

KÜSCHALL K-SERIES *attract*

en Active wheelchair User Manual



This manual **MUST** be given to the user of the product.
BEFORE using this product, read this manual and save for future reference.

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1 GENERAL

1.1 Information about the User Manual

Thank you for choosing a kÜschall® wheelchair.

This User Manual contains important information about using the wheelchair. In order to ensure safety when using your wheelchair, read the User Manual carefully and follow the safety information.

If your vision is impaired, you can view the user manual as a PDF file on the Internet at www.kuschall.com and enlarge it on-screen as required. If you cannot enlarge the text and graphics sufficiently, please contact the kÜschall® distributor for your country;

Refer to addresses on the reverse of this document. If necessary, we will provide you with a high resolution PDF file of the user manual. Moreover, you can have the PDF file read out to you with the aid of suitable programs using special language functions on your computer (e.g. in Adobe®Reader®X: Shift+Ctrl+Y).



The equipment of your wheelchair may differ from the descriptions and diagrams given here due to the wide range of models available.

For latest important product information (e.g.: product safety notices, product recalls, ...) please refer to our website at www.kuschall.com, your local specialized dealer or contact Invacare® in your country (for addresses, see back page of this manual).

1.2 Symbols in this manual

Symbols and Signal words are used in this manual and apply to hazards or unsafe practices which could result in personal injury or property damage. See the information below for definitions of the signal words.



DANGER!

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING!

Indicates a hazardous situation that could result in serious injury or death if it is not avoided.



CAUTION!

Indicates a hazardous situation that could result in minor or slight injury if it is not avoided.



IMPORTANT!

Indicates a hazardous situation that could result in damage to property if it is not avoided.



Gives useful tips, recommendations and information for efficient, trouble-free use.



Manufacturer

1.3 Standards and regulations

Quality is fundamental to the company's operation, working within the disciplines of ISO 9001 and ISO 13485.

This wheelchair complies with the test method RESNA WC-1: 2009 Section 15.

Küschall is continuously working towards ensuring that the company's impact on the environment, locally and globally, is reduced to a minimum. We use only REACH compliant materials and components.

1.4 Intended use

The intended use of the Küschall K-Series *attract* Manual Wheelchair is to provide mobility to persons restricted to a seated position with a weight capacity of 265 lbs.

1.5 Indications for use

The device is indicated to provide mobility to persons limited to a sitting position.

1.6 Service life

The expected service life is five years, presuming that the product is used daily and in accordance with safety instructions, maintenance instructions and intended use, stated in this manual.

Wear and tear information



Normal wear and tear items and components include but are not limited to: all upholstery items including seat and back upholstery, arm and calf pads, cushions, wheels, tires and casters. Invacare reserves the right to ask for any item back that has an alleged defect in workmanship. See Warranty policy shipped with the product for specific warranty information. Refer to User Manual for proper preventative maintenance schedule and use of the product. This is just a general guideline and does not include items damaged due to abuse and misuse. Useful life is dependant upon many factors.

Wheelchairs: Wheels • Brake Assembly/Wheel Locks • Hand grips

Upholstery and seating: Arm Pads • Seat Cushion Foam • Seat Cushion Covers • Back Cushion Foam • Back Cushion Covers

1.7 Warranty Information

Limited Warranty

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser who purchases this product when new and unused from Invacare or a dealer. This warranty is not extended to any other person or entity and is not transferable or assignable to any subsequent purchaser or owner. Coverage under this warranty will end upon any such subsequent sale or other transfer of title to any other person.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants the side frames and cross members of this product when purchased new and unused to be free from defects in materials and workmanship for a period of five (5) years from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty.

Invacare warrants the upholstered materials (seat, back and armrests of the arm assembly) and remaining components of this product when purchased new and unused to be free from defects in materials and workmanship for a period of thirteen (13) months from date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty.

If within such warranty periods any such product shall be proven to be defective, such product shall be repaired or replaced, at Invacare's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you do not receive satisfactory warranty service, please write directly to Invacare at the address on the back cover of this manual. Provide dealer's name, address, the product model number, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED, PRODUCTS SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE OR STORAGE, PRODUCTS MODIFIED WITHOUT INVACARE'S EXPRESS WRITTEN CONSENT INCLUDING, BUT NOT LIMITED TO, MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS; PRODUCTS DAMAGE BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF INVACARE, OR TO A PRODUCT DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL, AND SUCH EVALUATION WILL BE SOLELY DETERMINED BY INVACARE. THE WARRANTY SHALL NOT APPLY TO NORMAL WEAR AND TEAR OR FAILURE TO ADHERE TO THE PRODUCT INSTRUCTIONS.

THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THE SOLE REMEDY FOR VIOLATIONS OF ANY WARRANTY WHATSOEVER, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. THE APPLICATION OF ANY IMPLIED WARRANTY WHATSOEVER SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED HEREIN. INVACARE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGE, OR LIMITATION OF HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE EXCLUSION AND LIMITATION MAY NOT BE APPLICABLE.

THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.

2 SAFETY

2.1 Safety information

This section contains important safety information for the protection of the wheelchair user and assistant and for safe, trouble-free use of the wheelchair.

**DANGER!****Risk of Death, Serious Injury or Damage**

Improper use of this product may cause injury or damage – If you are unable to understand the warnings, cautions or instructions, contact a health care professional or dealer before attempting to use this equipment.

- DO NOT use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as user manual, service manuals or instruction sheets supplied with this product or optional equipment.

**WARNING!**

This wheelchair is not designed to be used for any other purpose other than a mobility device.

**WARNING!****Risk of Serious Injury or Damage**

Use of non-Küschall accessories may result in serious injury or damage.

- Küschall products are specifically designed and manufactured for use in conjunction with Küschall accessories. Accessories designed by other manufacturers have not been tested by Küschall and are not recommended for use with Küschall products.
- DO NOT use non-Küschall accessories.
- To obtain Küschall accessories, contact Küschall by phone or at www.kuschall.com.

**WARNING!****Wheelchair User**

- As a manufacturer of wheelchairs, Küschall endeavors to supply a wide variety of wheelchairs to meet many needs of the end user. However, final selection of the type of wheelchair to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection.



WARNING!

Risk of injury or damage

- Use of incorrect or improper replacement (service) parts may cause injury or damage.
- Replacement parts **MUST** match original Kuschall parts.
 - Always provide the wheelchair serial number to assist in ordering the correct replacement parts.



WARNING!

Wheelchair Tie Down Restraints

- Wheelchair users should **NOT** be transported in vehicles of any kind while in wheelchairs. As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type.
- It is Kuschall's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Kuschall cannot and does not recommend any wheelchair transportation systems.



WARNING!

Stability Warning

- The seat depth, size/position of the front casters, size/position of the rear wheels, use of antitipper model, as well as the user condition directly relate to the stability of the wheelchair. Any change to one or any combination of the seven may cause the wheelchair to decrease in stability. These adjustments **MUST** be performed by a qualified technician.
- The various seat-to-floor heights require specific settings depending on rear wheel size, rear wheel position, front caster size/position and desired seat-to-floor angle. These adjustments must be performed by a qualified technician.



WARNING!
Operating Information

- To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional before attempting active use of the wheelchair.
- DO NOT attempt to reach objects if you have to move forward in the seat.
- DO NOT attempt to reach objects if you have to pick them up from the floor by reaching down between your knees.
- DO NOT lean over the top of the back upholstery to reach objects from behind as this may cause the wheelchair to tip over.
- DO NOT shift your weight or sitting position toward the direction you are reaching as the wheelchair may tip over.
- DO NOT tip the wheelchair without assistance.
- DO NOT attempt to stop a moving wheelchair with wheel locks. Wheel locks are not brakes.
- DO NOT attempt to stop the wheelchair while on a sloped surface.
- Never leave an unoccupied wheelchair on an incline.
- DO NOT use an escalator to move a wheelchair between floors. Serious bodily injury may occur.



WARNING!
Operating Information

- DO NOT operate on roads, streets or highways.
- DO NOT climb, go up or down ramps or traverse slopes greater than 1.8°.
- DO NOT attempt to move up or down an incline with a water, ice or oil film.
- DO NOT attempt to ride over curbs or obstacles. Doing so may cause your wheelchair to turn over and cause bodily harm or damage to the wheelchair.
- DO NOT attempt to lift the wheelchair by any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.
- DO NOT stand on the frame of the wheelchair.
- DO NOT allow children to play on or operate the wheelchair.
- ALWAYS keep hands and fingers clear of moving parts to avoid injury.



