ottobock.

Ventus

Table of contents

EN

1 Foreword

INFORMATION

Date of last update: 2024-06-26

- ► Please read this document carefully before using the product and observe the safety notices.
- ► Instruct the user in the safe use of the product.
- ► Please contact the manufacturer 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 ccc@ottobock.com or from the manufacturer's service department (visit www.ottobock.com for addresses).
- ► You can request this document as a PDF file at ccc@ottobock.com or from the manufacturer's service department. The PDF file can also be displayed in a larger size.

Initial adjustments to the product were made according to the order form. Nevertheless, fine adjustments and settings may have to be made depending on the medical situation or the user's requirements.

These instructions for use provide the information necessary for adjusting the settings. This work should be closely coordinated with the user.

Please note the following:

- The instructions for use (qualified personnel) are intended only for qualified personnel and remain with them.
- The product has been adapted to the needs of the user. We recommend checking the product settings **once per year** to ensure that the product provides optimal treatment over the long term. Especially in the case of users with a changing anatomy (such as body dimensions or weight), an adjustment at least **once every six months** is recommended.
- The manufacturer reserves the right to make technical changes to the model described in these instructions for use.

2 Intended use

The operational safety of the product can only be ensured in case of intended use in accordance with the information contained in these instructions for use (qualified personnel) and in the instructions for use (user). The user is ultimately responsible for accident-free operation.

2.1 Indications for use

For additional information about the indications for use, see the instructions for use (user).

2.2 Indications, contraindications, side effects

For more information on indications and contraindications as well as possible side effects when using the product, see the instructions for use (user).

2.3 Qualification

The tasks described below may only be carried out by qualified personnel. All manufacturer specifications and all applicable legal provisions must be complied with. Please contact the manufacturer's service department for further information (see for addresses www.ottobock.com).

3 Safety

3.1 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.

3.2 General safety instructions

CAUTION! Risk of injury when using unsuitable tools

Using unsuitable tools can lead to injuries and damage to the product.

- ► When carrying out work, use only tools that are suitable for the conditions at the workplace and for which safety and the protection of health are assured when used as intended. Observe the specifications in the section “Required tools”.
- ► Whenever you work on the product, secure it so that it cannot tip over or fall down.
- ► Use a clamping fixture to secure the product whenever you work on it at a workbench.

3.3 Safety Instructions for Assembly

WARNING! Risk of injury due to improper assembly work

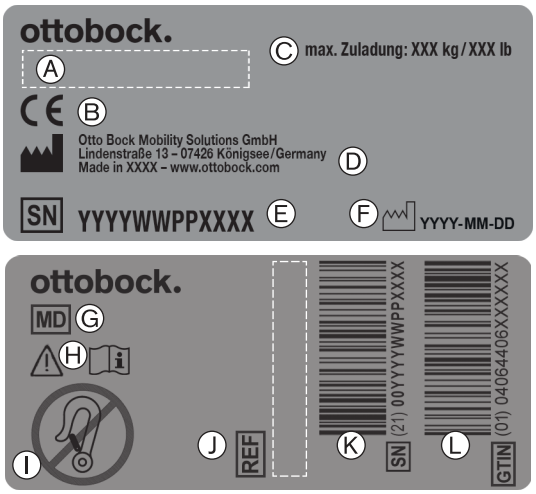
Improper assembly work can lead to serious injuries and damage to the product.

- ► Modification of the size and position of the caster wheels and of the drive wheel size can lead to wobbling of the caster wheels at higher speeds. If changes are required, verify the horizontal alignment of the wheelchair frame (see the sections "Adjusting the drive wheels", "Adjusting the caster wheels").
- ► After each assembly, verify the proper fit of the removable wheels. The quick-release axles must be firmly locked in the wheel attachment device.

3.4 Nameplate

The product can be clearly identified by the information on the nameplate. In case of enquiries and orders for spare parts and accessories, the product's serial number in particular must be kept ready.

The nameplates are found on the frame.

Label		Meaning
	**A**	Name of the product
	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	The product has not been approved by the manufacturer for use as a seat in vehicles for transporting persons with reduced mobility
	J	Manufacturer’s reference number for the product variant
	K	Serial number (PI)[3),1)]
	L	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 according to GS1 standard; UDI = Unique Device Identifier, PI = Production Identifier

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

4 Delivery

4.1 Scope of delivery

- Preassembled wheelchair
- Two drive wheels (installed or included)
- Options according to the order
- Instructions for use (qualified personnel), instructions for use (user)
- Instructions for use for accessories (depending on equipment)

4.2 Options

The functionality and operation of the options are described in more detail in the instructions for use (user).

All of the available options/accessories are listed on the order form.

4.3 Storage

Store the wheelchair in a dry, enclosed room, protected from external influences. Specific information about storage conditions: see page 31.

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

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.

5 Preparing the product for use

5.1 Assembly

⚠ CAUTION

Exposed pinch points

Crushing, pinching due to incorrect handling

► When folding the back support up or down, grasp only the specified components.

⚠ CAUTION

Failure to verify readiness for use before putting into operation

Tipping, falling due to incorrect adjustment or installation

► Check the existing settings prior to first use.

► 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 wheel locks.

► Check the tyre pressure. The correct tyre pressure is printed on the sidewall. Ensure that the pressure is the same in both tyres.

1) Slide the drive wheels into the wheel attachment devices. The quick-release axles must not be removable after the press button is released.
2) **If necessary:** Move the back support to the upright position and allow it to engage.
3) Rotate the side panels into position and insert them into the side panel mountings.
4) **If necessary:** Insert the calf strap.
5) Fit the seat cushion.

6 Settings

6.1 Prerequisites

⚠ WARNING

Faulty settings

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 be changed only 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 (see www.ottobock.com for addresses).
- ► Conduct tests only 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 configuration and maintenance are summarised in the section "Appendices" (see page 36 ff.).

6.2 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.

⚠ CAUTION

Incorrect mounting of the camber module

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

- ► Do not pull the camber module out too far. During installation the whole camber module must be fully enclosed by the clamping fixture.

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.

6.2.1 Adjusting the depth of the drive wheels

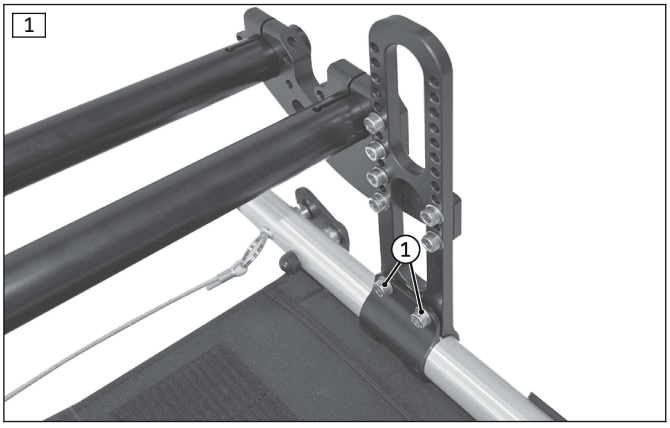
The horizontal drive wheel position is changed by moving the slider on the frame horizontally. This has the following effects:

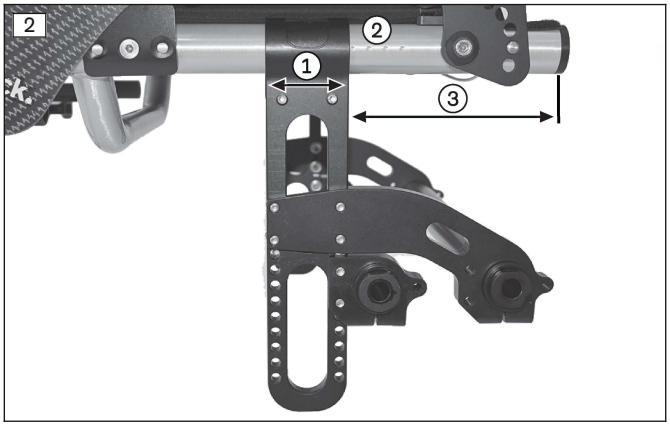
Position of drive wheel	Effects
Move backwards (passive setting)	• Larger wheelbase • Larger turning circle • Greater stability of the wheelchair • Wheelchair is harder to tip backwards when crossing obstacles • Position recommended for inexperienced users
Move forwards (active setting)	• Smaller wheelbase • 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

6.2.1.1 Adjusting the sliders on the frame

The sliders can be moved continuously horizontally on the frame tube. To facilitate adjustment, the frame features a dot grid with 9 positions (see fig. 65, item 1; see fig. 66, item 1).

1) Remove the drive wheels.
2) Place the wheelchair upside down.
3) Loosen 2 hexagon socket screws on each of the sliders under the seat bottom (see fig. 1, item 1).
4) Move the sliders with the axle unit to the desired position (see fig. 2, item 1):
   → Use the grid on the frame as a rough guide (see fig. 2, item 2).
   → For the fine orientation, measure between the tube end and the outside of the slider (see fig. 2, item 3).
5) Ensure that the depth setting is the same. Once changed, the left and right sliders must both have exactly the same horizontal position on the frame.
6) Tighten the hexagon socket screws on the sliders to **10 Nm** (see fig. 1, item 1).
7) Attach the drive wheels.
   INFORMATION: Following adjustment, the track of the drive wheel, the caster wheel journal angle and the knee lever wheel lock must be checked and, if necessary, readjusted (refer to the corresponding section).





6.2.2 Adjusting the seat height and seat inclination

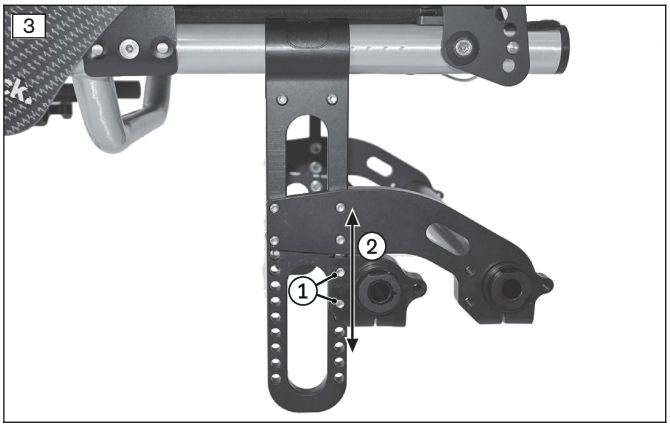
Drive wheel position	Effects
Move upwards	• The higher the drive wheel position, the more the seat surface is tilted to the rear

Drive wheel position	Effects
	• Wheelchair is easier to tip backwards when crossing obstacles • 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	• 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.

6.2.2.1 Adjusting the height of the drive wheels

The drive wheels can be moved vertically in the long (see fig. 65, item 2) and centre sliders (see fig. 66, item 2) in 10 height positions each.

