

# Power Chair

**Low Maintenance Folding** 

EW-M47 User Manual



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# INTRODUCTION

Thank you and congratulations on purchasing your new Ewheels Medical Power Chair.

It is designed to provide the transportation ability indoors and outdoors for person whose ability to walk is impaired, but who are still in terms of their eyesight and physically and mentally able to operate an electric scooter.

We pride ourselves on providing safe and comfortable products. Our goal is to ensure your complete satisfaction. We sincerely hope you enjoy your Ewheels Medical Power Chair.

Please read and observe all warnings and instructions provided in owner's manual before your operate the various functions of this Power Chair. Also, please retain this booklet for future reference.

If you have any questions, you can contact:

# **Ewheels Medical**

1000 W Vista Bonita Drive Suite B101 Phoenix, Arizona 85027, U.S.A

or your local dealer:	

# ELECTROMAGNETIC INTERFERENCE AND WARNINGS

CAUTION: It is very important that you read this information regarding the possible effects of Electromagnetic Interference on your power chair.

Powered wheelchairs and motorized scooters may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the power chair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the power chair control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each power chair can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection will be. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI. The immunity level of this product is 20 V/m.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

#### Electromagnetic Interference and Warnings:

The sources of radiated EMI can be broadly classified into three types:

1.Hand-held portable transceivers (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie talkie," security, fire, and police transceivers, cellular telephones, and other personal communication devices.



Some cellular telephones and similar devices transmit signals while they are ON, even when not being used.

- 2.Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle.
- 3.Long-range transmitters and transceivers such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.



Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your power chair.

#### Power Chair Electromagnetic Interference:

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the power chair control system while using these devices. This can affect power chair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the power chair.

#### Electromagnetic Interference and Warnings:

#### Warnings

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect the power chair. Following the warnings listed below should reduce the chance of unintended brake release or power chair movement, which could result in serious injury.

1.Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the power chair is turned ON;

- 2.Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
- 3.If unintended movement or brake release occurs, turn the power chair OFF as soon as it is safe:
- 4.Be aware that adding accessories or components, or modifying the power chair, may make it more susceptible to EMI; and
- 5. Report all incidents of unintended movement or brake release to the distributor listed on the inside front cover of this manual. Note whether there is a source of EMI nearby.

#### **Important Information**

- 1.20 volts per meter V/m is a generally achievable and useful immunity level against EMI (as of May 1994). The higher the level, the greater the protection.
- 2. The immunity level of this product is 20 V/m.

# IMPORTANT PRECAUTIONS

Safety is the main consideration when practicing with your chair. It is required that you read and comprehend all the operating and safety instructions discussed in this manual. And ensure your chair is correctly fitted and adjusted by your dealer or the prescribing healthcare professional.

Make sure to engage the wheel locks before entering or leaving the chair. The wheel locks are designed to prevent movement of the chair. It is preferable to ensure the front castors are in the forward position before transferring in to or out of the chair. With the castors in the forward position the wheel base of the chair is increased and therefore, offers more stability.

DO NOT move forward in the seat while leaning forward out of the chair. If an object is to be picked up from the floor, drive past it, then reverse so the front castors are in the forward position. This gives the chair its greatest stability.

To maintain lateral stability do not reach further than the length of your arm. DO NOT lean out of the chair as this could cause instability.

When transferring, DO NOT stand on the leg rests. Depending on the style of leg rests either swing them away or fold them up before transferring.

When approaching a ramp, be sure of your own ability and your limitations in terms of strength and endurance.

#### Before attempting a ramp the following basic safety rules should be considered:

- 1. Surface of the ramp: Is it too slippery?
- 2. Degree of incline: Is it too steep to attempt alone?
- 3. Length of ramp: Is it too long for your endurance?
- 4. Obstacles: Are there any obstacles on the ramp that would necessitate assistance?

#### Be very careful when going up or down steep inclines

If it becomes necessary to stop when going up an incline, special care must be taken to avoid abrupt or sudden forward movement. During continuous forward movements, the chair is capable of falling backwards.

Always keep the chair under control when going down a ramp or incline. Speed should be controlled at all times.

The user in the power chair and a curb is encountered, caution should be taken to prevent the user being thrown forward:

Do not try to climb a curb by driving up it. Have a helper move the chair for you following the instructions below.

- 1. With both motors disengaged, go down the curb, rear wheels first; making sure that the user is square to the curb so that the rear wheels go down together.
- 2.To go up a curb forward, verify both front wheels are up together. This must be accomplished with the motors disengaged.