WARNING!
Operating Information

- KÜSCHALL strongly recommends that antitippers be used at all times. Refer to the Antitipper chapter for correct usage and adjustment.
- Engaging the wheel locks may not prevent the wheelchair from moving on all floor surfaces including those that may be wet or slick.
- ALWAYS exercise caution when transferring into or out of the wheelchair.



WARNING!
Operating Information

- ALWAYS use the handrims for self-propulsion.
- DO NOT use the footplate as a platform when getting in or out of the wheelchair, make sure that the footplates are in the upward position.



WARNING!
Seat Positioning Straps

- ALWAYS wear your seat positioning strap. Inasmuch as the seat positioning strap is an option on this wheelchair (you may order with or without the seat positioning strap), KÜSCHALL strongly recommends ordering the seat positioning strap as an additional safeguard for the wheelchair user. The seat positioning strap is a positioning strap only. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, strap must be replaced IMMEDIATELY.
- With regards to seat/chest positioning straps
 - it is the obligation of the DME dealer, therapists and other healthcare professionals to determine if a seat/chest positioning strap is required to ensure the safe operation of this equipment by the user. Serious injury can occur in the event of a fall from a wheelchair.



WARNING!
Risk of accidents and serious injury

- Accidents with resulting serious injury can occur if the wheelchair is improperly adjusted.
- Wheelchair adjustments must always be carried out by a qualified technician/dealer.

**WARNING!**
Weight Training

– KÜSCHALL DOES NOT recommend the use of its wheelchairs as a weight training apparatus. KÜSCHALL wheelchairs have not been designed or tested as a seat for any kind of weight training. If occupant uses said wheelchair as a weight training apparatus, KÜSCHALL shall not be liable for bodily injury and the warranty is void.

**WARNING!**
Risk of injury

There is a risk of skidding on wet ground, gravel or uneven terrain.

– Always adjust your speed and driving style to the conditions (weather, surface, individual ability, etc.).

**WARNING!**
Risk of injury

In a collision you could sustain injury to parts of your body that extend beyond the wheelchair (e.g. feet or hands).

– Avoid an unbraked collision.
– Never drive into an object head-on.
– Drive carefully through narrow passages.

**WARNING!****Risk due to wheelchair being out of control**

At high speed you could lose control of your wheelchair and overturn.

– Never exceed a speed of 4 mph.
– Avoid collisions in general.

**WARNING!****Risk of burning**

The wheelchair components can heat up when exposed to external sources of heat.

– Do not expose the wheelchair to strong sunlight before use.
– Before usage, check all components that come into contact with your skin for their temperature.

**DANGER!****Risk of Death, Serious Injury or Damage**

Lighted cigarettes dropped onto an upholstered seating system can cause a fire resulting in death, serious injury or damage. Wheelchair occupants are at particular risk of death or serious injury from these fires and resulting fumes because they may not have the ability to move away from the wheelchair.

– DO NOT smoke while using the wheelchair.



WARNING!

Risk of getting fingers caught

There is always a risk of getting, e.g. fingers or arms, caught in the moving parts of the wheelchair.

- Make sure when activating the folding or insertion mechanisms of moving parts, such as the removable axle of the rear wheel, folding backrest or antitipper, that nothing becomes caught.



WARNING!

Wheel Locks

- If the wheelchair is equipped with push to lock wheel locks, elevating legrests, and wheel lock extension handles, the wheel lock extension handles **MUST** be removed before swinging the elevating legrests to the side, otherwise injury or damage may result. Interference between the top of the elevating legrest and the wheel lock extension handle causes the wheel lock to disengage.



WARNING!

Hand Grips

- When cleaning rear cane or hand grip areas use only a clean towel lightly dampened with cool water. Verify that grips are dry prior to use. Use of soap or ammonia based cleaning solutions will result in the hand grips sliding off the cane assembly. Failure to observe this warning may result in injury to the user or bystanders.
- If the wheelchair is exposed to extreme temperature (above 100°F or below 32°F), high humidity and/or becomes wet, prior to use, ensure that the handgrips **DO NOT** twist on the handle. Otherwise, damage or injury may occur.



WARNING!

Tire Information

- Replacement of the tire or tube **MUST** be performed by a qualified technician.

2.2 Safety devices



WARNING! **Risk of accidents**

Safety devices that are incorrectly set or no longer working (wheel locks, antitipper) can cause accidents.

- Always check that the safety devices are working before you use the wheelchair and have them checked regularly by a qualified technician/dealer.

The functions of the safety devices are described in chapter 3 Components and their functions, page 17.

2.3 Labels and symbols on the product


Identification label

The identification label is attached to the frame of your wheelchair and gives the following information:


A	 Küschall AG Benkenstrasse 260 4108 Witterswil SWITZERLAND	 www.kuschall.com
B	KÜSCHALL K-SERIES ATTRACT SB 16"	
C	 2017-01-01	 Read User Manual
E	Maximum user weight: 120 kg / 265 lbs	
F	 01234567890	 410286984113099
	 Max. safe slope in least stable configuration 1.8°.	 Made in Switzerland

A	Manufacturer's address
B	Product description
C	Date of manufacture
D	Instruction to read the User Manual
E	Maximum user weight
F	Serial number



Antitipper warning label

	WARNING: Read user manual Follow user manual instructions prior to the usage of an antitipper device.
---	---



Non-locking side parts warning label

	Do not lift the wheelchair by non-locking side parts.
---	---

Quick release axle warning label

 WARNING	Detent balls should extend beyond the diameter of the axle bushing for a positive lock. keep balls clean.
 AVERTISSEMENT	Les billes de verrouillage doivent dépasser du diamètre de l'axe derrière le palier pour assurer un blocage adéquat. Garder les billes de verrouillage propres.
1605854 A	

Stable wheel position warning label

 WARNING	1605854 A	 AVERTISSEMENT
Care MUST be taken so the configuration set up for the user is stable. Stability adjustments MUST be performed by a qualified technician.		S'assurer que la configuration de montage pour l'utilisateur est stable. Les réglages pour la stabilité doivent être exécutés par un technicien qualifié.

Information label

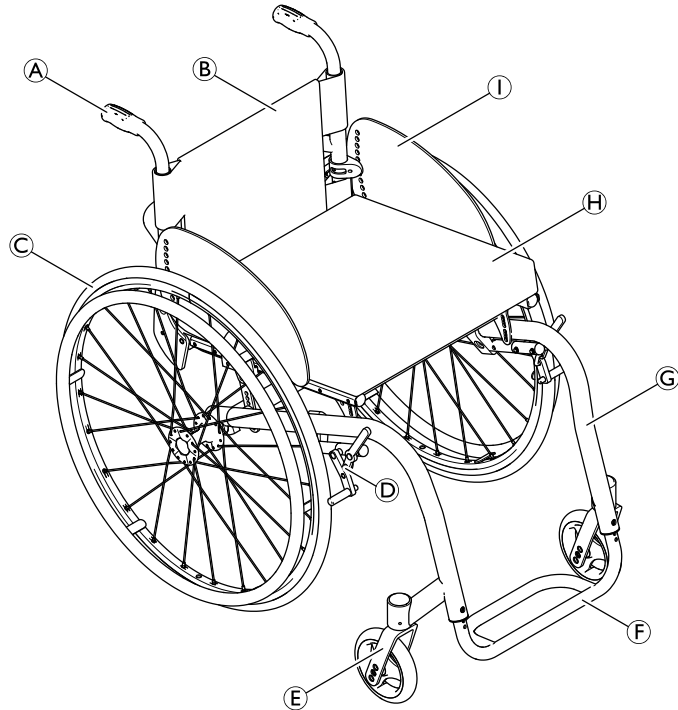
NO WHEELCHAIR HAS BEEN APPROVED FOR USE AS A SEATING SURFACE WITHIN A MOTOR VEHICLE. THIS LABEL IS FOR INFORMATIONAL PURPOSES ONLY. LIABILITY ISSUES WERE NOT CONSIDERED IN THE ATTACHMENT OF THIS LABEL.

1605855 A

AUCUN FAUTEUIL ROULANT N'A ÉTÉ APPROUVÉ POUR ÊTRE UTILISÉ COMME SIÈGE À L'INTÉRIEUR D'UN VÉHICULE MOTORISÉ. CETTE ÉTIQUETTE NE PEUT ÊTRE UTILISÉE QU'À TITRE D'INFORMATION ET N'A PAS ÉTÉ AFFICHÉE ICI POUR DES RAISONS DE RESPONSABILITÉ LÉGALE.

