

Compact attract

en **Manual Wheelchair**
User Manual



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

Küschall®
UNLIMIT YOUR WORLD

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1 General

1.1 Introduction

This user manual contains important information about the handling of the product. To ensure safety when using the product, read the user manual carefully and follow the safety instructions.

Only use this product if you have read and understood this manual. Seek additional advice from a healthcare professional who is familiar with your medical condition and clarify any questions regarding the correct use and necessary adjustment with the healthcare professional.

Note that there may be sections in this document, which are not relevant to your product, since this document applies to all available models (on the date of printing). If not otherwise stated, each section in this document refers to all models of the product.

The models and configurations available in your country can be found in the country-specific sales documents.

Invacare reserves the right to alter product specifications without further notice.

Before reading this document, make sure you have the latest version. You find the latest version as a PDF on the Invacare website.

If you find that the font size in the printed document is difficult to read, you can download the PDF version from the website. The PDF can then be scaled on screen to a font size that is more comfortable for you.

For more information about the product, for example product safety notices and product recalls, contact your Invacare distributor. See addresses at the end of this document.

In case of a serious incident with the product, you should inform the manufacturer and the competent authority in your country.

1.2 Symbols in this Document

Symbols and signal words are used in this document 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.



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.



NOTICE

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



Tips and Recommendations

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

Other Symbols

(Not applicable for all manuals)



UK Responsible Person
Indicates if a product is not manufactured in the UK.



Triman
Indicates recycling and sorting rules (only relevant for France).

1.3 Warranty Information

We provide a manufacturer's warranty for the product in accordance with our General Terms and Conditions of Business in the respective countries.

Warranty claims can only be made through the provider from whom the product was obtained.

1.4 Compliance

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

This product features the CE mark, in compliance with the Medical Device Regulation 2017/745 Class I.

This product features the UKCA mark, in compliance with Part II UK MDR 2002 (as amended) Class I.

We are continuously working towards ensuring that the company's impact on the environment, locally and globally, is reduced to a minimum.

We only use REACH compliant materials and components.

1.4.1 Product-specific standards

The wheelchair has been tested in accordance with EN 12183. It includes testing for flammability.

For further information about local standards and regulations, contact your local Invacare representative. See addresses at the end of this document.

1.5 Intended Use

The wheelchair may be used indoors and outdoors on level ground and accessible terrain.

The wheelchair is intended to provide mobility to persons limited to a sitting position, who are propelling the wheelchair themselves most of the time.

The wheelchair is not intended for abusive or excessive activities, such as sports, that are not part of the intended (daily) use.

Intended User

The wheelchair is intended for persons, ages 12 and up (adolescents and adults). The weight of the wheelchair occupant should not exceed the maximum user weight as stated in the Technical Data section and on the identification label.

The intended user is the wheelchair occupant and/or an assistant. The user should physically and mentally be able to use the wheelchair safely (e.g. to propel, steer, brake).

Indications

- Considerable to complete impairment of mobility due to structural and/or functional damage to the lower extremities.
- Sufficient strength and gripping function of arms and hands to propel the wheelchair.

Contraindications

There are no contraindications known, when using the wheelchair as intended.

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.

1.7 Copyright protection

This User Manual is protected by copyright. It may not be reprinted or copied or transferred to third parties in part or in full without the prior written consent of the manufacturer.

1.8 Limitation of Liability

Invacare accepts no liability for damage arising from:

- Non-compliance with the user manual
- Incorrect use
- Natural wear and tear
- Incorrect assembly or set-up by the purchaser or a third party
- Technical modifications
- Unauthorised modifications and/or use of unsuitable spare parts

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.



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 specialist dealer.



WARNING!

Risk due to driving style being unsuitable for the conditions

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 7 km/h.
- Avoid collisions in general.



CAUTION!

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.



CAUTION!

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.

2.2 Safety devices



WARNING!

Risk of accidents

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

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

The functions of the safety devices are described in chapter 3 *Components and their functions*, page 11.

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:



- Ⓐ Manufacturer's address
- Ⓑ EAN/HMI barcode
- Ⓒ European conformity
- Ⓓ United Kingdom conformity
- Ⓔ Read user manual
- Ⓕ Medical device
- Ⓖ Maximum user weight
- Ⓗ Serial number barcode
- Ⓘ Serial number
- ⓵ Reference number
- Ⓚ Seat width
- Ⓛ Product description
- Ⓜ Date of manufacture

Snap Hook Symbol



WARNING Symbol

This wheelchair is not configured for passenger transport in a motor vehicle. this Symbol is attached to the frame close to the identification label

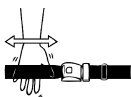
Antitipper Warning Label



WARNING: Read user manual

Follow user manual instructions prior to the usage of an antitipper device.

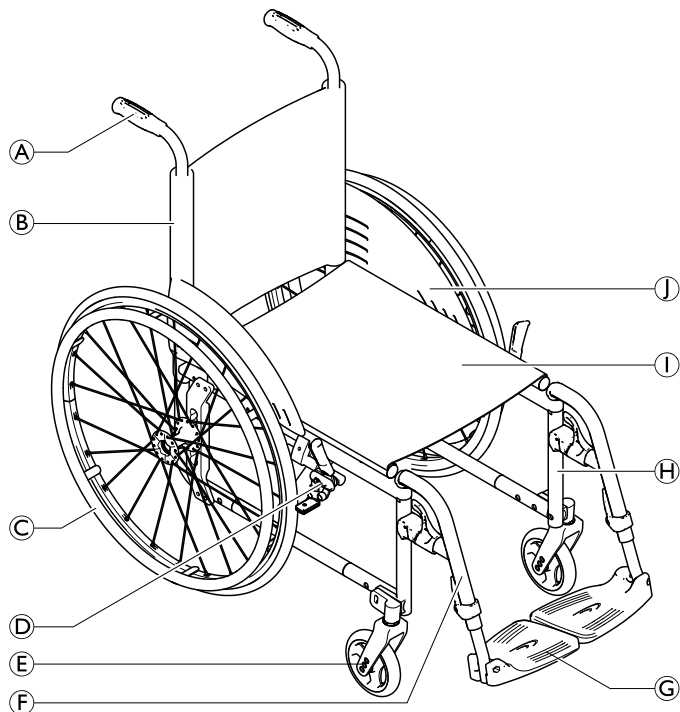
Posture belt information label



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

3 Components and their functions

3.1 Overview



Ⓐ	Push handle
Ⓑ	Back
Ⓒ	Rear wheel with handrim
Ⓓ	Parking brake
Ⓔ	Front wheel fork with front wheel
Ⓕ	Leg rests, swivelling
Ⓖ	Footrest
Ⓗ	Frame
Ⓘ	Seat
⓵	Clothes-guard

Short description

The küschall Compact *attract* is a folding active wheelchair with cross struts and swivelling leg rests.

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 Parking brakes

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



WARNING!

Risk of overturning if you brake sharply

If you engage the parking brakes 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 engage the parking brakes while you are moving.



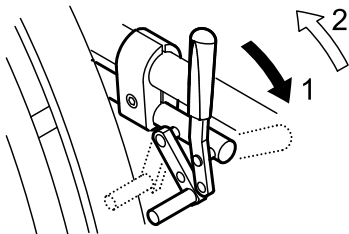
WARNING!

Risk of overturning

The parking brakes will not operate correctly unless there is sufficient air in the tires.

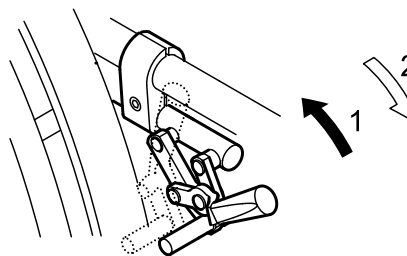
- Ensure the correct tire pressure, 3.13 *Tires*, page 21.

