ottobock.

Voyager Evo

EN Instructions for Use (Qualified Personnel) 3

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1 Foreword

INFORMATION

Date of the last update: 2014-05-07

- ► Please read this document carefully.
- ► Follow the safety instructions.

INFORMATION

- ► You can request this document as a PDF file from the Customer Care Center (CCC) at oa@ottobock.com or from the manufacturer's service department (see inside back cover or back page for addresses).
- ► It is possible to increase the display size of the PDF document.

Initial adjustments to the product were made according to the order form. Nevertheless, fine adjustment may be required and settings may have to be made according to the medical conditions 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 operation of the product and functionality of the options are described in the instructions for use (user). These instructions for use must be given to the user.
- Children and youths must be instructed in the use of the product by you or an attendant using the instructions for use (user).
- The manufacturer recommends checking the product settings regularly in order to assure an optimum fit over the long term. A review is required every six months for children and youths in particular.
- The installation and retrofitting of all optional components are generally described in the service manual.

2 Application

2.1 Intended Use

The manual wheelchair for active use is designed solely for individual use by persons who are unable to walk or who have a walking impediment and can be operated either by the patient or by another person.

The manual wheelchair for active use may only be combined with the options listed in these instructions for use.

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

2.2 Indications

The broad range of equipment options and the modular design allow the wheelchair to be used by people who are unable to walk or have a walking impediment, for example due to:

- Paralysis (paraplegia, tetraplegia)
- Loss of limbs (leg amputation)
- Defects or deformation of the limbs
- Joint contractures or damage
- Neurological and muscular diseases
- Disorders such as cardiac or circulatory insufficiency, equilibrium disturbances or cachexia as well as geriatric patients who still have usable residual strength in the upper limbs.

The wheelchair was designed in particular for individuals who are generally able to move around **actively and freely** in the wheelchair.

2.3 Contraindications

In view of the wide variety of setting options (e.g. active/passive settings), this wheelchair type is suitable for all user groups.

In certain versions and with certain settings, however, the wheelchair tends to tip backwards due to its design. This is an intentional feature designed to enable users with the corresponding physical prerequisites to manoeuvre quickly and nimbly. Users lacking the necessary physical or psychological prerequisites must **not** be supplied with such versions/settings.

Due to its dimensions, this wheelchair type should not be used for small children.

2.4 Necessary qualifications

The installation and adjustments described below may only be carried out by qualified personnel.

3 Safety

3.1 Explanation of Warning Symbols

⚠ WARNING	Warnings regarding possible risks of severe accident or injury.
⚠ CAUTION	Warnings regarding possible risks of accident or injury.
NOTICE	Warnings regarding possible technical damage.

3.2 General safety instructions

⚠ WARNING

Lack of instruction

Risk of falling, tipping over due to lack of knowledge

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

⚠ CAUTION

Use of unsuitable tools

Pinching, crushing or damaging the product

► When working, use only tools that are suitable for the conditions at the workplace and whose proper use ensures safety and health protection.

NOTICE

Tipping or falling of the product

Damage to the product

► When you work on the product, secure it so that it cannot tip over or fall over.

► Use a clamping device to secure the product for all work at a workbench.

NOTICE

Use of unsuitable packaging

Damage caused by transport in the wrong packaging

► Use only the original packaging for delivery of the product.

3.3 Safety instructions for assembly

⚠ CAUTION

Incorrect fitting of the rear wheels

Risk of falling or tipping due to wheels coming loose

► After every assembly, check the proper mounting of the rear wheels. The wheel axles must be securely locked in the fitting.

⚠ CAUTION

Modified diameters/mounting positions of the wheels

Risk of falling of tipping of the user due to locking wheels

► Modification of the size and position of the front wheels and of the rear wheel size can lead to wobbling of the front wheels at higher speeds. If modification is necessary, ensure proper horizontal alignment of the wheelchair frame (see chapter "Adjustment of the rear wheel", "Adjustment of the front wheel").

⚠ CAUTION

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

Risk of the user tipping to the rear

- ► 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.

3.4 Name Plate

Label	Meaning	
	**A**	Type designation
	B	Manufacturer article number
	C	Maximum load capacity (see chapter "Technical data")
	D	Manufacturer information, address, country of origin
	E	Serial number/manufacturing date
	F	European Article Number/Global Trade Item Number
	G	Read the instructions for use before using the product.
	H	CE marking – product safety according to EU guidelines
The nameplate can be found on the rigid axle.	**I**	The product has not been approved by the manufacturer for use as a seat in a wheelchair accessible vehicle

See the instructions for use (user) for additional warning labels

4 Delivery

4.1 Scope of Delivery

The wheelchair is delivered preassembled and with the side panels/rear wheels removed and packed in a crate.

The scope of delivery includes:

- Preassembled wheelchair
- 2 side panels
- 2 rear wheels
- Options according to the order
- Instructions for use (qualified personnel), instructions for use (user).

INFORMATION

Only provide the instructions for use (user) to the user.

Seat cushions are not included and must be ordered separately.

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

The wheelchair must be stored in a dry place.

The ambient temperature must be maintained between -10 °C and +40 °C during transportation and storage.

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

INFORMATION

Tyres contain chemical substances that can react with other chemical substances (such as cleaning agents, acids, etc.).

5 Preparation for Use

5.1 Tools required

The following tools are required to make fine adjustments/settings:

- Allen keys in sizes 3, 4, 5 mm
- Ring and open-ended wrenches in sizes 10, 11, 16, 19 and 20
- Torque wrench (measurement range 5-50 Nm)
- Measurement equipment: yardstick, spirit level, back square
- Liquid thread locker, "medium" and "strong"

5.2 Assembly

⚠ CAUTION

Exposed pinch points

Risk of crushing or pinching the fingers due to incorrect handling

► When folding out the backrest, only grip by the specified components.

⚠ CAUTION

Incorrect fitting of the rear wheels

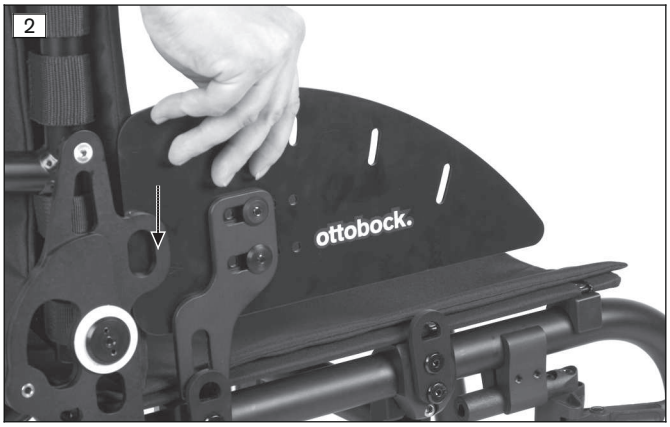
Risk of falling or tipping due to wheels coming loose

► After every assembly, check the proper mounting of the rear wheels. The wheel axles must be securely locked in the fitting.

