

Bruno-HD POWERCHAIR



USER MANUAL

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INTRODUCTION

Thank you for purchasing our Bruno-HD series power chair. We take pride in manufacturing the highest quality of products, and we trust this power chair will provide you comfort and mobility throughout your daily activities.

Before operating this power chair for the very first time, please read and follow all instructions in this manual carefully. In order to avoid personal injuries and/or damage to the power chair, it is very important for you to have a comprehensive knowledge of the features of this power chair. If you have any trouble understanding the instructions contained within this manual, or require further assistance for setting up, operating and the maintenance of this power chair, please contact your local Retailer.

Recommendation

This manual serves as the ultimate guideline for you and your assistant or caretaker who's helping you with operating this power chair. Read this manual carefully and review it often until you are certain how to handle every operation of this power chair.

Top Gun Mobility and its affiliates cannot be held responsible for personal injuries or property damage caused by improper handling of the Glider power chair.

Your opinions are very important to us – if you have any comments on the functionality and safety of this power chair, or the contents of this manual, please feel free to make contact with your local Retailer, distributor or Top Gun Mobility.

Please note details contained within this User Manual are accurate as at time of print and subject to change without prior notification. Please use due diligence when deciding if this product is right for you.



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SPECIFICATIONS

Model	BRUNO-HD
Weight	42kg
Safe Working Load (SWL)	227kg
Battery	24V 20Ah
Battery Charger	Off-Board, 5Ah
Max.Speed	8km/h
Tyre Size (Front)	2.5-4 Pneumatic Tyre
Tyre Size (Rear)	3.0-8 Pneumatic Tyre
Seat Size (W x D)	50.8 x 50.8cm
Ground Clearance	6.4cm
Brake System	Intelligent Braking (electronic, regenerative disc brakes)
Drive System	2 400W DC Motor, Rear Wheel Driving
Suspension	Spring Absorber
Dimensions (L x W x H)	128 x 65.6 x 102.8cm

Features:

1. Brushless DC motor, which has the advantages of low noise, high torque, energy saving, high efficiency, maintenance-free and long life.
2. Lithium battery energy, which has the advantages of high energy density, long life and environmental protection.
3. The brushless special intelligent controller with the advantages of easy and free operation and accurate positioning.
4. Foldable multi-link frame structure (patented by our company) with the advantages of fast folding, safety and reliability, simple operation, compact and portable.

This product is mainly composed of frame, wheel, seat, armrest, battery, motor and controller. It is powered by lithium battery. The speed and direction of wheelchair are controlled by rocker controller and two left and right brushless motors.

We believe this to be the most important section of your User Manual; how to safely operate the Bruno-HD Power Wheelchair. Please review this section thoroughly and contact your selling Retailer if you have any questions.

General Safety:

To ensure the safe operation of your electric wheelchair and its service life, please turn off the power supply when you don't use the electric wheelchair, and read and observe the following precautions:

1. Don't operate the electric wheelchair until you have read the instructions
2. The total weight of persons and objects shouldn't exceed the maximum safe working load 227kg.
3. Don't exceed the maximum allowable gradient.
4. Don't climb or descend at the maximum speed, otherwise there is the danger of overturning out of control.
5. Don't drive on very smooth or soft ground, such as smooth tiles, mud, sand, grass, etc.
6. Don't drive on slopes without fences
7. Don't drive in the motor Lane
8. Don't turn on the ramp or drive horizontally, otherwise there is a danger of overturning.
9. Don't reverse on the ramp, otherwise there is a danger of overturning.
10. Don't climb over the maximum allowable obstacle height
11. Don't drag anything behind the chair.
12. Please fasten your seat belt when you use an electric wheelchair.
13. Always place your feet and hands on the pedals and armrests during the use of wheelchairs.
14. When using wheelchairs for the first time, please practice in open areas before you can go on the road.
15. Concentrate when you drive the wheelchair.
16. Please take the crosswalk when you cross the street.
17. Please pay attention to the power display during wheelchair driving.
18. Don't cross the road in case of insufficient electricity, so as not to run into danger when half of the road is powerless.
19. If wheelchair is not used for a long time, it should be folded and stored in a ventilated and dry place.
20. Wheelchairs should not be stored in high temperature and humidity.

