



User's Manual for Sports Wheelchairs



Wolturnus A/S recommends that you read this manual before using the wheelchair.

User's manual for sport wheelchair

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1 Introduction

1.1 Foreword

This user's manual provides users and helpers with essential information about the design, functions, use and maintenance of the Wolturnus Sports wheelchair. The manual contains the information necessary to ensure safe use of the wheelchair. It contains troubleshooting information with solutions (where/if applicable). The wheelchair is an easy-propulsion active sports wheelchair made by high-strength aluminum. The wheelchair's design makes it easy for the user to operate the chair independently. The wheelchair is custom-built according to the user's instructions. This ensures that the wheelchair meets the individual user's requirements.

The instructions in this manual are essential for safe and correct use of the wheelchair. Before starting to use it, it is important that both the user and helper read these instructions carefully - paying special attention to the safety instructions. Furthermore, The information provided ensures that the user gets the optimum advantage of the wheelchair's features and functions. Keep this user's manual throughout the lifetime of the wheelchair: it contains information to future questions and it contains guidelines for adjusting and adapting the chair.

This user's manual has been produced in accordance with DS EN82079-1 'Preparation of instructions for use - Structuring, content and presentation'. It is divided into sections. The heading on each page contains the title of the overall section. The footer of each page displays the page number, year, and site of origin of the user's manual. It also includes the wheelchair's model.

1.2. Intended Use

Wolturnus sports wheelchairs are designed for individual use. Wolturnus offers a wide range of sports wheelchairs, suitable for the following sports: basketball, rugby, tennis, handball, manual floorball and badminton. It is not design to function as an everyday wheelchair. It is only suitable for persons who are unable to walk or have a mobility problem. Only equipment specified in this user's manual may be used with the wheelchair, and vice versa.

Wolturnus A/S does not guarantee this product if it is used with accessories or products from manufacturers other than those specified as part of the modular system.

Use of the wheelchair for any purpose other than the aforementioned will be considered incorrect. In the event of incorrect use, the user - i.e. not the manufacturer - is liable for resulting damage to persons or property.

The wheelchair may only be used by experienced users. For personal protection and in order to ensure that the wheelchair is used safely and correctly, it is a requirement that the user and helpers receive training and instructions prior to use of the wheelchair.

To ensure that the wheelchair is used correctly it has to be operated exclusively as described in this user's manual. The user bears final responsibility for accident-free use.

WARNING!

Risk of injury with incorrect use

To avoid the risk of fingers getting caught in the rear wheel spokes or wheel locks, and to avoid the risk of the chair tipping, children should not play with the wheelchair.

1.3 Usage

The sports wheelchair's design makes it suitable for users who have difficulties walking or who have a mobility handicap as a result of:

- Paralysis
- Loss of limbs (leg amputation)
- Limb defects or deformities
- Damaged or defective limbs
- Other illnesses

When adapting the wheelchair for the user, the following should be taken into account:

- Body, height and weight (max. load 120 kg.)
- Physical and mental constitution
- Age
- Residential circumstances
- Surroundings

1.4 Service

INFORMATION

Service and repairs to the wheelchair must only be carried out by authorised personnel trained by Wolturnus A/S. In the event of problems, please contact Wolturnus A/S.

In the event of questions or problems that cannot be solved using this user's manual, please contact Wolturnus A/S customer service at (+45) 9671 7170.

Wolturnus A/S strives to provide full assistance to its customers in every respect. For Wolturnus A/S contact information and a list of service locations - go to section 13 in this manual.

If the wheelchair has to be returned for repairs we can offer a temporary wheelchair for loan. For further information, please contact Wolturnus A/S.

1.5 CE compliance

The wheelchair meets the requirements of the European Commission Directive 93/42/EEC for medical devices. The product is classified as a Class 1 on the basis of the classification criteria for medical devices in accordance with section IX of the directive. It follows that Wolturnus A/S has therefore, as manufacturer with sole liability, made a declaration of conformity in accordance with appendix VII of the directive.

1.6 Liability

Wolturnus A/S' warranty only applies if the product is used in accordance with the specified circumstances, purpose and instructions. The frame of Wolturnus sports wheelchairs and parts manufactured by Wolturnus are covered by a 2-year warranty. Parts that are designed and manufactured by a third-party manufacturer and mounted on a Wolturnus wheelchair are covered by a Wolturnus A/S warranty that is equal to the warranty provided to Wolturnus A/S by the third-party manufacturer.

Wolturnus A/S is not liable for injury or damage caused by:

- Components and parts that are not authorised by Wolturnus A/S.
- Alteration to the original surface treatment.
- Repairs or alterations to the wheelchair that are not carried out by Wolturnus A/S. All warranty repairs has to be carried out by Wolturnus A/S.
- Incorrect use of the wheelchair, or loads that exceed the construction or specified maximum for the wheelchair (in accordance with directive 93/42/EEC for medical devices).
- Circumstances in which the wheelchair is used by any party other than the original owner/user.
- Circumstances involving bad weather or dangerous situations, or in general all types of predictable negligence.
- Lack of maintenance.
- Cleaning with agents that contain acid or alkaline products, with high-pressure equipment or similar.

