

**karma**

*User manual*

## **Ergo 2/Ergo 3 Series**

*(ERG 2/ERG 3)*



A Better Wheelchair, A Better Fit

# Contents



**Product availability may vary by country/region. Visit [www.karmamedical.com](http://www.karmamedical.com) or contact your sales representative for details.**

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# 1. Preface

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

- This manual includes operation instructions for many aspects of the wheelchair, unfolding/folding instructions and instructions on how to deal with possible accidents.
- This manual is written for KARMA wheelchair: Ergo 2/Ergo 3 series.
- The symbols used in this manual are explained below. Pay special attention to the parts marked with these symbols.

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

- This manual includes the repair and maintenance chart as well as the warranty.
- If someone else uses the wheelchair, make sure that you give him or her this manual for his or her reference.
- As designs change, some illustrations and pictures in this manual may not correspond to the wheelchair that you purchased. We reserve the right to make design modifications without further notice.

## 1.1 General warnings

- DO maintain your wheelchair well. In particular, check the tyre (tire) pressure since this affects the efficiency of the brakes. For the correct tyre (tire) pressure, please see the walls of the tyres (tires).
- DO make sure both wheel locks are applied before getting into or out of the wheelchair.
- DO make sure both wheel locks are applied when the wheelchair is not being pushed or used.
- DO take care when climbing kerbs (curbs) or turning on slopes.
- DO travel smoothly in all conditions.
- DO look well ahead to anticipate hazards, such as furniture, doors, potholes, etc.
- DO make sure that both feet are safely on the footrests and that clothing is safely tucked out of the way so that it cannot get caught in the wheels.
- DO take care when traveling up or down or across inclines.
- DO keep both hands on the push handles to control the wheelchair, if you are the attendant.

- DO pay attention to keep the wheelchair balanced.
- DO check the frame and components regularly and refer to this manual during and after the warranty period.
- DO tie up the upholstery or replace it with a new one when it becomes loose.
- DO lubricate bearings regularly.
- DO equip with anti-tippers to avoid falling backwards.
- DO equip with a pelvic belt designed for disabled people.
- DO equip with "heel loops" for disabled people.
- DO clean both hands after oiling the wheelchair.
- DO keep far away from flame.
- DO avoid steep or uneven surfaces that may cause the wheelchair to tip over.
- DO avoid soft surfaces as the front casters may become bogged down.
- DO avoid directional changes on slopes/ramps.
- DO NOT make a U-turn on slopes/ramps.
- DO NOT overload the wheelchair in any circumstances.
- DO NOT hang anything heavy on the back of the wheelchair that could cause the wheelchair to become unstable, particularly when navigating inclines.
- DO NOT allow more than one user at a time.
- DO NOT use with an unconscious patient.
- DO NOT use other transport to pull the wheelchair.
- DO NOT do "wheelies", since you might fall or tip over backwards and suffer a severe injury.
- DO NOT sit in the wheelchair within a moving vehicle unless it has been affixed the labels of a hook mark. The labels of a hook mark mean that the 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.
- DO NOT go too fast or turn too quickly.
- DO NOT stand on the footplates when getting into or out of the wheelchair. Otherwise, the wheelchair will tip forwards.
- DO NOT go down steps forward, whether solo or with an attendant.
- DO NOT attempt to lift the wheelchair by any removable (detachable) parts. Lifting by means of any removable (detachable) parts of the wheelchair may result in injury to the user and/or assistant/attendant or damage to the wheelchair.
- DO NOT use the wheelchair when the backrest is folded. This alters the center of gravity and may cause the wheelchair to tip backwards. The backrest should only be folded for storage or transport of the wheelchair.
- DO NOT hang anything on the back joint that could cause the backrest folding suddenly and may cause injury.

## 1.2 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 void 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/maintenance 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 void 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" chapter 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.

## 1.3 CE marking

This wheelchair complies with the requirements of the Medical Devices Regulation (EU) 2017/745.



### CAUTION

- When prescribing wheelchairs for use by full or partial amputees (above or below knees, single or double) or other conditions that affect the user's natural center 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, a pelvic 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.

## 1.4 Declaration of Conformity



Document No.: DOC-EU-Ergo 3-02

### EU Declaration of Conformity

We, with the information specified in the below,

#### Our information as the manufacturer:

Manufacturer's Name:	KARMA MEDICAL PRODUCTS CO., LTD
Manufacturer's Address:	NO. 2363, Sec. 2, University Rd., Min-Hsiung Shiang, Chia-Yi County, 62144, Taiwan
SRN (Single Registration Number):	TW-MF-000013206

#### Our authorized representative:

Name:	KARMA MOBILITY, S.L.
SRN (Single Registration Number):	ES-AR-000004852
Address:	C/ PERIODISTA FRANCISCO CARANTOÑA DUBERT, 23 Bajo 33209 GIJÓN – ASTURIAS, SPAIN
Contact Person:	Raquel Yuste
Contact Information:	(+34) 984 390 907

in accordance with

#### **Regulation (EU) 2017/745 of the European Parliament and of the council Annex I, II, III, IV and IX**

hereby declare that the medical device specified below:

<b>Basic UDI-DI of Annex VI:</b>	471987385ErgoXT
<b>Device:</b>	Manual wheelchair
<b>Trade Name or Mark:</b>	Ergo 3
<b>Model Number:</b>	ERG 3
<b>Product Code according to EMDN:</b>	Y122103, Y122106
<b>Product Code according to GMDN:</b>	41512, 41630
<b>Classification:</b>	Rule 1 of Class I
<b>UDI-DI:</b>	04719892870481

is in conformity with the applicable requirements of the following documents:

Ref. No.	Title	Edition date
ISO 13485	Medical devices - Quality management systems - Requirements for regulatory purposes	2016
ISO 14971	Medical devices - Application of risk management to medical devices	2019
EN 12182	Assistive products for persons with disability - General requirements and test methods	2012
EN 12183	Manual wheelchairs - Requirements and test methods	2014
EN 62366	Medical devices - Application of usability engineering to medical devices	2015
EN ISO 10993-1	Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process	2009
EN ISO 10993-5	Biological evaluation of medical devices — Part 5: Tests for in vitro cytotoxicity	2009
EN ISO 15223-1	Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General requirements	2016
MEDDEV. 2.7/1 Rev. 4	CLINICAL EVALUATION: A GUIDE FOR MANUFACTURERS	2016
MEDDEV 2.12/1 Rev. 8	GUIDELINES ON A MEDICAL DEVICES VIGILANCE SYSTEM	2013

The information on this declaration has been stated on the sole responsibility of KARMA MEDICAL PRODUCTS CO., LTD.

We hereby declare that the device named above has been designed to comply with the relevant sections of the above referenced specifications. The device complies with all General Safety and Performance Requirements.

Date of issue: 21<sup>st</sup> August 2024

Place of issue: NO. 2363, Sec. 2, University Rd., Min-Hsiung Shiang, Chia-Yi County, 62144, Taiwan

  
 \_\_\_\_\_  
 (CHEN, YING-CHUN CEO)

### **UK Declaration of Conformity**

We, with the information specified in the below,

**Our information as the manufacturer:**

Manufacturer's Name:	KARMA MEDICAL PRODUCTS CO., LTD
Manufacturer's Address:	NO. 2363, Sec. 2, University Rd., Min-Hsiung Shiang, Chia-Yi County, 62144, Taiwan
SRN (Single Registration Number):	TW-MF-000013206

**Our UK responsible person:**

Name:	Karma Mobility Ltd
MHRA Reference Number:	11480
Address:	Unit 6 Target Park, Shawbank Road, Redditch, B98 8YN England United Kingdom
Contact Person:	Mr Mark Duffield
Contact Information:	01527 520 468

in accordance with

UK MDR 2002 and Council Directive 93/42/EEC concerning medical devices in Annex I, II and VII hereby declare that the medical device specified below:

<b>Basic UDI-DI of MDR (Annex VI):</b>	471987385ErgoXT
<b>Device:</b>	Manual wheelchair
<b>Trade Name or Mark:</b>	Ergo 3
<b>Model Number:</b>	ERG 3
<b>Product Code according to EMDN:</b>	Y122103, Y122106
<b>Product Code according to GMDN:</b>	41512, 41630
<b>Classification:</b>	Rule 1 of Class I
<b>UDI-DI:</b>	04719892870481

is in conformity with the applicable requirements of the following documents:

Ref. No.	Title	Edition date
EN ISO 13485	Medical devices - Quality management systems - Requirements for regulatory purposes	2016
EN ISO 14971	Medical devices - Application of risk management to medical devices	2019
EN 12182	Assistive products for persons with disability - General requirements and test methods	2012
EN 12183	Manual wheelchairs - Requirements and test methods	2014
EN 62366	Medical devices - Application of usability engineering to medical devices	2015
EN 60601-1	Medical electrical equipment - Part 1: General requirements for basic safety and essential performance	2006
EN ISO 10993-1	Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process	2009
EN ISO 10993-5	Biological evaluation of medical devices — Part 5: Tests for in vitro cytotoxicity	2009
EN ISO 15223-1	Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General requirements	2016

The information on this declaration has been stated on the sole responsibility of KARMA MEDICAL PRODUCTS CO., LTD.

We hereby declare that the device named above has been designed to comply with the relevant sections of the above referenced specifications. The device complies with all Essential Requirements.

Date of issue: 21<sup>st</sup> August 2024

Place of issue: NO. 2363, Sec. 2, University Rd., Min-Hsiung Shiang, Chia-Yi County, 62144, Taiwan

  
 CHEN, YING-CHUN CEO

## 2. Safety

### 2.1 Doorways

The safest way to operate the wheelchair is on level floors that are free of obstacles. Whenever possible, use a ramp to enter or exit a facility. Keeping your hands on the handrims will allow you to maintain maximum balance. Do not try to force yourself over an obstruction by propulsion and never use the sides of a doorway to pull yourself through a passageway.

### 2.2 Leaning



#### CAUTION

- Do not lean over either side of your wheelchair, since such an action may cause you to lose balance and fall. (See Figure 2.1.)
- When sitting on the wheelchair, do not attempt to pick up objects by leaning forward. (See Figure 2.2.)



Figure 2.1



Figure 2.2

### 2.3 Navigating inclines

- Never turn on a hill due to the danger of tipping.
- When assisting, go straight up a slope. If the user needs to go down midway, walk backwards until the user is on level ground. (See Figure 2.3 and 2.4.)



Figure 2.3



Figure 2.4

- To avoid danger, do not drive over 7 degrees of incline. When navigating inclines, don't propel over 3 degrees of incline diagonally.
- Avoid stopping on an incline, it can potentially cause you to lose control of the wheelchair.
- Do not use the wheel locks to slow down or stop the wheelchair. This could cause it to seize up, causing you to lose control or fall out of the wheelchair.
- Whenever possible, utilize help from an assistant/attendant while navigating inclines.



## CAUTION

Although the product has met ISO 7176-1 requirements, we still recommend you not to cross a slope (in any direction) greater than 7 degrees. If you have to cross slopes in your daily activities, we suggest you purchase and install anti-tippers to increase the stability of the wheelchair.

## 2.4 Kerbs (curbs)

- Whenever possible, utilize help from an assistant/attendant. If you have assistance, make sure that your wheelchair is equipped with push handles.
- Avoid hard impacts when descending a kerb (curb). A hard impact could adversely affect the wheelchair.
- Never try to scale or descend kerbs (curbs) that exceed a normal height.
- Always take care when climbing kerbs (curbs) or turning on slopes and never move in reverse without an assistant/attendant.

