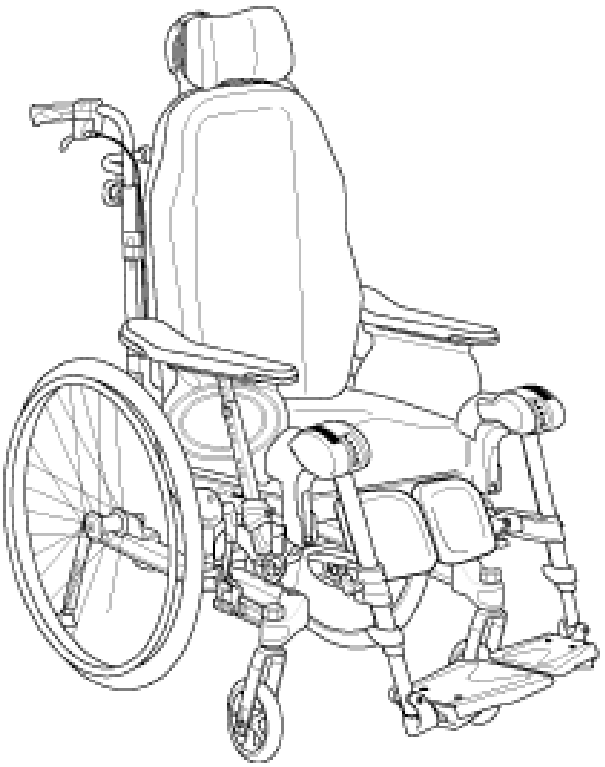


Rea® Dahlia® 30 / 45

en **Manual wheelchair**
Service Manual

PROVIDER: Keep this manual.
The procedures in this manual MUST be performed by a qualified technician.

Yes, you can.

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

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1 General

1.1 Introduction

This document contains important information about assembly, adjustment and advanced maintenance of the product. To ensure safety when handling the product, read this document and the user manual carefully and follow the safety instructions.

Find the user manual on Invacare's website or contact your Invacare representative. See addresses at the end of this document.

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

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

Previous product versions may not be described in this manual's current revision. If you require assistance, please contact Invacare.

For pre-sale and user information, see the user manual.

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

1.2 Delivery check

Any transport damage must be reported immediately to the transport company. Remember to keep the packaging until the transport company has checked the goods and a settlement has been reached.

1.3 Symbols in This Manual

Symbols and signal words are used in this document and apply to hazards or unsafe practices which could result in personal injury or property damage. See the information below for definitions of the signal words.

WARNING!
Indicates a hazardous situation that could result in serious injury or death if it is not avoided.

CAUTION!
Indicates a hazardous situation that could result in minor or slight injury if it is not avoided.

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

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

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

1.4 Limitation of Liability

Invacare accepts no liability for damage arising from:

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

2 Safety

2.1 General Safety Information

WARNING!
Risk of injury or property damage
The information contained in this manual must be performed by a qualified technician. Invacare expects that the qualified technician is familiar with the product, with good technical knowledge to understand and follow the steps of the described instructions in this manual, and equipped with proper tools.
- Installation or repairs made by unqualified persons can result in hazardous situations to the users.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

NOTICE!
Refer to the user manual of this product for information on:
- Technical data
- Product components
- Labels
- Additional safety instructions

The information contained in this document is subject to change without notice.

NOTICE!
Medical Devices must be identified at all times to ensure their traceability.
- If the component where the product label with the serial number is located is replaced, or if the product label is no longer readable, a new product label must be requested from Invacare.
- If you have any doubts regarding labeling, please contact Invacare.

2.2 Personal Safety Information

These safety instructions are intended to help avoid accidents during work and must be observed under all circumstances. All employees coming into contact with contaminated products must regularly consult a company doctor. Work clothing and personal protective equipment must be available in necessary quantities and be in proper condition. Reliable hand and surface disinfection must be ensured.

WARNING!
Risk of contamination
- Clean and disinfect the product before carrying out repairs.

The technician should work in an environment (light, space, access to the wheelchair, …) that allows him to work safely.

2.3 General Repair Information

NOTICE!
Some replacement parts are only available as a kit. Always use the complete new kit when replacing a part.
- Use only original spare parts.
- Spare parts can be ordered from Invacare. Refer to your local Invacare website to access the electronic spare parts catalogue (ESPC).

Tightening torques

Correct tightening will allow safe and durable use of the device. All bolts must be tightened with the torques specified in the following instructions. If not specified, use the table below.

All values apply to dry and grease-free threads.

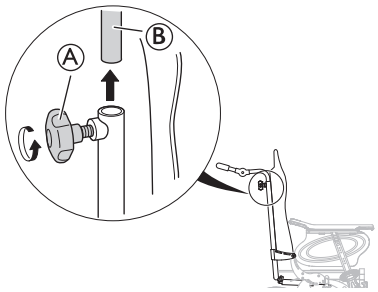
Thread diameter	M4	M5	M6	M8	M10/12
Tightening torque (mini/ max)	1,5/3 Nm	3/6 Nm	7/12 Nm	10/20 Nm	20/30 Nm

WARNING!
Risk of injury or damage to property
- After each assembly, check that all fittings are properly tightened AND that all parts have the correct function.

3 Assembly

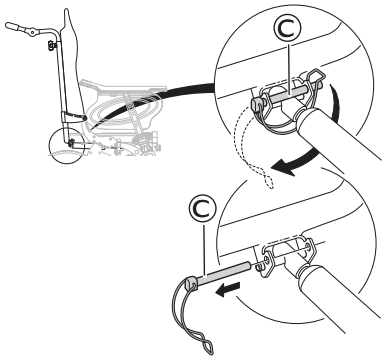
3.1 Changing the backrest tubes

1.



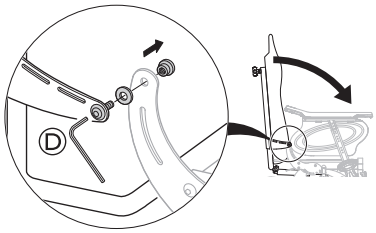
Release the knob Ⓐ and remove the push handles / push bar intended for the straight backrest tube Ⓑ.

2.



Release the safety shackle Ⓒ and carefully remove the safety pin from the attachment.

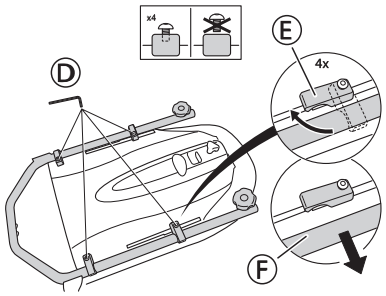
3.



Loosen and remove the screw washer and nut Ⓓ from the backrest attachment.

When re-mounting the backrest (see instructions below), a new screw must be used, the old one must be scrapped.

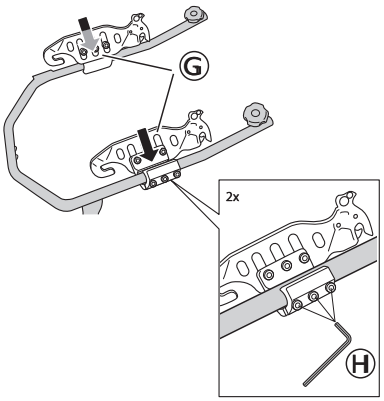
4.



Loosen the four screws for the backrest tubes Ⓓ and turn the attachments Ⓔ in order to release the backrest tube Ⓕ.

Do not remove the screws.

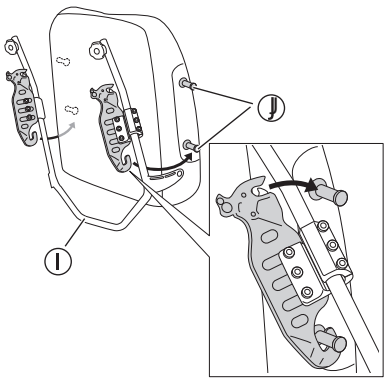
5.



Mount the attachments for the MatrX backrest Ⓖ and tighten the screws Ⓗ.

	5 mm Allen key

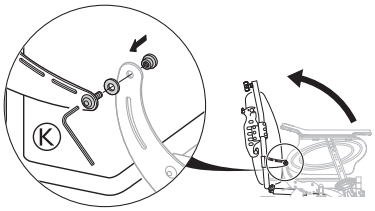
6.



Mount the backrest tubes Ⓘ on the attachment knobs Ⓙ on the backrest.

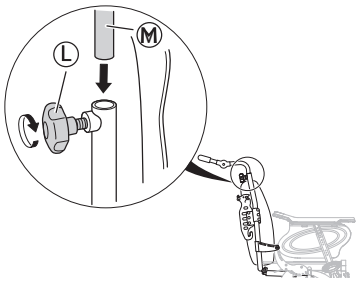
Start with the lower attachment.

7.



Re-mount the backrest on the wheelchair, replace the screw and tighten the screw, washer and nut Ⓚ (9 Nm).

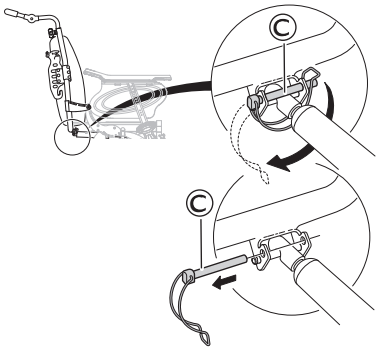
8.



Mount the push handles/push bar intended for the bent backrest tube Ⓜ and tighten the knob Ⓛ.

There are different push handles/push bar for the straight backrest tube and the bent backrest tube.

9.

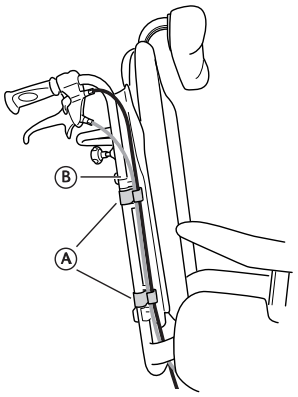


Re-mount the safety shackle Ⓒ and attach the gas piston.

WARNING!
Safety risk
The wheelchair may collapse.
— Remember to always reinsert and fasten the safety pin when it has been removed.

3.2 Placing the wires

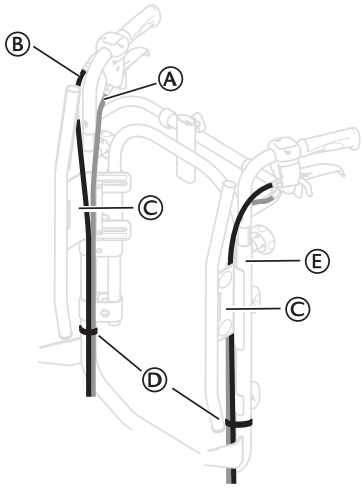
3.2.1 Wires with backrest plate



1. Thread the wires on the outside of the backrest tubes Ⓑ.
2. Place the wires in the holders/clips Ⓐ in order to hold them in place.

