

soma

User manual
SP-100



GENERAL WARNING

IMPORTANT

Do not attempt to use the wheelchair before a qualified person has explained to your satisfaction how to operate it without risk to yourself or others.



WARNING

- Do not operate this powered wheelchair before first reading and understanding this owner's manual. If you are unable to understand the warnings, cautions, suggestions and technical instructions, please contact a dealer, healthcare professional or applicable personnel before attempting to use this power wheelchair -- otherwise, injury or damage may occur. If any procedures other than those described in this owner's manual, it MUST be performed by a qualified technician.

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE BY KARMA.



WARNING

- As a manufacturer of powered wheelchairs, KARMA endeavors to supply a wide variety of powered wheelchairs to meet the many needs of the user. However, the responsibility of final selection of the type of powered wheelchair to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection. KARMA strongly recommends consulting a certified rehab technology supplier or assistive technology professional.



WARNING

- KARMA recommends that powered wheelchair users NOT be transported in vehicles of any kind while in a powered wheelchair. It is the position of Karma that users of powered wheelchairs should be transferred into appropriate seating in vehicles for transportation and make use of the restraints made available by the auto industry. Karma cannot and does not recommend any powered wheelchair transportation systems.
- It is the responsibility of the Durable Medical Equipment (DME) Dealer, therapists and other healthcare professionals to determine if a seat positioning strap is required to ensure the safe operation of this equipment by the user. Serious injury can occur in the event of a fall from a powered wheelchair.

Operating Information

- Performance adjustments should ONLY be made by professionals of the healthcare field or persons fully conversant with this process and the driver's capabilities. Incorrect settings could cause injury to the driver or bystanders and damage to the powered wheelchair and surrounding property.
- To determine and establish your particular safety limits, practice bending, reaching, mounting and dismounting activities in several combinations in the presence of a qualified healthcare professional BEFORE attempting active use of the powered wheelchair.
- For individuals with balance problems, practice mounting and dismounting activities WITH AN ASSISTANT in the presence of a qualified healthcare professional.
- If so equipped, DO NOT operate the wheelchair without anti-tippers being installed. Anti-tippers MUST BE attached at all times
- DO NOT attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees as this may cause loss of balance.
- DO NOT lean over the back of the chair to reach objects behind you as this may cause the powered wheelchair to tip over.
- DO NOT shift your weight or sitting position toward the direction you are reaching as the powered wheelchair may tip over.
- DO NOT use an escalator to move a powered wheelchair between floors. Serious bodily injury may occur.
- DO NOT operate in car lanes on roads, streets, highways, etc.
- DO NOT attempt to move up or down an incline with a water, ice or oil film.
- DO NOT attempt to ride over curbs or obstacles. Doing so may cause your powered wheelchair to turn over and cause bodily harm and/or damage to the powered wheelchair.
- DO NOT make sharp turns, in forward or reverse, at excessive speeds.
- DO NOT attempt to lift the powered wheelchair by its casings and seat.
- DO NOT attempt to lift the powered wheelchair by any detachable parts. Lifting by means of any detachable parts of a powered wheelchair may result in injury to the user or damage to the powered wheelchair. Please hold onto the frame when lifting your wheelchair.
- DO NOT operate the powered wheelchair until you have checked that the surroundings are clear and that the area is safe for travel.
- Please pay attention to the environment, and to keep away from the hazard of external flame. When the user is smoking, pay attention to safety and make sure to extinguish the fire when finished. Be alert to the environment when someone nearby is smoking or using a cigarette lighter, keep away from the hazard and use fire-proof cloth.
- DO NOT use parts, accessories or adapters other than those authorized by Karma. Before attempting to sit in or exit the power wheelchair, turn the power OFF. This will ensure that the power wheelchair will not drive. Turn the power OFF while the

wheelchair is not in use. Otherwise, injury and/or damage to the wheelchair and surrounding property may occur

- DO NOT connect any medical device (i.e., a ventilator, life support machine, et cetera) to the battery. This could cause unexpected failure of the device and the powered wheelchair. KARMA specifically disclaims responsibility to all personal injury and property damage that may occur during use which does not comply with applicable federal, state and local laws and ordinances.
- DO NOT stand on the footplates of the powered wheelchair.
- DO NOT use the wheelchair when the back is folded. This alters the centre of gravity and may cause the wheelchair to tip backwards. The back should only be folded for storage or transport of the wheelchair.
- DO NOT hang anything on the backjoints that could cause the backrest folding suddenly and may cause injury.
- DO NOT be towed by other vehicles(cars, motorcycles or bicycles, etc.). Only use freewheel mode on flat surfaces since your electromagnetic brakes are not engaged in this mode, without these brakes it will roll down a hill causing injury or damage. Never drive under the influence of alcohol or medication.
- **DO NOT** sit in the powered wheelchair within a moving vehicle unless it has been affixed the labels of hook mark. The labels of hook mark means that the powered wheelchair fulfils the performance requirements for a “Crash Test” of ISO 7176-19 and is suitable to use as a seat in vehicles that have been adapted for this purpose.



WARNING

- **As of this date, SP-100 can NOT be used as seats in any vehicles. That is, KARMA recommends that users are NOT transported in any vehicle while seated in the wheelchair. In the case of accident or a sudden stop, the user or passengers may be at risk of getting injury. The suggested solution is to transfer the user from the wheelchair into a vehicle seat and to securely stow the wheelchair in a separate compartment.**

Ramps

- DO NOT climb, go up or down ramps or traverse slopes greater than the Max Safe Slope for your model specified in Section 10.
- When negotiating ramps, if the joystick is released while moving forward, the powered wheelchair will roll backwards approximately one foot before the brake engages. If the joystick is released while in reverse, the powered wheelchair will roll backwards approximately two and a half feet before the brake engages.
- Be sure to reduce your speed when driving on curved roads or making a turn; do not drive at full speed. Please drive at a slower speed so you have complete control of the wheelchair.

Electrical

- Check to ensure that all electrical connections are secure at all times.
- Grounding Instructions: DO NOT, under any circumstances, cut or remove the round grounding prong from any plug. Some devices are equipped with three-prong (grounding) plugs for protection against possible shock hazards.
- Where a two-prong wall receptacle is encountered, it is the personal responsibility and obligation of the customer to contact a qualified electrician and have the two-prong receptacle replaced with a properly grounded three-prong wall receptacle/outlet in accordance with the National Electrical Code and local laws.
- Do not use an extension cord when charging your batteries. A risk of fire and /or electric shock could be encountered.

Batteries

- The warranty and performance specifications contained in this manual are based on the use of deep cycle sealed lead acid batteries.
- KARMA strongly recommends their use as the power source for this unit. (Refer to Section 6)
- Carefully read the battery and charger information prior to installing, servicing or operating your wheelchair.

Rain Test

- DO NOT leave your powered wheelchair in a rain storm of any kind.
- DO NOT use your powered wheelchair in a shower or leave it in a damp bathroom while taking a shower.
- DO NOT leave your powered wheelchair in a damp area for any length of time. Direct exposure to rain or dampness could cause the powered wheelchair to malfunction electrically and mechanically and may cause the powered wheelchair to prematurely rust.

Stairways

- DO NOT attempt to move an occupied powered wheelchair between floors using a stairway. (See Figure 1)
- Use an elevator to move an occupied powered wheelchair between floors. If moving a powered wheelchair between floors by means of a stairway, the occupant MUST be removed and transported independently of the powered wheelchair. Extreme caution is advised when it is necessary to move an UNOCCUPIED powered wheelchair up or down stairs.
- Karma recommends disassembling the wheelchair and transporting the components independently up or down stairs. Make sure to use ONLY secure, non-detachable parts on each component for hand-hold supports.



(Figure 1)

- DO NOT attempt to lift a powered wheelchair by any removable (detachable) parts. Lifting by means of removable (detachable) parts may result in injury to the user or assistants or damage to the wheelchair.

Escalators

- DO NOT use an escalator to move a powered wheelchair between floors. Serious bodily injury and damage to the wheelchair may occur.

You and Your Karma Service Provider

- No tools are required for assembly. Your wheelchair should be assembled by your authorized Karma dealer. Your authorized Karma dealer is also your service provider. Unauthorized repairs, upgrades and add-ons will negate your warranty.
- Anything wheelchair related that requires tools should be done by your authorized Karma service provider. Your Karma service provider has the necessary service manual for your wheelchair.
- If you have any defective parts or lose any parts, please contact your dealer for repair and/or replacement. Please only use parts authorized by Karma. Use of parts that are not authorized by Karma will negate your warranty.
- Part numbers are listed on our bill of materials (explosion drawings), which we give to our authorized dealers and service providers. Customers should order parts through their dealer as well as all repairs and scheduled maintenance.
- Customers should go to their dealership for all service needs to guarantee their warranty is not void. Always go to an authorized service provider. Unauthorized repairs will void your warranty. Procedures other than those described in this manual must be performed by a qualified technician. They also have the service manual with a complete list of maintenance required to keep your Karma wheelchair in top performance.
- Check the warranty section of this manual to find out what Karma guarantees and what maintenance service and parts that are not covered by the warranty.
- Karma does not have an official list of service providers at this time. Please contact your dealer for service. If you cannot contact your dealer, please contact another authorized Karma dealer for service. If all else fails, contact Karma directly via our website or give us a call and we can refer you to your new service provider.

CLASSIFICATION & INTENDED USE

- This chairwheel is classified as a class A mobility product for indoor and outdoor use. This wheelchair is suitable for users up to 100kg in weight. It also has an extremely durable aluminum alloy frame with tough accessory and does not suffer in dramatic extremes of temperature (neither user nor attendant need touch metal parts in normal use).
- Check with your local government as to legislation pertaining to mobility vehicles to assure your legal requirements to drive on public roads have been met, i.e. a pelvic belt, lighting, registration or licensing.

CE MARKING

- This powered wheelchair complies with the requirements of the Medical Devices Directive 93/42/EEC.