INFORMATION

For details of weights of the individual parts, see section "Technical Data".

1) Push the rear wheels into the wheel brackets. The quick-release axles must not be able to be removed after the pushbutton has been released.
2) Pull the backrest cable until the locking mechanism releases (see Fig. 1). Position the backrest upright and allow it to engage. Do not reach into the locking mechanism while doing so.
3) Insert the side panels in the side panel mountings. In doing so, ensure that the mounting plate is up against the side panel from the outside (see Fig. 2).
4) **If necessary:** Insert the calf strap.
5) Fit the seat cushion on the hook-and-loop material.



6 Adjustments

6.1 Prerequisites

⚠ WARNING

Incorrect settings

Risk of falling, tipping over or improper user posture due to incorrect settings

- ► Adjustments may be carried out only by qualified personnel.
- ► Only the settings 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 chapter and the chapter "Appendixes"). If you have questions, contact the manufacturer's service (see 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

Risk of pinching, crushing, tipping over, falling of user

- ► After all adjusting/readjusting work, retighten the mounting screws/nuts firmly. Observe any torque settings which may be specified.
- ► Any time you loosen a screw connection with thread lock, replace it with a new screw connection or secure the old screw connection with medium strength thread locker (e.g. Loctite® 241).

⚠ CAUTION

Improper use of self-locking nuts

Risk of the user falling or tipping over

- ► Always replace self-locking nuts with new self-locking nuts after disassembly.

Fine adjustments and setting changes to match the concrete physical and mental condition of the user should always be made in the user's presence.

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

6.2 Adjusting the Rear Wheels

⚠ CAUTION

Lack of fine adjustment of the rear wheel

Risk of falling or tipping of the user

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

⚠ CAUTION

Incorrectly adjusted wheelbase

Risk of falling or tipping of the user

- ► Please note that with the rear wheel in the front 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 rear wheel.
- ► Be sure to position the rear wheels towards the rear for transfemoral amputees. That improves the stability of the wheelchair.

⚠ CAUTION

Incorrect mounting of the camber module

Falling, tipping over 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 rear wheel position can also change the angle between the front caster head and the ground. However, this must be **approx. 90°**. The knee lever wheel lock also has to be readjusted.

6.2.1 Adjusting the Horizontal Position of the Rear Wheels

The horizontal rear wheel position can be changed by sliding the axle assembly horizontally on the seat tubes.

Changing the rear wheel position has the following effects:

Position of rear wheel	Effects
Move to rear	• 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	• Smaller wheelbase • Less load on castor wheels = greater manoeuvrability • Less stability of the wheelchair • Wheelchair is easier to tip backwards when crossing obstacles **NOTE: An anti-tipper can be installed if necessary.** • Position recommended only for experienced users

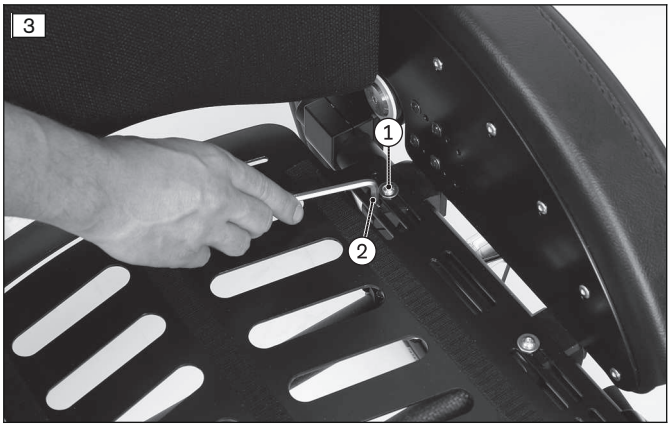
6.2.1.1 Adjusting the Rear Wheel Axle

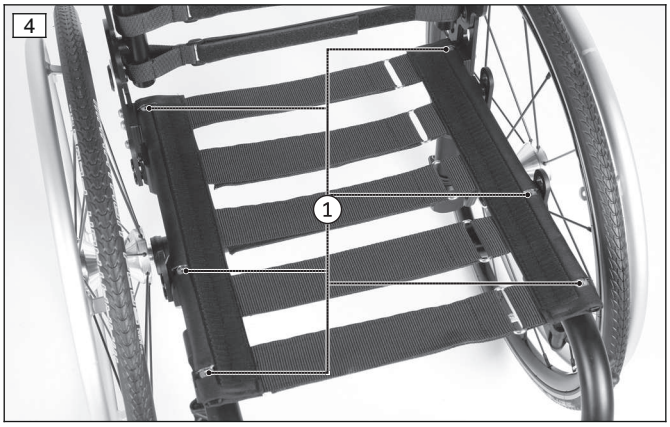
The axle assembly is continuously adjustable horizontally on the seat tubes.