1) Remove the drive wheels.
2) Place the wheelchair upside down.
3) Remove 2 hexagon socket screws on each of the clamping flanges of the sliders (see fig. 3, item 1; illustration with wheelbase extension).
4) Move the axle unit to the desired position on the slider (see fig. 3, item 2). Ensure the height settings are the same.
5) Tighten the hexagon socket screws to **10 Nm** (see fig. 3, item 1).
   → After adjustment, the left and right clamping flanges must have the same vertical position in the slider.
6) Attach the drive wheels.
   INFORMATION: Following adjustment, the track of the drive wheel, the caster wheel journal angle and the knee lever wheel lock must be checked and, if necessary, readjusted (refer to the corresponding section).



6.2.3 Adjusting the drive wheel camber

Position of drive wheel	Effects
0° position	• Narrow track, excellent straight-line stability • Low rolling resistance
Wheel camber	• 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

6.2.3.1 Adjusting the drive wheel camber of 0°/3°/6°/9°

The modular system of the product offers camber modules for different sloped settings of the drive wheels (**0°** and **3°**: see fig. 4, item 1; **6°** and **9°**: see fig. 4, item 2).

1) Remove the drive wheels.
2) Place the wheelchair upside down.

3) Loosen the clamping screw on the clamping flange (see fig. 5, item 1).
   INFORMATION: Replacement can be carried out first on one side and then on the other or simultaneously.
4) Remove the camber module:
   → **For camber module 0°/3°:** Insert the quick-release axle of the drive wheel (see fig. 6, item 1) into the camber module (see fig. 6, item 2) to assist removal and pull it out with the aid of the quick-release axle.
   → **For camber module 6°/9°:** Remove the camber module including the quick-release axle mounting (see fig. 7, item 1).
5) Replacing and installing the camber module:
   → Adjust the track width symmetrically on both sides.
   → Set the track width so that the slanted drive wheels can run freely (see page 12).
   → **Only for camber module 0°/3°:** The entire camber module must be fully enclosed by the tube clamp during assembly. Check the position by measuring it afterwards (see fig. 8).
   → **Only for camber module 6°/9°:** During assembly, the camber module must be inserted in the clamping flange up to the stop (see fig. 7, item 2).
6) Clamp the camber module lightly on the clamping flange using the clamping screw.
7) Replace the camber module on the other side in the same manner. Make sure that both camber modules are adjusted symmetrically.
8) Attach the drive wheels.
9) Adjust the track (see page 13).
10) Tighten the clamping screws to **10 Nm** (see fig. 5, item 1).

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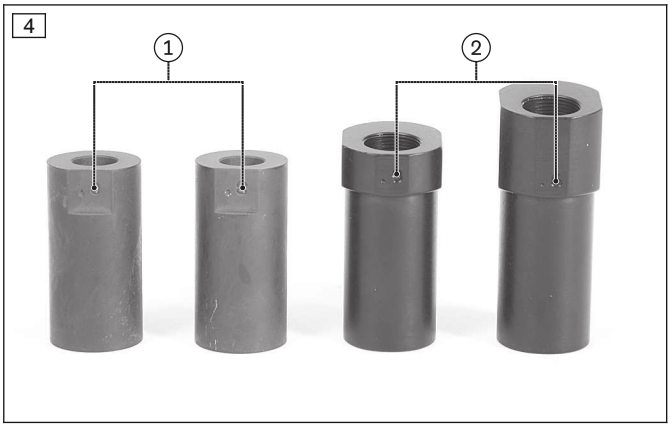

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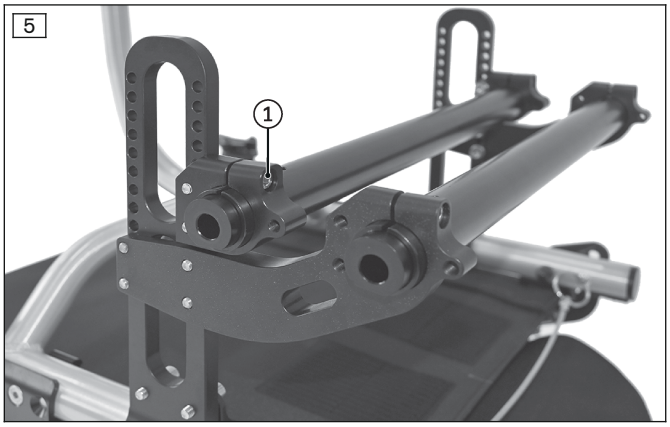

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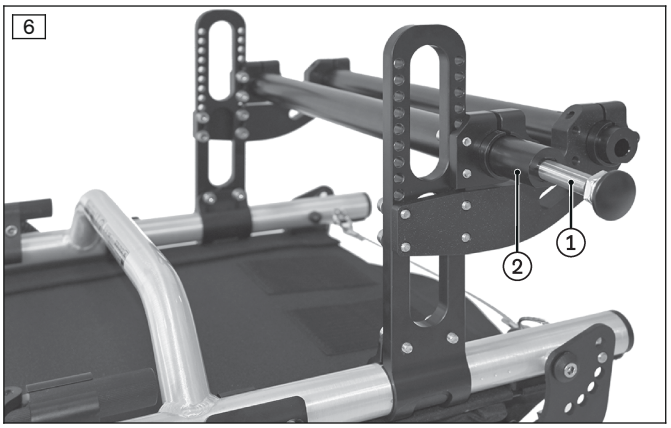

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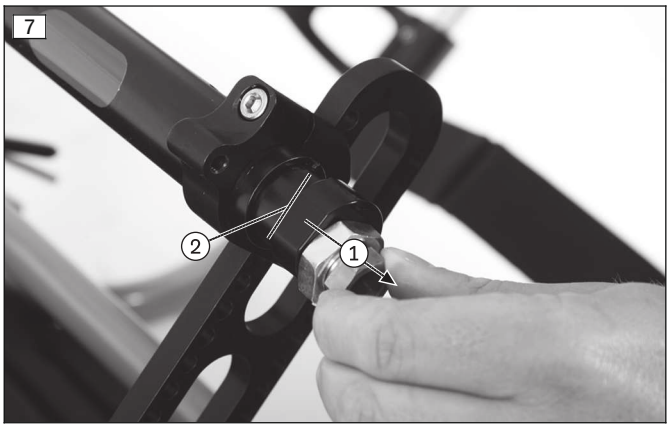

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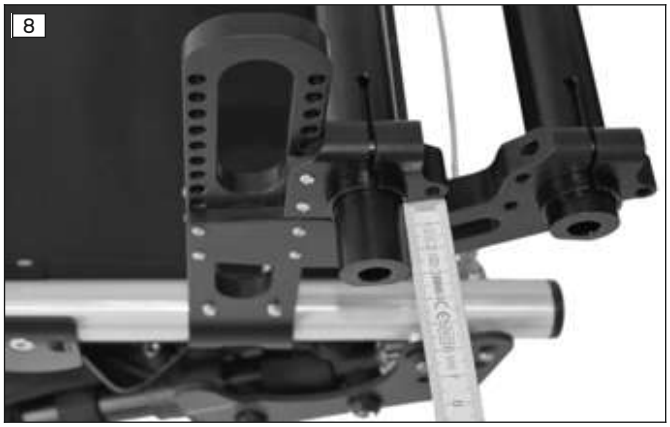


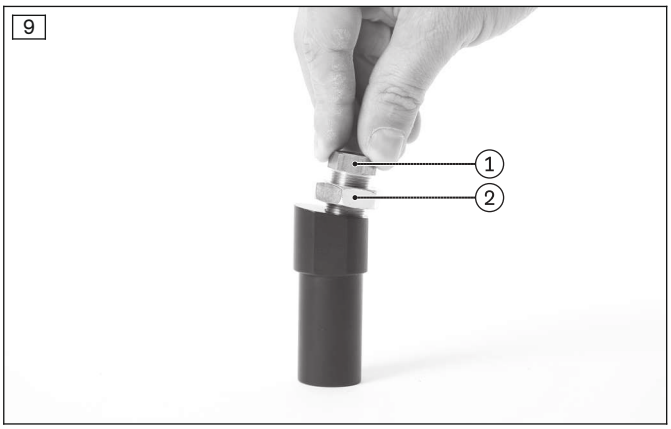
6.2.4 Adjusting the track width (additional adjustment)

The **0°** and **3°** camber modules (see fig. 4, item 1) can slide in the clamping flange to adjust the track width. With the **6°** and **9°** camber modules (see fig. 4, item 2), the track is changed by adjusting the screwed-in quick-release axle mounting (see fig. 9, item 1).

Adjusting the track width for camber module 0°/3°

1) Remove the drive wheels.
2) Place the wheelchair upside down.
3) Loosen the clamping screw on the clamping flange (see fig. 5, item 1).
4) Insert the drive wheel's quick-release axle into the camber module to aid removal (see fig. 6, item 1).
5) **INFORMATION: Make the adjustment on one side and then the other.**
   Move the camber module (see fig. 6, item 2) to the desired position outwards with the aid of the quick-release axle or inwards with the aid of a soft-faced hammer.
   → Do not pull the camber module out too far. During assembly the whole camber module must be fully enclosed by the tube clamp.
   → Check the position by measuring it afterwards (see fig. 8).
6) Clamp the camber module lightly on the clamping flange using the clamping screw.
7) Adjust the track width on the other clamping flange in the same manner.
   INFORMATION: Adjust the track width symmetrically on both sides.
8) Attach the drive wheels.
9) Adjust the track (see page 13).
10) Tighten the clamping screws to **10 Nm** (see fig. 5, item 1).

9



Adjusting the track width for camber module 6°/9°

1) Remove the wheels.
2) Place the wheelchair upside down.
3) Loosen the counter nut on the quick-release axle mounting (see fig. 9, item 2).

4) Set the desired track width with the quick-release axle mounting (see fig. 9, item 1). If required, put on the wheel to check that it can rotate freely.
   INFORMATION: Adjust the track width symmetrically on both sides.
5) Slightly tighten the counter nut on the quick-release axle mounting.
6) Adjust the track width on the other camber module in the same manner.
7) Attach the wheels.
8) Adjust the track (see page 13).
9) Tighten the counter nut to **50 Nm** (see fig. 9, item 2).

6.2.5 Adjusting the track

INFORMATION

- The track setting must be adjusted after the following adjustments have been made:
  → Adjusting the track width: see page 12
  → Adjusting the drive wheel camber: see page 10
- The track setting must be checked and, if necessary, adjusted after the following adjustments have been made:
  → Adjusting the depth of the drive wheel: see page 9
  → Adjusting the height of the drive wheel: see page 10

INFORMATION

- Always adjust the track on both sides and check both sides.
- With each track adjustment, always check the symmetry of the track width setting. To do this, measure the distance between the outer side of the camber module and the outer side of the clamping flange on both sides (see fig. 8).
- After each adjustment to the track, check the caster wheel journal angle (see page 15).