Also try to avoid going up multiple steps and using escalators. Use the elevator instead.



Please be aware that any adjustments on the power chair may affect the handling and performance.



# SAFETY WARNING AND INSTRUCTION LABELS



These set of a Company of the Compan	Warning Sticker  1.Please read the instruction booklet carefully before using your scooter.  2.Do not drive the scooter on slippery surfaces or on slopes over 8 degrees limit.  3.Do not drive on highway, crowded roads, or unfamiliar areas.  4.Do not turn at high speed in either forward or reverse.  5.Do no wash with water or leave scooter in humid environment since water can damage the electronic parts.
CEP Cain Ti Control Co. List. Six. Soc. List. No. List. Bird. Co. List. Bird. Co. List. Bird. Co. List. No. List. Bird. Co. List. Bird. Bird. Co. List. Bird. Bird	Information Sticker states the date of manufacture and serial number of the scooter.  This product has been supplied from an environmentally aware manufacturer. It may contain substances that could be harmful to the environment.  Recycling must be carried out in accordance with the respective national legal provisions.
3 Red Red 12V Red	Wiring diagram label
4 Test Ok	Transaxle test ok label
<b>5</b> N	Left N-D Lever adjustment label which instructs freewheel mode operation.
6 N	Right N-D Lever adjustment label which instructs freewheel mode operation.

## **IDENTIFICATION OF PARTS**

Before attempting to drive this power chair on your own, it is important that you familiarize yourself with the controls and how they operate.



Figure 1 - EW-M47 Front View

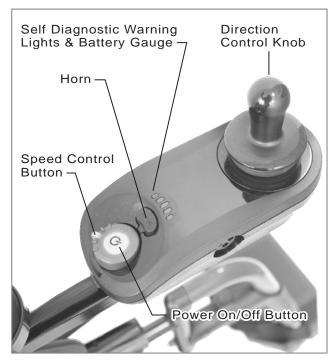


Figure 2 - EW-M47 Joystick

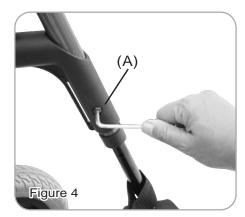


Figure 3 - EW-M47 Rear View

#### Footrests Height Adjustment

- 1. Take off both side's height fixation screws (A). (See Fig. 4)
- 2. Adjust to required position.
- 3. Aim for the required hole's position to tighten height fixation screw.
- Careful not to interfere with front wheel when adjusting





(B1)

(B)

(B2)

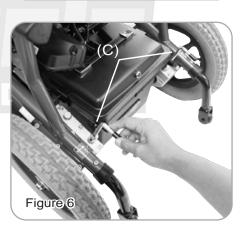
#### Seat Belt Usage

- 1.Prior driving fasten the seat belt as the picture illustrates (B) (B1). (See Fig. 5)
- 2.Seat Belt can be unfastened by pressing down the red button (B2). (See Fig. 5)



- 1. For your convenience, the chair is equipped with two free wheel levers. These levers allow you to disengage the drive motors and maneuver the chair manually when encountered malfunction or stop.
- 2.In traveling, set the two metallic levers (C) to the Drive position. (See Fig. 6)3.Battery box w/plug put
- Battery box w/plug put in front position.
   Battery box w/reflector put in rear position.





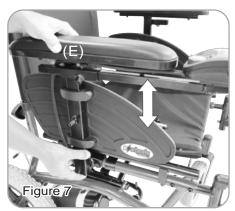


DO NOT use your chair while the drive are disengaged unless you are in the presence of an attendant! DO NOT disengage the drive motors when your chair is on an incline. The chair could roll down on its own, causing injury!

#### Armrest Height Adjustment

- Use tool adjust armrest height to the required hole's position. (See Fig. 7. E)
- 2.Aim for the hole's position to tighten Screw (D).





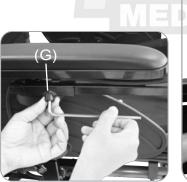
#### Extendable Joystick Adjustment

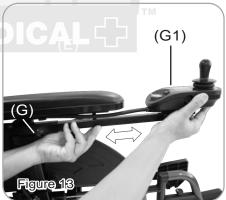
The joystick can be adjusted so that it is in a convenient position for use. To adjust the unit forward and backwards immediate underneath the armrest pad there is a hand knob which when loosened allows the horizontal tube to be adjusted to the required position.