3 COMPONENTS AND THEIR FUNCTIONS

3.1 Overview



Ⓐ	Push handle
Ⓑ	Back
Ⓒ	Rear wheel with handrim
Ⓓ	Parking brake
Ⓔ	Castor fork with castor
Ⓕ	Footrest
Ⓖ	Frame
Ⓗ	Seat / Cushion
Ⓘ	Clothes-guard

Short description

The küschall K-Series_{attract} is a rigid frame wheelchair with folding backrest.

i The equipment of your wheelchair may differ from the diagram as each wheelchair is manufactured individually to the specifications in the order.

3.2 Wheel locks

The wheel locks are used to immobilise the wheelchair when it is stationary to prevent it from rolling away.



WARNING!
Risk of overturning

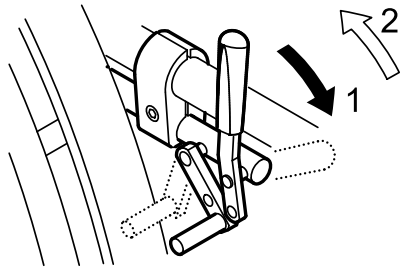
- DO NOT attempt to stop a moving wheelchair with wheel locks. Wheel locks are not brakes.
- DO NOT lean on the wheel locks for support or transfer.



WARNING!
Risk of overturning

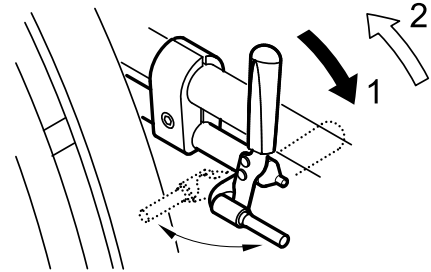
- The wheel locks will not operate correctly unless there is sufficient air in the tires.
- Ensure the correct tire pressure, 3.10 Tires, page 24.

Standard wheel lock



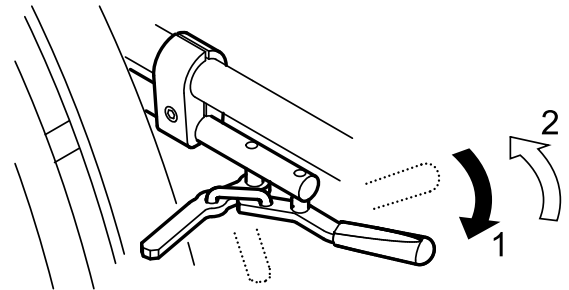
1. To engage the wheel lock, push the wheel lock lever forwards as far as possible.
2. To disengage the wheel lock, pull the wheel lock lever backwards.

Performance wheel lock



1. To engage the wheel lock, push the wheel lock lever forwards as far as possible.
2. To disengage the wheel lock, pull the wheel lock lever backwards.

Active wheel lock



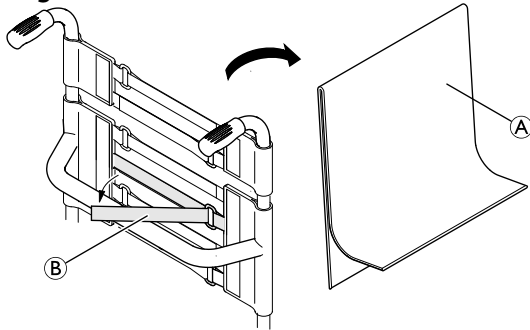
1. To engage the wheel lock, pull the wheel lock lever forwards beside or between your knees as far as possible.
2. To disengage the wheel lock, push the wheel lock lever backwards beside or between your knees.

3.3 Backrest

Backrest cover

You can adjust the tension of the backrest cover as required.

Adjusting the backrest cover



1. Remove the backrest cushion **A**.
2. Loosen the Velcro[®] tapes **B** on the rear of the backrest cover by simply pulling on them.
3. Tighten or loosen the tapes as required then reattach them.



WARNING!

Risk of tipping

If the bands are set very loose, the tipping point of your wheelchair is changed for the worse.

- Ensure that the bands are set correctly.

Backrest height

The height of the backrest can be adjusted. The adjustment must be carried out by the specialist dealer.

Backrest angle

The angle of the backrest can be adjusted. The adjustment must be carried out by the specialist dealer.

Backrest bar



WARNING!

Risk of accidents

The backrest bar is not suited for lifting or carrying the wheelchair with the user sitting in it as it can break.

- The backrest bar may not be used to lift or carry the wheelchair while the user is sitting in it.

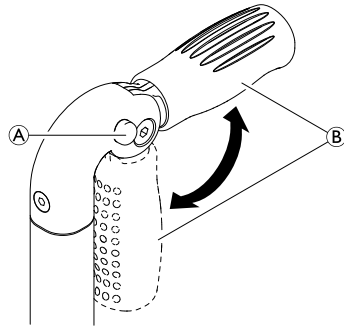
3.4 Push handles



IMPORTANT!

– Always check the push handles before using the wheelchair, as to whether the hand grips are secure, cannot be turned and cannot be pulled off.

Foldable push handles



1. Fully depress button **A** and fold up respectively fold down the push handle **B** until it audibly engages.



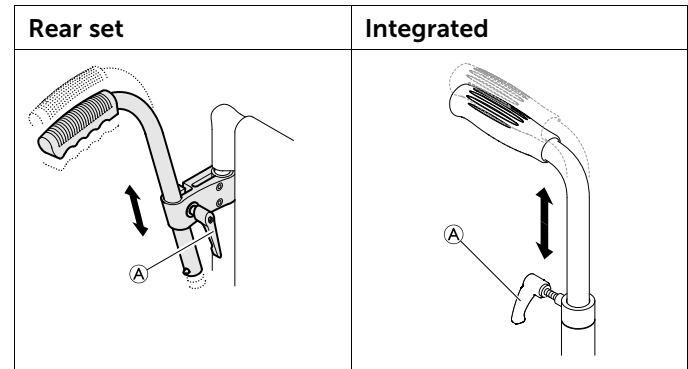
CAUTION!

If not correctly engaged, the push handle could accidentally fold down while pushing the wheelchair.

- Make sure that the push handle is correctly engaged.

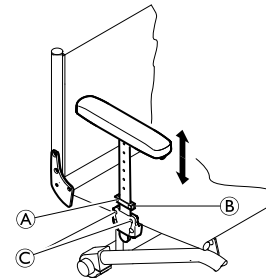
Height adjustable push handles

The stepless height adjustable push handles allow any assistant to adjust the handles to a comfortable level.



1. To set the height of the push handles, loosen the bolt **A**, push the handle to the desired position and tighten the bolt again.

3.5 Side rest, stepless height adjustable, non-locking





WARNING!
Risk of injury

The side rests are not locked and can be easily pulled out upwards.

- Do not lift or transfer the wheelchair using the side rests.
- Do not use the side rests for transportation when carrying the wheelchair up- or downstairs.

Removing

1. Pull the side rest by the arm cushion out of the holder.
2. To adjust how easy or difficult it is to pull the side rest out of the holder, change the degree to which the screws © are tightened.

Fitting

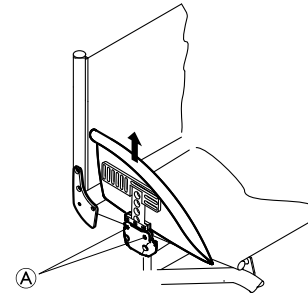
1. Push the side rest into the holder.

Adjusting the height

1. Loosen the screw ① of the retaining plate ②.
2. Move the armrest upwards or downwards until you reach the desired height.
3. Tighten the screw ①.
4. Perform the setting on both sides.

3.6 Mudguard

In order to prevent dirt from the wheels spraying upwards, a removable mudguard can be fitted. The position of the mudguard can be adjusted. The adjustment must be carried out by the specialist dealer.



Removing

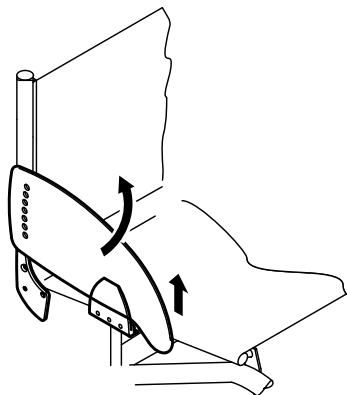
1. Pull the mudguard upwards out of the holder.
2. To adjust how easy or difficult it is to pull the mudguard out of the holder, change the degree to which the screws ① are tightened.

Fitting

1. Push the mudguard into the holder.

3.7 Clothes-guard

A clothes-guard can be fitted to protect your clothes. Before folding the back of the wheelchair, the clothes-guard must first be folded inwards against the backrest.

