



Motus CV, Motus CS

EN Instructions for use 3

Table of contents

EN

1	Foreword	6
2	Product description	7
2.1	Function	7
2.2	Product overview	7
3	Intended use	9
3.1	Indications for use	9
3.1.1	Special features of the CLT version	9
3.2	Indications	9
3.3	Contraindications	9
3.3.1	Absolute Contraindications	9
3.3.2	Relative Contraindications	9
3.4	Qualification	9
4	Safety	9
4.1	Explanation of warning symbols	9
4.2	Safety instructions for assembly and adjustments	9
4.3	Safety instructions for use	10
4.4	Side effects	13
4.5	Further information	13
4.6	Nameplate and warning labels	13
5	Delivery	14
5.1	Scope of delivery	14
5.2	Options	14
5.3	Storage	14
5.3.1	Storage during daily use	14
5.3.2	Storage during extended disuse	14
6	Preparing the product for use	14
6.1	Assembly	14
7	Settings and assembly instructions	15
7.1	Prerequisites	15
7.2	Safety Instructions for Assembly	16
7.3	Adjusting the drive wheels	16
7.3.1	Setting the drive wheels horizontally	17
7.3.2	Adjusting the drive wheels vertically	17
7.3.3	Adjusting the drive wheel camber	18
7.3.4	Adjusting the track	20
7.3.5	Adjusting the quick-release axle	20
7.3.6	Adjusting the handrims	20
7.4	Adjusting the caster wheels	21
7.4.1	Adjusting the caster journal angle	21
7.4.2	Changing the installation position of the caster wheels	22
7.5	Adjusting the wheel locks	23
7.5.1	Adjusting the knee lever wheel locks	23
7.5.2	Adjusting the scissor wheel locks	23
7.5.3	Adjusting the braking force of the drum brake	24
7.6	Adjusting the back support	24
7.6.1	Adjusting the back support height	24
7.6.2	Adjusting the back support angle	25
7.7	Adjusting the back support upholstery / seat upholstery	25
7.7.1	Adjusting the back support upholstery	25
7.7.2	Adjusting the seat upholstery	26
7.8	Adjusting the leg supports	27
7.8.1	Adjusting the lower leg length	27
7.8.2	Adjusting the support angle	27
7.8.3	Adjusting the posterior lower leg pad on the elevating leg support	28

7.9	Adjusting the side panels	28
7.10	Adjusting the anti-tipper	29
7.11	Adjusting the lap belt	30
8	Delivery.....	30
8.1	Final inspection	30
8.2	Transport to the customer	31
8.3	Handing over the product.....	31
9	Use.....	31
9.1	Instructions for use.....	31
9.2	Getting in and transferring	31
9.3	Legrests	32
9.3.1	Removing and attaching the leg supports.....	33
9.3.2	Folding the foot plate up and down	34
9.3.3	Removing and fastening the calf strap	34
9.3.4	Adjusting the angle of the elevating leg support	35
9.3.5	Adjusting the leg supports.....	35
9.4	Seat and back upholstery.....	35
9.4.1	Removing and fastening the seat cushion.....	35
9.4.2	Removing and fastening the back support pad.....	36
9.5	Backrest	37
9.6	Side panels	37
9.6.1	Adjusting the height of the forearm support	39
9.6.2	Removing the side panels	39
9.6.3	Removing the padded arm support.....	40
9.7	Push handles.....	40
9.7.1	Adjusting the height of the push handles	40
9.7.2	Removing the push handles.....	41
9.8	Stabiliser bar	41
9.9	Drive wheels.....	42
9.9.1	Removing and mounting the drive wheels.....	42
9.9.2	Spoke protector	43
9.10	Caster wheels and caster forks.....	43
9.10.1	Approach in case of stiffness	43
9.11	Wheel locks	44
9.11.1	Using the wheel locks.....	44
9.11.2	Drum brake	45
9.12	Anti-tipper/tip-assist	46
9.12.1	Activating and deactivating the anti-tipper	46
9.12.2	Using the tip-assist.....	47
9.13	Crutch holder with hook-and-loop fastening strap	47
9.14	Wheelbase extension.....	47
9.15	Transport wheels	48
9.15.1	Using the transport wheels	48
9.16	Lap belt (seat belt)	49
9.17	Tray.....	49
9.18	Additional options	50
9.19	Disassembly and transport	50
9.20	Use in vehicles for transporting persons with reduced mobility.....	52
9.20.1	Required accessories	52
9.20.2	Using the product in a vehicle.....	53
9.20.3	Restrictions for use	56
9.21	Care	58
9.21.1	Cleaning	58
9.21.1.1	Cleaning by hand.....	58
9.21.1.2	Cleaning the seat cushion	58
9.21.1.3	Cleaning belts/straps	58
9.21.2	Disinfection	59

10	Maintenance and repair	59
10.1	Maintenance.....	59
10.1.1	Maintenance intervals	59
10.1.2	Maintenance tasks	60
10.2	Repair	60
10.2.1	Inner tube, rim tape and tyre replacement	60
11	Disposal	61
11.1	Disposal information	61
11.2	Information on re-use.....	62
12	Legal information	62
12.1	Liability	62
12.2	Warranty	62
12.3	Service life	62
13	Technical data	62
14	Appendices	64
14.1	Threshold values for wheelchairs transportable by train	64
14.2	Required tools	64
14.3	Torque values of the screw connections.....	65

1 Foreword

INFORMATION

Date of last update: 2020-03-19

- ▶ Please read this document carefully before using the product and observe the safety notices.
- ▶ Obtain instruction from the qualified personnel in the safe use of the product.
- ▶ Please contact the qualified personnel if you have questions about the product or in case of problems.
- ▶ Report each serious incident in connection with the product, in particular a worsening of the state of health, to the manufacturer and to the relevant authority in your country.
- ▶ Please keep this document for your records.

INFORMATION

- ▶ New information regarding product safety and product recalls as well as the declaration of conformity can be obtained at oa@ottobock.com or from the manufacturer's service department (see inside or outside of back cover for addresses).
- ▶ You can request this document as a PDF file at oa@ottobock.com or from the manufacturer's service department (see inside or outside of back cover for addresses). The PDF file can also be displayed in a larger size.

You have received a product that is very versatile for everyday use at home and outdoors.

In order to exclude injuries of any type, familiarise yourself with the handling, functions and intended use of the product before using it. These instructions for use provide you with the related necessary information.

Please note the following in particular:

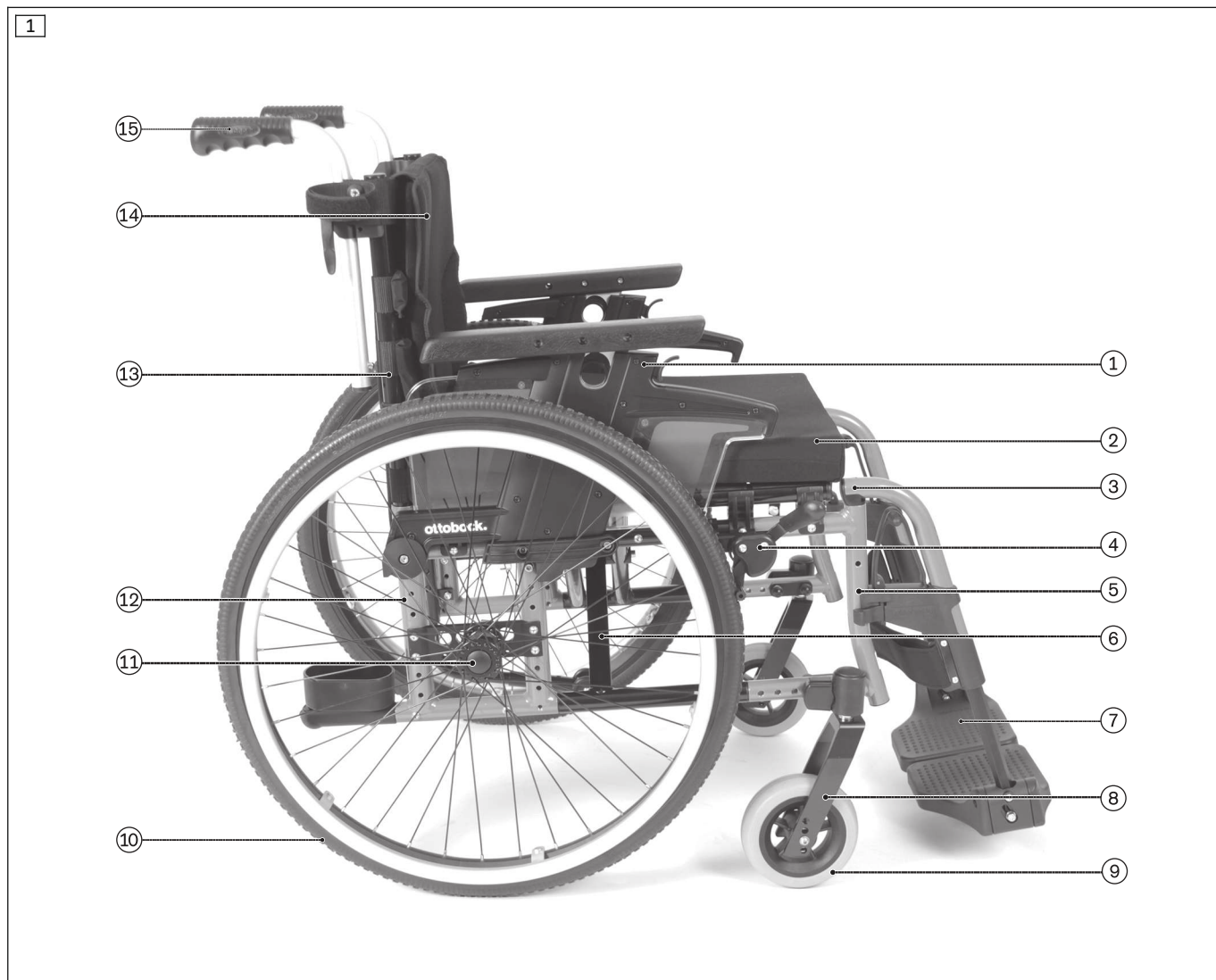
- All users and/or their attendants must be trained by qualified personnel in the use of the product. In particular, users and/or attendants must be informed of the residual risks with the aid of the safety notices in the instructions for use (user).
- The product was adapted to the needs of the user. Subsequent changes may be made only by qualified personnel. We recommend checking the product settings **once per year** to ensure optimal treatment over the long term. Especially for users with a changing anatomy (for example body dimensions, weight), an adjustment at least **once every six months** is recommended.
- Your product may differ from the models shown. In particular, not all the options described in these instructions for use will be installed on your product.
- The manufacturer reserves the right to make technical changes to the model described in these instructions for use.

2 Product description

2.1 Function

The wheelchair is intended exclusively for transporting one person on the seat.
The wheelchair can be used on solid ground both indoors and outdoors.

2.2 Product overview

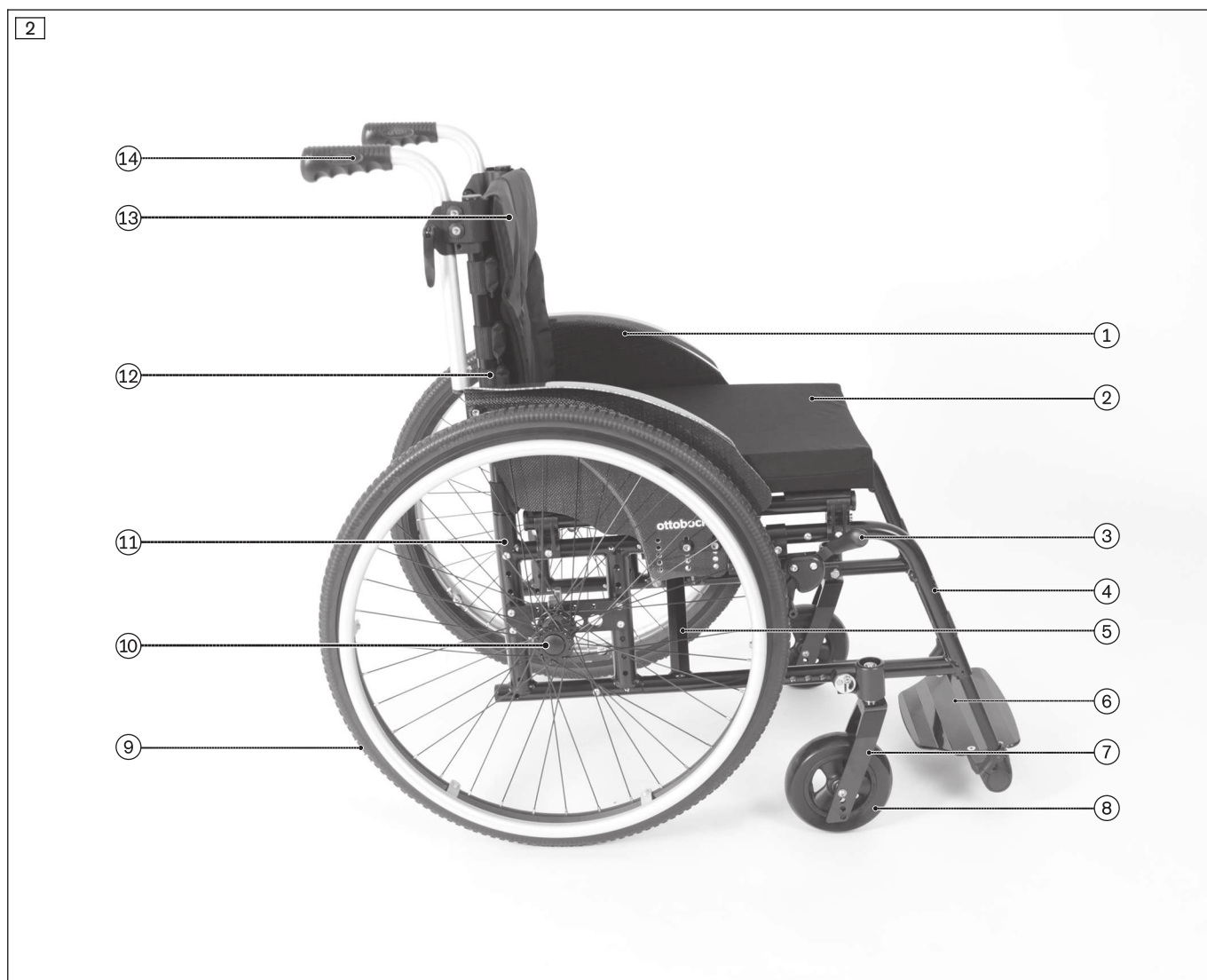


Motus CV

Maximum load: 125 kg (140 kg with double crossbrace)

Thanks to its frame geometry, the wheelchair makes it possible to guide the legs precisely. The leg supports can be swung away and removed.

1	Side panel	9	Caster wheel
2	Seat/seat pad	10	Drive wheel with handrim
3	Leg support (removable)	11	Release button for quick-release axle
4	Knee lever wheel lock	12	Rear frame
5	Front frame	13	Back tube
6	Crossbrace	14	Back support, back support upholstery
7	Foot plate (segmented)	15	Push handle
8	Caster fork		



Motus CS

Maximum load:125 kg (140 kg with double crossbrace)

Thanks to its closed, rigid frame geometry, the wheelchair enables particularly active driving. The leg support remains on the wheelchair.

1	Side panel	8	Caster wheel
2	Seat/seat pad	9	Drive wheel with handrim
3	Knee lever wheel lock	10	Release button for quick-release axle
4	Front frame	11	Rear frame
5	Crossbrace	12	Back tube
6	Foot plate (single-panel)	13	Back support, back support upholstery
7	Caster fork	14	Push handle

3 Intended use

The safe use of the product can only be ensured in case of intended use in accordance with the information contained in these instructions for use. The user is ultimately responsible for accident-free operation.

3.1 Indications for use

The wheelchair is intended for everyday indoor and outdoor use, by the user or an attendant, of people with temporary or permanent limitations of the ability to walk, inability to walk or difficulty standing up.

The product is suitable for users with intact skin whose anatomy (such as body dimensions and weight) permits the intended use of the product.

The wheelchair may only be used with the options listed on the product order form.

Ottobock assumes no liability for combinations with medical devices and/or accessories from other manufacturers outside the modular system.

Combinations based on a combination agreement that have been evaluated for effectiveness and safety are an exception to this.

3.1.1 Special features of the CLT version

In the CLT version, the wheelchair features permanently welded side supports for mounting the drive wheel attachment devices, a permanently welded back support and permanently welded caster attachment devices. In this weight-saving version, the back support height and back support angle, for example, cannot be subsequently adjusted. Furthermore, installation of certain options is not possible with this version.

For these reasons, this wheelchair version is intended only for experienced users with sporting ambitions who, thanks to their physiological capabilities, are able to handle the wheelchair proficiently. Before fitting with this version, the user should be examined intensively for suitability (adequate physiological capabilities).

3.2 Indications

- Minor to pronounced or complete restrictions of mobility

3.3 Contraindications

3.3.1 Absolute Contraindications

- None known

3.3.2 Relative Contraindications




- Failure to meet physical or mental requirements

3.4 Qualification


Installation and adjustment tasks may only be carried out by qualified personnel. Compliance with all manufacturer specifications and all applicable legal provisions is required. Please contact the manufacturer's service department for further information (see inside or outside of rear cover for addresses).

4 Safety

4.1 Explanation of warning symbols

 WARNING	Warning regarding possible serious risks of accident or injury.
 CAUTION	Warning regarding possible risks of accident or injury.
 NOTICE	Warning regarding possible technical damage.