To keep updated about this product e.g. regarding new features, safety notice, product recalls check www.wolturnus.dk. Contact information and overview concerning all of Wolturnus's products are available at the website - or by contacting Wolturnus A/S customer service at (+45) 9671 7170.

1.7 Returns

In the event that the wheelchair has to be returned to the supplier or to Wolturnus A/S, e.g. for repairs, it must be transported in its original packaging for optimum protection. It follows that Wolturnus A/S recommends that the original packaging is retained throughout the lifetime of the wheelchair.

2 Safety

2.1 Symbols

WARNING!

Warning concerning danger of serious accident or injury

CAUTION!

Warning concerning danger of accident or injury

NOTICE

Warning concerning danger of technical damage

INFORMATION

Operational and service information

2.2 Standards and Directives

All safety information in this user's manual is based on applicable national laws and regulations in the EU. For other countries, a declaration of conformity with applicable laws and national regulations is required.

In addition to the safety instructions contained in this user's manual, the user must be familiar with and must comply with applicable regulations from professional associations, concerning accident prevention and regarding environmental protection. All information contained in this user's manual must be complied at all times without limitations. The wheelchair is constructed in accordance with applicable regulations. The wheelchair safety level is approved by CE certification and a declaration of conformity.

2.3 General Safety Instructions

- The wheelchair must only be used according to instruction in this manual.
- The wheelchair must only be used by trained users and must not be used by any other person than the user.
- The wheelchair must only be used by one person at a time.
- All safety instructions in this user's manual and all other relevant documentation must be kept and complied with throughout the lifetime of the chair. The user's manual must always be available to the user.
- The back and seat upholstery is inflammable but can be ignited. Therefore extreme care must be taken when in vicinity of flammable items and fire i.e. lit cigarettes.
- To avoid discomfort when using the chair, damaged back or seat upholstery should be replaced as soon as possible.
- Do not force the wheelchair over obstacles when using it on slopes.
- The wheelchair must not be used on stairs.
- Avoid getting in or out of the wheelchair while on slopes.
- Do not force the wheelchair forward on slopes exceeding 7°.
- Do not park on slopes that exceed 7°.

2.4 Safety Requirements for Transport, Assembly and Storage

- Never transport the wheelchair, e.g. in vehicles, with the user sitting in the wheelchair.
- Only suitable lifting mechanisms must be used when transporting the wheelchair.
- The wheelchair must, to the degree possible, be placed in the middle of the platform and all components, e.g. the anti-tip device, must be clear of any area where there is a risk of them being caught during transport.
- When adjusting and adapting the chair, all attachment features - such as screws and nuts - must be fastened according to the instructions in this manual.
- The wheelchair is not intended to be used as a seat when in a motor vehicle.

2.5 Safety Requirements in Usage









- The user and helpers must always ensure that the chair and its safety features are in a proper and safe condition before using the chair.
- The wheelchair must be inspected by a Wolturnus-authorized specialist at least once a year in order to ensure that the chair is in proper working order and safe to use.
- The chair must immediately cease to be used if any feature is defective or not operational or if any other circumstance arises which could lead to injury.
- Before starting to use the wheelchair, all mechanical adjustments (positioning the seat, accessories, etc.) must be carried out in accordance with the user's individual preferences, prerequisites and abilities. These adjustments may only be carried out by specialists authorized by Wolturnus.
- 120 kg is the maximum load for the wheelchair. It must not be exceeded.
- The wheelchair's tires must be inspected visually before use to ensure that there is sufficient tread depth and correct tire pressure. The correct pressure is printed on the tire.
- When used on public roads, the user must obey applicable traffic rules.
- The wheelchair should not be used on slippery surfaces (e.g. ice) or on very rough terrain (e.g. on gravel or small stones).
- When getting in and out of the wheelchair, the user should place the wheelchair against e.g. a wall to ensure it will not move unintended during transfer. Sports wheelchairs are delivered without wheel locks.
- The wheelchair must only be lifted by gripping the frame parts.
- The wheelchair must not be exposed to extreme temperatures, to high humidity or to environments with chlorine (e.g. in saunas or at swimming pools).
- The wheelchair's surface temperature can raise if it is exposed to extreme heat, e.g. in strong sunlight for an extended period of time. There is also a risk of very low surface temperature in the event of extremely cold weather.
- Never place fingers between the rear wheel spokes. Caution is advised when travelling through narrow passages.

2.6 User requirements

- Before starting to use the wheelchair, the user and any helpers must read the user's manual thoroughly and be familiar with its contents.
- The wheelchair must only be used by trained users. To ensure this, the user and any helpers has to receive instruction in use of the chair from Wolturnus-authorized specialists.

2.7 Type Labels

A type label is attached to the wheelchair. The type label includes the following information:

	Manufacturer and production site
	The wheelchairs year of production
	The Model or the type name of wheelchair
	The serial number of the wheelchair
	The maximum allowed weight of the user
	The wheelchair is not intended to be used as a seat in a motor vehicle
	The wheelchair is intended to be used as seat in a motor vehicle
	Read the user's manual before using the wheelchair

The type label is placed on the cross tube under the seat facing forward as shown on image 1.