To adjust the unit vertically, there is a hexagon key screw in a hexagon nut attached to the tubular construction supporting the joystick. Using the hexagon key provided loosen the screw, adjust unit to the required height and re-tighten screw to secure.

#### Joystick conversions to left hand

- 1.Remove joystick and horizontal tube from right hand arm by releasing hand knob and hexagon screw (G). (See Fig. 13)
- 2.Remove the two screws holding the support tube to the joystick and rotate the tube through 180° to the opposite side and secure to the joystick (G1) with the screws.
- 3.To convert to opposite hands remove support brackets from pads and rotate through 180° and align with opposite screw holes and re-secure with screws
- 4. Secure the original right hand armrest to the left hand arm and repeat for the other hand
- 5.Re-position joyStick unit to left hand side of chair and assemble then secure to left hand arm
- 6. Adjust heights and position as previous paragraphs



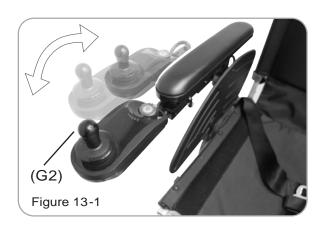


#### Option : Swing-away Joystick Adjustment

By pushing or pulling the joystick (G2) to desired position. (See Fig. 13-1)

\*Do not driving while operate above function.

\*Watch out for pinch warning.









LiNX LE System Installation Manual GBK54030 Issue 1.02

7/05/2013

# 1 Installation procedure

- 1. First read and fully understand this manual.
- 2. Mount all the electrical parts of the wheelchair system (motors, park brakes, batteries, Power Module, Remote) on the wheelchair. for the physical dimensions of the LiNX LE System Power Module, Remote and mounting rec-ommendations.
- 3. Do not connect any cables before all the parts of the electrical system are mounted.
- 4. Connect the LiNX LE System Power Module to the motors the park brakes and the Remote.
- 5. Connect the LiNX LE System Power Module to the batteries.

#### Do not turn on the wheelchair yet.



#### Warning:

Do not connect the positive terminal (B+) of the battery to the LiNX LE System Power Module until the wheelchair is completely wired and ready for testing as described in the Testing section.

- 6. Lift the wheelchair off the ground and check the installation thoroughly.
- 7. Program the system to the requirements of a particular wheelchair or user.
- 8. Test the system for functionality and safety.

## 2.1.1 Power up / down



#### Note:

In the unlikely event that the wheelchair is in a runaway situation, the user can press the Remote's power button to perform an EMERGENCY STOP. See section 2.1.2 Emergency stop



Figure 14: Power OFF

To switch ON the LiNX LE System, press the Power button. The Power button is the only user input that can activate the system.

If the system is healthy, the Status indicator (through the Power button) will light up green, and the Battery Gauge will display the current battery status.

If there is a fault with the system when powering up, the status indicator will indicate the fault with a series of red flashes (see section 3 Diagnostics). If the fault is one that prevents the system from driving, then the battery gauge will flash continuously.



Figure 15: Power ON

To switch OFF the system, press the Power button; the system will power down and the Status indicator will switch off.

The Power button is also used to perform an EMERGENCY STOP. See next section.



#### See also

2.1.9 The status indicator on page 13

#### 2.1.2 Emergency stop

If the user needs to stop the wheelchair quickly, the Power button can be pressed to perform an EMERGENCY STOP. The wheelchair will come to a halt quickly; the rate is set by the Emergency Deceleration parameter.



#### See also:

If this parameter is set too high, the user can lose balance or fall out of the chair.

#### 2.1.3 Drive inhibit indication

Drive inhibit mode is indicated by the battery gauge with a right-to-left chase sequence.

The chase sequence starts with the green LED on the righthand side, and one-by-one, each LED will switch on and then off. When the sequence completes at the left-most red LED, it begins again at the right-hand side.

The chase sequence continues until the error condition has been cleared.

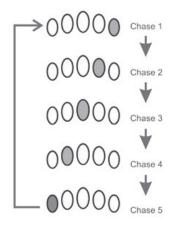


Figure 16: Drive inhibit chase sequence

#### **2.1.4 OONAPU**

OONAPU ("Out Of Neutral At Power Up") is a safety feature that prevents accidental movement of the wheelchair, either when powering up, or when the wheelchair comes out of an inhibit state.

If the LiNX LE System is turned on (or comes out of an inhibit state) while the joystick is not in the centre position, an OONAPU warning is displayed. During an OONAPU warning, the battery gauge LEDs will flash continually to alert the user, and the chair will not drive. If the joystick is returned to the centre position within five seconds, the warning will clear and the wheelchair will drive normally.