4.2 Safety instructions for assembly and adjustments

 WARNING Making incorrect adjustments Risk of falling, tipping over or malposition of the user due to incorrect settings <ul style="list-style-type: none"> ▶ Settings may only be changed by qualified personnel unless otherwise prescribed. ▶ Before testing setting changes with the user seated, all screw connections must be firmly tightened. ▶ Check the product for safety and functionality after changing the settings.

4.3 Safety instructions for use

Hazards during preparation for use

⚠ WARNING

Independent modification of settings

Serious injuries to the user due to improper changes to the product

- ▶ Do not modify the settings established by the qualified personnel. Only the settings described in the section "Use" in these instructions for use may be adjusted independently.
- ▶ In case of problems with the settings, please contact the qualified personnel who adjusted your product.

⚠ WARNING

Improper handling of packaging materials

Risk of suffocation due to neglect of the duty to supervise

- ▶ Packaging materials must be kept out of the reach of children.

Risk of hand injuries

⚠ CAUTION

Pinching on components

Pinching, crushing due to lack of caution in danger areas

- ▶ Do not reach between the drive wheel and wheel lock or drive wheel and side panel when driving the wheelchair.
- ▶ Do not reach into the spokes of the rotating drive wheel.
- ▶ Pay attention not to pinch parts of your body at the wheel lock lever or between the side or frame parts.

⚠ CAUTION

Heat development when braking with handrims

Burns due to insufficient hand protection

- ▶ Wear wheelchair gloves when travelling at high speeds.

Hazards while driving

⚠ WARNING

Improper use of the wheel lock

Falling due to abrupt braking, rolling away of the wheelchair, damage to the wheel lock

- ▶ Do not use the wheel lock as a driving brake.
- ▶ Apply the wheel lock to prevent the wheelchair from moving on uneven ground or during transfers (e.g. into a car).

⚠ CAUTION

Lack of driving experience

Tipping over, falling due to errors in handling the product

- ▶ Practise on level, open ground first.
- ▶ Learn with the support of an assistant how the product reacts to changes in centre of gravity, e.g. downward or upward slopes, inclines or when overcoming obstacles.

⚠ CAUTION

Leaning forward in the wheelchair

Tipping over, overturning due to incorrect centre of gravity

- ▶ Do not lean too far out of the wheelchair when trying to pick up objects.
- ▶ Lean well forward with your upper body when climbing gradients, overcoming obstacles on gradients or on ramps. If users cannot lean their upper body forward, accompanying persons must support the wheelchair from behind.

⚠ CAUTION**Risky operation**

Falling, tipping over backwards due to approaching obstacles incorrectly

- ▶ Push slowly when crossing obstacles (e.g. steps, curbs) and negotiating uphill or downhill slopes and inclines.
- ▶ Never cross obstacles at an angle. Always approach obstacles head on (at an angle of 90°).
- ▶ Raise the front wheels before crossing obstacles.
- ▶ Avoid collisions with obstacles and dropping off curbs/ledges.
- ▶ Avoid riding cross-country.

⚠ CAUTION**Lack of tipping resistance on public transport**

Tipping over, user falls, damage to the product due to incorrect positioning

- ▶ When using public transit, always observe the currently applicable legal requirements and the safety notices of the public transit operator.
- ▶ Use the permanently installed seats in the vehicle. If you depend on using your wheelchair as a seat, please use the designated wheelchair spaces and safety securing equipment provided. Always ensure that you are held in place securely.

⚠ CAUTION**Incorrect handling at level crossings**

User may fall or tip over due to driving error

- ▶ Only cross railway systems and railway tracks in the designated areas.
- ▶ Negotiate level crossings so the caster wheels of the product cannot get caught in the gap between the rail and the road surface.

⚠ CAUTION**Driving in the dark**

Risk of collisions with other traffic participants due to lack of lighting

- ▶ Wear bright clothing or clothing with reflectors.
- ▶ Install active lighting on your product.
- ▶ Ensure that the reflectors on the product are clearly visible.

Hazards when overcoming obstacles**⚠ WARNING****Overcoming steps and obstacles without assistance**

Tipping over, falling of the user due to failure to observe transportation instructions

- ▶ Always have accompanying persons help you negotiate steps and other obstacles.
- ▶ Use available facilities (e.g. access ramps or lifts).
- ▶ If such facilities are not available, have 2 assistants carry you over the obstacle.

⚠ WARNING**Improper lifting by attendants**

Tipping over, falling of the user due to lifting on components that come loose or are not intended for lifting

- ▶ Only lift the product on permanently welded components (e.g. main frame).
- ▶ Do not lift the product on components installed with screw connections or add-on components.

⚠ WARNING

Reduced ground clearance with the "foot-propelled chair" option

Tipping over, falling due to getting caught on obstacles

- ▶ Please note that wheelchairs with the "foot-propelled wheelchair" option might fall below the minimum ground clearance of **40 mm** depending on the selected settings for the lower leg length and the front seat height.
- ▶ Adjust your driving to the reduced ground clearance and exercise particular caution with obstacles on the ground e.g. steps, curbs and thresholds.

Hazard in case of broken skin

⚠ CAUTION

Skin damage

Skin damage or pressure points due to overloading

- ▶ Check your skin for intactness before and during use of the product.
- ▶ Pay attention to diligent skin care and pressure redistribution during interruptions in using the product.
- ▶ If skin damage or other problems occur during use, stop using the product. Consult the qualified personnel.

Hazards due to fire, heat and cold

⚠ CAUTION

Extreme temperatures

Hypothermia or burns due to contact with components, failure of components

- ▶ Do not expose the product to any extreme temperatures (e.g. direct sunlight, sauna, extreme cold).
- ▶ Do not leave the product in the immediate vicinity of heaters.

Hazards due to improper use of the product

⚠ WARNING

Overloading

Severe injuries if the product tips over due to overloading, damage to the product

- ▶ Do not exceed the maximum load capacity (see the nameplate and section "Technical data").
- ▶ Please note that certain accessories and add-on components will reduce the remaining load capacity.

⚠ WARNING

Exceeding the service life

Serious injuries due to failure to observe the manufacturer's requirements

- ▶ Using the product beyond the specified expected service life leads to increased residual risk.
- ▶ Observe the specified service life.

⚠ WARNING

Incorrect pushing or pulling of the wheelchair

Risk of falling, tipping over due to user error

- ▶ Only the push handles may be used for pushing or overcoming obstacles. The tip-assist should be used in addition.
- ▶ If a stabiliser bar is installed, it must **not** be used for pulling or pushing.
- ▶ The attendant should make sure that he/she has a secure stance and firm grip (on both sides).
- ▶ In case of damage, have the push handles repaired promptly.

⚠ CAUTION

Use of the product during diagnostic examinations and therapeutic treatment

Impairment of the examination results or the effectiveness of treatment due to interactions of the product with devices that are used

- ▶ Make sure that examinations and treatments are carried out exclusively under the prescribed conditions.

CAUTION

Uncontrolled driving behaviour, unexpected sounds or odours

Falling, tipping, collision with persons or nearby objects due to defects

- ▶ If any faults, defects or other hazards that can lead to personal injury are detected, the product must be taken out of service immediately. This includes uncontrolled movements as well as sounds that are unexpected or previously not noted or odours that deviate significantly from the state of the product at the time of delivery.
- ▶ Contact the qualified personnel.

NOTICE

Use under incorrect environmental conditions

Damage to product due to corrosion or abrasion

- ▶ Do not use the product in salt water.
- ▶ Make sure that the wheel bearings are not damaged by sand or other particles.

4.4 Side effects

The following side effects may occur during use of the product:

- Neck, muscle and joint pain
- Circulatory disorders, risk of pressure sores

Contact a doctor or therapist in case of problems.

4.5 Further information

INFORMATION

Even in the event of compliance with all applicable guidelines and standards, alarm systems (e.g. in department stores) may respond to your product. Should this happen, remove your product from the area where the alarm was triggered.

INFORMATION

The serial number required for enquiries and orders can be found on the nameplate. For explanations of the nameplate, see the section "Nameplate" (Nameplate).

4.6 Nameplate and warning labels

The nameplates are found on the crossbrace.


Label	Meaning
	A Manufacturer's product name
	B CE marking
	C Maximum load (see section "Technical data")
	D Manufacturer information/address
	E Serial number ¹⁾
	F Manufacturing date ²⁾
	G Symbol for medical device
	H WARNING! Read the instructions for use before using the product. Observe important safety-related information (e.g. warnings, precautions).
	I Manufacturer's reference number for the product variant
	J Serial number (PI) ^{3),1)}
K Global Trade Item Number (DI) ⁴⁾	

1) YYYY = year of manufacture; WW = week of manufacture; PP = production site; XXXX = sequential production number

2) YYYY = year of manufacture; MM = month of manufacture; DD = day of manufacture

3) UDI-PI to GS1 standard; UDI = Unique Device Identifier, PI = Product Identifier

4) UDI-DI to GS1 standard; UDI = Unique Device Identifier, DI = Device Identifier

Label	Meaning
	Fixation point to attach the product in vehicles for transporting persons with reduced mobility

5 Delivery

5.1 Scope of delivery

- Wheelchair ready for use
- Instructions for use
- Instructions for use for accessories (depending on equipment)

5.2 Options

The standard model can be fitted to the user's personal requirements thanks to a large range of options. For use of these options: see Page 31 ff.

5.3 Storage

5.3.1 Storage during daily use

The product should always be stored so it is protected against external influences.

5.3.2 Storage during extended disuse

The product must be stored in a dry place. Specific information for extended storage: see Page 62.

It is not necessary to disassemble the product.

Maintain sufficient clearance from sources of heat. If the product is parked for an extended period of time or the tyres overheat (e.g. in the vicinity of radiators or in case of exposure to strong sunlight behind glass), the tyres may become permanently deformed.

During extended storage, the knee lever wheel lock on wheelchairs with PU tyres (= tubeless tyres) must be released since tyre deformation may otherwise result.

6 Preparing the product for use

6.1 Assembly

⚠ CAUTION

Exposed pinch points

Crushing, pinching due to incorrect handling

- ▶ When folding the wheelchair out or together, only grip by the specified components.

⚠ CAUTION

Failure to verify readiness for use before putting into operation

Tipping, falling due to incorrect adjustment or installation

- ▶ Before you start using the wheelchair for the first time, check the chosen wheelchair settings with the support of qualified personnel.
- ▶ After every assembly, check for proper mounting of the drive wheels. The quick-release axles must be securely locked in the receiver bushings.
- ▶ Pay particular attention to the stability against tipping, free running of the drive wheels and correct function of the brakes/wheel locks.

INFORMATION

On the topic of disassembly/transport: see Page 50.

It only takes a few simple steps to prepare the wheelchair for use:

- 1) Attach the drive wheels to the receiver bushings (see fig. 3):
 - Press the button on the quick-release axle.
 - Attach the drive wheel to the receiver bushing and release the button on the quick-release axle.

- The quick-release axles must not be removable after releasing the push-button.
- 2) Unfold the wheelchair:
 - Loosen the safety strap.
 - Push the wheelchair apart with the flat of your hand (see fig. 4, see fig. 5).
 - 3) Pull the flap of the back support upholstery up and attach it to the seat upholstery with the hook-and-loop fastener (see fig. 6).
 - 4) **Motus CV only:** If necessary: Attach the leg supports (see Page 33).
 - 5) Fold down the foot plates (see Page 34).
 - 6) **If necessary:** Fit the seat cushion (see Page 35).



7 Settings and assembly instructions

7.1 Prerequisites

⚠ WARNING

Making incorrect adjustments

Tipping over, falling or malposition of the user due to incorrect adjustments

- ▶ Adjustment and assembly work may be carried out only by qualified personnel.
- ▶ Only the adjustments described in these instructions for use may be carried out.
- ▶ Settings may only be changed within the allowable adjustment ranges; otherwise, the stability of the product may be impaired (see this section and the "Technical data" section). If you have questions, contact the manufacturer's service department (see inside back cover for addresses).
- ▶ Only conduct tests in the presence of an assistant.
- ▶ Unless expressly described, you may not change any settings with a person sitting in the product.
- ▶ Secure the user against falling out during all tests.
- ▶ Before testing setting changes with the user seated, firmly tighten all screw connections.
- ▶ Check for safe function before delivering the product.

⚠ CAUTION

Unsecured screw connections

Pinching, crushing, tipping over, falling of user due to assembly errors

- ▶ Always firmly re-tighten the mounting screws and nuts after changing settings. Observe the specified torques in doing so.
- ▶ Any time you loosen a screw connection with thread lock, replace it with a new screw connection with thread lock or secure the old screw connection with medium strength thread locker (e.g. Loctite 241).
- ▶ Always replace self-locking screws and nuts with new self-locking screws and nuts after disassembly.

Fine-tuning and adjustments should always be carried out in the presence of the user. The user should be sitting upright in the wheelchair while making adjustments.

All parts of the product should be cleaned thoroughly before adjustments are made.

The tools required for adjustments and maintenance tasks as well as the torque values for screw connections are listed in the section "Appendices" (see Page 64).

7.2 Safety Instructions for Assembly

⚠ WARNING

Changed diameter/installation position of the wheels

Tipping, falling over of the user due to blocked wheels

- ▶ Modification of the size and position of the front wheels and of the drive wheel size can lead to wobbling of the front wheels at higher speeds. If changes are required, verify the horizontal alignment of the wheelchair frame (see the section "Adjusting the drive wheels", "Adjusting the caster wheels").

⚠ WARNING

Improper assembly of removable wheels

Tipping, falling over of the user due to wheels coming off

- ▶ After each assembly, verify the proper fit of the removable wheels. The quick-release axles must be firmly locked in the wheel attachment.

⚠ CAUTION

Use of unsuitable tools

Pinching, crushing or damaging the product due to use of unsuitable tools

- ▶ When completing the tasks, only use tools that are suitable for the conditions at the place of work and for which safety and the protection of health are assured with proper use.
- ▶ Observe the specifications in the section "Required Tools".

NOTICE

Tipping or falling of the product

Damage to product due to lack of attachment

- ▶ When you work on the product, secure it so that it cannot tip over or fall over.
- ▶ Use a clamping fixture to secure the product whenever you work on it at a workbench.

7.3 Adjusting the drive wheels

⚠ WARNING

Lack of fine adjustment of the drive wheels

Tipping over, falling of the user due to incorrect adjustment

- ▶ Check the standard adjustments of the wheelchair for stability against tipping and function of the drive wheels. Avoid any extreme settings.

⚠ WARNING**Incorrectly adjusted wheelbase**

Tipping over, falling of the user due to unstable settings

- ▶ Please note that with the drive wheel in a more forward mounting position and with an unfavourable body position, the user may tip backwards even on level ground.
- ▶ Use an anti-tipper for inexperienced users and with extreme settings of the drive wheel.
- ▶ Be sure to position the drive wheels towards the rear for transfemoral amputees. This improves the stability of the wheelchair.

INFORMATION

Changing the drive wheel position can also change the angle between the caster wheel journal and the ground. However, this must always be **approx. 90°** and thus readjusted accordingly. The knee lever wheel lock also has to be readjusted.

7.3.1 Setting the drive wheels horizontally

The horizontal position of the drive wheels is adjusted by moving the fitting horizontally in the drive wheel adapter. Changing the drive wheel position has the following effects:

Position of drive wheel	Effects
Move backwards (passive setting)	<ul style="list-style-type: none"> • Larger wheelbase • Larger turning circle • Greater stability of the wheelchair • Wheelchair is harder to tip backwards when crossing obstacles • Position recommended for inexperienced users
Move forwards (active setting)	<ul style="list-style-type: none"> • Smaller wheelbase • Less load on caster wheels = greater manoeuvrability • Less stability of the wheelchair • Wheelchair is easier to tip backwards when crossing obstacles • INFORMATION: An anti-tipper should be installed if necessary. • Setting recommended only for experienced users

The drive wheel can be installed at 4 depth positions in the drive wheel adapter.

- 1) Remove the wheels.
- 2) Loosen the hexagon nut (see fig. 7, item 1) from the fitting and remove the fitting towards the inside.
- 3) Slide the fitting back on in the desired position and tighten the hexagon nut slightly.
- 4) Check the toe-in and adjust as needed (see Page 20).
- 5) **If necessary:** The distance between the drive wheel and the side panel can be continuously adjusted by turning the counter nut on the fitting.
- 6) Tighten the hexagon nut (see fig. 7) and the counter nut on both sides of the fitting to **50 Nm**.
INFORMATION: After adjustment, the distance of the left and right fittings to the side panel must be the same.
- 7) Check the depth setting. Both sides must be positioned exactly the same. Readjust if required.
- 8) **If necessary:** Readjust the height and alignment of the caster attachment device as well as the wheel locks (see information at the start of the section).

7.3.2 Adjusting the drive wheels vertically

The vertical position of the drive wheels can be changed by vertically moving the drive wheel adapter in the frame. Combined with adjusting the height of the caster wheels, this also allows the seat height to be optimally adjusted to individual requirements.