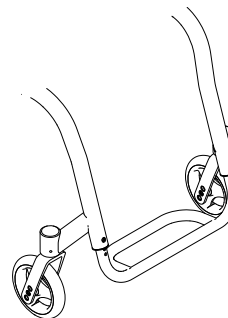


Folding in

1. Raise the clothes-guard at the front and swivel it inwards in front of the backrest.

3.8 Footrest

The height of the footrest can be adjusted. The adjustment must be carried out by the specialist dealer.



3.9 Antitipper

An antitipper prevents the wheelchair from tipping backwards.



WARNING!

Inasmuch as the antitippers are an option on this wheelchair (you may order with or without the antitippers), Küschall recommends ordering the antitippers as an additional safeguard for the wheelchair user.

- Küschall recommends that antitippers be used until the user develops the skills and experience to safely operate the wheelchair without them.
- The manual wheelchair is intended for indoor and outdoor use on firm surfaces. When outdoors on wet, soft ground or on gravel surfaces, antitippers may not provide the same level of protection against tip over.
- Antitippers are specific to the different seat-to-floor angles and/or seat-to-floor heights. If changing the seat-to-floor height with or without a change to seat-to-floor angle, the correct antitippers must be used to maintain a 1 1/2 to 2-inch ground clearance. Contact a qualified technician.



WARNING!

Risk of overturning

Antitippers that are incorrectly set or no longer working can lead to overturning.

- Always check that the antitipper is working before using the wheelchair and have it set or readjusted by a specialist dealer when required.

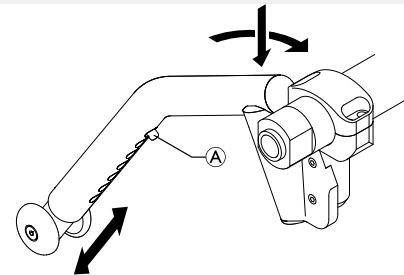


WARNING!

Risk of overturning

On uneven or soft ground, the antitipper can sink into potholes or directly into the ground, thereby curtailing or eliminating its safety function.

- Only use the antitipper when travelling on even and firm ground.



Activating the antitipper

1. Push the antitipper completely downwards against the spring and swivel it backwards through 90° until it engages.

**WARNING!**
Risk of tipping


An activated antitipper can catch when negotiating a step or an edge.

- Always deactivate the antitipper before driving over a step or kerb.

Deactivating the antitipper

1. Push the antitipper completely downwards against the spring and swivel it inwards through 90° until it engages.

Setting the height

1. Press the spring pin  on the antitipper and push the inner section to the position required. Allow the spring pin to engage in the nearest hole.



If further adjustments of height and/or position are necessary, refer to qualified technician/dealer.

3.10 Tires

The ideal pressure depends on the tire type:

The table below is an indication. In case the tire differs from the list below, check the side of the tire, the maximum pressure is often listed there.

Tire	Max. pressure		
	bar	kPa	psi
Profile tire	7 bar	700 kPa	101 psi
Schwalbe® Marathon Plus	10 bar	1000 kPa	145 psi
Schwalbe® One	10 bar	1000 kPa	145 psi

Tire	Max. pressure		
	bar	kPa	psi
Schwalbe® Rightrun	10 bar	1000 kPa	145 psi
Solid tire, profile, grey	-	-	-
Solid tire (KIK type), black	-	-	-
Solid, light wheel	-	-	-



The compatibility of the tires listed above depends on the configuration and/or model of your wheelchair.



In case of a tire puncture consult a suitable workshop (e.g. bike repair shop, bicycle dealer ...) to have the tube replaced by a skilled person.




The size of the tire is mentioned on the sidewall of the tire. The change of appropriate tires must be carried out by a qualified technician/dealer.

**CAUTION!**

– The tires pressure needs to be equal in both wheels to avoid decreased driving comfort, to keep the wheel locks working properly and to ease propelling of the wheelchair.

3.11 Seat cushion

A suitable cushion is needed to provide an even pressure distribution on the seat.

-  Use a seat cushion with anti-slip underlay or Velcro® (hook) fastening tapes to avoid slipping of the seat cushion. A Velcro® (loop) fastening tape is pre-attached to the seat cover.

3.12 Seat position

Tipping stability

The seat position and thus the tipping stability of your wheelchair can be altered. The adjustment must be carried out by the specialist dealer.

Seat height front

The front seat height can be adjusted. The adjustment must be carried out by the specialist dealer.

Seat height rear

The rear seat height can be adjusted by several centimeters. The adjustment must be carried out by the specialist dealer.

4 ACCESSORIES

4.1 Seat positioning strap

The wheelchair can be equipped with a seat positioning strap. It prevents the user from sliding downward in the wheelchair or from falling out of the wheelchair.

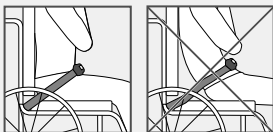


WARNING!

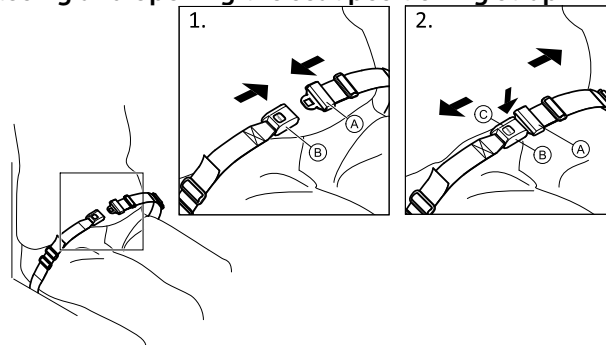
Risk of serious injury / strangulation

A loose seat positioning strap can allow the user to slip down and create a risk of strangulation.

- The seat positioning strap should be mounted by a qualified technician and fitted by the responsible prescriber.
- Always make sure that the seat positioning strap is tightly fitted across the lower pelvis.
- Each time the seat positioning strap is used, check if it fits properly. Changing the seat and/or backrest angle, the cushion and even your clothes influence the fit of the seat positioning strap.



Closing and opening the seat positioning strap



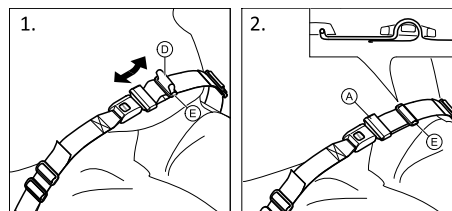
Ensure that you are sitting fully back in the seat and that the pelvis is as upright and symmetrical as possible.

1. To close, push the catch (A) into the buckle clasp (B).
2. To open, push the PRESS button (C) and pull the catch (A) out of the buckle clasp (B).

Adjusting the length



The seat positioning strap has the good length, when there's just sufficient space for a flat hand between body and seat positioning strap.



1. Shorten or extend the loop ④ as required.
2. Thread loop ④ through catch ① and plastic buckle ⑤ until the loop is flat.

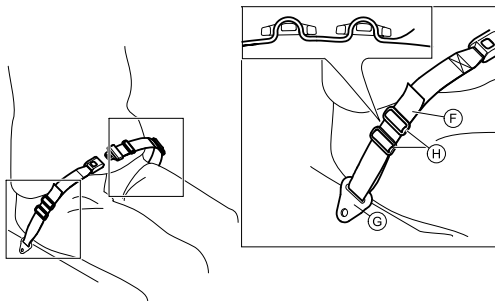
If this adjustment is not sufficient, it might be required to re-fit the seat positioning strap at the fixations.

Fitting the seat positioning strap at the fixations



CAUTION!

- Thread the seat positioning strap loop through both plastic buckles to avoid the seat positioning strap from loosening.
- Do the adjustments on both sides equally, so that the buckle clasp remains in a central position.
- Make sure that the seat positioning straps do not get caught in the spokes of a rear wheel.



1. Thread the loop ⑥ through the fixation on the chair ③ and then through BOTH plastic buckles ④.

4.2 Air pump

The air pump is fitted with a universal valve connection.

1. Remove the dust cap from the valve connection.
2. Push the valve connection onto the open valve on the wheel and pump the wheel up.

4.3 Passive illumination

You can attach reflectors to the rear wheels.

5 SETUP

5.1 Safety information



WARNING!

Risk of injury

- Before using the wheelchair, check its general condition and its main functions, refer to 8 Maintenance, page 40.

Your dealer will supply your wheelchair ready for use. Your dealer will explain the main functions and ensure that the wheelchair meets your needs and requirements.

6 USING THE WHEELCHAIR

6.1 Safety information

Safety and Handling of the wheelchair requires the close attention of the wheelchair user as well as the assistant. This manual points out the most common procedures and techniques involved in the safe operation and maintenance of the wheelchair. It is important to practice and master these safe techniques until you are comfortable in maneuvering around the frequently encountered architectural barriers.

Use this information only as a basic guide. The techniques that are discussed on the following pages have been used successfully by many.