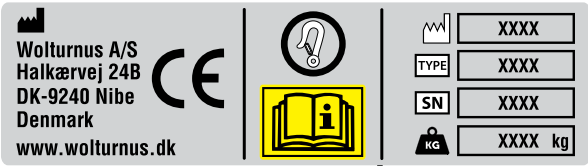
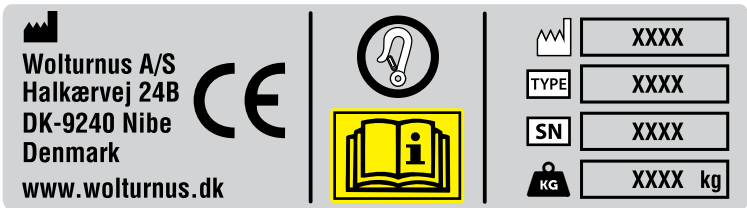


Image 1 Location of the Type Label



3 Product Description

Wolturnus sports wheelchairs are ideal for users who want to practice sports like wheelchair rugby, basketball, handball, floorball, badminton or tennis. The wheelchair is custom-made for the individual user and therefore fits the user's specific needs and wishes.

The wheelchair originally designed for wheelchair basketball, can also be used for playing wheelchair handball as well as manual wheelchair floorball. The Wolturnus tennis wheelchair can also be used for wheelchair badminton, whereas the rugby wheelchair is solely designed for wheelchair rugby.

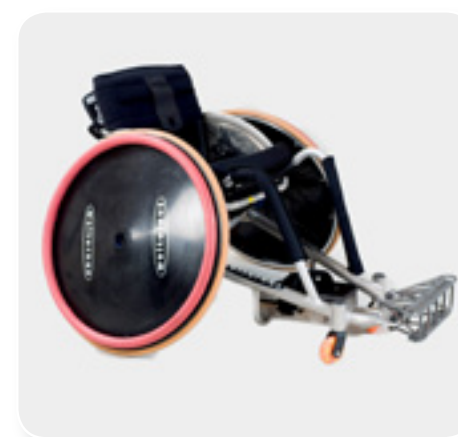
Most sports require a strong and rigid frame, but still light weighted, which a Wolturnus sports wheelchair provides. The sports wheelchairs are developed and optimized in collaboration with European top athletes.

For the Basket (handball, floorball) and the tennis (badminton) wheelchair, it is possible to choose between fixed rear axle and adjustable rear axle where the user can adjust the balance point. For the Rugby wheelchairs, that is a contact sport, the choice is between an attack or a defense wheelchair regarding the user's position on the team. The tennis (badminton) wheelchair is available with one or two casters and one or two anti-tippers.

A range of additional equipment and accessories can be purchased and retrofitted e. g. strap fixation. A range of the accessories is described in section 7 of this manual.



Basket (Handball & Floorball)



Rugby Defence



Rugby Attack



Tennis (Badminton)



Tennis (Badminton)

Image 2: Wolturnus sports wheelchairs

4 Delivery and Preparations before Usage

4.1 Delivery

The delivery covers:

- The wheelchair with main components
- The user's manual
- Selected accessories (Accessories range. Go to section 7 in this manual)

INFORMATION

The range of accessories are determined by the product configuration that the user chooses when ordering the wheelchair.

WARNING!

The wheelchair may tip over. Wolturnus recommends to use the anti-tip device at all times.

Wolturnus A/S delivers the wheelchair ready for use. All configurations that are part of the order have been made or will be set up upon delivery by the supplier or a consultant. The wheelchair is adapted to meet the user's personal preferences and requirements.

The wheelchair's functions can be tested by following the instructions in section 6 in this manual.

Troubleshooting: see section 9.

4.2 Preparation before Usage

Before starting to use the wheelchair, it must be inspected to ensure that it is complete (checklist image 3, page 21) and that all functions are in proper working order. Wolturnus A/S delivers the wheelchair ready for use.

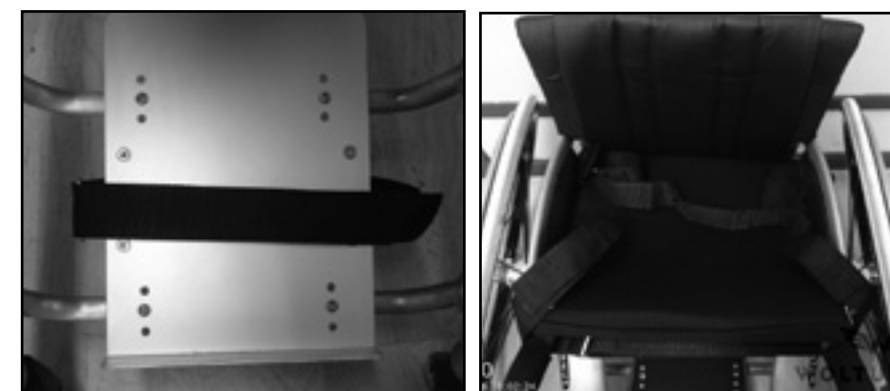
Main Components (Image 3):

1. Frame with back support and seat
2. Rear wheels
3. Casters
4. Antitippers
5. Sideguards
6. Footrest
7. Strapping (e.g. foot straps, thigh & hip straps)

Image 3 Main components



7



5 Transport and Storage

5.1 Transport

Due to the big camber angle on most sports wheelchairs which make them wide at floor level, they can be difficult to transport and getting through the doorway. To avoid this, the rear wheels can be removed making the wheelchair narrower and easier to transport and storage. When the rear wheels are removed the wheelchairs will run only on the front wheels and the anti-tippers.