## 2.5 Stairs

- Always use two or more assistants. Tilt the wheelchair to its point of equilibrium. One assistant (at the back) holds the wheelchair up against the first step, gripping the handles firmly to lift. The second assistant, holding firmly a fixed part of the front frame, lifts the wheelchair above the stairs and holds it while the first attendant places one foot on the following step and repeat the operation.



- Never go down steps forwards, whether solo or with an attendant.
- Never use an escalator for transport. Use an elevator instead.

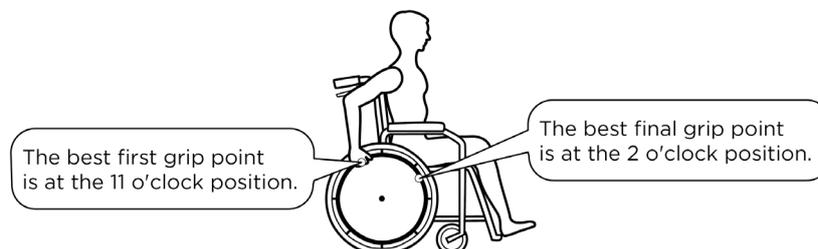
## 2.6 Streets

- Always use extreme caution when crossing streets. Reflective tapes on the wheelchair and/or your clothing will make you more visible to drivers.
- Please comply with traffic safety code.
- Avoid potholes and rough terrain that might cause the front casters to become stuck.



## 2.7 General

- The expected service life of the product is **5 years**, presuming that the product is used daily in accordance with the safety operation instructions, inspection and maintenance instructions, and intended use that are described in this manual.
- Always make sure BOTH wheel locks are applied before getting into or out of the wheelchair.
- Never stand on the footplates when getting into or out of the wheelchair.
- Never carry more than one passenger. KARMA wheelchairs are limited to one user.
- Use caution to ensure your clothing doesn't get tangled with the wheels.
- When the user is operating the wheelchair using the handrim, please push the wheelchair gently. DO NOT apply a sudden huge force on the handrim. It could cause the wheelchair to tip over. Please refer to the figure below for the best grip points for using the handrim.



(Only for the Ergo 2/Ergo 3 series with 20"/24" rear wheels)

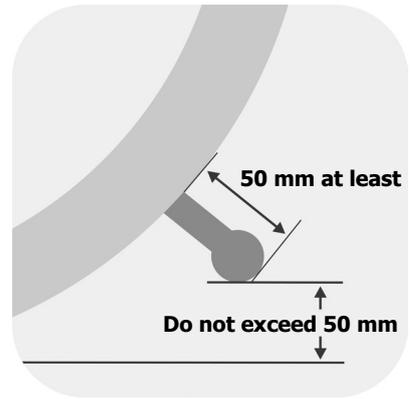
## 2.8 Upholstery

- When cleaning the upholstery, use warm water and a mild soap.
- Upholstery cleaner/foam can also be used, but avoid other cleaning solvents.
- Avoid frequent cleaning because this will affect its fire-retardant performance.
- Stay away from flames, which might injure users and damage the wheelchair.

## 2.9 Anti-tippers

Anti-tippers prevent the wheelchair from tipping backwards. When you install the anti-tippers, if the anti-tippers are adjustable, please make sure:

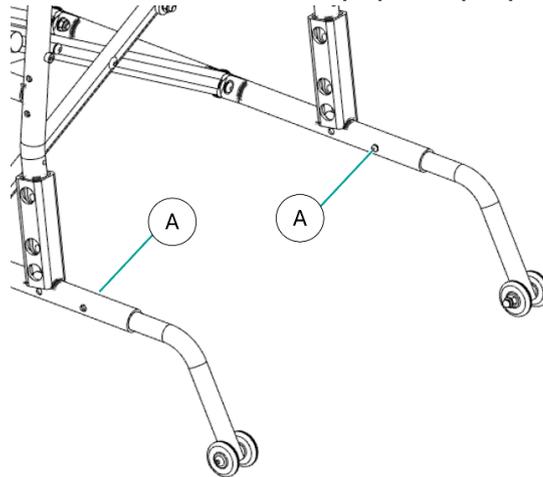
- The distance between the end of each anti-tipper and the rear wheel is at least 50 mm.
- The distance to the floor does not exceed 50 mm.



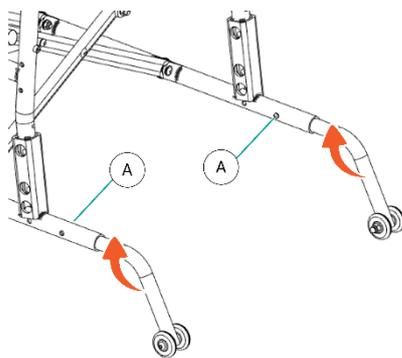
### **WARNING**

- Please always check that the anti-tippers are working before using the wheelchair. Anti-tippers that are incorrectly set or damaged can lead to tipping over. Please turn to a KARMA authorized dealer when anti-tippers need to be installed or re-adjusted.
- The activated anti-tippers may bump into the ground when navigating steps or kerbs (curbs). Therefore, deactivate the anti-tippers if needed.

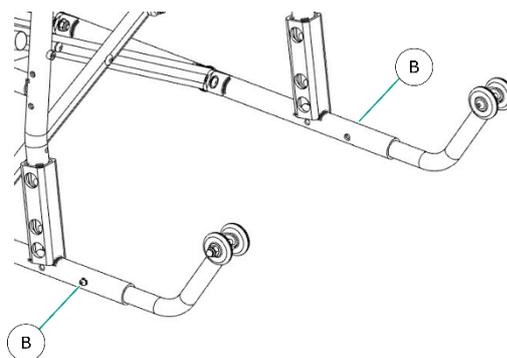
To mount the anti-tippers, press the release buttons, and then insert them into the back of the side frame. Ensure the release buttons pop out properly in the fixing hole (**A**).



To turn the anti-tippers into the inactive position, rotate the anti-tippers by pressing the release buttons (**A**) and turning them up. Ensure the release buttons pop out again into place (**B**).



*Active position*



*Inactive position*

## 2.10 Maximum user weight limit

Refer to "Maximum User Weight" in [Chapter 8. Specifications](#). Loads 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.

## 2.11 Avoid general misuse

Please note that our User Manual contains a number of cautions -- any vehicle can cause injury if misused -- use within our guidelines and with reasonable care and your safety will be increased. Your wheelchair will give years of safe use if used sensibly and carefully. Be aware that careless use endangers your own safety as well as that of others. ALWAYS follow the Highway Code when you are outdoors and the guidelines written in this manual.

### CAUTION

- DO NOT stand or let children play on the wheelchair. (See Figure 2.5.)
- DO NOT hang any items other than an IV bag on the IV Pole Holder. (See Figure 2.6.)



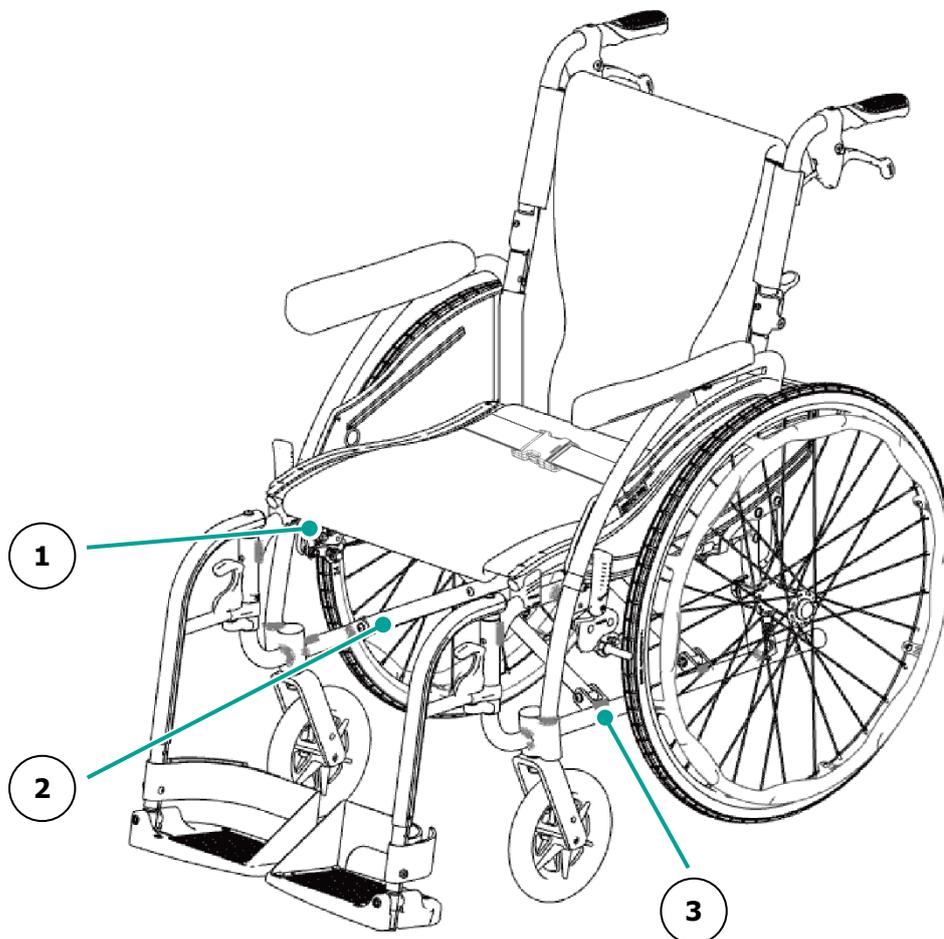
Figure 2.5



Figure 2.6

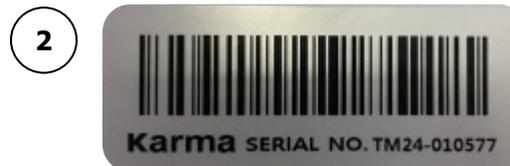
## 2.12 Labeling

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



**1**

Model:	
Seat Width	Seat Depth
<input type="checkbox"/> 13	<input type="checkbox"/> 13
<input type="checkbox"/> 14	<input type="checkbox"/> 14
<input type="checkbox"/> 15	<input type="checkbox"/> 15
<input type="checkbox"/> 16	<input type="checkbox"/> 16
<input type="checkbox"/> 17 <input type="checkbox"/> 0	<input type="checkbox"/> 17 <input type="checkbox"/> 0
<input type="checkbox"/> 18 <input type="checkbox"/> 5	<input type="checkbox"/> 18 <input type="checkbox"/> 5
<input type="checkbox"/> 19	<input type="checkbox"/> 19
<input type="checkbox"/> 20	<input type="checkbox"/> 20
<input type="checkbox"/> 21	<input type="checkbox"/> 21
<input type="checkbox"/> 22	<input type="checkbox"/> _____
<input type="checkbox"/> _____	<input type="checkbox"/> _____
<b>karma</b>	Unit: inch