   Fold the slack of the wires under the seat to get them out of the way.

3.2.2 Wires with tension adjustable backrest

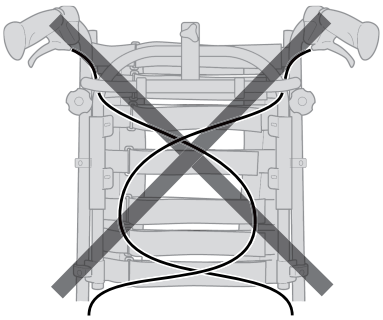


1. Place the wires Ⓐ and Ⓑ as shown on the picture above.

   NOTICE!
   Risk of damage to the wires
   — It is important that the cable for the assistant brake Ⓐ is placed on the inside of the backrest tubes.

2. Place the wire for the backrest/seat recline Ⓑ outside of the backrest tubes.
3. Place both of the wires on the inside of the backrest attachment Ⓒ.
4. Attach the wires to the backrest tubes Ⓔ with the straps Ⓓ.

   Fold the slack of the wires under the seat to get them out of the way.

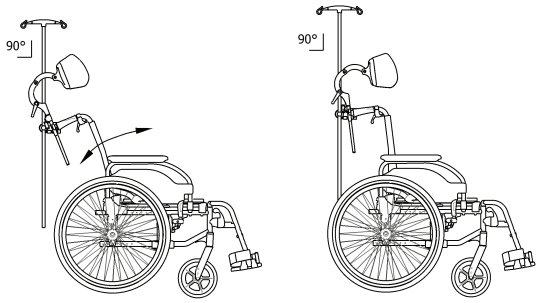


CAUTION!
Risk of reduced brake effect
— The wires must not be crossed on the backrest!

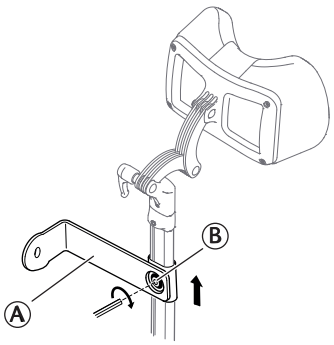
3.3 Mounting the Drip stand

WARNING!
Risk of tipping / injury
— Max load on the drip stand: 4 kg (2 x 2 kg).

The rod of the drip stand must always be placed in a vertical position, i.e in a 90 degree angle to the ground, no matter the position of the backrest or the wheelchair.



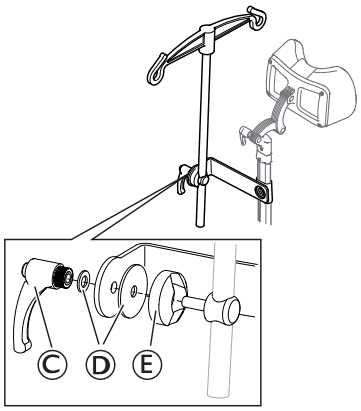
1.



Mount the holder for the drip stand Ⓐ on the neckrest holder and tighten the screw Ⓑ

5 mm Allen key

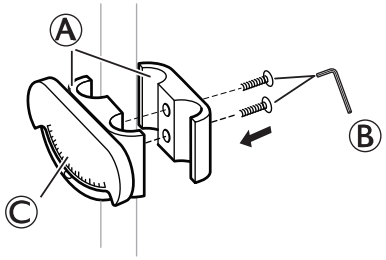
2.



Mount the lever Ⓒ, the washers Ⓓ and the holder with the drip stand Ⓔ in the attachment and tighten the lever.

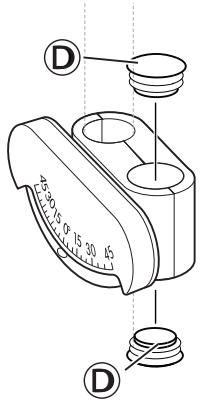
3.4 Tilt scale backrest

1.



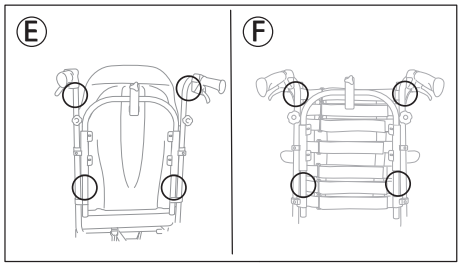
Attach the clamps Ⓐ with the tilt scale Ⓒ to the push bar/push handles or the backrest tubes and tighten the screws Ⓑ.

2.



Place the end plugs Ⓓ in the empty holes.

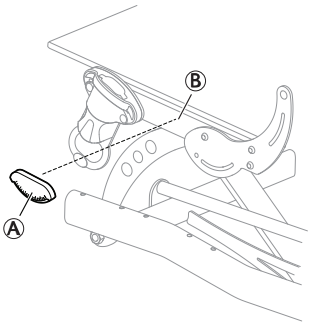
3.



Place the tilt scale for the backrest angle on the push bar/push handle or on the backrest tubes according to picture Ⓔ or Ⓕ above.

3.5 Tilt scale seat

1.



Place the tilt scale for the seat Ⓐ on the seat frame Ⓑ.

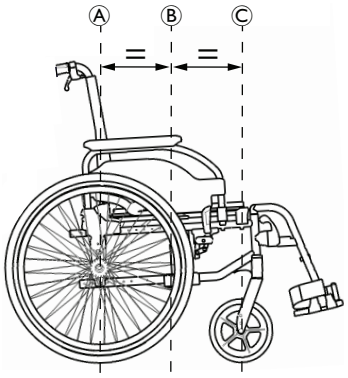
The tilt scale should be placed on the left side.

3.6 Mounting a molded seating system

The wheelchair can be ordered without seat and back support to add a molded seating system used on the wheelchair base.

CAUTION!
Risk of damage
Only use molded seating systems with attaching straps or bolted with pipe clamp. Machining, bending, welding, or bracing the wheelchair components is not permitted.
- Firmly strap or bolt the molded seating system around the metallic seat frame and the metallic backrest frame of the wheelchair.
- The installation of the seating system must be performed by a qualified technician.

CAUTION!
Risk of tipping over
The wheelchair's stability is impacted by the position of the seating system in relation to the chassis frame.
- Refer to the steps below to ensure that the molded seat is mounted correctly.



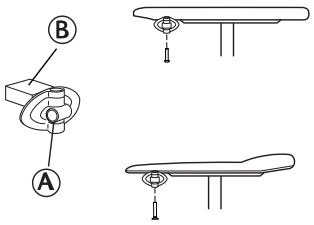
Callouts Ⓐ, Ⓑ and Ⓒ correspond to three different axis.

1. Position the front forks of the wheelchair to a forward movement position (front wheels are turned towards the rear wheels).
2. The midpoint axis Ⓑ is found between the rear wheels and front castors at point of contact with the floor. To locate it, the distance between axis Ⓐ and Ⓑ should be the same as the distance between axis Ⓑ and Ⓒ.
3. Align the centre of gravity of the molded seating system as close as possible to the midpoint axis Ⓑ.
4. Check the stability of the wheelchair with a patient seated on the seating.
5. Secure the seating system by firmly attaching it to the seat and back frame.

WARNING!
Risk of injury
The wheelchair has only been crash tested with Invacare seat and back support. Invacare can in no way predict the effect of an accident with other configurations.
- Refer to the manufacturer's instructions of the seating system.
- Don't use straps to attach the seating system in case of use as a seat in a motor vehicle.

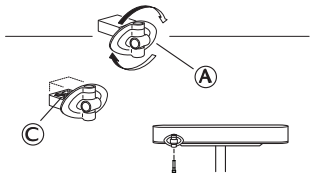
3.7 Mounting the attachment for table tray

1.



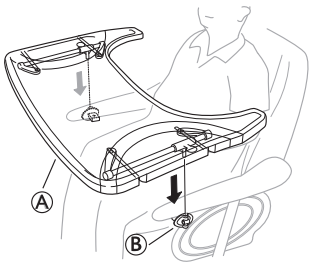
Mount the table attachment Ⓐ with the attachment part facing outwards. The plain surface Ⓑ of the attachment should be placed upwards when using the table on the thin armrests.

2.



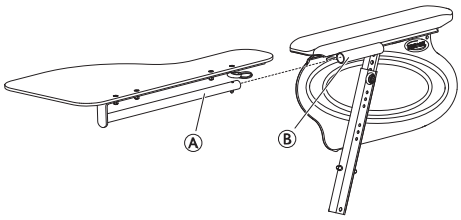
To fit the table attachment Ⓐ to the wide armrest, turn the attachment around, the patterned surface Ⓒ should now be facing upwards.

3.8 Mounting the table tray

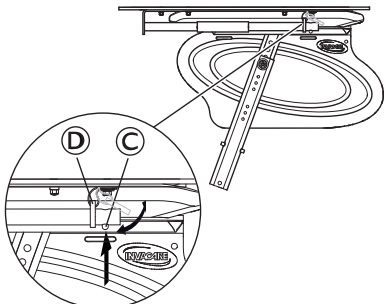


Mount the table tray Ⓐ in the table tray attachments Ⓑ.

3.9 Mounting the half tray

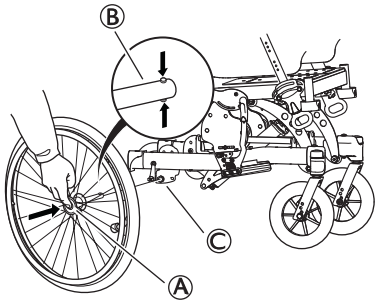


1. Insert the tube of the half tray Ⓐ into the attachment Ⓑ under the arm pad.



2. Push on the push pin Ⓒ and insert the ring Ⓓ on the tube Ⓐ.
3. Release the push pin Ⓒ.

3.10 Mounting the rear wheels

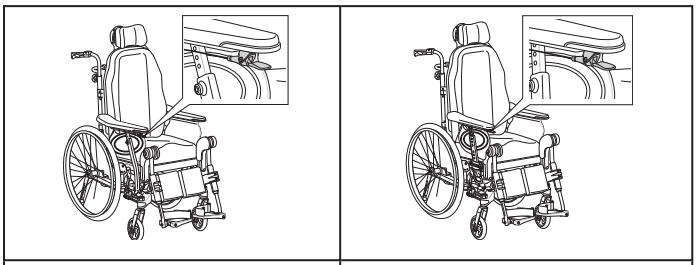


1. Press and hold in the quick-release button Ⓐ.
2. Place the rear wheel axle Ⓑ in the rear wheel attachment Ⓒ.
3. Pull the wheels outwards to check that the wheel is securely locked in position.

