karma

User manual

Ergo Lite Series

KM-2501/KM-2512/KM-2512TL



EN CE UKCA

A Better Wheelchair, A Better Fit

GENERAL WARNING

- DO maintain your wheelchair well, in particular check the tire pressure since this affects the efficiency of the brakes. Correct tire pressure, please see the walls of the tires.
- DO make sure both brakes are applied before getting in or out of the wheelchair.
- DO make sure both brakes are applied when the wheelchair is not being pushed or used.
- DO take care when climbing kerbs (curbs) or turning on slopes.
- DO avoid steep or uneven surfaces that may cause the wheelchair to tip over.
- DO avoid soft surfaces as the casters may become bogged down.
- 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 legrests 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 user guide during and after the warranty period.
- DO tie-up the upholstery or replace which 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 positioning 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 NOT overload the wheelchair in any circumstance.
- DO NOT hang anything heavy on the back of the wheelchair that could cause the wheelchair to become unstable, particularly when negotiating 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 hook mark.
- DO NOT go too fast or turn too quickly.
- DO NOT stand on the footplates when getting in or out of the wheelchair.
- 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 or damage to the 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 backrest joint (if applicable) that could cause the backrest folding suddenly and may cause injury.

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.

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 knee, 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, pelvic positioning 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.**

DECLARATION OF CONFORMITY

karma A Better Wheelchair, A Better Fit

Document No.: DOC-EU-Ergo Lite-03

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:

Basic UDI-DI of Annex VI:	471987385ErgoXT
Device:	Manual wheelchair
Trade Name or Mark:	Ergo Lite Series (Ergo Lite/Ergo Lite 2)
Model Number:	ERG LITE (KM-2501) ERG LITE 2 (KM-2512, KM-2512TL)
Product Code according to EMDN:	Y122103, Y122106
Product Code according to GMDN:	41512,41630
Classification:	Rule 1 of Class I
UDI-DI:	04719873857258 04719873857272

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	2022
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.

Intended Purpose: Mobility aids for persons with reduced mobility

Date of issue: 15th January 2025

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



CHEN, YING-CHUN CEO

karma A Better Wheelchair, A Better Fit

Document No.: DOC_UK_Ergo Lite_02

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, Reddtich, 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:

Basic UDI-DI of MDR (Annex VI):	471987385ErgoXT
Device:	Manual wheelchair
Trade Name or Mark:	Ergo Lite Series (Ergo Lite/Ergo Lite 2)
Model Number:	ERG LITE (KM-2501) ERG LITE 2 (KM-2512, KM-2512TL)
Product Code according to EMDN:	Y122103, Y122106
Product Code according to GMDN:	41512,41630
Classification:	Rule 1 of Class I
UDI-DI:	04719873857258 04719873857272

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
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EN 12182	Assistive products for persons with disability - General requirements and test methods	2012
EN 12183	Manual wheelchairs - Requirements and test methods	2022
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.

Intended Purpose: Mobility aids for persons with reduced mobility

Date of issue: 15th January 2025

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

CHEN, YING-CHUN CEO

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1. PREFACE

Please carefully read this user 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 user manual.

1.1 This user manual includes operation instructions for the aspects of the wheelchair, unfolding/folding instructions, and instructions on how to deal with possible accidents.

1.2 This user manual is written for the KARMA wheelchair

1.3 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.
NOTE	Follow these instructions to keep the wheelchair in good condition.

1.4 This manual includes the repair and maintenance chart as well as the warranty.

1.5 If someone else uses the wheelchair, make sure that you give him or her this user manual for his or her reference.

1.6 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.

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 push rims 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

2.2.1 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.)

2.2.2 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 Negotiating Inclines

2.3.1 Never turn on a hill due to the danger of tipping.

2.3.2 When assisting, go straight up a slope. If user needs to go down midway, walk backwards until the user is on level ground. (See Figures 2.3 and 2.4.)



Figure 2.3



Figure 2.4

2.3.3 DO NOT drive up to 7 degrees of incline to avoid danger. When negotiating inclines, don't propel up to 3 degrees of incline diagonally.

2.3.4 Avoid stopping on an incline, as it can potentially cause you to lose control of the wheelchair.

2.3.5 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. Please use the attendant brakes to slow the wheelchair.

2.3.6 Whenever possible, utilize help from an assistant/attendant while negotiating inclines.

CAUTION

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

2.4 Kerbs (Curbs)

2.4.1 Whenever possible, get help from an assistant/attendant (if you have assistance, make sure that your chair is equipped with push handles).

2.4.2 Avoid hard impacts when descending a kerb (curb). A hard impact could adversely affect the wheelchair.

2.4.3 Never try to scale or descend kerbs (curbs) that exceed normal height.

2.4.4 Always take care when climbing kerbs (curbs) or turning on slopes and never move in reverse without an assistant.

2.5 Stairs

2.5.1 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 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 repeats the operation.



2.5.2 Never go down steps forward.

2.5.3 Never use an escalator for transport; use an elevator.

2.6 Streets

2.6.1 Always use extreme caution when crossing streets. Reflective tape on the wheelchair and/or your clothing will make you more visible to drivers.

2.6.2 Please comply with the traffic safety code.

2.6.3 Avoid potholes and rough terrain that might cause the casters to become stuck.



2.7 General

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

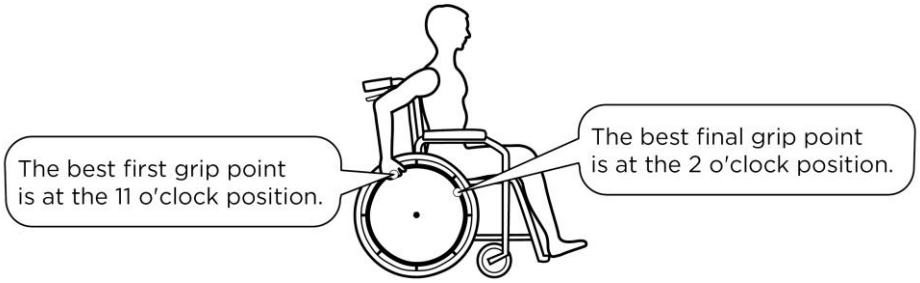
2.7.2 Always make sure BOTH brakes are applied before getting in or out of the wheelchair.

2.7.3 Never stand on the footplates when getting in or out of the wheelchair.

2.7.4 Never carry more than one passenger. KARMA wheelchairs are limited to one user.

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

2.7.6 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 chair to tip over. Please refer to the figure below for the best grip points for using the handrim.



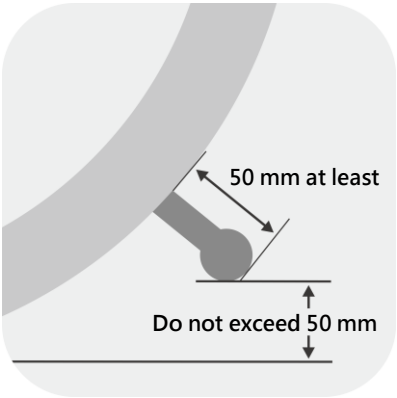
2.8 Upholstery

2.8.1 When cleaning the upholstery, use warm water and a mild soap.

2.8.2 Upholstery cleaner/foam can also be used, but avoid other cleaning solvents.

2.8.3 Do be far away from flame, which might injure the user and damage the wheelchair.

2.9 Anti-tippers (Optional)



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

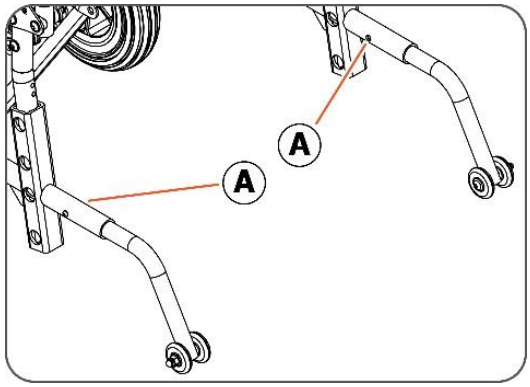
- The distance between the end of each anti-tipper and the rear wheel is at least 50 mm.
- The distance to the floor does not exceed 50 mm.