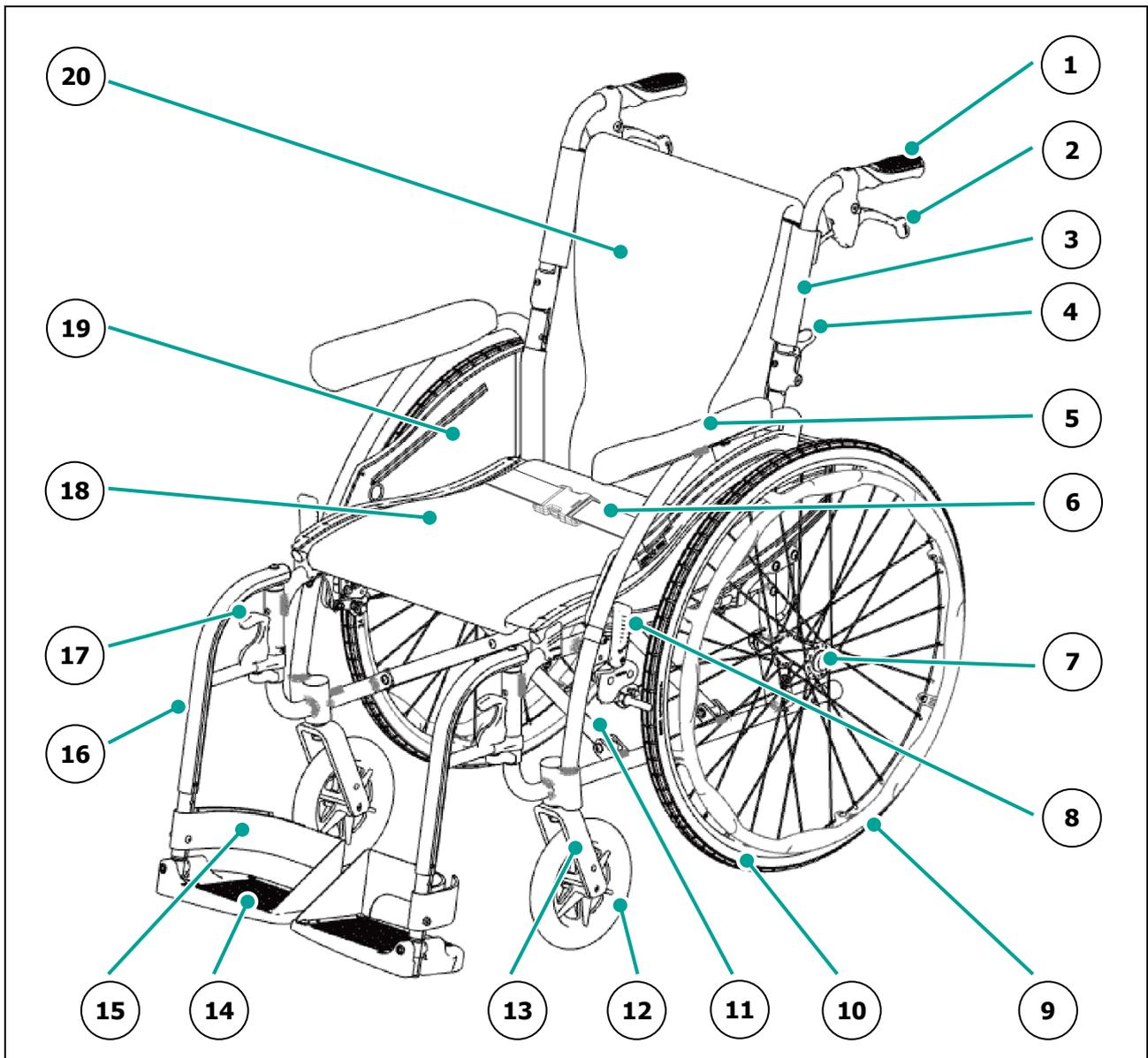


## **3. Intended use and parts**

### **3.1 Intended use**

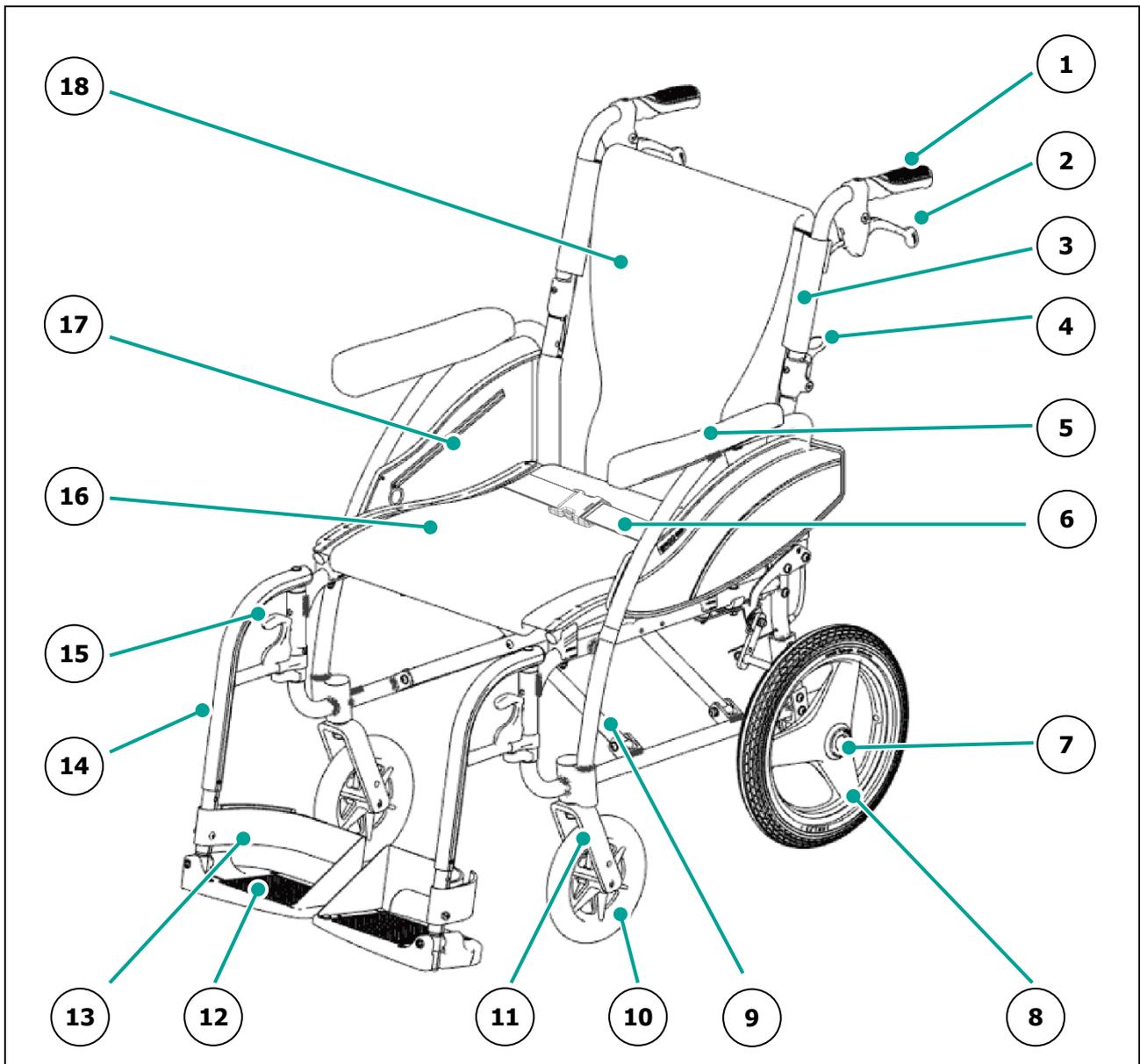
- The Ergo 2/Ergo 3 series with 20"/24" rear wheels is a self-propelled wheelchair, which can either be pushed by an attendant or by the user.
- The Ergo 2/Ergo 3 series with 14" rear wheels is a transit wheelchair, which can be pushed by an attendant only.
- The Ergo 2/Ergo 3 series is suitable for users up to 125 kg in weight. However, if the wheelchair is equipped with Push & Pull attendant brake, it is only suitable for users up to 115 kg in weight. Please refer to the labeling on the wheelchair or the Specifications chapter for details.
- The Ergo 2/Ergo 3 series has an extremely durable aluminum alloy frame with tough accessories and does not suffer in dramatic extremes of temperature (neither the user nor attendant need to touch metal parts in normal use).
- This wheelchair is designed for both indoor and outdoor use.
- The front casters and rear wheels have PU tyres (tires) for greater durability.
- The S-Ergo system provides pressure relief, stabilization and reduced sliding.

### 3.2 Parts description of the Ergo 2/Ergo 3 series with 20"/24" rear wheels



- |   |   |
|---|---|
| 1. Push handle  | 11. Cross-brace (crossbar)  |
| 2. Basic attendant brake/Push & Pull attendant brake                                | 12. Front caster  |
| 3. Backrest tube  | 13. Front caster fork   |
| 4. Backrest lever   | 14. Footplate   |
| 5. Fixed armrest (for the Ergo 2 series)<br>Flip-up armrest (for the Ergo 3 series) | 15. Heel loop   |
| 6. Pelvic belt (optional)   | 16. Swing-away footrest/<br>Articulating elevating legrest (optional) |
| 7. Rear wheel axle  | 17. Footrest lever  |
| 8. Wheel lock   | 18. Seat upholstery   |
| 9. Handrim  | 19. Side guard pocket   |
| 10. Rear wheel  | 20. Backrest upholstery   |

### 3.3 Parts description of the Ergo 2/Ergo 3 series with 14" rear wheels

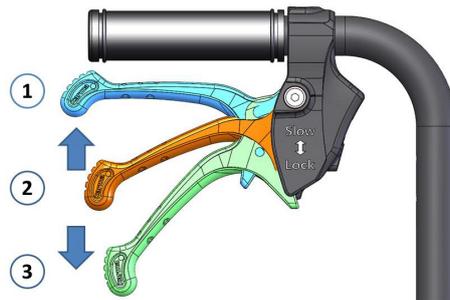


- |   |   |
|---|---|
| 1. Push handle  | 10. Front caster  |
| 2. Push & Pull attendant brake  | 11. Front caster fork   |
| 3. Backrest tube  | 12. Footplate   |
| 4. Backrest lever   | 13. Heel loop   |
| 5. Fixed armrest (for the Ergo 2 series)<br>Flip-up armrest (for the Ergo 3 series) | 14. Swing-away footrest/<br>Articulating elevating legrest (optional) |
| 6. Pelvic belt (optional)   | 15. Footrest lever  |
| 7. Rear wheel axle  | 16. Seat upholstery   |
| 8. Rear wheel   | 17. Side guard pocket   |
| 9. Cross-brace (crossbar)   | 18. Backrest upholstery   |

### 3.4 Push & Pull attendant brakes

The Push & Pull attendant brakes allow the caregiver to brake the wheelchair when needed. They can also be used to lock the rear wheels to the wheelchair from moving.

- To brake the wheelchair while moving, squeeze both brake handles upwards to slow down and stop the wheelchair (①).
- The innovative Push & Pull attendant brakes allow the caregiver access to the wheel locks without having to continuously lean forward. Just push the attendant brakes to lock the rear wheels and park the wheelchair (③), and pull to unlock (②).



### 3.5 Wheel locks

The wheel locks can lock the wheels when stationary to prevent them from moving.

- To engage the wheel locks, push the wheel lock levers forwards as far as possible.
- To release the wheel locks, pull the wheel lock levers backwards.



#### CAUTION

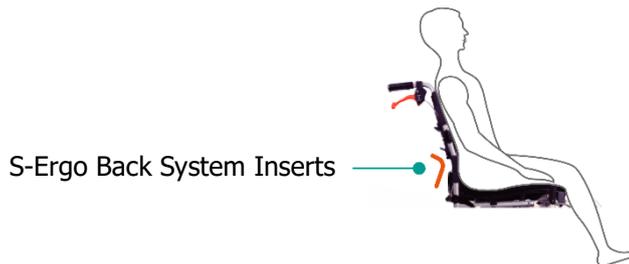
Do not use the wheel locks to slow down or stop the wheelchair. This could cause it to seize up, causing you to lose control or fall out of the wheelchair.