- Use the Quick-Release mechanism to remove the rear wheels (Image 4), or
- If mounted with W-rex, open the tube clamp and remove the rear wheels (Image 5).

When mounting the rear wheels again, make sure the Quick-Release mechanism is locked correctly; it audibly clicks when correctly in place. For the W-Rex; make sure the tube clamps are fully locked.



Image 4 Remove rear wheels - QR



Image 5 Remove rear wheels - W-Rex

5.2 Transfer

The method of transfer to and from the chair is individually selected reflecting the preferences of the user. The most common method is transferring from the side or the front. Depending on the user's mobility and the design of the wheelchair, it will be individual if the user can move to and from the sports wheelchairs by themselves or need a third part helping for one or both ways. The following description is based on transfer without third-party help and from one wheelchair to another.

- Place the sports wheelchair against a wall or in a corner.
- Place the wheelchair transferring from, close to the sports wheelchair. A trick is to make sure the front caster will block the sports wheelchair's front caster, in order to make sure it will not move when transferring.
- Place the foot close to the sports wheelchair on its footrest and the other foot on the ground
- Move from the chair to the sports wheelchair. The method of actual transfer will vary from user to user.
- Place both feet on the footrest.

The user should find the method that works best and maybe have to try different ways, before finding the right method. When transferring the first couple of times or until the right method is found and the user gets used to the transferring, it is recommended to have a helper present

CAUTION!

Risk of damage due to overload.

When getting in and out of the chair, the user must neither place full body weight on the footrest nor the armrests/sideguards.

CAUTION!

The wheelchair's wheel locks must be applied during transfer. Make sure, that the wheelchairs front casters will block the sports wheelchair's front casters, in order to make sure it will not move when transferring.

6 Adjustments and Setup

6.1 Adjustable Features

CAUTION!

Risk of accident due to loose screws

After loosening any threaded screws, they must be replaced with new screws or secured once more with a medium-strength thread paste (e.g. EuroLock A24.20). After making adjustments to the wheelchair, all screws and all nuts must be tightened correctly.

The wheelchair can be adjusted in various ways.

When delivered, the height, width and angle of the seat and the back have been positioned in accordance with the customer's order as received by Wolturnus A/S.

The Following is Adjustable By the User:

- The back height, depth
- The seat length and depth
- The position of the balance point (if rear axle is adjustable)
- The footrest's height and angle (if not welded on)
- The BF measure (front of back to front of footrest)
- The height of the anti-tipper

6.2 Tools

The following tools (Image 6) are necessary for adjustments and settings described in this section:

- A 3 mm Allen key
- A 4 mm Allen key
- A 5 mm Allen key
- A 10 mm single-head wrench
- A 13 mm single-head wrench
- A torque wrench
- A measuring tape, a foot rule or a ruler



Image 6 Tools

NOTICE

Damaged tools or incorrect use of tools can result in injury or in damage to the chair.

6.3 Adjusting the Back Depth and Form

The back's form can be adjusted to suit the individual user's requirements for support and balance. The Velcro straps under the back upholstery are used to adjust the back's form.

- Fold up the back of the backrest upholstery to make the Velcro straps visible (Image 7).
- Loosen or tighten individual straps so that the back's form suits the user's requirements (Image 8).
- Fold down the back upholstery and secure it to the straps.

Adjustments to the back form and depth affects the benefit the user gets from the chair substantially. Wolturnus A/S recommends that the form and the depth are initially adjusted with assistance from a Wolturnus A/S consultant or from the user's therapist.



Image 7 Fold the back of the upholstery



Image 8 Loosen or tighten the straps

WARNING!

When the seat and/or the back upholstery straps have been adjusted, the wheelchair's point of gravity may have shifted, which may create a risk of backward tipping. Therefore, after adjusting the seat and/or the back upholstery, check the point of gravity and, if necessary, adjust it before using the chair. (See section 6.7).

6.4 Adjusting back height (only height-adjustable back)

The back height can be steply adjusted to meet requirements.

- Remove the back upholstery and top.
- Press the spring lock in and either raise or lower the height bar for the back (Image 9).
- To adjust the height even further, the height bar can be removed and reversed (image 10).
- Mount the back upholstery and top again.



Image 9 Press the spring lock in



Image 10 For further height adjustment

6.5 Adjusting the Seat Depth and Form

- Remove the seat cushion and release the seat cover from the Velcro straps (Image 11).
- Release the Velcro straps and loosen/tighten them if required, then fasten them (Image 12).
- Mount the seat cover and finally tighten the front strap that is sewn into the seat cover itself.
- Mount the seat cushion.



Image 11 Release seat cover



Image 12 Adjust the Velcro straps

WARNING!

During strap adjustment of the seat and/or back upholstery, the wheelchair's point of gravity may have shifted, which may create a risk of backward tipping. Therefore, after adjusting the back, check the point of gravity and. If necessary, adjust it before using the chair. (See section 6.7).

INFORMATION

Notice; Some users can benefit from tightening the straps towards the front seat edge - not the back edge. This creates a counterpoint for the back support's forward pressure on the lower body and a better hip position. Wolturnus A/S recommends that this is done with assistance from a Wolturnus A/S consultant or the user's therapist.