CAUTION

- Before purchasing and using Karma wheelchairs, please consult qualified professionals so as to ensure that you choose suitable products and use them correctly as well. For safety reasons, if there is any risk due to the user's movement in the wheelchair or other environmental factors that might cause the wheelchair to tip or the person on the wheelchair to fall off, Karma recommends that you install anti-tippers, pelvic belt, or other additional safety accessories.



WARNING

- When prescribing wheelchairs for use by full or partial amputees (above or below knee, single or double) or other conditions that affects the user's natural centre of gravity and might cause the wheelchair to tip or the person on the wheelchair to fall off, we suggest contacting your therapist or dealer as well as attaching anti-tippers, pelvic belt, safety belt, or other additional safety accessories.
- When using the wheelchair, ALWAYS follow the Highway Code or your local traffic regulations when outdoors and the guidelines written in this manual.

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1. PREFACE

Please carefully read this owner's manual before using the wheelchair. Improper use of the wheelchair could result in harm, injury or traffic accidents. Therefore, for safe and enjoyable use of the wheelchair, please read this owner's manual.

1.1 This owner's manual includes operation instructions for the aspects of the wheelchair, assembly instructions, and instructions on how to deal with possible accidents.

1.2 The symbols used in this manual are explained below. Pay special attention to the parts marked with these symbols.

 WARNING	Improper use could lead the user to severe injury or death.
 CAUTION	Improper use could lead the user to severe injury and/or damage to your wheelchair.
 SUGGESTION	Follow these instructions to keep the wheelchair in good condition.

1.3 This manual includes the repair and maintenance chart as well as the Warranty. Please keep it in a safe place or with the wheelchair.

1.4 If someone else uses the wheelchair, make sure that you give him or her this owner's manual for his or her reference.

1.5 As designs change, some illustrations and pictures in this manual may not correspond to the vehicle that you purchased. We reserve the right to make design modifications without further notice.

2. SAFETY

2.1 Before Driving

2.1.1 The user must be familiar with the use and operation of this wheelchair before driving.

2.1.2 Therefore, please always keep these safety guidelines in mind.

2.2 Traffic Rules

2.2.1 Pedestrian traffic rules apply to this wheelchair. Please be safe.

2.2.2 Drive only on pedestrian areas such as the sidewalk. Never drive the wheelchair on the highway.

2.2.3 Be aware of other vehicles when crossing all roads.

2.2.4 Be extremely cautious when driving your wheelchair in heavy traffic or the shopping mall.

2.2.5 DO NOT drive your wheelchair when you feel tired or consume alcohol.

2.2.6 Please do not drive your wheelchair at night.

2.2.7 Please follow pedestrian traffic lights.

2.3 Practice Driving

2.3.1 Before you are familiar with the operation of your wheelchair please practice in a wide and open area, like a park.

2.3.2 To avoid falling off your wheelchair please practice all kinds of driving motions, such as accelerating, stopping, turning, reversing and going up and down ramps.

2.3.3 Please set the speed to medium when you first start practicing.

2.3.4 Be safe. Make sure someone accompanies you in case you need assistance.

2.3.5 Be sure you are able to control and operate your wheelchair easily and confidently before you move the speed higher.

2.4 No Passengers

KARMA wheelchair is limited to one driver. Do not carry passengers (including children) on your wheelchair.

2.5 No Hauling Heavy Goods

Do not use this wheelchair to carry or haul heavy goods. The maximum weight that can be carried, including goods, is stated beside "Max. User Weight" in section 10. SPECIFICATIONS.

2.6 Rain

This product is not guaranteed to be water resistant. Please do not drive in the rain, through puddles or spray water to clean this product. (See Figure 2.1)

2.7 While Driving

Please carry out daily inspections. Refer to section 7.1 DAILY CHECK.

2.8 General Warning

Do not lean over the side of the wheelchair as such an action may cause you to lose balance and fall.

Use caution to assure your clothing doesn't get tangled with the wheels.

2.9 Railroad Crossing

Before crossing the tracks, please stop completely and look both ways.

Cross the tracks perpendicular to avoid your wheels getting stuck.

Do not drive at full speed over railroad tracks.

2.10 Circumstances to Avoid

2.10.1 Avoid roads with heavy traffic, mud, excessive gravel or bumps, snow and ice.

These conditions may damage your wheelchair.

2.10.2 Avoid roads that are too narrow or by a canal/waterway without any fence/hedge.

2.10.3 Also avoid places where your wheels might get stuck, slip or not have traction.

2.10.4 Do not drive in a gale, at night or in rainy/snowy/foggy/misty weather.

These conditions may cause your wheelchair to rust. (See Figure 2.2)

2.10.5 Do not drive in a S curve, do doughnuts or make sudden turns.

2.10.6 Do not take an escalator.

2.11 Mobile Phones and Other Electric Equipment

- 2.11.1 Do not use a mobile phone or other wireless communication devices while driving. (See Section 3. EMI/RFI)
- 2.11.2 Do not charge the mobile phone or other electric devices from your wheelchair's batteries.

2.12 Ramps, Inclines and Drops

- 2.12.1 Do not drive onto a steep ramp. Refer to "Max. Climbing Ability" in Section 10. SPECIFICATIONS for your wheelchair's maximum climbing angle.
- 2.12.2 When climbing up to an inclined road, please set the speed higher than the medium speed and drive carefully. (See Figure 2.3)
- 2.12.3 When going down an inclined road, set the speed to "1" and never use reverse.
- 2.12.4 Do not drive on a road with many bumps and holes close to each other, such as potholes or washboard roads. (See Figure 2.4)
- 2.12.5 Do not make sudden turns when driving on gravel roads or ramps.
- 2.12.6 The maximum surmountable obstacle height is 5.5 cm for your wheelchair(with optional curb climber is up to 8 cm). Exceeding this obstacle height will damage your wheelchair and void your warranty. (See Figure 2.5)
- 2.12.7 When negotiating an obstacle slow down, put your seat into the full upright position and approach it head on (perpendicular).
- 2.12.8 Just before the obstacle, speed up until the entire wheelchair has conquered the obstacle. Negotiating an obstacle at an angle may cause your wheelchair to tip over. Don't do it!
- 2.12.9 When climbing down a curb, slow down just before you get to it and only speed up after the entire wheelchair has lowered to the road.
- 2.12.10 Again, descending obstacles should be done perpendicularly. (See Figure 2.6)
- 2.12.11 Karma does not design wheelchairs to take jumps over or off obstacles. Doing so will void your warranty.



WARNING

- Do not set the wheelchair in freewheel mode when on an incline or decline.
- If you breakdown on railroad tracks, first, check for an oncoming train. If a train is coming, get out of its way immediately! If no train is coming, set to freewheel mode and push the wheelchair off the tracks.

2.13 Maximum User Weight Limit

2.13.1 Refer to "Max. User Weight" in Section 10. SPECIFICATIONS.

2.13.2 Loading exceeding maximum capacity can damage your wheelchair and cause malfunctions yielding a safety hazard. The warranty does not cover damage caused by improper operation of the wheelchair.



(Figure 2.1)



(Figure 2.2)



(Figure 2.3)



(Figure 2.4)



(Figure 2.5)



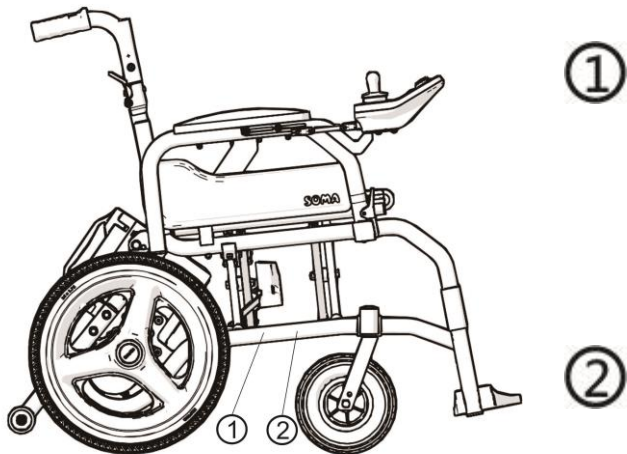
(Figure 2.6)

2.14 Service life

The expected service life of the product is **two years**, presuming that the product is used daily in accordance with the safety operation instructions, inspection and maintenance instructions, and intended use, which described in this manual.

2.15 SP-100 Labeling

Please carefully read all the labeling on the wheelchair before driving it. Do not remove them. Protect them for future reference.



①

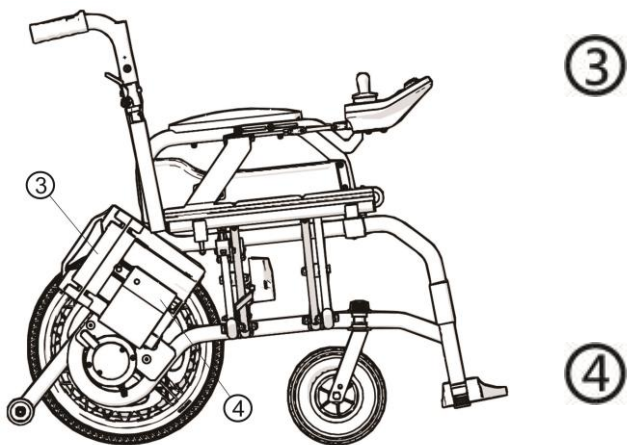


[Recycle]

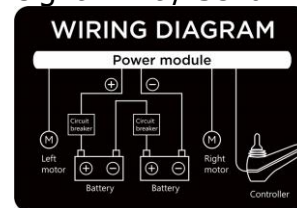
Karma Medical Products Co., Ltd.		
2363, Sec. 2 University Rd., Min-Hsiung, Chia-Yi 621, Taiwan		
TYPE	SP-100	
V max.	6 km/h	max.
	100 kg	6°
SN: _____		

EC	REP	Karma Medical European representative:
KARMA MOBILITY, S.L.		
C/ PERIODISTA FRANCISCO CARANTOÑA DUBERT, 23 Bajo 33209 GIJÓN - ASTURIAS (SPAIN)		
Tel: (+34) 984 390 907 E-mail: karma@karmamobility.es		

[CE/ Weight Limit / Serial Number]



③



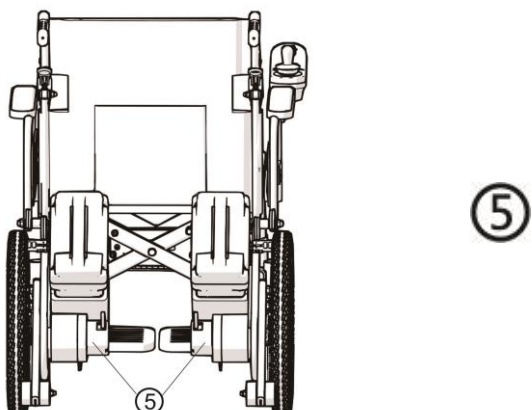
[Wiring Diagram]

Do not change the wiring.