### 3.6 S-Ergo Back System Inserts

The S-Ergo Back System Inserts provide users with lumbar support and promote a healthy, upright posture by maintaining natural spinal alignment.

To properly install the S-Ergo Back System Insert:

1. Move behind the wheelchair and unfasten the Velcro straps that secure the left and right sides of the backrest.
2. Determine and note the location of the user's lumbar area.
3. Locate the S-Ergo Back System Insert pockets and determine which horizontal positions most closely align with the user's lumbar area.
4. Decide whether to install the S-Ergo Back System Insert normally or upside down, depending on which vertical orientation provides better support to the user's lumbar area.
5. With the "Ergo" logo facing away from the user, slide the S-Ergo Back System Inserts into the identified pockets, ensuring the chosen vertical orientation provides maximum support to the user's lumbar area.
6. Firmly pull the Velcro straps unfastened in Step 2 toward the center of the backrest and re-secure them with an appropriate level of tension based on the user's comfort.



#### **i** NOTE

- You may purchase and install an additional set of S-Ergo Back System Inserts if needed.
- For adjustment methods and precautions regarding the S-Ergo Back System Inserts configuration, please refer to the detailed instructions on the next page.

#### **!** CAUTION

- Please inspect the S-Ergo Back System Inserts at least once every six months.
- Look for any whitening of the S-Ergo Back System Inserts. If you notice white lines or similar marks on an insert, it indicates wear and tear from prolonged use, posing a potential risk of breakage. Stop using it immediately and replace it with a new S-Ergo Back System Insert.

### 3.6.1 Testing and adjusting the S-Ergo Back System Inserts configuration

1. For first-time use, it is recommended to place the S-Ergo Back System Inserts upside down into the pockets labeled ② and ④ as shown in the figure below. If the user finds the support strength and position suitable, please use this configuration.
2. If the user finds the support position is appropriate but the support strength is insufficient, consider purchasing two extra S-Ergo Back System Inserts and inserting them in the same direction into the pockets labeled ① and ⑤ as shown in the figure below.
3. If the user finds the support position is appropriate but the support strength is too strong, consider moving the S-Ergo Back System Inserts in the same direction from the original pockets ② and ④ to the pockets labeled ① and ⑤ as shown in the figure below.
4. If the user finds the support position is too high, consider inserting the S-Ergo Back System Inserts right side up instead.



#### CAUTION

- Before purchasing a wheelchair, it is essential to have a thorough assessment by a therapist to determine the most suitable wheelchair for the user.
- If the user has symptoms of lumbar spondylolisthesis, it is recommended to choose a wheelchair with a "seat to backrest angle" between 90 and 95 degrees (such as the Agile) to reduce discomfort in the lower back. If the user needs to decrease the "seat to backrest angle" after purchasing this wheelchair, they can remove the S-Ergo Back System Inserts or add a curved backrest. If these adjustments do not provide sufficient relief, it is advisable to replace the wheelchair and consult a therapist or doctor.



## CAUTION

- When using the S-Ergo Back System Inserts, in addition to cases of lumbar spondylolisthesis, a few individuals may experience discomfort due to reduced lumbar mobility, such as patients with Parkinson's disease who have tighter trunk muscles. For special orthopedic or neurological conditions, it is recommended to consult your therapist when purchasing this wheelchair or adjusting the configuration of the S-Ergo Back System Inserts.

For more information, watch the video on KARMA Academy.



**Why Do You Need the Ergo Seating System?**

## 4. Operation

### 4.1 Preparing for use

#### 4.1.1 Unfolding

To unfold your wheelchair, follow the steps below:

1. Hold the push handles and fold up the back joints until you hear them click into place. (See Figure 4.1.)
2. Hold the armrests and pull outwards. (See Figure 4.2.)
3. Point your fingers inwards with the palm of your hand on the frame, and push it down until the seat is fully lowered. Make sure the frame is firmly seated in its holder. (See Figure 4.3.)



#### CAUTION

When completing the step above, never put your fingers around the sides or under the wheelchair, as they can be trapped between the seat and the frame. (See Figure 4.4.)

4. Locate the extension fabric with loop-side Velcro under the lower backrest upholstery. Find the hook-side Velcro on the bottom of the lower seat upholstery. Attach the loop-side Velcro to the hook-side Velcro to secure the extension fabric in place. (See Figure 4.5.)
5. Flip the footplates down. (See Figure 4.6.)
6. Ready to use!



Figure 4.1

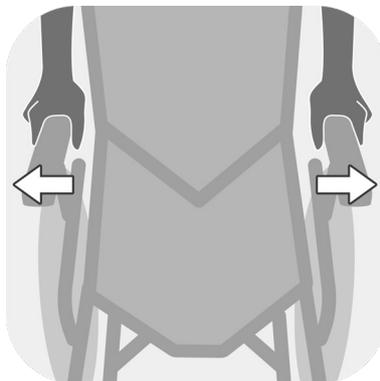


Figure 4.2

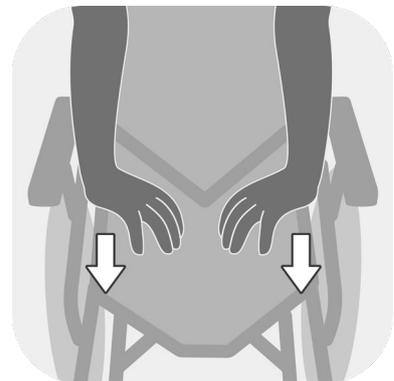


Figure 4.3



Figure 4.4

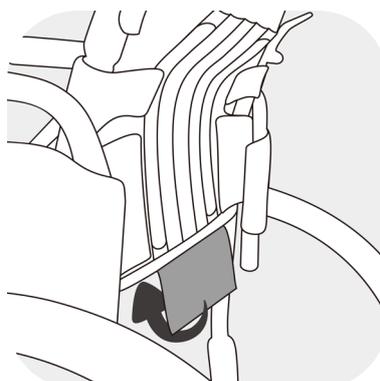


Figure 4.5

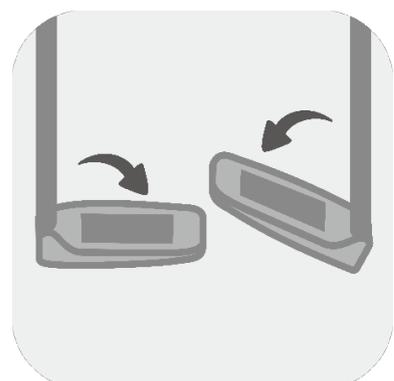


Figure 4.6

### 4.1.2 Folding

To fold your wheelchair, follow the steps below:

1. Flip up the footplates. (See Figure 4.7.)
2. Pull up the seat upholstery by holding its central portion of the front and rear ends. (See Figure 4.8.)
3. Fold down the backrest by pressing the backrest levers on both sides. (See Figure 4.9–4.10.)
4. Folding is now completed.



#### CAUTION

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

### 4.1.3 Flip-up armrest (for the Ergo 3 series)

1. You may flip up the armrest by putting your hand across the tube and pressing the lever located at the front base of armrest. Upon pulling the lever upwards, you can lift and flip the armrest up. (See Figure 4.11.)
2. To re-assemble the armrest, push down the armrest until it clicks into place. (See Figure 4.12.)

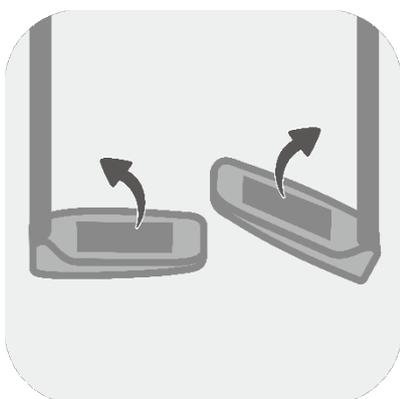


Figure 4.7



Figure 4.8

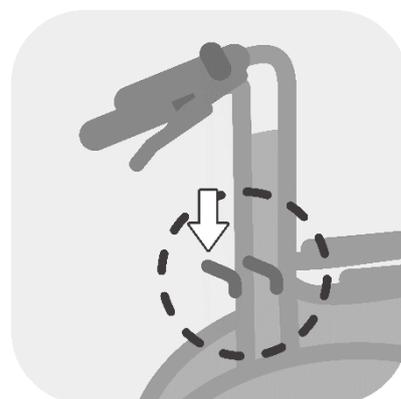


Figure 4.9

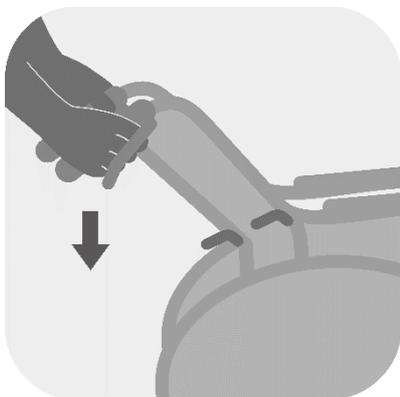


Figure 4.10



Figure 4.11



Figure 4.12

#### 4.1.4 Installing the swing-away footrests (for the Ergo 2/Ergo 3 series)

The swing-away footrests are used to support the lower limbs of wheelchair users. The footrests could be also swung outside and detachable for easy transferring in tight spaces.

1. Turn the swing-away footrest to the side, and insert the swing-away footrest into the wheelchair frame. (See Figure 4.13.)
2. Push the swing-away footrest toward the inside of the wheelchair until it clicks into place. (See Figure 4.14–4.15.)
3. Repeat the steps above for the other footrest.

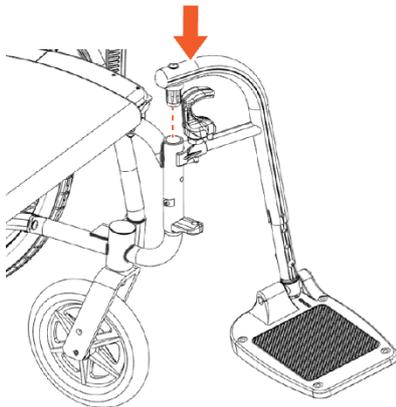


Figure 4.13

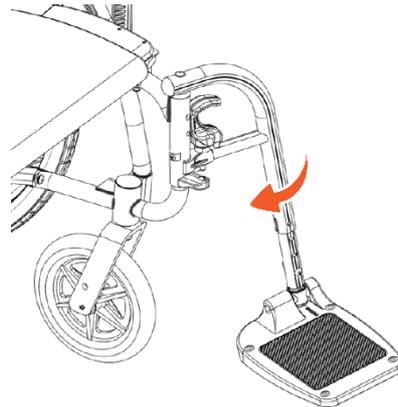


Figure 4.14

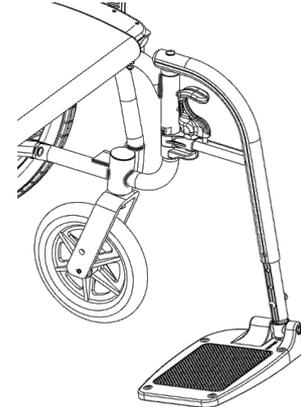


Figure 4.15

#### 4.1.5 Removing the swing-away footrests (for the Ergo 2/Ergo 3 series)

1. Pulling the release lever, swing the footrest to the side, and then lift it up. (See Figure 4.16–4.18.)
2. Repeat the removal procedure above for the other footrest.