6.6 Adjusting balance point

If the wheelchair is constructed with adjustable rear axle the wheelchair's point of gravity can be changed by moving the rear axle forward or backward. By moving the rear axle and therefore the rear wheels forwards, the load on the casters is lightened. Practised users will find that this makes the wheelchair easier to manoeuvre. By moving the rear axle backwards the distance between the casters and the rear wheel is increased, which increases the stability during propulsion.

CAUTION!

For safety reasons, the wheelchair is delivered with the rear axle placed far back. New users should not adjust this until they are experienced in using the chair.

Adjusting the Rear Axle:

- Use the Quick-Release mechanism to remove the rear wheels (Image 13).
- Use a 5 mm Allen key to loosen the three bolts in the triangular bracket that fastens the rear axle to the frame. Loosen them enough to allow the rear axle with console slide back or forward on the frame (Image 14).
- Find the desired position. Use a foot rule or ruler to check that the distance between the rear axle and the back edge is equal on both sides (Image 15).
- Use a 5 mm Allen key to tighten the bolts with a torque wrench. (Tension 10 Nm/7,4 ft.lbf/88 in.lbf.)
- Mount the rear wheels and make sure the Quick-Release mechanism is locked correctly; it audibly clicks when correctly in place (Image 16).



Image 13 Remove the rear wheels



Image 14 Loosen the bracket bolts



Image 15 Check with a ruler



Image 16 Mount the rear wheels

6.7 Adjusting the Footrest Height

If the wheelchair is delivered with the footrest mounted with bolts, it is possible to adjust the height of the footrest (the VSL measure) by using the Footrest Adjustment Kit. The kit can be ordered with the wheelchair or separately afterwards.

- Use a 3 mm Allen key to loosen and remove the four bolts that mount the footrest on the frame (Image 17).
- Find the distance fittings that give the desired height of the footrest in the kit and mount them between the frame and the footrest (Image 18).
- Reattach the footrest and tighten the four bolts. (Tension 4 Nm/3,0 ft.lbf/35 in.lbf.) Before tightening the bolts make sure the footrest has the new desired height.



Image 17 Loosen and remove the bolts



Image 18 Mount the distance fittings

6.8 Adjusting the Footrest Angle

If the wheelchair is delivered with the footrest mounted with bolts, it is possible to adjust the angle of the footrest by using the Footrest Adjustment Kit. The kit can be ordered with the wheelchair or separately afterwards.

- Use a 3 mm Allen key to loosen and remove the bolts that mount the footrest on the frame (Image 17).
- Find the distance fittings that give the desired angle of the footrest in the kit and mount between the frame and the footrest (Image 19).
- Reattach the footrest and tighten the four bolts (Image 20). (Tension 4 Nm/3,0 ft.lbf/35 in.lbf.) Before tighten the bolts makes sure the footrest has the new desired angle.

CAUTION!

Tighten the bolts enough to ensure the footrest will not move unintentionally during usage.



Image 19 Mount the distance fittings



Image 20 Re-attach the footrest

6.9 Adjusting the BF measure (Front of Back to Front of Footrest)

If the wheelchair is delivered with the footrest mounted with bolts, it is possible to adjust the BF measure; the distance between the front of the back and the front of the footrest.

- Use a 3 mm Allen key to loosen and remove the bolts that mounts the footrest on the frame.
- Move the footrest back or forwards. The pre-drilled holes are placed with 15 mm spacing centre to centre (Image 21).
- Mount and tighten the bolts. (Tension 4 Nm/3,0 ft.lbf/35 in.lbf.)



Image 21 Move the footrest

CAUTION!

Tighten the bolts enough to ensure the footrest will not move unintentionally during usage.

6.10 Adjusting the Anti-tip Device

The anti-tippers are at delivery mounted 10 mm from floor to low edge of the wheel (Image 22). To change the height of the anti-tippers:

- Remove the black cap from the bearing housing with a straight screwdriver.
- Use a 4 mm Allen key to loosen and remove the anti-tipper wheel with fork.
- Switch around the distance washers to achieve the right height (Image 23).
- Mount the bolt and tighten and reattach the cap. (Tension 4 Nm/3,0 ft.lbf/35 in.lbf.)

The height of the anti-tippers depends on the floor surface. On soft floors the anti-tipper should be mounted higher than on hard floors.



Image 22 Anti-tipper default height



Image 23 Switch around the washers

7 Accessories and Equipment

A range of accessories and equipment are available for Wolturnus active wheelchairs. The most popular accessories are described in this section. The full range of accessories and order information are available at the Wolturnus A/S web shop at www.wshoppen.dk.

7.1 Upgrading the Rear Wheels, the Push Rims and the Tires

The rear wheels, push rims and tires can be upgraded. For questions regarding the rear wheels, push rims and tires please contact Wolturnus A/S or a Wolturnus supplier or go to www.wolturnus.dk.

7.2 Sideguards mounted on tabs

If the wheelchair is delivered with sideguards mounted on tabs it is possible to change the sideguards. Sports wheelchairs are often delivered with either aluminum sideguards or carbon sideguards. For questions about sideguards in another material please contact Wolturnus A/S or a Wolturnus supplier.