Driving the Power Wheelchair:

- a) Be alert to the danger of motor vehicles on roads or in parking lots.
- b) At night or when it is hard to see, use reflective tape on your Glider.
- c) The Bruno-HD is designed for use on firm, even surface such as concrete, asphalt or indoor floor.
- d) Do not operate the Bruno-HD in sand, loose soil or over rough terrain, which could damage wheels, bearings, axles or motors, or loose fasteners.

PRECAUTIONS

CAUTION: OPERATE SAFELY

Do not operate the Bruno-HD Power Wheelchair in water of any kind.

Do not operate the Bruno-HD Power Wheelchair up or down staircases or escalators.

Do not operate the Bruno-HD Power Wheelchair while on a moving vehicle such as a bus.

Do not lean your body to reach out of the Bruno-HD, causing a balance issue.

Do not exceed the safe working load (SWL) of 227kg for rider plus any items.

Do turn off the Bruno-HD Power Wheelchair when exiting the chair for safety.

Do practice driving the Bruno-HD Electric Wheelchair in a private, enclosed area.

Be aware of local regulations regarding operating the Bruno-HD Power Wheelchair on a public road.

Modifying your Bruno-HD Power Wheelchair in any way may void all warranties.

Do not expose the Bruno-HD Power Wheelchair or batteries to extreme temperatures.

STRUCTURE

The wheelchair is mainly composed of frame, wheels, seats, armrests, batteries, motors and controllers, as shown in the following figure.



STORAGE

The Powerchair should be kept in a room with temperature ranging from - 40 C to 65 C, relative humidity lower than 95%, atmospheric pressure from 560to 1060 hPa, without harmful gas and good ventilation sufficient to cause corrosion, and heavy-pressure stacking is prohibited.

OPERATING THE BRUNO-HD

Method of Wheelchair Opening and Folding

Wheelchair Opening: Hold the back with one hand, press the seat cushion with the other hand and push hard, as shown in Figure 1, the buckle plate under the back should be fastened after full expansion, as shown in Figure 2. **(Before using the wheelchair, make sure that the buckle plate has been pressed in place, otherwise there is a risk of folding in the process of using it.)**





Wheelchair folding: pull the button plate under the back, as shown in Figure 3, hold the back with one hand, and pull the seat cushion together with the other hand, as shown in Figure 4.



Opening and Folding Method of Anti-Overturning Frame

Press the circular button above the anti-overturning frame with thumb, rotate the anti-overturning frame outward is opening state, and inward is folding state. When the anti-overturning frame is rotated in place, it will automatically bounce and lock. As shown in Figure 5 and Figure 6.



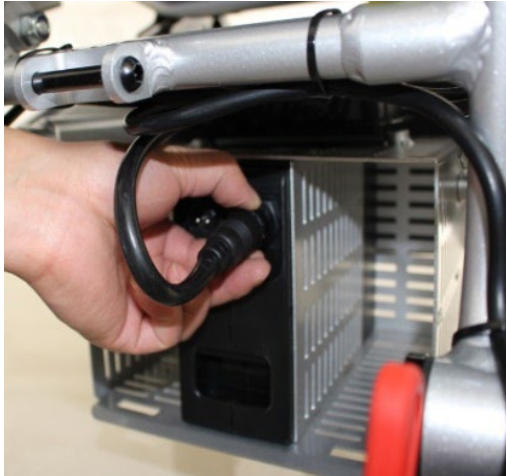
Installation and Adjustment of Controller Rocker

Remove the controller rocker from the bag and fix it at the front and lower end of the handrail with a quick clamp screw, as shown in Figure 10, connect the plug to one end of the connecting wire and tighten it, as shown in Figure 11. **Note: When connecting the plug, it must be inserted into the notch. Otherwise, the insertion pin of the plug may be bent and damaged and cannot be used.**



Battery Installation and Replacement

Insert the power plug into the battery and tighten it, as shown in Figure 12, if you need to replace the battery, loosen and pull out the plug. As shown in Figure 13, pull the fixed switch under the battery by hand and pull out the battery.



If you need to increase the capacity of the battery, you can connect the same capacity of the battery in parallel. As shown in Figure 14, two sockets on the battery can be inserted into any one of them in parallel to increase the capacity. **Note: Standardized as a battery**



Armrest Height Adjustment and Disassembly Function

Pull up the fastening quick clamp under the armrest to make the armrest relaxed, as shown in Figure 15. When the armrest slides upward or downward to the required height, the fastening fast clamp under the armrest is fixed. If you need to remove the armrest, you can pull the armrest out directly, as shown in Figure 16.