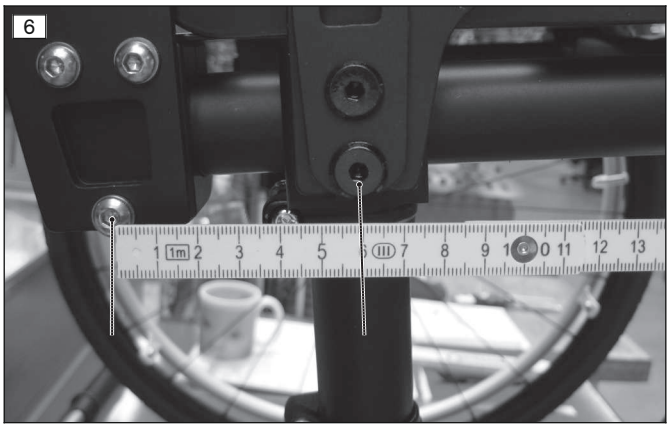
1) Remove the wheels.
2) Pull the side panels out of the guides on the side panel mountings.
3) Loosen the connection between the seat plate or seat upholstery and the seat tube clamps:
   → **With a seat plate:** Loosen the Allen head screws between the seat plate and seat tube clamps (see Fig. 3, item 1).
   → **With seat upholstery:** Loosen all Allen head screws between the seat upholstery and seat tube clamps (see Fig. 4, item 1). Remove the seat upholstery.
4) Loosen the Allen head screws respectively between the seat tube clamps and seat tubes (see Fig. 3, item 2).
5) Move the axle assembly to the desired position (see Fig. 5).
6) Ensure that the depth setting is the same. For fine-tuning, measure the distance respectively between the centre of the axle tube and the centre of the lower screw on the back bracket (see Fig. 6).
7) Tighten the Allen head screws between the seat tube clamps and seat tubes to **15 Nm** (see Fig. 3, item 2).
8) Reconnect the seat plate or seat upholstery and the seat tube clamps:
   → **With a seat plate:** Tighten the Allen head screws between the seat plate and seat tube clamps to **8 Nm** (see Fig. 3, item 1).
   → **With seat upholstery:** At the height of the adjusted seat tube clamps, punch the seat upholstery with a **6 mm** hole punch and drill **6 mm** holes in the upholstery tube. Tighten the Allen head screws between the seat upholstery and seat tube clamps to **8 Nm** (see Fig. 4, item 1).
9) Slide the side panels back into the side panel mountings. Adjust the side panels if necessary (see Page 20).

INFORMATION

Following adjustment the track of the rear wheel, the castor journal angle and the knee lever wheel lock must be checked and, if necessary, readjusted (refer to the corresponding section).







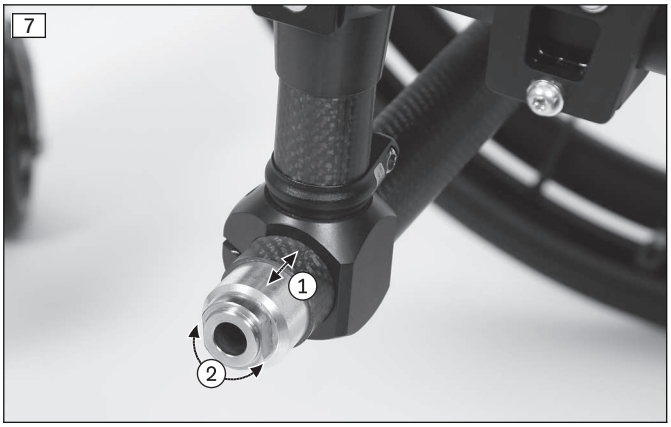
6.2.2 Adjusting the track width (additional adjustment)

The camber modules can slide in the axle for adjusting the track width horizontally (see Fig. 7, item 1) .

In case of camber modules with a screwed-in fitting, the counter nut on the fitting also has to be loosened and the fitting adjusted to the desired length.

Adjustment on camber module for quick-release axles Ø 12 mm

1) Remove the wheels.
2) Loosen the Allen head screw respectively on the seat clamp (see Fig. 8).
3) Loosen the Allen head screw respectively on the axle tube clamp (see Fig. 9).
   NOTE: The adjustment should be made on one side first and then on the other.
   NOTE: The track width must be adjusted symmetrically on both sides. Set the track width so that the slanted rear wheels run freely.
4) Insert the rear wheel's quick-release axle into the camber module to aid removal (see Fig. 10).
5) Move the camber module to the desired position outwards with the aid of the quick-release axle or inwards with the help of a soft-faced hammer.
   → Do not pull the camber module out too far. During installation the whole camber module must be fully enclosed by the axle tube clamp.
   → Check the position by measuring it afterwards. To do this, measure the distance between the outer side of the camber module and the outer side of the axle tube clamp.
6) Lightly clamp the camber module in the axle tube clamp.
7) Adjust the track width in the same fashion on the other side. Make sure that both camber modules have been adjusted symmetrically.
8) Make the track adjustments (see Page 13).
9) Tighten the Allen head screw respectively on the axle tube clamps to **15 Nm** (see Fig. 9).
10) Tighten the Allen head screw respectively on the seat clamps to **7 Nm** (see Fig. 8).



6.2.3 Adjusting the rear wheel camber

The rear wheel camber is adjusted by exchanging of the camber modules. This has the following effects:

Position of rear wheel	Effects
Wheel camber 3°/6°	• Wheelchair becomes more manoeuvrable, turns faster and tips less easily to the side • Overall width increases • Increased rolling resistance
0° position	• Narrow track, excellent straight-line stability • Low rolling resistance

6.2.3.1 Adjusting the 0°/3°/6° Rear Wheel Camber

The modular system of the product offers camber options for different sloped settings of the rear wheels (example: see Fig. 11).

1) Remove the wheels.
2) Remove the camber modules (see Page 11).
   INFORMATION: Make sure that the same camber module is installed on both sides.
3) Exchange and install the camber modules (see Page 11).
   → Set the track width so that the slanted rear wheels run freely.
   → During installation the whole camber module must be fully enclosed by the axle tube clamp.
   → Check the position by measuring it afterwards.
4) Lightly clamp the camber module in the axle tube clamp.
5) Adjust the track width in the same fashion on the other side. Make sure that both camber modules have been adjusted symmetrically.
6) Adjust the track (see Page 13). Use an adjustment aid (e.g. back square) to do so.
7) Tighten the Allen head screw respectively on the axle tube clamps to **15 Nm** (see Fig. 9).
8) Tighten the Allen head screw respectively on the seat clamps to **7 Nm** (see Fig. 8).

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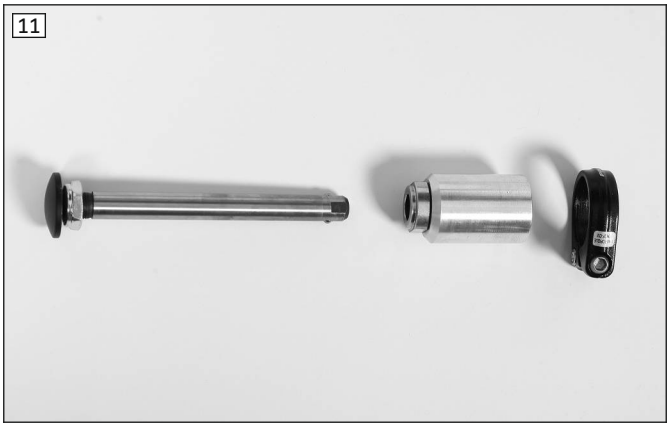


6.2.4 Adjusting the track

INFORMATION

- ► The track must be adjusted after the following adjustments have been made:
- → Adjusting the track width: see Page 11
- → Adjusting the rear wheel camber: see Page 12
- ► The track setting must be checked and, if necessary, adjusted after the following adjustments have been made:
- → Adjusting the horizontal position of the rear wheel: see Page 10

INFORMATION

- ► When adjusting the rear wheel track, 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 axle tube clamp.
- ► The caster wheel journal angle should be checked immediately after every adjustment to the track (see Page 13 et seq.).