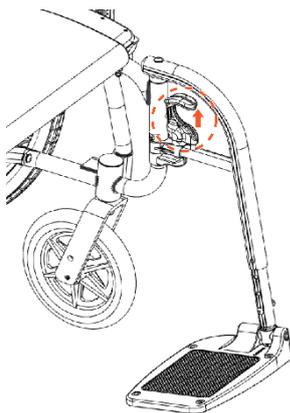


Figure 4.16

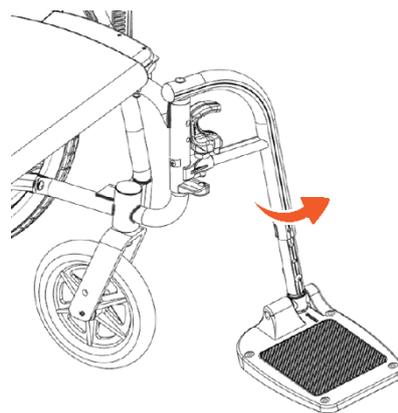


Figure 4.17

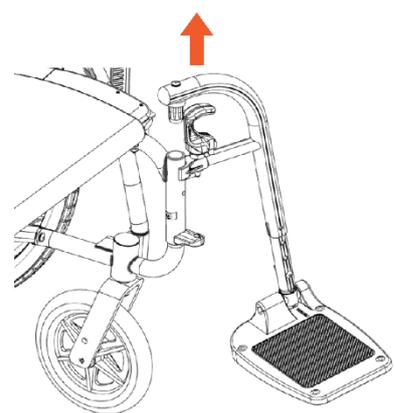


Figure 4.18



#### **WARNING**

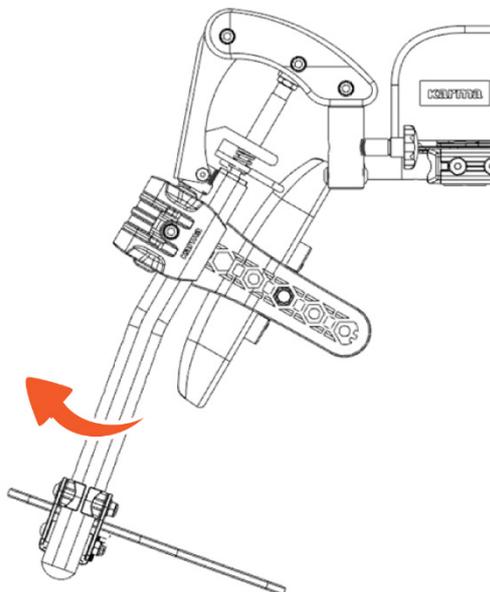
DO NOT attempt to lift the wheelchair by any removable (detachable) parts, such as the footrest or legrest. Lifting by means of any removable (detachable) parts of the wheelchair may result in injury to the user and/or assistant/attendant or damage to the wheelchair.

#### 4.1.6 Articulating elevating legrests (optional)

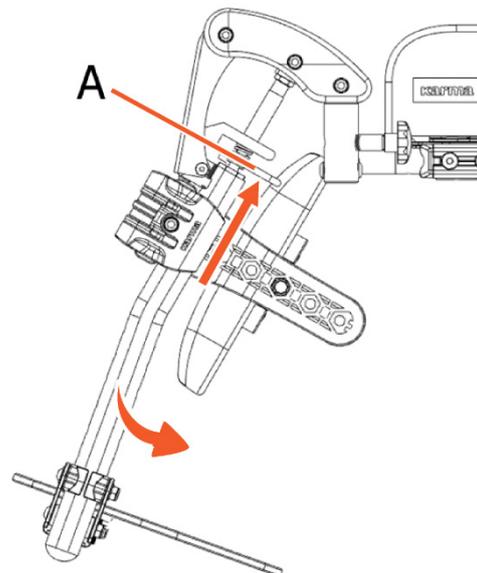
The articulating elevating legrests are for those who need to elevate their legs or keep them at a certain angle for more comfort and support. The legrest can be adjusted in length, and the ergonomic design ensures that the occupant will have enough space for feet, knee and thigh movement.

The calf support is available on an articulating elevating legrest. The swing-away calf support is adjustable in height, depth, and angle, giving users additional support. The legrest is also removable for easy transfer in tight spaces.

- To install the articulating elevating legrest, just insert it onto the wheelchair frame.
- To remove the articulating elevating legrest, just pull it out of the wheelchair frame.
- To raise the legrest, lift the legrest to the desired position.
- To lower the legrest, pull the lever (A) with one hand while supporting the legrest with another hand. When you reach the desired position, release the lever (A).



*Raising the legrest*



*Lowering the legrest*

#### 4.1.7 Important DOs and DON'Ts

- Do keep axles clean and lubricate with light oil or maintenance spray.
- Don't try to detach the wheels while the wheelchair is occupied even if it is installed with anti-tippers.

#### 4.1.8 Adjusting the footplate height

1. To adjust the footplate height, use the KARMA tool provided to loosen and remove the bolt and nut at the side of the footrest arm.
2. Adjust the footplate to the desired height, re-insert the bolt and make sure the footplate is firm. Then, tighten the nut as a locknut from outside. (See Figure 4.19.)
3. The footplate height must be at least 50 mm from the ground. (See Figure 4.20.)

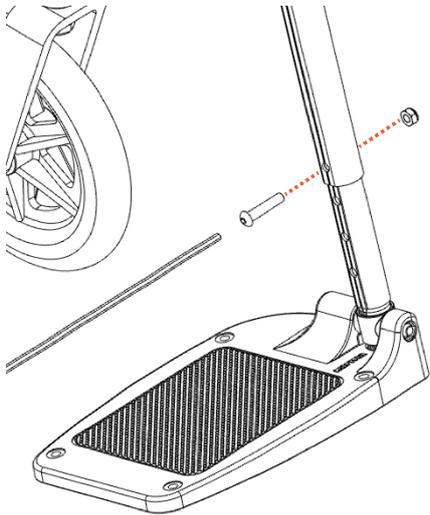


Figure 4.19

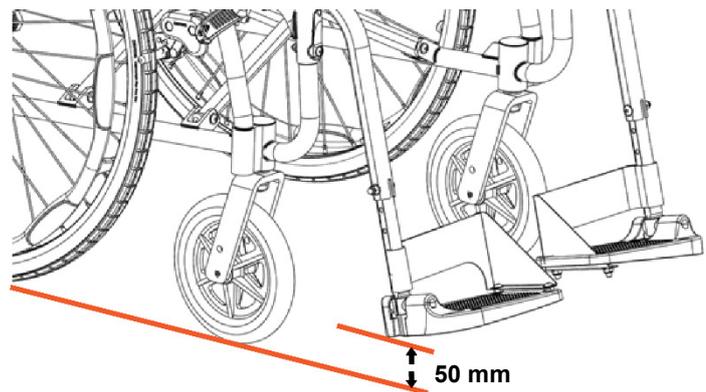
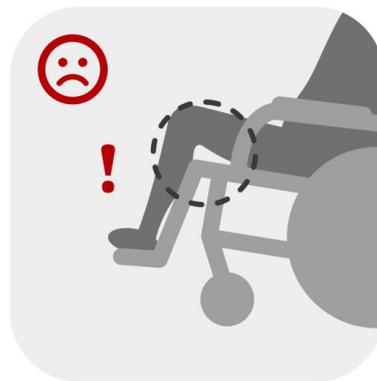
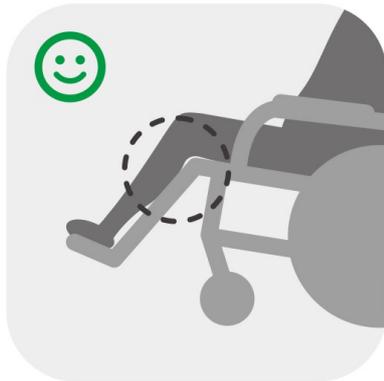


Figure 4.20

#### **i** NOTE

Make sure that the footplate height is adjusted properly according to the user's calf length to reduce pressure on the body.



#### **!** CAUTION

If the swing-away footrest is adjusted to the shortest length, please keep the bolt outside and the nut inside, so they won't be interfered with the heel loops.

## 4.2 Transferring in and out

### 4.2.1 Transferring in

1. Engage both wheel locks.
2. Flip up the footplates.
3. The user lowers his or her body into the seat using the armrests for support.
4. Flip the footplates back down, so that the user can place his or her feet on them.
5. Release both wheel locks.



### CAUTION

Always ensure that the front casters are in line with the rear wheels, the front caster forks are pointing forwards, and the back of the wheelchair is secure either against a wall or firmly held by an attendant.

### 4.2.2 Transferring out

1. Make sure that the wheelchair is near your final destination.
2. Move the wheelchair back sufficiently to ensure that the front casters are pointing forward, i.e. in line with the rear wheels and usually with the front caster forks pointing forward. Ensure that, where possible, the rear of the wheelchair is against a wall or, if not, it must be firmly held by an attendant.
3. Engage both wheel locks. The wheel lock levers must be pushed to lock. Besides, they can be pulled and flipped back to the fixed position for easy transferring.

(See Figure 4.21–4.23.)

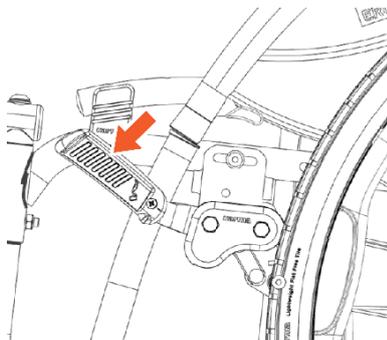


Figure 4.21

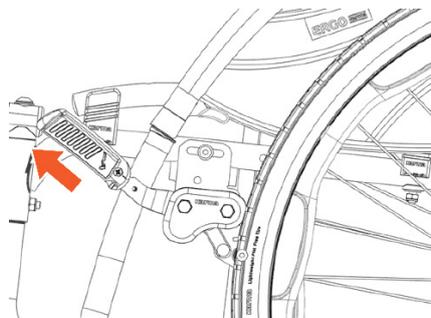


Figure 4.22

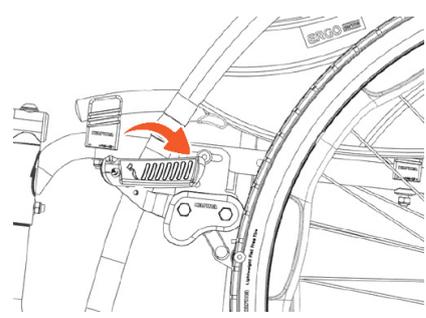


Figure 4.23

4. Turn the footplates up.
5. Slide forwards on the seat.
6. Place one foot firmly on the ground with the knee at a right angle and the other foot slightly apart and further back.
7. Place your hands on the front of the armrests and moving your weight forward, bring your head and shoulders up over your knees as you push yourself up.



## CAUTION

- When transferring into and out of the wheelchair, make sure that the wheel locks are applied to prevent the wheelchair from sliding away. Also, ensure that the footplates are flipped up for ease of entering or exiting. (See Figure 4.24.)
- Never stand on the footplates when getting into or out of the wheelchair. (See Figure 4.25.)
- When getting into and out of the wheelchair, please use the wheel locks. The wheel lock levers are at the sides of the wheelchair.
- Please ensure that neither the tread on your tyres (tires) nor the brake block becomes too worn.
- Please ensure that the occupant's fingers do not get caught in the brake.



Figure 4.24



Figure 4.25

## 4.3 General use

### 4.3.1 Attendant pushing and self-propelled

- Do ensure that the wheel locks are always locked when the wheelchair is not being pushed. (See Figure 4.26.)
- Always make sure that both feet are safely on the footplates and that clothing is safely tucked out of the way and so cannot get caught in the wheels. (See Figure 4.27.)
- Always use both hands on the push handles to control the wheelchair. (See Figure 4.28.)