⚠ 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.

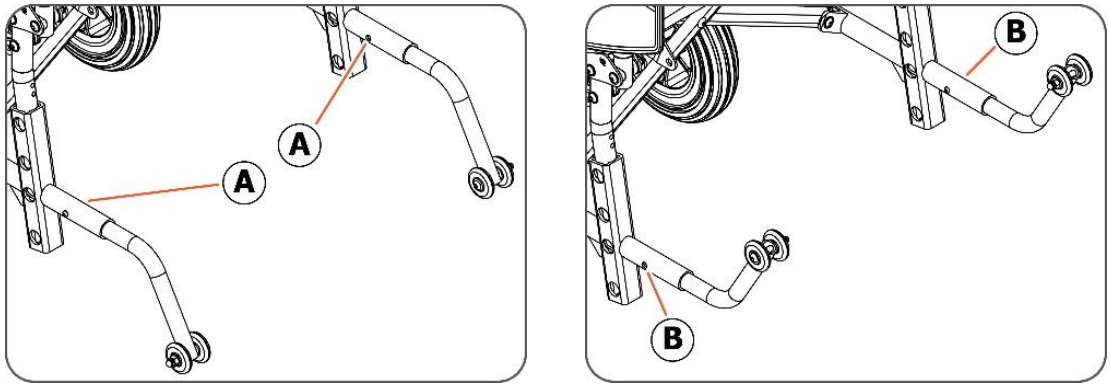
2.9.1 Standard Anti-tippers (Optional)

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**).



Active position

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**).



Inactive position

CAUTION

- DO NOT use the standard anti-tippers as a tipping lever to overcome obstacles.
- When the caregiver pushes the wheelchair over uneven surfaces or needs to climb curbs and other obstacles, the standard anti-tippers may contact the ground and interfere with maneuvering. In such cases, temporarily rotate the standard anti-tippers upward to the "Inactive Position" as described above. After crossing the obstacle, always return the standard anti-tippers to the "Active Position" to restore proper anti-tipping protection.
- Crossing curbs or obstacles involves inherent risk. Whenever possible, choose an accessible alternative route, such as a properly designed ramp, elevator, or lift, or

CAUTION

use assistive equipment, such as a portable ramp board. If step crossing is unavoidable, it is recommended that two caregivers assist together to stabilize and safely guide the wheelchair.

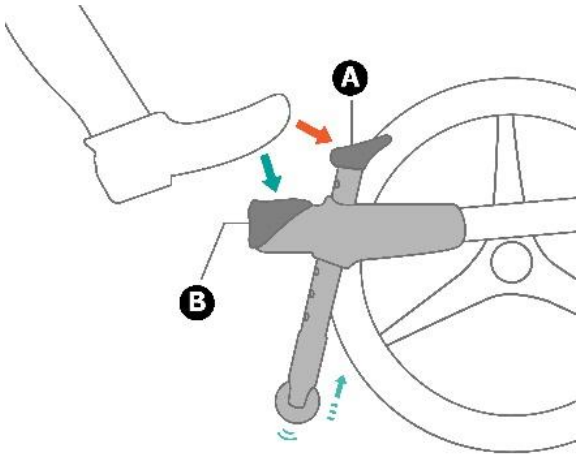
2.9.1 Ergo Anti-tippers (Optional)

NOTE

For the installation of Ergo anti-tippers (optional), please refer to the corresponding assembly instructions included in the accessory package, or scan the QR code to watch the instructional video.

The Ergo anti-tippers feature a caregiver-friendly, single-foot operation design that allows easy control without bending down:

- **Safety Mode:** Step on the tipper head **(A)** to lower and automatically lock the anti-tipper in the safe operating position.
- **Curb-climbing Mode:** Step on the tipper pedal **(B)** to automatically raise the anti-tipper out of the way for curb climbing.



CAUTION

- DO NOT use the Ergo anti-tippers as a tipping lever to overcome obstacles.
- When the caregiver pushes the wheelchair over uneven surfaces or needs to climb curbs and other obstacles, the Ergo anti-tippers may contact the ground and interfere with maneuvering. In such cases, switch to "Curb-climbing Mode" as described above. After crossing the obstacle, always return the Ergo anti-tippers to "Safety Mode."

CAUTION

- Crossing curbs or obstacles involves inherent risk. Whenever possible, choose an accessible alternative route, such as a properly designed ramp, elevator, or lift, or use assistive equipment, such as a portable ramp board. If step crossing is unavoidable, it is recommended that two caregivers assist together to stabilize and safely guide the wheelchair.

2.10 Maximum User Weight Limit

Refer to " Maximum User Weight" in Chapter 8. SPECIFICATIONS. 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.

2.11 Avoid General Misuse

2.11.1 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 outdoors and the guidelines written in this manual.

2.11.2 DO NOT stand or let children play on the wheelchair. (See Figure 2.5.)

2.11.3 DO NOT hang any items other than an IV bag on the IV Pole Holder. (See Figure 2.6.)



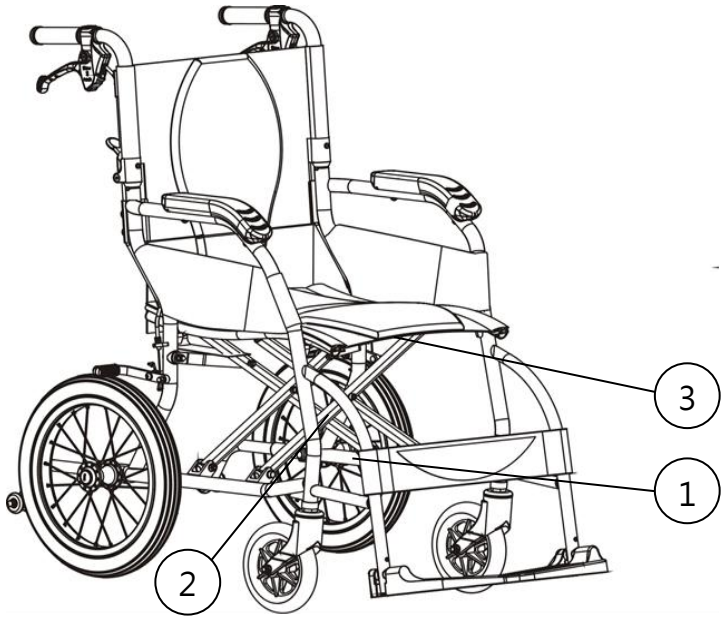
Figure 2.5



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

EC REP KARMA MOBILITY, S. L.
C/ PERIODISTA FRANCISCO CARANTOÑA DUBERT, 23 Bajo 33209 GIJÓN - ASTURIAS (SPAIN)
UK REP KARMA MOBILITY LTD.
UNIT 6 TARGET PARK, SHAWBANK ROAD, REDDTICH, B98 8YN ENGLAND UNITED KINGDOM
KARMA MEDICAL PRODUCTS CO., LTD.
NO. 2363, SEC. 2, UNIVERSITY RD., MIN-HSIUNG SHIANG, CHIA-YI HSIEN, TAIWAN R.O.C.
CE UK CA MD
WARNING! USE ONLY ON STABLE SURFACES
MAXIMUM USER WEIGHT 100kg (220 lbs)

EC REP KARMA MOBILITY, S. L.
C/ PERIODISTA FRANCISCO CARANTOÑA DUBERT, 23 Bajo 33209 GIJÓN - ASTURIAS (SPAIN)
UK REP KARMA MOBILITY LTD.
UNIT 6 TARGET PARK, SHAWBANK ROAD, REDDTICH, B98 8YN ENGLAND UNITED KINGDOM
KARMA MEDICAL PRODUCTS CO., LTD.
NO. 2363, SEC. 2, UNIVERSITY RD., MIN-HSIUNG SHIANG, CHIA-YI HSIEN, TAIWAN R.O.C.
CE UK CA MD
WARNING! USE ONLY ON STABLE SURFACES
MAXIMUM USER WEIGHT 115kg (255 lbs)

2

karma SERIAL NO. M12-1234

3

Model:	
Order No.:	
Delivery Date:	
Sewing No.: 1☐ 2☐ 3☐ 4☐ 5☐ 6☐	
Seat Width	Seat Depth
☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 . ☐ 0 ☐ 5 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ _____	☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 . ☐ 0 ☐ 5 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ _____
karma	Unit: inch

3. INTENDED USE & PARTS

3.1 Intended Use

3.1.1 The Ergo Lite (KM-2501/KM-2512/KM-2512TL) is a self-propelled or transit wheelchair. That is, it can be pushed either by an attendant or by users themselves.

