps, NOT the handcycle. You should approach bumps and curbs straight on and at very low speeds to avoid damage to your wheelchair and injury to you – your return spring should keep the front wheel straight, freeing up your hands for the pushrims. Be aware of road surfaces, especially on inclines or declines. Watch out for water, ice, and oil films.

Hill Climbing

If you find yourself losing traction, try leaning toward the handlebar, if possible, to move your center of gravity forward.

Transferring

DO NOT attempt to transfer into or out of your chair with the Firefly™ attached. You **MUST** detach the handcycle before transferring.

General Notes & Precautions

Mind your fingers and hands when using your handcycle.

Keep children away from your handcycle to avoid possible injury to both you and the child.

Do not carry anything that obstructs your view or interferes with the hand Handlebar operation.

Do not put weight on the Wings – this includes weight due to objects and people.

This handcycle is meant for everyday use and is not intended for use in competition.

Rio Mobility is not responsible for any damage or injury due to misuse of your handcycle.

8. Limited Warranty

Rio Mobility warrants the Firefly™ for one (1) year from the date of initial consumer purchase. This warranty covers any defects in materials and workmanship.

Rio Mobility warrants the lithium Ion battery for three (3) months from the date of initial purchase. This covers any defects in materials and workmanship.

This warranty is only available for the original owner or purchaser and is non-transferable.

Limitations

This warranty is VOID if:

- **Assembly and installation is not performed according to the instructions**
- **Preventative and routine maintenance as not been performed**
- **The serial number is removed or altered**
- **Hub disassembled**
- **The handcycle is used in any competitive event**
- **The handcycle is used in stunt riding, jumping, or similar activity**
- **The handcycle is submersed in water or sprayed with water including accidental exposure such as rain water(this applies mainly to the electrical parts)**
- **The handcycle is used in a manner contrary to the instructions in the Owner's Manual**

Please contact your dealer for installation, service or warranty needs.