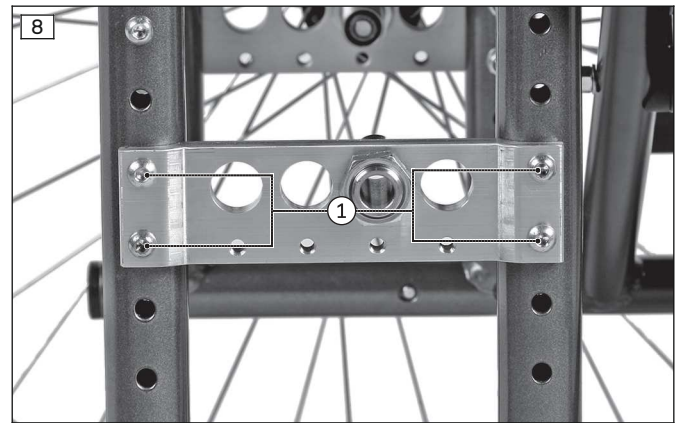
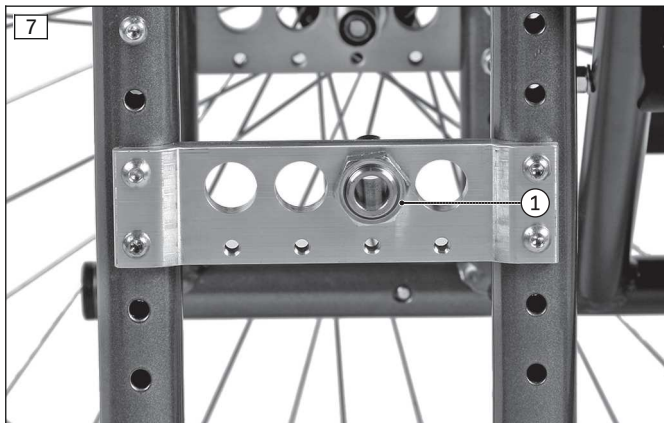
Changing the drive wheel position has the following effects:

Drive wheel position	Effects
Move upwards	<ul style="list-style-type: none"> • The higher the drive wheel position, the more the seat surface is tilted to the rear • Wheelchair is easier to tip backwards when crossing obstacles

Drive wheel position	Effects
	<ul style="list-style-type: none"> The change in the centre of gravity results in a lower, more stable seat position in the wheelchair The seat height can be further adjusted in combination with a height adjustment of the caster wheels.
Move downwards	<ul style="list-style-type: none"> The lower the drive wheel position, the less the seat surface is tilted to the rear Wheelchair is harder to tip backwards when crossing obstacles The seat height can be further adjusted in combination with a height adjustment of the caster wheels.

The drive wheel can be installed at 4 height positions.

- 1) Remove the wheels.
- 2) Remove the Allen head screws/counter nuts (see fig. 8).
- 3) Push the drive wheel adapter to the desired position.
- 4) **If necessary:** Additional drive wheel positions can be obtained by turning the drive wheel adapter by **180°**.
 - In this case, the fitting also has to be installed again (see previous section).
 - The toe-in has to be readjusted as well (see Page 20).
- 5) Insert and tighten the Allen head screws/counter nuts to **8 Nm** (see fig. 8).
- 6) **Only after rotating the drive wheel adapter:** Tighten the screw connection on the fitting to **50 Nm**.
 - Once changed, the left and right drive wheel adapters must both have the same vertical position in the frame.



7.3.3 Adjusting the drive wheel camber

The modular system of the product offers camber washers for different sloped settings of the drive wheels. The drive wheel camber is adjusted by exchanging the camber washers in the fitting (quick-release axle mounting). This has the following effects:

Position of drive wheel	Effects
0° position	<ul style="list-style-type: none"> Narrow track, excellent straight-line stability Low rolling resistance
Wheel camber	<ul style="list-style-type: none"> Wheelchair becomes more manoeuvrable, turns faster and tips less easily to the side The wheel position protects the hands when turning the handrim Overall width increases Increased rolling resistance

The drive wheel camber can be set to 0° or 2.5° (1° or 3.5° with drive wheel attachment device for 3.5° wheel camber).

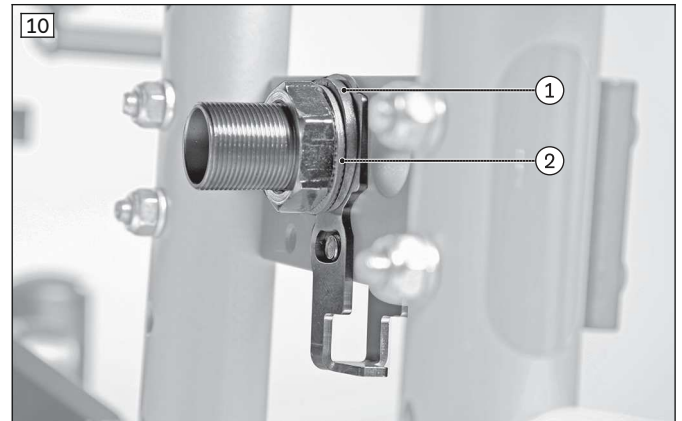
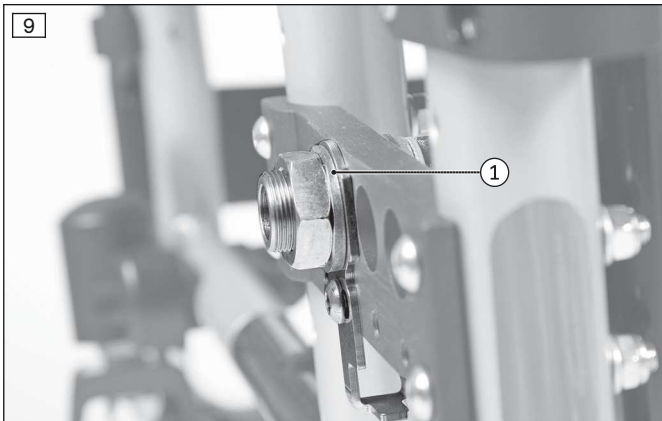
The settings can be configured with a corresponding alignment of the camber washers:

Position on the drive wheel adapter	Drive wheel camber	
	2.5° (3.5°)	0° (1°)
Exterior	1x camber washer (see fig. 9) Alignment B ¹⁾	---

Position on the drive wheel adapter	Drive wheel camber	
	2.5° (3.5°)	0° (1°)
Inside	---	1x camber washer (see fig. 10, item 1) Alignment A ¹⁾
		1x camber washer (see fig. 10, item 2) Alignment B ²⁾

¹⁾ **Alignment A:** The thicker/heavier side of the camber washer is on top.

²⁾ **Alignment B:** The thinner side of the camber washer is on top.

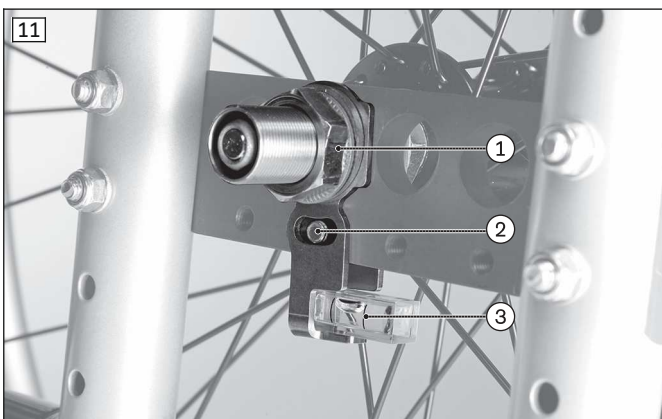


INFORMATION

- Please be aware that with a larger negative camber the overall width of the wheelchair increases and the drive wheels are subjected to higher stress.

Adjusting the drive wheel camber

- 1) Remove the wheels.
- 2) Loosen the hexagon nut on the inside from the fitting (see fig. 11, item 1) and remove the fitting to the outside.
- 3) Slide the camber washers onto the quick-release axle receiver bushing according to the table and align them.
- 4) Slide the fitting back on and tighten the hexagon nut slightly (see fig. 11, item 1). Readjust the toe-in before tightening (see Page 20).
- 5) **If necessary:** The distance between the drive wheel and the side panel can be continuously adjusted by turning the counter nut.
- 6) Tighten the hexagon nut and the counter nut on both sides of the fitting to **50 Nm**.
INFORMATION: After adjustment, the camber of the left and right drive wheels must have the same angle.
- 7) **If necessary:** Readjust the height and alignment of the caster attachment device as well as the wheel locks (see information at the start of the section).



7.3.4 Adjusting the track

INFORMATION

- ▶ The track setting must be checked and, if necessary, adjusted after the following adjustments have been made:
 - Adjusting the vertical position of the drive wheels
 - Adjusting the horizontal position of the drive wheels
- ▶ The track setting must be adjusted after the following adjustments have been made:
 - Adjusting the drive wheel camber
 - Adjusting the track

INFORMATION

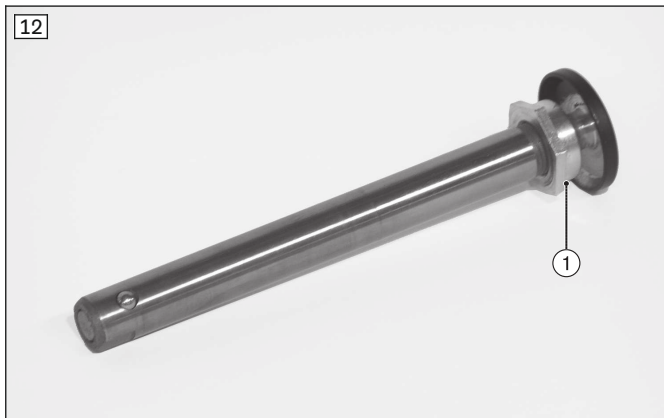
- ▶ Always make the track adjustment on both sides and check both sides.
- ▶ With each track adjustment, always check the symmetry of the track width setting.
- ▶ The caster wheel journal angle should be checked immediately after every adjustment to the track (see Page 21).

- 1) Slightly loosen the hexagon nut (see fig. 11, item 1) and the counter nut (not illustrated) on the fitting.
 - 2) Loosen the oval head head screw on the plate for track correction (see fig. 11, item 2).
 - 3) With the help of the adjustment aid (spirit level), adjust the track by slightly turning the camber washers (see fig. 11, item 3).
 - 4) Tighten the hexagon nuts on both sides of the fitting to **50 Nm**.
- Once changed, the left and right fittings must both have the same vertical position in the drive wheel adapter.

7.3.5 Adjusting the quick-release axle

The quick-release axle should be set so the wheel is correctly engaged, with no play on the axle.

- 1) Hold the quick-release axle by the head (wrench size: **19 mm**) and by the tip (wrench size: **11 mm**) with a ring and open-ended wrench respectively.
- 2) Adjust the play by turning the nut on the end of the quick-release axle (see fig. 12, item 1) in or out.



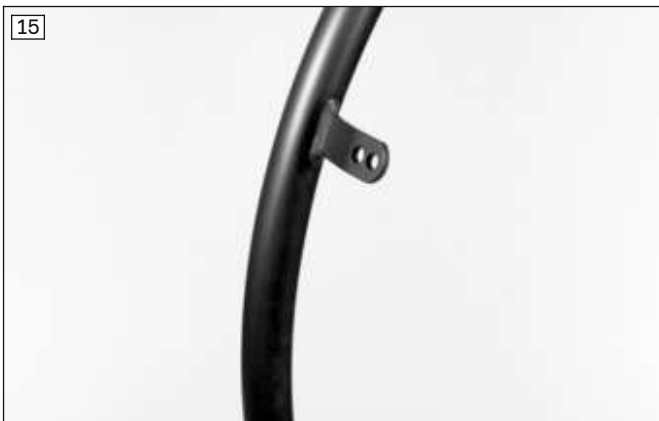
7.3.6 Adjusting the handrims

INFORMATION

This section does not apply to standard wheels.

All handrims are designed for a spacing from the drive wheel of **15 mm** (standard setting) and **25 mm**.

- 1) Loosen/remove the handrim screw connection from the rim (see fig. 14).
- 2) Tightly screw the handrims onto the rim in narrow or wide installation position.



7.4 Adjusting the caster wheels

7.4.1 Adjusting the caster journal angle

When the drive wheels have been adjusted for the user, the caster journal angle must be adjusted at the caster wheel adapter.

The threaded axle in the caster wheel adapter should be perpendicular to the ground to ensure optimum rolling behaviour of the wheelchair. The caster wheel adapter permits a continuous adjustment of this angle.

- 1) Pull off the protective caps on the caster wheel adapters with the help of a screwdriver (see fig. 17).
 - 2) Slightly loosen the mounting screws on the inside of the frame (see fig. 18; see fig. 19).
 - 3) Slightly loosen the Allen head screw on the eccentric (see fig. 20, item 1).
 - 4) Position the spirit level (see fig. 20, item 2).
 - 5) On the eccentric disc, set the caster angle to **90°** with a wide flat screwdriver. The bubble in the spirit level must be in the centre position (see fig. 20, item 3).
 - 6) Tighten the Allen head screw on the eccentric to **8 Nm** (see fig. 20, item 1).
 - 7) Firmly tighten the Allen head screws on the inside of the frame (see fig. 19).
- The threaded axle on both caster wheel adapters must be positioned vertically.

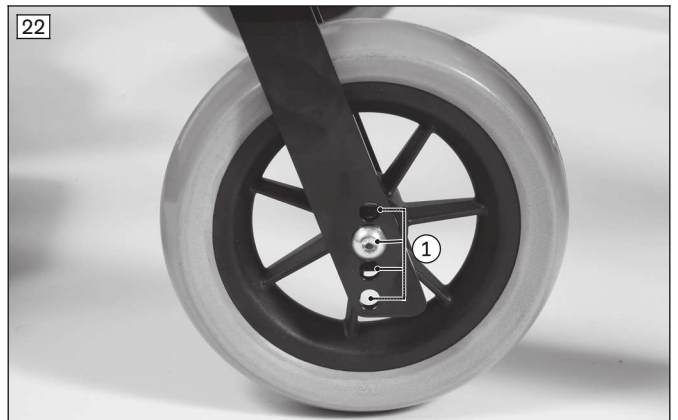


7.4.2 Changing the installation position of the caster wheels

The seat height/angle can be subsequently adjusted by changing the position of the casters in the caster forks or using different wheel sizes.

Please refer to the installation matrix in the section "Technical data" for permitted positions and combinations of drive wheels and caster wheels.

- 1) Loosen the screw connection on the threaded axle (see fig. 21, item 1).
 - 2) Remove the screw/threaded sleeve, spacers and (if applicable) nuts.
 - 3) Remove the caster wheel.
 - 4) Insert the screw/threaded sleeve with the first spacer bushing offset in one of the 4 holes (see fig. 22, item 1).
 - 5) Install the caster wheel.
 - 6) Slide on the second spacer bushing (not pictured).
 - 7) Tighten the screw/nut to **8 Nm**.
- Once changed, the left and right caster wheels must have the same vertical position in the caster fork.
- Once the front seat height has been adjusted, the caster journal angle must be checked and if necessary readjusted.



7.5 Adjusting the wheel locks

⚠ WARNING

Failure to verify brake functionality

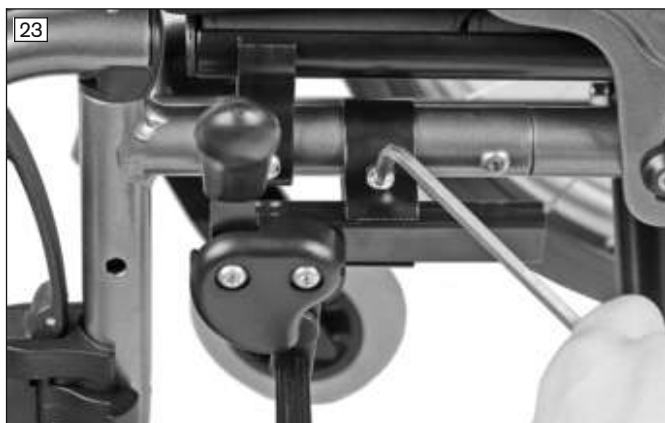
Accident, user falls due to incorrect adjustment and improperly inflated tyres

- ▶ Check the correct spacing between the wheel lock bolt and tyre (see the following section for details).
- ▶ Check the correct position of the wheel lock bolt relative to the tyre. During braking, the wheel lock bolt has to cover at least half the tyre width.
- ▶ Always carry out adjustments to the wheel lock on both sides.
- ▶ Ensure that the user can operate the wheel lock without great effort. The force required to do so must not exceed 60 N.
- ▶ Check the tyre pressure of the drive wheels. Note the information in the section “Technical data” or on the tyre sidewall.
- ▶ Only use original drive wheels with a verified maximum radial out-of-round of **1 mm**.

This adjustment must be made for fine adjustment of the wheel lock.

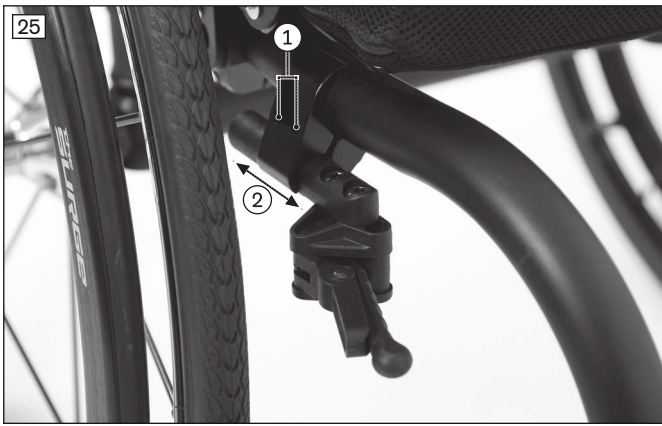
7.5.1 Adjusting the knee lever wheel locks

- 1) Loosen the Allen head screws on the clamp fitting (see fig. 23).
 - 2) The knee lever wheel lock is continuously moveable and adjustable (see fig. 24). When the wheel lock is disengaged, the gap between the tyre and wheel lock bolt must not exceed **5 mm**.
 - 3) Tighten the Allen head screws to **10 Nm**.
- After adjustment, the left and right knee lever wheel locks must both have the same braking force.