However, if the joystick remains out of neutral for longer than five seconds, an OONAPU error will occur; the error is displayed by the Status indicator flashing red, and the chair will not drive. To clear the error, return the joystick to the neutral position and power the unit off and then on again.



#### See also:

3 Error indication See page 14

#### 2.1.5 The joystick



Figure 17: The joystick

The joystick controls the direction and speed of the wheelchair.

When the joystick is deflected from the centre position, the wheelchair will move in the direction of the joystick movement.

The speed of the wheelchair is proportional to the joystick deflection, so that the further the joystick is moved from the centre position, the faster the wheelchair will travel.

#### 2.1.6 Controlling maximum speed



Figure 18: The speed dial

The speed dial allows the user to limit the maximum speed of the wheelchair (that is, the speed when the joystick is fully deflected) to suit their preference and environment.

The dial offers 10 discrete steps between the lowest speed (dial set to the left) and the highest speed (dial set to the right).



As a visual reminder, a speed symbol (shown left) is positioned just below the speed dial to indicate the low and high positions of the speed dial.



#### Warning:

It is the responsibility of the wheelchair manufacturer to inform the wheelchair user about the wheelchair's stopping distances.

#### 2.1.7 The horn



Figure 20: The horn button

The Horn button is located above the Power button. Press the Horn button to sound the horn. The horn will sound for as long as the Horn button is pressed.

Battery Gauge

#### 2.1.8 The battery gauge

The battery gauge comprises five different LEDs (1 x RED,  $2 \times AMBER$ ,  $2 \times GREEN$ ), situated above the Remote's Horn button. The number of LEDs lit depends on the status of the battery, as shown below.

The battery gauge LEDs are also used to display charging information. See section 2.2 Battery charging for more details.



Figure 21: The battery gauge

#### 2.1.8.1 Normal operation

I Normal operation		
<b>Battery Gauge</b>	Battery Level	Notes
00000	Fully charged	This level is set by the Batt Gauge Maximum parameter.
00000		
00000		
0000	Consider charging battery	
0000	Battery needs charging	This level is set by the Batt Gauge Minimum parameter.

Figure 22: Battery gauge operation

#### 2.1.8.2 High voltage warning



Figure 23: High voltage warning

A high voltage warning is indicated by all LEDs on, and the green LEDs flashing. This occurs when the battery voltage level has risen above the high voltage warning set-point.

#### 2.1.8.3 Low voltage warning



A low voltage warning is indicated with the left-most LED flashing. This occurs when the battery voltage level has decreased below its low voltage warning set-point.

Charge the battery immediately.

# 2.1.8.4 Cut-off voltage





Figure 25: Cut-off voltage

When the battery voltage decreases below the battery cut-off voltage:

- the first (red) LED will flash on the battery gauge
- the status indicator (under the power button) will display a flash code 2 or 7
- the horn will sound once every 10 seconds

#### 2.1.9 The status indicator



The status indicator is located underneath the power button. When the LiNX LE System is not powered up, the status indicator is not lit.



When the LiNX LE System is powered up, and there are no faults with the system, the status indicator will be lit green.



If, when powered up, there is a fault with the system, then the status indi-cator will flash red. The number of flashes will indicate the type of error. For flash codes.

Figure 26: The status indicator



See also:

3 Error indication on page 14

## 2.1.10 The XLR charger connector



The XLR charger connector, which is located on the right-hand side of the Remote, is used to connect to either a battery charger or the LiNX Access Key.

Figure 27: The XLR charger connector



#### See also:

2.2 Battery charging on page 15



#### Warning:

Make sure that the battery charger that is used with the vehicle has a drive inhibit function that is correctly connected for use with the controller. The maximum voltage on the inhibit pin must not exceed 3V if a battery voltage is to be detected when the battery charger is connected. If you are not sure, ask your dealer or vehicle manufacturer.

The XLR charger connector on the Remote is to be used exclusively for the intended purpose. Warranty will be voided if any unauthorised device is connected to this port.

#### 2.1.11 The LiNX Communications Bus connector



Figure 28: The LiNX Communications Bus connector The LiNX Communications Bus connector can be found on the lower front of the Remote (see Figure 28: The Remote: user interface and connectors). The LiNX Communications Bus loom plugs directly into this socket, providing the Remote with both power and communication to the power module.