Standard brake



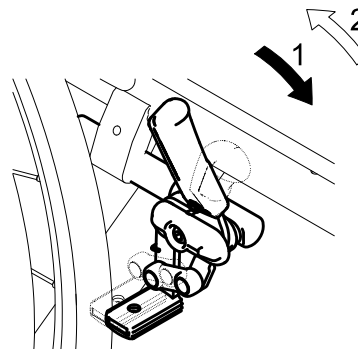
1. To engage the brake, push the brake lever forwards as far as possible.
2. To disengage the brake, pull the brake lever backwards.

Pull brake



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

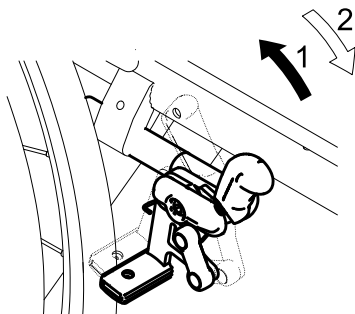
Attract push brake



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

 The lever of the push handle can be folded back to facilitate transfers. To do so, pull up the lever and fold it backwards.

Attract pull brake



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

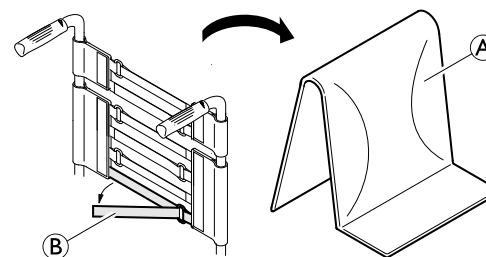
 The lever of the push handle can be folded back to facilitate transfers. To do so, pull up the lever and fold it backwards.

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 hook and loop straps (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.

3.4 Foldable back (optional)

The back can be folded down and straightened up in both the folded and unfolded state.

Folding down the back

1. To fold down the back, push down both levers on the back of the wheelchair.
2. At the same time, push the upper edge of the back rearwards.

Folding up the back

1. To fold up the back, grip the upper edge of the back and fold it upwards.

3.5 Stabilizing bar for the back

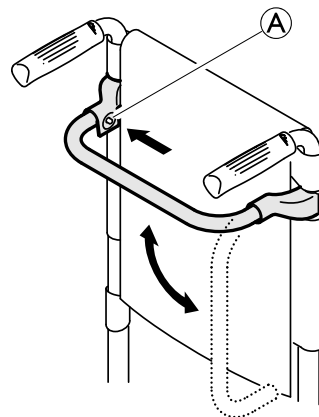
An optional stabilizing bar is available to increase the rigidity of the backrest on wheelchairs with large back heights or widths.



NOTICE!

- Do not use the stabilizing bar to lift or push the wheelchair. It could break.
- Release the stabilizing bar before folding the wheelchair.

Releasing the stabilizing bar



1. Push the spring pin ① on the fastening on the left-hand side and swivel the stabilizing bar downwards.

The stabilizing bar can also be completely removed, by pushing the spring pins on both sides. The stabilizing bar can then be taken off.

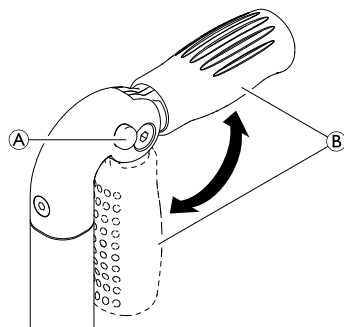
3.6 Push handles



NOTICE!

- 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.



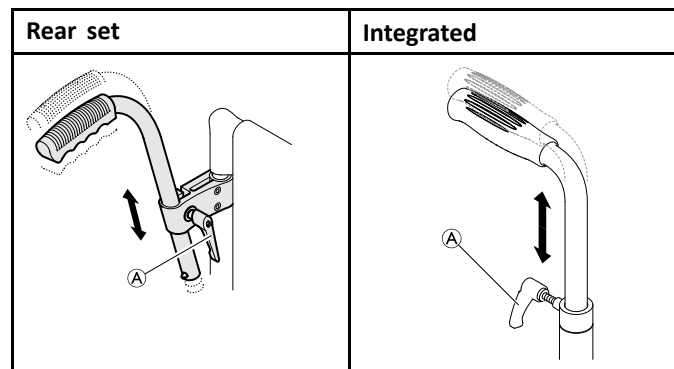
CAUTION!

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

- Make sure that the push handle is correctly engaged.

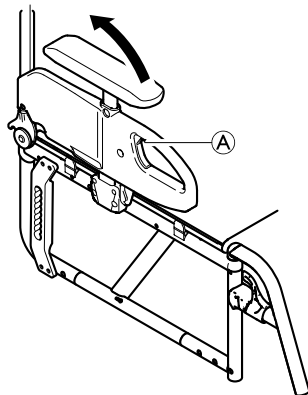
Height adjustable push handles

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.

3.7 Siderest with locking mechanism, height adjustable, flip-back



Folding

1. Push the grey grip (A) and fold the siderest back.

Removing

1. Fold the siderest back and pull it up out of the holder on the back.

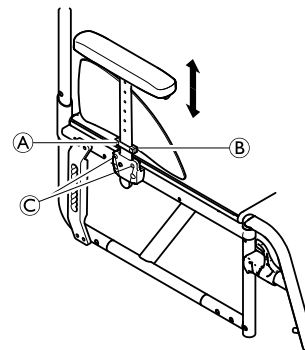
Fitting

1. Insert the siderest from above into the holder on the back.
2. Fold it downwards.

Adjusting the height

1. Release the bolt in the middle of the seat back using a spanner.
2. Move the armrest upwards or downwards until you reach the desired height.
3. Tighten the screw.
4. Perform the setting on both sides.

3.8 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.

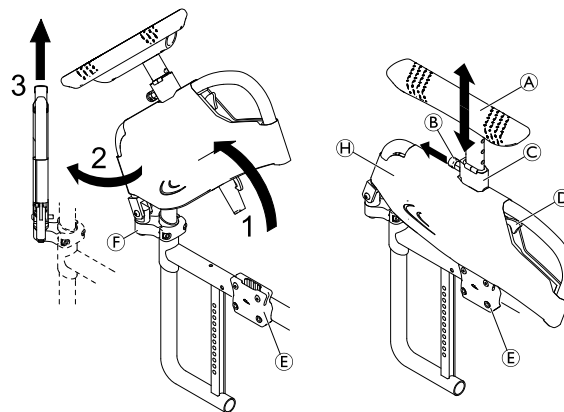
Adjusting the height

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

3.9 Küschall armrest

This armrest option is locking in place and can be flipped backwards, swivelled outwards and removed. The T-armrest pad is height adjustable and also locks in place.

Removing the armrest



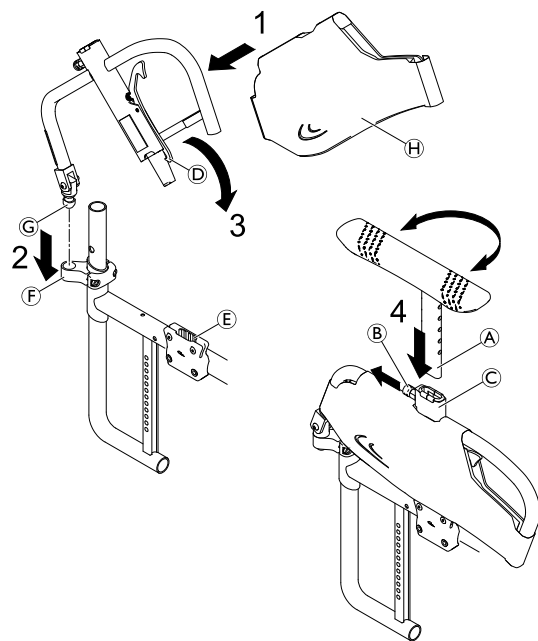
1. Push release lever (D) and swivel the armrest assembly upwards out of the armrest holder (E).
2. Swivel the armrest assembly 45° outwards.
3. Pull the armrest assembly upwards out of the joint (F).