1) Loosen the seat clamps (see Fig. 8) and axle tube clamps (see Fig. 9) so that the camber modules are only lightly clamped in the rear wheel axle (see Page 11).
2) Place the wheelchair on an even surface. Avoid twisting the axle when doing this.
3) Pull the rear wheel out slightly in order to make room for the installation.
4) A 90° back square placed on a level surface is used as an adjustment aid.
5) Carefully turn the camber module until the spanner flat is flush with the blade of the back square. The spanner flat of the camber module is now vertical (see Fig. 7, item 2).
6) Tighten the Allen head screw respectively on the axle tube clamps to **15 Nm** (see Fig. 9).
7) Tighten the Allen head screw respectively on the seat clamps to **7 Nm** (see Fig. 8).

6.3 Adjusting the Caster Wheels

6.3.1 Adjusting the Caster Wheel Journal Angle

When the rear wheels have been adjusted for the user, the caster wheel journal angle must be adjusted if needed.

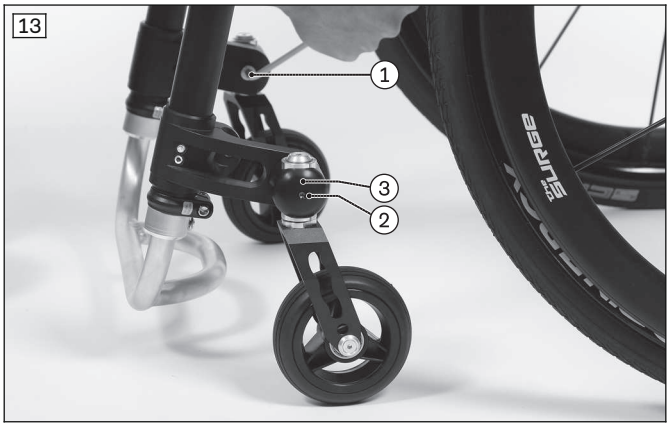
The caster wheel axles/caster wheels must be perpendicular to the ground to ensure optimum wheelchair driving characteristics (see Fig. 12).

1) **If necessary:** Heat the plug guide (see Fig. 15, right) with hot air (**~ 80 °C**) to soften the Loctite.
2) Loosen the clamping on the plug guide. In order to do so, remove the M8 Allen head screw on the inside while it is hot (see Fig. 13, item 1).
3) Loosen the bearing sleeve:
   → Loosen the set screw on the outside (see Fig. 13, item 2; see Fig. 14).
   → Remove the bearing sleeve (not illustrated).
4) Instead of the bearing sleeve, slide a suitable lever tube into the caster wheel journal (see Fig. 15, item 1).
5) Pry the caster wheel journal (see Fig. 15, item 2) secured with Loctite out of the taper fitting (see Fig. 15, item 3).
6) Remove the remaining Loctite from the surfaces and threads of the disassembled components (not illustrated). Apply new "high strength" Loctite.
   INFORMATION: Note that only approx. 5–7 min. is available for the subsequent steps 7–9.

7) Temporarily attach the bearing sleeve with caster fork in the caster wheel journal.
8) Set the caster wheel axle vertically. Check the 90° setting with a square (see Fig. 12).
   → The caster wheel axles/caster wheels on both caster wheel adapters must be positioned vertically.
9) Reinstall the caster wheel assembly. When tightening the screws, note the following torque values:
   → Allen head screw on the inside (see Fig. 13, item 1): **23 Nm**
   → Set screw (secured with "medium" Loctite) on the outside to secure the bearing sleeve (see Fig. 13, item 2): **8 Nm**

12

13



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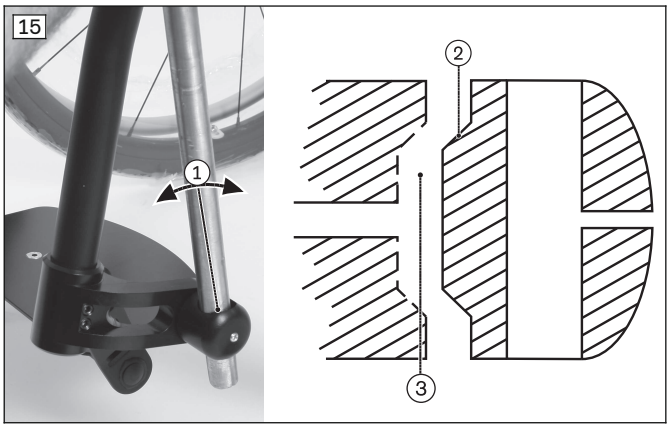

6.3.2 Changing the Installation Position of the Caster Wheels

INFORMATION

Observe the seat height table in the "Technical data".

The front seat height can be adjusted by moving the caster wheels in the fork and by selecting the caster wheel size.

1) Unscrew the screw connection of the threaded axle (see Fig. 17).
2) Remove the threaded axle/spacers.
3) Remove the caster wheel.
4) Insert the threaded axle with the first spacer bushing offset in one of the bore holes.
5) Install the caster wheel.
6) Slide on the second spacer bushing (not illustrated).
7) Tighten the threaded axle to **8 Nm**.

→ Once changed, the left and right caster wheel must have the same vertical position in the caster fork.
→ Once the anterior seat height has been adjusted, the rear wheel tracking (see Page 13) and the caster wheel journal angle (see Page 13) must be checked and adjusted if required.

6.4 Adjusting the Brakes

6.4.1 Adjusting the Wheel Locks

⚠ CAUTION

Insufficient braking action of the knee lever wheel lock

Risk of accidents, falling

- ► Check the air pressure of the rear wheels and the correct setting of the knee lever wheel lock. The correct tyre pressure is printed on the casing. For rear wheels, the minimum air pressure is **7 bar**.
- ► Use only original rear wheels with an approved radial excursion of **1 mm** maximum.