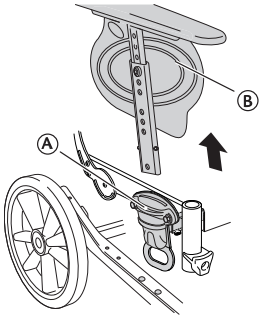
WARNING!
Risk of injury
- Check that the rear wheel is securely locked in position. It should not be possible to remove the wheels when the quick-release button Ⓐ is deactivated.

3.11 Mounting the user maneuvered tilt

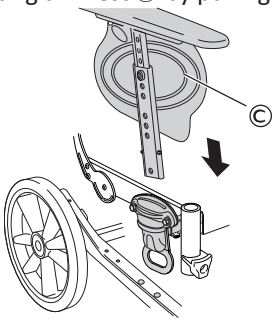
The user operated tilt is available with both a fixed armrest and with detachable armrests. The user operated tilt is only available for Dahlia 30.

	
Fixed armrests	Detachable armrests

Detachable armrests

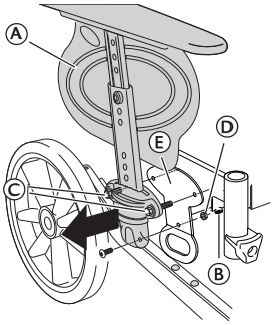


1. Press and hold the quick release button Ⓐ.
2. Remove the existing armrest Ⓑ by pulling it upwards.



3. Mount the new armrest for the user operated tilt Ⓒ.

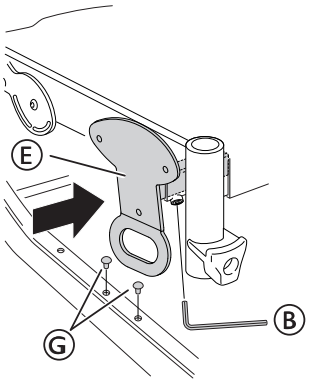
Fixed armrests



1. Loosen the screw Ⓑ.
2. Drag the transport attachment Ⓔ and the armrest Ⓐ outwards.
3. Loosen the screws Ⓒ and the nut Ⓓ.

- 5 mm allen key
- 10 mm fixed spanner

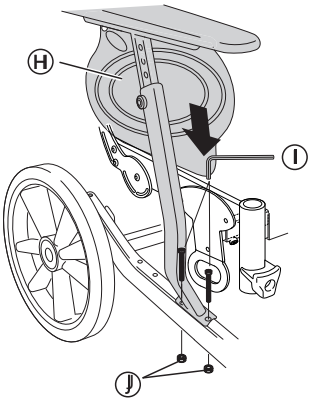
4. Remove the armrest Ⓐ and the armrest attachment completely.



5. Push the transport attachment Ⓔ back in place.
6. Tighten the screw Ⓑ.

5 mm allen key

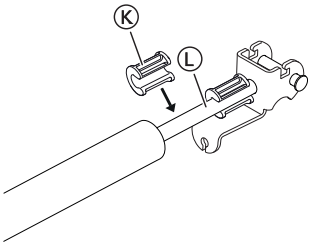
7. Remove the plastic plugs Ⓖ from the chassis.



8. Mount the armrest and armrest attachment tube for the user operated tilt Ⓗ on the frame.
9. Attach the screws Ⓘ and tighten the nuts Ⓙ.

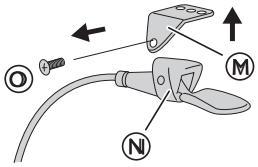
- 5 mm allen key
- 10 mm fixed spanner

Detachable and fixed armrest

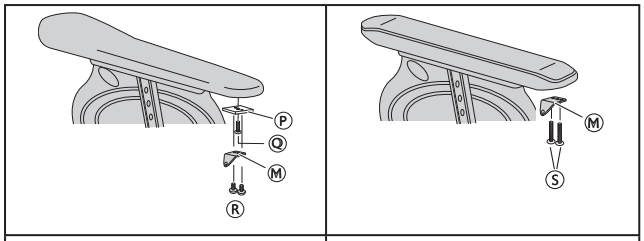


1. Mount the tilt reduction bushing Ⓚ on the seat tilt gas piston Ⓛ if needed.

NOTICE!
— When using the user operated tilt, there must always be two tilt reduction bushings mounted.

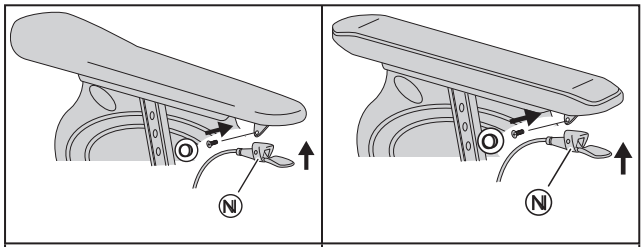


1. Loosen and remove the screw Ⓞ.
2. Remove the tilt handle Ⓝ from the attachment Ⓜ.



Standard armrest pad	Straight narrow armrest pad

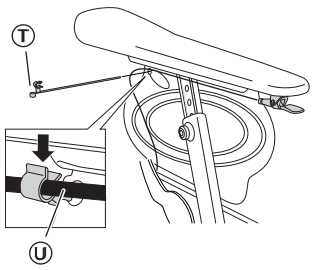
3. Mount the tilt handle attachment Ⓜ on the armrest pad.
4. If the standard armrest pad is used, attach the metal washer Ⓟ and the screw Ⓠ between the armrest pad and the attachment Ⓜ. Tighten with 2,5 Nm.
5. Attach the screws Ⓡ or Ⓢ depending on the armrest type and tighten with 2,5 Nm.



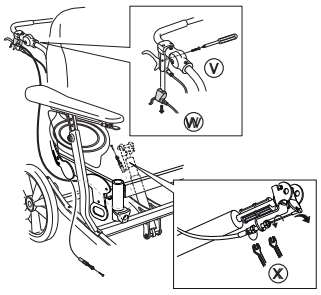
Standard armrest pad	Straight narrow armrest pad

6. Mount the tilt handle Ⓝ on the tilt handle attachment.
7. Tighten the screw Ⓞ.

- Screwdriver PH2
- Torx driver T20

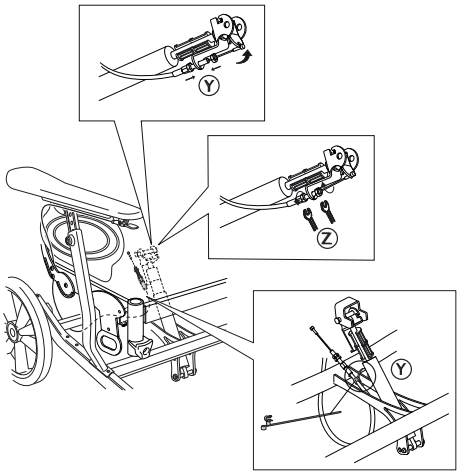


8. Attach the clip for the wire Ⓣ in the upper corner of the side guard.
9. Place the wire Ⓤ in the clip holder.



10. Loosen the screw Ⓥ in order to remove the lever for the hand operated tilt Ⓦ.
11. Loosen the nut to the brake wire for the tilt handle Ⓧ and remove the wire.

- Screwdriver PH2
- 10 mm fixed spanner



12. Place the wire from the user operated tilt Ⓨ as shown on the picture.
13. Attach the wire to the chassis with an attachment clip.
14. Attach the wire from the user operated tilt Ⓨ on the gas piston.
15. Tighten the attachment nuts Ⓩ.

10 mm fixed spanner

3.12 Reducing tilt and/or backrest recline

Depending on the rear wheel size when the wheelchair is ordered with a low seat to floor height, reduction bushings are added to the tilt and/or recline function in some combinations.

This is because there may be a conflict between the seat frame and the rear wheel attachment when tilting or reclining the chair. This means that the operating range of the gas piston is reduced in order to avoid damage to certain parts when tilting or reclining the wheelchair. One or more reduction bushings can be used, each reduction bushing reduces the tilting/reclining range with 10°.

This means that if the tilt/recline have a range of 1–30° the range will be reduced to 1–20° by adding one reduction bushing to the gas piston.

For the Dahlia 30° version, the reduction bushings can be used to reduce both the tilt and the recline range.

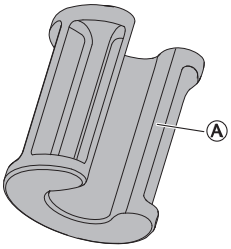
For the Dahlia 45° version, the reduction bushings will reduce the recline range with 10° or 20° and the reduction blocks will reduce the seat tilt range from 45° to 30°.

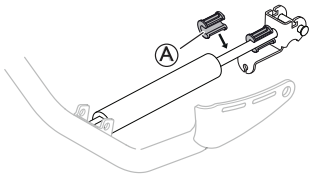
CAUTION!
Risk of damage
Removing the reduction bushings could cause damage to the wheelchair in some positions.
— Be careful when tilting/reclining the chair if the reduction bushings are removed. Read the instructions concerning limitation areas and how to avoid them.

See section: “Troubleshooting” for more information.

3.13 Mounting of the tilt/recline reduction

The reduction bushings can be used both for the seat tilt and the backrest recline on Dahlia 30º and for the backrest recline reduction on Dahlia 45º.



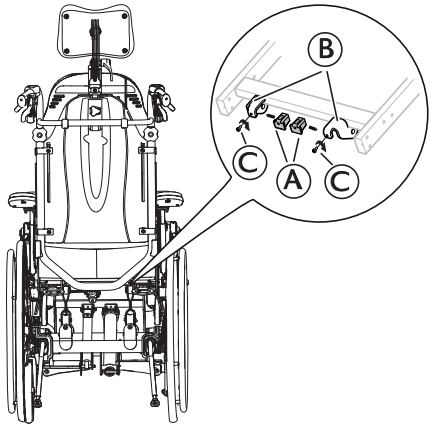


1. Mount the reduction bushing Ⓐ on the gas piston rod by manually pressing it on to the rod.
2. Remove the reduction bushing Ⓐ by manually twisting it from the gas piston rod.

	0 - 20°	0 - 10°
	0 - 20°	0 - 10°

When using one bushing, the tilt/recline reduction is 10, with two bushings, the tilt/recline reduction is 20. For information about seat tilt reduction for Dahlia 45, see chapter “Mounting the seat tilt reduction block”.

3.14 Mounting the seat tilt reduction block



1. Place the reduction block Ⓐ in the slider attachment Ⓑ on the seat frame.
2. Fasten the screw Ⓒ and tighten.
3. Repeat the procedure with the second block.

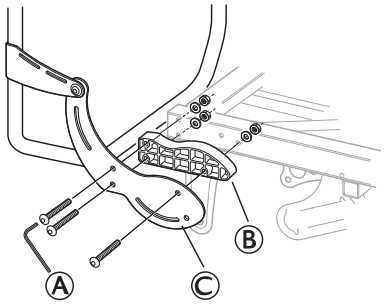
Torx driver T20

	0 - 20°	0 - 10°
	0 - 30°	

With these reduction blocks mounted, the seat tilt limit is 30. See chapter “Mounting of the tilt/recline reduction bushing” for information about backrest recline reduction for Dahlia 45.