> **Prerequisite:**
  The clamping screws on the clamping flanges have to be loosened so the camber modules and drive wheel axle are only slightly clamped (see page 12).

1) Place the wheelchair on an even surface. Avoid twisting the axle when doing this.
2) Pull the drive wheel out slightly in order to make room for the assembly.
3) Place the spirit level on the camber module (see fig. 10).
4) Carefully twist the camber module until the spirit level is centred (not illustrated).
   If necessary, e.g. after adjusting the wheel camber, also carefully turn the drive wheel axle until the spirit level is centred (see fig. 11).
5) Tighten the clamping screws on the clamping flanges to **10 Nm** (see fig. 5, item 1).


10

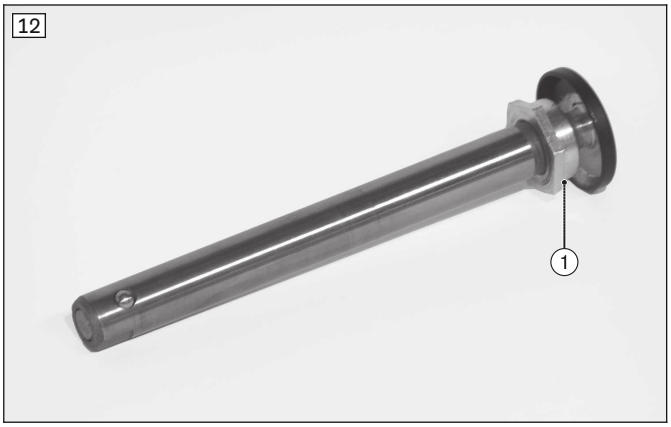

11

6.2.6 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.

12



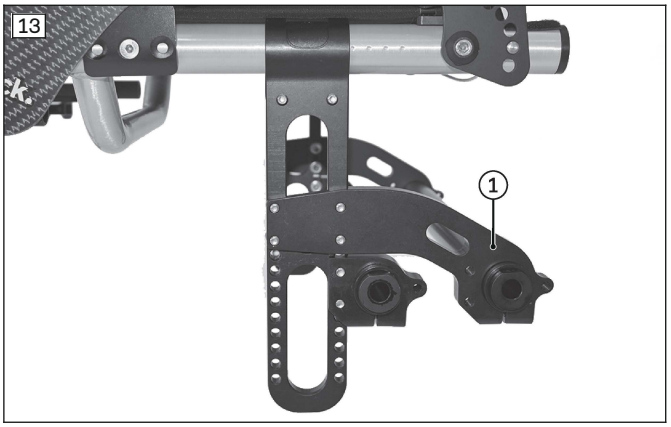
6.2.7 Adjusting the wheelbase extension

The wheelbase extension (see fig. 13, item 1: variant with double axle) allows the use of the wheelchair with an adaptable handbike or a particularly passive setting of the wheelchair (see fig. 14). The wheelbase extension is preassembled on delivery according to the order.

All adjustments with the wheelbase extension installed are made in the same way as the adjustments without wheelbase extension:

- Adjusting the depth of the drive wheels: see page 9
- Adjusting the height of the drive wheels: see page 10
  Special requirement: When adjusting the height of the drive wheels, 4 hexagon socket screws must be loosened and moved on each slider (see fig. 15, item 1).
- Adjusting the track width: see page 12
  Special requirement: When adjusting the track width for camber module **0°/3°**, the clamping screws for the wheelbase extension must be loosened (see fig. 15, item 2). Adjusting the track width for camber module **6°/9°** is done by adjusting the quick-release axle mounting (see fig. 9).
- Adjusting the drive wheel camber: see page 10
  Special requirement: The clamps on the wheelbase extension have to be loosened to replace the camber modules (see fig. 15, item 2).
  NOTE: For a wheelbase extension with a double axle, only certain camber modules can be combined:
  – **Front axle camber modules/rear axle camber modules: 0°/3°, 3°/6° or 6°/9°.**
- Adjusting the knee lever wheel lock: see page 18
  Special requirement: For extreme settings, the wheelbase extension must be used in combination with an upgrade knee lever wheel lock. If necessary, the wheel lock holder must be moved behind the locking mechanism for the side panel supports.
  CAUTION: Risk of falling, tipping over. If the wheelbase extension is used in combination with a double axle, there is no braking function available when the drive wheels are moved to the rear axle (e.g. for adjusting a handbike). Inform the user of this.

13



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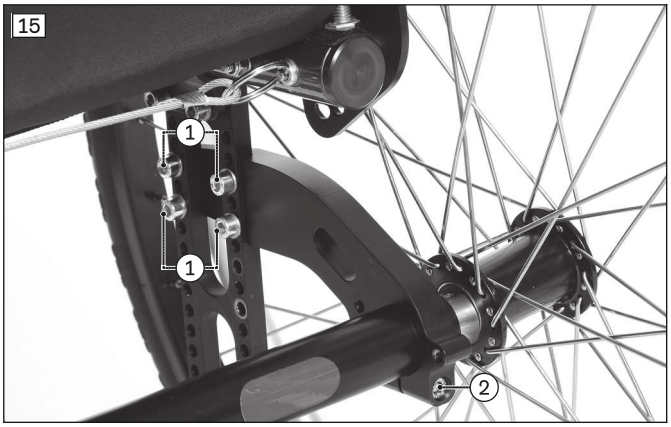


Wheelbase extension and clothing guard

If the wheelbase extension is installed, the side panels can be folded as follows to allow access to the wheelchair:

- The standard side panel can be folded towards the rear (see fig. 16).
- The clothing guard side panel can be unhooked to the rear (see fig. 17) and folded down (see fig. 18).

16

17

18

6.3 Adjusting the caster wheels

6.3.1 Adjusting the caster journal angle

⚠ WARNING

Damage to the eccentric during adjustment work

Loss of the caster fork

► When changing the position of the caster head on the frame, check the M8 interior thread on the eccentric for damage and replace the eccentric if necessary.

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

The threaded axle in both caster wheel adapters should be perpendicular to the ground to ensure optimum wheelchair driving characteristics. The caster wheel adapters permit continuous adjustment of this angle.

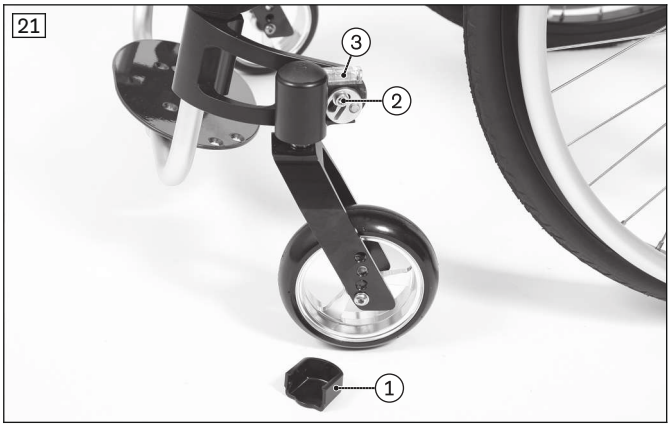
Standard caster fork – adjusting the caster wheel journal angle

1) Lift off the plastic cover on the inner side of the frame (see fig. 19).
2) Loosen the hexagon head screws on the inside of the frame (see fig. 20, item 1/2). If necessary, remove and move the front screw (see fig. 20, item 1).
3) Remove the protective cap (see fig. 21, item 1).
4) Loosen the hexagon socket screw on the eccentric (see fig. 21, item 2).
5) Position the spirit level (see fig. 21, item 3).
6) Adjust the caster wheel axle with a wide slotted screwdriver until it is vertical. The bubble in the spirit level must be in the centre position (see fig. 22).
7) Tighten the hexagon socket screw on the eccentric to **10 Nm** (see fig. 21, item 2).
8) Tighten the hexagon head screws on the inner side of the frame to **23 Nm** (see fig. 20, item 1/2).
9) Put on the protective cap (see fig. 21, item 1).
10) Put on the plastic cover on the inner side of the frame.

→ The caster wheel axle on each of the two caster wheel adapters must be positioned vertically.


19

20



21

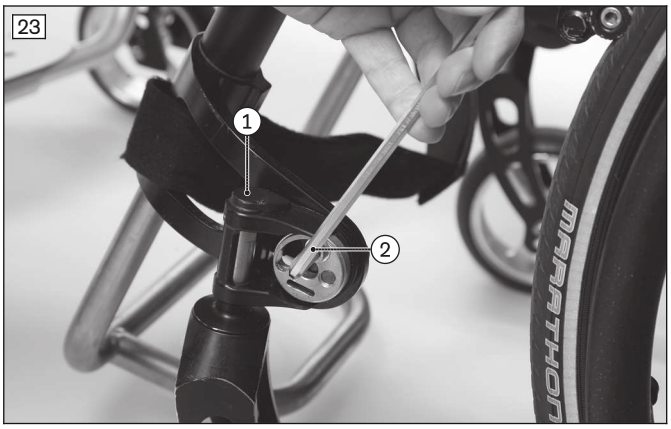

22

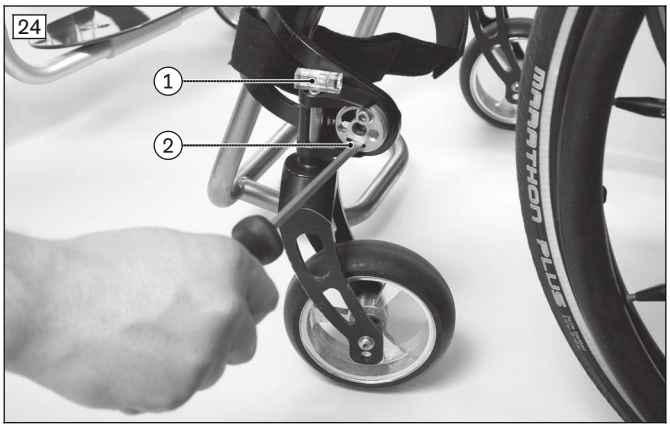
Design and Froglegs caster forks – adjusting the caster wheel journal angle

The Design (see fig. 68) and Froglegs (see fig. 69) caster forks are adjusted in the same way as the standard caster fork.

1) Lift off the plastic cover on the inner side of the frame (not illustrated).
2) Loosen the hexagon head screws on the inner side of the frame (not illustrated).
3) Remove the eccentric cover (not illustrated) and the cover cap above the caster wheel axle (see fig. 23, item 1).
4) Loosen the hexagon socket screw on the eccentric (see fig. 23, item 2).
5) Loosen the hexagon head screws on the inner side of the frame (not illustrated).
6) Position the spirit level (see fig. 24, item 1).
7) Adjust the caster wheel axle with a wide slotted screwdriver until it is vertical. The bubble in the spirit level must be in the centre position (see fig. 24, item 2).
8) Tighten the hexagon socket screw on the eccentric to **8 Nm** (see fig. 23, item 2).