7.5.2 Adjusting the scissor wheel locks

- 1) Loosen the Allen head screws in the clamp brackets (see fig. 25, item 1).
 - 2) Adjust/move the support for the scissor wheel lock to any position in the clamp bracket (see fig. 25, item 2).
If necessary: Slide and twist the clamp bracket on the seat tube.
 - 3) Install the scissor wheel lock so that the full braking force is reached and the swivelling parts can also move freely without colliding.
 - The scissor wheel lock must not hit the frame when it is open (see fig. 25).
 - It must be impossible to push the wheelchair with the wheel locks engaged (see fig. 26).
 - 4) Tighten the Allen head screws to **15 Nm** (see fig. 25, item 1).
- After adjustment, the left and right scissor wheel locks must both have the same braking force.



Special Requirements for Adjustments to the Scissor Wheel Locks

Depending on the adjustment, it may be necessary to rotate or replace the support for the wheel lock. This makes further wheel lock adjustments possible.

7.5.3 Adjusting the braking force of the drum brake

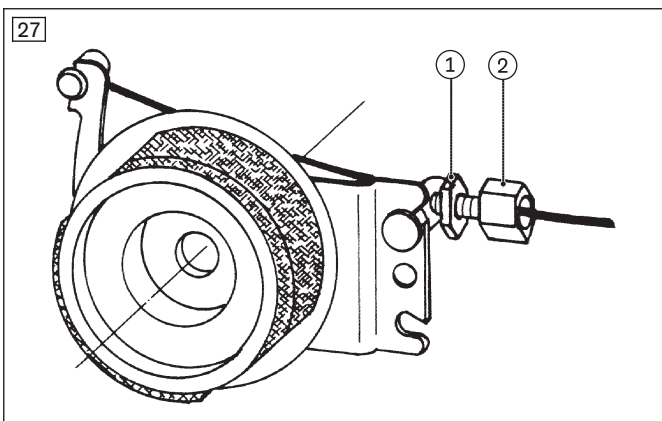
INFORMATION

After making adjustments, check that activating the manual brake lever creates a sufficient braking effect.

Note that the drum brake must still be able to produce sufficient braking force even when the manual brake lever is locked into a ratchet position.

To achieve an optimum braking effect, the braking force is adjusted using the adjustment screw (see fig. 27, item 2).

- **Increase the braking force:** Back off the adjusting screw.
 - **Reduce the braking force:** Screw in the adjustment screw.
- 1) Loosen the counter nut (see fig. 27, item 1) and back off the adjustment screw until a scraping noise can be heard when the rear wheel is rotated.
 - 2) Screw in the adjustment screw (see fig. 27, item 2) until the scraping noise at the rear wheel disappears and the wheel runs freely.
 - 3) Tighten the counter nut (see fig. 27, item 1) until the adjustment screw is fixed.
- The braking force of both rear wheels must be adjusted equally.



7.6 Adjusting the back support

7.6.1 Adjusting the back support height

The height of the back tube is adjustable. Adjustment can be made within the hole matrix at intervals of **25 mm** over a range of **100 mm**.

1) Preparation:

- Remove the drive wheels and secure the wheelchair by jacking it up.
- Remove any add-on components attached to the back tubes that are in the way (for instance the side panel mounts, see fig. 28).

- 2) Remove all screws from the rear frame tube, including the screw connections of the drive wheel adapter (see fig. 29).
- 3) Slide both back tubes to the desired height. Both back tubes must be set to the same height.
- 4) Insert the screws into the rear frame tube and tighten to **8 Nm**.
In doing so, slide the back tube at least **79 mm** into the frame tube and always mount it with 2 screws.



7.6.2 Adjusting the back support angle

⚠ WARNING

Missing anti-tipper

Tipping over, falling of the user due to missing safety devices

- ▶ If the back is tilted far to the rear and in the case of a short wheelbase, 2 anti-tippers (one on each side) must be mounted and in a functional position; in the case of a long wheelbase, at least one anti-tipper must be mounted and in a functional position.
- ▶ Check that the anti-tipper is securely attached.

With the "30° back angle adjustment" option, the backrest angle can be adjusted from **90° to 120°** (see Page 37).

7.7 Adjusting the back support upholstery / seat upholstery

7.7.1 Adjusting the back support upholstery

INFORMATION

A well-adjusted back support provides lasting comfort for the wheelchair user and reduces the risk of secondary damage and pressure zones. Do not create too much pressure.

INFORMATION

Ensure that the user's pelvis is positioned as far back in the wheelchair as possible, i.e. between the back tubes.

The adjustable back support upholstery can be adapted in segments to the needs of the user.

- 1) Remove the seat cushion.
- 2) Pull the back support pad up and off the hook-and-loop fastener on the back support upholstery.
- 3) Loosen the back support straps and then fasten them together with the desired tension (see fig. 30, see fig. 31).
- 4) Put on the back support pad and attach it to the hook-and-loop fastener on the back support upholstery.
- 5) Put on the seat cushion and secure it with the hook-and-loop fastener.



7.7.2 Adjusting the seat upholstery

The seat upholstery usually does not need to be adjusted during the initial fitting. However, the tension can be changed.

INFORMATION

You can slightly correct the centre of gravity by making small changes to the dip of the seat upholstery. Larger corrections to the centre of gravity must, however, be made by making changes to the settings on the frame, the axle unit and the caster wheels.

"Standard" seat upholstery

- 1) Slightly fold the wheelchair and remove the seat cushion.
- 2) Remove the protective caps (see fig. 32).
- 3) Remove the seat upholstery from the crossbrace (not illustrated).
- 4) If necessary, tighten the seat upholstery with the aid of the hook-and-loop fastener on the bottom of the seat upholstery (see fig. 33).
- 5) Push the seat upholstery onto the crossbrace.
- 6) Slide on the protective caps.
- 7) Unfold the wheelchair. In doing so, the crossbrace must be seated fully in the support guides.



"Adaptable" seat upholstery

- 1) Remove the seat cushion.
- 2) Remove the seat pad (see fig. 34).
- 3) Adjust the seat upholstery with the aid of the upholstery straps (see fig. 35).
- 4) Unfold the wheelchair. In doing so, the crossbrace must be seated fully in the support guides.
- 5) Fasten the seat pad and the seat cushion.



7.8 Adjusting the leg supports

The distance between the footplates and the sitting surface influences sitting stability. The height adjustment acts on the pelvis and ischial bones.

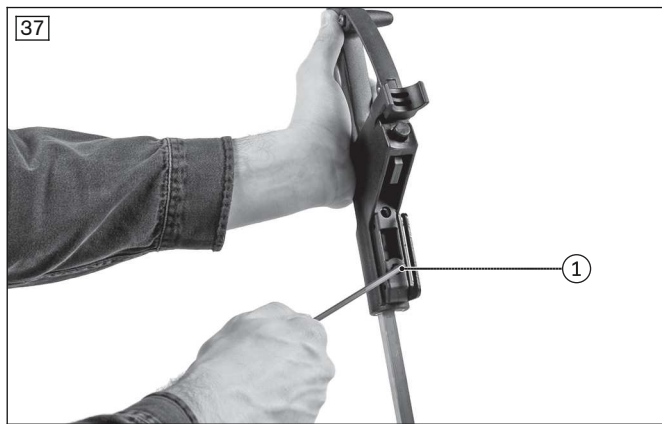
7.8.1 Adjusting the lower leg length

The required leg support height depends on the lower leg length of the user and the thickness of the seat cushion.

- 1) Loosen the Allen head screw:
 - "Angle-adjustable" leg support: see fig. 36
 - "Segmented, angle-adjustable" leg support: see fig. 37
 - "Elevating" leg support: see fig. 38
- 2) Adjust the tube footrest according to the user's lower leg length.

INFORMATION: Ensure that the tube footrest is inserted into the swivel segment by at least 40 mm (up to the mark).

- 3) Tighten the Allen head screw to **6 Nm**.



7.8.2 Adjusting the support angle

The leg support angle setting should be chosen so that the ankle is in a relaxed, comfortable position.

"Segmented, angle-adjustable" leg support

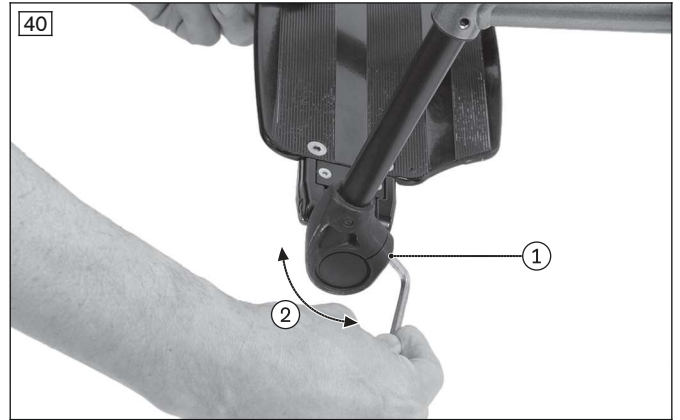
- 1) Loosen the Allen head screws on the foot plate (see fig. 39, item 1).
- 2) Turn the foot plate to the desired angle (see fig. 39, item 2).
- 3) Tighten the Allen head screws to **6 Nm**.

"Angle-adjustable" leg support

- 1) Loosen the Allen head screws on the rear foot plate suspension by several turns (see fig. 40, item 1).
- 2) Turn the foot plate to the desired angle (see fig. 40, item 2).
- 3) Tighten the Allen head screws to **10 Nm**.

"Elevating" leg support

Further information: see Page 35.



7.8.3 Adjusting the posterior lower leg pad on the elevating leg support

The posterior lower leg pad on this leg support is height-adjustable.

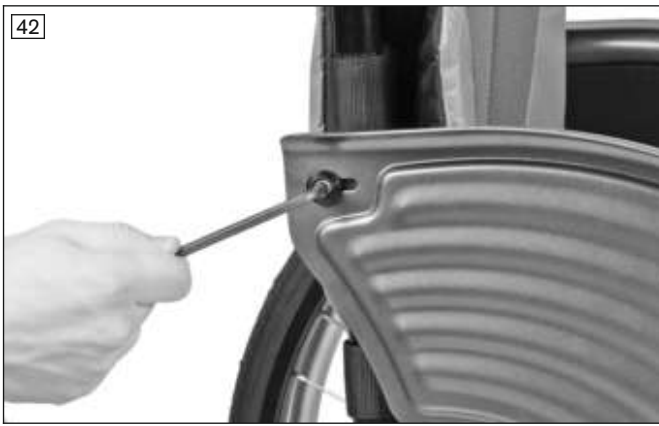
- 1) Loosen the clamping unit mounting screw (see fig. 41).
- 2) Slide the posterior lower leg pad to the desired height.
- 3) Re-tighten the mounting screw.



7.9 Adjusting the side panels

"Standard" side panel; "clothing guard" side panel; "carbon standard" side panel

- **Adjusting to modified drive wheel position:** The adjustment is performed by moving the mounting screws in the hole matrix of the side panel (illustration shows standard side panel: see fig. 42; see fig. 43). Adjust the height so the top edge is about **25 mm** higher than the wheel surface to prevent the fingers from becoming pinched.

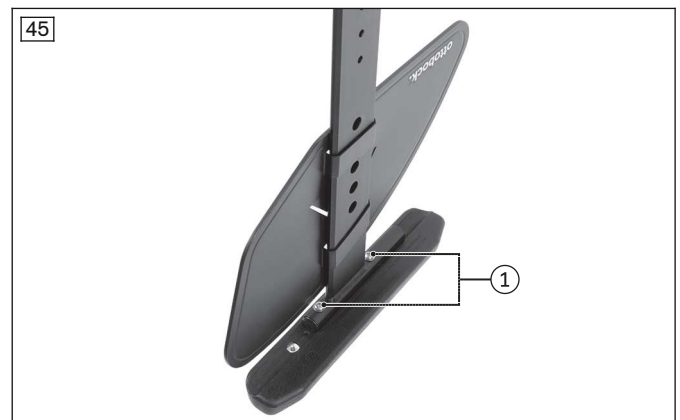


Desk side panel (not illustrated)

- 1) **Adjusting the height of the forearm support:** Pull up the release button in the round opening and adjust the height (see fig. 72).
- 2) **Adjusting the depth of the forearm support:** Loosen the mounting screws on the side of the forearm support, move the forearm support and firmly re-tighten the mounting screws (see fig. 44, item 1).

"Plug-on" side panel

- 1) **Adjusting the height of the forearm support:** Use a ballpoint pen or screwdriver to push in the counter-sunk locking button and slide the side panel to the desired position (see fig. 73).
CAUTION! The locking button is intentionally counter-sunk to prevent accidental operation. Always use an object to press the locking button, never your fingers.
- 2) **Adjusting the depth of the forearm support:** Loosen the mounting screws under the forearm support, move the forearm support and firmly re-tighten the mounting screws (see fig. 45, item 1).



7.10 Adjusting the anti-tipper

⚠ WARNING

Incorrect installation of the anti-tipper/missing anti-tipper

Tipping over, falling of the user due to failure to observe the installation instructions and because of incorrect adjustment

- ▶ Depending upon the settings of the chassis, the centre of gravity, the back angle and the experience of the user, the use of an anti-tipper may be necessary.
- ▶ For a small wheelbase and a backrest that is tilted far back, an anti-tipper may need to be installed on both sides, depending upon the user's experience.
- ▶ Verify that the anti-tipper has been installed and adjusted properly. Find the appropriate position with the assistance of a helper.

INFORMATION

In order to adjust the anti-tipper correctly, it may be necessary to combine the steps to adjust the length and angle.

Anti-tipper height adjustment

- 1) Remove the Allen head screw between the anti-tipper tube and the adapter tube (see fig. 46, item 1).
- 2) Adjust the height of the anti-tipper by sliding it in the adapter tube (see fig. 46, item 2).
→ The distance between the anti-tipper rollers and the ground must be **50 mm max.** (not illustrated).
- 3) Tighten the screws for the anti-tipper.

Anti-tipper length adjustment

- 1) Press the push-button on the lower tube section of the anti-tipper (see fig. 47, item 1).
- 2) Adjust the length of the anti-tipper (see fig. 47, item 2):
→ As a minimum, the anti-tipper rollers must project fully beyond the largest diameter of the drive wheel (not illustrated).
- 3) Allow the push-button to engage.



7.11 Adjusting the lap belt

CAUTION

Incorrect approach to the adjustment process

Injuries, malpositions, user discomfort due to adjustment errors

- ▶ The qualified personnel is responsible for the individual positioning and fitting of the belt system.
- ▶ Adjusting the belt system too tightly may lead to unnecessary pain or user discomfort.
- ▶ Adjusting the belt system too loosely can cause the user to slide into a dangerous position. In addition, the fastening snaps could open unintentionally if they slide against hard parts of clothing (e.g. buttons).

CAUTION

Lack of instruction

Injuries, malpositions, illness of the user due to incorrect information

- ▶ The qualified personnel is responsible for making sure that the user and/or attendant/nursing staff has understood the proper adjustment, use, maintenance and care of the belt system.
- ▶ In particular, ensure that the user and/or attendant/care staff knows how to quickly loosen and open the product to avoid delays in case of emergency.

Information on the settings can be found in the manufacturer’s instructions for use accompanying each product.

8 Delivery

8.1 Final inspection

A final check must be carried out before the wheelchair can be handed over:

- Are the drive wheels correctly positioned?
- Do the quick-release axles rotate freely and lock securely?
- Have the tyres been correctly inflated?
INFORMATION: The correct tyre pressure is printed on the tyre sidewall. For drive wheels with high-pressure tyres, the minimum air pressure is 7 bar.
- Only after adjustment: Have the brakes (wheel locks) been adjusted correctly?

- Only after adjustments: Has the respective caster journal angle been adjusted vertically?
- Only after adjustments: Has the anti-tipper been adjusted correctly?

8.2 Transport to the customer

NOTICE

Use of unsuitable packaging

Damage to the product caused by transportation using incorrect packaging

- ▶ Use only the original packaging for delivery of the product.

The wheelchair should be transported to the user in disassembled state using the outer packaging.

8.3 Handing over the product

⚠ WARNING

Lack of instruction

Tipping over, falling of the user due to lack of knowledge

- ▶ Instruct the user or the attendant in the proper use of the product when handing it over.

The following steps must be performed for the safe delivery of the product:

- A sitting test has to be conducted with the user of the product. Pay special attention to proper positioning according to medical considerations.
- The user and any attendants must be instructed in the safe use of the product. In particular, the enclosed instructions for use are to be used.
- The instructions for use must be given to the user/attendant upon delivery of the wheelchair.
- **Depending on equipment:** The supplied instructions for use for accessories have to be handed over in addition.

9 Use

9.1 Instructions for use

- Attaching loads (e.g. backpacks) can adversely affect stability. Therefore, suspending additional loads on the wheelchair is not permitted.
- The recommended overall width for manual wheelchairs in an operational state is **700 mm**. This specification should ensure unhindered use of escape routes, for example. Please note that the product dimensions can exceed the recommended value in versions with very large seat widths (for more information see see Page 62 ff.).
- The wheelchairs in this series fully satisfy the minimum technical requirements for wheelchairs transportable by train. However, please note that it is possible that not every individual wheelchair will fulfil the minimum requirements due to the variation in designs (please see see Page 64 for further details).

9.2 Getting in and transferring

⚠ CAUTION

Incorrect handling when getting in

Risk of falling, tipping or rolling away due to incorrect handling

- ▶ Activate the wheel lock each time before you get into or out of or transfer to or from the wheelchair.
- ▶ Always get into the wheelchair from the side, where possible.
- ▶ Never step on the foot plates when getting in and out.
- ▶ Do not support yourself on the wheel lock when getting in/out.

⚠ CAUTION

Incorrect caster wheel position when leaning forward in the wheelchair

Tipping over, falling due to incorrect caster wheel positioning

- ▶ Prior to activities that require you to bend forward in the wheelchair (e.g. tying your shoes), maximise the stability of the wheelchair.
- ▶ In order to do so, push the wheelchair backwards until the caster wheels turn forward.

Users can choose the method for getting into and out of the wheelchair which is most suitable for them. The respective procedure should be discussed and practised with a therapist.