3.15 Repositioning the backrest joint

The width extension spacers can be used when there is need for a wider backrest bar. The spacers will add an extra 25 mm space on each side.



1. Loosen the three screws Ⓐ on the outside of the seat frame.

5 mm allen key

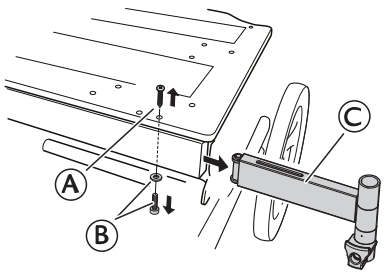
2. Insert the plastic spacers Ⓑ between the backrest attachment Ⓒ and the seat frame.
3. Retighten the three screws Ⓐ (10 Nm).
4. Repeat the procedure on the opposite side.

3.16 Mounting the legrest attachment for high position

With the high position legrest attachment, the fixation of the legrest will be 5 cm higher.

The high position legrest attachment is recommended for users with a height of 185 cm and taller.

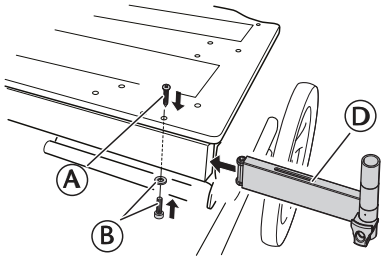
1.



Remove the upper screw Ⓐ and the lower screw and washer Ⓑ. Remove the ordinary legrest attachment Ⓒ.

Screwdriver (PH 2) for screw Ⓐ,
allen key 5 mm for screw Ⓑ.

2.

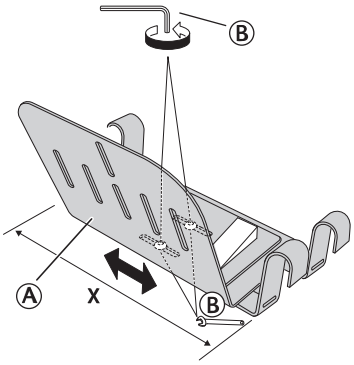


Mount the high legrest attachment Ⓓ in the seat frame. Re-insert the upper screw Ⓐ and the lower screw and washer Ⓑ. Retighten the screws.

Screwdriver (PH 2) for screw Ⓐ,
allen key 5 mm for screw Ⓑ.

3.17 Mounting the accessory tray

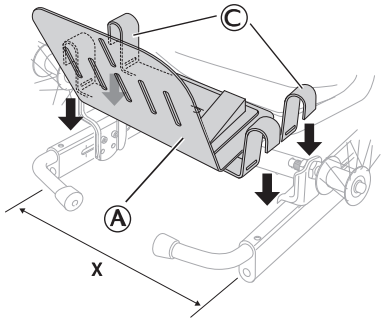
1.



Fixate the nuts and loosen the screws Ⓑ of the accessory tray Ⓐ and adjust the width.

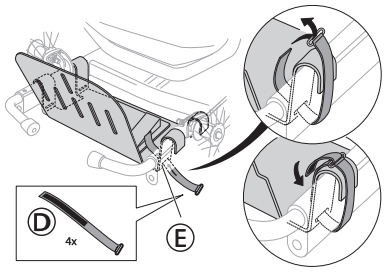
- 5 mm allen key
- 13 mm fixed spanner

2.



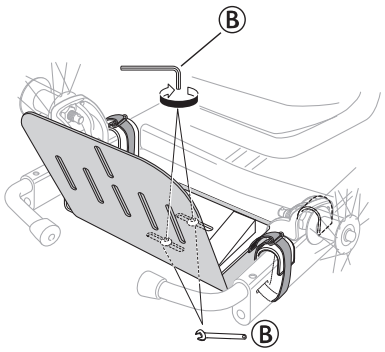
Mount the accessory tray Ⓐ on the chassis, the hooks Ⓒ should be placed on the frame.

3.



Secure the accessory tray with the attachment straps Ⓓ. Thread the straps through the slot Ⓔ and wrap them around the hooks. Secure the attachment straps firmly.

4.



Fixate the nuts and retighten the screws Ⓑ to fixate the width.

- 5 mm allen key
- 13 mm fixed spanner

NOTICE!
The accessory tray will be instable
— Always secure the tray with all four attachment straps.

3.18 Wash sealing kit

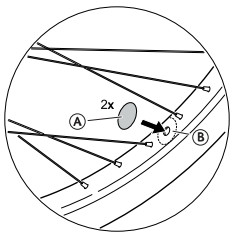
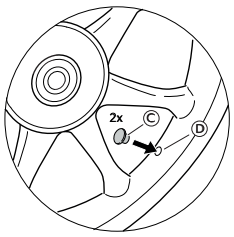
The wash sealing kit can be used to protect holes in the chassis and on the wheels from water.

Content of the kit

Ⓐ 4x	Ⓒ 2x	Ⓓ 2x
Ⓐ 4 stickers for the 22”–24” wheels and the Azalea chassis.	Ⓒ 2 plugs for the 16” wheels.	Ⓓ 2 plugs for the Dahlia chassis.

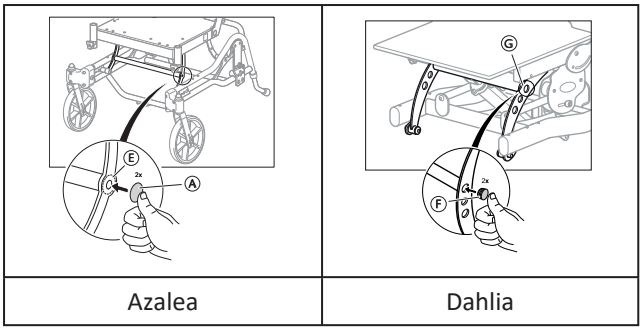
Mounting of the kit

1.

	
22” — 24” wheels	16” wheels

Attach the stickers Ⓐ or the plugs Ⓒ on/in the air holes Ⓑ or Ⓓ of the wheels.

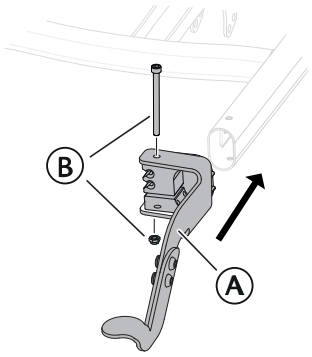
2.



Azalea	Dahlia

Attach the stickers Ⓐ or the plugs Ⓕ in the holes Ⓔ or Ⓖ of the chassis depending on model.

3.19 Mounting the kerb lever

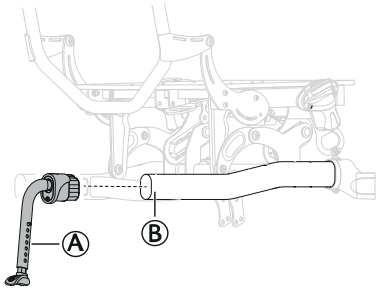


1. Mount the kerb lever Ⓐ on the chassis tube.
2. Mount the screw and the nut Ⓑ.
3. Tighten the screw.

3.20 Mounting anti-tip device

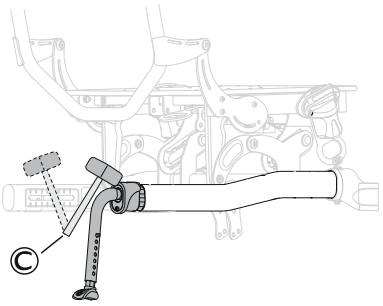
WARNING!
Risk of tipping
— Maximum height from floor to anti-tip device is 40 mm. Min. height from floor to anti-tip device is 15 mm.

1.



Mount the anti-tip device Ⓐ in the chassis tube Ⓑ.

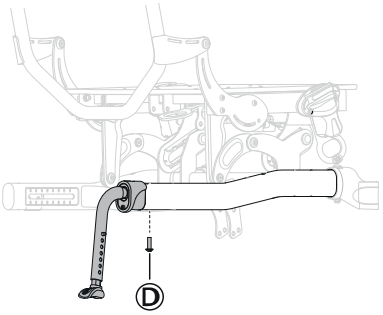
2.



Use a rubber mallet Ⓒ to insert the anti-tip device in the chassis tube.

CAUTION!
Damage on the anti-tip device tube
— Do not use the rubber mallet on the anti-tip device tube, only on the top of the attachment.

3.



Secure the anti-tip devicewith the screw Ⓓ.

4. Tighten the screw.
5. Repeat the procedure on the opposite side.

Torx driver T25 or screw driver

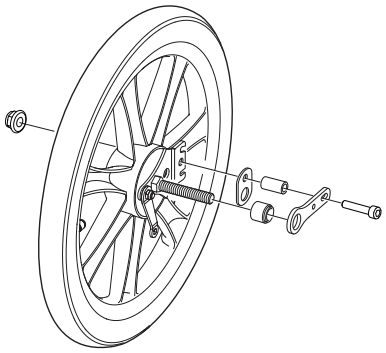
See the part “Size of Anti-tip device” in the Technical Data section for information about the sizes.

3.21 Mounting the drum brake

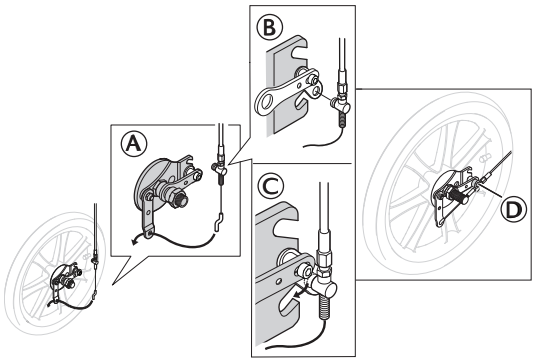
3.21.1 Drum brake for 16” wheels

WARNING!
Risk of injury
Poor brake affect
— Check the brake effect after mounting or adjusting the brake.

1.



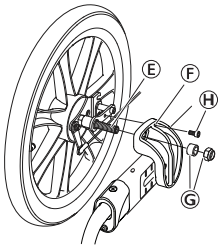
Assemble the screws, washers and nut as shown in the picture above.



2. Mount the wire hook from the brake handle in the wire holder Ⓐ.
3. Mount the wire in the attachment washer Ⓑ.
4. Place the wire in the lower notch on the brake Ⓒ.
5. Tighten the screw Ⓓ with 9 ± 1 Nm.

- 5 mm allen key
- 10 mm fixed spanner

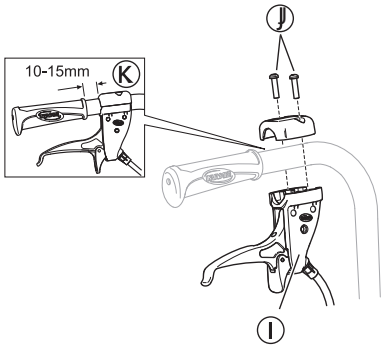
WARNING!
Risk of injury
Poor brake affect
— Check the brake effect after mounting or adjusting the brake.