The Function of Pedal Uplift

Before sitting in a wheelchair, you can turn your pedal up, as shown in Figure 17, to facilitate access to the wheelchair seat cushion, and then turn your pedal down after sitting steadily.



Electric or Manual Wheeling Functions

When the red handle of the motor is pulled back, it is electric operation mode, and when it is pressed forward, it is manual operation mode, as shown in Figure 18. Note: the handle must be pulled up when the motor is in electric mode, otherwise the controller will alarm and cannot start. Power should be turned off in manual mode, otherwise there will be great resistance to wheel.

Using Seat Belt

Open the seat belt by pressing the red button with hand on the seat belt, as shown in Figure 19. Adjust the appropriate length of the seat belt on the wheelchair and buckle the seat belt, as shown in Figure 20.



Figure 19



Figure 20

First Operation of Wheelchair

After completing the preparatory work, you can operate the wheelchair for the first time. **Note:** Users must turn off the power supply and be accompanied before they can sit steadily on the wheelchair. As shown in Figure 21:



Figure 21



Figure 22

Controller Rocker Function Description

- Rocker: Push rocker to control direction and speed of wheelchair, release rocker to stop.
- Power on/off: The wheelchair is powered when it is pressed and power off when it is pressed again.
- Speed Limit Plus: Up the Maximum Speed Limit.
- Speed Limit Decrease: Reduce the Maximum Speed Limit.
- Horn: The horn sounds when it is pressed and stops when it is released.
- Speed Limit Indicator: Display Current Maximum Speed Limit.
- Electricity Indicator: Displays the current battery power.



After the user sits steadily, you can turn on the power supply and drive the rocker forward to speed up slowly. If the user wants to stop, he/she will stop when he/she puts down the rocker in his/her hand. The direction of the rocker is the direction of the wheelchair. **Note: This process requires repeated practice before the user can master it skilfully,** as shown in Figure 22.

CHARGING BATTERIES

Remove the charger from the bag. As shown in Figure 24, insert the charger plug into the socket below the rocker. As shown in Figure 25, the charger at the other end of the charger is connected to the power grid to start charging. **Note: the charger will heat up during charging, so the charger should be placed in a ventilated and dry place for charging, otherwise it may lead to the loss of the charger, scald of people and even the fire.**



Figure 24

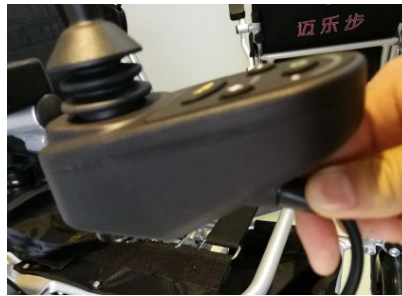


Figure 25

When the charger indicator is green, it indicates that the power grid is connected or full, and when it is red, it indicates charging, as shown in Figure 26. **Note: when the power supply of the controller is turned on and the power indicator flashes one by one, this indicating that the wheelchair cannot be used in charging.** As shown in Figure 27.



Figure 26



Figure 27

Battery Indicator

Electricity indicator lamp, as shown in Figure 26, whose full light indicates full power. With the consumption of electricity, the indicator lamp goes out one by one. When only one lamp is on, the power is less than 20%. It needs to be charged as soon as possible.

When the power is running out, in order to protect the battery from excessive discharge, the controller and the battery itself will automatically turn off the power supply. **Note: When the power is insufficient, please do not cross the road, so as not to shut down the power in the middle of the road and then force you to be in danger.**

Fold the wheelchair and put it up in a ventilated and dry place, as shown in Figure 28.

Note: If the wheelchair is not used for a long time, it should be charged every three months in order to avoid permanent battery damage.

Fold the wheelchair and lift it by hand for short haul, as shown in Figure 30.

Note: When you are handling the wheelchair, you mustn't pull the wires or armrests, because it may lead to the danger of wire breaking and sliding.



Figure 28



Figure 29

The wheelchair can be folded and placed in the trunk of the car, as shown in Figure 29.

Note: If the temperature in the trunk of the car in summer is over 50 C, you should remove the wheelchair in time, otherwise there is a risk of bursting and burning.