Individual wheelchair users often develop skills to deal with daily living activities that may differ from those described in this manual. KÜSCHALL recognizes and encourages each individual to try what works best for him/her in overcoming architectural obstacles that they may encounter, however, all warnings and cautions given in this manual **MUST** be followed. Techniques in this manual are a starting point for the new wheelchair user and assistant with safety as the most important consideration for all.



WARNING!

Risk of injury

Incorrect usage of the wheelchair could lead to hazardous situations.

- When used without an assistant, the wheelchair should only be used by persons who are physically and mentally able to use the wheelchair safely (e.g. to propel themselves, steer, brake).
- The wheelchair should be used on level ground and accessible terrain. Note, that while the chair can be effectively operated on many types of firm outdoor surfaces, some grass, sand or gravel surfaces may lack the necessary firmness to effectively operate the wheelchair.



WARNING!

Risk of accidents

Uneven tire pressure can have a huge effect on handling.

- Check the tire pressure before each journey.



WARNING!

Risk of falling out of the wheelchair

When using small front wheels the wheelchair could get stuck at curbs or in floor grooves.

- Make sure that the front wheels are suitable for the surface you are driving on.



CAUTION!

Risk of crushing

There may be a very small gap between the rear wheel and the mudguard with the risk that you could trap your fingers.

- Ensure that you always propel your wheelchair using the handrims only.



CAUTION!

Risk of crushing

There may be a very small gap between the rear wheel and the wheel lock with the risk that you could trap your fingers.

- Ensure that you always propel your wheelchair using the handrims only.

Theft and metal detection systems

In seldom cases the materials used in the wheelchair may activate theft and metal detection systems.

6.2 Stability and Balance



WARNING!

- DO NOT attempt to lift a wheelchair by lifting on any removable (detachable) parts. Lifting by means of any removable (detachable) parts of the wheelchair may result in injury to the user or damage to the wheelchair.
- ALWAYS check hand grips for looseness before using the wheelchair. If loose and/or worn, replace IMMEDIATELY.
- Inasmuch as the anti-tippers are an option on this wheelchair (you may order with or without the anti-tippers), Invacare recommends ordering the anti-tippers as an additional safeguard for the wheelchair user.
- DO NOT climb, go up, or down ramps or traverse slopes greater than 1.8°.
- Invacare strongly recommends proceeding down ramps or slopes slowly to avoid hard braking or sudden stops.

**WARNING!**

- Be aware that carrying heavy objects on your lap while occupying the wheelchair may adversely affect the stability of the wheelchair, resulting in serious bodily injury to the user, damage to the wheelchair and surrounding property.
- This wheelchair has been designed to accommodate one individual. If more than one individual occupies the wheelchair this may adversely affect the stability of the wheelchair, resulting in serious bodily injury to the user and passenger and damage the wheelchair and surrounding property.

To assure stability and proper operation of your wheelchair, you **MUST** at all times maintain proper balance. Your wheelchair has been designed to remain upright and stable during normal daily activities as long as you **DO NOT** move beyond the center of gravity.

Virtually all activities which involve movement in the wheelchair have an effect on the center of gravity. Invacare recommends using seat positioning straps for additional safety while involved in activities that shift your weight.

DO NOT lean forward out of the wheelchair any further than stability will allow. Make sure casters are pointing in the forward position whenever you lean forward. This can be achieved by advancing the wheelchair and then reversing it in a straight line.

**WARNING!**

- **DO NOT** attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.

Many activities require the wheelchair owner to reach, bend and transfer in and out of the wheelchair. These movements will cause a change to the normal balance, the center of gravity, and the weight distribution of the wheelchair.

To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified health-care professional before attempting active use of wheelchair.

Proper positioning is essential for your safety. When reaching, leaning and bending forward, it is important to use the front casters as a tool to maintain stability and balance.

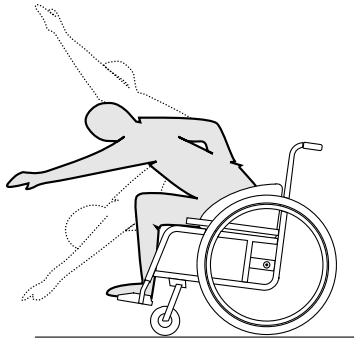
6.3 Reaching, Leaning and Bending



WARNING!

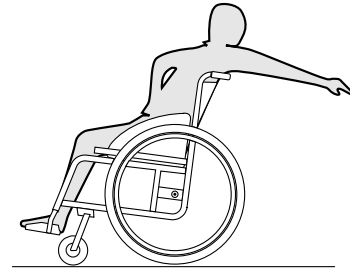
- DO NOT attempt to reach objects if you have to move forward in the seat.
- DO NOT attempt to reach objects if you have to pick them up from the floor by reaching down between your knees.
- DO NOT lean over the top of the back upholstery to reach objects from behind as this may cause the wheelchair to tip over.
- DO NOT shift your weight or sitting position toward the direction you are reaching as the wheelchair may tip over.

Reaching, Leaning, or Bending Forward



Position the front casters so that they are extended as far forward as possible and engage wheel locks.

Reaching, Leaning, or Bending Backwards



Position wheelchair as close as possible to the desired object. Point front casters forward to create the longest possible wheelbase. Reach back only as far as your arm will extend without changing your sitting position.

6.4 Coping with Everyday Obstacles

Coping with the irritation of everyday obstacles can be alleviated somewhat by learning how to manage your wheelchair. Keep in mind your center of gravity to maintain stability and balance.

6.5 A Note to Wheelchair Assistants

When assistance to the wheelchair user is required, remember to use good body mechanics. Keep your back straight and bend your knees whenever tilting the wheelchair or traversing curbs, or other impediments.

**WARNING!**

- Do not attempt to lift a wheelchair by lifting on any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

Also, be aware of any removable (detachable) parts. These **MUST NEVER** be used to move the wheelchair or as lifting supports, as they may be inadvertently released, resulting in possible injury to the user and/or assistant(s).

When learning a new assistance technique, have an experienced assistant help you before attempting it alone.

6.6 Tipping

**WARNING!**

- DO NOT tip the wheelchair without assistance.
- When lowering the front casters of the wheelchair, DO NOT let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant.

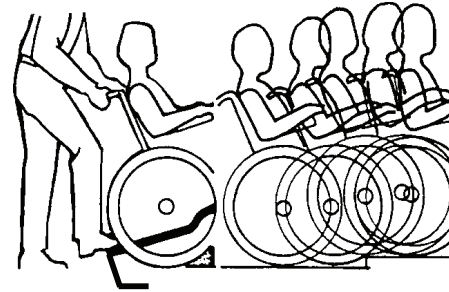
After mastering the techniques of tipping the wheelchair, use one of the following methods to tackle curbs, short stairs, etc.

6.6.1 Method 1 – Wheelchair With Step Tubes

Place foot on the step tube and begin to tilt the wheelchair toward you. Apply a continuous downward motion until the balance point is achieved and the front casters clear

the curb. At this point, the assistant will feel a difference in the weight distribution.

Roll the wheelchair forward and slowly lower the front of the wheelchair in one continuous movement onto the sidewalk. Push the wheelchair forward until the rear wheels roll up and over the curb.



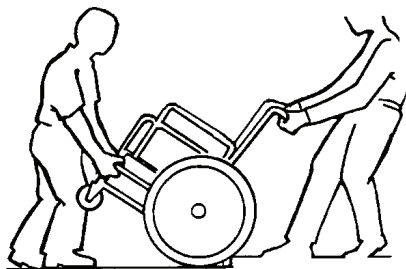
6.6.2 Method 2 – Wheelchair Without Step Tubes

This method requires two assistants. The second assistant should be positioned at the front of the wheelchair lifting upward on a non-removable (non-detachable) part of the wheelchair frame when lifting the wheelchair and stabilizing the wheelchair when the wheelchair is being lowered to the ground.

The first assistant should stand on the sidewalk and turn the wheelchair so that the rear wheels are against the curb. Turn the anti-tippers so the anti-tip wheels are pointing up. The wheelchair should be tilted back to the balance point and, in one continuous upward movement, the rear wheels should be pulled up and over the curb. **DO NOT**

return the front casters to the ground until the wheelchair has been pulled backward far enough for the front casters to clear the edge of the curb.

Roll the wheelchair backward and slowly lower the wheelchair in one continuous movement. Turn the anti-tippers so the anti-tip wheels are facing down.



6.7 Stairways



WARNING!

– Extreme caution is advised when it is necessary to move an occupied or unoccupied wheelchair up or down the stairs. Invacare recommends that, if possible, the user be removed from the wheelchair prior to moving. Invacare recommends using two assistants and making thorough preparations. Make sure to use only secure, non-detachable parts for hand-held supports.