[Circuit Breaker]

If the circuit breaker is triggered, reset it by pushing the button.



⑤



[Freewheel Lever]

Follow the label to engage or release it.

3. EMI/RFI

This section provides the user with basic information about the problems with EMI, known sources of EMI and protective measures either to reduce the possibility of exposure or to minimize the degree of exposure. This section also shows some conditions in which unexpected or erratic wheelchair movements may occur.



CAUTION

- **It is very important that you read this information regarding the possible effects of electromagnetic interference on your electric KARMA wheelchair**

3.1 Electromagnetic Interference From Radio Wave Sources

3.1.1 Powered vehicles may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations (Radio Frequency Interference), TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the powered vehicle to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the powered vehicle's control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each powered vehicle can resist EMI up to a certain intensity. This amount of resistance is called its immunity level. The higher the immunity level, the greater the protection. 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. This powered vehicle model, with no further modification, has an immunity level of 20 V/m without any accessories.

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

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

3.2.1 Hand-held portable transceivers (transmitter-receivers) with the antenna mounted directly on the transmitting unit, such as citizens band (CB) radios, walkie-talkies, security and fire or police transceivers, cellular telephones and other personal communication devices;

NOTE:

Some cellular telephones or similar devices transmit signals while they are ON, even though they are not in use.

3.2.2 Medium-range mobile transceivers used in police cars, fire trucks, ambulances and taxis usually having the antenna mounted on the outside of the vehicle; and

3.2.3 Long-range transmitters and transceivers, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

NOTE:

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

3.3 Powered Vehicle Electromagnetic Interference (EMI)

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 too close to the powered vehicle's control system while using these devices. This can affect your powered vehicle's movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the powered vehicle.

3.4 Warnings

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios and cellular phones can affect powered vehicles and motorized wheelchairs.

Following the warnings listed below should reduce the chance of unintended brake release or powered vehicle movement which could result in serious injury.

3.4.1 Do not operate hand-held transceivers-receivers such as citizens band (CB) radios or turn ON personal communication devices such as cellular phones, while the powered vehicle is turned ON.

3.4.2 Be aware of nearby transmitters, such as radio or TV stations, and try to stay away from them.

3.4.3 If unintended movement or brake release occurs, turn the powered vehicle OFF as soon as it is safe.



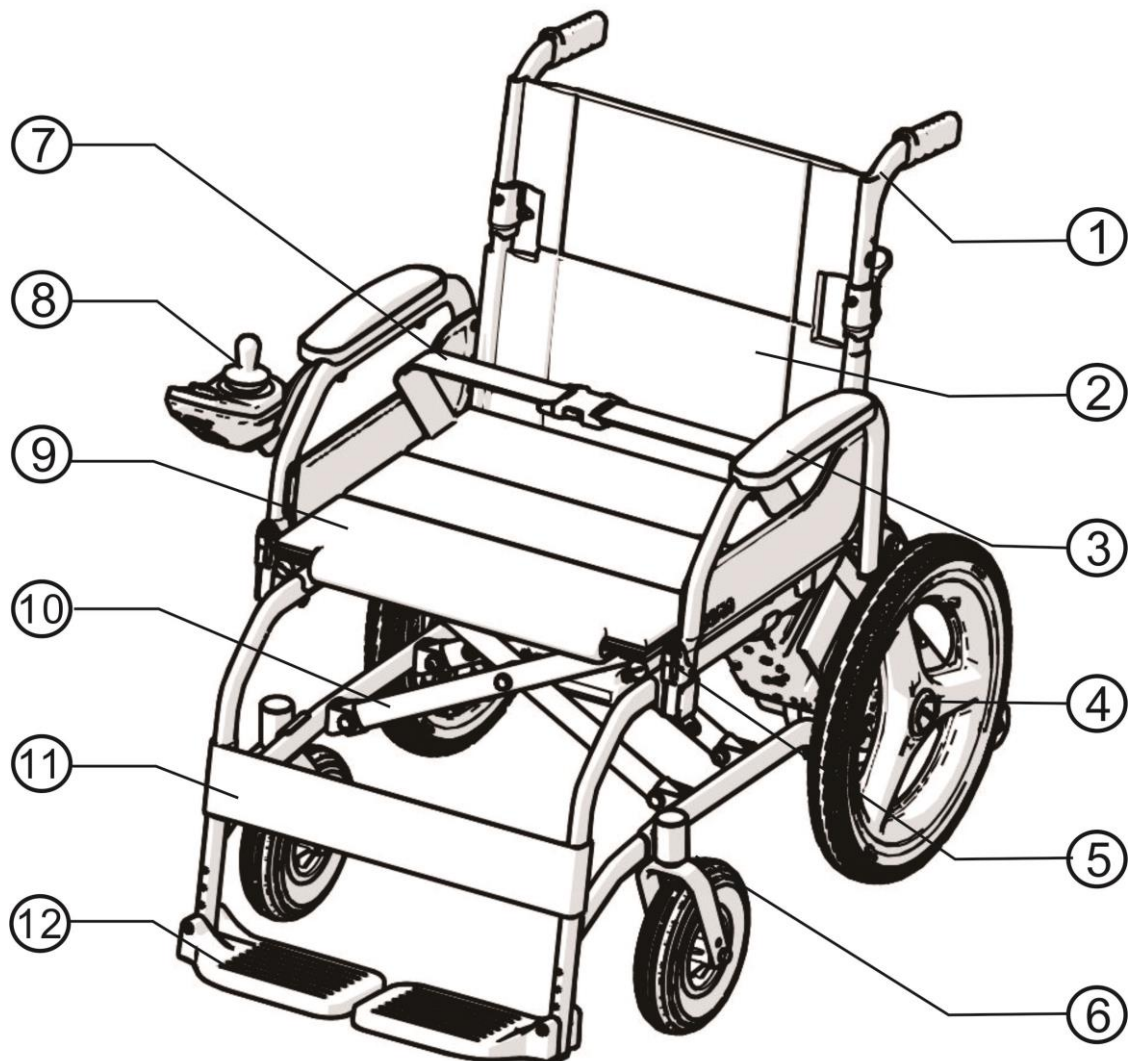
CAUTION

- **Some stores may have automatic (sensor) doors and alarm systems set at certain frequencies that might affect your powered wheelchair**

3.4.4 Be aware that adding accessories/components or modifying the powered vehicle may make it more susceptible to EMI. There is no easy way to evaluate their effect on the overall immunity of the powered vehicle.

3.4.5 Report all incidents of unintended movement or brake release to your powered vehicle dealer or KARMA, and note whether there was a source of EMI nearby.