Removing the cover

The cover can be removed to be machine washed at 30° C.

1. Pull out the spring bolt lock (B), grab the T-armrest pad (A) and pull it out of the holder (C).
2. Remove the cover (H) from the armrest assembly by opening the hook and loop fasteners on both sides.

Installing the armrest



1. Install the armrest cover ① to the armrest assembly if not yet attached.
2. Insert joint pin ② of the armrest assembly into the joint ③ until it engages with an audible “click”.
3. Swivel the armrest assembly downwards into the armrest holder ④ until the release lever hook ⑤ engages with an audible “click”.

4. Pull out the spring bolt lock ⑥ and insert the bar of the T-armrest pad ⑦ into the holder ⑧ to the required height.

 The T-armrest pad can optionally be inserted 180° turned.

5. Release the spring bolt lock and allow the bar of the T-armrest pad to engage with an audible “click” in the nearest hole.

Adjusting the height

1. Pull out the spring bolt lock ⑥ and move the armrest pad ⑦ to the required height.
2. Release the spring bolt lock and allow it to engage with an audible “click” in the nearest hole.



WARNING!

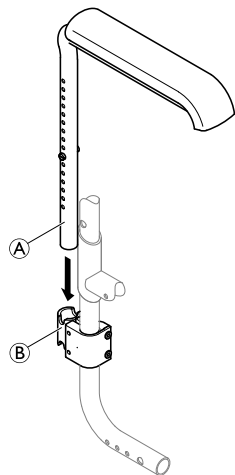
Risk of injury

Even if the armrests are locking, they are not designed to carry the weight of the occupied wheelchair.

- Never use the armrests to lift the wheelchair.
- Do not use the armrests for transportation when carrying the wheelchair up- or downstairs.

3.10 Tubular armrest

The tubular armrest option is non-locking, height adjustable, removable, swing-away and comfort padded



WARNING!
Risk of Injury

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

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

Removing the tubular armrest

1. Pull the armrest (A) out of the armrest holder (B).

Installing the tubular armrest

1. Insert the armrest tube (A) into the armrest holder (B). Make sure that the stop screw lies in the countersink of the armrest holder.

Adjusting the height



The height adjustment of the armrests must be carried out by a specialist dealer as the stop screw needs to be installed with thread locker.

3.11 Antitipper

An antitipper prevents the wheelchair from tipping backwards.



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.

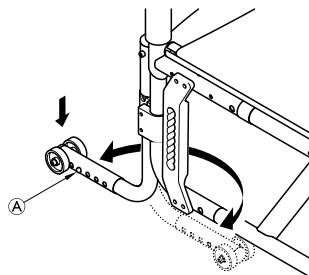


WARNING!

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 and swivel it backwards 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 and swivel it forwards until it engages.

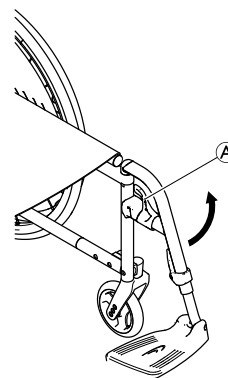
Setting the height

1. Press the spring pin (A) on the antitipper and push the outer 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 your specialist dealer.

3.12 Swivelling leg rests



Swivelling

1. Activate the release lever (A) and swivel the leg rests to the outside.

Swivelling forwards

1. Swivel the leg rest forwards until it engages.

Unhinging

1. Activate the release lever (A).
2. Pull the leg rest upwards.

Hinging

1. Hinge the leg rest on the front of the frame and swivel it forwards until it engages.

3.13 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		
	7 bar	700 kPa	101 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
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 specialist dealer.



CAUTION!

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

3.14 Seat cushion

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



CAUTION!

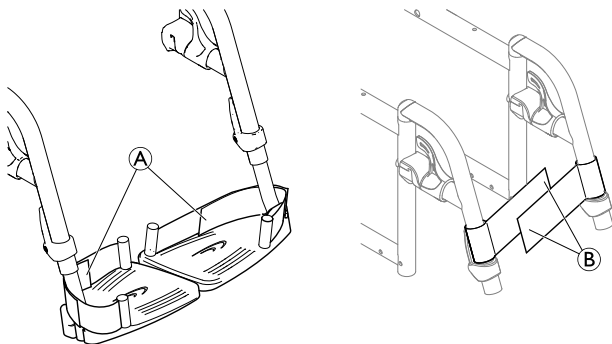
Adding a cushion to the seat will raise your height above the ground and can affect your stability in all directions. If a cushion is changed it may also change the user's stability. If the thickness of the cushion is changed, a complete set up of the wheelchair need to be done by a specialist dealer.



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

3.15 Calf strap / Heel loop

A calf strap and/or heel loops can be installed to the leg rests of the wheelchair to provide a better position of the users' legs.



Adjusting the heel loops

1. Adjust the heel loops ① to the desired depth using the hook and loop fasteners.

Fixing/adjusting the calf strap

1. Completely unfold the wheelchair.
2. Close the calf strap by placing both hook and loop straps ② on top of each other.

4 Options

4.1 Posture belt

The wheelchair can be equipped with a posture belt. It prevents the user from sliding downward in the wheelchair or from falling out of the wheelchair. The posture belt is not a positioning device.

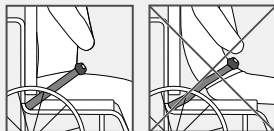


WARNING!

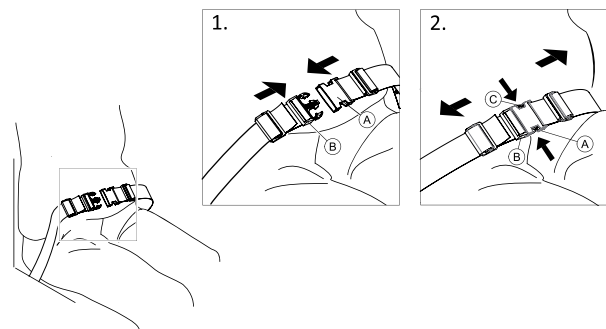
Risk of serious injury / strangulation

A loose belt can cause the user to slip down and create a risk of strangulation.

- The posture belt should be mounted by a qualified technician and fitted by a healthcare professional.
- Always make sure that the posture belt is tightly fitted across the lower pelvis.
- Each time the posture belt 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 belt.



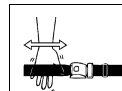
Closing and opening the posture belt



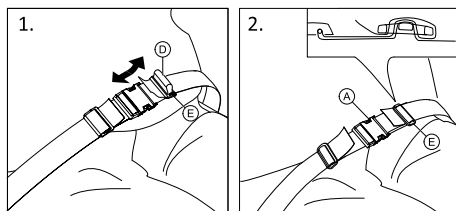
Ensure that you are sitting fully back in the seat and that the pelvis is as upright and symmetrical as possible.

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 posture belt has the good length, when there's just sufficient space for a flat hand between body and belt.