Adjusting the knee lever wheel locks/scissor wheel locks

This adjustment must be made after the rear wheel has been repositioned or during fine adjustment.

1) Loosen the Allen head screws in the clamp brackets (see Fig. 18, item 1).
2) Adjust/move the support for the knee lever wheel lock/scissor wheel lock to any position in the clamp bracket (knee lever wheel lock example: see Fig. 18, item 2).
   If necessary: Slide and twist the clamp bracket on the seat tube.
3) When the wheel lock is disengaged, the gap between the tyre and wheel lock bolt must not exceed **5 mm** (see Fig. 19).
   INFORMATION: For special requirements when adjusting the scissor wheel lock, see the section "Special Requirements for Adjustments to the Scissor Wheel Locks".
4) Tighten the Allen head screws to **15 Nm**.

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

Special Requirements for Adjustments (All Types of 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.

Special Requirements for Adjustments to the Scissor Wheel Locks

- Install the scissor wheel lock such that it can be guaranteed that the swivelling parts can move freely without colliding (see Fig. 20; see Fig. 21).
- The scissor wheel lock should not hit the frame when it is open.
- For information on using the scissor wheel lock, see the instructions for use (user), reference number 647G964.

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6.5 Adjustment of the backrest

6.5.1 Adjusting the backrest height

Adjustment of a Back Assembly with Back Plate

The back height is continuously adjustable vertically by up to **25 mm**.

1) On both sides, loosen all Allen head screws on the back plate (see Fig. 22).
2) Slide the back plate to the desired height.
   NOTE: Please note that the back angle can be adjusted now as well (see Fig. 23**).**
3) On both sides, tighten the Allen head screws to **8 Nm** (see Fig. 22). Make sure that the right and left sides are parallel.

Adjustment of a Back Assembly with Back Upholstery

The back height cannot be changed afterwards.

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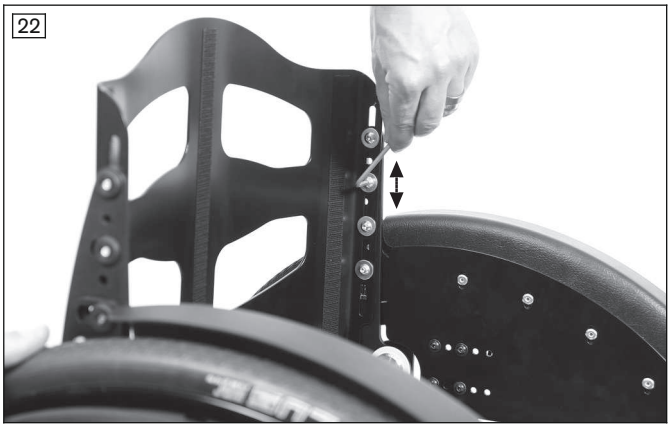


6.5.2 Adjusting the Back Angle

⚠ CAUTION

Missing anti-tipper

Risk of tipping of the user to the rear

- ► 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.

Adjustment of a Back Assembly with Back Plate

The back angle is continuously adjustable by up to **15°**.

1) On both sides, loosen all Allen head screws on the back plate (see Fig. 22).
2) Move the back plate to the desired angle (see Fig. 23).
   NOTE: Please note that the back height can now be adjusted as well (see Fig. 22**).**
3) On both sides, tighten the Allen head screws to **8 Nm** (see Fig. 22).

Adjustment of a Back Assembly with Back Upholstery

The back height cannot be changed afterwards.

6.6 Adjusting the Back/Seat Upholstery

6.6.1 Adjusting the Back Upholstery

INFORMATION

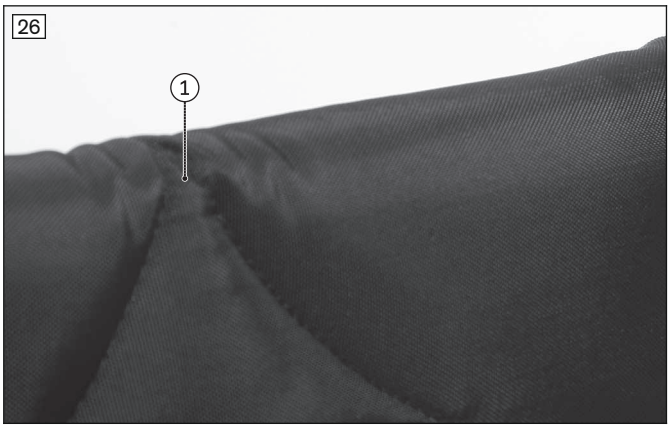
A well-adjusted backrest provides lasting comfort for the wheelchair user and reduces the risk of secondary damage and pressure zones. Do not create too much pressure.

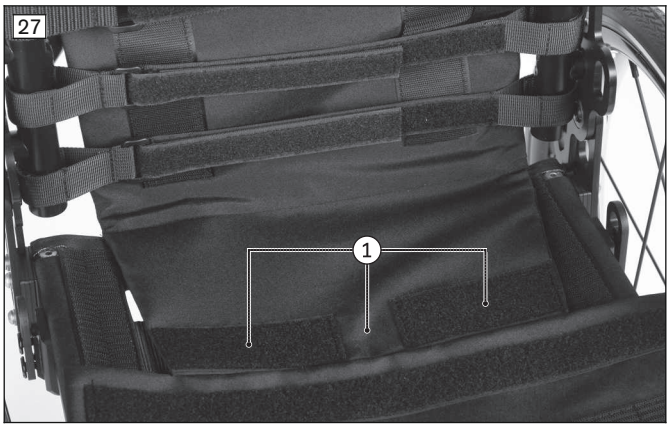
INFORMATION

Ensure that the user's pelvis is positioned as far back in the wheelchair as possible, i.e. between the backrest 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 (not illustrated).
3) Pull the back padding up and off the hook-and-loop fastener on the back upholstery and remove it (see Fig. 24).
4) Loosen the backrest straps and then fasten together with the desired tension (see Fig. 25).
5) Fit the back padding and secure it with the hook-and-loop fastener to the back and seat upholstery:
   → Place the kink in the back padding at the top. The "V" in the padding (see Fig. 26, item 1) shows exactly where the kink is.
   → Pull the back padding flap tightly downwards.
   → Pull the part of the flap that can be fastened forwards and fasten tightly to the seat upholstery (see Fig. 27, item 1).
   INFORMATION: The part of the flap that can be fastened prevents sliding or falling through the gaps between the straps and protects against draughts.
6) Fasten the seat pad and the seat cushion.