## 2.2 Battery charging

Plug the battery charger into the Remote's XLR socket.

The Battery Gauge will indicate the system is being charged by cycling between a left-to-right chase sequence, and then displaying the approximate battery charge state at the end of the chase sequence.

Driving is prevented (inhibited) while the system is being charged.

The LE system does not have to be powered up when charging the battery, however, if it is not powered up, then the battery gauge will not display the charging state/ chase sequence.

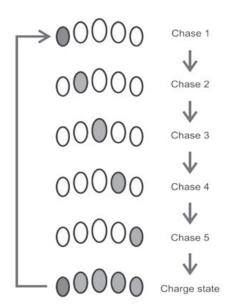


Figure 29: Battery charging chase sequence



#### Warning:

The maximum charging current for the LiNX LE System is 6A.

The wheelchair manufacturer must specify an appropriate battery charger for the batteries used in the wheelchair.

The wheelchair manufacturer must also specify the maximum current of any battery chargers to be used with the controller and warn against using battery chargers of higher current ratings.

The battery charger must have over-current protection in the form of a non-resettable fuse.

It is the responsibility of the wheelchair manufacturer to manage the risks of battery over-charging and any related gas emissions.

To protect the wheelchair wiring from over currents while charging the batteries, chargers must have the ability to reduce their current output when electrically shorted.

## 3 Error indication



If, when powered up, there is an error with the system, then the status indicator will flash red. The number of flashes will indicate the type of error. These are described in the table below.

Figure 30: The status indicator

Flash code	Error description
1	Remote / joystick error
2	Network or configuration error
3	Left motor error
4	Right motor error
5	Left park brake error
6	Right park brake error
7	Module error (other than Remote)

For more information about the error, and what to do about it, open the logs within one of the programming & diagnostic tools.

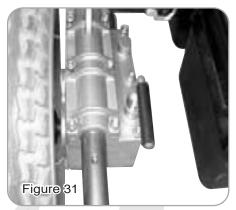
# FREE WHEEL OPERATION

To push the Powerchair by hand or in the event of a fault or battery failure the motors/gear boxes can be released allowing the Power chair to be pushed.

The levers should be switched to the free wheel position. On the gear box by rotating them through 90° Use the manual brakes to park the chair.



Always re-engage the free wheeling device after use. Failure to do so may result in injury







Free wheel mode

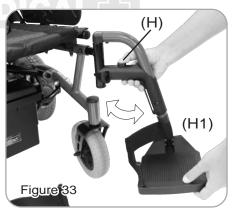
#### Wheels and Tyres

Regularly check the condition of front and rear tyres for wear and tear. Contact your supplier for replacements. Your Powerchair may have split rim wheels which are held together by screws or bolts. When these are removed the wheel rim separates for easy access to carry out puncture repairs or tyre replacements.

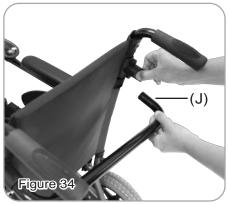
#### Disassembly & Storage

# Your Power chair can be disassembled and folded for storage:

- 1.Fold the two footrest plates upwards (H1) and press (H) button to swing away. (See Fig. 33)
- 2.Remove curb climber unit (if fitted)
- 3. How to Release Support Brace: By pressing right side button (I), to release the support brace (J). (See Fig. 34)

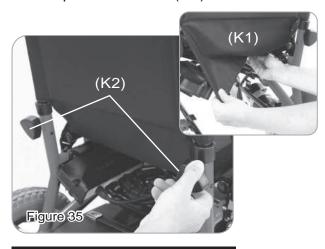


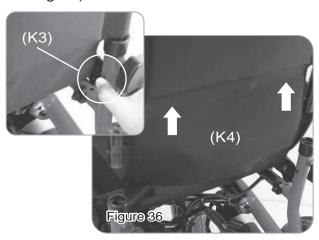




#### Backrest Disassembly :

- 1.Pull off velcro of the backrest pad (K1).
- 2.Loosen the two triangle knobs on the handle bars (K2). (See Fig.35)
- 3. Press latches on the handle bars (K3) to release the backrest.
- 4.Lift up the backrest (K4) to disassemble. (See Fig.36)





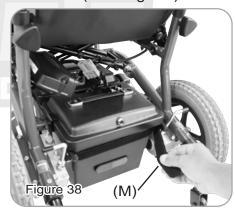
#### Option : Backrest Folding Device

By pressing dowe the lever (L) to fold the backrest. (See Fig. 37)

- 4. Disconnect plug and socket between battery boxes.
- 5. Pull off velcro strap (M). Pull to slide battery boxes from sliders. (See Fig. 38)







- 6.Pull off velcro (N). Using both hands, grip front and rear of the seat upholstery (O) and pull up to fold the chair. (See Fig. 39.40)
- 7.To unfold the chair, place each hand on both seat tubes and push downward firmly. Slide battery boxes into position, secure in place by velcro strap and reconnect cables.