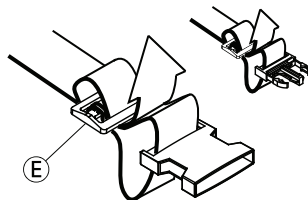
1. Shorten or extend the loop ① as required.
2. Thread loop ① through catch ② and plastic buckle ③ until the loop is flat.
3. Ensure loop ① is perfectly fitted in plastic buckle ③.
4. Secure adjustment with the strap extremity fitted in the buckle ③.



WARNING!

Risk of sliding and strangulation / Risk of falling

- Do the adjustments on both sides equally, so that the buckle clasp remains in a central position.
- Ensure that both strap extremities are threaded two times into the buckle ③ to avoid the belt from loosening.
- Make sure that the belts do not get caught in the spokes of a rear wheel.



4.2 Attachment when using positioning belt



CAUTION!

Risk of sliding

- The belt must be placed tight to the body.
- If the length of the belt has been adjusted to fit one type of seat cushion height, it is important that this cushion is used. If the seat cushion is replaced, the length of the belt needs to be adjusted.



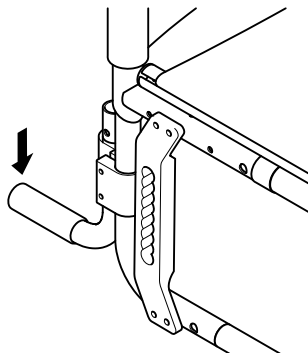
Positioning belts which are CE-marked for the purpose of using on wheelchairs, can be mounted on the chair with preserved CE-marking. The positioning belt should be fitted by a healthcare professional and be mounted by a qualified technician.



The purpose of using a belt for positional, is to position the user and to give him / her a better posture.

4.3 Tipper aid

With the tipper aid, an assistant can tip the wheelchair more easily, in order to navigate steps for example.



WARNING!

Risk of overturning

- Ensure that the tipper aid does not project beyond the external diameter of the rear wheel.

1. Hold the wheelchair by the push handles.
2. Press the tipper aid with your foot and hold the wheelchair in the tipped position until you have overcome the obstacle.

4.4 Air pump

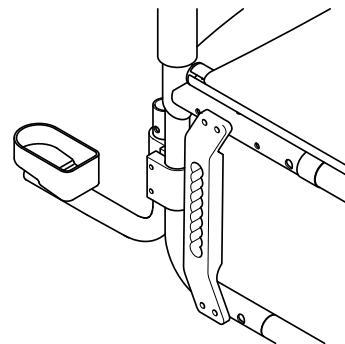
The air pump is fitted with a universal valve connection.

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.

4.5 Passive illumination

You can attach reflectors to the rear wheels.

4.6 Cane holder



WARNING!

Risk of overturning

- Ensure that the cane holder does not project beyond the external diameter of the rear wheel.

1. Place the cane in the holder.
2. Fix the top of the cane to the backrest.

5 Setup

5.1 Safety information



CAUTION!

Risk of injury

- Before using the wheelchair, check its general condition and its main functions, 8.2 *Maintenance Schedule, page 43.*

Your specialist 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.

Adjustments of the axle position and the front wheel supporters must be carried out by a specialist dealer.

If you receive your wheelchair folded, please read section 7.2 *Folding and unfolding the wheelchair, page 35.*

6 Using the wheelchair

6.1 Safety information



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 or the parking brake 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 Braking during use

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



WARNING!

Risk of overturning

If you apply the parking brakes 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 parking brakes 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 posture belt if present.
- Make sure your assistant has been trained individually in transferring occupied wheelchairs.



CAUTION!

Risk of burning your hands

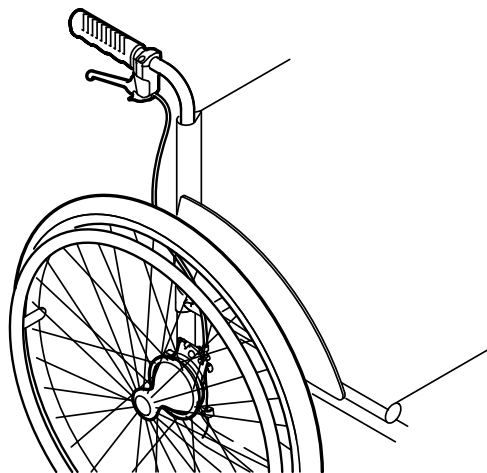
If you brake for a long time, a lot of frictional heat is produced at the handrims (especially MaxGrepp and Supergripp).

– 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 brake (drum brake) an assistant can brake the wheelchair while it is moving. The assistant's brake can also be used as a parking brake.



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

6.3 Getting in and out of the wheelchair



WARNING!

Risk of overturning

There is a high risk of overturning during the transfer.

- Only get in and out without assistance if you are physically able to do so.
- 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.
- Make sure that both castors are facing straight to the front.



WARNING!

Risk of overturning

The wheelchair could tip forward if you stand on the footrest.

- Never stand on the footrest when getting in and out.

**CAUTION!**

If you release or damage the brakes the wheelchair could roll away out of control.

- Do not support yourself on the brakes when getting in and out.

**NOTICE!**

The mudguards and armrests could become damaged.

- Never sit on the mudguards or armrests when getting in and out.

1. Propel the wheelchair as near as possible to the seat that you want to move to.
2. Apply the parking brakes.
3. Remove the armrests or move them upwards out of the way.
4. Place your feet on the ground.
5. Hold the wheelchair and, if necessary, also hold a fixed object in the vicinity.
6. Move slowly to chair.

6.4 Driving and Steering the Wheelchair

You drive and steer the wheelchair using the handrims. Before driving without an assistant you must find your wheelchair's tipping point.

**WARNING!****Risk of Tipping**

The wheelchair can tip backwards.

- When finding the tipping point, an assistant must stand immediately behind the wheelchair to catch it if it tips over.
- To prevent tipping, install an antitipper device.

**WARNING!****Risk of Tipping**

The wheelchair can tip forward.

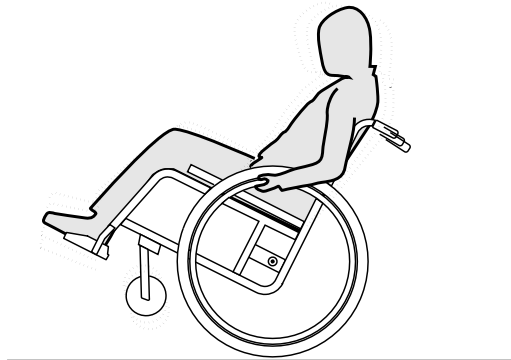
- When setting up your wheelchair, test its behavior in terms of tipping forward and adjust your driving style accordingly.

**CAUTION!**

A heavy load hanging on the backrest can affect the wheelchair's centre of gravity.

- Change your driving style accordingly.

Finding the Tipping Point



1. Release the brake.
2. Roll backwards a short distance, grasp both handrims firmly and push forwards with a slight kick.
3. The shift in weight and steering in opposite directions with the handrims will enable you to identify the tipping point.

6.5 Negotiating steps and kerbs



WARNING!

Risk of overturning

When negotiating steps you could lose your balance and tip the wheelchair over.

- Always approach steps and kerbs slowly and carefully.
- Do not go up or down steps that are higher than 25 cm.



CAUTION!

An activated antitipper prevents the wheelchair from tipping backwards.

- Deactivate the antitipper before going up or down steps or kerbs.

With an assistant



Going down a step

1. Move the wheelchair right up to the kerb and hold the handrims.
2. The assistant should hold both push handles, place one foot on the tipper aid (if installed) and tilt the wheelchair backwards so that the front wheels lift off the ground.
3. The assistant should then hold the wheelchair in this position, push it carefully down the step and then tilt it forwards until the front wheels are back on the ground.