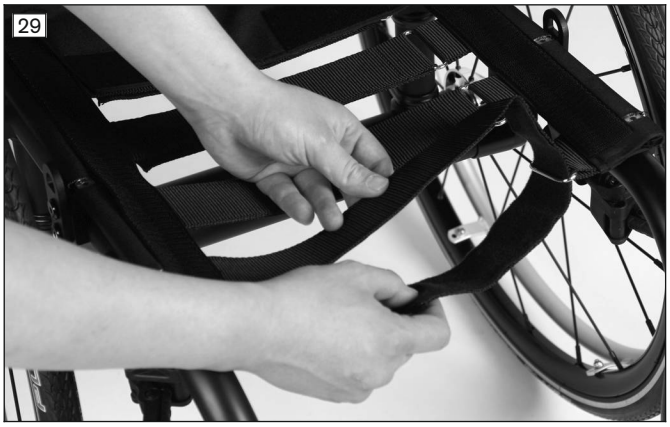
6.6.2 Adjusting the Seat Upholstery

INFORMATION

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

The adaptable 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. 28).
3) Pull the flap of the backrest pad off the hook-and-loop fastener and let it hang down.
4) Loosen the backrest straps and then fasten together with the desired tension (see Fig. 29).
5) Secure the backrest pad to the seat upholstery with the hook-and-loop fastener. To do this, pull the part of the flap that can be fastened forwards and fasten to the seat upholstery (see Fig. 27).
   INFORMATION: The part of the flap that can be fastened prevents sliding or falling through the gaps between the straps and protects against draughts.
6) Secure the seat pad to the seat upholstery by means of the hook-and-loop fastener with edges aligned (see Fig. 28, item 1).
7) Secure the seat cushion with the hook-and-loop fastener.



6.7 Adjusting the footrests

6.7.1 Adjusting the lower leg length

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

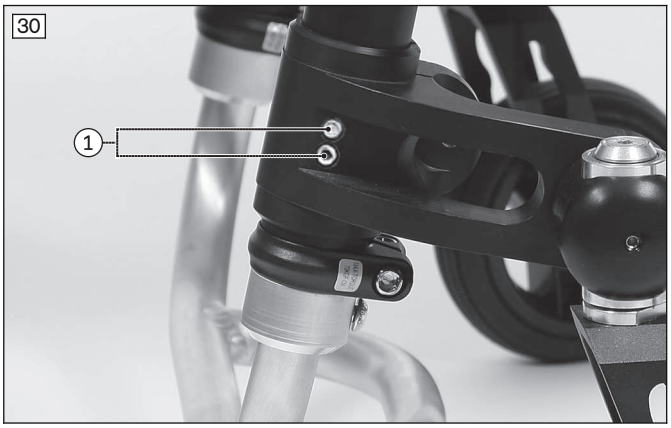
"Angle-adjustable" Footrest, "Fixed" Footrest

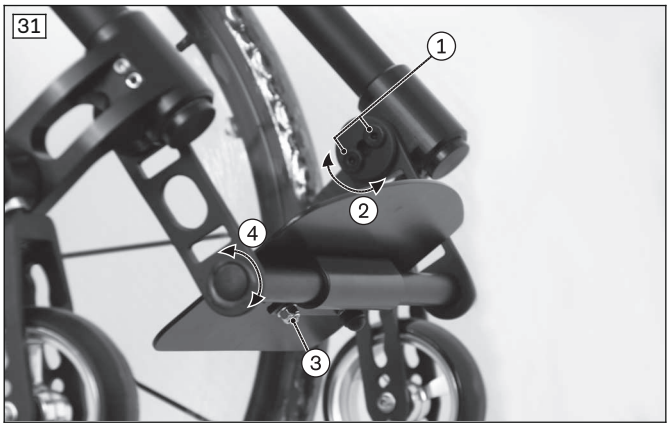
1) Loosen the Allen head screws above the footrest (see Fig. 30, item 1).
2) Adjust the lower leg length (continuously adjustable). The footrest must be inserted at least **60 mm** into the frame tube.
3) Tighten the Allen head screws to **8 Nm**.

"Angle-adjustable/Depth-adjustable" Footrest

The adjustment of this footrest can be fine-tuned as follows:

1) Loosen 2 Allen head screws respectively on each side of the footrest assembly. However, do not completely unscrew the Allen head screws (see Fig. 31, item 1).
2) After loosening the Allen head screws, pry the clamp washer out of the bore hole in the cross-tie using a suitable tool (e.g. screwdriver). Do not remove the clamp washer entirely.
3) Push the footrest assembly up/down slightly around the pivot point (see Fig. 31, item 2). Ensure that the cross-ties are parallel before re-tightening the screws.
   NOTE: During the adjustment process, never loosen the screws (see Fig. 31, Fig. 1 and Fig. 3**) at the same time.**
4) Tighten the Allen head screws to **10 Nm**. In doing so, ensure that the clamp washer is parallel (not tilted) in the cross-tie for optimum fixation.
   INFORMATION: After each adjustment of the lower leg length, readjust the footrest angle.





6.7.2 Adjusting the plate angle

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

"Fixed" Footrest

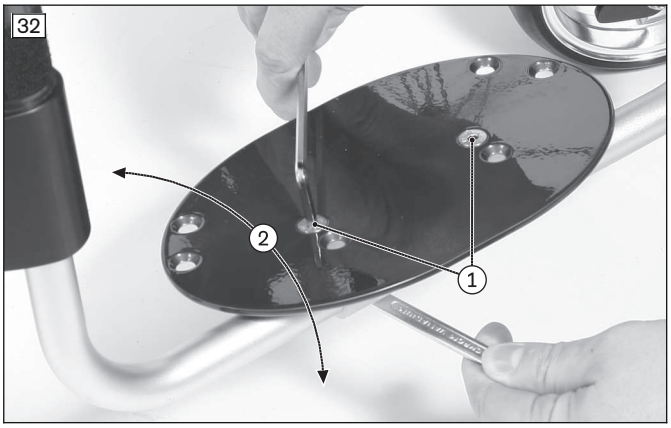
The angle of the footplate cannot be changed (not illustrated).

"Angle-adjustable" Footrest

1) Loosen the Allen head screws on the clamp bracket (see Fig. 32, item 1).
2) Rotate the footplate to the desired angle (see Fig. 32, item 2).
3) Tighten the Allen head screws to **10 Nm**.