# BATTERIES AND CHARGING

When your batteries are fully charged you should have sufficient power to give you all the mobility required in a day. It is important that you understand how your batteries and charger work. Batteries must be charged before using the power chair for the first time and are recommended to be charged up to 10 - 14 hours after each day's use.

#### Maintain the Batteries:

- 1. Batteries should be charged every night in a well ventilated room.
- 2. DO NOT place the power wheelchair near radiators or open fireplaces while charging.
- 3. DO NOT smoke or permit open flames in the immediate vicinity.
- 4. Turn the chair controller power off before charging.
- 5. It is advisable that the batteries be charged for a minimum of 10 hours per night to ensure full battery storage capacity. The battery charger is an automatic current limiting device and will shut off when the batteries are fully charged.

#### Charging the batteries:

- 1. Position power chair next to a standard wall outlet.
- 2. Connect the battery charger to the wheelchair input battery charging socket, which is located on the front of the controller.
- 3. Connect the battery charger to a standard wall power outlet.
- 4. Switch the power on.

#### During the recharge:

While the batteries are being recharged, a red light will appear on the battery charger, indicating that the power is connected and charging is in progress.

At the end of the recharge cycle:

- 1. A green light will appear on the charger. This indicates that the batteries are fully charged and ready for use.
- 2. If fitted, the battery charge level indicator on the controller should also show a full charge when switched on.

When do the batteries need charging?

When the batteries fall below 20% of its maximum charge level, the series of lights on the controller will flash.



- 1. Do not use batteries other than the recommended type for your chair and never use a charger other than the one supplied for that purpose.
- 2. If the chair is not used for a long period of time arrange to have the batteries charged for at least one day (10-14 hours) every month, minimum.
- 3. Periodically, check that the battery terminals are clean and the connections are tight. Smear a thin film of petroleum jelly on the terminals to guard against corrosion. Always wash your hands after handling batteries.

# MAINTENANCE AND CLEANING

An electric wheelchair needs some basic attention to ensure it provides reliable service. We recommend that the user ensures that the power wheelchair is checked regularly for maintenance requirements and receives a thorough, annual maintenance check up.

#### Annual Maintenance

We recommend that the chair has at least one full service per year from an authorized dealer. This will ensure that your power chair is functioning properly and also helps prevent future complications. This should include:

- 1. Checking the tires.
- 2. Checking the batteries and terminals.
- 3. Checking the controller program for the user's needs.
- 4. Checking the frame.
- 5. Checking the upholstery condition.

#### Regular Maintenance and Cleaning

- 01. Avoid knocking or bumping the controller, especially the joystick.
- 02. Avoid prolonged exposure of your power chair to extreme conditions, such as heat, cold, or moisture.
- 03. Keep the controller clean.
- 04. Check that all controller connectors are tight and secured properly.
- 05. Never hose off your power chair or place it in direct contact with water.
- 06.Keep the upholstery and frame clean by wiping with a soft cloth, particularly after driving through wet, sandy or muddy conditions. Do not use harsh abrasive materials when cleaning. Do not apply liquid cleaners or solvents directly to the control box, battery charger or any electrical connections.
- 07. Keep wheels free from lint, hair, sand and carpet fibres.
- 08. Lightly oil axle pin, wheel axles and bearings once every three months, if necessary.
- 09.Inspect the tires. Tread depth should not be allowed to drop below 1/16".
- 10.Use only recommended batteries and have batteries changed by Qualified Dealer if you have doubts about your ability to lift the components.
- 11. Charge batteries regularly. Make sure the charger lead plugs are engaged properly in the sockets. Do not disconnect by pulling the cord.
- 12. With the controller turned off, check the joystick. Make sure it is not bent or damaged and that it returns to the center when you release it. Check the rubber boot around the base of the joystick for damage. Visually inspect the boot. Do not handle or try to repair it. See your authorized dealer for any questions.
- 13. Visually inspect the controller harnesses. Make sure that they are not frayed, cut or have any wires exposed. See your authorized dealer if there is a problem with any of these harnesses.
- 14. Ensure that all parts of the controller system are securely fastened to your chair. Do not over tighten any screws.