Going up a step



WARNING!

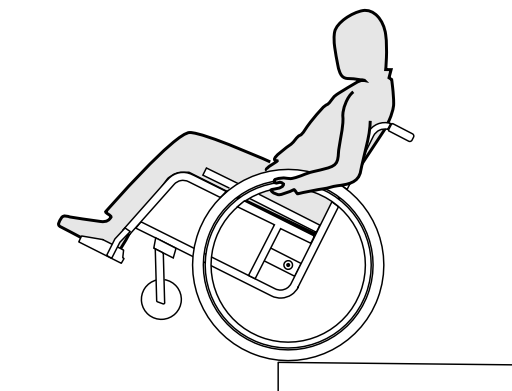
Risk of serious injuries

Going up steps and kerbs frequently can result in earlier than expected fatigue break of the wheelchair backrest. The user might fall out of the wheelchair.

- Always use a tipper aid when going up steps or kerbs.

1. Move the wheelchair backwards until the rear wheels touch the kerb.
2. The assistant should tilt the wheelchair using both push handles so that the front wheels lift off the ground, then pull the rear wheels over the kerb until the front wheels can be placed back on the ground.

Without an assistant



WARNING!

Risk of tipping

When going down a step without an assistant you could tip over backwards if you cannot control your wheelchair.

- First learn how to go down a step with an assistant.
- Learn how to balance on the rear wheels, 6.4 *Driving and Steering the Wheelchair*, page 29.

Going down a step

1. Move the wheelchair right to the kerb, lift the front wheels and keep the wheelchair balanced.
2. Now slowly roll both rear wheels over the kerb. While doing this, hold the handrims firmly with both hands until the front wheels are back on the ground.

6.6 Going up and down stairs



WARNING!

Risk of overturning

When negotiating stairs you could lose your balance and overturn your wheelchair.

- Always use two assistants when negotiating stairs with more than one step.



1. You can go up and down stairs by taking them one step at a time, as described above. The first assistant should stand behind the wheelchair holding the push handles. The second assistant should hold a solid part of the front frame to steady the wheelchair from the front.

6.7 Negotiating ramps and slopes



WARNING!

Risk due to wheelchair being out of control

When negotiating slopes or gradients your wheelchair could tip backwards, forwards or sideways.

- Always have an assistant behind the wheelchair when approaching long slopes.
- Avoid lateral slopes.
- Avoid slopes of more than 7°.
- Avoid jerking when changing direction on a slope.



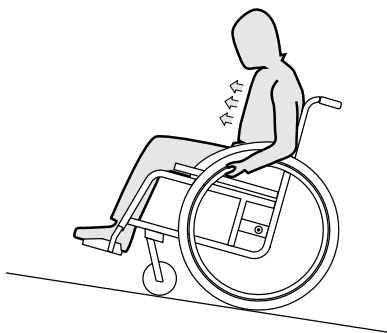
CAUTION!

Your wheelchair could run away even on slightly sloping ground if you do not control it using the handrims.

- Use the parking brakes if your wheelchair is stationary on sloping ground.

Going up slopes

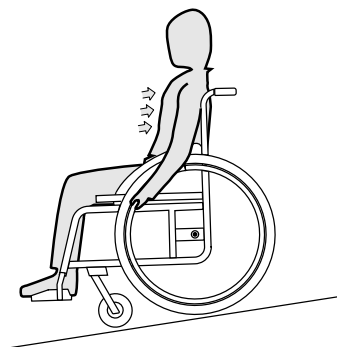
To go up a slope, you must create some momentum, keep up the momentum and control the direction at the same time.



1. Bend your upper body forwards and propel the wheelchair with quick, powerful strokes on both handrims.

Going down slopes

When going down slopes, it is important to control your direction and particularly your speed.



1. Lean back and carefully allow the handrims to run through your hands. You should be able to stop the wheelchair at any time by gripping the handrims.



CAUTION!

Risk of burning your hands.

If you brake for a long time, a lot of frictional heat is produced at the handrims.

– Wear suitable gloves.

6.8 Stability and balance when seated

Some everyday activities and actions require you to lean forwards, sideways or backwards out of the wheelchair. This has a major effect on the wheelchair's stability. To keep your balance at all times, proceed as follows:

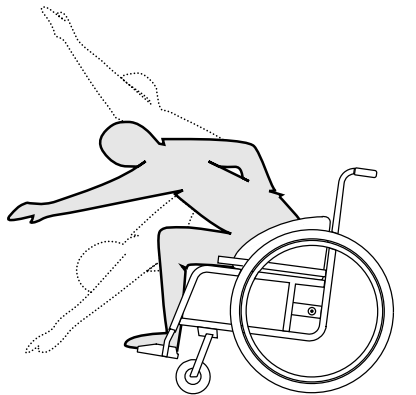
Leaning forwards



WARNING! **Risk of falling**

If you lean forwards out of the wheelchair you could fall out of it.

- Never bend too far forwards and do not shift forwards in your seat to reach an object.
- Do not bend forwards between your knees to pick up something off the floor.



1. Point the front wheels forwards. (To do this, move your wheelchair forwards slightly then back again.)
2. Apply both parking brakes.
3. When leaning forwards your upper body must remain over the front wheels.

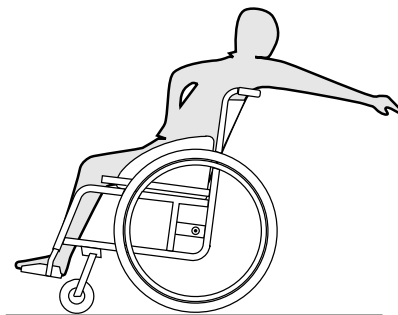
Reaching backwards



WARNING! **Risk of falling**

If you lean too far backwards you could tip your wheelchair over.

- Do not lean out over the backrest.
- Use an antitipper device.



1. Point the front wheels forwards. (To do this, move your wheelchair forwards slightly then back again.)
2. Do not apply the parking brakes.
3. When reaching backwards do not reach so far that you have to change your sitting position.

7 Transport

7.1 Safety information



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.



NOTICE!

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).

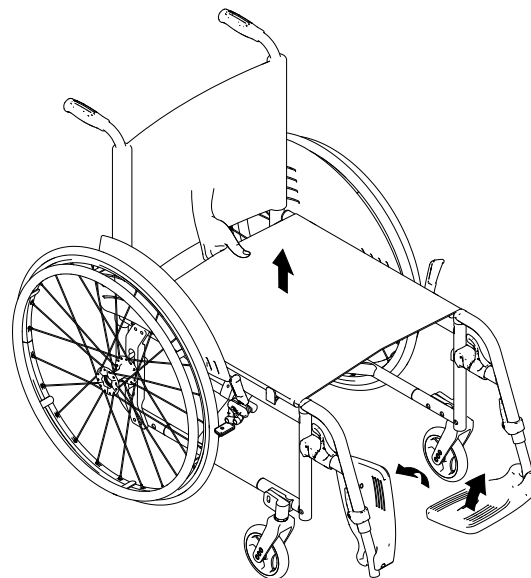
7.2 Folding and unfolding the wheelchair



NOTICE!

- Do not fold and unfold the wheelchair when the back is folded down.