Figure 30



Figure 31

When taking public transport (such as airplanes, high-speed trains, buses, etc.), all batteries should be removed. As shown in Figure 31, wheelchairs are folded and packed for shipment, while batteries are carried with you.

Note: Wheelchair trucks should be packed with protective measures to avoid damage during shipment, and batteries should be carried to avoid falling, impact, extrusion, etc.

Daily Inspection and Maintenance

Periodically (weekly or monthly depending on the frequency of use) check whether the frame connection parts, such as screw, nut, are loose, fall off, rust, etc.

Periodically check whether the folding joint is blocked, worn, fallen off, etc.

Periodically check the tires to see if there are aging, cracking, wear and tear, etc.

Wheelchair should be wiped as soon as possible in case of rain or wet weather in order to avoid damp rust.

Wheelchairs should avoid high temperature sunshine as far as possible.

TROUBLESHOOTING

Fault and troubleshooting methods

Serial number	Fault phenomena	Troubleshooting
1	Can't turn on power switch	1. Check whether the controller and battery are connected. 2. Check whether the control rocker is connected with the controller.
2	Batteries cannot be recharged	1. The battery is not connected to the controller; 2. The battery is full and does not need to be charged. 3. Battery bulging and discarding, please contact manufacturers to replace batteries;
3	Wheelchair driving speed is too low	1. If the battery power is insufficient, you should charge; 2. If the speed limit is too low, you should adjust the speed limit button.
4	Insufficient wheelchair mileage	1. If the battery power is insufficient, you should charge; 2. If the battery is aging, you should replace the battery and contact manufacturers;
5	The Cardan wheel sways in motion	1. Bearing wear or damage, please replace the bearing and contact manufacturer; 2. Loose the screw and tighten it.
6	The motor is noisy	1. Gear wear, you need to replace the gear box; 2. Bearing wear, you need to replace bearings and contact manufacturers;
7	Turn-on speed indicator flashes	See the 5.2.2

The relationship between fault type and indicator is as follows:

Speed indicator	Fault type	Fault reason	Troubleshooting
10010 	Left motor brake solenoid valve	Left motor solenoid valve switch is not closed	Motor red handle pulls back
		Left motor solenoid valve	Contact manufa

		e wiring off	cturer
		Left motor brake solenoid valve or controller is damaged	Contact manufacturer
10001 	Right motor brake solenoid valve	Right motor solenoid valve switch is not closed	Motor red handle pulls back
		Right motor solenoid valve wiring is off	Contact manufacturer
		The right motor brake solenoid valve or controller is damaged	Contact manufacturer
10100 	Left motor hall	Left motor Hall wiring is off	Contact manufacturer
		Left motor Hall or controller damage	Contact manufacturer
10011 	Right motor Hall	Right motor Hall wiring shedding	Contact manufacturer
		Right motor hall or controller damaged.	Contact manufacturer
00011 	Left motor is overcurrent	The running resistance of the left motor is too large and the overcurrent is caused by the excessive running resistance of the left motor.	The system returns automatically when the rocker is released.
		Damage to motor or controller	Contact manufacturer
00001	Right motor is	The running resistance of the left motor is too	The system returns

	overcurrent	large and the overcurrent is caused by the excessive running resistance of the left motor.	automatically when the rocker is released.
		Damage to motor or controller	Contact manufacturer
00101 	Zero fault of rocker	The rocker is not at zero during boot self-check	Reswitch the machine
		Failure of rocker or controller	Contact manufacturer
00110 	Malfunction of rocker	Failure of rocker or controller	Contact manufacturer
00010 	Communication failure between rocker and controller	The rocker and the controller are disconnected.	Verify that the connection is correct and reliable