7.3 Frame Protectors

Frame protectors are available to protect the front part of the frame and the back tube from impact and scratches (Image 34). Frame protectors are folded tightly on to the frame and secured with built-in Velcro straps.



Image 24 Front frame protectors



Image 25 Back frame protectors

7.4 Spoke Protectors

Spoke protectors prevent fingers from getting caught in the spokes during propulsion and they protect the wheel. Rugby wheelchairs have to be equipped with special spoke protectors.

A wide range of spoke protectors is available. For questions regarding spoke protectors please contact Wolturnus A/S or a Wolturnus supplier.

7.5 Strap for feet fixation

To secure the feet from falling off the footrest during usage a strap for feet fixation can be mounted on the footrest. If the wheelchair is delivered without feet fixation a Feet Fixation Kit can be ordered separately afterwards. The kit consists of a strap, two mounting brackets and the required number of bolts and nuts.

- Drill two holes with 70 mm distance in between in each side of the footrest. The holes should match the distance between the holes in the brackets.
- Mount the brackets with the enclosed bolts and nut. Use a 3 mm Allen key.
- Mount the feet fixation strap in the brackets (Image 35).

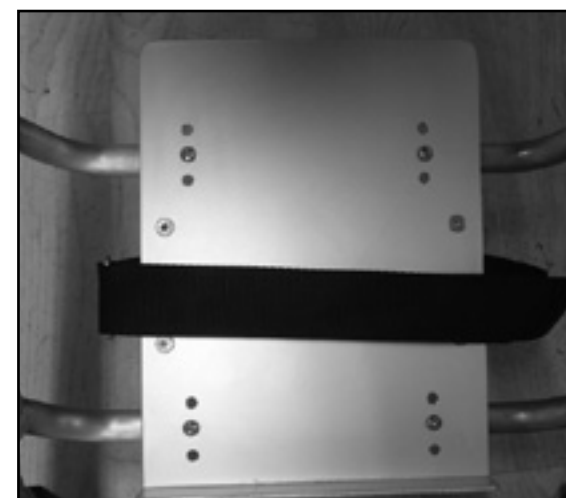


Image 26 Feet fixation



Image 27 Hip fixation

7.6 Seat Cushions

Seat cushions are available in various models and in the required size and thickness.

7.7 Straps, Belts and Fasteners

A range of straps and belts for different uses is available. The hip strap and strap for the thighs are the most used ones for sports wheelchairs. It is recommended for usage when the wheelchair is in motion, ensuring that the user does not fall out. The full range of straps and belts can be seen at the Wolturnus A/S web shop at www.wshoppen.dk.

If the wheelchair is not delivered with a hip and/or a thigh strap, these can be mounted afterwards. The strap kit for retrofitting consists of a hip/thigh strap, triangle brackets and the required number of bolts.

- Mount the triangle bracket in the pre-made tapped hole in the seat frame tube. Do this in both sides of the wheelchair.
- Mount the straps in the triangle brackets (Image 36).

8 Cleaning and Maintenance

8.1 Maintenance

Each time the wheelchair is used operational parts should be checked to ensure that they are in proper working order. After being loosened 2-3 times when making adjustments or changing parts, self-locking nuts should be replaced.

The following table gives an overview of how to maintain the wheelchair.

Component	Functions and Inspection	1*	2*	3*
Tires	Tires visibly pumped	X		
	Tires undamaged	X		
	Test/adjust tire pressure (see side of tire)		X	
	Check thread depth (min. 1 mm)		X	
Rear wheel	Directional stability during use	X		
	Wheels rotate freely without misalignment		X	
	Nuts on rear wheel mounting bracket are tight		X	
Caster	No front fork obstruction		X	
	Wheels rotate freely without misalignment		X	
	Axle bolts correctly tightened		X	
	Cap bolts correctly tightened		X	
Anti-tippers	No front fork obstruction		X	
	Wheels rotate freely without misalignment		X	
	Axle bolts correctly tightened		X	
	Cap bolts correctly tightened		X	
Footrest	All locking mechanisms are in working order		X	
	No obstructions or damage		X	
Upholstery	No damage or wear to upholstery		X	
	Securing straps function		X	
	Seat and back upholstery correctly positioned		X	
Sideguards	Sideguards and mounting nuts and bolts are tightened.	X	X	
Screws	All nuts and screws are tightened			X

* 1 = Before ever use 2 = Before every 5th use 3 = Before every 15th use

In the event of faults or missing parts, contact the supplier or Woltturnus A/S. Contact information, go to section 13.

Woltturnus A/S recommends that the wheelchair is serviced at least once a year by the supplier or Woltturnus A/S.

NOTICE

The wheelchair must not be used in salt water. Avoid getting salt, sand and other dirt that can cause damage to the wheel bearings, the caster mounting bracket or the rear wheels. Should this occur, the bearings must be replaced.

8.2 Cleaning and Disinfection

The wheelchair should be cleaned regularly according to how often it is used and how dirty it is.

Clean the frame, plastic parts and wheels with a mild cleaning agent. After cleaning, dry all parts with a dry cloth.

Clean cushions and upholstery with warm water and washing-up liquid. Remove stains with a sponge or a soft brush. Rinse afterwards with clean water and allow the parts to dry before mounting and using.