Folding the wheelchair

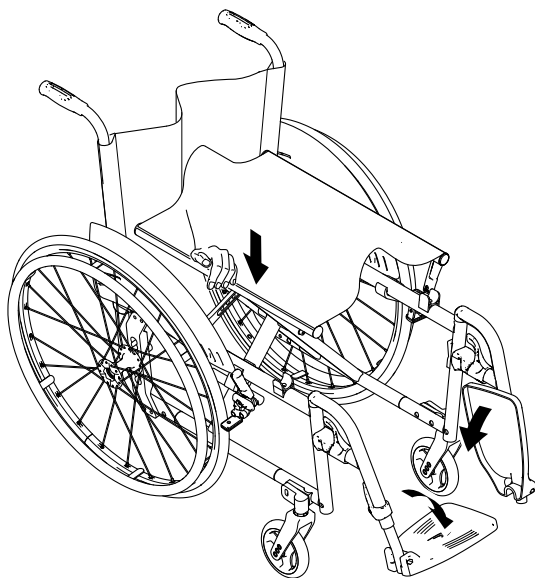


NOTICE!

- Release the stabilizing bar, if present, before folding the wheelchair.

1. Remove the seat cushion, if present.
2. Fold the footrests upwards.
3. Pull the seat cover upwards.
4. Now you can fold the backrest down, if your wheelchair is fitted with a folding back.

Unfolding the wheelchair



CAUTION!

Risk of getting fingers caught

There is a risk of getting your fingers caught between the seat edge and the frame.
– Never clasp the seat edge with your fingers.

1. Position the wheelchair next to you.
2. If the back is down, fold it up.
3. Tilt the wheelchair, if possible, gently towards you.
4. With your hand flat, press the seat edge closest to you, so that the seat surface flattens out.

5. Put the wheelchair back completely on the floor and check that the seat edges on both sides are in the guide components.
6. Fold the footrests down.

7.3 Removing and installing the rear wheels

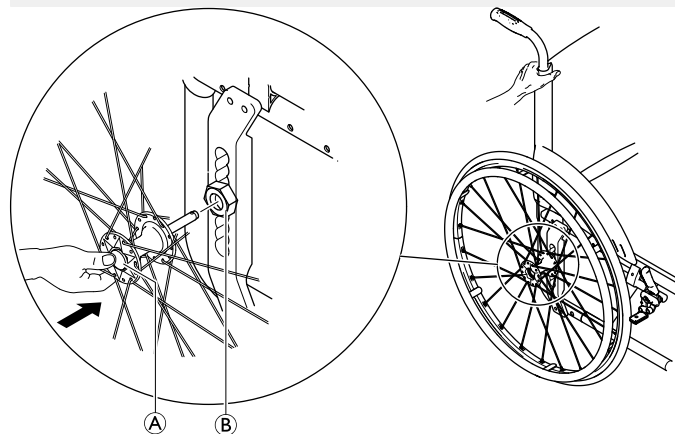


WARNING!

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 parking brakes.
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)**.

Installing the rear wheels

1. Disengage the parking brakes.
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)** 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.

7.4 Transporting the occupied wheelchair in a vehicle

Even when the wheelchair is properly secured and the following rules are met, injuries to passengers may occur in a collision or sudden stop. Therefore Invacare strongly recommends transferring the wheelchair user to the vehicle seat with the seat belt on. Do not make alterations or substitutions to points of the wheelchair (structure, frame or parts) without the written consent of Invacare. The wheelchair has been successfully tested according to the requirements of ISO 7176–19.



WARNING!

Risk of serious injury or death

To use the wheelchair as a seat in a vehicle the backrest height must be at least 400 mm.

To transport the wheelchair with user in a vehicle, a restraint system must be installed in the vehicle. Wheelchair tie-downs and occupant restraint systems must be approved according to ISO 10542-1. Contact your local Invacare representative or specialist dealer for more information on getting and installing an approved and compatible restraint system.



WARNING!

If, for some reason, it is impossible to transfer the wheelchair user to a vehicle seat, the wheelchair can be used as a seat in a vehicle if the following procedures and regulations are followed. A transportation kit (optional) has to be fitted on the wheelchair for such a purpose.

- The wheelchair must be secured in the vehicle with a 4-point wheelchair restraint system.
- The user must wear a 3-point passenger restraint system secured to the vehicle.



WARNING!

Safety restraint devices must only be used when the wheelchair user's weight is 22 kg or more (ISO-7176-19).

- Do not use the wheelchair as a seat in a vehicle when the user weight is lower than 22 kg.



WARNING!

- Before journey contact transporter and request information about the capability for the below required equipment.
- Make sure there is sufficient free space around the wheelchair and user to avoid the user making contact with other vehicle occupants, unpadded parts of the vehicle, wheelchair accessories or anchor points of the restraint system.



WARNING!

- Make sure the tie-down points at the wheelchair are not damaged and that the parking brakes are fully functional.
- It's recommended to use puncture-proof tires during transport to avoid brake problems due to reduced tire pressure.



WARNING!

Injury or damage may occur from wheelchair components or accessories loosened during a collision or sudden stop.

- Ensure all removable or detachable components and accessories are removed from the wheelchair and securely stored in the vehicle.
- It is essential to have your wheelchair checked by a specialist dealer after an accident, collision etc.

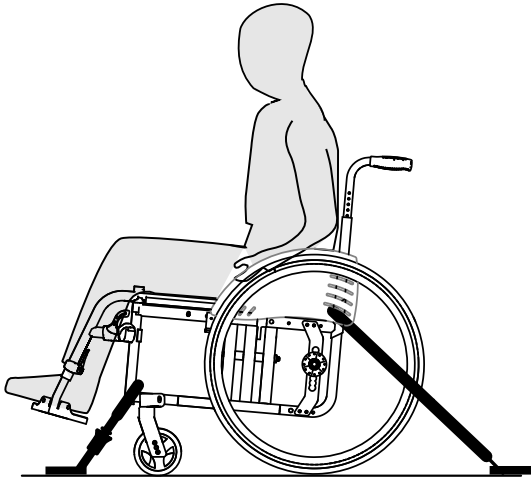


NOTICE!

It is recommended that training be given on the proper use of a restraint system product.

- Refer to the user manuals supplied with the restraint systems.
- The following illustrations may differ depending on the restraint system supplier.

Securing the wheelchair with a 4-point restraint system



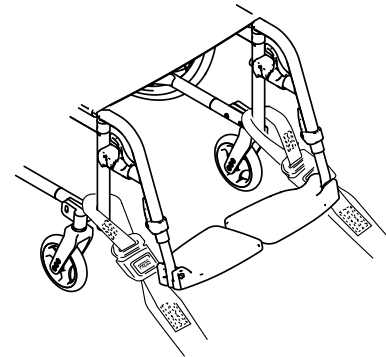
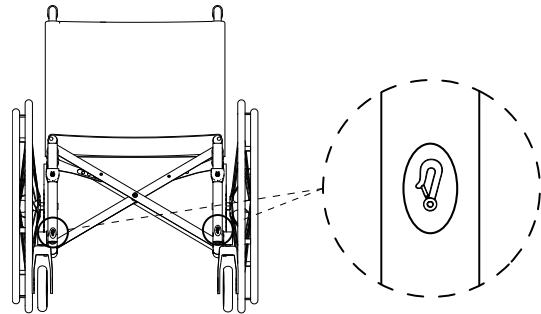
WARNING!

- Place the wheelchair with the user forward-facing in direction of vehicle travel.
- Apply the wheelchair parking brakes.
- Activate antitipper (if installed).

The wheelchair tie-down positions where the restraint system straps must be placed are marked with snap hook symbols (see following figures and section *Labels and symbols on the product*).

1. Using the front and rear straps of the 4-point restraint system, secure the wheelchair to the vehicle mounted rails. Refer to the user manual supplied with 4-point restraint system.