As a rule, the frame tubes, seat bottom or side panels can be used as supports for getting into the wheelchair.

If getting in independently is not possible, transferring or getting in always has to be performed with the help of an assistant. The manufacturer also offers transfer aids for getting in, such as transfer boards.

9.3 Legrests

⚠ CAUTION

Improper use of the legrests

Tipping over, falling due to errors in handling the product

- ▶ Fold up the footplates before getting in.

⚠ WARNING

Reduced ground clearance with the "foot-propelled chair" option

Tipping over, falling due to getting caught on obstacles

- ▶ Please note that wheelchairs with the "foot-propelled wheelchair" option might fall below the minimum ground clearance of **40 mm** depending on the selected settings for the lower leg length and the front seat height.
- ▶ Adjust your driving to the reduced ground clearance and exercise particular caution with obstacles on the ground e.g. steps, curbs and thresholds.

The leg supports support the user's feet.

The height of the leg support has been adjusted by qualified personnel to the length of the user's lower legs.

The angle of the foot support has been set by the qualified personnel so that it allows the ankles to rest in a comfortable position.

Different leg support types and other accessories may be installed depending on the order:

"Angle-adjustable" leg support (see fig. 48)

Leg support for the Motus CS. The depth of the foot supports is **160 mm**. The leg support can be folded up to make getting into the wheelchair easier.

"Segmented, angle-adjustable" leg support (see fig. 49)

Removable leg support for the Motus CV. Each leg support can be folded up individually to make getting into the wheelchair easier.

"Elevating" leg support (see fig. 50)

Removable leg support for the Motus CV. The leg support allows positioning of the leg at different angles.





9.3.1 Removing and attaching the leg supports

The leg supports on the Motus CV can be removed to make it easier for the user to get in and out.

Removing the "segmented, angle-adjustable" leg support

- 1) Fold the foot plate up.
- 2) Pull back the release lever (see fig. 51).
- 3) Fold the leg support out by **90°** and remove it (see fig. 52). Now the leg support can be lifted up and off.

Mounting the "segmented, angle-adjustable" leg support

- 1) Hold the leg support **90°** out to the side and insert it into the leg support retainer (see fig. 52).
- 2) Swing the leg support into the direction of travel until it engages.
- 3) Fold the foot plate down.

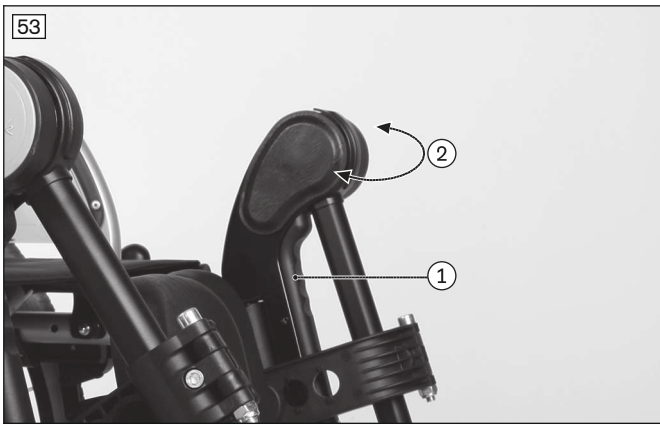


Removing the "elevating" leg support

- 1) Activate the release lever (see fig. 53, item 1).
- 2) Swing the leg support outwards and to the side by **90°** (see fig. 53, item 2) and pull up to detach.

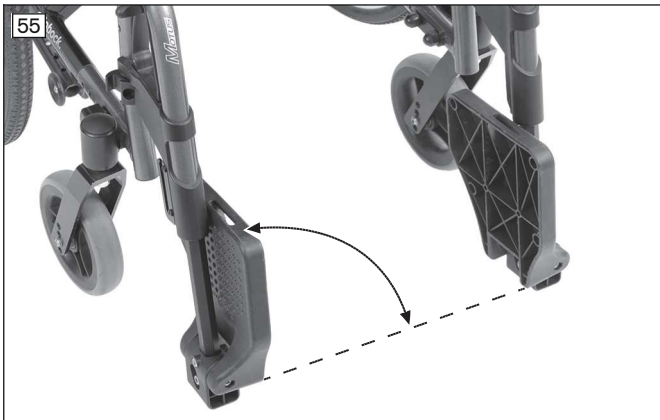
Mounting the "elevating" leg support

- 1) Hold the leg support **90°** out to the side and insert the pivot bearing into the leg support retainer (see fig. 54, item 1/2).
- 2) Swing the leg support into the direction of travel until it engages.



9.3.2 Folding the foot plate up and down

- 1) Hold the foot plate by the edge and fold it up or down (see fig. 55).
- 2) **Only for leg supports with single-panel foot plate:** Make sure the support of the foot plate is locked into the receiver (see fig. 56).



9.3.3 Removing and fastening the calf strap

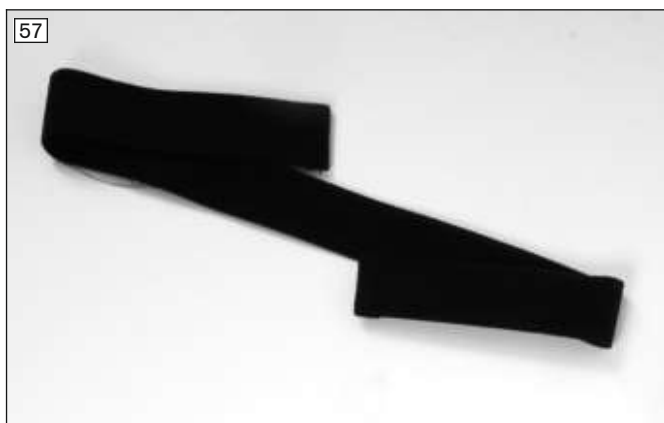
The calf strap offers additional support for the user's legs. It also prevents the feet from sliding off the foot plate into the danger area. The calf strap can be removed for cleaning.

Fastening the calf strap

- 1) Open all hook-and-loop closures.
- 2) Route the calf strap around the frame tube and fasten the hook-and-loop (see fig. 58).
- 3) Adjust the length and fasten the hook-and-loop closure (not illustrated).

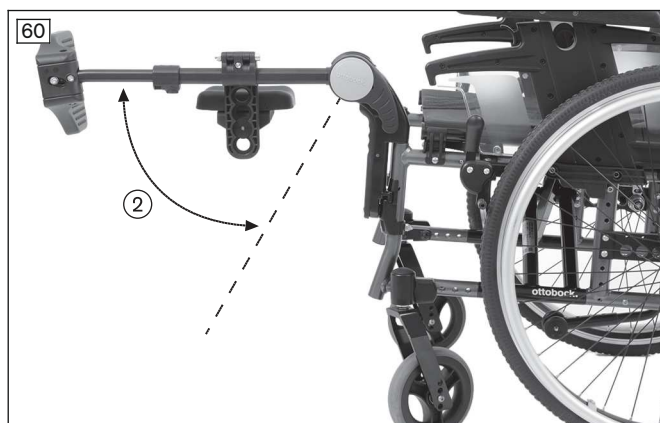
Removing the calf strap

- 1) Open all hook-and-loop closures.
- 2) Remove the calf strap from the frame tube.



9.3.4 Adjusting the angle of the elevating leg support

- 1) Turn the release lever upwards to the stop (see fig. 59, item 1).
Alternative: The leg support can also be elevated without operating the release lever.
 - 2) Simultaneously move the leg support to the desired angle (see fig. 60, item 2).
 - 3) Twist the release lever back down.
- The leg support will automatically snap into place in the next free position.



9.3.5 Adjusting the leg supports

Further adjustments may be made only by qualified personnel.

9.4 Seat and back upholstery

⚠ WARNING

Seat cushions and back support pads may ignite

Burns due to user error

- ▶ The seat and back support upholstery as well as seat cushions, padding and covers fulfil the normative requirements for flame resistance. However, they may still ignite if fire is handled improperly or negligently.
- ▶ Keep away from all ignition sources, especially lit cigarettes.

⚠ CAUTION

Wear of the seat and back upholstery

Loss of functionality due to prohibited continued use

- ▶ Have the seat and back upholstery replaced immediately in case of damage.

The product is equipped with seat and back upholstery. Hook-and-loop fasteners on the seat upholstery are used to attach the seat cushion. The seat cushion ensures pressure relief during use of the wheelchair. It was chosen by qualified personnel according to the needs of the user.

9.4.1 Removing and fastening the seat cushion

The seat cushion can be removed for cleaning.

- 1) Lay the seat cushion onto the seat upholstery and secure it against sliding by pressing it onto the hook-and-loop fastener (see fig. 61).
- 2) To remove, detach the seat cushion from the hook-and-loop closure on the seat upholstery.



9.4.2 Removing and fastening the back support pad

The back padding can be removed from the wheelchair for cleaning.

Removing the back support pad

- 1) Remove the seat cushion.
- 2) Pull the flap of the back support pad off the seat upholstery (see fig. 62).
- 3) Pull the back support pad off the hook-and-loop straps of the back support upholstery (see fig. 63).

Fastening the back support pad

- 1) From the rear, apply the edge of the back support pad to the upper hook-and-loop strap (see fig. 64).
- 2) Fold down the back support pad and secure it to the upholstery straps with the hook-and-loop fasteners (see fig. 63).
- 3) Pull the part of the flap that can be fastened forward and attach it to the seat upholstery with the hook-and-loop fastener (see fig. 62).





9.5 Backrest

⚠ WARNING

Incorrect use of back support angle adjustment

Falling, tipping over due to operation without anti-tipper

- ▶ Note that adjusting the back support angle shifts the centre of gravity. Only use the back support angle adjustment with the anti-tipper activated.
- ▶ Drive in street traffic only with a vertical back support.

The product can be equipped with a fixed or optionally an angle-adjustable backrest.

Angle-adjustable back

With this option, the backrest angle is continuously adjustable from **90° to 120°** (see fig. 65).

- 1) Pull the cable of the back release mechanism until the angle adjustment is released by the locking pins (see fig. 66, item 1).
- 2) Move the backrest to the desired position.
- 3) Release the cable. Ensure that the locking pins securely engage on both sides.



9.6 Side panels

⚠ CAUTION

Pinching at the side panels

Pinching, crushing due to lack of caution in danger areas

- ▶ Pay attention not to pinch parts of your body between the side panel or frame parts.

The side panels protect the user and his/her clothing from getting dirty.

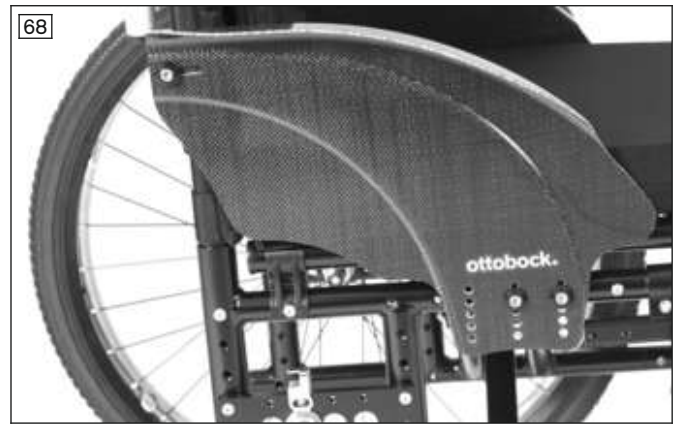
If armrests have been installed on the wheelchair, they offer the user additional support for the forearms.

The wheelchair can be equipped with various side panels:

"Standard" side panel; "clothing guard" side panel (see fig. 67); "carbon standard" side panel (see fig. 68)

Many wheelchair users are familiar with the problem of clothes coming into contact with the drive wheels and getting dirty. The clothing guard prevents this. It is horizontally and vertically adjustable, so it can be adapted to the position of the drive wheel.

The side panel installation is fixed.



"Plug-on" side panel (see fig. 69)

These side panels can be removed for getting into or out of the wheelchair. The height of the forearm support can be adjusted.



Desk side panel (see fig. 70)

These side panels can be swung away to the rear and removed for transfer. The height of the forearm support can be adjusted without the use of tools.

"Padded" arm support (see fig. 71)

The arm support is height-adjustable, detachable and can be swung away.



9.6.1 Adjusting the height of the forearm support

Desk side panel

- 1) Pull up the release button in the round opening (see fig. 72, item 1)
 - 2) Push the armrest to the desired position.
 - 3) Let go of the release button.
- The armrest locks into place automatically.

"Plug-on" side panel

- 1) Use a ballpoint pen or screwdriver to press the counter-sunk locking button (see fig. 73).
- 2) Slide the side panel to the desired position.

CAUTION! The locking button is intentionally counter-sunk to prevent accidental operation. Always use an object to press the locking button, never your fingers.



"Standard" side panel and "clothing protector" side panel

The "standard" side panel (not illustrated) and the "clothing protector" side panel cannot be adjusted in height. Both side panels can be combined with padded armrests.

Armrest, padded

This armrest can have its height adjusted by qualified personnel to match the user's requirements. Subsequent adjustments may be made only by qualified personnel.

9.6.2 Removing the side panels

INFORMATION

Side panels with permanent screw connections cannot be removed.

To make getting into the wheelchair easier and for transportation, the "plug-on" and desk side panels can be removed.

Removing the desk side panels

- 1) Press the half-moon-shaped button and fold back the side panel (see fig. 74, item 1).
- 2) In the vertical position, pull the side panel up and off (see fig. 75).

Installing the desk side panels

- 1) Insert the side panel in the adapter (see fig. 75).
- 2) Fold the side panel forward. The locking mechanism engages.

Removing/installing the "plug-on" side panels

- 1) Pull the side panels out of the guides on the side panel mountings (see fig. 76).
- 2) After getting in, slide the side panels back into the side panel mountings.



9.6.3 Removing the padded arm support

- 1) Pull the armrests up out of the holders (not illustrated).
- 2) Fold the armrests away by **90°** or remove them.
- 3) After getting in, slide the armrests down into the holders again.

9.7 Push handles

The push handles make pushing the wheelchair easier for the attendant.

Some of the push handle designs allow the height to be adjusted to suit the needs of the attendant.

9.7.1 Adjusting the height of the push handles

To enable ergonomic pushing by the attendant, the wheelchair can be equipped with height-adjustable push handles.

- 1) Release the clamping lever.
- 2) Adjust the height of the push handle.

INFORMATION: Adjust both push handles to the same height.

- 3) Engage the clamping lever.



9.7.2 Removing the push handles

Push handles of the “height-adjustable, removable” type can be removed from the back support tube when needed.

Removing/installing the push handles

- 1) Release the clamping lever (see fig. 79, item 1).
 - 2) Push in the tripod spring (see fig. 79, item 2) and pull the push handle up and out of the adapter (see fig. 79, item 3).
 - 3) To install, push in the tripod spring again and insert the push handle into the adapter.
 - 4) Firmly close the clamping lever (see fig. 79, item 1).
- Both push handles must be installed at the same height.



9.8 Stabiliser bar

The stabiliser bar between the push handles increases the wheelchair's stability, especially in case of high loads (see fig. 80). It has to be opened before folding the wheelchair.

Please note: Using the stabiliser bar for pushing and pulling the wheelchair is not permitted. Always use the push handles for this purpose.

Opening the stabiliser bar

- 1) Open the star handle on the right side (see fig. 81, item 1).
- 2) Fold the stabiliser bar down (see fig. 81, item 2).

Closing the stabiliser bar

- 1) Fold the stabiliser bar up until the opening is against the screw of the star handle.
- 2) Hand-tighten the star handle.



9.9 Drive wheels

⚠ WARNING

Improper assembly of removable wheels

Tipping, falling over of the user due to wheels coming off

- ▶ After each assembly, verify the proper fit of the removable wheels. The quick-release axles must be firmly locked in the wheel attachment.

⚠ CAUTION

Defective tyres

Accidents/falling due to poor traction, reduced braking force or lack of manoeuvrability

- ▶ Ensure that the tyres have sufficient tread depth.
- ▶ Replace the drive wheels in case of tyre damage (tread surface extends up to **5 mm** to the edge of the tyre, cracking) or damage on the rim.

⚠ CAUTION

Reaching into exposed drive parts

Crushing, pinching due to incorrect handling

- ▶ Do not reach between the drive wheel and wheel lock or drive wheel and side panel when driving the product.
- ▶ Do not reach into the spokes of the rotating drive wheel while riding in the product.

⚠ CAUTION

Heat development when braking with handrims

Burns due to insufficient hand protection

- ▶ Wear wheelchair gloves when travelling at high speeds.

The wheelchair is moved, steered, braked and stopped with the help of the handrims on the drive wheels.

To make transport easier, drive wheels with quick-release axle can be taken off the wheelchair.

9.9.1 Removing and mounting the drive wheels

⚠ CAUTION

Incorrect removal/attachment of the wheels

Tipping, falling due to incorrect installation

- ▶ The user is not permitted to sit in the wheelchair during wheel replacement.
- ▶ For changing wheels, set the wheelchair onto a solid surface.
- ▶ To change the wheels, secure the wheelchair against tipping over or rolling away.
- ▶ If the drive wheel does not lock securely or has too much sideways play, contact the qualified personnel promptly.

- 1) Release the wheel lock.
- 2) Grip the area between the spokes near the hub with your fingers.
- 3) Use your thumb to press in the push-button on the quick-release axle.
- 4) Remove or mount the drive wheel.

After mounting: The drive wheels must not be removable after releasing the push-button on the quick-release axle.



9.9.2 Spoke protector

The spoke protector prevents the fingers from getting caught in the wheel spokes.