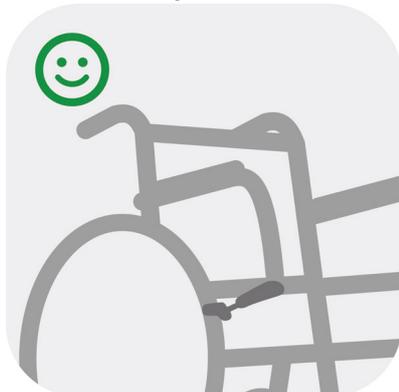


Figure 4.26



Figure 4.27

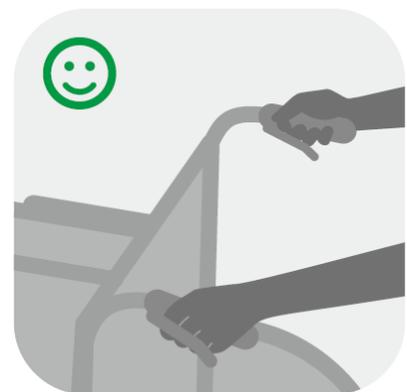


Figure 4.28

- Always avoid steep or uneven surfaces because the wheelchair may tip over. (See Figure 4.29.)
- Always avoid soft surfaces because the front casters may get bogged down. (See Figure 4.30.)



Figure 4.29



Figure 4.30

- Always be careful not to go too fast or turn too quickly and try to achieve a smooth steady ride.
- Before crossing railroad tracks, please stop completely and look both ways. Cross the tracks perpendicular to avoid your wheels getting stuck. Do not move at full speed over the railroad tracks.
- Be careful when going through a doorway that your hands and arms do not get injured.

PLEASE keep in contact with the person in the wheelchair. If you stop to look in shop windows or talk to people, remember to turn the wheelchair so that the person in the wheelchair does not have to turn.



## **WARNING**

NEVER engage the wheel locks too quickly as this may tip the user out of the wheelchair.

### **4.3.2 Tilting by the attendant**

1. Make sure both the user's feet are on the footplates and will not slip off. Make sure the handgrips are secure and cannot slip off.
2. Release both wheel locks.
3. Grasp both push handles firmly.
4. Tell the person in the wheelchair that you are about to tilt the wheelchair backwards.
5. Put your foot against the end of the rear frame tube, and then pull back with both hands and push down and forwards with your hands. This will bring the wheelchair onto the rear wheels.



## CAUTION

- When a wheelchair is tilted to about 25 degrees, it will balance on its rear wheels and be easy to hold. If it is tilted further back it will be difficult to hold and the person in the wheelchair will feel unsafe.
- Lower the wheelchair with your back straight, keep your foot against the relevant tipping lever at the back of the wheelchair, and lower the wheelchair slowly forwards softly to the ground.

### 4.3.3 Tilting by the user

1. Make sure your feet are on the footplates and will not slip off.
2. Release both wheel locks.
3. Grasp both handrims and give a firm, sudden forward push immediately before the obstacle, continue the momentum (be ready to keep pushing) until the obstacle is mounted.



## CAUTION

- This method should only be attempted by people experienced in wheelchair use. Strong arms are also necessary. It is always better to have the help of an attendant.
- Leaning backwards causes the front caster to rise higher, BUT it is much safer to lean forwards and stay balanced.

### 4.3.4 Going down kerbs (curbs)



## NOTE

It is always better to avoid kerbs (curbs) where possible by using ramped kerbs (curbs) or slopes and this operation is best attempted with the aid of an attendant.

#### ***4.3.4.1 Going down kerbs (curbs) forwards with an attendant***



## CAUTION

- This is the more difficult method and can jar the user but allows a better view of traffic.
- Be careful that the anti-tipper does not get caught on the kerb (curb) causing the user to fall.
- NEVER ALLOW THE WHEELCHAIR TO TIP FORWARDS WHEN GOING DOWN A KERB (CURB).

1. Position the wheelchair so that the front casters are near the edge of the kerb (curb) and make sure that the road is clear.
2. Move the wheelchair slowly and carefully forwards while tilting it back slightly. Be ready to take the weight when the rear wheels cross the kerb (curb) edge.

Ensure that both rear wheels touch the ground at the same time to avoid tipping the wheelchair.

3. Gently lower the front casters. AVOID JARRING THE USER.

#### ***4.3.4.2 Going down kerbs (curbs) backwards with an attendant***



#### **CAUTION**

This is the easier and smoother method, BUT it requires the attendant to step backwards into the road.

1. Back the wheelchair to the kerb (curb) edge and be careful that the rear wheels are equally near the edge.
2. Grasping the push handles, gently lower the rear wheels onto the road. Be prepared to control the weight as it descends, and ensure that the rear wheels touch ground at the same time.
3. Tilt the wheelchair back slightly and pull the tilted wheelchair far enough into the road so that the front casters and footrests can be lowered clear of the kerb (curb).

#### **4.3.5 Going up kerbs (curbs)**



#### **NOTE**

This operation is best attempted with the aid of an attendant and the best method is to go up kerbs (curbs) forwards as this maintains the direction of travel and is physically less demanding for the attendant.

##### ***4.3.5.1 Going up kerbs (curbs) forwards with an attendant***

1. As the footrests nearly touch the kerb (curb), tilt the wheelchair. The wheelchair should be tilted just high enough to allow the front casters to roll smoothly onto the pavement.
2. Push the wheelchair forward until the rear wheels are touching the kerb (curb). Then, continuing the movement, lift at the push handles while moving the wheelchair forwards.

##### ***4.3.5.2 Going up kerbs (curbs) backwards with an attendant***



#### **CAUTION**

For safety's sake, we do not recommend using this method.

### 4.3.6 Going up or down steps/stairs

#### NOTE

Avoid flights of steps particularly if no extra help is available. Use ramps or lifts wherever possible.

1. Two attendants are necessary, each capable of carrying at least half of the combined weight of the person and the wheelchair.
2. Each helper should bend at the knees and grip the main frame: with the front attendant's hands just under the front of the seat, with the back attendant's hands holding the frame just under the push handles.

#### CAUTION

Never hold on to movable or detachable parts.

ALL LIFTING SHOULD BE DONE WITH A STRAIGHT BACK.

Straighten legs to lift the wheelchair. Carefully carry it up or down steps; be aware of how you place your feet -- do not cross them and trip yourself up.

## 4.4 Storing

Make sure the wheelchair is folded when stored.

#### NOTE

Please store the wheelchair in a location where it is out of direct sunlight, rain and dew. For more details, consult your KARMA dealer.

#### WARNING

Don't put anything on the wheelchair while it is in storage. Storing goods on a folded or unfolded wheelchair will cause damage and is not covered under warranty. (See the figure on the right.)



## 4.5 Transportation

The Ergo 2/Ergo 3 series fulfills the performance requirements for a "Crash Test" of ISO 7176-19 (Report No. TSSM2304000169W0) and is suitable to use as a seat in vehicles that have been adapted for this purpose. The wheelchair must be securely restrained as described in this manual. The Ergo 2/Ergo 3 series was tested with a four-point webbing system. For further information on the use of wheelchair restraints, please refer to the manufacturer's user guide.

KARMA always recommends that the user transfers to the vehicle seating, because using a wheelchair as a seat in a vehicle does not provide the equivalent level of safety of a vehicle seating system.



### WARNING

Please transfer to a vehicle seat in the vehicle in all permitted cases.

#### 4.5.1 Before use

1. Please detach all easily removable accessories from the wheelchair and store them in a safe place where they cannot move around and become a safety hazard.
2. A four-point tie-down system should tightly fasten the lower wheelchair frame to the transport vehicle. The Tie-Down Label (see the hook mark on the right) indicates the position of the fixing points for the tie-down restraints on the wheelchair. 
3. An occupant restraint system using both a pelvic belt and harness must also be fastened to the transport vehicle to ensure user safety. Again, please refer to the restraint system's instructions.
4. The attendant/transporter must double-check all fastening points for proper connection and tightness to assure the wheelchair user's safety. The attendant/transporter must fully understand the fastening system's usage and its weight limitations.
5. See <https://www.braunability.eu/en/products/tie-downs-and-seatbelts/wtors/> for more information.



### CAUTION

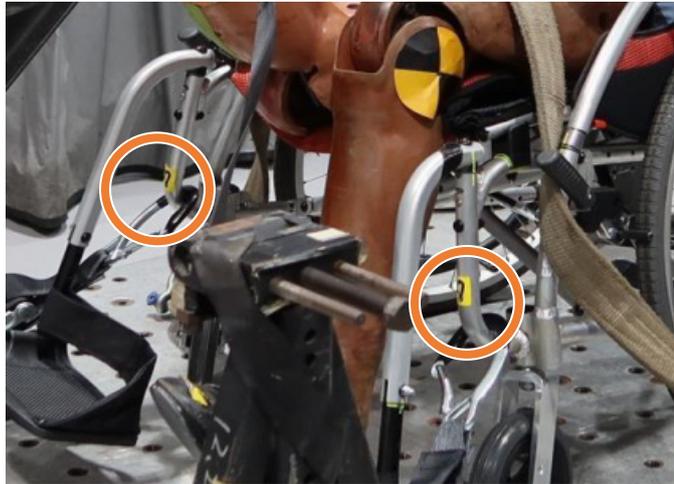
- When transporting or lifting, never hold on to attachments or accessories (front/rear wheels, handrims, front casters, footrests, armrests, anti-tippers, etc.).
- All lifting should be done with a straight back. Straight legs to lift the wheelchair. Carefully carry it up or down steps; be aware of how you place your feet, do not cross them and trip yourself up.

#### 4.5.2 Method of restraint

The Ergo 2/Ergo 3 series was tested with four-point webbing systems. Please refer to the restraint manufacturer's user guide for further details of its operation.

#### 4.5.3 Fitting the front restraints

1. Connect the straps around the wheelchair frame and front caster bracket as pictured below. The tie-down loops are marked with yellow stickers .

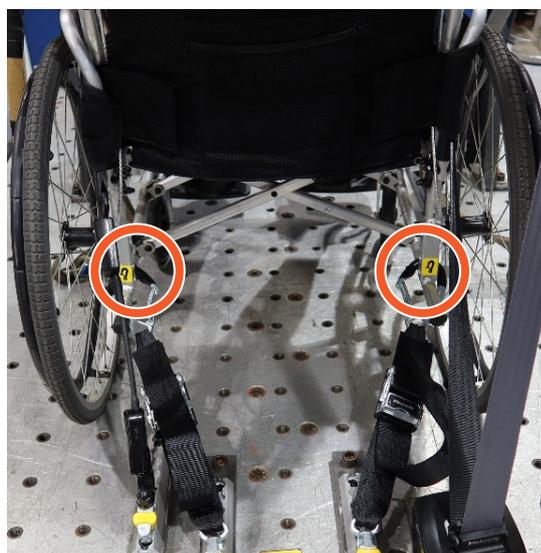


*Fitting the front restraints*

2. Take the brakes off and reverse the wheelchair to tension the front straps. Apply wheelchair brakes (the brakes should be left on during transport).

#### 4.5.4 Fitting the rear restraints

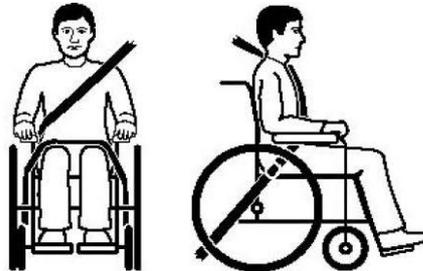
1. Attach rear straps into rail approximately 300 mm behind the wheelchair backrest.
2. Attach the hooks to the rear frame of the wheelchair as pictured below. The tie-down loops are marked with yellow stickers . Tension the restraint until the wheelchair is secure.