9) Tighten the hexagon head screws on the inner side of the frame to **23 Nm**.
10) Replace the covers.
→ The caster wheel axle on each of the two caster wheel adapters must be positioned vertically.

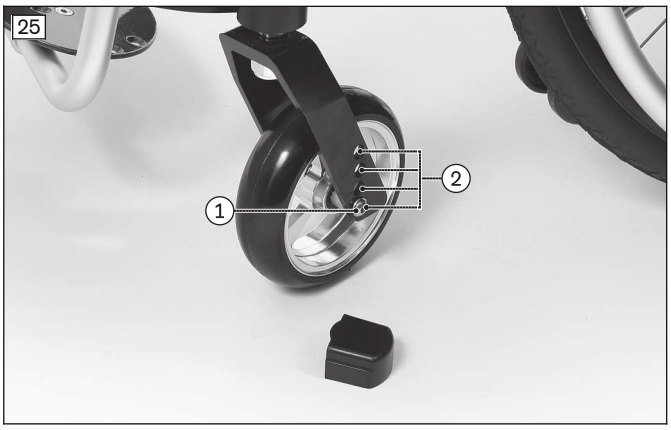


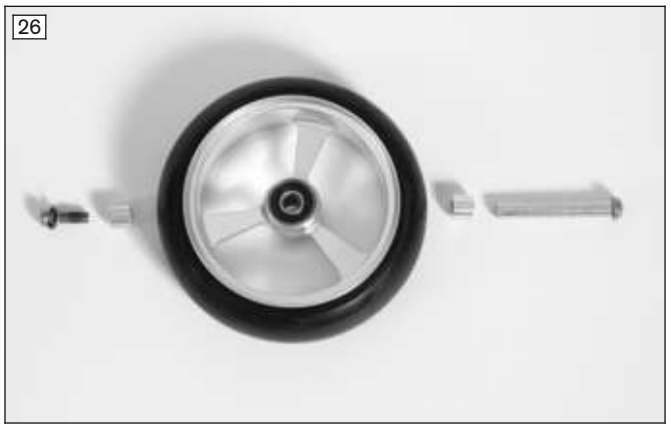


6.3.2 Changing the installation position of the caster wheels

INFORMATION
Please refer to the seat height table in the technical data.

The front seat height is adjusted using the row of holes in the fork and the diameter of the caster wheels.
1) Remove the screw connection of the threaded axle (see fig. 25, item 1).
2) Remove the threaded axle and spacers.
3) Remove the caster wheel.
4) Insert the threaded axle with the 1st spacer bushing into the desired hole in the fork (see fig. 25, item 2).
5) Install the caster wheel.
6) Slide on the 2nd spacer bushing.
7) Tighten the threaded axle to **8 Nm**.
→ Once adjusted, the left and right caster wheels must have the same vertical position in the caster fork.
→ Once the anterior seat height has been adjusted, check the drive wheel track (see page 13) and the caster wheel journal angle (see page 15) and adjust if necessary.





6.4 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 after the drive wheel has been repositioned or during fine adjustment.

6.4.1 Adjusting the knee lever wheel locks

INFORMATION

If the horizontal drive wheel position is changed (see page 9) or a different drive wheel size is installed, the 481H25=PK025 knee lever wheel lock must be installed with a seat depth **< 340 mm** (depending on the horizontal drive wheel position and rear seat height). See the 647G829 service manual for further information.

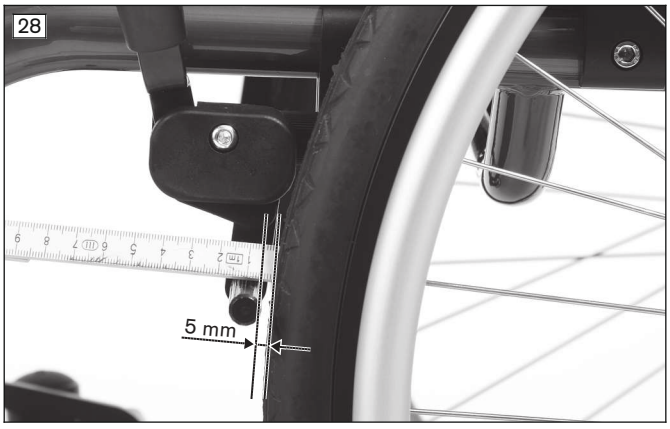
The standard and upgrade knee lever wheel locks are adjusted in the same way.

1) Loosen the hexagon socket screws in the tube clamp on the underside of the frame (see fig. 27, item 1).
2) Adjust/move the support for the knee lever wheel lock (see fig. 27, item 2) to any position in the tube clamp (see fig. 27, item 3). When the wheel lock is disengaged, the clear distance between the tyre and wheel lock bolt must not exceed **5 mm** (see fig. 28).
   → It must be possible to operate the wheel lock evenly and easily on both sides.
   → The wheel lock bolt must lock the drive wheel securely when stationary.
3) Tighten the hexagon socket screws to **10 Nm**.

→ After adjustment, the left and right knee lever wheel locks must both have the same braking force.

27

28



6.4.2 Adjusting the scissor wheel locks

1) Loosen the hexagon socket screws in the clamps (see fig. 29, item 1).
2) Adjust/move the support for the scissor wheel lock to any position in the clamp (see fig. 29, item 2).
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. 29).
   → It must be possible to operate the brake evenly and easily on both sides.
   → The wheel lock bolt must lock the drive wheel securely when stationary (see fig. 30).
4) Tighten both hexagon socket screws evenly to **12 Nm** in two passes (see fig. 29, item 1).

→ After adjustment, the left and right scissor wheel locks must both have the same braking force.

6.5 Adjusting the back support

6.5.1 Adjusting the back support height

The back support height does not need to be adjusted during the initial fitting.

To change the back support height, new back support tubes must be retrofitted (see 647G829 service manual).

6.5.2 Adjusting the back support angle

⚠ 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.

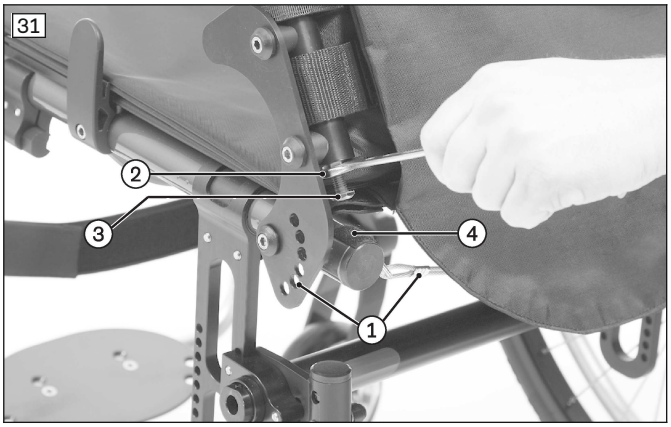
The back support angle can be adapted to the needs of the user – for example after adjusting the wheelbase. The angle can be adjusted between **65°** – **105°**.

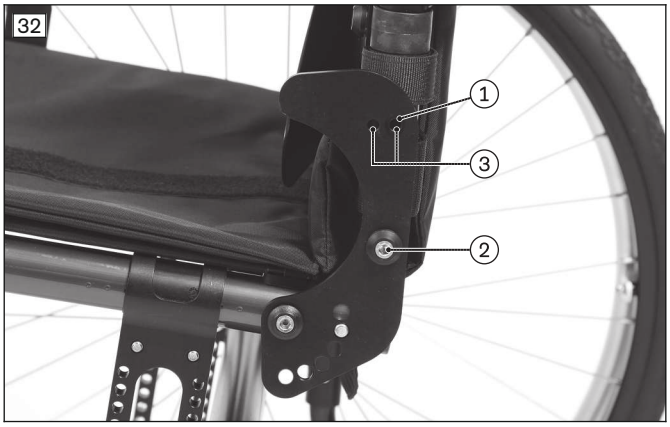
Preliminary adjustment (20° steps)

1) Using the pulley system, pull out the locking bolts from the locking points (see fig. 31, item 1).
2) Turn the counter nuts against the head of the adjustment screw (see fig. 31, item 2).
3) Screw in the adjustment screws by hand (see fig. 31, item 3).
4) Pull back the back support until both locking bolts engage in the desired locking points.
5) Unscrew each adjustment screw until the screw head comes into contact with the hook-and-loop patch (see fig. 31, item 4).
6) Tighten the counter nuts (see fig. 31, item 2). Use an open-end wrench to hold the head of the set screws in place (see fig. 31, item 3).

Fine adjustment (10° steps)

1) Remove the upper mounting screw on both sides (see fig. 32, item 1).
2) Loosen the lower mounting screw on both sides (see fig. 32, item 2).
3) Turn the counter nuts against the head of the adjustment screws (see fig. 31, item 2).
4) Screw in the adjustment screws by hand (see fig. 31, item 3).
5) Adjust the back plate on both sides. Two settings are available (see fig. 32, item 3).
6) Reattach the mounting screws and tighten them (see fig. 32, item 1/2).
7) Unscrew each adjustment screw until the screw head comes into contact with the hook-and-loop patch (see fig. 31, item 3).
8) Tighten the counter nuts (see fig. 31, item 2). Use an open-end wrench to hold the head of the set screws in place (see fig. 31, item 3).





6.5.3 Adjusting the push handles

The height of the standard push handles (see fig. 33) and the folding push handles (not illustrated) cannot be adjusted.

The height of the height-adjustable push handles (see fig. 34) and the height-adjustable/removable push handles (not illustrated) can be adjusted in height to make pushing easier for the attendant.

1) Release the clamping lever.
2) Adjust the height of the push handle.
3) Close the clamping lever tightly.
   INFORMATION: Both push handles must be adjusted to the same height.

6.6 Adjusting the back support upholstery / seat upholstery

6.6.1 Adjusting the back support upholstery

INFORMATION

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

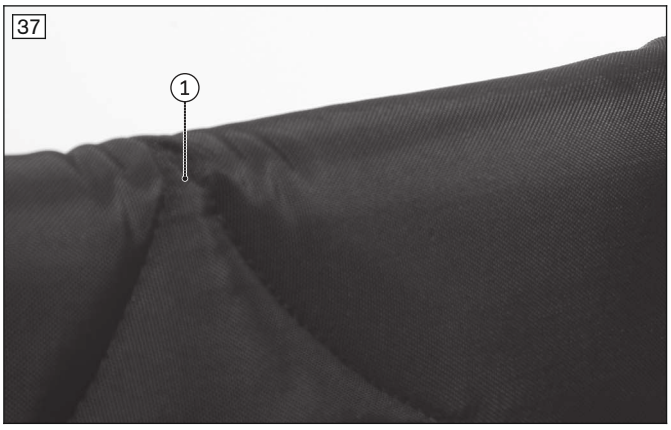
INFORMATION

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

The backrest cover can be adjusted in segments to the needs of the user.