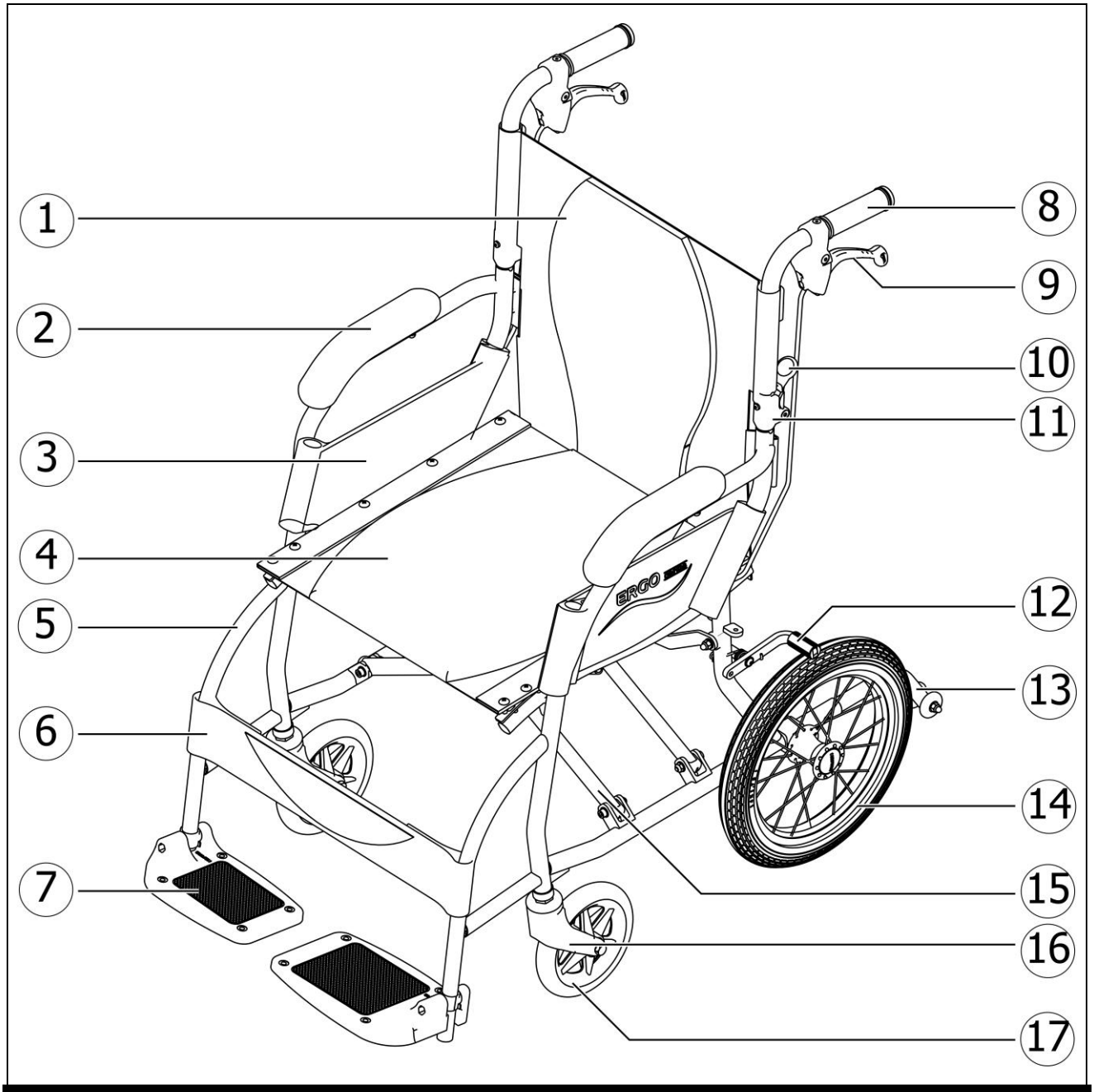
3.1.2 These wheelchairs are suitable for users and personal items up to 100 kg in weight. Attendant brakes are provided for both rear wheels.

3.1.3 It is equipped with PU casters and rear wheels, which offer greater durability; pneumatic tires are also available as options.

3.1.4 It also has an extremely durable aluminum alloy frame with tough accessories. It does not suffer dramatic extremes of temperature (neither the user nor the attendant needs to touch any metal parts in normal use).

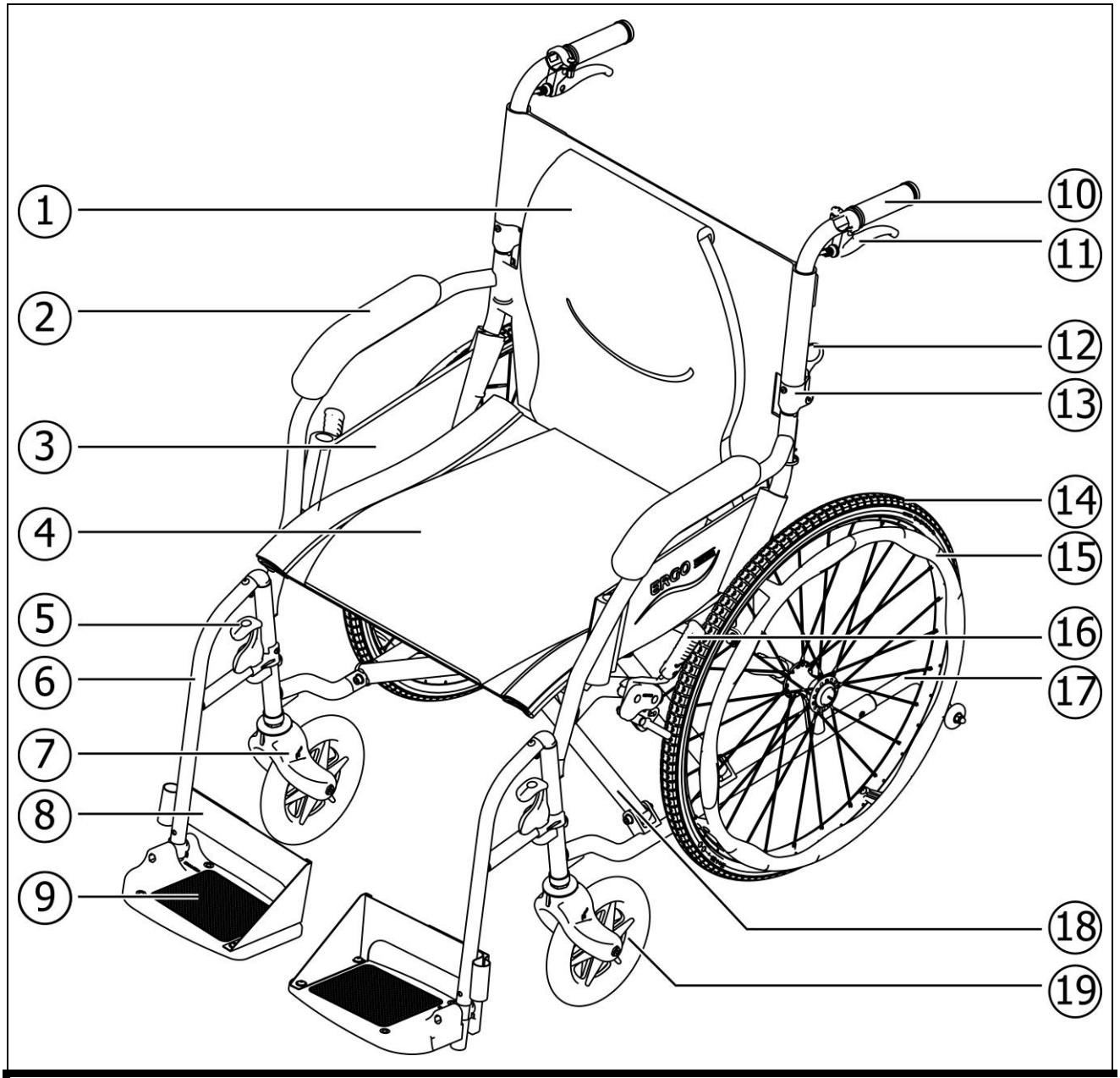
3.1.5 Ergo Lite is equipped with the S-Ergo seating system, which promotes pressure relief and helps prevent the user from sliding down the seat.