*Fitting the rear restraints*

#### 4.5.5 Fitting seat belt

1. Fasten the three-point safety belt around the user.
2. The occupied wheelchair should be located in a forward-facing configuration, with the wheel locks applied.
3. Pelvic restraints should make full contact across the front of the body near the junction of the thigh and pelvis as pictured below (correct seat belt position).



*Correct seat belt position*

4. Restraints should not be held away from body by wheelchair components such as armrest or wheels as pictured below (incorrect seat belt position).



*Incorrect seat belt position*

#### 4.6 Pelvic belt (optional)

##### 4.6.1 How to assemble and disassemble a pelvic belt

1. Loosen the fourth and fifth screws of both side of seat upholstery and insert the pelvic belt in between the fourth and fifth screw holes. (See Figure 4.31.)
2. Keep the pelvic belt in 45 degrees for comfortable usage. (See Figure 4.32.)
3. Put the seat upholstery back and tighten the screws.

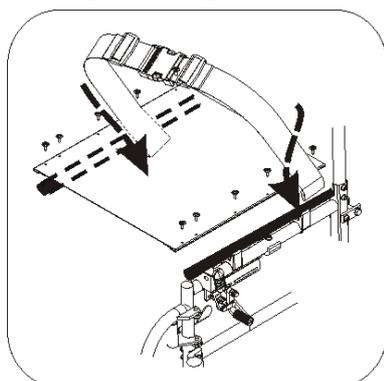


Figure 4.31

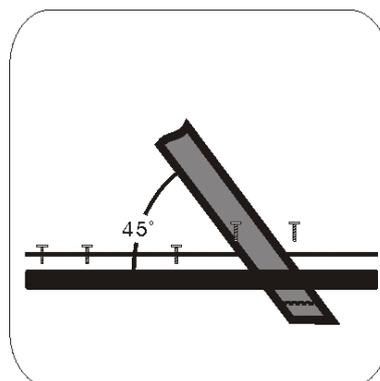


Figure 4.32

#### 4.6.2 Adjusting the length of a pelvic belt

1. Identify the required length of the pelvic belt. (See Figure 4.33.)
2. Push the two part of belt through buckle to make the belt longer or shorter. (See Figure 4.34.)
3. Pull the two part of belt tight. (See Figure 4.35.)
4. Push buckle up to the plastic clip so that the belt cannot slip out of position. Please check that there is no gap between the clip and buckle.



#### NOTE

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



Figure 4.33



Figure 4.34



Figure 4.35

#### 4.6.3 How to operate a pelvic belt

1. When you sit on the wheelchair, fasten the pelvic belt.
2. Adjust the pelvic belt and make it fit your body for comfort and security.
3. When you don't use it, please fasten the pelvic belt to avoid the belt dropping into rear wheels during motion.

#### 4.6.4 Maintenance

The pelvic belt is made from 100% polyester fiber and the clasp is made from plastic. It does not require any maintenance but should be inspected every month to ensure that the edges are not frayed and weekly to make sure that it correctly fits the user. If there are any signs of deterioration, please replace it immediately.

## 5. Inspection and maintenance

### 5.1 Daily check

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

- Examine wheel locks/attendant brakes, checking for wear, damage and misalignment. Replacing or adjusting the wheel locks/attendant brakes should be carried out by your approved repairer.
- Check that the handgrips are not damaged and are securely bonded to the push handles.
- Check anti-tippers are not damaged and are securely attached.
- Check that the anti-tippers' wheels and frame are not damaged and are securely mounted.
- Before using the wheelchair, make sure all nuts and bolts are tight. Check all parts for damage or wear and have a qualified technician replace them if necessary. Check all parts for proper adjustment. Inspect wheel locks/attendant brakes for proper operation.
- The wheels and tyres (tire) should be checked periodically for cracks and wear, and should be replaced by a qualified technician.
- A qualified technician can be found at an authorized distributor/dealer.



#### CAUTION

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

### 5.2 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 6 months**.

A maintenance/service fee may apply.



#### WARNING

Even if you don't use the vehicle for a long time, the wheelchair should still be maintained regularly. You should clean your wheelchair regularly.

Item	Weekly	Monthly
<b>GENERAL</b>		
● Wheelchair rolls straight (no excessive drag or pull to one side).		V
<b>FRAME AND CROSSBARS</b>		
● Inspect frame structure for small cracks/fissures.		V
● Inspect for bent frame or crossbars.		V
<b>WHEEL LOCKS/ATTENDANT BRAKES</b>		
● Do not interfere with tyres (tires) when rolling.		V
● Pivot points free of wear and looseness.		V
● Easy to engage.	V	
● Prevent wheelchair from moving when engaged.	V	
<b>SEAT &amp; BACKREST</b>		
● Inspect for rips or sagging.	V	
● Inspect for loose or broken hardware.		V
<b>FRONT CASTERS</b>		
● Inspect the front casters for smooth rotation of the caster wheel and caster assembly.		V
● Inspect the front caster for wear in the bearings/mountings and for tyre (tire) wear or damage.		V
<b>REAR WHEELS</b>		
● Quick-release axles lock properly; lubricate if necessary.	V	
● No excessive side movement or binding when lifted and spun.		V
● Inspect for cracked, bent or broken spokes.	V	
<b>ARMRESTS</b>		
● Inspect the detachable armrest lever for effective locking.		V
● Make sure the armrest detaches and flips up properly.		V
<b>FOOTRESTS</b>		
● Inspect the footplate height adjustment screws are securely tightened.		V
● Inspect the swing-away footrest release lever for effective locking.		V

Item	Weekly	Monthly
<b>TYRES (Tires)</b>		
<ul style="list-style-type: none"> <li>● Inspect for flat spots, cracks and wear.</li> </ul>	V	
<ul style="list-style-type: none"> <li>● Check tyre (tire) tread depth is more than 1 mm.</li> </ul>		V
<ul style="list-style-type: none"> <li>● If pneumatic tyres (tires), check for proper inflation; tyre (tire) pressures are located on the side of the tyre (tire).</li> </ul>	V	

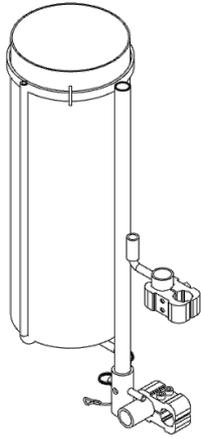


**CAUTION**

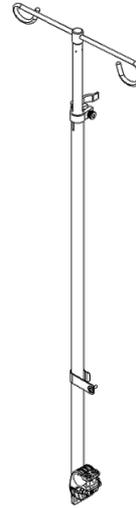
- If you find anything abnormal, stop using the wheelchair immediately and visit a KARMA wheelchair dealer for inspection and maintenance.
- As with any wheelchair, the wheels and tyres (tires) should be checked periodically for cracks and wear, and should be replaced. Failure to keep tyres (tires) at the correct pressure will reduce the braking efficiency.
- Never disassemble or modify the wheelchair frame structure. Otherwise, injury or damage may occur. This will void the warranty.

## 6. Options and accessories

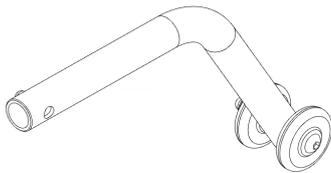
- Oxygen Holder
  - Standard size attaches to the back of wheelchairs.



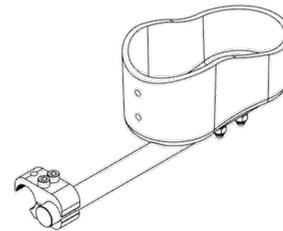
- IV Pole Holder
  - Height adjusts from 130 cm (51") to 200 cm (78").



- Anti-Tippers



- Cane Holder



### CAUTION

Attaching accessories may alter the overall stability and center-of-gravity of the chair. Thus, this should be performed by your approved repairer and therapist.

## 7. Troubleshooting

### 7.1 Common issues and troubleshooting tips

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

Issue	Checking Points and Corrective Action
1. Wheelchair Veers Right/Left	<ul style="list-style-type: none"><li>● Check the tyres (tires) for correct and equal pressure</li><li>● Check the front caster bracket angle</li><li>● Check that the rear wheels are equally spaced from the seat frame</li></ul>
2. Sluggish Turn or Performance	<ul style="list-style-type: none"><li>● Check the tyres (tires) for correct and equal pressure</li><li>● Check for loose nuts and bolts</li></ul>
3. Front caster Flutter/Wobble	<ul style="list-style-type: none"><li>● Check the tyres (tires) for correct and equal pressure</li><li>● Check for loose nuts and bolts</li><li>● Check the front caster bracket angle</li></ul>
4. Squeaks and Rattles	<ul style="list-style-type: none"><li>● Check for loose nuts and bolts</li></ul>
5. Looseness in Wheelchair	<ul style="list-style-type: none"><li>● Check for loose nuts and bolts</li></ul>

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

## 8. Specifications



### NOTE

Available features, specifications, and configurations may vary depending on the country/region where you purchase the product.

Product Model	Ergo 2 (ERG 2)								
Nominal seat width (mm/in) <sup>1</sup>	410/16	460/18	510/20	410/16	460/18	510/20	410/16	460/18	510/20
Nominal seat depth (mm/in) <sup>2</sup>	435/17	435/17	435/17	435/17	435/17	435/17	435/17	435/17	435/17
Front caster/Rear wheel size (in)	6/14 7/14	6/14 7/14	6/14 7/14	6/20 7/20	6/20 7/20	6/20 7/20	7/24	7/24	7/24
Backrest height (mm)	435	435	435	435	435	435	435	435	435
Headrest height above seat (mm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Armrest to seat distance (mm)	220	220	220	220	220	220	220	220	220
Front location of armrest structure (mm)	0 350	0 350	0 350	0 350	0 350	0 350	0 350	0 350	0 350
Seat surface height at front edge (mm)	435 485	435 485	435 485	435 485	435 485	435 485	485	485	485
Footrest to seat distance (mm)	385– 460	385– 460	385– 460	385– 460	385– 460	385– 460	385– 460	385– 460	385– 460
Effective seat width (mm)	420	470	520	420	470	520	420	470	520
Effective seat depth (mm)	435	435	435	435	435	435	435	435	435
Seat plane angle (X°)	6	6	6	6	6	6	6	6	6
Backrest angle (X°)	20	20	20	20	20	20	20	20	20
Seat to backrest angle (X°)	104	104	104	104	104	104	104	104	104
Leg to seat angle (X°)	105	105	105	105	105	105	105	105	105
Overall length with legrest (mm)	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050
Overall width (mm)	575	625	675	595	645	695	595	645	695
Overall height (mm)	860 910	860 910	860 910	860 910	860 910	860 910	860 910	860 910	860 910
Folded length (mm)	770 (Q14) <sup>3</sup> 770 (F14) <sup>4</sup>	770 (Q14) 770 (F14)	770 (Q14) 770 (F14)	770 (Q20) 780 (F20)	770 (Q20) 780 (F20)	770 (Q20) 780 (F20)	770 (Q24) 820 (F24)	770 (Q24) 820 (F24)	770 (Q24) 820 (F24)