1) Remove the seat cushion.
2) Fold the seat pad forwards away from the hook-and-loop fastener (see fig. 35, item 1).
3) Pull the flap of the back support pad off the hook-and-loop fastener (see fig. 35, item 2) and let it hang down.
4) Remove the back support pad.
5) Loosen the upholstery straps and use the hook-and-loop fastener to fasten them with the desired tension (see fig. 36).

6) Put on the back support pad and attach it to the back support and seat upholstery using the hook-and-loop fastener:
   → Position the kink of the back support pad at the top. The “V” in the pad (see fig. 37, item 1) shows exactly where the kink is.
   → Pull the flap of the back support pad firmly down (see fig. 38).
   → 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. 35, item 2).
   INFORMATION: The hook-and-loop part of the flap prevents slipping and protects against draughts.
7) Attach the seat pad (see fig. 35, item 1) and the seat cushion using the hook-and-loop fasteners.



6.6.2 Adjusting the seat upholstery

INFORMATION

The centre of gravity can be slightly corrected by making small changes to the tension of the seat upholstery. Larger corrections need to be made by adjusting the frame, slider and caster wheels.

Standard seat upholstery

This seat upholstery does not need to be adjusted during initial fitting. If significant sagging occurs after extended use, the seat upholstery has to be replaced (see 647G829 service manual).

Adaptable seat upholstery

This seat upholstery can be adjusted in segments to the needs of the user.

1) Remove the seat cushion.
2) Pull the seat pad off the hook-and-loop fastener (see fig. 39).
3) Pull the flap of the back support pad off the hook-and-loop fastener (see fig. 35, item 2) and let it hang down.
4) Loosen the upholstery straps and use the hook-and-loop fastener to fasten them with the desired tension (see fig. 40).

5) Reattach the back support pad on the seat upholstery with hook-and-loop fasteners. To do so, pull the part of the flap that can be fastened forward and attach it to the seat upholstery using the hook-and-loop fastener (see fig. 35, item 2).
   INFORMATION: The hook-and-loop part of the flap prevents slipping and protects against draughts.
6) Attach the seat pad (see fig. 35, item 1) and the seat cushion using the hook-and-loop fasteners.

6.7 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.

6.7.1 Adjusting the lower leg length

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

Angle-adjustable and rigid leg supports

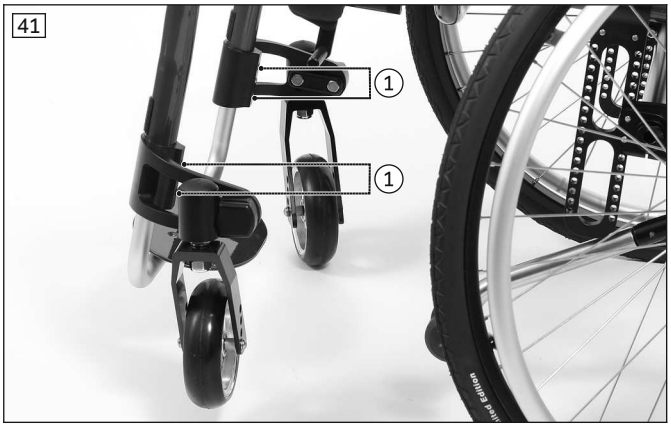
1) Loosen the 4 clamping screws on the inside of the caster attachment device (see fig. 41, item 1).
2) Adjust the lower leg length (continuously adjustable). The foot stirrups must be slid at least **60 mm** into the frame tube.
3) Tighten the clamping screws to **7 Nm**.

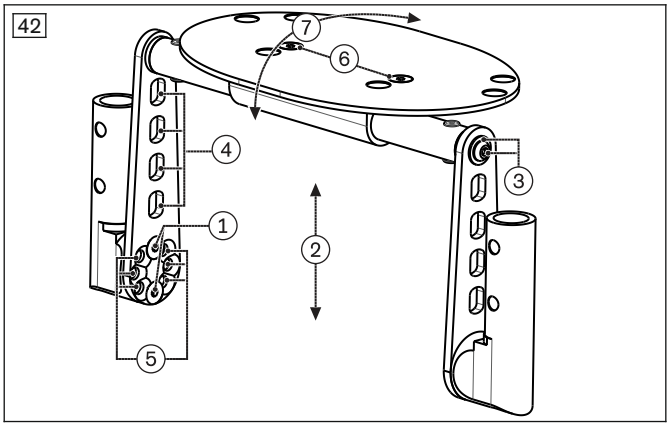
Leg support for short lower leg lengths: adjusting the height

1) Loosen the lower mounting screws on both sides (see fig. 42, item 1).
2) Remove the foot support unit (see fig. 42, item 2).
3) Loosen the upper mounting screws on both sides (see fig. 42, item 3).
4) Move the foot support in the perforated plate to the desired height position (see fig. 42, item 4).
5) Tighten the upper mounting screws (with washers) to **7 Nm** (see fig. 42, item 3).
6) Insert the foot support unit.
7) Tighten the lower mounting screws to **5 Nm** (see fig. 42, item 1).

Leg support for short lower leg lengths – adjusting the depth

1) Loosen the lower mounting screws on both sides (see fig. 42, item 1).
2) Select the right holes on the adjustment circle for the desired positioning (see fig. 42, item 5).
3) Tighten the lower mounting screws to **5 Nm** (see fig. 42, item 1).
   INFORMATION: After every adjustment to the depth position, the angle of the plate must be adapted (see page 23).





6.7.2 Adjusting the support angle

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

Angle-adjustable leg supports

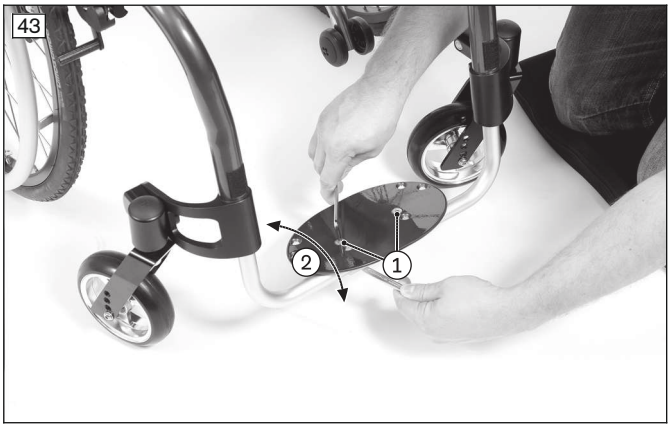
1) Loosen the hexagon socket screws on the tube clamp (see fig. 43, item 1).
2) Turn the foot plate to the desired angle (see fig. 43, item 2).
3) Tighten the hexagon socket screws to **10 Nm**.

Leg support for short lower leg lengths

1) Loosen the hexagon socket screws on the tube clamp (see fig. 42, item 6).
2) Turn the foot plate to the desired angle (see fig. 42, item 7).
3) Tighten the hexagon socket screws to **10 Nm**.

Rigid leg support

The angle of the plate cannot be changed (see fig. 44).

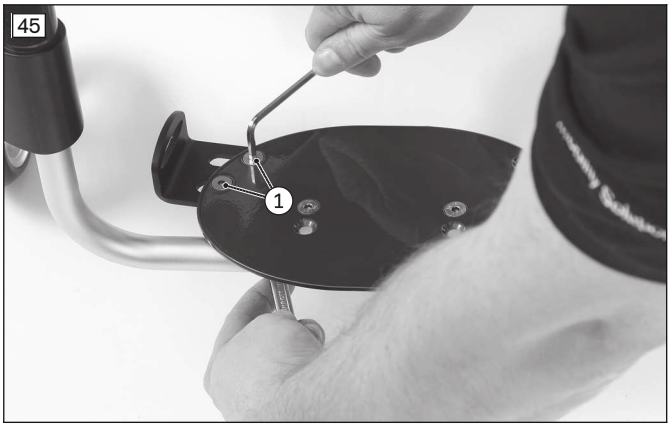


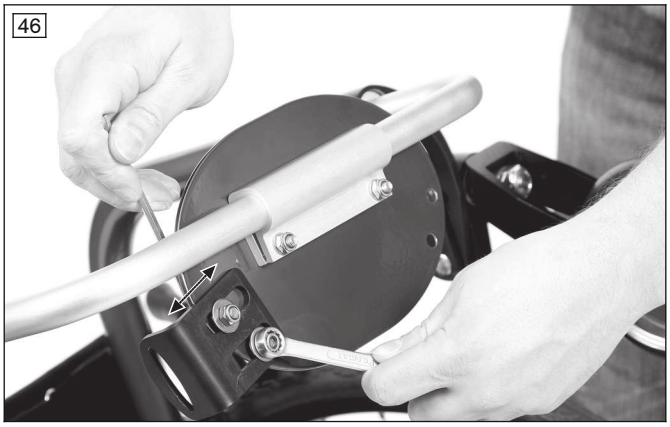
6.7.3 Installing and adjusting the lateral heel blocks

The lateral heel block can be installed using the pre-drilled holes on the foot plate.

The lateral heel block is installed using the pre-drilled holes on the foot plate.

1) Install the lateral heel block onto the bottom of the foot plate using the hexagon socket screws (see fig. 45, item 1).
2) Shift the lateral heel block in the slotted hole to set the desired foot width (see fig. 46).
3) Tighten the hexagon socket screws.





6.8 Adjusting the side panels

6.8.1 Adjusting the standard and clothing guard side panels

Standard side panels

It is not possible to make an adjustment. After major changes to the position or size of the drive wheels, the side panels must be replaced.

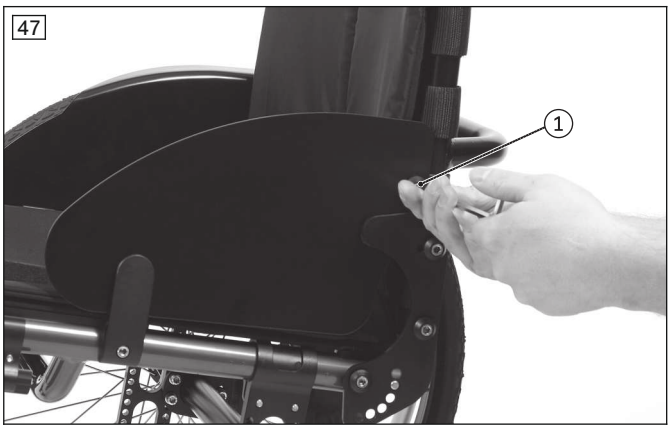
1) Loosen the hexagon socket screw on the support bracket (see fig. 47, item 1).
2) Remove and replace the side panel.
3) Tighten the hexagon socket screw on the support bracket.