To disinfect, use water-based agents and follow the manufacturer's instructions.

NOTICE

Do not use corrosive cleaning agents, solvents or hard brushes.

NOTICE

Do not wet-wash. Do not use high-pressure equipment or a water jet. The wheelchair components must not be put in a washing machine.

NOTICE

Clean the seat and back upholstery, cushions, handles and armrest before disinfecting.

8.3 Changing a Tire

If a tire is punctured, the user or a helper may be able to change it without assistance. The procedure requires having strong hands, practical ability and suitable tools. It is advisable to have a puncture repair kit and an air pump for emergencies (excluding situations with-proof tires). Suitable air pumps, puncture repair kits or puncture sprays that fill the tire with expanding foam can be purchased at most bicycle shops.

Removing tires and tubes

- Gently pull the tire edge over the edge of the rim with a tire lever (or two, if it is sitting very tightly). Take care not to damage the rim or the tube (Image 28).
- Screw off the valve nut and pull the valve out from the rim and the tire band.
- Pull out the tube from between the tire and the rim (Image 29).

Repair and check-ups

- Repair the tube according to the instructions in the repair kit or replace it with a new tube.
- Before remounting the tire and tube, make sure that no foreign objects that may have caused the puncture are caught in the rim or tire.
- Ensure that the tire band is intact. It protects the tube against damage from the spokes.
- Push the tube into place between the tire and the rim.

Mounting tires

- Gently pull the clear tire edge over the edge of the rim. Starting with the valve.
- Check that there are no twists at all in the tube, otherwise air can get out.
- Work the whole way around until the last section of the tire edge is taut and can be edged into place with one or two levers.

Pumping

- Check on both sides that the tube is not caught between the tire edge and rim.
- Push the valve lightly in and pull it out again to make sure that it is not caught on the tire edge.
- Fill the tire with air to the point where it is still possible to press it in with a thumb. If the control lines on both sides of the tire indicate the same distance to the rim edge, the tire is centred. If the tire is not centred, let some air out and adjust the tire until it is centred. Now pump up the tire to its maximum working pressure (see the side of tire) or at least 3.5 bars (350 kPa). Then screw the dust cap on, tightly.

CAUTION!

Ensure that the tires have the correct pressure before using the chair. The maximum air pressure limit is marked on the side of the tire. It must always be on a minimum of 3.5 bars (350 kPa) on the rear wheels. Like push wheel locks, the knee-lever wheel locks are only effective when the air pressure is sufficiently high and when they are correctly positioned. (When locked, the brake pad should push the tire in 5mm (allowing for technical alterations).



Image 28 Pull the tire edge over the rim



Image 29 Pull out the tube

INFORMATION

NB: Pneumatic tires give a good driving experience. Solid tires can be used in work situations where risks of punctures due to grit or other objects might occur.

9 Troubleshooting

During routine maintenance, it may be necessary to make adjustments or repair faults. In most cases, the solution to the problem can be found on the following list:

Problem	Solution	Reference
The caster/anti-tipper makes noise or is resistant	Check if there is dirt between the fork and caster or dirt in the fork ball-bearings. Clean off the dirt and tighten the screws. If they do not roll freely, change the ball-bearings.	Section 6.11
The front fork or anti-tipper fork shakes	Loosen and remove the bearing housing cap. Then tighten the nut to a degree where the front fork with wheel can still rotate easily.	Section 6.11
The rear wheel makes a loud clicking noise	Check the spokes and the push rim mounting screws. Check that nothing is pushing against the rear wheel or the rear wheel's spokes. It might be necessary to tighten the spokes, please see a professional for this.	
Rear wheel resistance	Check if the rear wheel is misaligned. Check if, for example, the sideguards or another part is pushing against the rear wheel. Check if the rear wheel bearings are worn down and need replacement. Check the tire pressure.	
Loud clicking noise	Check and tighten the screws in the rear wheel and caster mounting brackets	Section 6.7 Section 6.11
The footrest is lopsided	Check that the foot plate is screws is tighten	Section 6.8-10