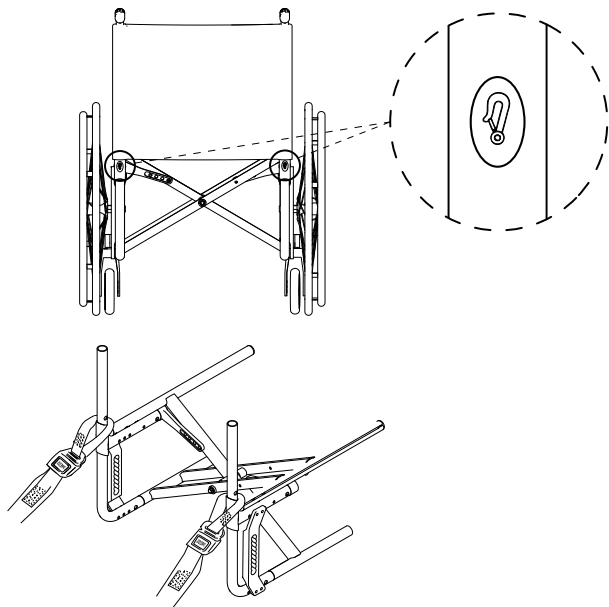
Front side tie-down positions for belt straps:



1. Attach the front straps above the castor supporters as shown in the two figures above (see location of the attachment labels).
2. Attach front straps to the rail system referring to best practice recommended instructions from the safety belt manufacturer.

3. Release the parking brakes and apply tension front straps by pulling the wheelchair backwards from the rear.
4. Re-apply the parking brakes.

Rear side tie-down positions for snap hooks:



1. Attach the rear straps to the rear frame right above the upper rear frame tube as shown in the two figures above (see location of the attachment labels).
2. Attach rear straps to the rail system referring to best practice recommended instructions from the safety belt manufacturer.
3. Tighten the straps.



NOTICE!

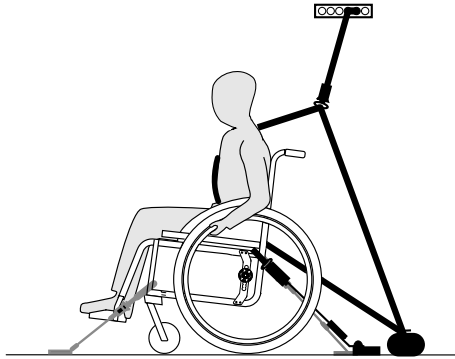
- Make sure that the snap hooks are covered with slip resistant material to avoid laterally slipping on the axle.



NOTICE!

- Check the plungers are fully engaged on both sides and located in the same position of the cut-out section of the rail.
- Make sure that the angle between the rails and the straps lies between 40° and 45°.

Fastening the 3-point passenger restraint system

**NOTICE!**

The illustration above may differ depending on the restraint system supplier.

**WARNING!**

- Ensure the 3-point passenger restraint system fits as tightly across the user's body as possible without discomfort and no part is twisted.
- Ensure the 3-point passenger restraint system is not held away from the user's body by parts of the wheelchair such as armrests or wheels etc.
- Ensure the user restraint has a clear path from the user to the anchor point without interference by any part of the vehicle, wheelchair, seating or accessory.
- Ensure the lap belt fits snugly over the occupant's pelvis and is not allowed to ride up into the abdominal area.
- Ensure the user is able to reach the release mechanism unaided.

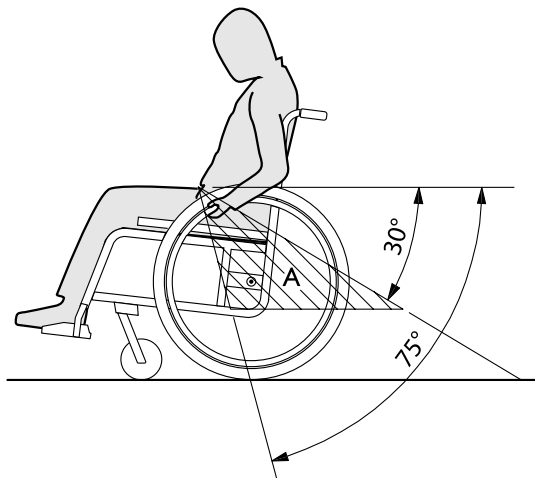


1. Attach the 3-point passenger restraint system referring to the user manual supplied with your 3-point restraint system.



NOTICE!

- Apply the lap belt of the 3-point passenger restraint system low across the pelvis so that the angle of the lap belt is within the preferred zone (A) of 30° to 75° to the horizontal. A steeper angle is preferred, but never exceeding 75°.



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 specialist dealer at least once a year or if it has not been used for a long period.



Your küschall specialist dealer can provide help in carrying out regular maintenance. To find an authorized specialist 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
Check the posture belt	x		
Visual check		x	
Check the front wheels		x	
Check bolts		x	
Check spokes		x	
Check parking brakes		x	
Have wheelchair checked by a specialist dealer			x

Check the tire pressure

1. Check the tire pressure.



See section “Tires” for more information.

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 specialist dealer.

Check the posture belt

1. Check that the posture belt is adjusted correctly.



NOTICE!

- Loose posture belts must be adjusted by a specialist dealer.
- Damaged posture belts must be replaced by a specialist dealer.
- Posture belts must always be installed by a specialist 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 specialist dealer.

Check the front wheels

1. Check that the front wheels turn freely.
2. Remove any dirt or hair from the front wheel bearings.
3. Faulty or worn out front wheels must be replaced by a specialist dealer.

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.



NOTICE!

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

Check the spoke tension

The spokes should not be loose or distorted.

1. Loose spokes must be tightened by a specialist dealer.
2. Broken spokes must be replaced by a specialist dealer.

Check the parking brakes

1. Check that the parking brakes are positioned correctly. The parking brake is set correctly if the parking brake shoe depresses the tire by a few millimeters when the parking brake is engaged.
2. If you find that the setting is not correct, have the parking brakes correctly set by a specialist dealer.



NOTICE!

- The parking brakes must be reset after replacing the rear wheels or changing their position.

Checking after a heavy collision or blow



NOTICE!

- 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 specialist dealer after a heavy collision or hard blow.

Repairing or changing an inner tube

1. Remove the rear wheel and release any air from the inner tube.
2. Lift one tire wall away from the rim using a bicycle tire lever. Do not use sharp objects such as a screwdriver which could damage the inner tube.
3. Pull the inner tube out of the tire.
4. Repair the inner tube using a bicycle repair kit or, if necessary, replace the tube.
5. Inflate the tube slightly until it becomes round.
6. Insert the valve into the valve hole on the rim and place the tube inside the tire (the tube should lie right round the tire with no creases).
7. Lift the tire wall over the edge of the rim. Start close to the valve and use a bicycle tire lever. When doing this, check all the way round to ensure that the inner tube is not trapped between the tire and the rim.
8. Inflate the tire to the maximum operating pressure. Check that no air is escaping from the tire.

Spare parts



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

8.3 Cleaning

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



NOTICE!

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.



NOTICE!

- 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.



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 Invacare for further information.

1. Use the following instructions to clean this product unless otherwise specified.
 - Upholstery — Warm water and mild non-abrasive soap. Refer to the instructions on the label on the seat, cushion and backrest cover.
 - Metal — Hot water and mild non-abrasive soap. Car polish and soft wax may be used to remove abrasions and restore gloss.
 - Plastic — Hot water and mild non-abrasive soap.
2. Dry the surface with a dry cloth.
3. DO NOT use solvents or kitchen cleaners.

8.4 Disinfection

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



The Robert Koch Institute has a list of currently approved disinfectants at www.rki.de.