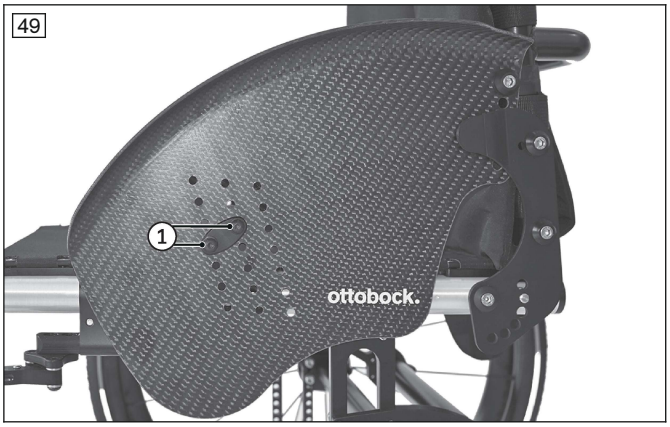
Clothing guard side panels

INFORMATION

Note that the side panels may have to be replaced after major changes to the drive wheel position or size (see above).

1) Remove the hexagon socket screw on the side panel support bracket (see fig. 47, item 1).
2) Remove the side panel and reposition it in one of the 5 holes (see fig. 47, item 1).
   INFORMATION: Choose the hole so that the clothing protector lip is close enough to or far enough away from the tyre to exclude the risk of crushing.
   Please note that after adjusting the clothing guard side panel, the side panel mounting may also need to be repositioned (see 647G829 service manual).
3) Tighten the hexagon socket screw.
4) **"Plastic" and "Carbon" clothing guard side panels:** Also remove the hexagon socket screws on the locking mechanism of the side panel (see fig. 49, item 1). Remove and reposition the locking mechanism. Tighten the hexagon socket screws.





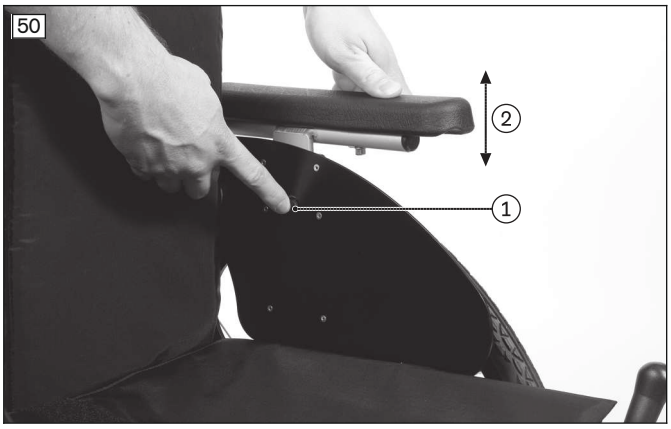
6.8.2 Adjusting the height-adjustable arm support

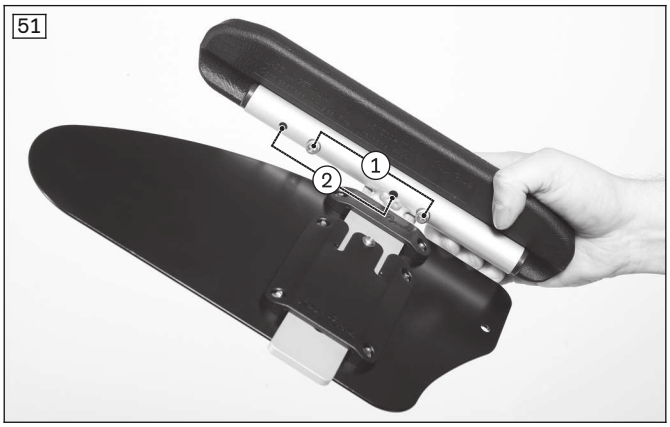
Adjusting the height

1) Press in the release button on the inner side of the side panel (see fig. 50, item 1).
2) Slide the forearm support to the desired position (see fig. 50, item 2).
3) Let go of the release button.
   → The forearm support locks into place automatically.

Adjusting the depth

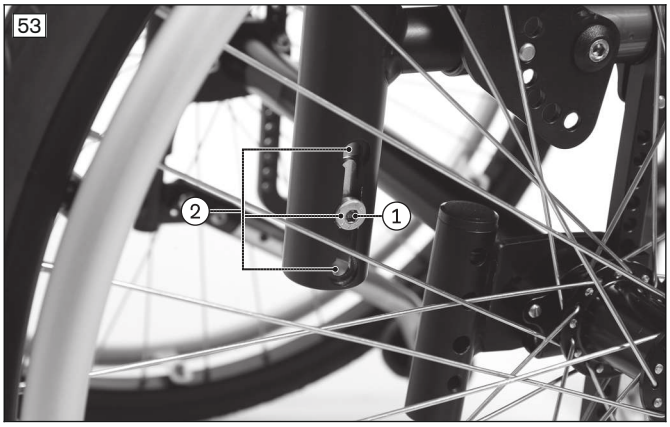
1) Loosen the hexagon socket screws (see fig. 51, item 1).
2) Remove and reposition the forearm support (see fig. 51, item 2).
3) Tighten the hexagon socket screws.





6.8.3 Adjusting the padded arm support

1) Loosen the hexagon socket screw on the locking point (see fig. 53, item 1).
2) Slide the arm support to the desired position (see fig. 53, item 2).
3) Tighten the hexagon socket screw.



6.8.4 Installing and adjusting the swivel unit and forearm supports

Subsequent assembly is carried out on the height-adjustable arm support.

1) Loosen the hexagon socket screws on the underside of the forearm support (see fig. 51, item 1).
2) Remove the forearm support.
3) **INFORMATION: For assembly of the swivel unit: see the 647H564 instructions for use.**
   Mount the swivel unit on the tube of the side panel.
4) Install the arm support to the swivel unit.
5) Adjust the swivel unit.

Adjusting the swivel unit with forearm support is described in more detail in the supplied instructions for use (user).

6.9 Adjusting the anti-tipper and tip-assist

⚠ 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.

6.9.1 Adjusting the anti-tipper

INFORMATION

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

Adjusting the length of the pivot arm

1) Remove the hexagon socket screw on the pivot arm (see fig. 54, item 1).
2) Adjust the length of the pivot arm.
3) Tighten the pivot arm. The outer edge of the anti-tipper roller has to project beyond the largest diameter of the tyre (see fig. 55).

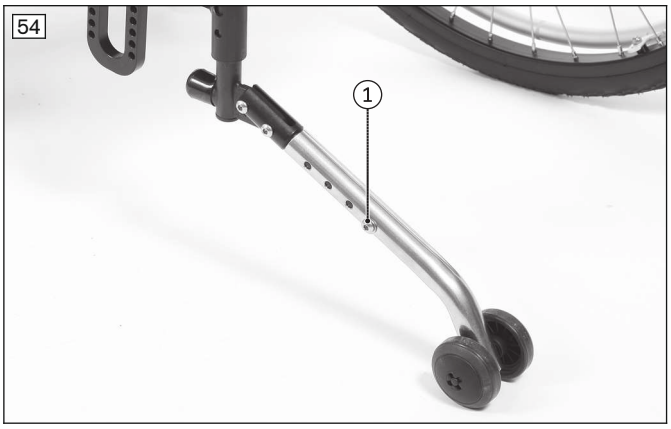
Adjusting the angle of the pivot arm – variant 1

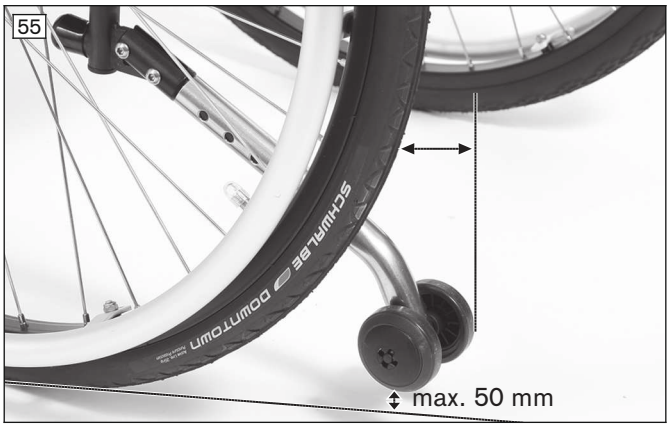
1) Remove the hexagon socket screw between the anti-tipper tube and the angle adjuster (see fig. 56, item 1).
2) Loosen the second hexagon socket screw on the angle adjuster (see fig. 56, item 2).
3) Set the angle of the pivot arm.
4) Tighten the pivot arm. The max. distance between the anti-tipper rollers and floor is **50 mm** (see fig. 55).

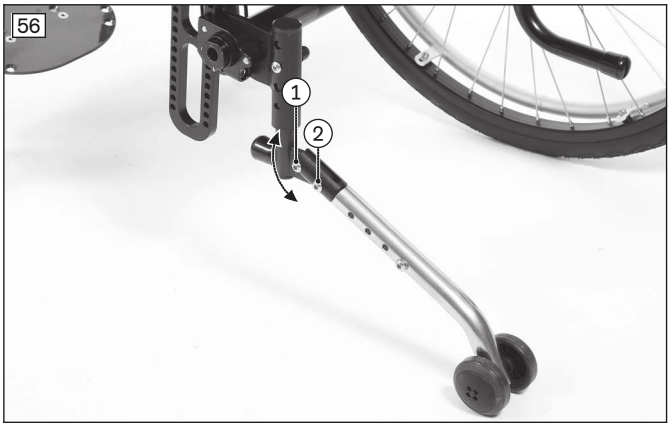
Adjusting the angle of the accessory mount – variant 2

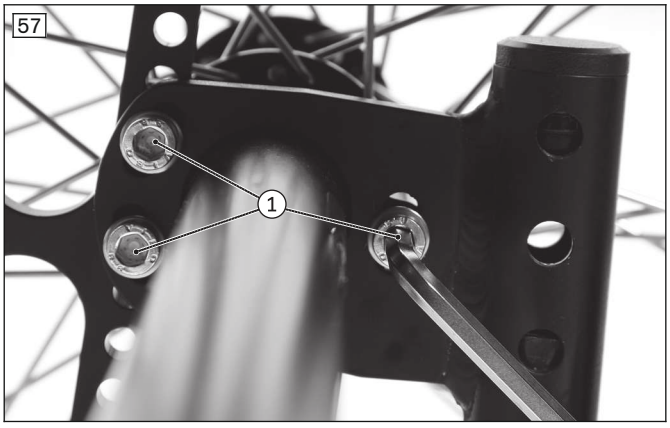
1) Remove the 3 hexagon socket screws between the accessory mount and the clamping flange (see fig. 57, item 1).