"Angle-adjustable/Depth-adjustable" Footrest

1) Remove the protective caps from the screw connection (see Fig. 31, item 3).
2) Loosen the Allen head screws above the footplate (not illustrated).
3) Rotate the footplate to the desired angle (see Fig. 31, item 4).
4) Tighten the Allen head screws to **10 Nm**. Reinstall the protective caps.



6.8 Adjustment of the side panels

6.8.1 Adjusting the "Standard" and "Clothing Protector" Side Panels

After adjusting the rear wheel position or backrest, the position of the side panels needs to be checked and may have to be adapted.

Adjusting the Side Panel Depth

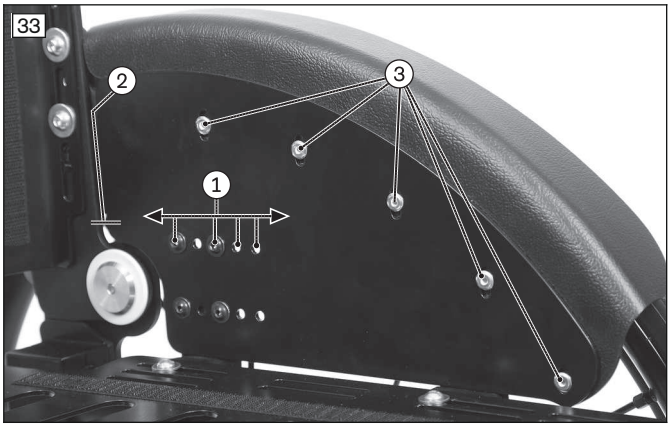
1) Loosen the Allen head screws between the side panel and side panel bracket (see Fig. 33, item 1).
2) Adjust the side panel as needed. The side panels should be as close against the backrest as possible (see Fig. 33, item 2).
3) Tighten the Allen head screws to **8 Nm** (see Fig. 33, item 1).

Adjusting the Clothing Protector Lip

1) Loosen the Allen head screws between the side panel and clothing protector lip (see Fig. 33, item 3).
2) Adjust the clothing protector lip as needed.
   NOTE: Choose the setting so that the lip of the clothing protector is close enough to or far enough away from the tyre to exclude the risk of crushing.
3) Tighten the Allen head screws to **5 – 7 Nm** (see Fig. 33, item 3).

Adjusting the Side Panel Bracket

The firm fit of the side panel can be influenced by slightly adjusting the Allen head screws (see Fig. 34).



6.9 Installing / adjusting the anti-tipper and tip-assist

⚠ CAUTION

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

Risk of the user tipping to the rear

- ► 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 Installing the Accessory Mount

The manufacturer offers an accessory mount for this product. This enables the installation of the anti-tipper and the tip-assist. A special axle tube clamp is also needed to install the accessory mount (see Fig. 35, item 1).

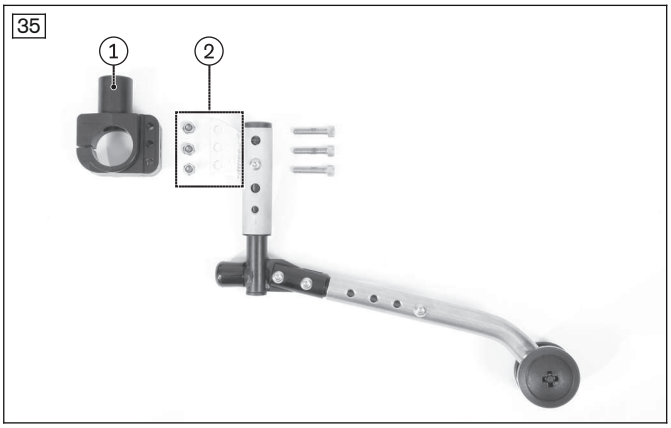
The accessory mount and special axle tube clamp – depending on the order – are supplied already installed.

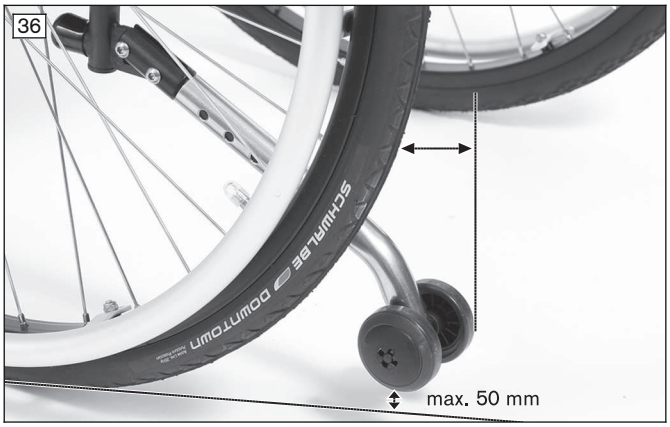
It may be necessary to retrofit these components in the course of an initial fitting. To install these, see the 647G965 Service Manual.

6.9.2 Installing the anti-tipper

Depending on the order, the anti-tipper (see Fig. 35, item 2) may already be installed when delivered.

It may be necessary to retrofit or reposition the anti-tipper in the course of an initial fitting. To install and adjust this, see the 647G965 Service Manual.





6.9.3 Adjusting the Anti-Tipper

INFORMATION

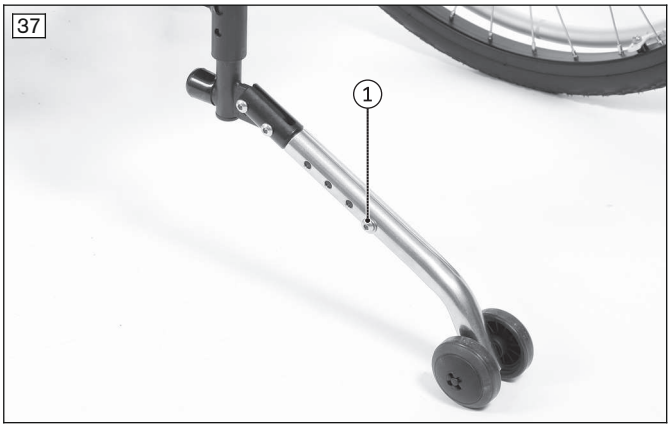
In order to adjust the anti-tipper correctly, it may be necessary to combine the steps to adjust the length and angle.