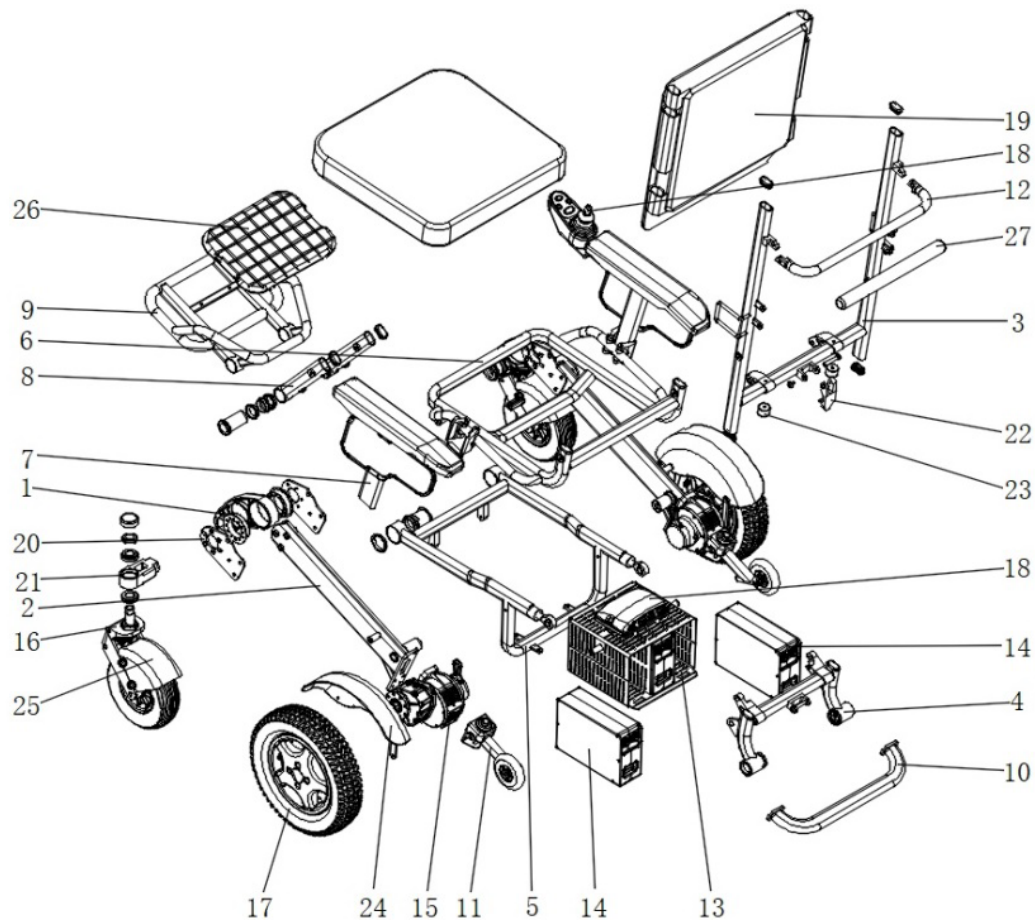
CLEANING & DISINFECTING

Clean the frame, motor, controller and rocker with cloth with dilute detergent. When cleaning the rocker, pay attention to the appropriate force and not too strong. Don't use alcohol-based cleaner.

After a month of use, the cushions and backrest should be wiped and checked for moisture or mildew, if it is moist, you should put it under the sun.

Wheelchair parts

5.5.1 Wheelchair explosion diagram



Wheelchair parts names

1. Front frame; 2. Rear frame left / right; 3. Upper back; 4. Lower back; 5. Battery rack; 6. Frame; 7. Handrail; 8. Scaffolding; 9. Pedal rack; 10. Rear crossbar; 11. Flip-proof rack; 12. Backrest frame; 13. Battery box; 14. Battery; 15. Motor left / right; 16. Front wheel; 17. Rear wheel; 18. Controller; 19. Seat back pad; 20. Frame fixing plate left / right; 21. Universal wheel seat; 22. Buckle board; 23. Rubber pad; 24. Rear wheel fender; 25. Front wheel fender; 26. Pedal cushions; 27. Backrest casing;

Replacement of vulnerable parts in wheelchairs

5.6.1 The vulnerable parts on the wheelchair can be disassembled and replaced with the tools provided by the manufacturer, as shown in Figure 32



Figure 32

Replace the front wheel of part 16, as shown in figure 33, remove and replace the front wheel with the No. 6 wrench of the on-board tool.



Figure 33



Figure 34

Replace the rear wheel of part 17, as shown in figure 34, remove and replace the rear wheel with the No. 6 wrench of the on-board tool.

Replace the armrest surface of part 7, as shown in figure 35, remove and replace the handle surface with the wrench No. 4 of the vehicle tool.



Figure 35



Figure 36

Replace part 26 foot pad, as shown in figure 36, remove and replace pedal pad with tool 4 wrench.