3.2 KM-2501 Parts Description



1. Backrest Upholstery	10. Backrest Tube Joint Lever
2. Armrest	11. Backrest Tube Joint
3. Side Guard	12. Wheel Lock
4. Seat Upholstery	13. Anti-tipper (Optional)
5. Legrest	14. Rear Wheel
6. Calf Strap	15. Cross-brace (Cross Bar)
7. Footplate	16. Front Caster Fork
8. Push Handle	17. Front Caster
9. Attendant Brake	

3.3 KM-2512/KM-2512TL Parts Description



1. Backrest Upholstery	11. Attendant Brake
2. Armrest	12. Backrest Tube Joint Lever
3. Side Guard	13. Backrest Tube Joint
4. Seat Upholstery	14. Rear Wheel
5. Legrest Release Lever	15. Handrim
6. Legrest	16. Wheel Lock
7. Front Caster Fork	17. Anti-tipper (Optional)
8. Heel and Calf Strap	18. Cross-brace (Cross Bar)
9. Footplate	19. Front Caster
10. Push Handle	

4. OPERATION

4.1 Preparing For Use

4.1.1 Unfolding

4.1.1.1 Holding the armrests, pull outwards. (See Figure 4.1)

4.1.1.2 Pointing your fingers inward with the palm of your hand on the frame, push down until the seat is fully lowered. Make sure the frame is firmly seated in its holder. (See Figure 4.2)

4.1.1.3 Flip the footplates down. (See Figure 4.3)

4.1.1.4 Ready for action! (See Figure 4.4)

Alternatively, you can stand at the side of the wheelchair and complete Step 1 by pulling the nearest armrest towards yourself and pushing the other one away.



Figure 4.1



Figure 4.2



Figure 4.3



Figure 4.4

CAUTION

- **When completing Step 2, never put your fingers around the sides or under the seat, as they can be trapped between the seat and the frame. (See Figure 4.5)**

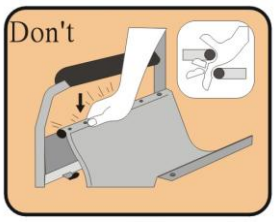


Figure 4.5

- **Before use, please attach the back upholstery to the seat. (See Figure 4.6)**



Figure 4.6

4.1.2 Folding

4.1.2.1 Flip up the footplates. (See Figure 4.7)

4.1.2.2 Pull up on the seat upholstery by holding it in the centre of its front and back edges. (See Figure 4.8)

4.1.2.3 Press the two release levers on the backrest frame (push handle tubes) to fold the backrest down for compact storage and easy transport. (See Figure 4.9)

4.1.2.4 Folding is now completed. (See Figure 4.10) (Travel bag is optional)



Figure 4.7



Figure 4.8



Figure 4.9



Figure 4.10

CAUTION

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

4.1.3 Rear Wheel

4.1.3.1 Your wheelchair may be supplied with quick-release wheels. If so, please follow the instructions below.

4.1.4 Rear Wheel Removal

4.1.4.1 Support the weight of the chair with one hand by holding the push handle.

4.1.4.2 Depress the hub cover and hold down the quick-release mechanism.

4.1.4.3 Remove the wheel. (See Figure 4.11)

4.1.5 Rear Wheel Attachment

4.1.5.1 First, ensure that the brake is in the OFF position.

4.1.5.2 Take up the assembled wheel and axle and depress the button in the centre of the axle, as above.

4.1.5.3 This retracts the ball bearings that will allow you to push the axle into the wheel bracket that is located on the lower rear frame of the wheelchair.

4.1.5.4 When you remove your thumb from the button on the axle, the ball bearings should be visible protruding from the axle at the back of the wheel bracket. This will secure the wheel safely in the frame. (See Figure 4.12)

CAUTION

- **You must make sure that the axle is fully located in the wheelchair bracket and that the ball bearings are fully open and have positively attached the wheel to the frame.**

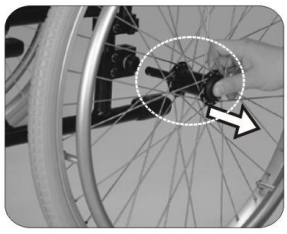


Figure 4.11

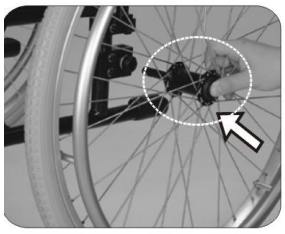


Figure 4.12



Figure 4.13



Figure 4.14

4.1.6 Important Do's and Don'ts

4.1.6.1 Do: Keep the axles clean and lubricated with light oil or maintenance spray.

4.1.6.2 Do: Maintain correct tire pressure if using pneumatic tires.

4.1.6.3 Do not: Try to remove the wheels while the wheelchair is occupied, even when it is equipped with anti-tip levers.

4.1.7 Legrest

4.1.7.1 Legrests (KM-2512/KM-2512TL) can be swung out, which makes transferring easier.

4.1.8 Footplate Height

4.1.8.1 To adjust footplate height, use the KARMA tool provided to loosen the bolt at the front of the legrest arm. (See Figure 4.13)

4.1.8.2 Adjust to the required height and re-tighten. (See Figure 4.13)

NOTE

- **Make sure that the footplate height is adjusted properly according to the user's calf length to reduce pressure on the body.**
- **The legrest height must be more than 5 cm. (See Figure 4.14).**

4.1.9 Install and Release Legrest (KM-2512/KM-2512TL)

4.1.9.1 Holding the swing-away legrest, lower it into its coupling at 45° from the side. Swing the legrest towards the middle until you hear it click into place. (See Figure 4.15–4.17)

4.1.9.2 Pull the release button up. Swing the legrest outwards to 45° and then lift up the legrest. (See Figure 4.18–4.20)



Figure 4.15



Figure 4.16



Figure 4.17



Figure 4.18



Figure 4.19



Figure 4.20

4.2 Push & Pull Attendant Brake (P&P Brake)

WARNING

- **Be sure that both the Attendant Brake levers are operated simultaneously to slow the wheelchair.**
- **Be sure that both wheel locks are applied simultaneously to park the wheelchair.**

NOTE

- **The P&P Brake is a multi-function brake that provides both slowing and parking functions to the wheelchair. Please do read the instructions before use to operate the brake properly in order to ensure your comfort and safety.**
- **The P&P brake is only compatible with the following product configurations:**
  KM-2501 (for 14" rear wheels only)
  KM-2512 (for 14" rear wheels only)
  KM-2512TL (for 14" /22" rear wheels only)

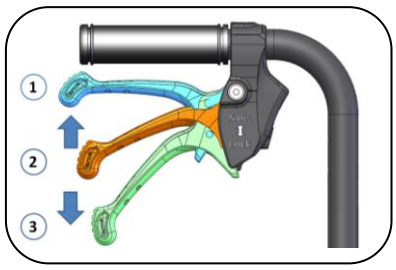
4.2.1 To Slow Down the Wheelchair

4.2.1.1 When going down the slope, the attendant (caregiver) may need to slow down the wheelchair to assure safety.

4.2.1.2 To slow down the wheelchair, hold both the push handles and braking levers and then hold the braking levers upward to slow down (See the figure below; state ①).

