USER MANUAL

Proride
e-Mobility

Ultracomfort Electric Wheelchair

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1. YOUR ELECTRIC WHEELCHAIR

1.1 INTRODUCTION

Congratulations on your purchase the Proride Ultracomfort Electric Wheelchair. This electric wheelchair has been designed to provide a unique combination of portability, all-day range and seating comfort. With a robust aluminium frame, brushless DC motors, and industrial grade controllers, this product is will give you many years of reliable and efficient service.

This user manual contains important information regarding the safe use of the electric wheelchair. Please read it carefully before using the electric wheelchair.

1.2 GENERAL INFORMATION

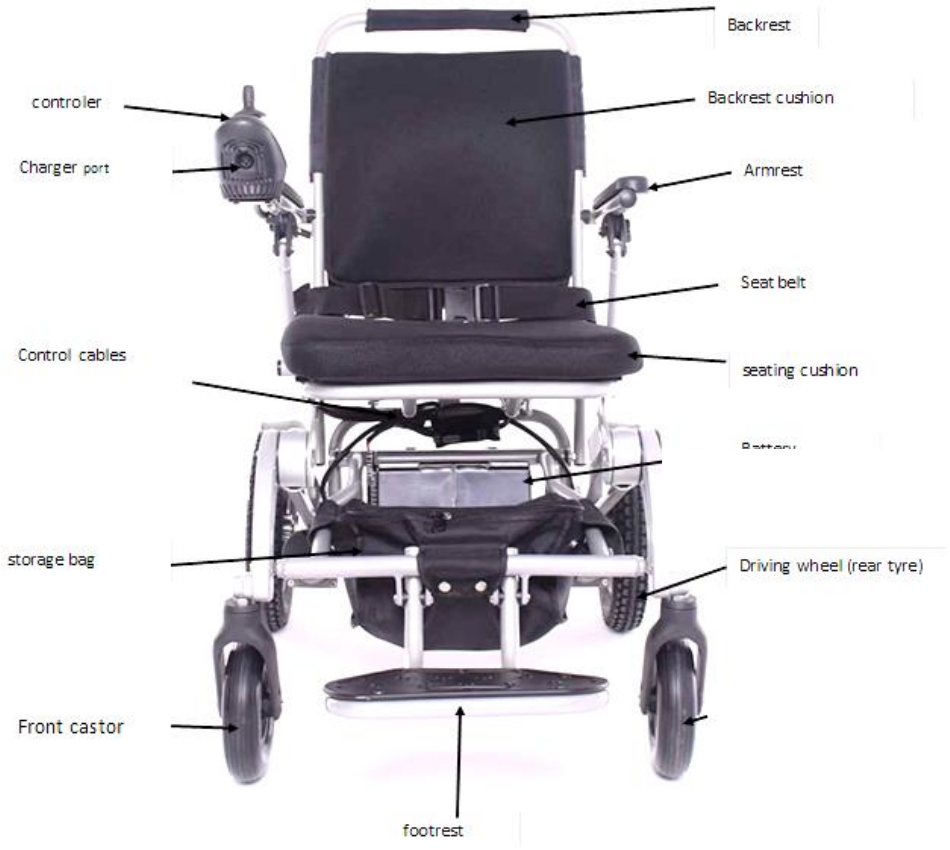
The electric wheelchair weighs 28 kg. It is capable of supporting 150 kg load at speed of up to 9 km/hr for 25 km. It is foldable and can be stored in a standard sedan boot for easy transportation.