9.10 Caster wheels and caster forks

⚠ WARNING

Failure of caster wheels or caster forks

Falling, severe injury due to the wheelchair tipping over

- ▶ Regularly inspect the caster wheels and caster forks for damage.
- ▶ Regularly clean and oil the caster wheel axles and the threaded axles on the caster forks, especially in case of stiffness.
- ▶ Inform the responsible qualified personnel in case of permanent changes to the driving characteristics.

⚠ CAUTION

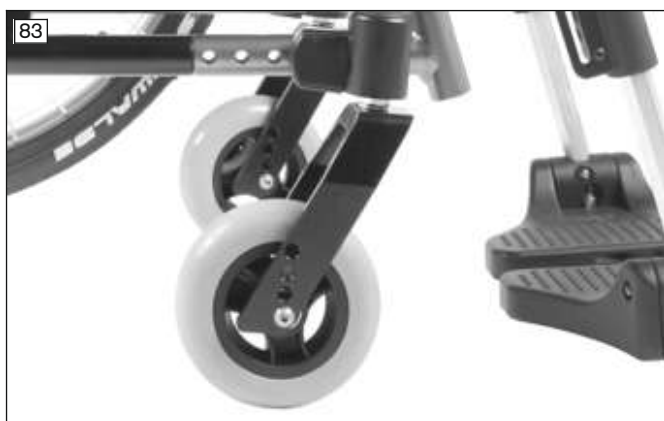
Incorrect caster wheel position when leaning forward in the wheelchair

Tipping over, falling due to incorrect caster wheel positioning

- ▶ Prior to activities that require you to bend forward in the wheelchair (e.g. tying your shoes), maximise the stability of the wheelchair.
- ▶ In order to do so, push the wheelchair backwards until the caster wheels turn forward.

The combination of caster wheels and caster forks ensures the ability to hold a straight line and navigate bends securely.

The caster wheels and caster forks have been chosen by the qualified personnel according to the needs of the user.



9.10.1 Approach in case of stiffness

In case of stiffness, the caster wheel axles should be cleaned and oiled.

Oiling the caster axle

- 1) Remove dirt (such as hairs) from the caster axle between the caster wheel and caster fork.

- 2) Lubricate the caster axle between the caster wheel and caster fork with a few drops of thin, resin-free oil (sewing machine oil).

9.11 Wheel locks

The wheel locks secure the parked wheelchair against rolling away. Different wheel lock types may be installed depending on the order.

9.11.1 Using the wheel locks

⚠ WARNING

Improper use of the wheel lock

Falls due to abrupt braking, rolling away of the product, crushing of hands

- ▶ Do not use the wheel lock as a driving brake.
- ▶ Always engage the wheel lock on both sides.
- ▶ Engage the wheel lock to prevent the product from moving when it is parked on uneven ground or during transfers (e.g. into a car).
- ▶ Do not reach between the rear wheel and the wheel lock when driving the product.
- ▶ Ensure that the knee lever wheel lock is properly adjusted (max. **5 mm** gap to the tyre). The lock bolt must lock the drive wheel securely when stationary.
- ▶ Please contact the qualified personnel who adjusted your product for readjustment of the wheel lock.

Activating and deactivating the knee lever wheel lock

- 1) Push the handle of the knee lever wheel lock forward (see fig. 85).
→ The wheel lock bolt secures the wheel.
- 2) Pull the wheel lock lever upwards (see fig. 86).
→ The wheel lock lever releases the wheel.



Plug-on wheel lock lever extension (see fig. 87)

The wheel lock lever extension makes it easier for users with limited hand function to use the knee lever wheel lock.

Knee lever wheel lock for one-handed operation (see fig. 88)

This wheel lock is recommended especially for hemiplegics. It can be activated either on the right or left side and ensures the safe locking of both drive wheels with a pull-wire system.

INFORMATION: Please note that the wheel lock lever extension must always be attached when releasing or engaging the wheel lock.



Activating/deactivating the scissor wheel lock (Outfront scissor wheel lock)

- 1) Reach under the seat and pull the handle of the scissor wheel lock towards the back from the side (see fig. 89).
→ The wheel lock bolt secures the wheel.
- 2) Pull the handle of the scissor wheel lock forwards to unfold (see fig. 90).
→ The wheel lock lever releases the wheel.



9.11.2 Drum brake

The drum brakes allow the attendant to slow the wheelchair easily and safely by activating the wheel lock lever on the push handles.

Activating/deactivating the drum brake

- 1) Pull the brake lever (see fig. 91, item 1).
- 2) If necessary, secure the brake lever by additionally actuating the lock slide (see fig. 91, item 2).
- 3) Deactivate the brake by actuating the brake lever again or pressing the lock slide.

The drive wheels can still be removed via the quick-release axles when the brake lever is released.



9.12 Anti-tipper/tip-assist

⚠ WARNING

Anti-tipper not activated

Tipping over, falling of the user due to improper operation of a safety device

- ▶ Ensure that an installed anti-tipper is activated before travelling over obstacles and on inclines.
- ▶ The anti-tipper has to engage audibly prior to use. Proper engagement must be checked by the user or an attendant.
- ▶ The use of an anti-tipper is highly recommended for transfemoral amputees and inexperienced users.

⚠ WARNING

Incorrectly adjusted anti-tipper

Tipping over, falling of the user due to errors in handling the product

- ▶ If only one attendant helps in overcoming steps, the attendant must first deactivate the anti-tipper so that it cannot collide with the steps during transport.
- ▶ The attendant must activate the anti-tipper again after overcoming the steps.

⚠ WARNING

Incorrectly adjusted anti-tipper

Risk of falling as a result of incorrectly adjusted anti-tipper.

- ▶ The anti-tipper may only be adjusted by qualified personnel.

The anti-tipper prevents the wheelchair from tipping backwards when overcoming obstacles and going uphill. It is set for a maximum ground clearance of **50 mm** and so that the anti-tipper rollers, as a minimum, project fully beyond the largest diameter of the drive wheels.

The tip-assist makes overcoming obstacles easier for the attendant.

9.12.1 Activating and deactivating the anti-tipper

A mounted anti-tipper must always be active.

When overcoming obstacles (such as steps and curbs that are not lowered) **upwards**, the anti-tipper rollers contact the ground.

When overcoming obstacles (such as steps and curbs that are not lowered) **downwards**, the anti-tipper has to be deactivated by the user or attendant to avoid damaging the anti-tipper.

Activation

- 1) Push the anti-tipper down with the hand or foot (see fig. 92).
- 2) Swing the anti-tipper back and allow it to engage (see fig. 93).

Deactivation

- 1) From above, press on the anti-tipper with the hand or foot until it disengages (see fig. 94).
- 2) Rotate the anti-tipper forwards by 180° and release it.





9.12.2 Using the tip-assist

The tip-assist makes it easier for an attendant to tip up the wheelchair, e.g. to cross a step. It was mounted so that the ground clearance is at least **40 mm** (see fig. 95).

- 1) At an obstacle, place one foot on the tip-assist and push down.
- 2) Slightly tip the wheelchair by simultaneously pressing down on the push handles.



9.13 Crutch holder with hook-and-loop fastening strap

The crutch holder with hook-and-loop fastening strap allows crutches to be attached to the wheelchair.



9.14 Wheelbase extension

INFORMATION

A long wheelbase setting is essential for transfemoral amputees.

This option offers the user a permanently large wheelbase (see fig. 97, item 1).

This allows characteristics such as particularly high wheelchair stability for especially safety-conscious or inexperienced users.

The wheel lock on the wheelchair has been installed by qualified personnel and can continue to be used

9.15 Transport wheels

⚠ CAUTION

Knee lever wheel lock when the drive wheels are removed

Risk of accident, falling due to loss of functionality of the knee lever wheel lock

- ▶ Note that a wheelchair with transport wheels can only be braked by an attendant.

⚠ CAUTION

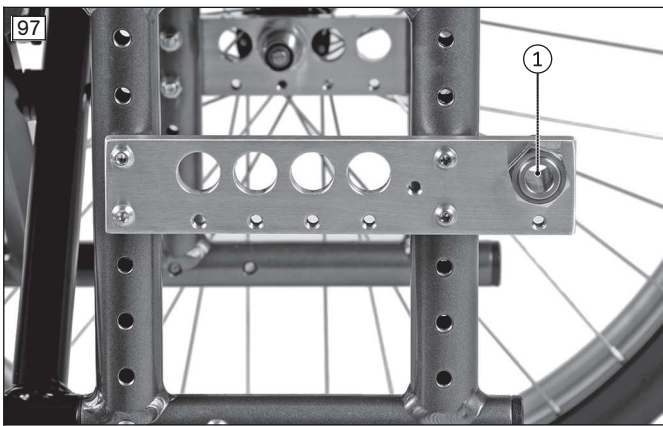
Incorrect height setting

Risk of tipping or falling due to the sloped product setting

- ▶ Always adjust the height equally on both sides.

The transport wheels (see fig. 98) permit movement through very narrow passages (e.g. in trains or aircraft).

Transport wheels take the place of the drive wheels. In order to move, an attendant is required to push the wheelchair.



9.15.1 Using the transport wheels

> Prior to use, verify whether the transport wheels have been set to the same height.

1) Remove the drive wheels.

Whenever possible, this should be done when the user is not sitting in the wheelchair. If the user is sitting in the wheelchair, proceed as follows:

2) The first attendant holds the wheelchair in a stable position so that the drive wheels are relieved in turn.

3) The second attendant carefully removes the first and second drive wheel one after the other.

→ The wheelchair can now be pushed on the transport wheels (see fig. 100).



9.16 Lap belt (seat belt)

⚠ CAUTION

Incorrectly adjusted lap belt

Malpositions, illness, falling of the user due to installation/adjustment errors

- ▶ Do not modify the settings established by the qualified personnel. In case of problems with the adjustments (unsatisfactory sitting position) please contact the qualified personnel who fitted the product.
- ▶ The lap belt has to fit closely but not too tightly so the user is not injured. It should be possible to slide two fingers comfortably between the belt and thigh.
- ▶ Have the settings of the belt system checked regularly. Adjustments may be required due to the growth of the user or because of changes in the course of the disease or different clothing.

The lap belt (seat belt) prevents the user from slipping and supports positioning.

It is installed on the product by qualified personnel if needed and adapted to the requirements of the user.

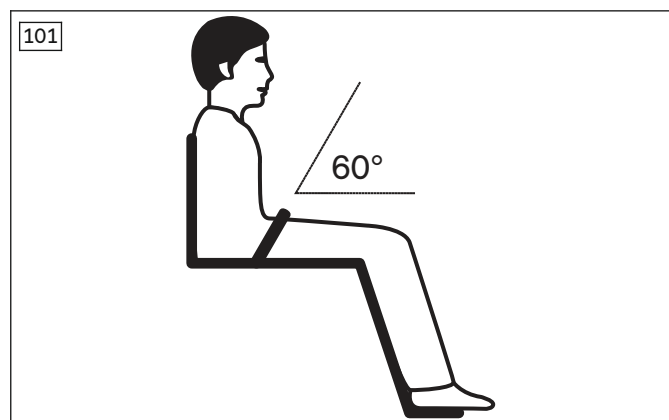
Information about subsequent acquisition and mounting is provided by the qualified personnel that handed over the product.

Using the lap belt

- 1) Open the buckle.
- 2) Place the user in an upright, 90° seated position (if physiologically possible). Ensure that the back is up against the back support pad (if physiologically possible).
- 3) Close the buckle.
- 4) The lap belt should be at an angle of about 60° to the seat bottom. The belt strap should run across the thighs in front of the pelvic bones (see fig. 101).

Possible errors

- The lap belt is positioned above the user's pelvis in the area of the soft part of the stomach.
- The user does not sit upright in the seat.
- If the lap belt is too loose, the user can shift/slide out to the front.
- During the installation/adjustment, the lap belt is routed over parts of the seating system (e.g. over forearm supports or seat pads). This causes the lap belt to lose its retaining function.



9.17 Tray

⚠ WARNING

Inflammable product

Burns due to user error

- ▶ The product is flame retardant but nevertheless flammable. Therefore the utmost caution must be exercised in the vicinity of an open flame.
- ▶ Keep away from all ignition sources, especially lit cigarettes.

CAUTION**Improper adjustment**

Crushing or pinching due to adjustments which are too tight

- ▶ Do not pinch the user when sliding in the product.

CAUTION**Driving with objects on the tray top**

Injuries due to unsecured objects

- ▶ Remove all objects from the tray top prior to travelling.

CAUTION**Improper lifting by attendants**

Tipping over, user falls due to lifting by removable components

- ▶ The product must not be lifted by the tray.

NOTICE**Overloading**

Damage to the product due to user error

- ▶ Do not load the tray with heavy objects.
- ▶ No persons may sit or lean on the tray.

The tray serves as a supporting surface during meals, when working or when playing. The clear material allows visibility of the legs and correction of the sitting posture.

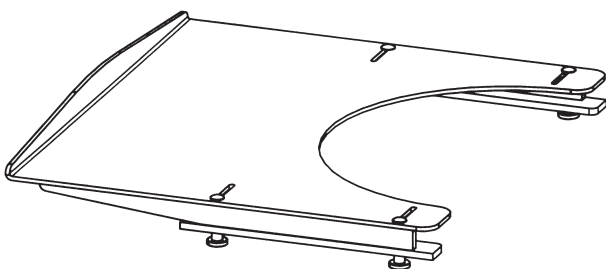
Prior to use in a vehicle for transporting persons with reduced mobility, the tray has to be removed.

Mounting/removing the tray

- 1) Slide the tray on to the armrests.
- 2) Pull the tray off the armrests.

Always guide the tray parallel to the armrests to avoid canting.

102

**9.18 Additional options**

The product may be equipped with additional options.

The options are firmly mounted to the product by qualified personnel or the manufacturer and are pre-adjusted by qualified personnel at delivery.

9.19 Disassembly and transport**CAUTION****Exposed pinch points**

Crushing, pinching due to incorrect handling

- ▶ When folding the wheelchair out or together, only grip by the specified components.

NOTICE**Deformation when folded**

Damage to the product, problems unfolding due to unallowable loads

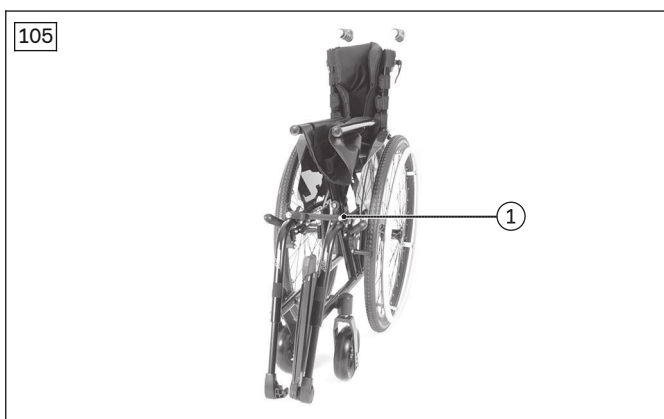
- ▶ Never place heavy objects on the folded product.

INFORMATION

- ▶ When transporting the wheelchair in vehicles, fold it up and remove the wheels and leg supports if necessary.
- ▶ Follow the IATA (International Air Transport Association) rules and those of the relevant airline when transporting the wheelchair in an aircraft. Inform the airline several days before your flight. Use the SSR (special service request) codes to describe the type of limited mobility if necessary. You can for example research these on the Internet.

The wheelchair must be prepared for transport in a passenger vehicle.

- 1) Fold up the foot plates (see Page 34).
- 2) **Motus CV only:** Swing away the leg supports, remove and set aside (see Page 33; see fig. 103).
- 3) **If necessary:** Detach the seat cushion from the hook-and-loop fastener.
- 4) Pull up the seat upholstery until the wheelchair folds together (see fig. 104).
- 5) Fasten the safety strap (see fig. 105, item 1).
- 6) Remove the drive wheels (see Page 42).
- 7) Place the disassembled wheelchair in the vehicle.



9.20 Use in vehicles for transporting persons with reduced mobility

⚠ WARNING

Use in vehicles for transporting persons with reduced mobility

Serious injuries in case of accidents due to user error

- ▶ Always use the seats and personal restraint systems in the vehicle for transporting persons with reduced mobility first. This is the only way to ensure optimum protection of passengers in the event of an accident.
- ▶ If the product is to be used as a seat in a vehicle for transporting persons with reduced mobility, the safety elements offered by the manufacturer and appropriate fastening and personal restraint systems must be used. For more information, please refer to our brochure with the order number 646D158.
- ▶ Never transport more than one person in the product.
- ▶ Only use the product in a vehicle for transporting persons with reduced mobility with the back support in a vertical position.
- ▶ Observe the limitations regarding installed options (see Page 56).

⚠ WARNING

Use of the belt system as a passenger restraint system in vehicles for transporting persons with reduced mobility is forbidden

Serious injuries due to improper handling of the product

- ▶ Under no circumstances may the belts and positioning aids offered with the product be used as part of a passenger restraint system in vehicles for transporting persons with reduced mobility.
- ▶ Note that the belts and positioning aids offered with the product are only intended to help support the user sitting in the product.

⚠ WARNING

Prohibited transportation of the passenger with activated back angle adjustment

Loss of safe restraint in the product due to user error

- ▶ Ensure the passenger is seated in a nearly upright position during transport.
- ▶ If a back angle adjustment mechanism is installed, move the backrest to a nearly upright position prior to travel.
- ▶ Check the locking mechanism on both sides.

The product has been tested by the manufacturer according to ANSI/RESNA and ISO 7176-19 and may be used as a seat in vehicles for transporting persons with reduced mobility subject to the conditions defined below.

The product must be sufficiently secured during transport in vehicles for transporting persons with reduced mobility. The illustrations that follow show an example for anchoring in a motor vehicle.

The manufacturer is not responsible for the fastening systems that are used. Ensure that only fastening systems that meet the applicable legal requirements and are designed for the overall weight of the product including the user are used.