# SPECIFICATION

Overall Width Overall Height Front Wheels Rear Wheels 13" Weight W/ Batteries Max. Speed Somph Weight Capacity Ground Clearance Grade Climbable Turning Radius Brake Electro-Mechanical Seat Type Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt Seat Depth Armrest Height Seat Back Angle Seat Width Drive Train Date of the Allow Adout rear the Allow Rear the	Overall Length	41"
Front Wheels 7.9"  Rear Wheels 13"  Weight W/ Batteries 143.5 lbs  Max. Speed 5 mph  Weight Capacity 350 lbs  Ground Clearance 3.2"  Grade Climbable 8 degree  Curb Climbable 1"  Turning Radius 33.5"  Brake Electro-Mechanical  Seat Type Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth 15.6"  Armrest Height 7.5"  Seat Back Angle 100 degree  Seat Width 20"  Drive Train 2 Motor, Rear-Wheel Drive  Motor Size 420W, 4600 r.p.m  Battery Size (2) 12V. 36Ah	Overall Width	27.4"
Rear Wheels 13"  Weight W/ Batteries 143.5 lbs  Max. Speed 5 mph  Weight Capacity 350 lbs  Ground Clearance 3.2"  Grade Climbable 8 degree  Curb Climbable 1"  Turning Radius 33.5"  Brake Electro-Mechanical  Seat Type Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth 15.6"  Armrest Height 7.5"  Seat Back Angle 100 degree  Seat Width 20"  Drive Train 2 Motor, Rear-Wheel Drive  Motor Size 420W, 4600 r.p.m  Battery Size (2) 12V. 36Ah	Overall Height	40"
Weight W/ Batteries  Max. Speed  5 mph  Weight Capacity  350 lbs  Ground Clearance  3.2"  Grade Climbable  8 degree  Curb Climbable  1"  Turning Radius  Brake  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Type  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Back Angle  Seat Back Angle  Seat Back Height  T.5"  Seat Back Height  18.5"  Seat Width  20"  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  Battery Size  (2) 12V. 36Ah	Front Wheels	7.9"
Max. Speed 5 mph  Weight Capacity 350 lbs  Ground Clearance 3.2"  Grade Climbable 8 degree  Curb Climbable 1"  Turning Radius 33.5"  Brake Electro-Mechanical  Seat Type Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth 15.6"  Armrest Height 7.5"  Seat Back Angle 100 degree  Seat Back Height 18.5"  Seat Width 20"  Drive Train 2 Motor, Rear-Wheel Drive  Motor Size 420W, 4600 r.p.m  Battery Size (2) 12V. 36Ah	Rear Wheels	13"
Weight Capacity  Ground Clearance  Grade Climbable  Curb Climbable  Turning Radius  Brake  Electro-Mechanical  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Type  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth  15.6"  Armrest Height  7.5"  Seat Back Angle  Seat Back Height  100 degree  Seat Back Height  18.5"  Seat Width  20"  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  420W, 4600 r.p.m  Battery Size  (2) 12V. 36Ah	Weight W/ Batteries	143.5 lbs
Ground Clearance Grade Climbable 8 degree Curb Climbable 1" Turning Radius 33.5" Brake Electro-Mechanical Seat Type Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt Seat Depth 15.6" Armrest Height 7.5" Seat Back Angle 100 degree Seat Back Height 18.5" Seat Width 20" Drive Train 2 Motor, Rear-Wheel Drive Motor Size 420W, 4600 r.p.m Battery Size (2) 12V. 36Ah	Max. Speed	5 mph
Grade Climbable  Curb Climbable  1"  Turning Radius  Brake  Electro-Mechanical  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth  Armrest Height  Seat Back Angle  Seat Back Height  100 degree  Seat Back Height  18.5"  Seat Width  20"  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  420W, 4600 r.p.m  Battery Size  (2) 12V. 36Ah	Weight Capacity	350 lbs
Curb Climbable  Turning Radius  Brake  Electro-Mechanical  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth  Armrest Height  Seat Back Angle  Seat Back Height  Seat Width  Drive Train  Battery Size  1"  33.5"  100 Back Rest	Ground Clearance	3.2"