1.3 SAFETY NOTES

- Do not attempt to lift or move the electric wheelchair by any of its removable parts, particularly the backrest handle. It weighs 28 kg, and a fall from any height may cause significant injury to people or damage to the vehicle.
- The seatbelt is intended to provide additional support for the occupant. This may be critical when driving up or down slopes for an occupant who has difficulty maintaining his sitting posture. In such cases, ensure that the occupant has been strapped in before operating the vehicle.
- Stepping on the footrest of an unoccupied wheelchair will tip over of the vehicle. Fold the footrest back to ease seating. For persons with fitness or balancing issues, the chair needs to be held firmly by another person when transitioning on or off the chair.
- The weight of the occupant must not exceed the recommended maximum weight capacity of the electric wheelchair. Neglecting this restriction may create problems with alignment, balancing and structural integrity of the vehicle. Damage due to overloading is not covered under the warranty.
- The electric wheelchair uses two independent brushless geared d.c. (BLDC) motors to control steering and speed. BLDC motors respond immediately on command without any lag. Be very gentle with the joystick, especially when moving at speed. Always ensure that the power is switched off when getting on or off the vehicle.
- Do not operate the vehicle whilst in a state of sensory impairment (e.g., intoxication, drowsiness, etc.). At normal cruise speed of the vehicle is equivalent to a fast walk or jogging, and the vehicle is very sensitive to the joystick inputs. Good eye-hand coordination is needed for safe operation.
- This electric wheelchair has been designed for a mix of all-day indoor use and limited outdoor terrain where the surface is maybe somewhat rough (such as grass, gravel) and relatively flat, and there are no ground obstacles higher than 40mm. Be very cautious if this condition is exceeded when driving the vehicle.
- The wheels are equipped with safety clutch brakes which will stop and hold the vehicle on a mild slope. However, when going up/down long steep slopes, the user should be accompanied fit person holding the backrest handle to ensure stability of the vehicle.
- Switching off the power when the wheelchair is still moving will bring the vehicle to an abrupt stop.
- Lithium ion batteries can easily explode and burn if shorted or mechanically damaged. Do not attempt to open up the battery for any reason. Do not drive the electric wheelchair over obstacles that may result in collision of the controller box with any object.
- Do not modify or connect any other electrical or mechanical device to the wheelchair. A breach of this restriction may result in injury and will void the warranty

2. DEFINITIONS

2.1 FRAME



2.2 JOYSTICK CONTROL

	ITEM	FUNCTION
1	Battery fuel gauge	indicates battery charge level
2	Low battery indicator	indicates low battery charge level
3	Full battery indicator	indicates max battery charge level
4	Power button	press to set joystick controller ON or OFF
5	Speed setting indicator	indicates the power / speed level
6	Headlamp switch	(not included in this model)
7	(-) speed button	pressing button decreases to minimum power / speed controlled by joystick movement
8	(+) speed button	pressing this button increases to maximum power / speed controlled by joystick movement
9	Horn button	press for warning beeper
10	Error indicator	error condition; corrective action needed
11	Joystick	controls the speed and direction of the e-wheelchair. Push the joystick in the direction of intended travel. Releasing the joystick will automatically stop the vehicle

2.3 GENERAL SPECIFICATIONS

2.3.1 Performance

PARAMETER	UNIT	SPEC	REMARKS
Slope Capability	deg	15	max
Maximum Range	km	25	-
Charging Time	hr	8	max
Minimum turning Radius	m	0.6	-
Maximum Load Capacity	kg	150	-
Maximum Speed	km/hr	9	-
Total Weight	kg	27	-
Max Ambient temperature	C	50	nominal operation: horizontal, smooth surface. lower in high-stress operation
Max ground obstruction	mm	40	-

2.3.2 Features

PARAMETER	UNIT	SPEC	REMARKS
Seat length	mm	45	-
Seat width	mm	45	-
Deployed size: length	cm	96	-
Deployed size: width	cm	59	-
Deployed size: height	cm	92	-
Folded size: length	cm	76	-
Folded size: width	cm	62	-
Folded size: height	cm	40	-
Front Castor Wheel	inch	8	-
Rear Drive Wheel	inch	12	-
Ground Clearance	mm	90	-

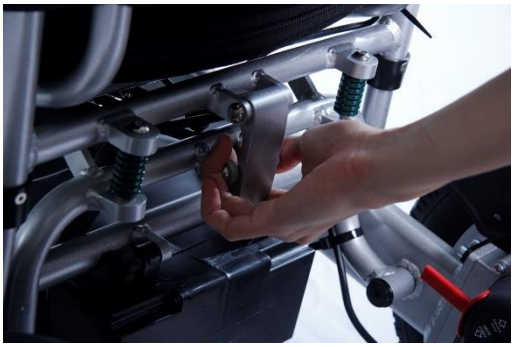
2.3.3 Components

COMPONENT	FEATURES
Frame Material	Tempered Aluminium Alloy
Frame Finish	Black Epoxy powder coat
Battery Type	Lithium Ion Battery (24 V DC, 20 Ah)