4.2.2 To Park the Wheelchair

4.2.2.1 The Push & Pull Attendant Brake (P&P Brake) provides the function to park the wheelchair. To park the wheelchair, press the brake levers downward to park (See the figure below; state ③).



NOTE

Pressing the brake levers downward requires a force approximately equivalent to 7 kg.

CAUTION

- **Attention: If the tire has been worn out after a period of usage, you may need to adjust the brake or replace the parts to ensure the wheelchair is parked firmly. Please contact your KARMA wheelchair dealer for assistance.**

4.2.3 To Release the Brake

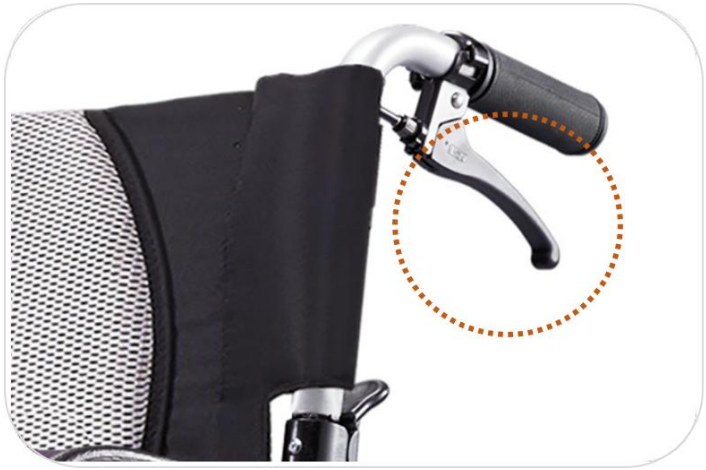
4.2.3.1 When the wheelchair is parked, slightly hold the braking levers upward to the unlock position (See the figure above; state ②).

CAUTION

- **Please always check the brake to ensure it fits your demand whenever you press the brake lever.**
- **Please inspect the function of the brake from time to time. Once the brake fails to provide the function, visit the authorized dealer shop to have it fixed or replaced.**

4.3 Basic Attendant Brake

KM-2512 with 20" rear wheels and KM-2512TL with 22" rear wheels are equipped with basic attendant brakes on the back of the backrest. (See the lever circled in the photo below)



4.3.1 To Slow Down the Wheelchair

4.3.1.1 When going down a slope, it may be necessary to slow down the wheelchair to ensure safety.

4.2.1.2 To slow down the wheelchair, the user could use the handrims. When there's an attendant (caregiver), the attendant could hold both the attendant brake levers and then hold the brake levers upward to slow down.

WARNING

- **Be sure that both the Attendant Brake levers are operated simultaneously to slow the wheelchair.**

4.3.2 To Park the Wheelchair

KM-2512 with 20" rear wheels and KM-2512TL with 22" rear wheels are equipped with wheel locks. See the two arrows in the photo below.



4.3.2.1 The wheel locks are applied directly against the tires. Push the handle of the wheel locks forward to engage the brakes and pull the handle back to release them.

4.3.2.2 The wheel locks are not designed to be used for a moving wheelchair.

WARNING

- **Be sure that both wheel locks are applied simultaneously to park the wheelchair.**

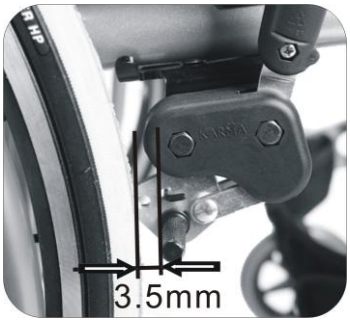
CAUTION

- **DO NOT use the wheel locks to slow down a moving wheelchair. The wheelchair could suddenly stop and cause the wheelchair to tip over. This could potentially injure the user.**

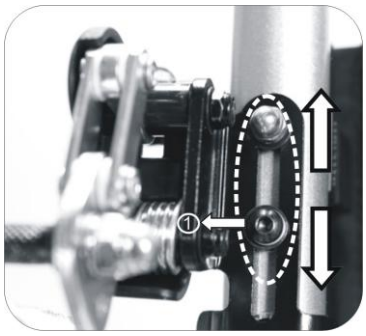
4.3.2.3 Braking could be less efficient due to:

- Worn tire tread
- Low tire pressure
- Wet tires
- Improper wheel lock adjustment.

4.3.2.4 Make sure that the distance between the tires and the parking brakes complies with the given specifications. (See the photo on the right.)



4.3.2.5 To re-adjust, loosen the screw and set the appropriate gap. Then re-tighten the screw. (See the photo on the right)



CAUTION

- **Attention: If the tire has been worn out after a period of use, you may need to adjust the brake or replace the parts to ensure the wheelchair is parked firmly. Please contact your KARMA wheelchair dealer for assistance.**
- **Please always check the brake to ensure it meets your demand whenever you operate the brake.**
- **Please inspect the function of the brake from time to time. Once the brake fails to provide the function, visit the authorized dealer shop to have it fixed or replaced.**
- **After each adjustment of the rear wheels, inspect the distance between the tires and the parking brakes. Re-adjust if necessary.**

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

- **DO NOT 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 Transferring In and Out

4.5.1 Transferring In

4.5.1.1 Engage both hand brakes

4.5.1.2 Turn the footplates up and swing them to the side (if applicable).

4.5.1.3 Lower the user into the seat, allowing them to use the armrests for support.

4.5.1.4 Turn the footplates back down, so that the user can place his feet on them. Ensure that the heels rest against the heel supports to prevent contact with the casters.

4.5.1.5 Release both hand brakes.

CAUTION

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

4.5.2 Transferring Out

4.5.2.1 Make sure that the chair is near your destination

4.5.2.2 Move the wheelchair backwards so that the casters are pointing forwards and are in line with the rear wheels

4.5.2.3 Ensure that, where possible, the rear of the chair is against a wall or, if not, it must be firmly held by an attendant.

4.5.2.4 Engage both hand brakes.

4.5.2.5 Turn the footplates up and swing them to the side (if applicable).

4.5.2.6 Slide forwards on the seat. Place one foot firmly on the ground with the knee at a right angle and the other foot slightly apart and further back.

4.5.2.7 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.

4.5.2.8 Some people have to side transfer.

4.5.2.9 Prop up your body and move sideward slowly, using transfer board. Be careful not to hit the brake or other components of wheelchair.