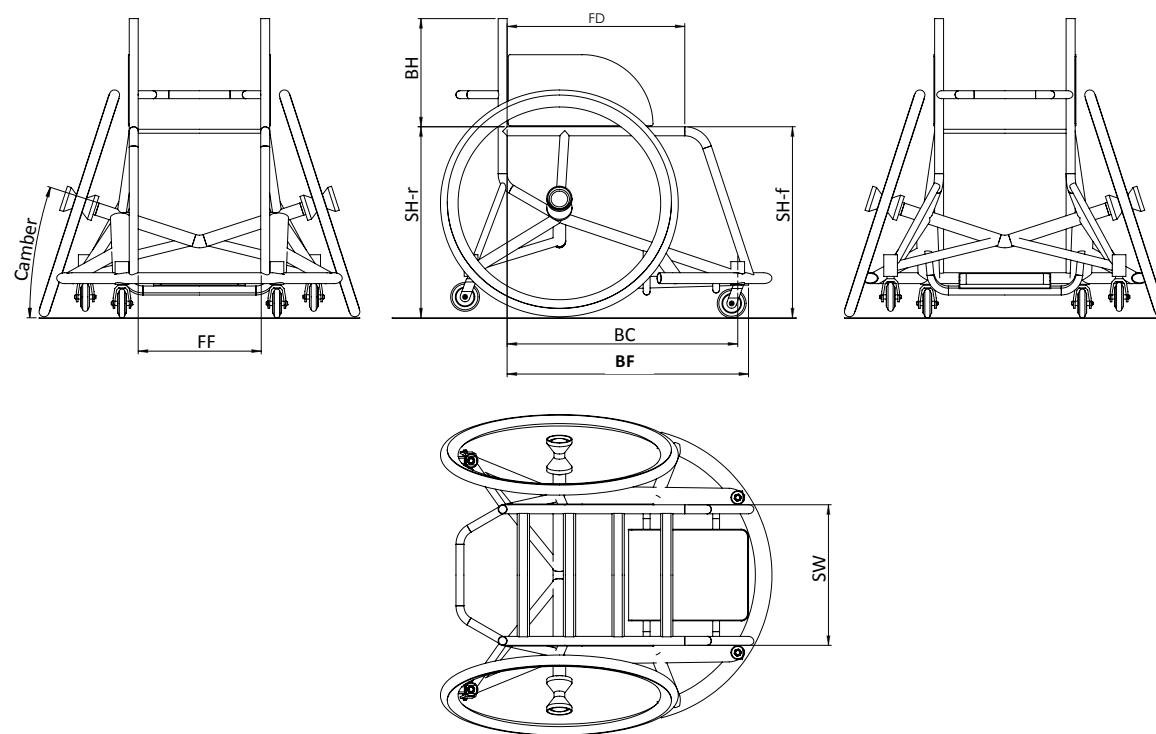
If the problem cannot be solved with the aid of the troubleshooting section, contact the supplier or Wolturnus A/S. Contact information, go to section 13.

10 Technical Specifications

Each Woltornus sports wheelchair is a custom-made wheelchair, which makes each product a unique wheelchair. Standard measurements do therefore not exist as such.

If you have questions about your wheelchairs specific specifications, please contact your Woltornus dealer.

The maximum user weight is 120 kg. This max. weight will usually not be relevant when choosing a narrow seat width.



SW	Seat width	BC	Front of back to center caster
SD	Seat depth	BF	Front of back to front footrest
SH-r	Seat height rear	FF	Inner front frame
SH-f	Seat height front	CW	Center caster bearings
BH	Back height	C	Camber

11 Instructions for Reuse

11.1 Instructions for Reuse

Woltornus sports wheelchairs are suitable for reuse by a subsequent new owner. Since the wheelchair is individually custom-made, it is essential that the chair's measurements and equipment are tailored to suit the new user. It follows that it is important to ensure that the chair's functions and features have not been altered to a degree that could create a safety risk for the new user or any third parties during the lifetime of the chair.

Based on market studies and on its knowledge of contemporary technology, Woltornus A/S has calculated that the Woltornus wheelchairs, when used, serviced and maintained in accordance with the original instructions, has a lifetime of 5 years (excluding time kept in storage by an authorised dealership or the user). Note that with careful care and proper use, Woltornus wheelchairs can be used for a longer period than the defined lifetime.

Prior to reuse, the wheelchair must be carefully cleaned and disinfected. Then the product must be inspected by an authorised specialist to assess its condition, wear and tear, and damage. All worn or damaged parts and components that do not suit or are not designed for the new user must be replaced. This user's manual includes a service plan (see maintenance chart section 8) and detailed information about Woltornus sports wheelchairs.

11.2 Disposal

Woltornus sports wheelchair are delivered in a brown cardboard box that can be handed into to recycling centres or cardboard collection points. The protective bubble wrap on the frame must be disposed of as combustible waste. The aluminum frame must be disposed of as metal. The upholstery and sideguards must be disposed of as combustible waste.

12 Environment

Wolturnus A/S strives to respect the environment as far as possible. An assessment has been done to determine the Hawk wheelchair's effect on the environment during its life cycle. During development, materials and forms are chosen that minimise waste of energy and material during production.

Wolturnus A/S has a unique approach to individual user's measurement and to the subsequent special design of the chair to meet the user's needs, preferences and requirements. Combined with the wheelchair's mechanical quality, this ensures that the user can use the wheelchair for many years. The Hawk wheelchair lifetime is calculated to be approximately 5 years if maintained according to the instructions in this user's manual. The long lifetime limits the wheelchair's effect on the environment.

Furthermore, meticulous quality control throughout the production process ensures that faults are rare, which limits the need to use superfluous resources on repairs or replacement products.

Generally, all functions, working processes and labor at Wolturnus A/S are carried out with respect for the environment. Aluminum residue after the production process is collected in containers and delivered for recycling. During the mounting process, the usage of hazardous agents is kept to a minimum. Furthermore all work processes meet occupational safety requirements (APV). The usage of all materials is continually optimized to ensure minimum waste.

13 Manufacturer and Service Locations

Service Locations

Visit the following pages to find authorised distributors representing Wolturnus A/S in other countries: <http://wolturnus.dk/en/partners/> & <http://wolturnus.dk/de/berater/>

After-sales spare parts are available for all Wolturnus wheelchairs.

In Denmark, authorised sales consultants throughout the country are in direct contact with Wolturnus A/S about spare parts, service and repairs.

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