Turning Radius  Brake  Electro-Mechanical  Seat Type  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth  Armrest Height  Seat Back Angle  Seat Back Height  100 degree  Seat Back Height  18.5"  Seat Width  20"  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  420W, 4600 r.p.m  Battery Size  (2) 12V. 36Ah	Grade Climbable	8 degree
Brake  Electro-Mechanical  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth  Armrest Height  Seat Back Angle  Seat Back Height  100 degree  Seat Back Height  18.5"  Seat Width  20"  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  420W, 4600 r.p.m  Battery Size  (2) 12V. 36Ah	Curb Climbable	1"
Seat Type  Padded Breathable Ballistic Nylon Back Rest W/ Adjustable Back Angle & Seat Belt  Seat Depth  15.6"  Armrest Height  7.5"  Seat Back Angle  100 degree  Seat Back Height  18.5"  Seat Width  20"  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  420W, 4600 r.p.m  Battery Size  (2) 12V. 36Ah	Turning Radius	33.5"
Seat Type  W/ Adjustable Back Angle & Seat Belt  Seat Depth  15.6"  Armrest Height  7.5"  Seat Back Angle  100 degree  Seat Back Height  18.5"  Seat Width  20"  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  420W, 4600 r.p.m  Battery Size  (2) 12V. 36Ah	Brake	Electro-Mechanical
Armrest Height 7.5"  Seat Back Angle 100 degree  Seat Back Height 18.5"  Seat Width 20"  Drive Train 2 Motor, Rear-Wheel Drive  Motor Size 420W, 4600 r.p.m  Battery Size (2) 12V. 36Ah		
Seat Back Angle  Seat Back Height  18.5"  Seat Width  20"  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  420W, 4600 r.p.m  Battery Size  (2) 12V. 36Ah	Seat Type	
Seat Back Height  Seat Width  20"  Drive Train  Motor Size  Battery Size  18.5"  2 Motor, Rear-Wheel Drive  420W, 4600 r.p.m  (2) 12V. 36Ah		W/ Adjustable Back Angle & Seat Belt
Seat Width  Drive Train  2 Motor, Rear-Wheel Drive  Motor Size  420W, 4600 r.p.m  Battery Size  (2) 12V. 36Ah	Seat Depth	W/ Adjustable Back Angle & Seat Belt  15.6"
Drive Train 2 Motor, Rear-Wheel Drive  Motor Size 420W, 4600 r.p.m  Battery Size (2) 12V. 36Ah	Seat Depth Armrest Height	W/ Adjustable Back Angle & Seat Belt  15.6"  7.5"
Motor Size 420W, 4600 r.p.m  Battery Size (2) 12V. 36Ah	Seat Depth Armrest Height Seat Back Angle	W/ Adjustable Back Angle & Seat Belt  15.6"  7.5"  100 degree
Battery Size (2) 12V. 36Ah	Seat Depth Armrest Height Seat Back Angle Seat Back Height	W/ Adjustable Back Angle & Seat Belt  15.6"  7.5"  100 degree  18.5"
	Seat Depth Armrest Height Seat Back Angle Seat Back Height Seat Width	W/ Adjustable Back Angle & Seat Belt  15.6"  7.5"  100 degree  18.5"  20"
Weight of Batteries 55 lbs	Seat Depth Armrest Height Seat Back Angle Seat Back Height Seat Width Drive Train	W/ Adjustable Back Angle & Seat Belt  15.6"  7.5"  100 degree  18.5"  20"  2 Motor, Rear-Wheel Drive
	Seat Depth Armrest Height Seat Back Angle Seat Back Height Seat Width Drive Train Motor Size	W/ Adjustable Back Angle & Seat Belt  15.6"  7.5"  100 degree  18.5"  20"  2 Motor, Rear-Wheel Drive  420W, 4600 r.p.m
Travel Range 12 Miles	Seat Depth Armrest Height Seat Back Angle Seat Back Height Seat Width Drive Train Motor Size Battery Size	W/ Adjustable Back Angle & Seat Belt  15.6"  7.5"  100 degree  18.5"  20"  2 Motor, Rear-Wheel Drive  420W, 4600 r.p.m  (2) 12V. 36Ah
Battery Charger 5A Off Board	Seat Depth Armrest Height Seat Back Angle Seat Back Height Seat Width Drive Train Motor Size Battery Size Weight of Batteries	W/ Adjustable Back Angle & Seat Belt  15.6"  7.5"  100 degree  18.5"  20"  2 Motor, Rear-Wheel Drive  420W, 4600 r.p.m  (2) 12V. 36Ah  55 lbs

<sup>\*</sup>Subject to change without notice. ( Rev. 0, 2020/02/07 )