9 After Use

9.1 Storage



NOTICE!

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 52.

After long-term storage (more than four months) the wheelchair must be inspected in accordance to chapter 8 *Maintenance*, page 43.

9.2 Re-use

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

- Cleaning and disinfection, 8.3 *Cleaning*, page 45 and 8.4 *Disinfection*, page 46 in this manual.
- Inspection, 8.2 *Maintenance Schedule*, page 43 in this manual.
- The wheelchair should be adapted for the new user in accordance with the service documentation (available from the küschall distributor in your country).

9.3 Disposal information

Be environmentally aware and dispose of your wheelchair properly. Disposal is subject to national and local regulations.



For correct disposal, contact your specialist dealer or ask your town or district council about local waste management companies.

10 Troubleshooting

10.1 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 your specialist dealer immediately if you notice a fault with your wheelchair, e.g. a significant change in handling.



NOTICE!

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

10.2 Identifying and repairing faults

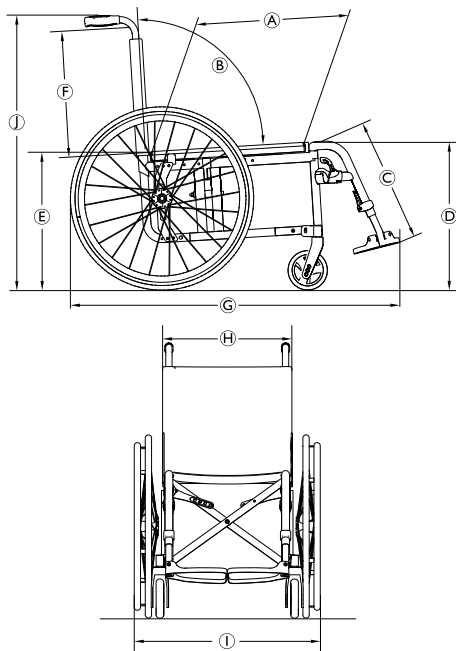
Fault	Possible cause	Action
The wheelchair does not travel in a straight line	Incorrect tire pressure on one rear wheel	Correct tire pressure, → 3.13 <i>Tires</i> , page 21
	One or more spokes broken	Replace faulty spoke(s), → specialist dealer
	Spokes tightened unevenly	Tighten loose spokes, → specialist dealer
	Front wheel supporter is not aligned correctly	Correct position and alignment of front wheel supporter, → specialist dealer
	Front wheel bearings are dirty or damaged	Clean or replace the bearings, → specialist dealer
	Rear wheels are off track	Change track, → specialist dealer
	Front wheels not adjusted to same height	Position the front wheels such that they touch the floor at the same time, → specialist dealer
The wheelchair tips backwards too easily	Rear wheels are mounted too far forwards	Mount the rear wheels further back, → specialist dealer
	Back angle too large	Reduce the backrest angle, → specialist dealer
	Seat angle too large	Mount the adapter plate lower on the side profile, → specialist dealer Select a smaller front wheel fork, → specialist dealer
Removable axles cannot be inserted correctly	Removable axles dirty	Clean removable axles
	Removable axles misaligned	Adjust removable axles, → specialist dealer

Fault	Possible cause	Action
The parking brakes are gripping poorly or asymmetrically	Incorrect tire pressure in one or both rear tires	Correct tire pressure, → 3.13 <i>Tires, page 21</i>
	Parking brake setting incorrect	Correct the parking brake setting, → specialist dealer
Rolling resistance is very high	Tire pressure in rear tires is too low Tire is punctured	Correct tire pressure or replace the tube inside the tire, → 3.13 <i>Tires, page 21</i>
	Rear wheels not parallel	Ensure the rear wheels are parallel, → specialist dealer
The front wheels wobble when moving fast	Too little tension in front wheel bearing block	Tighten the nut on the bearing block axle slightly, → specialist dealer
	Front wheel has worn smooth	Change front wheel, → specialist dealer
The front wheel is stiff or stuck	Bearings are dirty or faulty	Clean or replace the bearings, → specialist dealer

11 Technical Data

11.1 Dimensions and weight

Dimensions and weight may alter according to different configurations. All dimensions and weight specifications given below reflect the minimum/maximum possible values for the wheelchair.



Ⓐ	Seat depth	360 – 500 mm, in increments of 20 mm
Ⓑ	Backrest angle (adjustable)	82° – 102°, in increments of 4°
	Backrest angle (fixed)	90°
	Seat plane angle	0° – 12°
Ⓒ	Knee-to-heel length	380 – 460 mm, in increments of 10 mm
	Leg to seat surface angle	95° – 120°
Ⓓ	Seat height front	430 – 520 mm, in increments of 10 mm
Ⓔ	Seat height rear	400 – 490 mm, in increments of 10 mm
Ⓕ	Backrest height	330 – 495 mm, in increments of 15 mm
Ⓖ	Overall length with leg rests	825 – 1155 mm
Ⓗ	Effective seat width	360 – 500 mm, in increments of 20 mm
Ⓘ	Overall width *	535 – 730 mm
Ⓙ	Overall height	740 – 1070 mm
	Folded length	280 – 370 mm
	Folded width	280 – 370 mm
	Folded height	740 – 1070 mm

	Armrest to seat height	200 – 335 mm
	Front location of armrest structure	170 – 360 mm
	Hand rim diameter	520 – 540 mm
	Horizontal location of axle (3 positions, also depending on seat angle)	35 – 103 mm
	Total weight	approx. 11.2 – 26.2 kg
	Transport weight (without rear wheels)	approx. 8.6 – 21.9 kg
	Weight of the heaviest part	7.2 – 12.8 kg
	Maximum user weight	130 kg
	Minimum turning radius	920 – 1255 mm
	Maximum slope angle brake	7°
	Static stability downhill	10°
	Static stability uphill	8°
	Static stability sideways	10°

* In some configurations, the overall width exceed the recommended dimensions for a wheelchair.

11.2 Environmental conditions

Do not expose the wheelchair to temperatures below -20 °C or above 40 °C.

11.3 Materials

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

Frame tubes	Aluminum
Backrest tubes	Aluminum
Cross struts	Aluminum
Seat cover / Backrest cover	PA / PE / PVC
Push handle	Steel / Aluminum / TPE
Clothes guard / Mudguard	Carbon Fiber or Plastic
Front wheel forks	Aluminum
Footrests	Plastic
Supporting parts / Attachments	Steel / Aluminum
Screws and bolts	Steel

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

**United Kingdom & Ireland:**

Invacare Limited
Pencoed Technology Park, Pencoed
Bridgend CF35 5AQ
Tel: (44) (0) 1656 776 200
uk@invacare.com
www.invacare.co.uk

New Zealand:

Invacare New Zealand Ltd
4 Westfield Place, Mt Wellington 1060
New Zealand
Phone: 0800 468 222
Fax: 0800 807 788
sales@invacare.co.nz
www.invacare.co.nz

Australia:

Invacare Australia Pty. Ltd.
Unit 18/12 Stanton Road,
Seven Hills, NSW 2147,
Australia
Phone: 1800 460 460
Fax: 1800 814 367
orders@invacare.com.au
www.invacare.com.au

Asia:

Invacare Asia Ltd.
Unit 18/12 Stanton Road,
Seven Hills, NSW 2147
Australia
Phone: (61) (02) 8839 5333
Fax: (61) (02) 8839 5343
asiasales@invacare.com
www.invacare.com



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Invacare France Operations SAS
Route de St Roch
F-37230 Fondettes
France



Invacare UK Operations Limited
Unit 4, Pencoed Technology Park, Pencoed
Bridgend CF35 5AQ
UK

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