The transport weight of the person to be transported in a vehicle for transporting persons with reduced mobility corresponds to the maximum permissible user weight (see Page 62).

9.20.1 Required accessories

To use the product as a seat in a vehicle for transporting persons with reduced mobility, additional accessories have to be mounted:

- Motus CV: 481S00=SK055 anchor point kit
- Motus CS: 481S00=SK065 anchor point kit
- Motus CS/CV (alternative): 4 belt loops (e.g. from the manufacturers Q'STRAIT or Unwin Safety Systems, tested according to ISO 10542-1)

The qualified personnel who fitted the wheelchair can provide more information about accessories.

9.20.2 Using the product in a vehicle

⚠ WARNING

Positioning in vehicles for transporting persons with reduced mobility

Serious injuries in case of accidents due to user error

- ▶ Positioning of the product in vehicles for transporting persons with reduced mobility may only be performed by the qualified personnel.
- ▶ The product must always face forwards when it is used as a seat in a vehicle for transporting persons with reduced mobility.
- ▶ Instruct the qualified personnel regarding the mounting points on your product described below.

⚠ WARNING

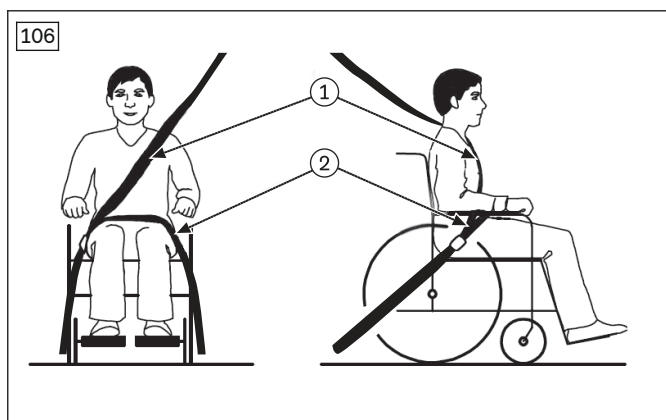
Inadequate transportation safety

Loss of safe restraint due to failure to observe transportation instructions

- ▶ Observe the following instructions for correct transport safety in the vehicle for transporting persons with reduced mobility.
- ▶ If necessary, instruct the qualified personnel on the following information.

General information on correct transport safety of the user in the vehicle for transporting persons with reduced mobility

- The straps of the personal restraint system must always be routed close to the user's body. The straps must not be routed over the side panels and wheels (see fig. 106 item 2).
- The shoulder belt must always be routed over the user's shoulder (see fig. 106, item 1).
- The belt strap must not be twisted on the user's body.



9.20.2.1 Use with fixation kit

Securing the product in the vehicle for transporting persons with reduced mobility

The wheelchair is secured in the vehicle for transporting persons with reduced mobility with the help of the fixation kit. The fixation points are marked with stickers. The stickers indicate where the user has to engage the hooks of the safety belt system:

- 1) Position the product in the vehicle for transporting persons with reduced mobility. For more information, please refer to section 5 in the brochure "Transporting persons with reduced mobility", order number 646D158.
- 2) Engage the hook of the respective vehicle side wheelchair restraint belt in the front and rear mounting eyes and tighten as firmly as possible.
 - The product showing the correct positioning of the attachment straps (Motus CV: see fig. 107; Motus CS: see fig. 108).



Information on correct transport safety of the user in the vehicle for transporting persons with reduced mobility

- Please also observe the section “General information on correct transport safety of the user in the vehicle for transporting persons with reduced mobility”.
- Using the personal restraint system of the vehicle for transporting persons with reduced mobility is required. If the wheelchair is equipped with a fixation kit (anchor point adapters), the three-point personal restraint system is attached in the vehicle for transporting persons with reduced mobility as follows:
 - The lap belt of the personal restraint system is usually attached by the qualified personnel to the left and right sides respectively on the mounting point/pin of the anchor point adapters.
 - The shoulder harness of the personal restraint system is usually mounted on the vehicle pillar and is attached by the qualified personnel to the corresponding mounting point/pin provided on the lap belt.

Placement of the personal restraint system integrated in the vehicle for transporting persons with reduced mobility

- 1) Pull the respective ends of the restraint lap belt from the inner side of the seat through to the outside.
- 2) Engage the ends of the restraint lap belt on the respective mounting point/pin of the anchor point kit (Motus CV: see fig. 109; Motus CS: see fig. 110).
- 3) Secure the shoulder harness on the mounting point/pin provided on the lap belt (not illustrated).
 - The restraint lap belt is pulled through and fastened.
 - The belt runs between the side panel and seat cushion on each side.



9.20.2.2 Use with belt loops

Securing the product in the vehicle for transporting persons with reduced mobility

The wheelchair is secured in the vehicle for transporting persons with reduced mobility with the help of four belt loops, on which the vehicle side wheelchair restraint belts are attached.

The fixation points of the belt loops are marked with stickers (pattern). These stickers show where the user has to pass the belt loops around the frame tube:

Attaching the belt loops

- 1) Position the product in the vehicle for transporting persons with reduced mobility. For more information, please refer to section 5 in the brochure "Transporting persons with reduced mobility", order number 646D158.
- 2) **Front fixation points:** Attach one belt loop around each of the frame tubes on the left and right, wrapping them around the frame tubes at the marked position once or twice depending on the length (example: see fig. 111, item 1).
- 3) Engage the hook of the respective vehicle side wheelchair restraint belt in the belt loop (see fig. 111, item 2).
- 4) **Rear fixation points:** Attach one belt loop around each of the back support tubes on the left and right at the marked position (example: see fig. 112, item 1).
- 5) Engage the hook of the respective vehicle side wheelchair restraint belt in the belt loop (see fig. 112, item 2).
- 6) Tighten the vehicle side wheelchair restraint belts at the front and rear as firmly as possible.
→ The product showing the correct positioning of the attachment straps (see fig. 113).



Information on correct transport safety of the user in the vehicle for transporting persons with reduced mobility

- Please also observe the section "General information on correct transport safety of the user in the vehicle for transporting persons with reduced mobility".
- Using the personal restraint system of the vehicle for transporting persons with reduced mobility is required. Attaching personal restraint systems of the vehicle for transporting persons with reduced mobility to the wheelchair is not permitted. The 3-point restraint has to be realised entirely on the vehicle:
 - The lap belt of the personal restraint system is usually attached by the qualified personnel to the left and right sides respectively on the mounting point/pin of the rear lashing straps (wheelchair restraint belts on the vehicle bottom).
 - The shoulder belt of the personal restraint system is usually mounted on the vehicle pillar and is attached by the qualified personnel to the corresponding mounting point/pin provided on the lap belt.

Placement of the personal restraint system integrated in the vehicle for transporting persons with reduced mobility

- 1) Pull each end of the restraint lap belt from the inner side of the seat through to the outside.

- 2) Engage the ends of the restraint lap belt on the mounting point/pin of the rear lashing straps on the left and right sides respectively (see fig. 114; see fig. 115).
Alternatively, the end of the restraint lap belt can also be attached on the bottom of the vehicle for transporting persons with reduced mobility with the help of a belt reel or retractor (seat belt tightener).
- 3) Secure the shoulder harness on the mounting point/pin provided on the lap belt (not illustrated).
 - The restraint lap belt is pulled through and fastened.
 - The belt runs between the side panel and seat cushion on each side.



9.20.3 Restrictions for use

⚠ WARNING

Risk of accidents and injury due to using the product with certain settings and/or installed options

Severe injury in case of accidents due to options coming loose

- ▶ Before using the product as a seat in a vehicle for transporting persons with reduced mobility, remove options that need to be taken off for safe transportation. Please observe the following table.
- ▶ Stow all dismantled components securely in the vehicle for transporting persons with reduced mobility.
- ▶ Please note that certain settings on the product exclude the use of the product in a vehicle for transporting persons with reduced mobility.

Motus CV; Motus CS

Option ¹⁾	Transportation in a vehicle for transporting persons with reduced mobility not possible	Option must be removed	Secure option on product
z50, e-Support add-on drive	X		
Crutch holder right/left	X		
Seat width 500 – 535	X		
Wheelbase extension	X		
Back angle adjustment 30°	X		
Back height < 400 mm	X		
Transport wheel			X ²⁾
Tray		X	
Lap belt			X ³⁾

Motus CV

Option¹⁾	Transportation in a vehicle for transporting persons with reduced mobility not possible	Option must be removed	Secure option on product
Caster adapter for low anterior seat heights	X		
Combination of:			
• Seat depth < 380 mm and drive wheel 22"	X		
• Seat depth < 400 mm and drive wheel 24"	X		
• Seat depth 380 mm, drive wheel 22" and horizontal drive wheel position C, D	X		
• Seat depth 400 mm, drive wheel 24" and horizontal drive wheel position C, D	X		
• Seat depth 420 mm, drive wheel 24" and horizontal drive wheel position D	X		
• Rim with drum brake/attendant and horizontal drive wheel position A	X		
• Rear seat height 490 mm and drive wheel 22"	X		
• Rear seat height 520 mm and drive wheel 24"	X		

Motus CS

Option¹⁾	Transportation in a vehicle for transporting persons with reduced mobility not possible	Option must be removed	Secure option on product
Combination of:			
• Seat depth < 380 mm and drive wheel 22"	X		
• Seat depth < 400 mm and drive wheel 24"	X		
• Seat depth 380 mm, drive wheel 22" and horizontal drive wheel position B, C, D	X		
• Seat depth 400 mm, drive wheel 22" and horizontal drive wheel position C, D	X		
• Seat depth 420 mm, drive wheel 22" and horizontal drive wheel position D	X		
• Seat depth 400 mm, drive wheel 24" and horizontal drive wheel position B, C, D	X		
• Seat depth 420 mm, drive wheel 24" and horizontal drive wheel position C, D	X		
• Rim with drum brake/attendant and horizontal drive wheel position A	X		
• Rear seat height 490 mm and drive wheel 22"	X		
• Rear seat height 520 mm and drive wheel 24"	X		

¹⁾ Not all of the options named are installed on all products.

- 2) Transport wheels can remain on the wheelchair with installed drive wheels during transportation in a vehicle for transporting persons with reduced mobility.
- 3) The lap belt can be used to position the passenger during transport. Using the personal restraint system is nevertheless required.

9.21 Care

9.21.1 Cleaning

9.21.1.1 Cleaning by hand

- 1) Clean the padding and upholstery with warm water and a mild detergent.
- 2) Remove any spots with a sponge or a soft brush.
- 3) Rinse with clear water and let the components dry.

Important information on cleaning

- Do not use any aggressive cleaners, solvents or hard brushes etc.
- Clean plastic parts, frame parts and the chassis and wheels with a mild cleaner and a damp cloth. Dry thoroughly afterwards.
- Do not spray the product with a pressure washer.

9.21.1.2 Cleaning the seat cushion

Standard seat cushion

- ▶ Clean the seat cushion according to the attached care label.

Seat cushion with foam core

- 1) Open the zipper and remove the foam core (see fig. 116).
- 2) Clean the cover according to the attached care label.
- 3) Wash all foam parts by hand at **40°C** using a mild, environmentally friendly detergent. Allow to air dry.
- 4) Reinsert the foam core with proper alignment. Close the zipper.



Important information on cleaning

- For more information on cleaning seat cushions, see the care instructions on the product or the supplied instructions for use.

9.21.1.3 Cleaning belts/straps

Cleaning a belt system with metal closure

INFORMATION

Observe the washing recommendations on the product and the information in the corresponding instructions for use provided for the product.

- Straps with metal closures **may not be washed in the washing machine** as the penetration of water could cause corrosion and subsequent malfunctions.
- Clean the belt straps by gently dabbing them with warm soapy water (with some disinfectant) or carefully wipe with a dry, clean, absorbent cloth.

Cleaning a belt system with plastic closure

- Depending on the model, belts/straps with plastic buckles can be washed in the washing machine between **40 °C** and **60 °C**.
- Recommendation: Use a laundry bag or net and mild detergent.

INFORMATION

Alternatively, the belt straps can be cleaned by gently dabbing them with warm soapy water (with some disinfectant) or carefully wiped with a dry, clean, absorbent cloth.

Additional cleaning instructions

- Allow the belts to air dry. Ensure that the belts and pads are completely dry before installation.
- Do not expose the belts to direct heat (e.g. sunshine, stove or radiator).
- Do not iron or bleach the belts.

9.21.2 Disinfection

- 1) Thoroughly clean the pads and handles before disinfecting.
- 2) Wipe all parts of the wheelchair with a disinfectant.

Important information about disinfecting

- If the product is used by more than one person, using a conventional disinfectant is required.
- Only use colourless water-based disinfectants. Observe the instructions for use provided by the manufacturer.

10 Maintenance and repair

10.1 Maintenance

⚠ WARNING

Insufficient maintenance

Severe user injuries, damage to the product due to failure to observe maintenance intervals

- ▶ Only carry out the maintenance tasks described in this section. All other maintenance and service tasks may only be carried out by qualified personnel.
- ▶ The functionality and operating safety of the product must be verified and a service performed at least **once per year**.
- ▶ For users with a changing anatomy (for example body dimensions, weight) or users with a changing clinical picture, have the product inspected, adjusted and serviced at least **once every six months**.

- The function of the product should be checked **before each use**.
- The product may not be used if defects are noted. This applies in particular in case of instability of the product or altered driving characteristics as well as problems with the user's seating position or the stability of the seat. Inform the qualified personnel promptly for the rectification of defects.
- This also applies if loose, worn, bent or damaged components, cracks in the frame or broken frame components are identified.
- Some maintenance tasks can be carried out to a certain extent by the user at home (see the sections "Maintenance intervals" and "Maintenance tasks").
- Failure to maintain the product can lead to injuries for the user of the product.

10.1.1 Maintenance intervals

The functions described below must be checked by the user or an attendant at the specified intervals:

Inspection task	Before each use	Monthly	Quarterly
Functional test of the wheel locks	X		
Sagging of the seat or back support upholstery		X	
Stability of the leg supports		X	
Visual inspection of wear and tear parts (e.g., tyres, bearings)		X	
Soiling of bearings		X	
Damage to the handrim		X	
Air pressure (see tyre sidewall for specifications)		X	

Inspection task	Before each use	Monthly	Quarterly
Wear and tear of the folding mechanism		X	
Check of the spoke tension on the drive wheels			X
Check of all screw connections			X
Check the legibility of all labels and markings on the product		X	

10.1.2 Maintenance tasks

To ensure smooth operation at all times, users or attendants with some technical skills can maintain some parts of the product:

- Screw connections must be periodically checked for tightness, especially during the initial period of use or after adjustments have been made to the wheelchair. If a screw connection loosens repeatedly, contact the qualified personnel promptly.
- Particles of dirt and hair accumulate on the caster wheel axle and threaded axle of the caster fork over time. This makes the steering stiffer. Regularly remove dirt and oil the axles. See the section "Approach in case of stiffness".
- The drive wheels are equipped with a quick-release axle system as standard equipment. To keep this system operational, ensure that no dirt adheres to the quick-release axle or receiver bushing. Periodically lubricate the quick-release axle lightly with thin, resin-free oil (sewing machine oil).
- If the wheelchair becomes wet, it should be rubbed dry again.

10.2 Repair

⚠ WARNING

Prohibited repairs
 Severe user injuries, damage to the product due to adjustment and installation errors

- ▶ Only carry out the repairs described in this section. All other repairs may only be carried out by the qualified personnel.

10.2.1 Inner tube, rim tape and tyre replacement

⚠ CAUTION

Improper tyre replacement
 Injuries to the user due to incorrect installation, product damage

- ▶ No person is permitted to sit in the wheelchair during tyre replacement
- ▶ Before removing a wheel, support the product so it cannot tip over.
- ▶ Always replace the tyres in pairs. Two differently worn tyres affect the directional stability of the wheelchair.

INFORMATION

When driving outdoors, always carry a repair kit and tyre pump (when using pneumatic tyres) in case of emergency.
 Suitable tyre pumps are listed on the order form and are supplied with the product. An alternative is tyre foam, which fills your tyre and then hardens (available from bicycle shops, etc.).

Repairing flat tyres requires only the necessary tools and users may change tyres themselves if they wish:

Removal and preparing for installation

- 1) Carefully remove the tyre from the rim using appropriate tools.
INFORMATION: Take care not to damage the rim or the inner tube.
- 2) Unscrew the valve nut from the valve and remove the tube.
- 3) Repair the tube according to the directions in the repair kit or replace it with a new tube.
- 4) Before fitting the tyre again, inspect the rim bed and tyre inner wall for foreign objects. This could have caused the puncture.
- 5) Before installing the tube, check that the rim band is in proper condition. The rim band protects the tube from being damaged by the ends of the spokes.



Replacing the rim band (only when necessary)

- 1) If the rim band needs to be replaced, remove it from the rim.
- 2) Install the new rim band on the inside of the rim, making sure the valve opening is in the right position.
- 3) Glue the rim band in place if this is intended. Ensure that all spoke ends are covered.

Installing the tube and tyre

- 1) Behind the valve, push one side of the tyre over the edge of the rim.
- 2) Slightly inflate the tube until it starts to assume its round shape.
- 3) Unscrew the valve nut from the tube and push the valve through the valve opening in the rim.
- 4) Insert the tube into the tyre.
- 5) Mount the other side of the tyre on the rim, starting from the position across the valve. Ensure that the tube is not pinched between the tyre and rim during this process.