6. Mount the rear wheel axle Ⓔ in the attachment Ⓕ on the frame. Attach the nut and spacer Ⓖ and the screw Ⓗ.
7. Tighten the screw Ⓗ with 9 ± 1 Nm.
8. Tighten the nut Ⓖ with 22 Nm.

- 5 mm allen key
- Fixed spanner 19 mm

9.



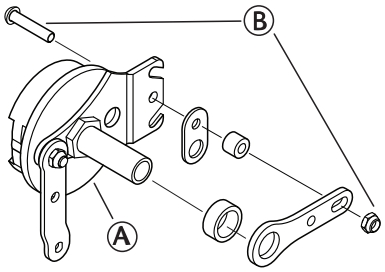
Mount the lever for the assistant maneuvered drum brake Ⓘ on the push handle and attach the screws Ⓙ.

The distance between the handle and the lever for the assistant maneuvered drum brake must be 10 — 15 mm Ⓚ.

Torx driver T20

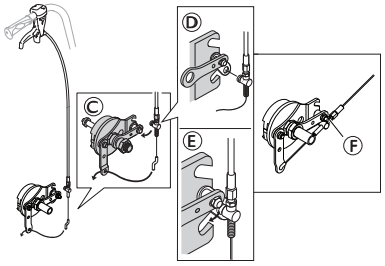
3.21.2 Drum brake 22–24” wheels

1.



Assemble the parts on the drum brake Ⓐ in the order shown above. Attach the screw and nut Ⓑ to fixate the parts.

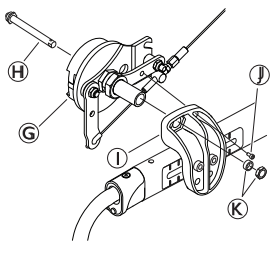
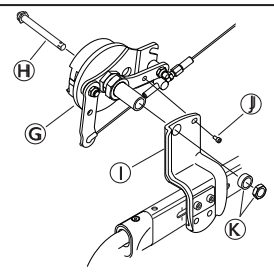
2.



Mount the wire hook from the brake handle in the wire holder Ⓒ. Mount the wire in the attachment washer Ⓓ and place the wire in the lower notch on the brake Ⓔ.

3. Tighten the nut Ⓕ with 9 ± 1 Nm.

- 4 mm allen key
- 10 mm fixed spanner

	
Low rearwheel plate	High rearwheel plate

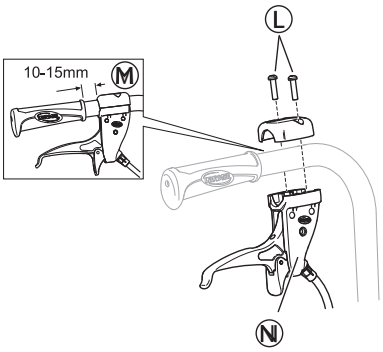
4. Assemble the quick release axle Ⓗ through the rearwheel and the drumbrake with wire Ⓖ.

5. Assemble the wheel with drumbrake on the rearwheel plate Ⓘ.
6. Attach the screw Ⓙ and tighten with 9 ± 1 Nm.
7. Attach the nut and sleeve Ⓚ and tighten the nut with 40 ± 5 Nm.
8. Repeat the procedure on the opposite side.

- 4 mm allen key
- 24 mm fixed spanner

WARNING!
Risk of injury
Poor brake affect
— Check the brake effect after mounting or adjusting the brake.

9.

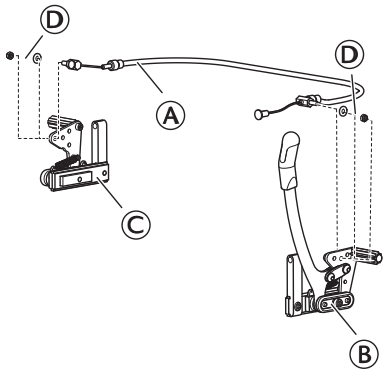


Mount the handle for the assistant maneuvered drum brake Ⓛ on the push handle and attach the screws Ⓜ.

The distance between the handle and the handle for the assistant maneuvered drum brake must be 10 — 15 mm Ⓝ.

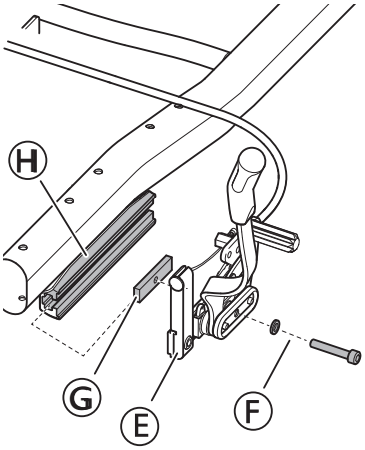
T20 torx driver

3.22 Mounting the wire for the One arm brake



1. Attach the wire Ⓐ to both sides of the brake Ⓑ and Ⓒ.
2. Fixate the wire with the nut and washer Ⓓ.

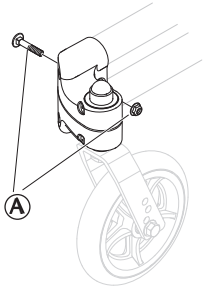
3.23 Mounting the one arm brake



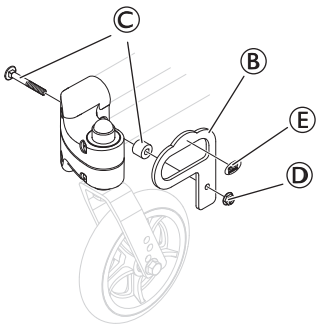
1. Attach the brake Ⓔ to the attachment nut Ⓖ.
   In some configurations, the attachment nut Ⓖ needs to be placed in the attachment Ⓗ prior to attaching the brake.
2. Fixate the attachment nut Ⓖ with the screw and washer Ⓕ.
3. Attach the brake Ⓔ and the attachment nut Ⓖ to the attachment on the chassis Ⓗ.
4. Adjust the distance between the brake tap and the rear wheel.
5. Adjust the brake effect.
   See section “Adjusting the brake” for more information.
6. Tighten the screw Ⓕ.
7. Repeat the procedure on the opposite side.

3.24 Mounting castor locking and transport attachment

Without castor locking



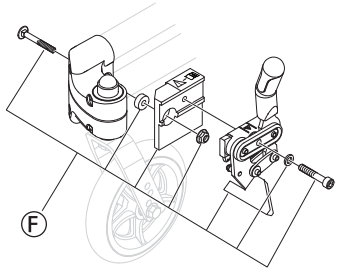
1. Remove and scrap the screw and nut Ⓐ.



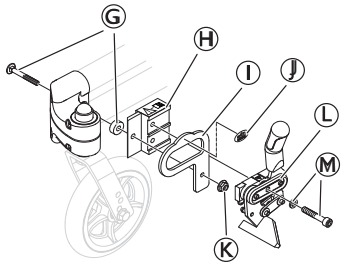
2. Mount the transport attachment Ⓑ.

3. Fixate the attachment with the screw, spacer Ⓒ and the nut Ⓓ.
4. Tighten the nut with 9 ± 1 Nm.
5. Add the sticker Ⓔ to the transport attachment.

With castor locking



1. Remove and scrap the castor locking and the screws and nuts Ⓕ.



2. Mount the new transport attachment and the fixation Ⓘ and Ⓗ.
3. Fixate the transport attachment and the fixation Ⓘ and Ⓗ with the screw, spacer Ⓖ and the nut Ⓚ.
4. Tighten the nut with 10 ± 1 Nm.
5. Add the sticker Ⓙ to the transport attachment Ⓘ.
6. Mount the castor locking Ⓛ.
7. Fixate the castor locking with the screw and washer Ⓜ.
8. Tighten with 10 ± 1 Nm.

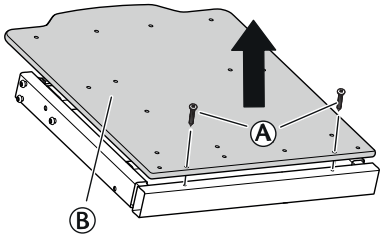
3.25 Mounting the electrical system

WARNING!
Risk of injury
— Make sure that all parts are disconnected from the power source.

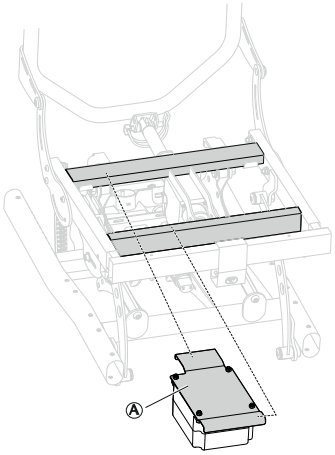
CAUTION!
Risk of short circuit
— Be aware of electrostatic discharge (ESD) when working on electrical parts.

3.25.1 Mounting the battery

When changing the battery, the hand control cable needs to be connected for at least 10 seconds to be able to indicate the levels of the new battery.

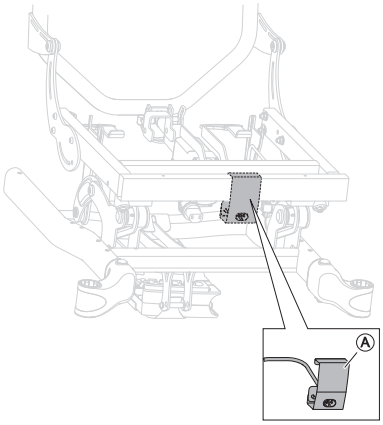


1. Loosen and remove the screws Ⓐ and the seat plate Ⓑ.



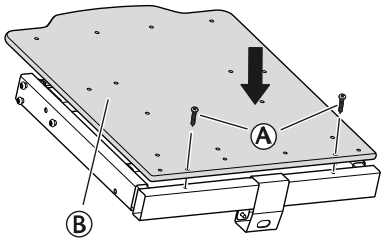
1. Mount the attachment with the battery Ⓐ on the frame.

Mounting the holder for the mains cable extension



1. Place the holder Ⓐ on the marked area of the frame.
2. Attach the mains cable extension to the control box.
   See section “Electrical schedule” for more information about how to connect the cables.

WARNING!
Damage to the battery cable
— Make sure to fasten the cables in a way that keeps the cables from being squeezed or stretched.
— Check that the cables run freely when using the tilt and/or recline function.



3. Re-mount the seat plate Ⓑ.
4. Tighten the screws Ⓐ.

3.25.2 Charging the battery

WARNING!
Risk of electrical shock
— The user must not sit in the wheelchair whilst charging the battery.