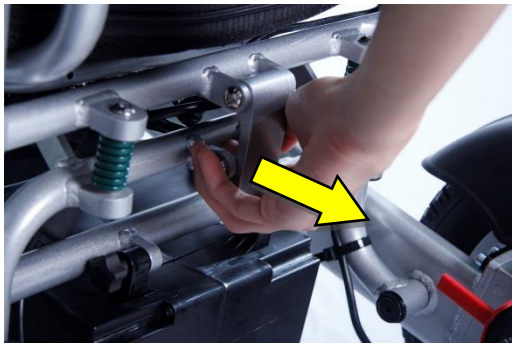
3. BASIC OPERATIONS

3.1 FOLDING

STEP 1



Identify the latch lock position



Pull the latch to unlock the wheelchair

STEP 2

Push the handle to start folding the wheelchair

Continue push handle while the armrest automatically folding itself

STEP 3

Push the handle at completely folding position

Full folding condition wheelchair

3.2 UNFOLDING

STEP 1

Folded position

Pull the handle to start unfolding the wheelchair

STEP 2

Continue pull the handle until the latch lock itself

Full unfolding condition wheelchair

3.3 SETTING OPERATING MODE

- Push down the mode control levers on both left and right wheels to operate in electric mode
- Push the levers up to operate in mechanical / passive mode.

3.3.1SITTING & ALIGHTING

- Always ensure that the power is switched off when getting on or off the vehicle.
- If the occupant of the wheelchair has a balancing / body control problem, a second person needs to hold the vehicle, and possibly another person to help the occupant on and off the vehicle.
- Make sure that the parking brake has been released before driving.

3.3.2CONTROLLER SETUP

- To start the system, press and hold the power button (1) until the LED lights on the controller comes ON.
- If only a single power level indicator lights up, the system is still in mechanical passive mode (see section 3.3)
- Adjust the speed level up by pressing button (5) or down by pressing button (4) to the level that you are comfortable with. For starters, adjust it down to the lowest level. For starters, adjust it down to the lowest level.
- Test the horn function (10) and familiarize with it.
- The system switches off automatically if there is no activity for 15 minutes.
- The vehicle can be locked by pressing the power button (4) for 4 seconds when the system is on. If the power button (4) is pressed again, only the centre speed level indicator led (6) will turn ON, indicating the system is locked. Press the (+) speed level button 3 times within 10 seconds of switching on to unlock.

3.3.3DRIVING

- Ensure that there is sufficient space for your movement
- Jog the joystick in the front, back, right and left to check for correct response. There should be a small 'dead zone' and a short lag where there is no response to the joystick by the vehicle before the movement starts.

- Start with moving forward in a straight line. The vehicle should travel straight with the joystick pushed forward (with no side movements). The vehicle can be steered by gentle left and right movements of the joystick
- The vehicle can perform a zero-radius turn about its drive wheel axis to allow turning in tight spaces. Bring the vehicle to a complete stop before performing this turn. This movement can be done by giving the joystick a pure left or right movement.
- When reversing, be aware that the direction of turn is also reversed from forward driving. There is a significant rear extension of the drive wheel from your sitting position. Make the appropriate allowance for this during reversing.
- Avoid jerky stop/start motions as the will result in excessive current draw from the batteries, increased tire wear and the rapid wearing of the motors.
- The motors have been designed to provide maximum efficiency close to the maximum speed of the vehicle. In cruise, drive close to the maximum speed to obtain the best range/charge.
- Avoid habitually using up the complete battery charge before recharging. The battery life cannot be expected to last much more that 100 cycles of full discharge.

3.4 BATTERY CHARGING

START

Switch OFF power to the charger

STEP 1

Identify the charging port at the front

STEP 2

Insert the charger plug into charging port

STEP 3

The LED light show "RED" colour when charging

STEP 4

When the light show "GREEN" colour, battery is full charge. Turn OFF the plug and disengage the charger

4. MAINTENANCE AND TROUBLESHOOTING

4.1 GENERAL RULES

- For the electrical system, very little maintenance is needed beyond managing the battery charge to keep the vehicle in good working order.
- Periodically check fastener tightness. Re-tighten if necessary.
- If the system fails during the warranty period, bring it back to Proride E-mobility for resolution.
- Although the system is rated IP65 (protection against dust and rain), do not expose the system to high humidity or rain/water splash. Long term exposure to high humidity/standing water leads to corrosion of electrical contact and motor components. The most common cause of problems on any electrical system is poor contact
- Any physical abuse of the system such as overloading, impact damage and opening of the system components will void your warranty
- If the wheelchair detriot or stops working, the cause is frequently simple. The following steps may help you to restore the operational state by making corrective actions based on the sysmptoms.