Follow this procedure for moving the wheelchair between floors when an elevator is not available:

Moving Up Stairs

1. If necessary, rotate the anti-tippers so the wheels are facing up.
2. One assistant (positioned behind the wheelchair), securely grasps a non-removable (non-detachable) part of the wheelchair for leverage and tilts the wheelchair back to the balance point.
3. After the wheelchair has been tilted back to the balance point, the assistant behind the wheelchair backs the wheelchair up against the first step.
4. The second assistant (positioned in the front of the wheelchair), with a firm hold on a non-detachable part of the framework, lifts the wheelchair up and on to the next stair above and steadies the wheelchair as the assistant behind the wheelchair places one foot on the next stair above and repeats process.
5. The wheelchair should not be lowered until the last stair has been negotiated and the wheelchair has been rolled away from the stairway.
6. If necessary, rotate the anti-tippers so the wheels are facing down.



Moving Down Stairs

1. If necessary, rotate the anti-tippers so the wheels are facing up.
2. One assistant (positioned behind the wheelchair), securely grasps a non-removable (non-detachable) part of the wheelchair for leverage and tilts the wheelchair back to the balance point.
3. After the wheelchair has been tilted back to the balance point, the assistant behind the wheelchair rolls the wheelchair up to the edge of the first step.
4. The second assistant (positioned in the front of the wheelchair), with a firm hold on a non-detachable part of the framework, lowers the wheelchair down and on to the next stair below and steadies the wheelchair as the assistant in the rear places one foot on the next stair below and repeats process.

5. The wheelchair should not be lowered until the last stair has been negotiated and the wheelchair has been rolled away from the stairway.
6. If necessary, rotate the anti-tippers so the wheels are facing down.

6.8 Escalators



WARNING!

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

6.9 Transferring To and From Other Seats

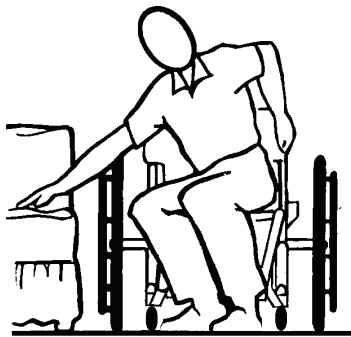


WARNING!

- Before attempting to transfer in or out of the wheelchair, every precaution should be taken to reduce the gap distance.
- Turn both casters parallel to the object you are transferring onto. Also be certain the wheel locks are engaged to help prevent the wheels from moving.
- When transferring, position yourself as far back as possible in the seat. This will prevent damaged upholstery and the possibility of the wheelchair tipping forward.



This activity may be performed independently provided you have adequate mobility and upper body strength.



Position the wheelchair as close as possible along side the seat to which you are transferring, with the front casters parallel to it. Remove the armrest, if installed. Engage wheel locks. Shift body weight into seat with transfer.

During independent transfer, little or no seat platform will be beneath you. Use a transfer board if at all possible.

6.10 Stopping during use

Whilst you are moving, you stop by transferring force to the handrim with your hands.



WARNING!

Risk of overturning

If you apply the wheel locks while you are moving, the direction of movement can become uncontrollable and the wheelchair may stop suddenly, which can lead to a collision or to you falling out.

- Never apply the wheel locks while you are moving.



WARNING!

Risk of falling out of the wheelchair

If the wheelchair is rapidly decelerated by an assistant pulling at the push handles, the user may fall out of the wheelchair.

- Always apply the seat positioning strap if present.
- Make sure your assistant has been trained individually in transferring occupied wheelchairs.
- DO NOT take slopes exceeding 1.8° to ensure control of the wheelchair steering.
- Always use the wheel locks to secure the wheelchair during short or long stops.

**CAUTION!****Risk of burning your hands**

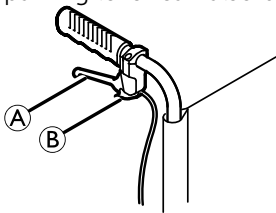
If you apply hands to the handrims for a long time, a lot of frictional heat is produced at the handrims (especially anti slip handrims).

- Wear suitable gloves.

1. Hold the handrims and press evenly with both hands until the wheelchair stops.

Braking with an assistant

With an assistant's parking lever (drum style) an assistant can stop the wheelchair while it is moving. The assistant's parking lever can also be used as a wheel lock.



1. To brake, pull the parking lever Ⓐ on the push handle.
2. To park, pull the parking lever firmly until the safety lever Ⓑ engages.
3. To release, pull the parking lever and release the safety lever underneath the parking lever.

7 TRANSPORT

7.1 Safety information



WARNING!

Wheelchair Tie Down Restraints

- Wheelchair users should NOT be transported in vehicles of any kind while in wheelchairs. As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type.
- It is Küschall's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Küschall cannot and does not recommend any wheelchair transportation systems.



WARNING!

Risk of injury if the wheelchair is not properly secured

- In the event of an accident, braking manoeuvre, etc. you may suffer serious injuries from flying wheelchair parts.
- Always remove the rear wheels when transporting the wheelchair.
 - Firmly secure all wheelchair components in the means of transport to prevent them from coming loose during the journey.

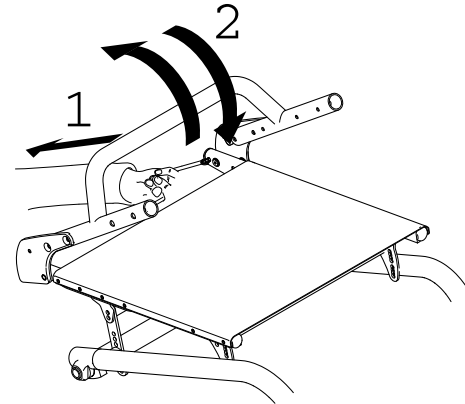


IMPORTANT!

- Excessive wear and abrasion could affect the strength of load-bearing parts.
- Do not pull your wheelchair across abrasive surfaces without the wheels fitted (e.g. pulling the frame over tarmac).

7.2 Folding and unfolding the wheelchair

The wheelchair has a rigid frame. Nevertheless, the backrest can be folded forwards and fixed there.



Folding the wheelchair

1. Remove the seat cushion, if present.
2. Fold the clothes-guard, if present, inwards against the backrest on both sides.

3. Pull the cord on the back of the wheelchair (1) and fold the backrest forward (2) until it engages.
4. The wheelchair can now be lifted using the backrest brace.

Unfolding the wheelchair

! IMPORTANT!

- When unfolding the wheelchair, do not pull the backrest brace without previously releasing the backrest using the cord.
- Check that the backrest is completely engaged on the frame, before you use the wheelchair again.

1. Pull the cord on the backrest of the wheelchair (1).
2. Pull the backrest backwards (2) using the backrest brace, until the backrest tube engages on both sides of the frame.
3. Fold the clothes-guard back into position on both sides.

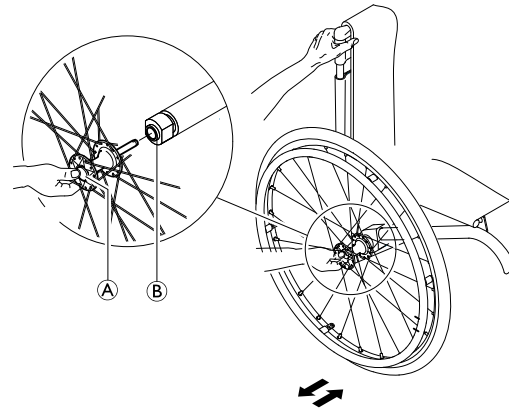
7.3 Removing and installing the rear wheels



WARNING! Risk of overturning

If the removable axle of a rear wheel is not fully engaged, the wheel can become loose during use. This can lead to overturning.

- Always ensure that the removable axles are fully engaged whenever you fit a wheel.



Removing the rear wheels

1. Disengage the wheel locks.
2. With one hand, hold the wheelchair upright.
3. With the other, hold the wheel through the external spoke rim around the wheel hub.
4. Using your thumb, press the removable axle button (A). Keep it pressed and pull the wheel out of the adapter sleeve (B).

Fitting the rear wheels

1. Disengage the wheel locks.
2. With one hand, hold the wheelchair upright.
3. With the other, hold the wheel through the external spoke rim around the wheel hub.
4. Using your thumb, press the removable axle button and hold it down.
5. Push the axle into the adapter sleeve (B) up to the stop.
6. Release the removable axle button and make sure that the wheel is secure.

8 MAINTENANCE

8.1 Safety information



WARNING!

Some materials deteriorate naturally over time. This could result in damage to wheelchair components.