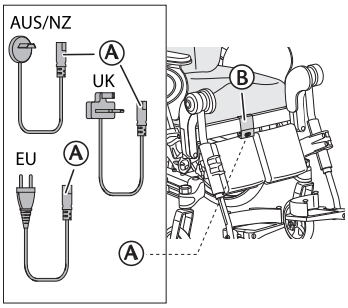
NOTICE!
Damage to the battery
- The battery must be charged 24 hours before using the system the first time.
- Unplug the mains cable after charging and before using the wheelchair.

The battery charger has different charging cables in order to adapt to different local electrical standards.

When the battery level is low (20 %), the system beeps when it is in use.

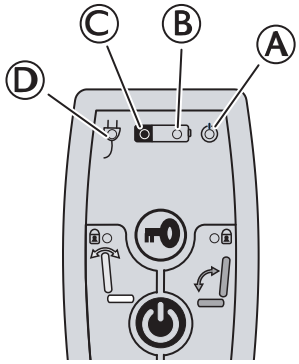
Connect charger cable

CAUTION!
Risk of damage to cables
- Do not sit in the wheelchair while charging the battery.



1. Connect the charger cable supplied with the chair into a wall socket.
2. Insert the charger cable Ⓐ into the connector Ⓑ which is on the side of the wheelchair.
3. Unplug the cable when the battery is fully charged.

Hand control — Battery indications

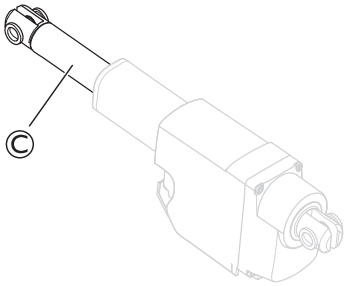


Ⓐ	Green light — ON — Hand control is activated
Ⓑ	• Green light — ON — Battery level is above 20% • Green light blinking — ON — Battery is charging (fixed light when the battery is fully loaded)
Ⓒ	• Yellow light — ON — Battery level is low, below 20% • Yellow light — OFF — Battery is fully loaded
Ⓓ	Green light — ON — Battery cable is connected (lights up about 5 seconds after connecting the cable)

3.25.3 Mounting the actuators

WARNING!
Risk of injury
The wheelchair may collapse
- Check that the locking washers are securely locked.
- If the safety pin is used, make sure that the lock shackle / loop is securely locked.

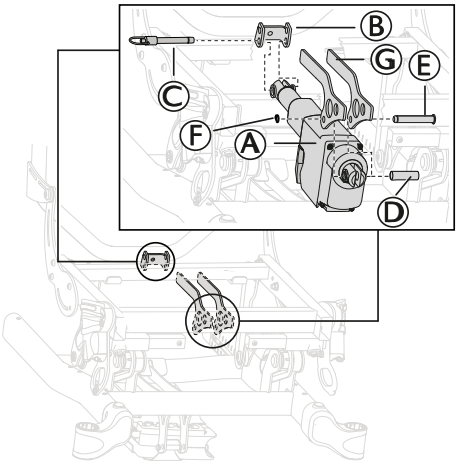
WARNING!
Safety risk
The wheelchair may collapse.
Remember to always reinsert and fasten the safety pin when it has been removed.
- Check that the lock shackle / loop is securely locked.



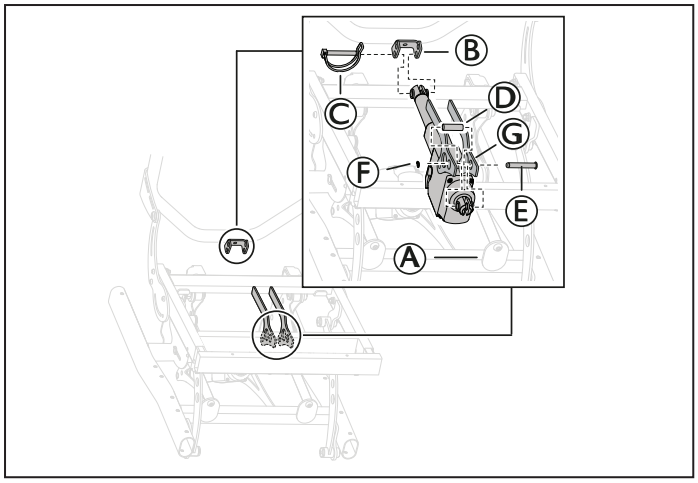
WARNING!
Electrical version
The backrest may come loose if the piston rod is accidentally detached from its housing.
- Before attaching the piston to the backrest, turn the piston rod Ⓒmaximum clockwise.
- When aligning the holes, only turn the piston rod Ⓒ maximum a half turn counterclockwise.

Mounting the backrest actuator

Dahlia 30



Dahlia 45



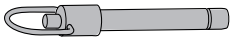
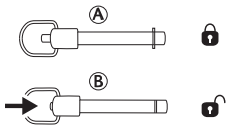
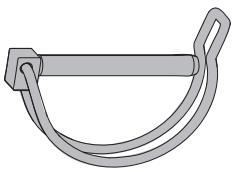
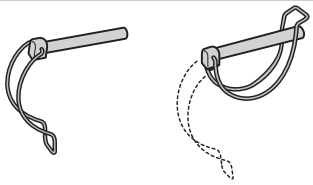
1. Place the upper part of the backrest actuator Ⓐ in the attachment Ⓑ on the frame.
2. Attach the backrest actuator with the safety pin or safety shackle Ⓒ in the lower hole of the attachment.

   Dahlia 30 has a safety pin and Dahlia 45 has a safety shackle.

3. Place the lower part of the backrest actuator Ⓐ in the lower attachment Ⓖ on the frame.
4. Attach the lower part with the pin Ⓔ, sleeve Ⓓ and the locking washer Ⓕ.

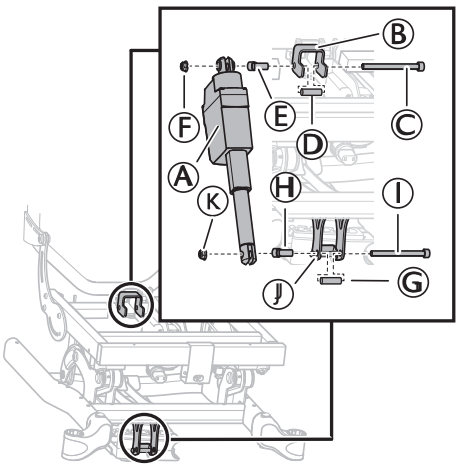
Nippers

Locking the safety pin

Safety pin Dahlia 30	
	
Safety pin Dahlia 45	
	

Mounting the seat tilt actuator

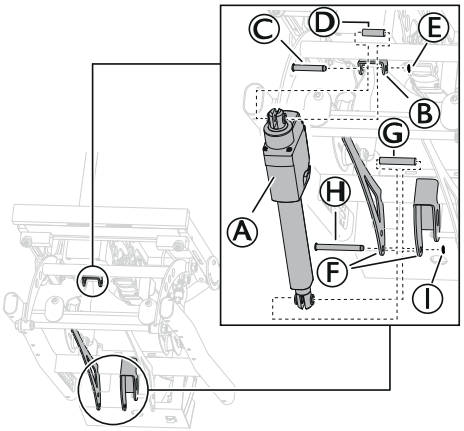
Seat tilt actuator — Dahlia 30



1. Place the upper part of the seat tilt actuator Ⓐ in the attachment Ⓑ on the frame.
2. Attach the seat tilt actuator with the screw Ⓒ, the sleeves Ⓓ and Ⓔ and the nut Ⓕ.
3. Place the lower part of the seat tilt actuator in the front attachment Ⓙ on the frame.
4. Attach the seat tilt actuator with the screw Ⓘ, the sleeves Ⓖ and Ⓗ and the nut Ⓚ.
5. Tighten the screws with 24 Nm.

6 mm Allen key / 13 mm fixed spanner

Seat tilt actuator — Dahlia 45

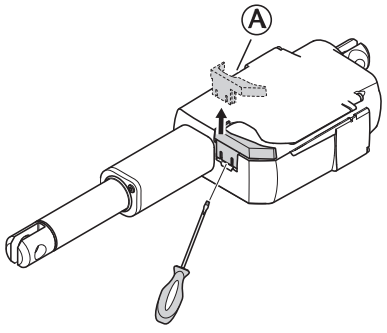


1. Place the upper part of the seat tilt actuator Ⓐ in the attachment Ⓑ on the frame.
2. Attach the seat tilt actuator with the pin Ⓒ, the sleeve Ⓓ and the locking washer Ⓔ.
3. Place the lower part of the seat tilt actuator in the lower attachment Ⓕ on the frame.
4. Attach the seat tilt actuator with the pin Ⓗ, the sleeve Ⓖ and the locking washer Ⓘ.

Nippers

Cable lock — actuator

Cable lock removal



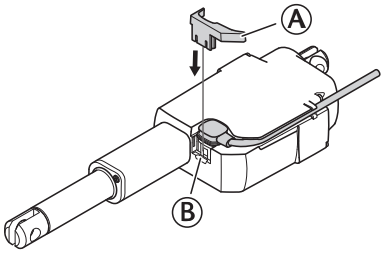
1. Loosen the cable lock Ⓐ.

   Use a screwdriver to loosen the cable lock.

2. Remove the cable lock from the actuator.

CAUTION!
Damage to the product
— When a cable lock is removed, it must be replaced by a new one.

Mount the cable lock

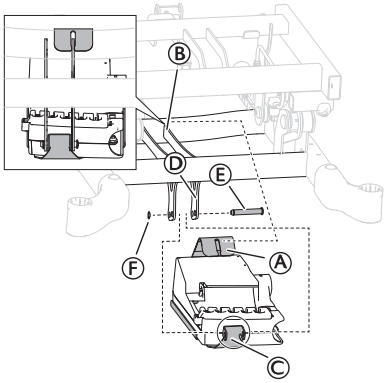


1. Place the cable in the holder Ⓒ on the seat tilt actuator.
   The cable must be fully pressed into the holder before adding the cable lock Ⓑ.
2. Attach the cable lock Ⓑ by pushing it into place on the seat tilt actuator.

CAUTION!
Risk of damage to the product
— The cable lock must be mounted when washing the wheelchair.

3.25.4 Mounting the control box

Dahlia 30

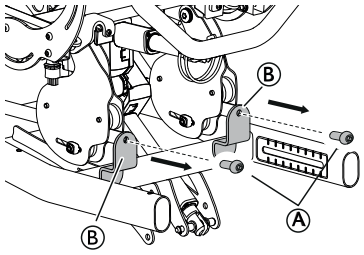


1. Mount the upper part of the control box attachment Ⓐ in the attachment Ⓑ on the chassis.
2. Mount the lower part of the control box attachment Ⓒ in the attachment Ⓓ on the chassis.
3. Attach the control box attachment Ⓒ with the pin Ⓔ and the locking washer Ⓕ.