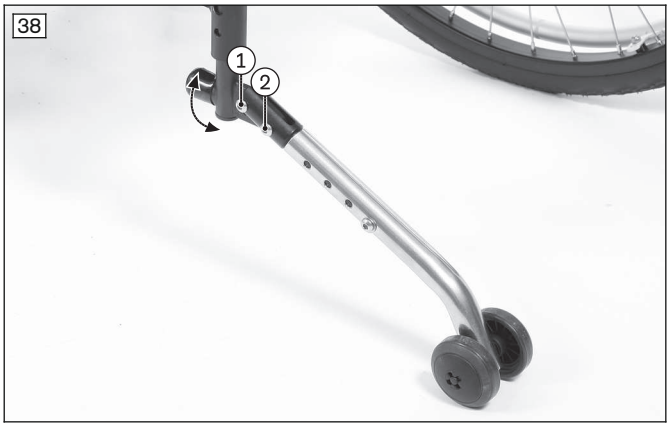
Adjusting the Length of the Pivot Arm

1) Remove the Allen head screw on the pivot arm (see Fig. 37, item 1).
2) Adjust the length of the pivot arm.
3) Bolt down the pivot arm. The outer edge of the anti-tipper roller has to project beyond the largest diameter of the rear wheels (see Fig. 36).

Adjusting the Angle of the Pivot Arm

1) Remove the Allen head screw between the anti-tipper tube and the angle adjuster (see Fig. 38, item 1).
2) Loosen the second Allen head screw on the angle adjuster (see Fig. 38, item 2).
3) Set the angle of the pivot arm.
4) Bolt down the pivot arm. The max. distance between the anti-tipper rollers and floor is **50 mm** (see Fig. 36).





6.9.4 Installing / adjusting the tip-assist

The tip-assist can be installed on the accessory mount in the installation position provided (see Fig. 35, item 1).

1) Press the spring on the tip-assist (not illustrated).
2) Insert the tip-assist into the accessory mount.
3) Allow the spring to lock in.

7 Handover

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?
- Have the rear wheels been correctly positioned?
- Have the tyres been correctly inflated?
  NOTE: The correct air pressure is printed on the sidewall of the tyre. For rear wheels with high-pressure tyres, the minimum air pressure is 7 bar.
- Has the axle assembly been fastened to the frame and tightened to the specified torque?
- Can the quick-release axles rotate freely?
- Have the brakes (wheel locks) been adjusted correctly?
- Has the caster journal angle been adjusted vertically?
- Has the anti-tipper been adjusted correctly?

7.2 Transport to the customer

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

7.3 Handover

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 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.

8 Maintenance/Repair

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

More information on cleaning/disinfection and maintenance/repair can be found in the instructions for use (user).

The service manual contains detailed information on repairs.

9 Disposal

9.1 Disposal information

In case of disposal, all components of the product must be disposed of in accordance with the respective national environmental laws.

9.2 Information on re-use

⚠ CAUTION

Use of used seat upholstery

Functional and hygiene risks for the skin

► Replace the seat upholstery if the wheelchair is to be re-used.

The product is suitable for re-use.

Similar to second-hand machines or cars, products that are being re-used are subject to increased strain. The characteristics and specifications must not change to an extent that would endanger the safety of patients and, if applicable, third parties during the lifespan of the product.

Based on market observations and the current state of technology, the manufacturer has calculated that the product can be used for a period of **4 years**, provided that it is used properly and that the service and maintenance instructions are observed. Storage times at the dealer or with paying parties are not included in this period. It should be emphasised, however, that the product is reliable far beyond this defined period of time if it is cared for and maintained properly.

The product must first be thoroughly cleaned and disinfected before it can be re-used. Then the product must be examined by an authorised specialist to check the condition and to look for wear and possible damages. Any worn and damaged components as well as components that do not fit or are not suitable for the new user must be replaced.

Detailed information on the replacement of parts and details of tools required and prescribed service intervals 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 disregard of this document, particularly due to improper use or unauthorised modification of the product.

10.2 CE Conformity

This product meets the requirements of the European Directive 93/42/EEC for medical devices. This product has been classified as a class I device according to the classification criteria outlined in Annex IX of the directive. The declaration of conformity was therefore created by the manufacturer with sole responsibility according to Annex VII of the directive.

10.3 Warranty

Further information on the warranty terms and conditions is available from the manufacturer's service (see inside back cover for addresses).

10.4 Trademarks

All product names mentioned in this document are subject without restriction to the respective applicable trademark laws and are the property of the respective owners.

All brands, trade names or company names may be registered trademarks and are the property of the respective owners.

Should trademarks used in this document fail to be explicitly identified as such, this does not justify the conclusion that the denotation in question is free of third-party rights.

11 Technical Data

INFORMATION

- ► Much of the technical data below is specified 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 dimensional tolerance is ±**10 mm and ±2°.**

General information

	Voyager Evo
Maximum load capacity [kg]	100
Weight [kg][1)] (for seat width 400 mm; seat depth 400 mm; 4" full rubber caster wheels, 22" hollow rim)	approx. 8
Transport weights [kg][1)] (for seat width: 440 mm; 4" full rubber caster wheels)	Frame: 6.9 – 9.8 22" rear wheel: 1.1
Seat width [mm]	280 – 460
Seat depth [mm][2)]	360 – 520
Back height [mm]	200 – 500
Max. total height [mm] (for rear seat height of 500 mm, back height of 500 mm and push handle)	1030
Min. tyre pressure [bar][4)]	7
Max. permissible inclination [°][5)]	10

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

2) With wheelbase extension: rear axle position + 80 mm

3) in accordance with ISO 7176-5, 8.12

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

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

Additional information

Voyager Evo	**Minimum**	**Maximum**
Mass of the heaviest component [kg]	---	9.8
Overall length with footrests [mm]	730	910
Overall width [mm]	470	650
Seat bottom angle	Depends on seat height front/rear	
Effective seat depth [mm]	360	520
Effective seat width [mm]	280	460
Front seat height [mm]	445	530
Rear seat height [mm]	395	495
Backrest angle [°]	3.6	9.5
Backrest height [mm]	200	500
Distance footrest to seat [mm]	350	450
Angle footrest to seat bottom [°]	0	90
Push ring diameter [mm]	490	530
Turning radius [mm][1)]	490	650
Horizontal axle position [mm]	45	100

1) in accordance with ISO 7176-5

Kundenservice/Customer Service

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