4. PARTS



1. Handle

2. Backrest

3. Armrest

4. Rear Wheel

5. Armrest Lever Assembly

6. Caster

7. Pelvic Belt

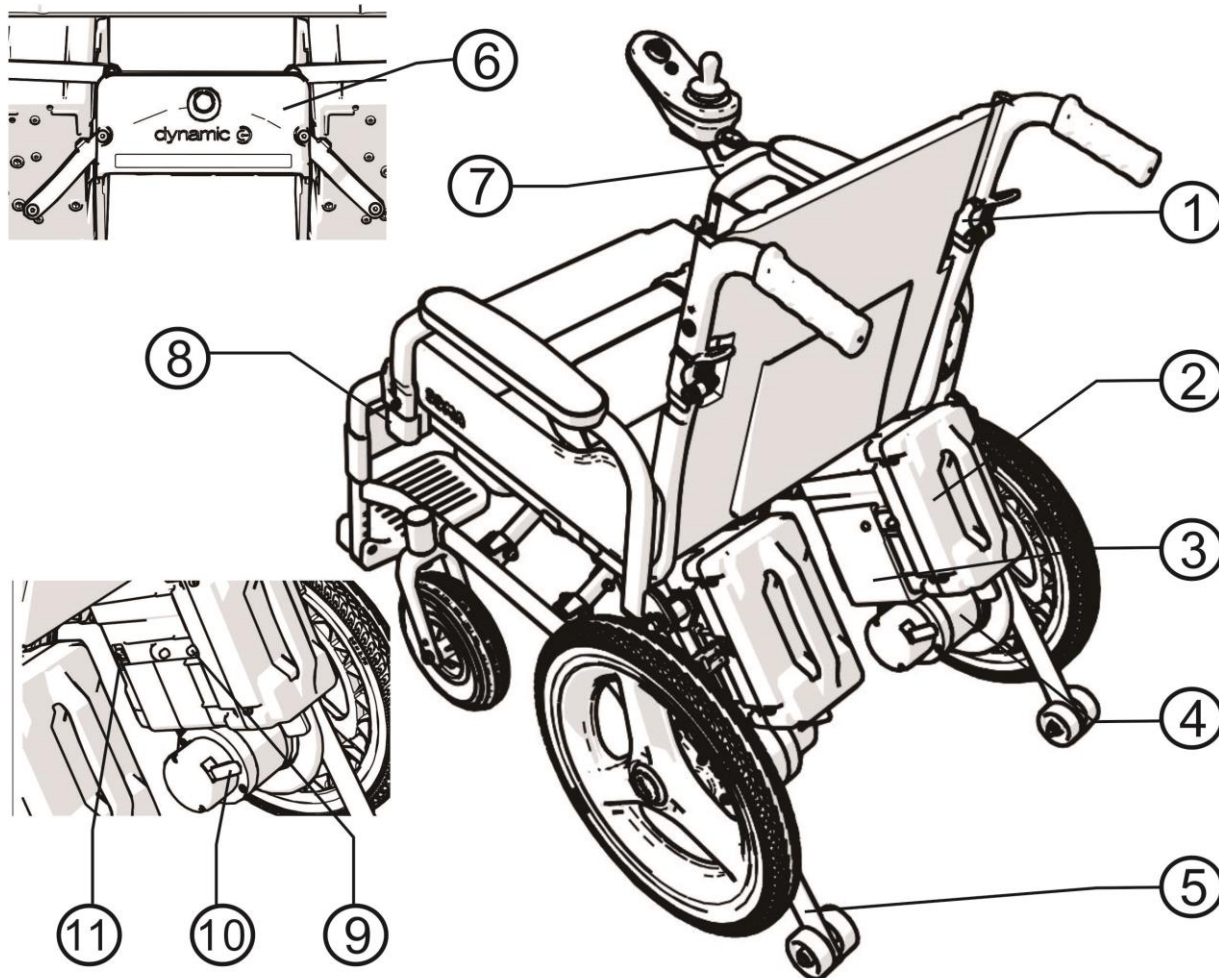
8. Joystick Controller

9. Seatrest

10. Crossbar

11. Calf Strap

12. Footplate



- | | |
|-----------------------|------------------------------------|
| 1. Back Joint | 7. Adjustable Bracket for Joystick |
| 2. Battery Pack | 8. Armrest Fixing Block |
| 3. Battery Pack Frame | 9. Battery Release Clip |
| 4. Motor | 10. Freewheel Lever |
| 5. Anti-Tipper | 11. Circuit Breaker |
| 6. Controller | |



CAUTION

● As designs change, some illustrations and pictures in this manual may not correspond to the vehicle that you purchased. We reserve the right to make design modifications without further notice .

5. OPERATION

5.1 Preparing For Use

5.1.1 Unpacking

5.1.1.1 If any part proves defective or missing, please notify your dealer immediately.

5.1.1.2 Please consult this owner's manual for complete instructions on the installation and operation of your wheelchair.

5.1.2 Unfolding

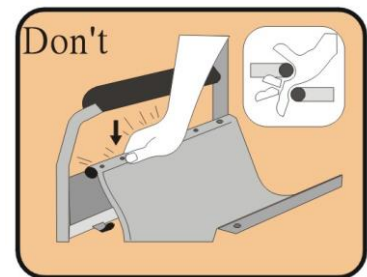
5.1.2.1 Stand at the side of the wheelchair as you prefer, hold the Handles and turn them upwards to the fixing positions. Ensure they are properly locked.

5.1.2.2 Put your two hands on the seat pad and push down until the seat is fully lowered, be careful not to get your fingers caught. Make sure the frame is firmly seated in its holder.



CAUTION

- While completing step 5.1.2.2, never put your fingers around the sides or under the wheelchair as they can be trapped between the seat and the frame. (See the figure at the right.)



5.1.2.3 Refer to 5.1.6 to install the battery. Ensure the battery release clip holds the battery pack properly.

5.1.2.4 Connect the controller cables and power cables. Set the speed to the lowest setting. Turn the power on to check whether the controller panel and indicators to normal.

5.1.3 Folding

5.1.3.1 Turn off the power. Disconnect the controller cables and power cables.

5.1.3.2 Open the battery release clip and remove the battery.

5.1.3.3 Pull up the seat by holding the front and the back of the seat. (Figure 5.1).

5.1.3.4 Push both side frame inwards. Folding is now completed. (Figure 5.2).

5.1.3.5 Release the lever of back joint. Hold the Handles and turn them downwards to the lowest position. (Figure 5.3)



Figure 5.1



Figure 5.2



Figure 5.3



CAUTION

- Be careful not to get your fingers caught when folding the wheelchair .

5.1.4 Footplate Adjustmen

5.1.4.1 Unfolding and folding (Figure 5.4).

5.1.4.1.1 Fold the footplate by pulling the footplate upwards

5.1.4.1.2 Unfold it by press it downward.

5.1.4.2 Adjust the footplate height.

5.1.4.2.1 Use the Allen Key wrench provided by KARMA to loosen the bolt in front of the footplate. Adjust the footplate to the appropriate length

5.1.4.2.2 After completing the adjustment, tighten the bolt.

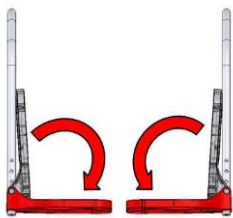


Figure 5.4



Figure 5.5



Figure 5.6



Figure 5.7



CAUTION

- The distance between the footplates to the floor must be more than 3 cm from the floor. (See Figure 5.5) .
- Make sure that the footplate height is adjusted properly according to the user's calf length to reduce pressure on the body. (Figure 5.6 and 5.7) .

5.1.5 To flip-back the armrest.

5.1.5.1 Release the armrest fixing block and turn the armrest backwards. (Figure 5.8)

5.1.5.2 Ensure the armrest is properly inserted into the armrest fixing block when turn the armrest back to the normal operation position.(Figure 5.9)

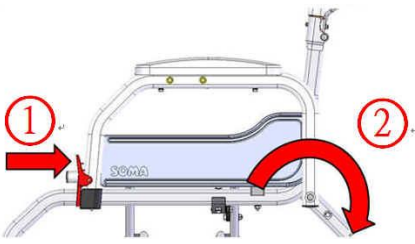


Figure 5.8

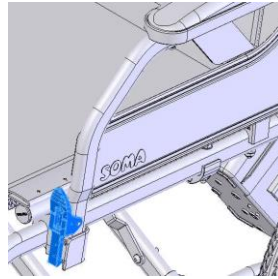


Figure 5.9

5.1.6 Install the battery

5.1.6.1 Insert the battery pack to the holding frame. Push the battery pack forwards. (Figure 5.10)

5.1.6.2 Ensure the battery release clip holds the battery pack properly. (Figure 5.11 & Figure 5.12).

5.1.6.3 Connect the battery plugs.(Figure 5.13)

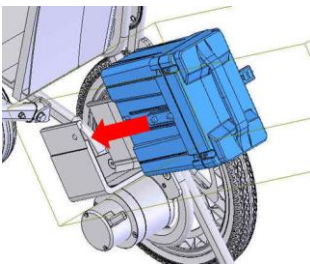


Figure 5.10

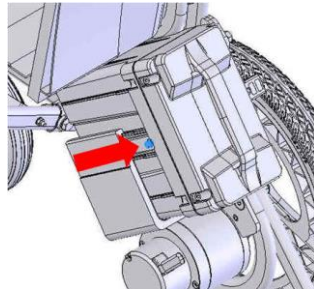


Figure 5.11

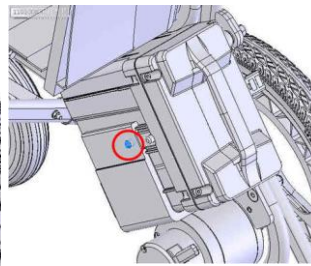


Figure 5.12



Figure 5.13



CAUTION

● The weight of the battery pack could be up to 7.7kg. Please handle with care .

5.1.7 Anti-Tippers

The main purpose of anti-tippers is to prevent the user from tipping over backward

5.1.7.1 To Install the Anti-Tippers.

5.1.7.1.1 Fasten the two screws and ensure the anti-tipper is properly installed.

(Figure 5.14)

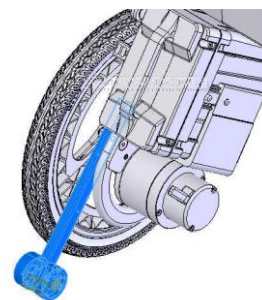
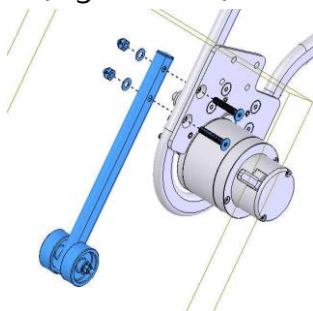


Figure 5.14

5.1.7.2 To Remove the Anti-Tippers

5.1.7.2.1 Loosen the two screws and remove the anti-tipper.



CAUTION

- For your safety, do not remove the anti-tippers when operating the wheelchair .
- If the anti-tippers are not fitted, or have been fitted incorrectly, there is a risk of tipping over and of injury.

5.2 Getting into Your Wheelchair

5.2.1 Ensure the power is off and freewheel levers of both motors are in drive model for preventing you from sliding.

5.2.2 Flip the footplates up .

5.2.3 The user lowers the body and sits on the wheelchair gently.

5.2.4 Fold down the footplates and position your feet on them.

5.3 Getting out of Your Wheelchair

5.3.1 Ensure the power is off and freewheel levers of both motors are in drive model for preventing you from sliding.

5.3.2 Flip the footplates up .

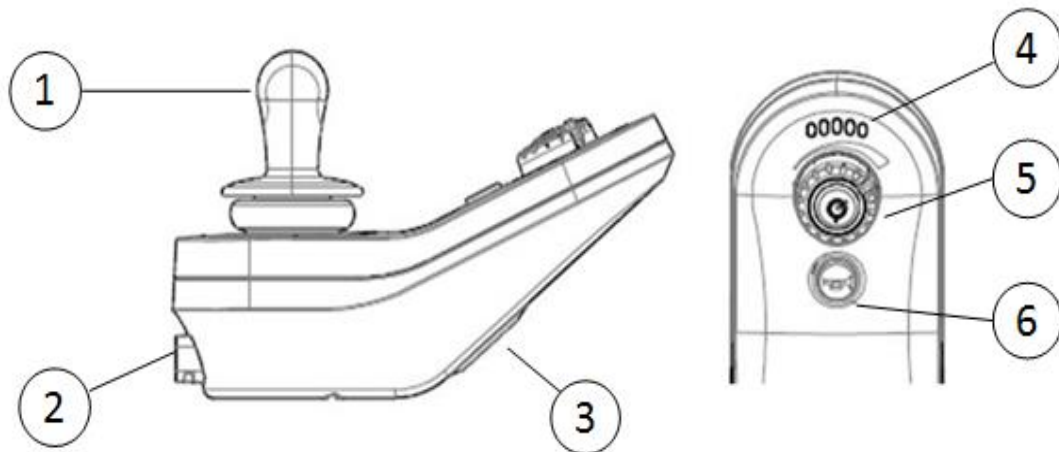
5.3.3 With one hand on the armrest, the person should bend slightly forward, to bring the body weight to the front of the seat, and then with both feet firmly on the ground and one foot behind the other, push up into the upright position.