Nippers

Dahlia 45

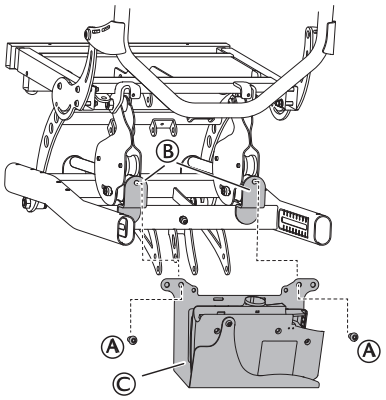
1.



Loosen and remove the screws Ⓐ from the attachmentplates Ⓑ.

5 mm Allen key

2.

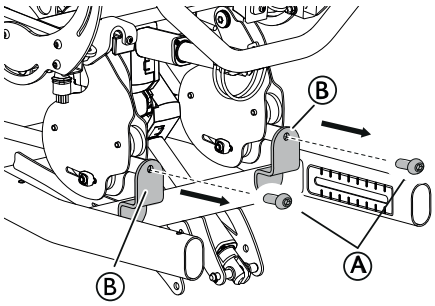


Mount the control box attachment Ⓒ on the attachment plates Ⓑ.
3. Re-mount the screws Ⓐ in order to fixate the control box attachment.
4. Tighten the screws with 24 Nm.

5 mm Allen key

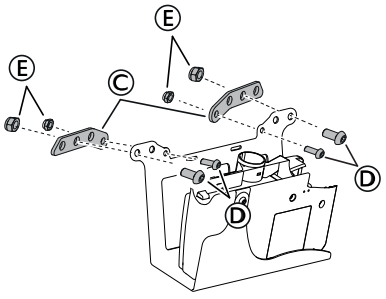
Extension kit — control box

In order to fit the control box to Dahlia width 49, an extension kit for the holder needs to be used:



1. Loosen and remove the screws Ⓐ from the attachment plates Ⓑ.

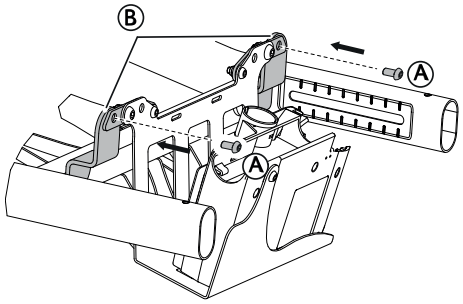
5 mm Allen key



2. Mount the extension plates Ⓒ on the holder for the control box.
3. Attach the extension plates with the screws Ⓓ and the nuts Ⓔ.

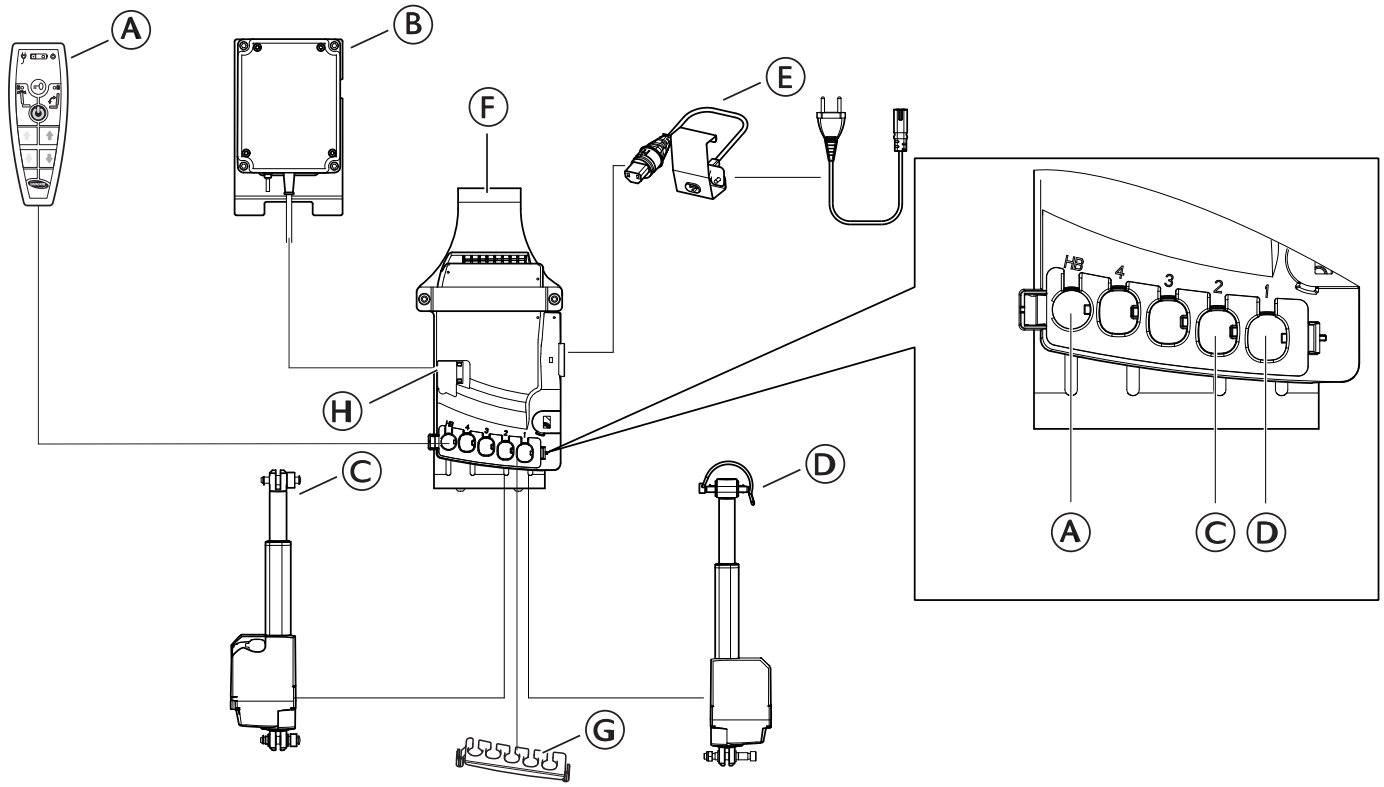
4. Tighten the screws with 9 Nm for the inner, smaller screw and 24 Nm for the outer larger screw.

	4mm + 5 mm Allen key



5. Mount the control box attachment with the extension plates on the attachments Ⓑ.
6. Re-mount the screws Ⓐ.
7. Tighten the screws with 24 Nm.

3.25.5 Electrical schedule



Ⓐ	Hand control
Ⓑ	Battery
Ⓒ	Seat tilt actuator
Ⓓ	Backrest recline actuator
Ⓔ	Mains cable
Ⓕ	Control box
Ⓖ	Cable lock actuators
Ⓗ	Cable lock battery cable

CAUTION!
Risk of malfunction
The system may not work properly
- Connect all functions before connecting the mains cable.
- Connect the hand control first. The connection at the control box is marked with “HB”.
- Connect the different actuators according to the schedule above.
- Check that all plugs are well connected and firmly pushed into the connection plug.
- Check that the cable locks are engaged in order for the cables to be secured in the control box.
- Connect the battery.
- Connect the mains cable and turn on the power.
- Control boxes must only be connected to the mains voltage specified on the label. See chapter “Electrical system” for more information.
- Make sure that the cables are not trapped, tensed or exposed to sharp objects when using the system.

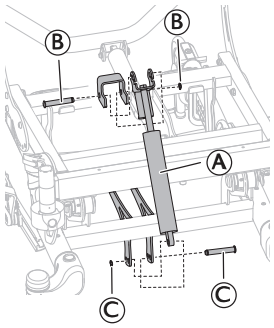
3.26 Assemble gas piston — Backrest and seat

WARNING!
Safety risk
The wheelchair may collapse
- — Be careful when removing the safety pins for the backrest or seat gas pistons.
- — Always reinsert and fasten the safety pins or the safety shackle when they have been removed.
- — Check that the safety pins or the lock shackle / loop is securely locked.

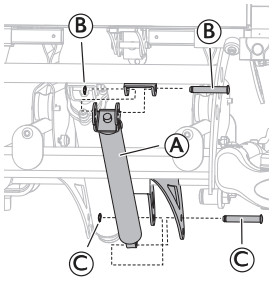
WARNING!
Risk of damage / risk of injury
The gas piston contains oil and gas under high pressure.
- — Do not open the gas piston.

3.26.1 Assembling gas piston to the chassis

Seat tilt



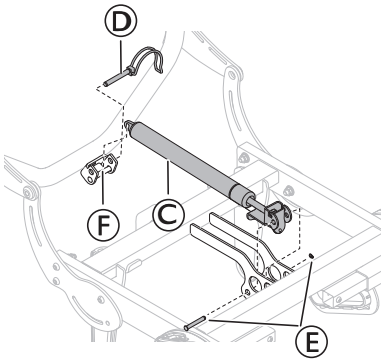
Dahlia 30



Dahlia 45

1. Assemble the gas piston Ⓐ to the front and the rear attachment.
2. Fixate the gas piston with the safety pin and the locking washer Ⓑ and Ⓒ.

Backrest



1. Assemble the gas piston Ⓒ to the front and the rear attachment.
2. Attach the gas piston to the safety pin on the rear attachment Ⓕ.
3. Fixate the gas piston with the safety shackle Ⓓ.
4. Fixate the gas piston in the front with the pin and locking washer Ⓔ.

3.26.2 Assembling wire for gas piston

WARNING!
Risk of entrapment
You could activate unintentionally the release of the piston rod when touching the elements of the wire and squeeze your fingers in the mechanism.
- — Take precautions when working on this area.



1. Place the wire Ⓐ as shown on the picture.
2. Make sure that the wire is fully stretched, straight backwards.
3. Place the wire in the attachment.

   There should not be any distance between the wire end Ⓒ and the front part of the attachment.

4. Attach the wire to the chassis with an attachment clip.
5. Fixate the wire with the nuts Ⓑ.

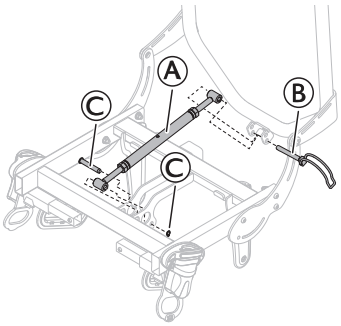
   Both nuts should be touching the wire attachment.

6. Tighten the nuts.

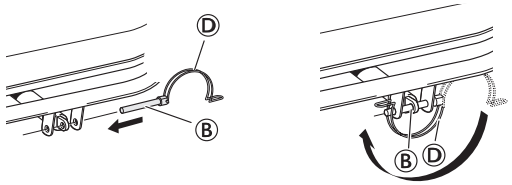
   10 mm fixed spanner

3.27 Mounting the Rigging screw

WARNING!
Safety risk
The wheelchair may collapse
- — Remember to always reinsert and fasten the safety pin when it has been removed.
- — Check that the lock shackle / loop is securely locked.