CAUTION

- **Never stand on the footplates when getting into (or out of) the chair. (See Figure 4.21).**
- **When getting in and out of the wheelchair, please use the wheel locks. The wheel lock is the lever at the side of the wheelchair.**
- **When on smooth or waxed floors, ensure the wheelchair is positioned against a wall or supported by a caregiver to prevent sliding or displacement caused by impact, which may lead to falls.**
- **Please ensure that neither the tread on your tires nor the brake block has become too worn. If pneumatic tires are fitted, please maintain the recommended tire pressure for the same reason.**
- **Please ensure that the user's fingers DO NOT get caught in the brake.**

When transferring in and out of the chair, make sure that the wheel locks are engaged to prevent the chair from sliding away. Also, see that the footplates are flipped up for ease of entering or exiting. (See Figure 4.22).

4.6 General Use

4.6.1 Attendant Pushing and Self-Propelling

4.6.1.1 Ensure that the wheel locks are always engaged when the chair is not being pushed. (See Figure 4.23)



Figure 4.21



Figure 4.22



Figure 4.23

4.6.1.2 Always make sure that both feet are safely on the footplates and that clothing is safely tucked out of the way and cannot get caught in the wheels. (See Figure 4.24)

4.6.1.3 Always use both hands on the push handles to control the chair. (See Figure 4.25)

4.6.1.4 Always avoid steep or uneven surfaces because the chair may tip over. (See Figure 4.26)

4.6.1.5 Always avoid soft surfaces because the casters may get bogged down. (See Figure 4.27)

4.6.1.6 Always be careful not to go too fast or turn too quickly, and try to achieve a smooth, steady ride.

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

4.6.1.8 Cross tracks or ruts at right angles to avoid your casters getting stuck.

4.6.1.9 DO NOT drive at full speed over the railroad tracks.

4.6.1.10 Please keep your hands and arms inside the wheelchair when going through doorways.

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

WARNING

- **NEVER lock the brakes too quickly, as this may tip the user out of the wheelchair.**



Figure 4.24

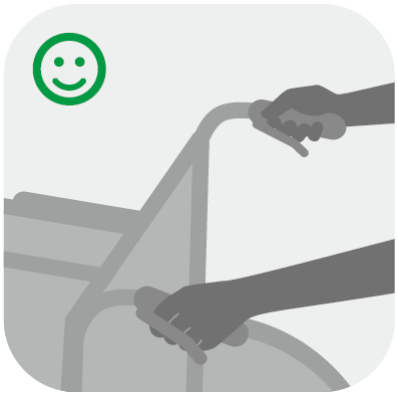


Figure 4.25



Figure 4.26



Figure 4.27



Figure 4.28

4.6.2 Tilting by the Attendant

4.6.2.1 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.

4.6.2.2 Release both brakes.

4.6.2.3 Grasp both push handles firmly.

4.6.2.4 Put your stronger foot on the relevant tipping lever at the back of the wheelchair.

4.6.2.5 Tell the person in the wheelchair that you are about to tilt the wheelchair backwards.

4.6.2.6 Pull back with both hands and push down and forwards with the foot. This will bring the wheelchair onto the rear wheels. (See Figure 4.28)

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 on the anti-tipper and lower the wheelchair slowly forwards softly to the ground.**

4.6.3 Tilting by the User

4.6.3.1 Make sure your feet are on the footplates and will not slip off.

4.6.3.2 Release both brakes.

4.6.3.3 Grasp both push rims 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 caster to rise higher BUT it is much safer to lean forwards and stay balanced.**

4.6.4 Going Down Kerbs (Curbs)

Please 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.

4.6.4.1 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).**

4.6.4.1.1 Position the wheelchair so that the front casters are near the edge of the kerb (curb) and make sure that the road is clear.

4.6.4.1.2 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.

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

4.6.5 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.**

4.6.5.1 Back the wheelchair to the kerb (curb) edge and be careful that the rear wheels are equally near the edge.

4.6.5.2 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.

4.6.5.3 Tilt the wheelchair back slightly and pull the tilted wheelchair far enough into the road so that the casters and legrests can be lowered clear of the kerb (curb).

4.6.6 Going Up Kerbs (Curbs)

Please 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.

4.6.6.1 Going Up Kerbs (Curbs) Forwards With an Attendant

4.6.6.1.1 As the legrests 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.

4.6.6.1.2 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.

4.6.6.2 Going Up Kerbs (Curbs) Backwards With an Attendant

Please note: for the user's safety, we do not recommend using this method.

4.6.7 Going Up or Down Steps/Stairs

4.6.7.1 Please note: avoid flights of steps, particularly if no extra help is available. Use ramps or lifts wherever possible.

4.6.7.2 Two attendants are necessary, each capable of carrying at least half of the combined weight of the person and the wheelchair.

4.6.7.3 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

- **DO NOT attempt to lift the wheelchair with 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 or damage to the wheelchair.**
- **All lifting should be done with a straight back. Straight legs to lift the chair. Carefully carry it up or down steps; be aware of how you place your feet, DO NOT cross them and trip yourself up.**

4.6.8 Transportation

4.6.8.1 KM-2501/KM-2512TL fulfils the performance requirements for a "Crash Test" of ISO 7176-19 (KM-2501 Report No.: MBK 09/0964; KM-2512TL Report No.: TWR2406022 001) 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. KM-2501/KM-2512TL 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.

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

NOTE

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

WARNING

- **As of this date, the KM-2512 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.**

4.6.9 Before use

4.6.9.1 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.

4.6.9.2 A four-point tie-down system should tightly fasten the lower wheelchair frame to the transport vehicle. The tie-down loop label (see the hook mark at the right) indicates the position of the fixing points for the tie down restraints on the wheelchair.



4.6.9.3 An occupant restraint system using both a pelvic positioning belt and harness must also be fastened to the transport vehicle to ensure user safety. Again, please refer to the restraint system's instructions.

4.6.9.4 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 how to use the fastening system and its weight limitations.

4.6.9.5 See https://www.braunability.eu/en/products/tie-downs-and-seatbelts/wtors/ for more information.

WARNING

- **Any wheelchair anchored occupant restraint i.e. 3-point belt, harness or postural supports (lap straps, lap belts) should not be used or relied on for occupant restraint in a moving vehicle, regardless if labeled ISO 7176-19, ISO 10542-1, SAE J2249 or any other. Use a vehicle anchored and certified occupant restraint system instead.**

CAUTION

- **When transporting or lifting, never hold on to attachments or accessories (front/rear wheels, handrims, casters, legrests, armrests, anti-tippers etc.).**

4.6.10 Method of Restraint

4.6.10.1 The KM-2501/KM-2512TL was tested with four-point webbing systems. Please refer to the restraint manufacturer's user guide for further details of its operation.

4.6.11 Fitting the Front Restraint

4.6.11.1 Connect the straps around the wheelchair frame and caster bracket as pictured below. The anchor point is marked with a yellow sticker

4.6.11.2 Release the brakes and reverse the wheelchair to tension the front straps. Apply wheelchair brakes (the brakes should be left on during transport).

4.6.12 Fitting the Rear Restraint

4.6.12.1 Attach rear straps to the rail approximately 300 mm behind the wheelchair backrest.

4.6.12.2 Attached the hooks to the rear frame of the wheelchair as pictured below. Tighten the restraint until the wheelchair is secure.



Fitting the front restraint



Fitting the rear restraint

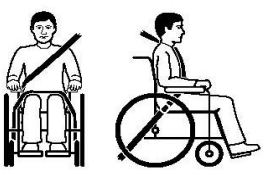
4.6.13 Fitting the Seat Belt

4.6.13.1 Fasten the three-point safety belt around the user

4.6.13.2 The occupied wheelchair should be located in a forward-facing configuration, with the parking brake applied

4.6.13.3 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).

4.6.13.4 Restraints should not be held away from the body by wheelchair components, such as armrests or wheels, as pictured below (Incorrect seat belt position).