CAUTION

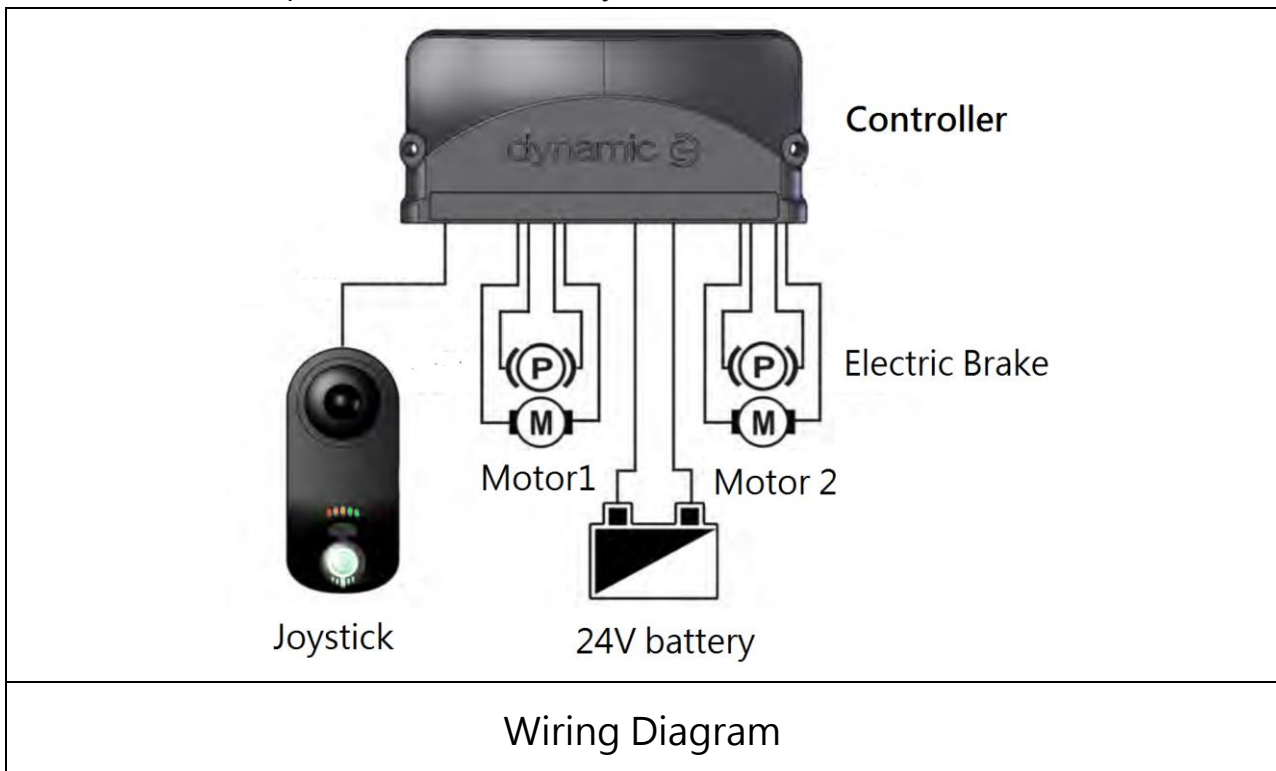
- Ensure freewheel levers of both motors are in drive mode .
- If necessary, have an attendant to assist you.

5.4 How to Operate Your wheelchair



1. Joystick
2. Socket for Power Cable
3. Charger Socket
4. Battery Gauge and Diagnostics Indicator
5. Power Button/Speed Adjustment Knob
6. Horn Button

Do not use the chair before you are familiar with how to operate the controller.
The software parameters was set by the





CAUTION

- Do not use the chair before you are familiar with how to operate the controller .



CAUTION

- The controller unit is set to ensure that the chair can give its best performance. Should the setting be adjusted due to medical needs, the adjustment should be made by KARMA dealers. Do not change or adjust the wiring layout of the chair for your safety .

5.4.1 Power ON/OFF

Press the power button. Be sure not to touch the joystick while switching on the controller. Your battery & diagnostics indicator should light up.

5.4.2 Speed Adjustment Buttons

The speed adjustment buttons allows you to set various forward .



CAUTION

- Please slow down before you get used to control your powered wheelchair.
- Please slow down your speed when driving indoors.

5.4.3 Forward, Reverse and Braking

Push forward on the joystick to make the wheelchair move forward .

Pull back on the joystick for the wheelchair to move backward

Release the joystick and the wheelchair will quickly slow down, the electromagnetic brake will be activated to stop the wheelchair.

Come to a complete stop before turning the power OFF.



CAUTION

- The stopping distance will vary with your forward/reverse speed.
- Therefore, please gradually slow down and come to a complete stop well before any obstacles or danger.
- To park the wheelchair, be sure to park on flat ground and then turn the power to OFF.
- NEVER use the freewheel mode when going down an incline.
- The electromagnetic brake won't function in freewheel mode.

5.4.4 Horn Button

The horn will sound for the duration of time the button is pressed .

5.4.5 Locking / Unlocking the Wheelchair

The control system can be locked to prevent unauthorized use .

5.4.5.1 To lock the wheelchair

5.4.5.1.1 While the control system is on, press and hold the power button for 4 seconds. The power indicators will flash.

5.4.5.1.2 The wheelchair is now locked.

5.4.5.2 To unlock the wheelchair

5.4.5.2.1 While the control system is off, press the power button and press the horn button 2 times. The power indicators will flash.

5.4.5.2.2 The wheelchair is now unlocked.

5.5 Motor Brakes

5.5.1 Electro-magnetic brakes operate automatically when the controller joystick is central with a delay of approximately 1/2 second. The controller automatically provides progressive deceleration before the electro-magnetic brakes come into operation.

5.5.2 To check the brakes are operating correctly: switch the wheelchair on and move the joystick in any direction. The brakes should disengage. Repeat this check in all four directions ensuring the brakes engage each time the joystick is released to its central position. An audible click from each motor indicates the brakes are working.

5.6 Freewheel Levers

The freewheel levers allow manual pushing of the powered wheelchair if required.

5.6.1 Freewheel Mode: This is to allow manual pushing of the powered wheelchair.

To set the chair into freewheel mode, push up the levers positioned at the both sides of the chair. When the levers are pushed up completely, then release the levers, and the powered wheelchair is now in freewheel mode. (Figure 5.16)

5.6.2 Drive mode: Make sure to pull both the levers down, and then the wheelchair can be driven by motor power. (Figure 5.17)

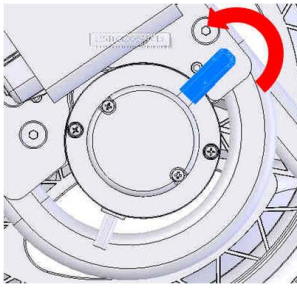


Figure 5.16

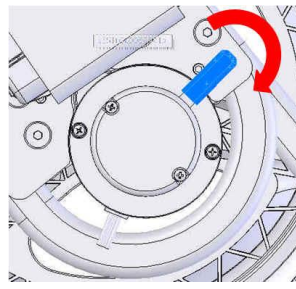


Figure 5.17



CAUTION

- When the rear wheels are in freewheel mode, please make sure that there is an attendant available for offering assistance.
- Do not set the wheelchair in freewheel mode when on an incline or decline to avoid the chair from rolling down a hill and cause injury or damage.
- Always ensure that the freewheel hubs are engaged before turning on the controller.

5.7 Tire

Both casters and rear wheels are PU tires. For your safety, Do not touch the tires and keep your hands away from them.

5.8 Circuit Breaker

If the motor is overloaded, the circuit breaker will be triggered to protect the motor. Reset the circuit breaker after the cause of overload is solved. (Figure 5.18)

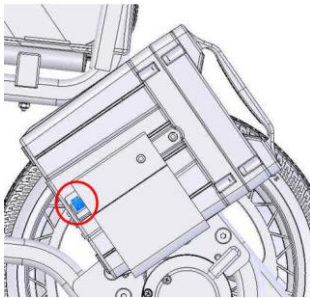


Figure 5.18

5.9 Adjusting the length of the pelvic belt

5.9.1 Identify the require length of the belt. (Figure 5.19)

5.9.2 Push the two part of belt through buckle to make the belt longer or shorter.
(Figure 5.20)

5.9.3 Pull the two parts of belt tight. (Figure 5.21)

5.9.4 Push buckle up to the plastic clip so that the belt can not slip out of position.
Please check that there is no gap between the clip and buckle. (Figure 5.22)



SUGGESTION

- We recommend that the belt is fitted quite tightly around the pelvis. Please tighten until you can just get your fingers between user and seat belt. Please check that the belt is fastened correctly as recommended. If this is not possible please consult your supplier.