Product Model	Ergo 2 (ERG 2)								
Folded width (mm)	245 (Q14)	245 (Q14)	245 (Q14)	245 (Q20)	245 (Q20)	245 (Q20)	245 (Q24)	245 (Q24)	245 (Q24)
	285 (F14)	285 (F14)	285 (F14)	310 (F20)	310 (F20)	310 (F20)	310 (F24)	310 (F24)	310 (F24)
Folded height (mm)	660 (Q14)	700 (Q14)	740 (Q14)	660 (Q20)	700 (Q20)	740 (Q20)	660 (Q24)	700 (Q24)	740 (Q24)
	700 (F14)	735 (F14)	780 (F14)	700 (F20)	735 (F20)	780 (F20)	700 (F24)	735 (F24)	780 (F24)
Total mass (kg)	11.6	11.9	12.2	12.8	13.1	13.4	13.5	13.8	14.1
	12.0	12.3	12.6	13.0	13.3	13.6			
Mass of the heaviest part (kg)	7.8 (Q14)	8.1 (Q14)	8.4 (Q14)	8.0 (Q20)	8.3 (Q20)	8.6 (Q20)	8.2 (Q24)	8.5 (Q24)	8.8 (Q24)
	9.9 (F14)	10.2 (F14)	10.5 (F14)	11.1 (F20)	11.4 (F20)	11.7 (F20)	11.8 (F24)	12.1 (F24)	12.4 (F24)
Maximum user weight (kg) <sup>5</sup>	115	115	115	115/ 125	115/ 125	115/ 125	115/ 125	115/ 125	115/ 125
Minimum turning radius (mm)	895	900	910	895	900	910	895	900	910
Minimum turning radius without user (mm)	745	750	760	745	750	760	745	750	760
Pivot width (mm)	1115	1135	1155	1115	1135	1155	1115	1135	1155
Static stability downhill (X°)	14	14	14	14	14	14	14	14	14
Static stability uphill (X°)	14	14	14	14	14	14	14	14	14
Static stability sideways (X°)	14	14	14	14	14	14	14	14	14
Handrim diameter (mm)	N/A	N/A	N/A	435	435	435	520	520	520
Horizontal location of axle (mm)	45	45	45	45	45	45	45	45	45

1. **Nominal seat width** is measured the width of seat cushion at 120 mm in front of the backrest. This value is mainly used in the product ordering process.
  2. **Nominal seat depth** is measured from the front end of the seat cushion to the back cushion. This value is mainly used in the product ordering process.
  3. Q = Quick-release axles
  4. F = Fixed axles
  5. The Ergo 2 series is suitable for users up to 125 kg in weight. However, if the wheelchair is equipped with Push & Pull attendant brake, it is only suitable for users up to 115 kg in weight.
- This wheelchair conforms to the requirements and test methods for static, impact and fatigue strengths (ISO 7176-8).
  - The actual product specifications differ from the data in the table by  $\pm 10$  mm  $\pm 0.5$  kg.
  - The actual product specifications may vary according to different configurations.
  - KARMA reserves the right to modify information herein without further notice.
  - Please scan the **QR code** to watch more instructions of the measurement methods on the KARMA website.



<b>Product Model</b>	<b>Ergo 3 (ERG 3)</b>								
Nominal seat width (mm/in) <sup>1</sup>	410/16	460/18	510/20	410/16	460/18	510/20	410/16	460/18	510/20
Nominal seat depth (mm/in) <sup>2</sup>	435/17	435/17	435/17	435/17	435/17	435/17	435/17	435/17	435/17
Front caster/Rear wheel size (in)	6/14 7/14	6/14 7/14	6/14 7/14	6/20 7/20	6/20 7/20	6/20 7/20	7/24	7/24	7/24
Backrest height (mm)	435	435	435	435	435	435	435	435	435
Headrest height above seat (mm)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Armrest to seat distance (mm)	220	220	220	220	220	220	220	220	220
Front location of armrest structure (mm)	0 350	0 350	0 350	0 350	0 350	0 350	0 350	0 350	0 350
Seat surface height at front edge (mm)	435 485	435 485	435 485	435 485	435 485	435 485	485	485	485
Footrest to seat distance (mm)	385–460	385–460	385–460	385–460	385–460	385–460	385–460	385–460	385–460
Effective seat width (mm)	420	470	520	420	470	520	420	470	520
Effective seat depth (mm)	435	435	435	435	435	435	435	435	435
Seat plane angle (X°)	6	6	6	6	6	6	6	6	6
Backrest angle (X°)	20	20	20	20	20	20	20	20	20
Seat to backrest angle (X°)	104	104	104	104	104	104	104	104	104
Leg to seat angle (X°)	105	105	105	105	105	105	105	105	105
Overall length with legrest (mm)	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050	1025– 1050
Overall width (mm)	575	625	675	595	645	695	595	645	695
Overall height (mm)	860 910	860 910	860 910	860 910	860 910	860 910	860 910	860 910	860 910
Folded length (mm)	770 (Q14) <sup>3</sup> 770 (F14) <sup>4</sup>	770 (Q14) 770 (F14)	770 (Q14) 770 (F14)	770 (Q20) 780 (F20)	770 (Q20) 780 (F20)	770 (Q20) 780 (F20)	770 (Q24) 820 (F24)	770 (Q24) 820 (F24)	770 (Q24) 820 (F24)
Folded width (mm)	245 (Q14) 285 (F14)	245 (Q14) 285 (F14)	245 (Q14) 285 (F14)	245 (Q20) 310 (F20)	245 (Q20) 310 (F20)	245 (Q20) 310 (F20)	245 (Q24) 310 (F24)	245 (Q24) 310 (F24)	245 (Q24) 310 (F24)
Folded height (mm)	660 (Q14) 700 (F14)	700 (Q14) 735 (F14)	740 (Q14) 780 (F14)	660 (Q20) 700 (F20)	700 (Q20) 735 (F20)	740 (Q20) 780 (F20)	660 (Q24) 700 (F24)	700 (Q24) 735 (F24)	740 (Q24) 780 (F24)

Product Model	Ergo 3 (ERG 3)								
Total mass (kg)	11.9 12.3	12.2 12.6	12.5 12.9	13.1 13.3	13.4 13.6	13.7 13.9	13.8	14.1	14.4
Mass of the heaviest part (kg)	8.0 8.4 (Q14)	8.3 8.7 (Q14)	8.6 9.0 (Q14)	8.2 8.4 (Q20)	8.5 8.7 (Q20)	8.8 9.0 (Q20)	8.4 (Q24)	8.7 (Q24)	9.0 (Q24)
	10.1 10.5 (F14)	10.4 10.8 (F14)	10.7 11.1 (F14)	11.3 11.5 (F20)	11.6 11.8 (F20)	11.9 12.1 (F20)	12.0 (F24)	12.3 (F24)	12.6 (F24)
Maximum user weight (kg) <sup>5</sup>	115	115	115	115/ 125	115/ 125	115/ 125	115/ 125	115/ 125	115/ 125
Minimum turning radius (mm)	895	900	910	895	900	910	895	900	910
Minimum turning radius without user (mm)	745	750	760	745	750	760	745	750	760
Pivot width (mm)	1115	1135	1155	1115	1135	1155	1115	1135	1155
Static stability downhill (X°)	14	14	14	14	14	14	14	14	14
Static stability uphill (X°)	14	14	14	14	14	14	14	14	14
Static stability sideways (X°)	14	14	14	14	14	14	14	14	14
Handrim diameter (mm)	N/A	N/A	N/A	435	435	435	520	520	520
Horizontal location of axle (mm)	45	45	45	45	45	45	45	45	45

- 1. Nominal seat width** is measured the width of seat cushion at 120 mm in front of the backrest. This value is mainly used in the product ordering process.
  - 2. Nominal seat depth** is measured from the front end of the seat cushion to the back cushion. This value is mainly used in the product ordering process.
  - 3.** Q = Quick-release axles
  - 4.** F = Fixed axles
  - 5.** The Ergo 3 series is suitable for users up to 125 kg in weight. However, if the wheelchair is equipped with Push & Pull attendant brake, it is only suitable for users up to 115 kg in weight.
- This wheelchair conforms to the requirements and test methods for static, impact and fatigue strengths (ISO 7176-8).
  - The actual product specifications differ from the data in the table by  $\pm 10$  mm  $\pm 0.5$  kg.
  - The actual product specifications may vary according to different configurations.
  - KARMA reserves the right to modify information herein without further notice.
  - Please scan the **QR code** to watch more instructions of the measurement methods on the KARMA website.



## 9. Cleaning and recycling

### 9.1 Cleaning

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. We suggest that you don't use your wheelchair in the rain or snow. If you are traveling and get caught in the rain, we suggest you try to find shelter while waiting it out. If you can't find shelter, proceed to your destination.

#### 9.1.1 Frame

Wipe the frame with a damp cloth.

#### 9.1.2 Upholstery

- When cleaning the upholstery, use warm water and a mild soap.
- Upholstery cleaner/foam can also be used, but avoid other cleaning solvents.

### 9.2 Post-consumer recycling

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

Material	Part Name	Method
Aluminum-alloy	Frame	Recyclable
Plastic	Modular Components	Recyclable
Paper	User Manual	Recyclable

- There are many organizations in many countries/regions you can find on the Internet that will accept used goods for charity. Please search the Internet to help less fortunate individuals and protect our planet for future generations. 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. Earth Day is every day.
- Check with your local recycling center on where and how to recycle your wheelchair as this information varies from region to region.

# 10. Warranty

## 10.1 Serial number

To ensure after-sales service and warranty, please record and fill in the serial number which can be found on the frame.

This warranty is VOID if the original wheelchair serial number is removed or altered.

Model	
Serial Number	

## 10.2 Warranty policy

### 10.2.1 Contents and Duration of Warranty

- 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).
- Frame and cross-braces are warranted for a period of 5 years, gas strut (if available) for a period of 1 year, and the S-Ergo Back System Inserts for a period of 1 year after delivery to the customer. Within the warranty period, the affected parts will be repaired or replaced free of charge.
- Consumable parts such as brakes, bearings, footplates, pads, side guards, upholsteries, wheels and similar parts are excluded from the warranty.
- Warranty maintenance can be performed by authorized KARMA wheelchair dealers only.
- KARMA is not responsible for the transportation costs for repair and replacement.
- Warranty maintenance is the repair or replacement according to the condition of the parts, and replaced parts will be the property of KARMA.
- KARMA reserves the right to modify product specifications without further notice; KARMA is not responsible for any changes to product specifications.

### 10.2.2 The Claims from This Warranty Shall Not Arise for The Following Reasons

- 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.
- Damage resulting from normal wear and tear.
- Any overloading of the product, please check the label for maximum user weight.
- 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.
- Use or install parts or accessories which are not manufactured or not approved by KARMA.
- Damage resulting from use in unsuitable environments.

- Damage resulting from any addition, modification, or alteration of the product or parts without the approval by KARMA.
- Damage resulting from external factors, such as chemicals, oil, debris, etc.
- Damage caused by natural disasters.

### **10.2.3 KARMA is Not Responsible for The Following Costs**

- Replacement or refill of consumable parts, oil or lubricant.
- Product inspection, adjustment, lubrication, cleaning, etc.
- The costs of regular inspection and maintenance of product.
- The product is not repaired by the authorized dealer designated by KARMA.

### **10.2.4 Responsibilities**

#### The Responsibilities of the User

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

#### The Responsibilities of the Dealer

- Follow this manual and educate users about product operation and basic maintenance.
- Verify and check whether the warranty conditions are met.
- Provide relevant warranty information and recommendations for improvements.

### 10.2.5 Transfer of Warranty Rights

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

Full Name:	
Gender:	
Date of Birth:	
Address:	
Model:	
Serial Number:	
Date of Purchase:	

#### Dealer's Data

Name of the Store:	
Phone No. and Address:	

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

# karma

A Better Wheelchair, A Better Fit



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