2) Set the angle of the accessory mount (3 settings at intervals of **10°**: see fig. 58).
3) Tighten the hexagon socket screws on the accessory mount to **10 Nm**. The max. distance between the anti-tipper rollers and floor is **50 mm** (see fig. 55).









6.9.2 Installing and adjusting the tip-assist

The tip-assist can be installed on the accessory mount in the assembly position provided (see fig. 59, item 1).

1) Press in the tripod spring on the tip-assist (see fig. 59, item 2).
2) Insert the tip-assist into the accessory mount (see fig. 59, item 1).
3) Allow the tripod spring to engage.

6.10 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.

6.11 Installing and adjusting the head support

⚠ CAUTION

Incorrect settings

Hitting components due to violent head movements of the user

- ► Do not position yourself behind the head support during adjustment, but at its side.

Installing the mounting kits

Assembly is described in more detail in the supplied instructions for use – reference number 647H580=ALL_INT.

1) **Mounting kit for standard back support upholstery: Install** the mounting kit with the tube clamps through the back support upholstery on the back support tubes (see fig. 60, item 1).
2) **Mounting kit for adjustable back support upholstery:** Install the mounting kit with the tube clamps between the belt straps on the back support tubes (see fig. 61, item 1).
3) Mount the clamping plate on the head support holder (see fig. 62, item 1).
4) **Mounting kit for attaching the head support to the back support bracket:** Install the mounting kit in the centre of the back support bracket (see fig. 63, item 1).

Attaching the head support

1) Open the tube clamp on the mounting kit (see fig. 62, item 2).
2) Insert the adjustment tube of the head support into the tube clamp (see fig. 62, item 3).

Adjusting the head support

1) **Height adjustment:** Loosen the clamping lever and adjust the head support height (see fig. 62, item 2).

2) **Sideways adjustment:** Loosen the mounting screws on the clamping plate and adjust the head support sideways (see fig. 62, item 1; see fig. 63, item 1).
3) **Depth adjustment:** Loosen the clamping lever and adjust the head support depth (see fig. 64, item 1).
4) **Angle adjustment:** Loosen the mounting screws on the head support and adjust the angle (see fig. 64, item 2).
5) Once all settings have been adjusted, firmly close the clamping lever and tighten the mounting screws.
6) Position the stop on the adjustment tube and tighten it (see fig. 64, item 3).

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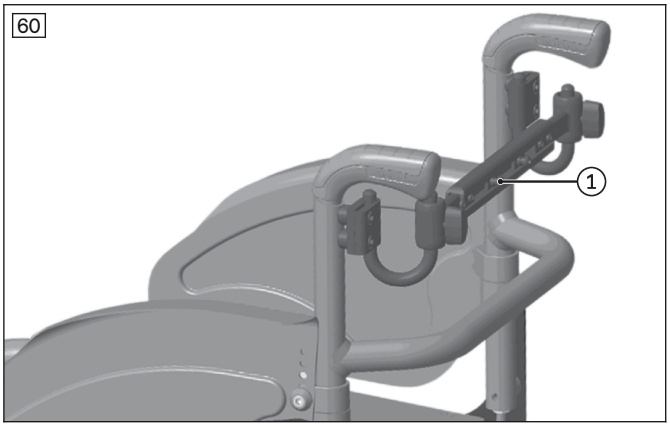

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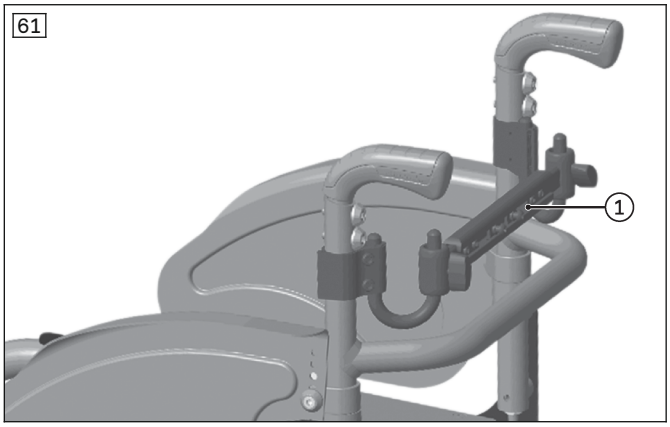

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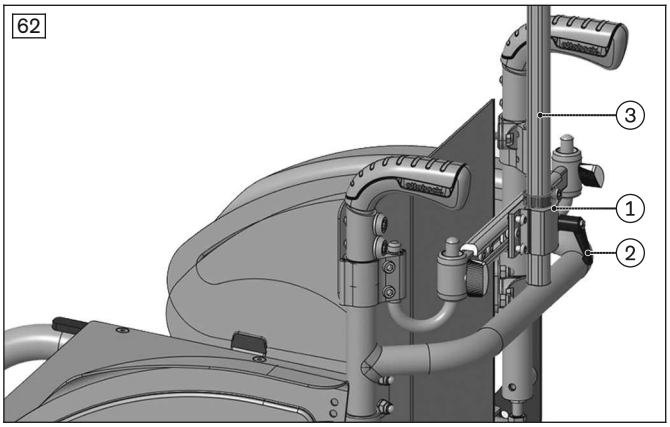

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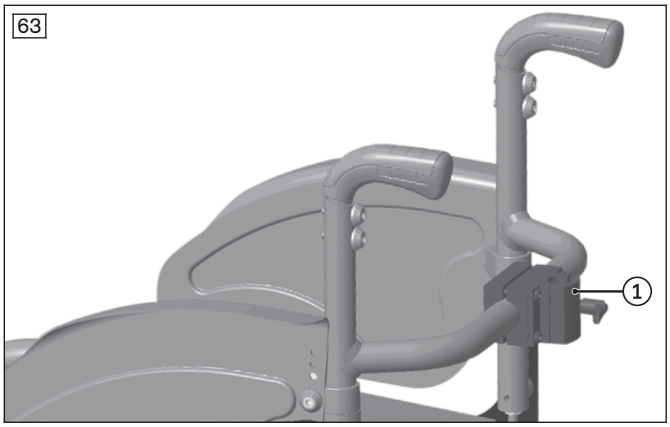

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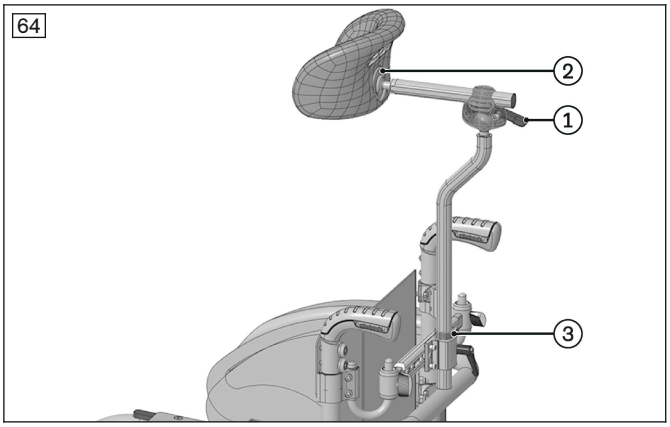

7 Delivery

7.1 Final inspection

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

- Are all options installed according to the order form?
- Are the drive wheels correctly positioned?
- Do the quick-release axles rotate freely and lock securely?

- Were the tyres 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?

7.2 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.

7.3 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:

- Conduct a sitting test 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 (user) are to be used.
- The instructions for use (user) must be issued to the user/attendant during handover of the wheelchair.
- **Depending on equipment:** The supplied instructions for use for accessories have to be handed over in addition.

8 Maintenance and repair

The manufacturer recommends regular maintenance of the product every **12 months**.

Further information on caring for the product and on maintenance/repair can be found in the instructions for use (user).

Detailed information on repairs can be found in the service manual.

9 Disposal

9.1 Disposal information

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

9.2 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.

10 Legal information

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

10.1 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.

10.2 Warranty

Further information on the warranty terms and conditions is available from the manufacturer's service department.

10.3 Lifetime

Expected lifetime: **5 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.

11 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°**.

General information

	Ventus
Max. load [kg]	100 (for seat width 280 – 440 mm) 125 (for seat width 460 – 500 mm)
Min. mass (with/without drive wheels) [kg]	9.1/6.3
Min./max. mass [kg][1)] (for seat width 440 mm; 4" full rubber caster wheels, 24" hollow rim)	9.7/12.5
Transport mass [kg][1)]; (for seat width: 440 mm; 4" full rubber caster wheels)	Frame: 7.5 – 8.8 24" drive wheel: 3.7
Seat width [mm][2)]	280 – 440 (max. load 100 kg) 460 – 500 (max. load 125 kg)
Seat depth [mm][2)]	300 – 500
Max. overall height [mm] (for rear seat height: 500 mm; back support height: 500 mm; push handle)	1050
Min. tyre pressure [bar][3)]	7
Steering range approx. [mm][4)] (for seat width 440 mm; seat depth 500 mm)	1150 (without wheelbase extension) 1250 (with wheelbase extension)
Max. permissible inclination [°][5)] Max. permissible inclination [%][5)]	10 17

[1)] The specified weights vary according to the selected options and variants.

[2)] In accordance with ISO 7176-7.

[3)] Varies according to the tyre option; see the marking on the tyre wall.

[4)] Turning range/diameter in accordance with ISO 7176-5, 8.11/8.12.

[5] The anti-tipper is mandatory for an inclination of more than 10°.

Additional information

Ventus	Minimum	Maximum
Mass of the heaviest component [kg]	---	8.8
Overall length with leg supports [mm][1)]	755	970
Overall width [mm]	450	850
Seat height difference front/rear [mm]	0	90
Effective seat depth [mm]	300	500
Effective seat width [mm]	280	500
Front seat height [mm]	420	540
Rear seat height [mm]	330	530
Back support angle [°]	65	105
Back support height [mm]	225	500
Distance from leg support to seat [mm]	200	500
Distance from arm support to seat [mm]	215	310
Angle of leg support to seat bottom [°][2)]	0	30
Handrim diameter [mm]	470	560
Minimum turning radius [mm][3)]	440	---
Positioning of the arm support [mm]	240	270
Horizontal axle position [mm]	62	142

[1)] With wheelbase extension: rear axle position +80 mm.

[2)] Specified for angle-adjustable leg support.

[3)] In accordance with ISO 7176-7.