Figure 5.19



Figure 5.20



Figure 5.21



Figure 5.22

6. BATTERIES AND CHARGER

6.1 Charging the Batteries

Before you attempt charging, ensure you read and understand the instruction manual supplied with the battery charger, and you choose the correct input voltage for battery charger.

6.2 Charge Your Batteries If Any of the Following Conditions Occur

6.2.1 If you have used your wheelchair for more than an hour continuously.

6.2.2 You've used more than one third of the total charge.

6.2.3 When you haven't used the wheelchair for more than two weeks.

6.2.4 If the current charge is not enough to reach your final destination.

6.3 Be Sure To Follow the Procedures Listed Below Precisely

6.3.1 Turn the wheelchair OFF.

6.3.2 Connect the charger's cord to a power outlet.

6.3.3 Locate the charging socket at the front of the joystick housing. Then connect the charger's round plug to the charging socket. (See Figures 6.1 and 6.2)

6.3.4 The charger's red LED will light up as soon as the charging starts. The charging time is at least 6 hours, but it could be as long as 10 hours, depending on the status of the batteries and temperature.

6.3.5 The orange LED will change to green when the charging is completed.

6.3.6 Disconnect the cord and pull out the round plug from the charging socket.



Figure 6.1



Figure 6.2

6.3.7 The batteries can also be charged by connecting them to the charger through a specific Y-type cable. The steps are as follows. (Figures 6.3)

6.3.7.1 Turn the wheelchair off.

6.3.7.2 Disconnect the plugs from both of the batteries. Remove the batteries from the wheelchair.

6.3.7.3 Connect the plugs of both batteries to the Y-type cable. (Figures 6.4)

6.3.7.4 Connect the Y-type cable to the charger. (Figures 6.5)

6.3.7.5 Connect the charger's cord to a power outlet. The charger's red LED will light up as soon as the charging starts. The charging time is at least 6 hours, but it could be as long as 10 hours, depending on the status of the batteries and temperature. (Figures 6.6)

6.3.7.6 The red LED will change to green when the charging is completed. (Figures 6.7)

6.3.7.7 Disconnect the charger's cord from a power outlet. Disconnect the plugs of both batteries from the Y-type cable.

6.3.7.8 Install both the batteries back to the wheelchair.



Figure 6.3



Figure 6.4



Figure 6.5



Figure 6.6



Figure 6.7



WARNING

- Do not use an extension cord or multi-plug when charging your battery. A risk of fire and/or electric shock could be encountered.
- Keep your wheelchair away from flammable objects while charging, as it may lead to fire or explosion of the battery
- When the batteries are charged, they may produce hydrogen. Therefore, do not smoke while charging and charge in a well-ventilated area.
- Never connect or disconnect the plug (cord) with wet hands or if the plug (cord) is wet to avoid possible electric shock.
- Never attempt to recharge the batteries by attaching cables directly to the battery terminals or clamps. DO NOT jump start your wheelchair! .



SUGGESTION

- Do not disconnect the charger cord if the charging is not completed. The battery life will be seriously shortened or decayed if the batteries are repeatedly used without being fully charged. Therefore, be sure to always charge the batteries fully.
- Always complete the charging by letting the charge LED light turn green. NEVER stop charging before it is complete.
- When finished charging, disconnect the charger plug from the charging socket as soon as possible. Even when the charger is turned OFF, the electric power will slowly discharge if the cord is not disconnected. DO NOT leave the charger ON connected to the wheelchair for more than 24 hours.
- Charging time depends on the surrounding temperature; it takes longer in the winter.



CAUTION

- Please follow the guidelines below to avoid accidents while charging.
- Be sure to only use a KARMA approved battery charger and charge the battery completely every time. The battery can be damaged if a non-genuine charger is used.
- Never disassemble or modify the charger. This will negate the warranty.
- Please charge in a well-ventilated area where the battery is not directly exposed to sunlight. Do not charge the battery under rainfall, in morning dew or in an area where the humidity is high.
- Do not cover the wheelchair with any waterproof cloth or other objects while charging. Don't charge in temperatures less than -10°C (14°F) or higher than 50°C (122°F) as the charger may not work well and the battery may become damaged.
- The charger is not guaranteed to be water resistant.
- Valve Regulated Lead-Acid batteries do not have a memory function like cell phone batteries have. Please get in the habit of recharging your VRLA batteries frequently.
- New batteries MUST be fully charged prior to initial use of the powered wheelchair.
- Always charge new batteries before initial use or battery life will be reduced.
- As a general rule, recharge batteries as frequently as possible to assure the longest possible life and to minimize required charging time. Plan to recharge them when use of the powered wheelchair is not anticipated.

6.4 Charger

The battery charger supplied by Karma is for indoor use only, it must be protected from moisture and external heat source.



CAUTION

- Before charging, make sure to set the 115V ↔ 230V switch to match the local AC voltage. If the switch is improperly set to a lower or higher voltage position, it will cause damage to the charger, and, Change the 115V ↔ 230V switch settings only when charger is disconnected from AC line voltage.



- The fan inside the charger will start to work when you turn on the charger. (for 4A charger will start to work as temperature is over 50°C and stop running under 50°C) If you find that the fan does not function properly, DO NOT use the charger. Otherwise, the charger may overheat and start a fire.

6.5 Batteries

The wheelchair is equipped with two batteries. The two battery packs can be removed when folding the wheelchair.

Install Battery Pack:

For installing battery, please refer to section 5.1.6 Install the battery.

Replace Battery Pack:

Disconnect cables (Figure 6.8)

Release the battery release clip holding the battery pack, and pull the battery pack backwards and out of the guide. (See Figures 6.9 and 6.10)

Hold the battery pack with care when move it out.

Repeat previous steps for the other battery pack



Figure 6.8

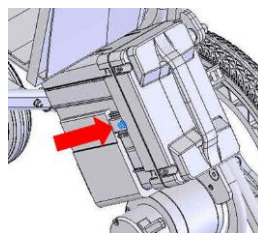


Figure 6.9

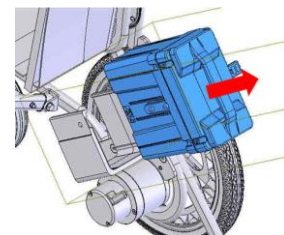


Figure 6.10

6.5.1 Do not expose the batteries to temperatures below -10°C (14°F) or above 50°C (122°F) when charging or storing the vehicle.

6.5.2 Exceeding the specified temperature range can lead to either freezing or overheating of the batteries. This will damage the batteries and shorten their lives

6.5.3 The batteries used on your wheelchair are maintenance free sealed lead acid batteries. Thus, it is not necessary to change or refill the battery liquid.



WARNING

- Do not open the battery seal cap at any time.
- After ANY adjustments, repair or service and BEFORE use, make sure that all hardware is tightened securely. Otherwise, injury or damage may occur.
- When removing/installing batteries, keep all foreign objects, especially metal, away from battery terminals.
- When the batteries fail to function, for environmental and safety concerns, please contact any local recycle unit or KARMA supplier/dealer to handle them.



WARNING

- NEVER allow any of your tools and/or battery cables to contact BOTH terminal posts at the same time. An electrical short may occur and injury or damage may occur.



WARNING

- There are many risks involved with improper disposal of batteries, whether damaged or not. Batteries may contain heavy metals and be considered hazardous waste.
- Many regions around the world now strictly enforce laws to help protect our environment. By not disposing of batteries properly, you may be liable for fines from your local through national government.
- By not recycling batteries, they end up in landfills where lead and other chemicals may leach into streams and rivers destroying ecosystems and poisoning local water resources.
- Improper disposal of batteries may also cause injury to unsuspecting others that come in contact with them. If you come in contact with fluids or corroded powder from a battery, rinse with water and contact a physician if necessary. If contact with eyes occurs, rinse for 15 minutes and then visit a physician.
- DO NOT incinerate or burn the battery. It will cause it to explode!
- Please Refer to Section Cleaning & Recycling for more information.



CAUTION

- Place the powered wheelchair in a well-ventilated area where work can be performed without risking damage to carpeting or floor covering.
- Failure to use the correct battery size and/or voltage may cause damage to the powered wheelchair and give unsatisfactory performance. For replacement of batteries, please contact your local KARMA supplier/dealer in order to ensure that the new batteries are correctly be used.
- When tightening the clamps, always use a box or crescent wrench. Pliers will round off (strip) the nuts. NEVER wiggle the terminal when tightening, as the battery may be damaged.



SUGGESTION

- Charge batteries daily. It is critical not to let them run low at any time.
- Do not use the battery to charge telecom equipment or other items e.
- Battery capacity will vary with outside conditions; the maximum drive range will decrease in the winter. If the vehicle is not going to be used for a long time, please remember to charge the batteries at least once every two weeks.
- Karma re recommends that both batteries be replaced if one battery is defective.

6.6 Cleaning the Batteries

If a battery is contaminated by dirty water, battery acid, dust or other soil, the battery will discharge quickly. Therefore, please follow the following steps to clean the battery:

6.6.1 Turn the power OFF ;

6.6.2 Use a clean cloth to wipe off the soiled part of the wheelchair around the battery.

6.6.3 Clean the terminals and inside of the battery clamps by using a battery cleaning tool, wire brush or medium grade sandpaper. Upon completion, these areas should be shiny, not dull.

6.6.4 Examine the battery clamps/terminals for corrosion, if the terminal is covered by white powder, please stop using the battery due to it indicates that there's possible leakage of the battery. Please replace the batteries.

6.6.5 Carefully dust off all metal particles.

7. INSPECTION AND MAINTENANCE

7.1 Daily Check

Check the following items before driving. If you find anything abnormal, visit your KARMA wheelchair dealer for further inspection before using it.