- Your wheelchair should be checked by a qualified technician/dealer at least once a year or if it has not been used for a long period.



Your küschall® qualified technician/dealer can provide help in carrying out regular maintenance. To find a qualified technician/dealer near you, contact the küschall® distributor for your country (end of this document).

8.2 Maintenance Schedule

To ensure safe and reliable operation, carry out the following checks and maintenance regularly or have it carried out by another person.

	weekly	monthly	annually
Check the tire pressure	x		
Check that rear wheels are seated correctly	x		

	weekly	monthly	annually
Checking the adjustment of the backrest joint	x		
Check the seat positioning strap	x		
Visual check		x	
Clean the front wheels		x	
Check bolts		x	
Check spokes		x	
Check wheel locks		x	
Have wheelchair checked by a qualified technician/dealer			x

Check the tire pressure

1. Check the tire pressure, 3.10 Tires, page 24.
2. Inflate the tires to the required pressure.
3. Check the tire tread at the same time.
4. If necessary, change the tires.

Check that rear wheels are seated correctly

1. Pull on the rear wheel to check that the removable axle is seated correctly. The wheel should not come off.
2. If the rear wheels are not engaged properly, remove any dirt or deposits. If the problem persists, have the removable axles re-fitted by a qualified technician/dealer.

Check the adjustment of the backrest joint

1. Sit into the wheelchair and lean back on the backrest. The backrest must be correctly engaged.
2. Pull the release cord. The pins must be free-moving on both sides. Otherwise, the backrest joint will have to be re-fitted by a qualified technician/dealer.

Check the seat positioning strap

1. Check that the seat positioning strap is adjusted correctly.



IMPORTANT!

- Loose seat positioning straps must be adjusted by a qualified technician/dealer.
- Damaged seat positioning straps must be replaced by a qualified technician/dealer.
- Seat positioning straps must always be installed by a qualified technician/dealer.

Visual check

1. Examine your wheelchair for loose parts, cracks or other defects.
2. If you find anything, have your wheelchair checked immediately by a qualified technician/dealer.

Clean the front wheels

1. Check that the front wheels turn freely.
2. Remove any dirt or hair from the front wheel bearings.

Check the bolts

Bolts can work loose through constant use.

1. Check that the bolts are tight (on the footrest, seat cover, sides, backrest, frame, seat module).
2. Tighten any loose bolts with the suitable torque. Therefore refer to the Service Manual, available on the internet at www.kuschall.com.



IMPORTANT!

- Safety nuts and bolts lose their effectiveness as a result of repeated loosening and tightening.
- Safety nuts and bolts must be replaced by a qualified technician/dealer.

Check the spoke tension

The spokes should not be loose or distorted.

1. Loose spokes must be tightened by a qualified technician/dealer.
2. Broken spokes must be replaced by a qualified technician/dealer.

Check the wheel locks

1. Check that the wheel locks are positioned correctly. The wheel lock is set correctly if the wheel lock shoe depresses the tire by a few millimeters when the wheel lock is applied.
2. If you find that the setting is not correct, have the wheel locks correctly set by a qualified technician/dealer.

! **IMPORTANT!**

The wheel locks must be reset after replacing the rear wheels or changing their position.

Checking after a heavy collision or blow

! **IMPORTANT!**

The wheelchair can sustain visibly undetectable damage as a result of a heavy collision or hard blow.

- It is essential to have your wheelchair checked by a qualified technician/dealer after a heavy collision or hard blow.

Spare parts



All spare parts may be obtained from a küschall® qualified technician/dealer. A current list of spare parts is available on the internet at www.kuschall.com.

8.3 Safety Inspection Checklist



Once a year, take your wheelchair to a qualified technician for a thorough inspection and servicing. Therefore refer to the service manual and spare parts list, available on the internet at www.kuschall.com. Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your wheelchair. To operate properly and safely, your wheelchair **MUST** be cared for just like any other vehicle. Routine maintenance will extend the life and efficiency of your wheelchair. Clean upholstery with mild soap and water or spray disinfectant using a sponge. **DO NOT** use bleach or wash in a washing machine.



CAUTION!

- As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced if damaged.

Initial adjustments should be made to suit your personal body structure and preference. Thereafter follow these maintenance procedures:

Inspect/Adjust Initially

- Ensure wheelchair rolls straight (no excessive drag/pull to one side).
- Inspect for loose or missing hardware on frame and folding mechanism.
- Inspect for bent frame or folding mechanism.
- Check that the wheel locks **DO NOT** interfere with tires when rolling.

- Check that the wheel lock pivot points are free of wear and looseness.
- Check that the wheel locks are easy to engage.
- Ensure that the wheel locks prevent the wheelchair from moving when engaged.
- Inspect the seat and back for rips and sagging.
- Inspect the seat and back for loose or broken hardware.
- Inspect the back cane hand grips for wear/looseness/deterioration.
- Inspect tires and casters for flat spots, cracks or wear. Replace if necessary.
- Check that there is no excessive side movement or binding in the rear wheels when lifted and spun.
- Inspect rear wheels for cracks in the rim or cracked or broken spokes. Replace if necessary.
- Inspect handrims for signs of rough edges.
- Inspect axle assembly for proper tension by spinning caster. Caster should come to a gradual stop.
- Adjust front casters/forks bearing system if wheel wobbles noticeably or binds to a stop.
- Ensure wheel bearings are clean and free of moisture.
- Check headtube locknuts for tightness.
- Inspect casters for cracks and wear.
- Inspect front casters for cracked, bent or broken spokes.
- Clean upholstery and armrests with mild soap and water.
- Check that all labels are present and legible. Replace if necessary.
- Check that all movable parts are locked correctly in place before use (stabilizing bar, mudguard, armrest, leg rest, anti-tipper, rear wheel axle, see chapters 3, 4 & 7). If you find anything wrong, have your wheelchair checked immediately by a qualified technician/dealer.
- Make sure all attaching hardware is tightened securely on the leg rest, armrest, front wheel, frame, front fork and front/rear wheel supports (center of gravity), folding mechanism, backrest. If you find anything wrong, have your wheelchair checked immediately by a qualified technician/dealer.

Inspect/Adjust weekly

- Ensure that the wheel locks prevent the wheelchair from moving when engaged.
- Inspect tires and casters for flat spots, cracks or wear. Replace if necessary.
- Inspect rear wheels for cracks in the rim or cracked or broken spokes. Replace if necessary.
- Inspect axle assembly for proper tension by spinning caster. Caster should come to a gradual stop.
- Inspect front caster for cracked, bent or broken spokes.

Inspect /Adjust monthly

- Ensure that the wheelchair rolls straight (no excessive drag or pull to one side).
- Check that the wheel locks DO NOT interfere with tires when rolling.
- Check that the wheel lock pivot points are free of wear and looseness.
- Inspect seat and back for loose or broken hardware.
- Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.
- Inspect back cane hand grips for wear/looseness/deterioration.
- Adjust front casters/forks bearing system if wheel wobbles noticeably or binds to a stop.
- Ensure wheel bearings are clean and free of moisture.
- Check headtube locknuts for tightness.

Inspect/Adjust periodically

- Inspect frame and folding mechanism for loose or missing hardware.
- Inspect for bent frame or folding mechanism.
- Check that wheel locks are easy to engage.
- Inspect seat and backs for rips and sagging.
- Check that there is no excessive side movement or binding in the rear wheels when lifted and spun.
- Inspect handrims for signs of rough edges.
- Adjust front casters/forks bearing system if wheel wobbles noticeably or binds to a stop.
- Ensure wheel bearings are clean and free of moisture.
- Inspect tires and casters for flat spots, cracks or wear. Replace if necessary.
- Clean upholstery and armrests with mild soap and water.
- Check that all labels are present and legible. Replace if necessary.

8.4 Cleaning

Your wheelchair will serve you well for many years if you clean it regularly.



IMPORTANT!

Sand and seawater can damage the bearings and steel parts can rust if the surface is damaged.

- Only expose the wheelchair to sand and seawater for short periods and clean it after every trip to the beach.

! **IMPORTANT!**

- Do not use coarse abrasives, aggressive cleaning products or high-pressure cleaners. Never use acids, alkalines or solvents such as acetone or cellulose thinner.
- Always use ordinary household cleaning agents.

1. Clean the cushions and metal parts with a soft, damp cloth.
2. Dry the wheelchair carefully with a cloth after using it in the rain.
3. If the wheelchair is dirty, wipe off the dirt as soon as possible with a damp cloth and dry it carefully.



Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your wheelchair. To operate properly and safely, your wheelchair must be cared for just like any other vehicle. For upholstery that is severely stained or surface finish that is badly damaged, contact an authorized dealer for further information.