Replace the 19 seat back cushions of the parts, as shown in figure 37, 38. Open the seat cushions and replace the new seat back cushions with your hands.

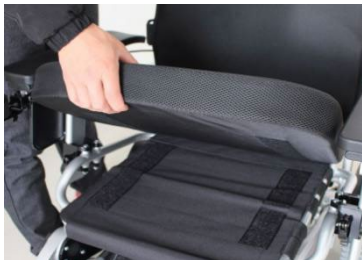


Figure 37



Figure 38

Replace the part 18 controller, as shown in figure 39, remove and replace the controller with the 4 wrench of the on-board tool.



Figure 39



Figure 40

Replace part 18 controller rocker, as shown in figure 40, tool 4 wrench remove and replace rocker.

Replace the part 15 motor, as shown in figure 41, first remove the rear end connection screw of the 24 rear wheel fender with the tool 3 wrench, and then loosen the screw with the No. 6 wrench, as shown in figure 42, replace the new motor.



Figure 41



Figure 42

WARRANTY

This is to certify that your TOP GUN MOBILITY product offers a 5 Year Warranty from the date of original purchase. Should a defect or operating fault arise within this period the Retailer, from where the product was originally purchased, should be notified immediately. Failure to register the fault may invalidate the warranty.



The Retailer from where the product was purchased is responsible for any warranty repairs. Top Gun Mobility warrants that if a fault occurs within this period due to faulty workmanship or materials that the product will be repaired (or replaced at the Company's discretion) free of charge. Any unauthorised modifications will invalidate the warranty.

Component parts replaced outside this period carry a six-month warranty. (Standard terms and conditions apply for this period).

FIVE-YEAR WARRANTY

- Structural frame components, including platform, fork, seat post, and frame welds (excludes canopy & canopy framework)
- Drivetrain, including differential, motor.

TWO-YEAR WARRANTY

Your Top Gun Mobility Scooter is fully guaranteed for two (2) years from the date of purchase against faults arising due to defects in manufacture or materials. This warranty does not detract from, but is in addition to your legal rights.

All electronic parts, including controllers, brakes, batteries and battery chargers, have a one (1) year warranty. Servicing to the controller or battery charger must be carried out by your authorised Top Gun Mobility Provider. Any attempt to open or dismantle these items renders the guarantee void on that item.

This warranty is valid for the replacement of dysfunctional parts only. Any parts under warranty will be replaced and shipped to your door. Any service and labour fees, if applicable, to replace parts under warranty must be paid by the user. Due to its straightforward design, most parts can be easily exchanged by the end user without a professional service tech required. However, it is always recommended you seek professional help for maintenance and service, to make sure the work is done properly.

SERVICE CHECKS AND WARRANTY SERVICE

Warranty service can be performed by an authorised Top Gun Mobility Provider. Please contact your authorised Top Gun Mobility Provider for advice on the current cost affecting the service visit.

COMMERCIAL USE

Any Top Gun Mobility products used in a commercial application will only be covered by a 12-month warranty from the purchase date and will be excluded from any coverage mentioned in the warranty relating to 5 (five) or 3 (three) year warranty. All other conditions in this warranty will apply.

NOT COVERED UNDER WARRANTY

The guarantee does not extend to those items which may need replacement due to normal wear and tear (tyres, belts, bulbs, upholstery, plastic shrouds, motor brushes, fuses, and batteries), or damage to the product caused by misuse or accident for which Top Gun Mobility or its agent cannot be held responsible. This warranty does not include service calls or external bolt on components such as a canopy or canopy framework. **Transport/Call Out Costs** - As the owner you must bear the cost of transporting the unit to the Retailer or should you decide to have the Retailer come to you, you must bear the cost of the Retailers call out fee. Your Retailer may choose to waive this cost, but this will be at the Retailers discretion only and separate to Top Gun Mobility's warranty terms and conditions.

1. Products damaged by user negligence
2. Products damaged accidentally
3. Products damaged intentionally
4. Products that have been subjected to negligence
5. Products that have been subjected to abuse
6. Products that have been improperly stored
7. Products that have been improperly handled
8. Products that have been improperly operated.
9. Products that have experienced general misuse.
10. Products that have been modified in an unauthorized, unapproved way.

Warranty is non-transferable and only valid for the original wheelchair purchaser.



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