Inflating the tube

- 1) Ensure that the valve is positioned perpendicularly for proper positioning of the tube and tyre in the region of the valve.
- 2) Firmly screw on the valve nut.
- 3) Inflate the tube so that the tyre can still be pressed in easily with your thumb.
INFORMATION: If the circumferential lines on the two sides of the tyre are both at an even distance from the rim, the tyre is centred. If not, let some air out and realign the tyre.
- 4) Inflate the tube to the maximum pressure specified by the tyre manufacturer (see information printed on the tyre sidewall).
- 5) Firmly screw the valve cap onto the valve.

11 Disposal

11.1 Disposal information

Return the product to the qualified personnel for disposal.

All components of the product must be disposed of properly in accordance with the respective national environmental regulations.

11.2 Information on re-use

⚠ CAUTION

Used seat padding
 Functional and/or hygienic risks due to re-use

- ▶ Replace the seat padding if the wheelchair is to be re-used.

The product is suitable for re-use.

Similar to second-hand machines or vehicles, products that are being re-used are subject to increased strain. Features and performance must not change in a way that could impair the safety of users or third parties during the period of use.

The relevant product must be thoroughly cleaned and disinfected before re-use. Then have the product inspected by qualified personnel with respect to its condition, wear and tear, and damage. Worn and damaged parts as well as components that do not fit or are unsuitable for the user must be replaced.

Detailed information on replacing components as well as information on the required tools can be found in the service manual.

12 Legal information

All legal conditions are subject to the respective national laws of the country of use and may vary accordingly.

12.1 Liability

The manufacturer will only assume liability if the product is used in accordance with the descriptions and instructions provided in this document. The manufacturer will not assume liability for damage caused by disregarding the information in this document, particularly due to improper use or unauthorised modification of the product.

12.2 Warranty

Further information on the warranty terms and conditions can be obtained from the qualified personnel that has fitted this product or the manufacturer's service (see inside back cover for addresses).

12.3 Service life

Expected lifetime: **4 years**

The design, manufacturing and requirements for the intended use of the product are based on the expected lifetime. These also include the requirements for maintenance, ensuring effectiveness and the safety of the product.

13 Technical data

INFORMATION

- ▶ Much of the technical data below is given in mm. Please note that product settings – unless otherwise specified – cannot be adjusted in the mm range but only in increments of approx. **0.5 cm** or **1 cm**.
- ▶ Note that the values achieved during adjustment may deviate from the values specified below. The deviation can be **±10 mm** and **±2°**.

INFORMATION

- ▶ Some of the measurements indicated below are values that were theoretically determined.
- ▶ Note that not all adjustment possibilities can be used with all product versions. Furthermore, the adjustment combinations are limited by the compact frame geometry.
- ▶ Technical changes and tolerances are reserved by the manufacturer.

General information

	Motus
Max. load [kg]	125/140
Weight [kg] ¹⁾ (For seat width 380 mm; seat depth 400 mm; 5" full rubber caster wheels, 24" hollow rim)	Approx. 14

	Motus
Transport weights [kg] ¹⁾ (For seat width 380 mm; seat depth 400 mm; 5" full rubber caster wheels, 24" hollow rim)	Wheelchair without wheels: approx. 10.5 24" drive wheel (pair): approx. 3.6 ¹⁾
Seat width [mm] ²⁾	355–550
Seat depth [mm] ²⁾	360–540
Lower leg length [mm] (without cushion)	340–540
Max. overall height [mm] (For rear seat height: 520 mm; back support height 500 mm; push handle)	1100
Min. tyre pressure [bar] ³⁾	7
Steering range approx. [mm] ⁴⁾ (For seat width 380 mm, seat depth 400 mm; passive wheelbase)	1,080
Maximum permissible inclination [°]/[%] ⁵⁾⁶⁾⁷⁾	7/12.3

¹⁾ The specified weights vary according to the selected options and model.

²⁾ In accordance with ISO 7176-5, 8.12

³⁾ Varies according to tyre option; see the print on the tyre wall

⁴⁾ Turning range/turning circle in accordance with ISO 7176-5, 8.11/8.12

⁵⁾ Also applies for parking with wheel lock engaged.

⁶⁾ Applies to all directions (upwards, downwards, sideways).

⁷⁾ In accordance with ISO 7176-1.

Additional information

Motus	Minimum	Maximum
Mass of the heaviest component [kg]	---	starting at 8 (with smallest seat width, smallest seat depth and lowest back support height)
Overall length [mm] (with 22" drive wheel) ¹⁾	805	1,085
Overall length [mm] (with 24" drive wheel) ¹⁾	830	1,110
Overall width [mm] (with standard drive wheels) ²⁾	520	720
Overall width [mm] (with drive wheels with drum brake) ²⁾	555	755
Length (folded) [mm]	805	1,110
Width (folded) [mm]	320	355
Height (folded) [mm]	730	1,090
Seat bottom angle	-5°–+15° (depends on front/rear seat height)	
Effective seat depth [mm]	360	540
Effective seat width [mm]	355	555
Front seat height [mm]	420	520
Rear seat height [mm]	360	520
Back support angle [°]	0 (vertical)	up to 30°
Back support height [mm]	300	500
Distance from leg support to seat [mm]	340	520
Distance from arm support to seat [mm]	210	300
Angle from foot plate to seat bottom [°]	fully adjustable	
Handrim diameter [mm]	490	540
Minimum turning radius [mm] ³⁾	520	---
Horizontal axle position [mm] ⁴⁾	33	106.5

¹⁾ With wheelbase extension: rear axle position + 73 mm

²⁾ Applicable to handrim attachment, narrow and 0° drive wheel camber

³⁾ In accordance with ISO 7176-5

⁴⁾ Measured in reference to the centre of the back support

Front seat height [mm]

Caster fork	Wheel diameter					
	3"	4"	5"	5.5"	6"	7"
short	420 – 440	420 – 450	450 – 460	460 – 470	460 – 480	490
long	460 – 470	460 – 490	460 – 500	470 – 510	470 – 510	490 – 520

Rear seat height [mm]

Drive wheel size	Setting range	Setting range z50	Setting range e-Support
22"	380 – 490	450, 470, 490, 510	450
24"	380 – 520	470, 510	470

Ambient conditions

Temperatures and relative humidity	
Temperature during use [°C (°F)]	-10 to +40 (14 to 104)
Transport and storage temperature [°C (°F)]	-10 to +40 (14 to 104)
Relative humidity [%]	45 to 85; non-condensing

14 Appendices

14.1 Threshold values for wheelchairs transportable by train

INFORMATION

- The products in this series fully satisfy the minimum technical requirements of regulation (EU) No. 1300/2014 regarding train accessibility for people with disabilities.

Feature	Threshold value (according to Regulation (EU) No. 1300/2014)
Length [mm]	1200 (plus 50 mm for the feet)
Width [mm]	700 (plus 50 mm on each side for the hands when moving)
Smallest wheels ["]	approx. 3 or greater (according to the regulation, the smallest wheel must be able to overcome a gap measuring 75 mm horizontally and 50 mm vertically)
Height [mm]	max. 1375; including a 1.84 m large male user (95th percentile)
Turning radius [mm]	1500
Maximum weight [kg]	200 (product with user, including luggage)
Maximum obstacle height that can be overcome [mm]	50
Ground clearance [mm]	60 (at an upward slope angle of 10°, ground clearance must measure at least 60 mm under the footrest for going forward at the end of the slope)
Maximum inclination angle on which the product will remain stable [°]	6 (dynamic stability in all directions) 9 (static stability in all directions, also when wheel lock engaged)

14.2 Required tools

The following tools are required for adjustments and maintenance work:

- Allen key 4 – 6 mm
- Ring and open-ended wrenches in sizes 10, 11, 13, 19 and 24
- Set of screwdrivers
- Torque wrench (measurement range 5-50 Nm)

- Tyre lever
- Tyre pump

14.3 Torque values of the screw connections

Unless otherwise specified, screw connections are tightened with the following torque values:

- Thread diameter M4: 3 Nm
- Thread diameter M5: 5 Nm
- Thread diameter M6: 10 Nm
- Thread diameter M8: 25 Nm

Kundenservice/Customer Service

Europe

Otto Bock HealthCare Deutschland GmbH
Max-Näder-Str. 15 · 37115 Duderstadt · Germany
T +49 5527 848-3433 · F +49 5527 848-1460
healthcare@ottobock.de · www.ottobock.de

Otto Bock Healthcare Products GmbH
Brehmstraße 16 · 1110 Wien · Austria
F +43 1 5267985
service-admin.vienna@ottobock.com · www.ottobock.at

Otto Bock Adria d.o.o. Sarajevo
Ramiza Salčina 85
71000 Sarajevo · Bosnia-Herzegovina
T +387 33 255-405 · F +387 33 255-401
obadria@bih.net.ba · www.ottobockadria.com.ba

Otto Bock Bulgaria Ltd.
41 Tzar Boris IIIrd Blvd. · 1612 Sofia · Bulgaria
T +359 2 80 57 980 · F +359 2 80 57 982
info@ottobock.bg · www.ottobock.bg

Otto Bock Suisse AG
Luzerner Kantonsspital 10 · 6000 Luzern 16 · Suisse
T +41 41 455 61 71 · F +41 41 455 61 70
suisse@ottobock.com · www.ottobock.ch

Otto Bock ČR s.r.o.
Protetická 460 · 33008 Zruč-Senec · Czech Republic
T +420 377825044 · F +420 377825036
email@ottobock.cz · www.ottobock.cz

Otto Bock Iberica S.A.
C/Majada, 1 · 28760 Tres Cantos (Madrid) · Spain
T +34 91 8063000 · F +34 91 8060415
info@ottobock.es · www.ottobock.es

Otto Bock France SNC
4 rue de la Réunion · CS 90011
91978 Courtaboeuf Cedex · France
T +33 1 69188830 · F +33 1 69071802
information@ottobock.fr · www.ottobock.fr

Otto Bock Healthcare plc
32, Parsonage Road · Englefield Green
Egham, Surrey TW20 0LD · United Kingdom
T +44 1784 744900 · F +44 1784 744901
bockuk@ottobock.com · www.ottobock.co.uk

Otto Bock Hungária Kft.
Tatai út 74. · 1135 Budapest · Hungary
T +36 1 4511020 · F +36 1 4511021
info@ottobock.hu · www.ottobock.hu

Otto Bock Adria d.o.o.
Dr. Franje Tuđmana 14 · 10431 Sveta Nedelja · Croatia
T +385 1 3361 544 · F +385 1 3365 986
ottobockadria@ottobock.hr · www.ottobock.hr

Otto Bock Italia Srl Us
Via Filippo Turati 5/7 · 40054 Budrio (BO) · Italy
T +39 051 692-4711 · F +39 051 692-4720
info.italia@ottobock.com · www.ottobock.it

Otto Bock Benelux B.V.
Mandenmaker 14 · 5253 RC
Nieuwkuijk · The Netherlands
T +31 73 5186488 · F +31 73 5114960
info.benelux@ottobock.com · www.ottobock.nl

Industria Ortopédica Otto Bock Unip. Ltda.
Av. Miguel Bombarda, 21 - 2º Esq.
1050-161 Lisboa · Portugal
T +351 21 3535587 · F +351 21 3535590
ottobockportugal@mail.telepac.pt

Otto Bock Polska Sp. z o. o.
Ulica Koralowa 3 · 61-029 Poznań · Poland
T +48 61 6538250 · F +48 61 6538031
ottobock@ottobock.pl · www.ottobock.pl

Otto Bock Romania srl
Șos de Centura Chitila - Mogoșoaia Nr. 3
077405 Chitila, Jud. Ilfov · Romania
T +40 21 4363110 · F +40 21 4363023
info@ottobock.ro · www.ottobock.ro

OOO Otto Bock Service
p/o Pultikovo, Business Park „Greenwood”,
Building 7, 69 km MKAD
143441 Moscow Region/Krasnogorskiy Rayon
Russian Federation
T +7 495 564 8360 · F +7 495 564 8363
info@ottobock.ru · www.ottobock.ru

Otto Bock Scandinavia AB
Koppargatan 3 · Box 623 · 60114 Norrköping · Sweden
T +46 11 280600 · F +46 11 312005
info@ottobock.se · www.ottobock.se

Otto Bock Slovakia s.r.o.
Röntgenova 26 · 851 01 Bratislava 5 · Slovak Republic
T +421 2 32 78 20 70 · F +421 2 32 78 20 89
info@ottobock.sk · www.ottobock.sk

Otto Bock Sava d.o.o.
Industrijska bb · 34000 Kragujevac · Republika Srbija
T +381 34 351 671 · F +381 34 351 671
info@ottobock.rs · www.ottobock.rs

Otto Bock Ortopedi ve
Rehabilitasyon Tekniği Ltd. Şti.
Mecidiyeköy Mah. Lati Lokum Sok.
Meriç Sitesi B Blok No: 30/B
34387 Mecidiyeköy-Istanbul · Turkey
T +90 212 3565040 · F +90 212 3566688
info@ottobock.com.tr · www.ottobock.com.tr

Africa

Otto Bock Algérie E.U.R.L.
32, rue Ahcène Outaleb - Coopérative les Mimosas
Mackle-Ben Aknoun · Alger · DZ Algérie
T +213 21 913863 · F +213 21 913863
information@ottobock.fr · www.ottobock.fr

Otto Bock Egypt S.A.E.
28 Soliman Abaza St. Mohandessein · Giza · Egypt
T +20 2 37606818 · F +20 2 37605734
info@ottobock.com.eg · www.ottobock.com.eg

Otto Bock South Africa (Pty) Ltd
Building 3 Thornhill Office Park · 94 Bekker Road
Midrand · Johannesburg · South Africa
T +27 11 564 9360
info-southafrica@ottobock.co.za
www.ottobock.co.za

Americas

Otto Bock Argentina S.A.
Av. Belgrano 1477 · CP 1093
Ciudad Autónoma de Buenos Aires · Argentina
T +54 11 5032-8201 / 5032-8202
atencionclientes@ottobock.com.ar
www.ottobock.com.ar

Otto Bock do Brasil Tecnica Ortopédica Ltda.
Alameda Maria Tereza, 4036, Bairro Dois Córregos
CEP: 13.278-181, Valinhos-São Paulo · Brasil
T +55 19 3729 3500 · F +55 19 3269 6061
ottobock@ottobock.com.br · www.ottobock.com.br

Otto Bock HealthCare Canada
5470 Harvester Road
Burlington, Ontario, L7L 5N5, Canada
T +1 800 665 3327 · F +1 800 463 3659
CACustomerService@ottobock.com
www.ottobock.ca

Oficina Ottobock Habana
Calle 3ra entre 78 y 80.
Edificio Jerusalem · Oficina 112 · Calle 3ra.
Playa, La Habana. Cuba
T +53 720 430 69 · +53 720 430 81
hector.corcho@ottobock.com.br
www.ottobock.com.br

Otto Bock HealthCare Andina Ltda.
Calle 138 No 53-38 · Bogotá · Colombia
T +57 1 8619988 · F +57 1 8619977
info@ottobock.com.co · www.ottobock.com.co

Otto Bock de Mexico S.A. de C.V.
Prolongación Calle 18 No. 178-A
Col. San Pedro de los Pinos
C.P. 01180 México, D.F. · Mexico
T +52 55 5575 0290 · F +52 55 5575 0234
info@ottobock.com.mx · www.ottobock.com.mx

Otto Bock HealthCare LP
11501 Alterra Parkway Suite 600
Austin, TX 78758 · USA
T +1 800 328 4058 · F +1 800 962 2549
USCustomerService@ottobock.com
www.ottobockus.com

Asia/Pacific

Otto Bock Australia Pty. Ltd.
Suite 1.01, Century Corporate Centre
62 Norwest Boulevard
Baulkham Hills NSW 2153 · Australia
T +61 2 8818 2800 · F +61 2 8814 4500
healthcare@ottobock.com.au · www.ottobock.com.au

Beijing Otto Bock Orthopaedic Industries Co., Ltd.
B12E, Universal Business Park
10 Jiuxianqiao Road, Chao Yang District
Beijing, 100015, P.R. China
T +8610 8598 6880 · F +8610 8598 0040
news-service@ottobock.com.cn
www.ottobock.com.cn

Otto Bock Asia Pacific Ltd.
Unit 1004, 10/F, Greenfield Tower, Concordia Plaza
1 Science Museum Road, Tsim Sha Tsui
Kowloon, Hong Kong · China
T +852 2598 9772 · F +852 2598 7886
info@ottobock.com.hk · www.ottobock.com

Otto Bock HealthCare India Pvt. Ltd.
20th Floor, Express Towers
Nariman Point, Mumbai 400 021 · India
T +91 22 2274 5500 / 5501 / 5502
information@indiaottobock.com · www.ottobock.in

Otto Bock Japan K. K.
Yokogawa Building 8F, 4-4-44 Shibaura
Minato-ku, Tokyo, 108-0023 · Japan
T +81 3 3798-2111 · F +81 3 3798-2112
ottobock@ottobock.co.jp · www.ottobock.co.jp

Otto Bock Korea HealthCare Inc.
4F Agaworld Building · 1357-74, Seocho-dong
Seocho-ku, 137-070 Seoul · Korea
T +82 2 577-3831 · F +82 2 577-3828
info@ottobockkorea.com · www.ottobockkorea.com

Otto Bock South East Asia Co., Ltd.
1741 Phaholyothin Road
Kwaeng Chatuchark · Khet Chatuchark
Bangkok 10900 · Thailand
T +66 2 930 3030 · F +66 2 930 3311
obsea@ottobock.co.th · www.ottobock.co.th

Other countries

Ottobock SE & Co. KGaA
Max-Näder-Straße 15 · 37115 Duderstadt · Germany
T +49 5527 848-1590 · F +49 5527 848-1676
reha-export@ottobock.de · www.ottobock.com

Ihr Fachhändler | Your specialist dealer



Otto Bock Mobility Solutions GmbH
Lindenstraße 13 · 07426 Königsee/Germany
www.ottobock.com