4.2 TROUBLESHOOTING

If the wheelchair detriot or stops working, the cause is frequently simple. The following steps may help you to restore the operational state by making corrective actions based on the sysmptoms.

ISSUE	SOLUTION
Noise and rattles	Check for fastener looseness, and re-tighten if necessary
System will not start	Did you check press on the correct power button? Check wire connectors between battery-controller, controller – joystick for loose connectors. Disconnect connectors one at a time. To disconnect the connector Observe the connector terminals. Look for abnormalities such as mechanical damage or corrosion. Clean up if necessary
Only one tire moves	Trace cable from the faulty wheel to the controller. Check for damaged or loose connectors. If the connector is not loose, disconnect the connecter and check for mechanical damage or corrosion
Vehicle does not run straight	Place the vehicle on a flat surface Check if all the wheels are level If it is not level, adjust the castors to get level setting If the wheels are already level, bring the wheelchair back to Proride e-mobility for servicing
Any other issues	Bring the wheelchair back to Proride for servicing.

4.3 CONTROL ERROR DIAGNOSIS

The following are indicators from the controller to help you to identify the cause of controller problems. In 80-90% of cases, the problem is simply a broken connection; so, in most cases, it is sufficient to re-establish the electrical contact to solve the problem.

If these measures do not work, there may be a failed component which is not user-serviceable. In that case, return the wheelchair or the relevant component to Proride e-Mobility.

CODE	DESCRIPTION	RECOMMENDED ACTION
Slow Flash 1 Time	Left Motor Hall sensor error	Check left Hall sensor connections
Slow Flash 2 Times	Right Motor Hall sensor error	Check right Hall connections
Slow Flash 3 Times	Battery error	Check the charger open-circuit voltage; if the voltage is less than 27 V, replace the charger If the charger is OK, charge the battery for a max of 8 hours.
Slow Flash 4 Times	Left Motor error	Check left motor power connections
Slow Flash 5 Times	Right Motor error	Check right motor power connections
Slow Flash 6 Times	Left Brake error	Check left brake connections
Slow Flash 7 Times	Right Brake error	Check right brakes and their connections
Slow Flash 8 Times	Controller error	Return the controller to Proride
Slow Flash 9 Times	Communication controller error	Return the controller to Proride
Fast Flash 4 Times	Left Motor Overcurrent	Reduce the load on the left motor. If it is on a slope, get somebody to help push the wheelchair.
Fast Flash 5 Times	Right Motor Overcurrent	Reduce the load on the right motor. If it is on a slope, get somebody to help push the wheelchair

5. WARRANTY

5.1 TERMS

	ITEM	TERM	DURATION
1	Frame, motor, controllers	Repair or part replacement	1 year
2	Battery	Replacement	6 months
3	Wear and tear parts (tire, seat cushion, footrest, bag)	Replacement for manufacturing defects	1 months

5.2 CONDITIONS

- This warranty is void if there is no authorized dealer stamp. If the effective data is blank, the manufacture date of this machine shall be deemed as the effective start of the warranty period
- Warranty Claims must be accompanied by the warranty card and purchase receipt, failing which the company reserves the right to decline the claim.
- This warranty does not cover damages resulting from user negligence such as mechanical impact damage, water immersion / ingress, or from the effects of natural disasters.
- The buyer is responsible for delivery of the product to Proride e-Mobility for repair/replacement
- Any observed tampering of the system beyond the scope of this manual automatically voids the warranty.

6. AIRLINES REGULATIONS FOR BATERIES

- The battery's level should be or less than 30% full while transporting this e-wheelchair on the flights.
- The batteries are installed in product, you may checked-in as usual.
- However, batteries that are left on their own without proper packing are not allowed on the flights.
- The regulations vary from airline to airline. You should check with your airlines before transporting this e-wheelchair.
- Kindly contact Proride E-Mobility at 03-8926 3610 for UN83.3 certifications.

7. LINKS

For updated information regarding our product, visit the following URL: www.proride.com.my

Have a safe and pleasant ride,

Thank you for choosing Proride Ultracomfort Electric Wheelchair.