Item	Inspection Content
Joystick Controller	<p>Is the joystick loose and/or making noise?</p> <p>Can the joystick be turned left and right smoothly?</p> <p>Can the speed buttons be adjusted freely and do they function well?</p> <p>Does the wheelchair stop when the joystick is released completely?</p> <p>Does it light up when the power is ON?</p> <p>Is there enough power for your trip?</p> <p>Does the horn work well?</p>
Motor	<p>Is there any abnormal noise?</p> <p>Does the electromagnetic brake work properly?</p>
Freewheel Mode	Do the freewheel levers work properly?
Driver's Seat	<p>Does the driver's seat recline?</p> <p>Do the seat angle adjustment knobs(or buttons)work properly?</p> <p>Does the surface of the seat remain or break?</p>
Tires	<p>Are there any cracks or other damage to the tires?</p> <p>Check the tire tread depth and air pressure.</p>
Other	Is there any abnormal motor noise?




CAUTION

- Visit a KARMA wheelchair dealer for inspection and maintenance if you find anything abnormal.

7.2 Regular Maintenance Record

In order to ensure that your wheelchair is in good condition, please contact Karma authorized dealers regularly and make further wheelchair inspection and maintenance records. We recommend that you inspect and maintain your wheelchair **every six months**. A maintenance/service fee may apply.

 SUGGESTION
<ul style="list-style-type: none"> ● Even if you don't use the wheelchair for a long time, the wheelchair should still be maintained regularly. ● You should clean your wheelchair, inside and out, regularly to keep it beautiful and safe.

I - Inspection

A - Adjustment

△ - Repair

3 - Replacement

T - Tightening

L - Add Oil

Item/Period		1 mth	6 mth	12 mth	18 mth	24 mth	30 mth
Joystick Control Unit			I	I	I	I/3	I/3
Power Module			I	I	I	I/3	I/3
Controller Buttons			I	I	I	I/3	I/3
Connection to the Electrical System				I		I	I/A
Motor	Operation and Noise		I	I	I/A	I/A	I/3
	Electromagnetic Brakes		I	I	I	I/3	I/3
	Connection to the Electrical System			I		I	
Batteries	Loose or Corroded Terminals			I		I	
	Connection to the Electrical System			I		I	
	Damage to the Electrical Cord/Cable			I		I	
Charger	Charging Function and LED Light	I	I	I	I/△	I/△	I/△
	Socket, Plug and Cords			I		I	
	Fan Functions Properly (if applicable)			I		I/△	

Item/Period		1 mth	6 mth	12 mth	18 mth	24 mth	30 mth
Driver's Seat	Recline Function			I/L		I/L	
Tires	Cracks/Surface Damage	I/3	I/3	I/3	I/3	I/3	I/3
	Tread Depth		I	I/3	I	I/3	I
	Abnormal Wear Pattern			I/3		I/3	
Wheel Rim	Tightness of Bolts and Nuts			T		T	
	Wear or Deformation Around Tires			I/3		I/3	

7.3 Tires

7.3.1 The condition of the tires is affected by the way you drive and use your wheelchair.

7.3.2 Inspecting Tire tread: please check the tread depth regularly. Replace the tires when the tread depth is less than 0.5 mm.



CAUTION

● If pneumatic tires are installed, please ensure that the tire is flat before you disassemble the rim to replace the pneumatic tire.

7.4 General Maintenance

7.4.1 You must maintain the vehicle more frequently if you drive on grass, sand or gravel roads often.

7.4.2 Do not use water, oil or other chemical solutions to clean your wheelchair. Be sure NOT to spray the vehicle with water, as not to damage the electronic components and PCB circuit board.

7.4.3 Please clean the vehicle by wiping it with either a dry or moist cloth.

7.4.4 Please take the vehicle to an authorized KARMA wheelchair dealer for repairs and adjustments. Improper adjustments could lead to wheelchair malfunction or an accident.

7.4.5 Please use a soft and dry cloth to keep your wheelchair clean. Use moderate or mild detergent to clean the wheelchair, if necessary.



CAUTION

- Before performing any maintenance, be sure to turn the power OFF and unplug the charger if connected.
- DO NOT over-tighten hardware. This could cause damage to the frame and hardware.



SUGGESTION

- Do not directly spray water on your wheelchair to wash it, as this could lead to a malfunction in the electric system.
- Do not use gasoline, solvents or other abrasive solutions; the casing may become deformed or damaged.



WARNING

- After ANY adjustments, repair or service and BEFORE use, make sure that all hardware is tightened securely, otherwise injury or damage may occur.

7.5 Suggested Maintenance Procedures

7.5.1 Before using the powered wheelchair, make sure all nuts and bolts are tight.

7.5.2 Check all parts for damage or wear and have a qualified technician replace it if necessary.

7.5.3 Check all parts for proper adjustment.

7.5.4 Ensure that the batteries are properly maintained and charged as required.

7.5.5 Inspect brake for proper operation.

7.5.6 The wheels and tires should be checked periodically for cracks and wear, and should be replaced by a qualified technician.

7.5.7 Regularly check for loose nuts and/or bolts in the front and rear wheels. If loose, have them adjusted by a qualified technician.

7.5.8 Clean dirt, dust and grease from exposed components.

7.5.9 A qualified technician can be found with an authorized distributor/dealer.

7.6 Transporting and Storing

7.6.1 The wheelchair may be disassembled for ease of transport. Please refer to section 5 for more detailed information on the individual steps. Reverse the order for reassembly.

7.6.2 Please store the wheelchair in a location where it is out of direct sunlight, rain

and dew.

7.6.3 When stored for a long time, please charge the batteries to full and then disconnect the battery terminals.

7.6.4 For more details, consult your KARMA wheelchair dealer.



WARNING

- As of this date, SP-100 can NOT be used as seats in any vehicles. That is, KARMA recommends that users are NOT transported in any vehicle while seated in the wheelchair. In the case of accident or a sudden stop, the user or passengers may be at risk of getting injury. The suggested solution is to transfer the user from the wheelchair into a vehicle seat and to securely stow the wheelchair in a separate compartment.

8. TROUBLESHOOTING

Trouble or Problems with Your Wheelchair

You can inspect the following before taking your wheelchair to a KARMA wheelchair dealer.

Problem	Checking Points and Corrective Action
My wheelchair does not start	Is the power turned OFF? ↓ Turn ON the power.
	Do the batteries still have power? Is the battery indicator light not on? ↓ Charge the batteries.
	Is the charger plugged into the wheelchair? ↓ Unplug the charger and put it away.

If you cannot solve the problem by yourself, contact your KARMA wheelchair dealer for help.

8.1 Error Indication







If there is error with the system when it is powered up, then the status indicator will flash red; the number of flashes will indicate the type of error.


The table below describes the error indication, and a few possible actions that can be taken to rectify the problem. The actions listed are not in any particular order and are suggestions only; the intention is that one of the suggestions may help you clear the problem. If in doubt, please consult your dealer or customer service engineers.



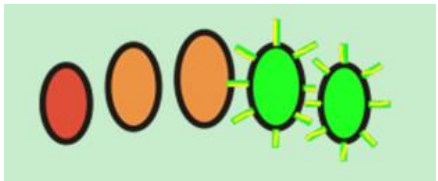
8.1.1 The wheelchair can't be driven when there's an error that influences the safety.

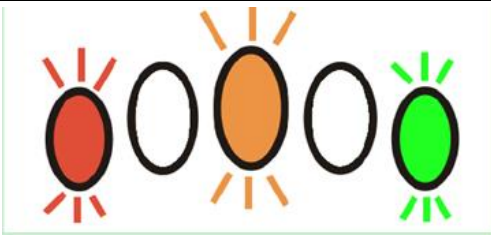
8.1.2 After the error is cleared, the wheelchair can be driven again.

Error Indication Table

Flash code	Error description	Possible action
1 	Remote / joystick error	Check cables and connectors Replace the Remote
2 	Network or configuration error	Check cables and connectors Recharge the battery Check charger Replace modules Contact the dealer
3 	Left motor error	Check cables and connectors Replace Power Module Check and/or replace left motor
4 	Right motor error	Check cables and connectors Replace Power Module Check and/or replace right motor
5 	Left park brake error	Check cables and connectors Check left park brake is released Replace modules
6 	Right park brake error	Check cables and connectors Check right park brake is released Replace modules

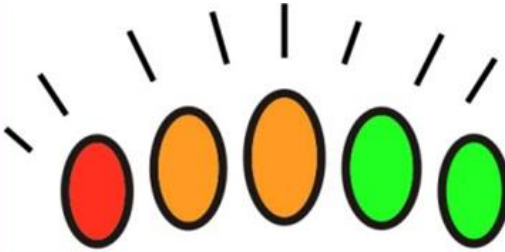
<p>7</p> 	<p>Module error (other than Remote)</p>	<p>Check cables and connectors Check modules Replace LiNX Access Key Replace Power Module Recharge battery If the chair stalled, reverse away the chair or remove any obstacles. If the chair was moved while turned off, please wait for a few seconds and switch on the power again.</p>
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<p>BATTERY GAUGE AND DIAGNOSTICS</p> <p>INDICATOR</p>	<p>DESCRIPTION</p>
 <p>One red LED flashes. Horn beeps every ten seconds.</p>	<p>Low Battery Warning</p> <p>The battery voltage is lower than the Cut-Off voltage. Charge the battery immediately.</p>
 <p>One red LED flashes.</p>	<p>Low Battery Warning</p> <p>The battery voltage is low. Charge the battery as soon as possible.</p>
 <p>All LEDs are on. Two green LEDs flash.</p>	<p>High Voltage War</p> <p>The battery voltage is higher than the set high voltage.</p>



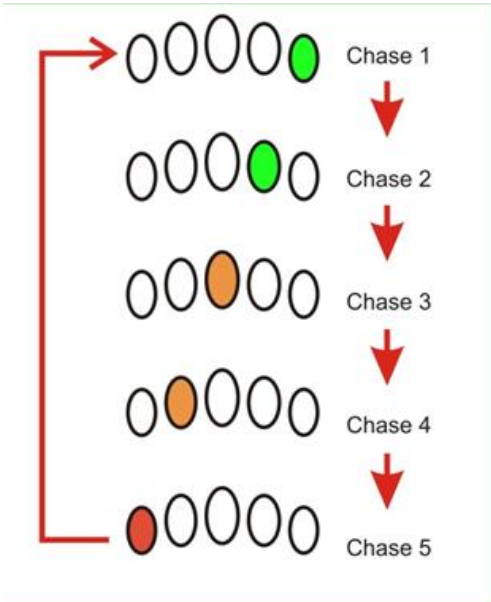
Red, orange and green LEDs flash.