Correct seat belt position



Incorrect seat belt position

4.7 Pelvic Positioning Belt (Optional)

How to Assemble and Disassemble the Pelvic Positioning Belt

4.7.1 Loosen the fourth and fifth screws on both sides of the seat upholstery and insert the pelvic positioning belt in between the fourth and fifth screw holes. (Figure 4.29)

4.7.2 Keep the pelvic positioning belt at 45 degrees for comfortable usage. (Figure 4.30)

4.7.3 Put the seat upholstery back and re-tighten screws. DO NOT drive the screws through the belt.

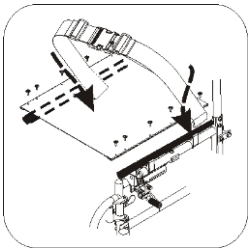


Figure 4.29

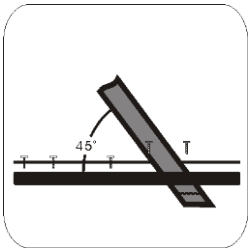


Figure 4.30

4.7.4 Adjusting the Length of Pelvic Positioning Belt

4.7.4.1 Identify the required length of the belt. (Figure 4.31)

4.7.4.2 Push the two parts of the belt through the buckle to make the belt longer or shorter. (Figure 4.32)

4.7.4.3 Pull the two parts of the belt tight. (Figure 4.33)

4.7.4.4 Push the 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 the buckle. (Figure 4.34)

NOTE

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



Figure 4.31



Figure 4.32



Figure 4.33



Figure 4.34

4.7.5 How to Operate It

4.7.5.1 When you sit in the wheelchair, fasten the pelvic positioning belt.

4.7.5.2 Adjust the belt and make it fit your body for comfort and security.

4.7.5.3 When you don't use it, please fasten the belt to avoid the belt dropping into the rear wheels during motion.

4.7.6 Maintenance

The pelvic positioning 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.

5.1.1 Examine brakes, checking for wear, damage, and misalignment. Replacing or adjusting the brakes should be carried out by your approved repairer.

5.1.2 Check that the handgrips are not damaged and are securely bonded to the push handles.

5.1.3 Check that the anti-tippers are not damaged and are securely attached.

5.1.4 Check that the anti-tippers' wheels and frame are not damaged and are securely mounted.

5.1.5 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 brakes for proper operation.

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

5.1.7 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 six 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
● **GENERAL**		
● Wheelchair rolls straight (no excessive drag or pull to one side)		V
● **FRAME AND CROSS BARS**		
● Inspect the frame structure for small cracks/fissures		V
● Inspect for bent frame or cross brace		V
● **BRAKES**		
● Do not interfere with the tires when rolling		V
● Pivot points free of wear and looseness		V
● Easy to engage	V	
● Prevent the wheelchair from moving when engaged	V	
● **SEAT & BACKREST**		
● Inspect for rips or sagging	V	
● Inspect for loose or broken hardware		V
● **CASTERS**		
● Inspect the casters for smooth rotation of the caster wheel and caster assembly		V
● Inspect the caster for wear in the bearings/mountings and for tire wear or damage		V
● **REAR WHEELS**		
● Quick-release axles lock properly; lubricate if necessary (if applicable.)	V	
● No excessive side movement or binding when lifted and spun		V
● Inspect for cracked, bent or broken spokes	V	

Item	Weekly	Monthly
● **ARMRESTS**		
● Inspect the detachable armrest button for effective locking		V
● Make sure the armrest detaches and flips back properly (if applicable)		V
● **LEGRESTS**		
● Inspect the footplate height adjustment screws are securely tightened (if applicable)		V
● Inspect the swing-away legrest release lever for effective locking (if applicable)		V
● **TIRES**		
● Inspect for flat spots, cracks, and wear	V	
● Check tire tread depth is more than 1 mm		V
● If equipped with pneumatic tires, check for proper inflation; tire pressures are specified on the side of the tire	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 tires should be checked periodically for cracks and wear and should be replaced. Failure to keep the 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

<table>
<tr><td></td><td></td></tr>
<tr><td>● Cup Holder
- Collapses and adjusts to the size of the container (6-10 cm).</td><td>● I.V. Pole
- Height adjusts from 130 cm (51") to 200 cm (78").</td></tr>
<tr><td></td><td></td></tr>
<tr><td>● 4-point harness chest strap</td><td>● Backpack Bag
- Standard size.</td></tr>
<tr><td></td><td rowspan="2"></td></tr>
<tr><td>● Anti-Tippers</td></tr>
</table>

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 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
1. Wheelchair Veers Right/Left	● Check the tires for correct and equal pressure ● Check the caster bracket angle ● Check that the rear wheels are equally spaced from the seat frame
2. Sluggish Turn or Performance	● Check the tires for correct and equal pressure ● Check for loose nuts and bolts
3. Caster Flutter/Wobble	● Check the tires for correct and equal pressure ● Check for loose nuts and bolts ● Check the caster bracket angle
4. Squeaks and Rattles	● Check for loose nuts and bolts
5. Looseness in Wheelchair	● Check for loose nuts and bolts

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

8. SPECIFICATIONS

Product Model	**Ergo Lite (KM-2501)**	
Nominal seat width (mm/in)[1]	400/16	450/18
Nominal seat depth (mm/in)[2]	420/16	420/16
Front caster/Rear wheel size (in)	6/14	6/14
Backrest height (mm)	420	420
Headrest height above seat (mm)	N/A	N/A
Armrest to seat distance (mm)	210	210
Front location of armrest structure (mm)	0	0
Seat surface height at front edge (mm)	490	490
Footrest to seat distance (mm)	395–420	395–420
Effective seat width (mm)	370	420
Effective seat depth (mm)	420	420
Seat plane angle (X°)	6	6
Backrest angle (X°)	11	11
Seat to backrest angle (X°)	95	95
Leg to seat angle (X°)	100	100
Overall length with legrest (mm)	962–970	962–970
Overall width (mm)	560	610
Overall height (mm)	905	905
Folded length (mm)	852	852
Folded width (mm)	245	245
Folded height (mm)	710	710
Total mass (kg)	8.6	8.8
Mass of the heaviest part (kg)	8.6	8.8
Maximum user weight (kg)[3]	100	100
Minimum turning radius (mm)	890	890
Minimum turning radius without user (mm)	740	740
Pivot width (mm)	1050	1050
Static stability downhill (X°)	16	16
Static stability uphill (X°)	11.5 (with anti-tippers)	11.5 (with anti-tippers)

Product Model	**Ergo Lite (KM-2501)**	
Static stability sideways (X°)	16	16
Handrim diameter (mm)	N/A	N/A
Horizontal location of axle (mm)	0	0

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. Maximum user weight refers to the combined weight of the user and all personal items.

- The actual product specifications differ from the data in the table by ±10 mm ±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 product specifications, please scan the QR code to read the instructions on the KARMA website.

Product Model	**Ergo Lite 2 (KM-2512)**			
Nominal seat width (mm/in)[1]	400/16	450/18	400/16	450/18
Nominal seat depth (mm/in)[2]	420/16	420/16	420/16	420/16
Front caster/Rear wheel size (in)	6/14	6/14	6/20	6/20
Backrest height (mm)	420	420	420	420
Headrest height above seat (mm)	N/A	N/A	N/A	N/A
Armrest to seat distance (mm)	210	210	210	210
Front location of armrest structure (mm)	0	0	0	0
Seat surface height at front edge (mm)	490	490	490	490
Footrest to seat distance (mm)	360–410	360–410	360–410	360–410
Effective seat width (mm)	370	420	370	420
Effective seat depth (mm)	420	420	420	420
Seat plane angle (X°)	6	6	6	6
Backrest angle (X°)	11	11	11	11
Seat to backrest angle (X°)	95	95	95	95
Leg to seat angle (X°)	100	100	100	100
Overall length with legrest (mm)	962–970	962–970	960–975	960–975
Overall width (mm)	570	615	595	645
Overall height (mm)	900	900	900	900
Folded length (mm)	635	635	720	720
Folded width (mm)	280	295	280	295
Folded height (mm)	700	710	700	710
Total mass (kg)	9.2	9.3	10.7	10.9
Mass of the heaviest part (kg)	6.7 (Q)[3] 8.1 (F)[4]	6.9 (Q) 8.3 (F)	6.7 (Q) 9.7 (F)	6.9 (Q) 9.8 (F)
Maximum user weight (kg)[5]	100	100	100	100
Minimum turning radius (mm)	900	900	890	890
Minimum turning radius without user (mm)	725	750	735	760
Pivot width (mm)	1180	1200	1060	1080
Static stability downhill (X°)	18.1	18.1	17.9	17.9
Static stability uphill (X°)	10.8	10.8	10.1	10.1

Product Model	**Ergo Lite 2 (KM-2512)**			
Static stability sideways (X°)	11.9	11.9	11.4	11.4
Handrim diameter (mm)	N/A	N/A	430	430
Horizontal location of axle (mm)	38	38	0	0

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. Maximum user weight refers to the combined weight of the user and all personal items.