Overall length [mm]

Seat depth	Lower leg length min./max.	22” drive wheel		24” drive wheel		25” drive wheel	
		Front axle position	Rear axle position	Front axle position	Rear axle position	Front axle position	Rear axle position
300	200	590	670	615	695	625	705
	500	665	745	690	770	700	780
320	200	610	690	635	715	645	725
	500	685	765	710	790	720	800
340	200	630	710	655	735	665	745
	500	705	785	730	810	740	820
360	200	650	730	675	755	685	765
	500	725	805	750	830	760	840
380	200	670	750	695	775	705	785
	500	745	825	770	850	780	860
400	200	690	770	715	795	725	805
	500	765	845	790	870	800	880
420	200	710	790	735	815	745	825
	500	785	865	810	890	820	900
440	200	730	810	755	835	765	845
	500	805	885	830	910	840	920
460	200	750	830	775	855	785	865
	500	825	905	850	930	860	940
480	200	770	850	795	875	805	885
	500	845	925	870	950	880	960
500	200	790	870	815	895	825	905
	500	865	945	890	970	900	980

With wheelbase extension: rear axle position +80 mm.

Overall width for drive wheel with hollow rim [mm]

Seat width	Overall width
280	450
300	470
320	490
340	510
360	530
380	550
400	570
420	590
440	610
460	630
480	650
500	670

Applicable to handrim attachment, narrow (handrim attachment, wide: +20 mm) and a 0° camber of the drive wheels.

Increase of the overall width because of the wheel camber setting of the drive wheels [mm]

Wheel camber	22” drive wheel	24” drive wheel	25” drive wheel
3°	< 60	60	> 60
6°	< 120	120	> 120
9°	< 180	180	> 180

Lower leg length [mm]

Short lower leg length	200 – 390
Lower leg length	390 – 500

Measurement from top of seat upholstery to top of foot plate (lower leg length minus height of the seat cushion used).

Front seat height[1)] [mm]

Caster wheel size	Standard caster fork (see fig. 67)			Available positions		
	Extra short	Short	Long	Extra short	Short	Long
4”	420 – 430	440 – 480	490 – 510	1/2	1/2/3	1/2/3
5”	---	450 – 490	490 – 530	---	1/2/3/4	1/2/3/4
5.5”	---	470 – 490	500 – 530	---	1/2/3	1/2/3/4
6”	---	470 – 490	500 – 530	---	1/2/3	1/2/3/4

Caster wheel size	Design caster fork (see fig. 68)			Available positions		
	Extra short	Short	Long	Extra short	Short	Long
4”	430	460 – 490	500 – 530	1	1/2/3	1/2
5”	---	460 – 500	500 – 530	---	1/2/3/4	1/2/3/4
5.5”	---	480 – 510	510 – 540	---	1/2/3	1/2/3/4
6”	---	500 – 510	510 – 540	---	1/2	1/2/3/4

Caster wheel size	Froglegs caster fork (see fig. 69)		Available positions	
	Short	Long	Short	Long
4”	480 – 500	500 – 520	1/2/3	1/2/3
5”	500 – 510	520 – 530	1/2	1/2

Specified without seat cushion at 0° seat inclination. The values indicated are theoretically determined values (max. deviation: 10 mm).

[1)] The front seat height depends on the selected wheel size, caster fork and mounting position.

Rear seat height [mm]

Drive wheel size	Axle with camber	Slider		
		Short	Medium	Long
22”	0°/3°	350 – 400	350 – 440	400 – 490
	6°	340 – 390	340 – 430	390 – 480
	9°	330 – 380	330 – 420	380 – 470
24”	0°/3°	380 – 420	380 – 470	430 – 520
	6°	370 – 420	370 – 460	420 – 510
	9°	360 – 410	360 – 450	410 – 500
25”	0°/3°	390 – 430	390 – 480	440 – 530
	6°	380 – 430	380 – 470	430 – 520
	9°	370 – 420	370 – 460	420 – 510

Posterior seat height with wheelbase extension [mm]

Drive wheel size	Axle with camber	Slider		
		Short	Medium	Long
22”	0°/3°	380 – 400	380 – 440	440 – 490
	6°	370 – 390	370 – 430	430 – 480
	9°	---	---	---
24”	0°/3°	410 – 420	410 – 460	470 – 520
	6°	400 – 420	400 – 460	460 – 510
	9°	---	---	---
25”	0°/3°	420 – 430	420 – 470	480 – 530
	6°	410 – 430	410 – 470	470 – 520
	9°	---	---	---

Specified without seat cushion at 0° seat inclination. The values indicated are theoretically determined values (max. deviation: 10 mm).

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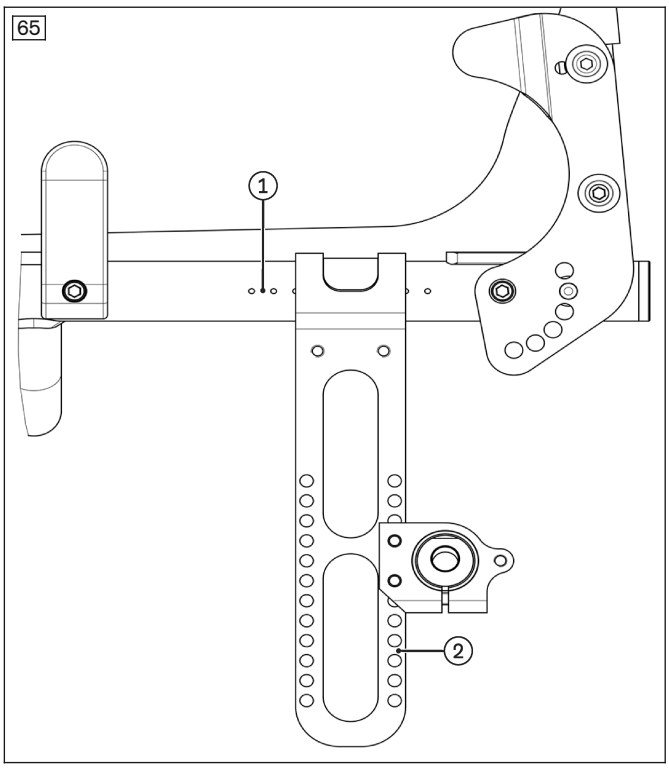

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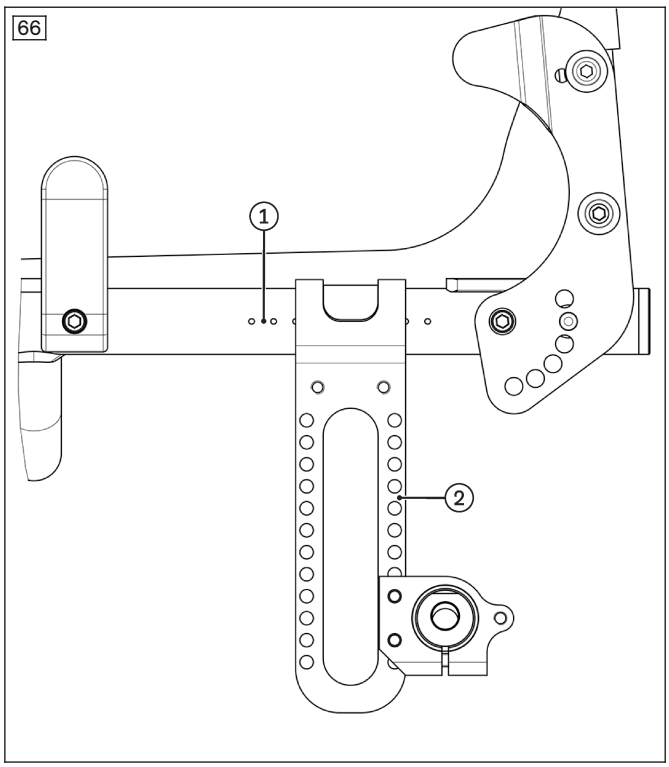

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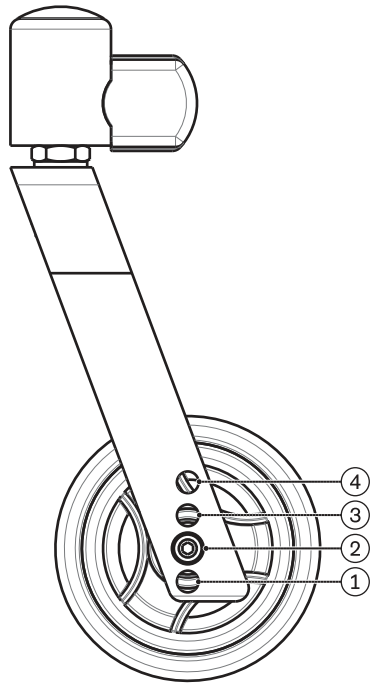

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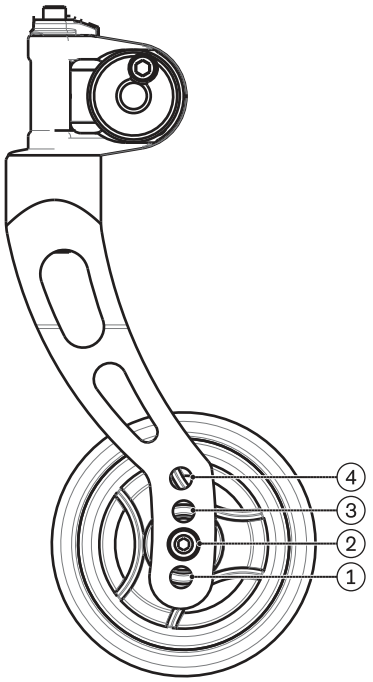

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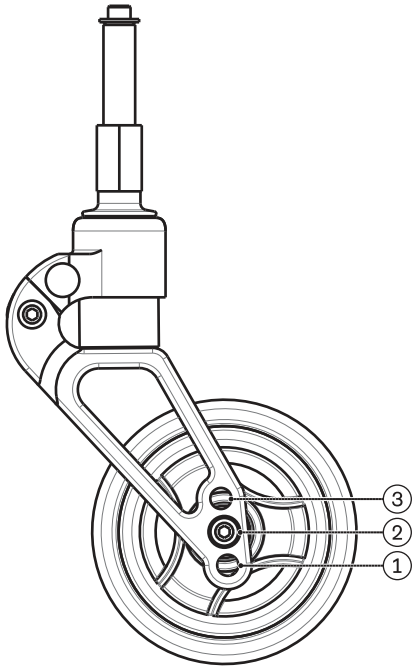

Ambient conditions

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

12 Appendices

12.1 Required tools

The following tools are required for adjustments and maintenance work:

- Allen keys in sizes 3, 4, 5
- Ring and open-end wrenches in sizes 10, 13, 19, 24 and 27
- Socket wrenches in sizes 10, 13 and 19
- Phillips head screwdriver (size: 2)
- Flat screwdriver
- Torque wrench (measurement ranges 5 – 50 Nm)
- Measurement equipment: folding rule, spirit level, try square
- Liquid thread lock, "medium" and "strong"

12.2 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

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