The wheelchair is now unlocked.



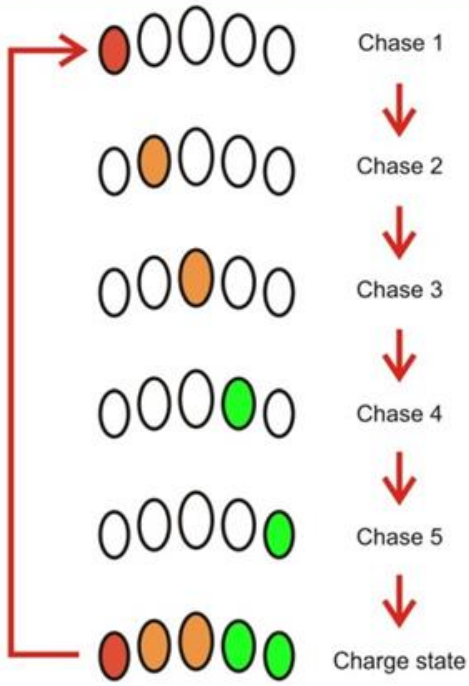
All LEDs flash.

The Joystick is out of neutral position when switching on the wheelchair.



LED flashes one after another from right to left.

Driving is inhibited. LED will flash until the root cause is fixed.



Battery is charging.

LED flashed one after another from left to right.

9. SPECIFICATIONS

Product Model	SP-100	
Nominal seat width (in)	16	18
Front x Rear wheel size (in)	8 x 16	
Maximum user weight (kg)	100	
Overall length with legrest (mm)	935 ~ 950	935 ~ 950
Overall width (mm)	570	620
Overall height (mm)	845	845
Folded length (mm)	915	915
Folded width (mm)	435	435
Folded height (mm)	705	705
Total mass (kg)	41.5	42.0
Total mass without batteries (kg)	28.3	28.8
Mass of the heaviest part (kg)	26.5	27.0
Maximum speed forward (km)	6	6
Drive range (km)	16.7	16.7
Minimum turning radius (mm)	925	925
Minimum turning radius without user (mm)	750	750
Reversing width (mm)	1230	1230
Ground clearance (mm)	70	70
Obstacle climbing (mm)	50	50
Static stability downhill (X°)	11	11
Static stability uphill (X°)	12	12
Static stability sideways (X°)	12	12
Dynamic stability uphill (X°)	6	
Ability to climb rated slope (X°)	6	
Braking method	Electromagnetic Brake	
Minimum braking distance from max speed (mm)	970	
Motor power (W)	100	

Battery capacity (Ah)	22*2	
Charger output current (A)	4	
Battery Compartment (L x W x H) (mm)	180 x 76 x 170 (Single Compartment)	
Seat plane angle (X°)	8	8
Effective seat depth (mm)	535	535
Nominal seat depth (mm)	445	445
Effective seat width (mm)	425	475
Seat surface height at front edge (mm)	475	475
Backrest angle (X°)	12	12
Seat to backrest angle (X°)	95	95
Backrest height (mm)	420	420
Headrest height above seat (mm)	-	-
Leg to seat angle (X°)	95	95
Footrest to seat distance (mm)	340 ~ 400	340 ~ 400
Armrest to seat distance (mm)	215	215
Front location of armrest structure (mm)	35 ~ 595	35 ~ 595

* All the specifications specified in this section are estimated based on the following conditions: 20°C, an 100 kg occupant, brand new fully charged batteries and driving on the flat road.

* The actual product specifications differ from the data in the table by ± 1 cm ± 0.5 kg.

* The actual product specifications may vary according to different configurations.

* Karma reserves the right to modify information herein without further notice.

* If you want to know more about the measurement methods of wheelchair specifications, please scan the QR code to watch the instructions on the Karma website.



10. CLEANING & RECYCLING

10.1 Cleaning

- 10.1.1 In order to lengthen the life of your wheelchair, it is suggested that you clean the wheelchair periodically (if not daily), especially after it is used in the rain or snow.
- 10.1.2 We suggest that you don't use your wheelchair in the rain or snow.
- 10.1.3 If you are traveling and get caught in the rain, we suggest you try to find shelter and turn OFF your wheelchair while waiting it out.
- 10.1.4 If you can't find shelter, proceed to your destination.
- 10.1.5 However we do not recommend you do this often as it may shorten the life of your wheelchair or cause damage.
- 10.1.6 Driver's seat upholstery: use soapy water. Wring out the sponge/ cloth before scrubbing. Do not use the wheelchair until it is dry.
- 10.1.7 Frame: wipe with a damp cloth, but be sure not to splash/spray the wheelchair with water, as doing so may damage the motor, electrical wiring and battery.
- 10.1.8 If compressed air is available, you can use the compressed air to clean your wheelchair (do not exceed 7K and keep the nozzle at least 10 cm away from your wheelchair).
- 10.1.9 Casing: wipe with a damp cloth. After it is dry, coat the casing with a light layer of wax, if desired.

10.2 Post-Consumer Recycling

- 10.2.1 A post-consumer recycling plan should follow the Environmental Protection Administration's regulations.
- 10.2.2 The items listed below are for reference only as local law and regulation may vary.

Material	Part Name	Method
Aluminum-alloy	Frame	Recyclable
ABS	Various	Recyclable
Various	Battery	Recyclable
Various	Motor/Reduction Gear	Recyclable
Various	Electric Parts	Recyclable

10.2.3 There are many organizations in many countries you can find on the internet that will accept used goods for charity or disassemble electronic equipment and batteries to recycle them.

10.2.4 Please search the information highway to help less fortunate individuals and protect our planet for future generations.

10.2.5 If you do not have access to the world wide web please use your local phone directory, ask for operator assistance or go to your local government center for more information.

10.2.6 Various parts of this wheelchair should be recycled to the collection and recycling location nearest to you. Earth Day is every day.

Check with your local recycling center on where and how to recycle used batteries as this information varies from region to region.



11. WARRANTY

11.1 Serial Number

To ensure after-sale service and warranty, please record and fill in the serial number which can be found on the steering column below the control panel. This warranty is VOID if the original chair serial number is removed or altered.

Model	SP-100
Serial Number	

11.2 Contents of Warranty

- 11.2.1 If the parts of the product need to be repaired or replaced due to manufacturing defects, they can be repaired or replaced free of charge within the warranty period (a repair of this kind will hereafter be called warranty maintenance).
- 11.2.2 Frame is warranted for a period of 1 years and electrical system (controller, motor, charger, actuator and PCB) for a period of 1 year after delivery to the customer, then the affected parts will be repaired or replaced free of charge.
- 11.2.3 Battery warranty is subject to the periods set by the manufacturers. Please contact your local dealer in detail.
- 11.2.4 Consumable parts such as bearings, cables, carbon brushes, circuit breakers, covers, footplates, light bulbs, pads, side guards, upholsteries, wheels and similar parts are excluded from the warranty.
- 11.2.5 Warranty maintenance can be performed by authorized KARMA wheelchair dealers only.
- 11.2.6 KARMA is not responsible for the transportation costs for repair and replacement.
- 11.2.7 Warranty maintenance is the repair or replacement according to the condition of the parts, and replaced parts will be the property of KARMA.
- 11.2.8 KARMA reserves the right to modify product specifications without further notice; KARMA is not responsible for any changes to product specifications.

11.3 The Claims from This Warranty Shall Not Arise for The Following Reasons

- 11.3.1 The product or part has been damaged by accident, improper use, incorrect assembly or poor maintenance. The evaluation of it is the privilege of KARMA.
- 11.3.2 Damage resulting from normal wear and tear.
- 11.3.3 Any overloading of the product, please check the label for maximum user weight.
- 11.3.4 The product or part has not been maintained or serviced in accordance with the manufacturer' s recommendations as shown in the User Manuals and/or the Service Manuals.
- 11.3.5 Use or install parts or accessories which are not manufactured or not approved by KARMA.
- 11.3.6 Damage resulting from use in unsuitable environments.
- 11.3.7 Damage resulting from any addition, modification, or alteration of the product or parts without the approval by KARMA.
- 11.3.8 Damage resulting from external factors, such as chemicals, oil, debris, etc.
- 11.3.9 Damage caused by natural disasters.

11.4 The Responsibilities of the User

- 11.4.1 Fully adhere to operation guidelines set forth in this manual.
- 11.4.2 Perform self-inspection and basic maintenance.
- 11.4.3 Keep a record of self-inspections and basic maintenance.
- 11.4.4 Not permit any alteration, addition, or modification or use of parts not manufactured by KARMA.
- 11.4.5 Thoroughly read and understand this manual.

11.5 The Responsibilities of the Dealer

- 11.5.1 Follow this owner's manual and educate user about product operation and basic maintenance
- 11.5.2 Verify and check whether the warranty conditions are met.
- 11.5.3 Provide relevant warranty information and recommendations for improvements.

11.6 Transfer of Warranty Rights

If you purchase a second-hand KARMA wheelchair while it is still within the warranty period, bring this user manual and the wheelchair to the authorized dealer and perform necessary product inspection, maintenance and warranty inheritance procedure.

Full Name:	
Gender:	Male <input type="checkbox"/> Female <input type="checkbox"/>
Date of Birth:	Year Month Day
Address:	
Model:	KARMA SP-100
Serial Number:	
Date of Purchase:	Year Month Day
Purchaser Signature:	

Dealer's Data

Name of the Store:	
Phone No. and Address:	

If you have any suggestions on how to improve our products, please don't hesitate contacting your local dealer to let us know what you think of your wheelchair. Thank you and enjoy.

soma



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