- The actual product specifications differ from the data in the table by ±10 mm ±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 product specifications, please scan the QR code to read the instructions on the KARMA website.

Product Model	**Ergo Lite 2 (KM-2512TL)**					
Nominal seat width (mm/in)[1]	410/16	410/16	460/18	460/18	510/20	510/20
Nominal seat depth (mm/in)[2]	435/17	435/17	435/17	435/17	435/17	435/17
Front caster/Rear wheel size (in)	7/14	7/22	7/14	7/22	7/14	7/22
Backrest height (mm)	435	435	435	435	435	435
Headrest height above seat (mm)	N/A	N/A	N/A	N/A	N/A	N/A
Armrest to seat distance (mm)	210	210	210	210	210	210
Front location of armrest structure (mm)	325	325	325	325	325	325
Seat surface height at front edge (mm)	510	510	510	510	510	510
Footrest to seat distance (mm)	410-460	410-460	410-460	410-460	410-460	410-460
Effective seat width (mm)	370	370	420	420	470	470
Effective seat depth (mm)	435	435	435	435	435	435
Seat plane angle (X°)	6	6	6	6	6	6
Backrest angle (X°)	15	15	15	15	15	15
Seat to backrest angle (X°)	98	98	98	98	98	98
Leg to seat angle (X°)	100	100	100	100	100	100
Overall length with legrest (mm)	990–1005	990–1005	1015–1030	1015–1030	1015–1030	1015–1030
Overall width (mm)	565	575	615	625	665	700
Overall height (mm)	950	950	950	950	950	950
Folded length (mm)	720 (Q)[3] 647 (F)[4]	720 (Q) 755 (F)	720 (Q) 647 (F)	720 (Q) 755 (F)	720 (Q) 647 (F)	720 (Q) 755 (F)
Folded width (mm)	230 (Q) 240 (F)	260 (Q) 280 (F)	230 (Q) 240 (F)	260 (Q) 280 (F)	260 (Q) 270 (F)	260 (Q) 280 (F)
Folded height (mm)	690 (Q) 745 (F)	690 (Q) 745 (F)	725 (Q) 745 (F)	725 (Q) 745 (F)	760 (Q) 785 (F)	760 (Q) 785 (F)
Total mass (kg)	9.9 (Q) 9.8 (F)	11.2 (Q) 11.1 (F)	10.1 (Q) 9.9 (F)	11.4 (Q) 11.3 (F)	10.4 (Q) 10.3 (F)	11.9 (Q) 11.8 (F)

Product Model	**Ergo Lite 2 (KM-2512TL)**					
Mass of the heaviest part (kg)	6.9 (Q) 8.7 (F)	7.1 (Q) 10.1 (F)	7.1 (Q) 8.8 (F)	7.2 (Q) 10.2 (F)	7.4 (Q) 9.2 (F)	7.7 (Q) 10.7 (F)
Maximum user weight (kg)[5]	115	115	115	115	115	115
Minimum turning radius (mm)	915	915	930	930	930	930
Minimum turning radius without user (mm)	740	740	780	780	800	800
Pivot width (mm)	1050	1050	1120	1120	1160	1160
Static stability downhill (X°)	12	12	12	12	12	12
Static stability uphill (X°)	14	14	14	14	14	14
Static stability sideways (X°)	11	11	11	11	14	14
Handrim diameter (mm)	N/A	470	N/A	470	N/A	470
Horizontal location of axle (mm)	16	16	16	16	16	16

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. Maximum user weight refers to the combined weight of the user and all personal items.

- The actual product specifications differ from the data in the table by ±10 mm ±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 product specifications, please scan the QR code to read the instructions on the KARMA website.

CAUTION

- **Please don't travel across a slope (in any direction) greater than 7 degrees.**

9. CLEANING & 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

9.1.2.1 When cleaning the upholstery, use warm water and a mild soap.

9.1.2.2 Upholstery cleaner/foam can also be used, but avoid other cleaning solvents.

9.1.2.3 Hand-wash and drip-dry only (machine washing and drying may damage fabric).

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

9.2.1 There are many organizations in many countries you can find on the Internet that will accept used goods for charity. Please search the information highway 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.

9.2.2 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-sale 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 chair serial number is removed or altered.

Model	
Serial Number	

10.2 Warranty Policy

10.2.1 Contents and Duration of Warranty

10.2.1.1 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).

10.2.1.2 Frame and cross-braces are warranted for a period of 5 years and gas strut for a period of 1 year after delivery to the customer, then the affected parts will be repaired or replaced free of charge.

10.2.1.3 Consumable parts such as brakes, bearings, footplates, pads, side guards, upholsteries, wheels and similar parts are excluded from the warranty.

10.2.1.4 Warranty maintenance can be performed by authorized KARMA wheelchair dealers only.

10.2.1.5 KARMA is not responsible for the transportation costs for repair and replacement.

10.2.1.6 Warranty maintenance is the repair or replacement according to the condition of the parts, and replaced parts will be the property of KARMA.

10.2.1.7 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

10.2.2.1 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.

10.2.2.2 Damage resulting from normal wear and tear.

10.2.2.3 Any overloading of the product, please check the label for maximum user weight.

10.2.2.4 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.

10.2.2.5 Use or install parts or accessories which are not manufactured or not approved by KARMA.

10.2.2.6 Damage resulting from use in unsuitable environments.

10.2.2.7 Damage resulting from any addition, modification, or alteration of the product or parts without the approval by KARMA.

10.2.2.8 Damage resulting from external factors, such as chemicals, oil, debris, etc.

10.2.2.9 Damage caused by natural disasters.

10.2.3 KARMA is Not Responsible for The Following Costs

10.2.3.1 Replacement or refill of consumable parts, oil or lubricant.

10.2.3.2 Product inspection, adjustment, lubrication, cleaning, etc.

10.2.3.3 The costs of regular inspection and maintenance of product.

10.2.3.4 The product is not repaired by the authorized dealer designated by KARMA.

10.2.4 Responsibilities

10.2.4.1 The Responsibilities of the User

10.2.4.1.1 Fully adhere to operation guidelines set forth in this manual.

10.2.4.1.2 Perform self-inspection and basic maintenance.

10.2.4.1.3 Keep a record of self-inspections and basic maintenance.

10.2.4.1.4 Not permit any alteration, addition, or modification or use of parts not manufactured by KARMA.

10.2.4.1.5 Thoroughly read and understand this manual.

10.2.4.2 The Responsibilities of the Dealer

10.2.4.2.1 Follow this manual and educate users about product operation and basic maintenance.

10.2.4.2.2 Verify and check whether the warranty conditions are met.

10.2.4.2.3 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 user 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 on how to improve our products, please don't hesitate to contact us and let us know what you think about your wheelchair. Thank you and enjoy.

karma

A Better Wheelchair, A Better Fit

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