Cleaning upholstery

For cleaning upholstery refer to the instructions on the label on the seat, cushion and backrest cover.

Cleaning metal surfaces

Hot water and mild detergent on soft cloth should be used to cleaning metal surfaces.

1. Wipe down with damp cloth.
2. Dry surface by wiping down with dry cloth.

Car polish and soft wax can be used to remove abrasions and restore gloss.

Cleaning plastic surfaces

Plastic surfaces must be cleaned with soft cloth, mild detergent and hot water.

! **IMPORTANT!**

- Do not use solvents or kitchen cleaners to clean plastic surfaces.

1. Rinse surface with clean water.
2. Dry surface by wiping down with dry cloth.

8.5 Disinfection

The wheelchair may be disinfected by spraying or wiping with tested, approved disinfectants.



Spray a soft cleaning and disinfecting product (bactericidal and fungicide meeting the EN1040 / EN1276 / EN1650 standards) and follow the instructions given by the manufacturer.

9 TROUBLESHOOTING

9.1 Safety information

Faults may arise as a result of daily use, adjustments or changing demands on the wheelchair. The table below shows how to identify and repair faults.



CAUTION!

- Contact a qualified technician/dealer immediately if you notice a fault with your wheelchair, e.g. a significant change in handling.



IMPORTANT!

- Some of the actions listed must be carried out by an qualified technician/dealer. These are indicated. We recommend that *all* adjustments are carried out by a qualified technician/dealer.

9.2 Identifying and repairing faults

Fault	Possible cause	Action
The wheelchair does not travel in a straight line	Incorrect tire pressure on one rear wheel	Correct tire pressure, ® 3.10 Tires, page 24
	One or more spokes broken	Replace faulty spoke(s), ® qualified technician/dealer
	Spokes tightened unevenly	Tighten loose spokes, ® qualified technician/dealer
	Front wheel bearings are dirty or damaged	Clean or replace the bearings, ® qualified technician/dealer
The wheelchair tips backwards too easily	Rear wheels are mounted too far forwards	Mount the rear wheels further back, ® qualified technician/dealer
	Back angle too large	Reduce the backrest angle, ® qualified technician/dealer
The wheel locks are gripping poorly or asymmetrically	Incorrect tire pressure in one or both rear tires	Correct tire pressure, ® 3.10 Tires, page 24
	Wheel lock setting incorrect	Correct the wheel lock setting, ® qualified technician/dealer
Rolling resistance is very high	Tire pressure in rear tires is too low	Correct tire pressure, ® 3.10 Tires, page 24
	Rear wheels not parallel	Ensure the rear wheels are parallel, ® qualified technician/dealer

Fault	Possible cause	Action
The front wheels wobble when moving fast	Too little tension in front wheel bearing block	Tighten the nut on the bearing block axle slightly, ® qualified technician/dealer
	Front wheel has worn smooth	Change front wheel, ® qualified technician/dealer
The front wheel is stiff or stuck	Bearings are dirty or faulty	Clean or replace the bearings, ® qualified technician/dealer

10 AFTER USE

10.1 Storage



IMPORTANT!

Risk of damage to the product

- Do not store the product near heat sources.
- Never store other items on top of the wheelchair.
- Store the wheelchair indoors in a dry environment.
- Refer to temperature limitation in chapter 11.2 Environmental conditions, page 51.



WARNING!

Storing the wheelchair in a damp area or when wet may cause rust or corrosion of wheelchair parts resulting in injury or damage.

- Do not use the wheelchair in a shower, pool or other body of water.
- Do not store the wheelchair in a damp or humid area.
- Avoid extreme weather such as rain or snow when possible.
- Avoid excessive moisture or humidity.
- If expose to water, dry the wheelchair as soon as possible.

After long-term storage (more than four months) the wheelchair must be inspected in accordance to chapter 8 Maintenance, page 40.

10.2 Re-use

The wheelchair is suitable for re-use. The following actions should be taken:

- Cleaning and disinfection, 8.4 Cleaning, page 44 and 8.5 Disinfection, page 45 in this manual.
- Inspection, 8 Maintenance, page 40 in this manual.
- The wheelchair should be adapted for the new user in accordance with the service documentation (available from the küschall® dealer in your country).

10.3 Disposal Information

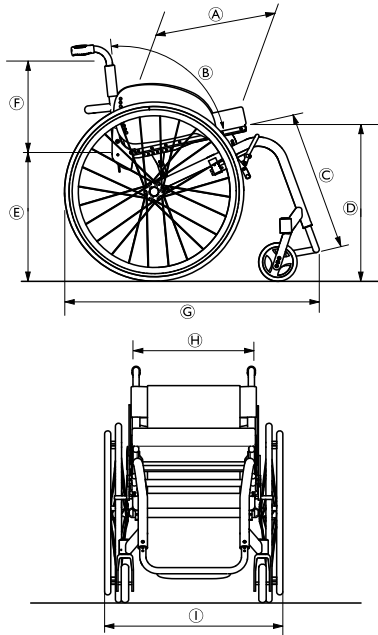


Before disposing of product, contact local government or municipal authorities for proper disposal and recycling requirements.

11 TECHNICAL DATA

11.1 Dimensions and weight

All dimension and weight specifications refer to a seat width of 15 3/4", seat depth of 16" in the lightest configuration of the wheelchair. Dimensions and weights may alter according to different configurations.



Ⓐ	Seat depth	15" – 19"
Ⓑ	Backrest angle	74°/78°/82°/86°/90°
Ⓒ	Knee-to-heel length	11 1/2" – 19"
Ⓓ	Seat height front	19" – 20"
Ⓔ	Seat height rear	15 3/4" – 19"
Ⓕ	Backrest height	12 1/2" – 19"
Ⓖ	Total length	75°: approx. 32 3/4" 90°: approx. 30"
Ⓗ	Seat width	14" – 19"
Ⓘ	Total width	Seat width + 6 3/4"
	Total weight	approx. 22.7 lb
	Transport weight (without rear wheels)	approx. 15.4 lb
	Maximum user weight	265 lb
	Reversing width	36 1/4" – 48 1/2"
	Center of gravity	3" – 5"
	Max. safe slope in least stable configuration	1.8°

11.2 Environmental conditions

Do not expose the wheelchair to temperatures below -4 °F or above 104 °F.

11.3 Materials

The components used to manufacture küschall® wheelchairs consist of following materials:

Frame tubes / Backrest tubes	Aluminium / Titanium ¹⁾ / Carbon Fiber ¹⁾
Seat cover / Backrest cover	PA / PE / PVC
Push handle	Steel / Aluminium / TPE
Clothes guard / Mudguard	Plastic or Carbon Fiber ¹⁾
Supporting parts / Attachments	Steel / Aluminium / Titanium ¹⁾
Screws and bolts	Steel
Castors	Aluminium

¹⁾ Not all küschall® wheelchair models can be built in Carbon Fiber and/or Titanium.

All components have either a protective coating or are corrosion resistant.

11.4 Information disclosure in manufacturer's specification sheets

Wheelchair and dummy were set up according to test methods specified in RESNA WC-1:2009, Section 22.

Description	Min.	Max.
Overall length with leg rest	760 mm	n/a
Overall width	713 mm	n/a
Stowage length	652 mm	n/a
Stowage width	615 mm	n/a
Stowage height	640 mm	n/a
Total mass	13 kg	n/a
Mass of heaviest part	9 kg	n/a
Required width of right angled corridor	800 mm	n/a
Seat plane angle	7°	n/a
Effective seat depth	530 mm	n/a
Effective seat width	480 mm	n/a
Seat surface height at front edge	495 mm	n/a
Back support angle	7°	n/a
Back support height	455 mm	n/a
Foot support to seat	380 mm	460 mm
Leg to seat surface angle	106°	n/a
Propelling wheel diameter	593 mm	n/a
Horizontal location of axle	120 mm	n/a

Description	Min.	Max.
Static stability forward - wheels unlocked	18°	n/a
Static stability rearward -wheels unlocked	4°	n/a
Static stability anti-tip - wheels unlocked	18°	n/a
Static stability sideways - wheels unlocked	22°	22°
Static impact and fatigue testing requirements (pass/fail)	Pass	
Resistance to ignition - requirements (pass/fail)	Pass	

Notes

Notes

Küschall ® distributors:

USA:

Invacare Corporation
One Invacare Way
Elyria, Ohio USA
44035-4190
800-333-6900
www.invacare.com



Küschall AG
Benkenstrasse 260
CH-4108 Witterswil
Switzerland
www.kuschall.com

For ordering parts and replacements parts, please contact Invacare customer service for a list of Invacare qualified technicians and dealers.

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