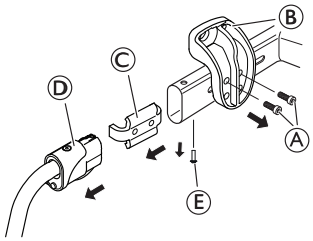
1. Attach the Rigging screw Ⓐ in the front and the rear attachments.
2. Fixate the Rigging screw Ⓐ in the rear attachment with the safety shackle Ⓑ.



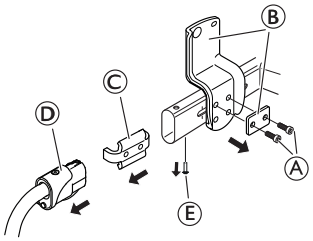
3. Close the safety shackle Ⓑ with the lock shackle Ⓓ to secure the Rigging screw Ⓐ.
4. Fixate the Rigging screw Ⓐ in the front attachment with the safety pin and the locking washer Ⓒ.

3.28 Changing the rearwheel attachment

Remove the rearwheel attachment



Low rearwheel attachment



High rearwheel attachment

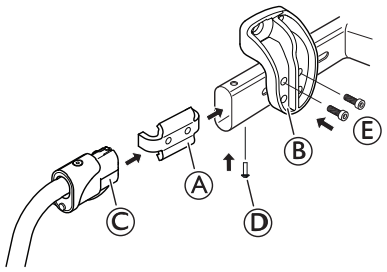
1. Loosen and remove the screw Ⓔ.
2. Remove the anti-tip deviceⒹ.
3. Loosen and remove the screws Ⓐ.

   When using the high rearwheel attachment, also remove the reinforcement plate.

4. Remove the attachment nut Ⓒ and the rearwheel attachment Ⓑ.

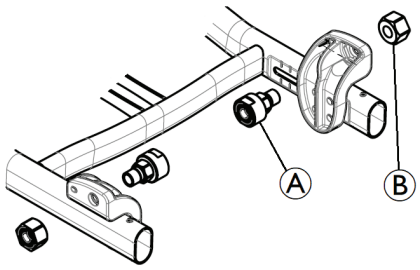
- 5 mm Allen key
- 25 mm Torx driver

3.29 Mounting the One-Arm Drive mechanism



1. Mount the rear wheel attachment nut Ⓐ.
2. Attach the rear wheel attachment Ⓑ and the screws Ⓔ to fixate the rear wheel attachment.
3. Tighten the screws Ⓔ with 22 Nm.
4. Mount the anti-tip device Ⓒ and the screw Ⓓ.
5. Repeat the procedure on the opposite side.

- 5 mm Allen key
- T25 Torx driver



6. Mount the axle brackets Ⓐ and the nuts Ⓑ.
7. Tighten the nuts with 45 0/+5 Nm.

32 mm fixed spanner

3.30 Removing the Rear Wheel with one-arm drive

WARNING!
Risk of injury
— Always remove the telescopic rear wheel shaft Ⓒ before removing the rear wheels.

WARNING!
Risk of injury
The wheels come off.
— Check that the rear wheel is securely locked in position! It should not be possible to remove the wheels when the removable axle button Ⓐ is inactivated. Test this by trying to pull the wheel off

CAUTION!
Risk of injury
Minor bruises, pain.
— Be careful not to get your fingers trapped between the rear wheel spokes and the three brackets of the outer handrim.

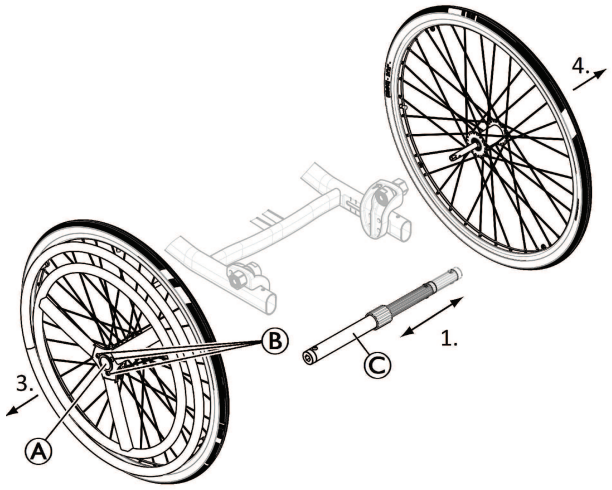
Disengaging and Engaging the Rear Wheel Shaft

To fold the wheelchair it is necessary to disengage the telescopic rear wheel shaft Ⓒ.

1. Disengage the telescopic shaft Ⓒ by sliding one part inside the other.
2. To facilitate this operation move the small handrim forwards to backwards.
3. Reverse procedure to engage the telescopic rear wheel shaft.

> **CAUTION!**
> **Risk of accident**
> — The telescopic rear wheel shaft Ⓒ is an integral part of the wheelchair and the user will be unable to propel the wheelchair without it.

Removing and Installing the Rear Wheel

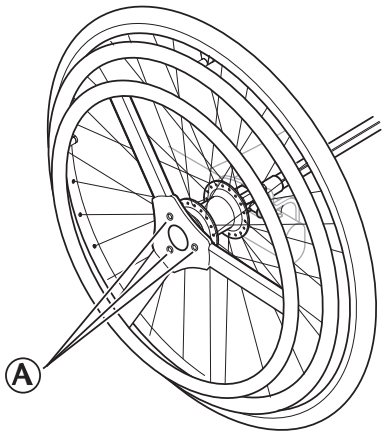


The removable and interchangeable rear wheels facilitate transport as well as change of the control side.

1. Remove the telescopic rear wheel shaft Ⓒ.
2. Press the removable axle button Ⓐ. Keep it pressed and pull the wheel outwards.
3. Remove the rear wheel.
4. Repeat procedure on the opposite side.
5. Reverse procedure to reinstall the rear wheels.

3.31 Changing the Handrim for One-Arm Drive

1.



Loosen the three screws Ⓐ and remove the handrim.

2. Turn the handrim around in order to increase/decrease the distance between handrims.
3. Re-mount the turned handrim.
4. Tighten the screws Ⓐ (2,5 0/+1 Nm) again.

	5 mm Allen key

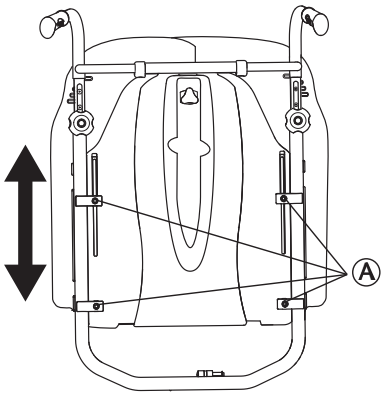
> **WARNING!**
> **Risk of injury**
> — Be careful if you remove the telescopic rear wheel shaft. Point it away from your body when you release the steel spring inside.

4 Settings and Adjustments

4.1 Backrest Plate

4.1.1 Height adjustment backrest plate

NOTICE!
Risk of damage
Poor functionality on the backrest.
— Any adjustments made to the backrest should be evaluated by trained personnel.



You can easily adjust the backrest plate (+130 mm).

1. Loosen the four screws Ⓐ.
2. Set the backrest plate to the required height.
3. Retighten the screws.

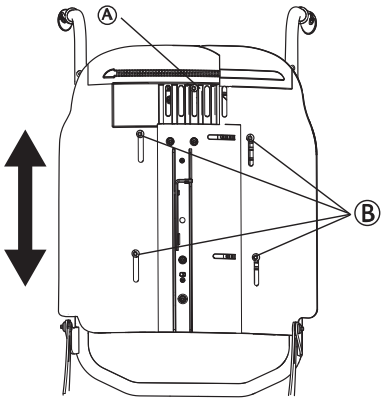
5 mm allen key

The height of the “Laguna” backrest plate is adjusted in the same way. Maximum height adjustment is 110 mm.

The “Laguna” backrest cushion is the only available cushion choice for the “Laguna” backrest plate.

Any adjustments made to the backrest should be evaluated by trained personnel.

CAUTION!
Risk of pinching
When adjusting the height these is a risk of pinching your finger.
— Be careful when adjusting the height.



Ⓐ	Upper screws for additional height adjustment
Ⓑ	Lower screws for additional height adjustment

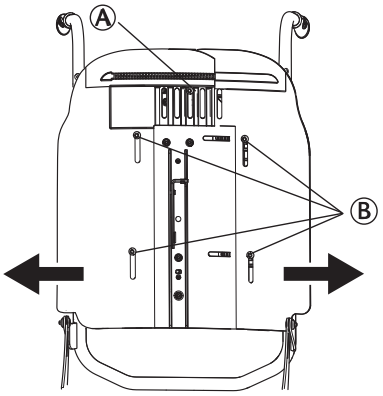
For additional height adjustment (50 mm):

1. Loosen screws.
2. Set the required height.
3. Retighten the screws.

5 mm Allen key

4.1.2 Width adjustment backrest plate

WARNING!
Risk of breakage
The backrest might brake if adjusted too wide.
— If you have seat width 490 mm (max seat width) the backrest should NOT be adjusted to the widest possibility (+100 mm).



5 mm Allen key

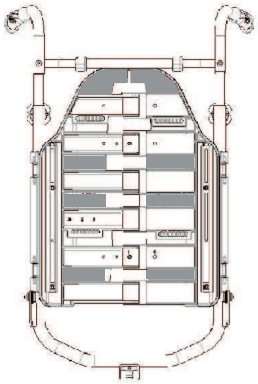
For width adjustment:

1. Remove the upper screw Ⓐ, and loosen the lower screws Ⓑ.
2. Adjust to the required width (+25 or 50 mm on each side).
3. Re-insert the upper screw and tighten.
4. Tighten the lower screws.

The “Laguna” backrest plate is not possible to adjust in width, only in height.

4.2 Special adaptation of Flex 3 backrest

WARNING!
Safety risk
— All changes to the back are seen as a special adaptation of the product. That means that the rules for special adaptation are in force. All adaptations must be documented and a risk asessment must be carried out. The adaptor is responsible for the adaptions.



1. Remove the width adjustment plates.
2. Remove the screws on the front and remove the front and back plates. The shaded areas indicates where drilling can be done. Max. diameter of drill hole is 6 mm. Use washers with the minimum 18 mm diameter beneath the nut on the inside of the screws.
3. Return the parts, re-insert the screws and tighten them with 3,2 Nm.

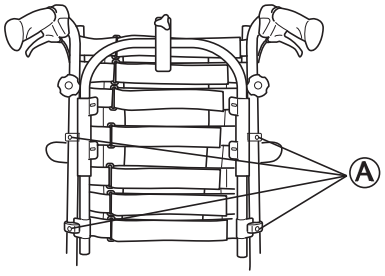
4.3 Tension adjustable backrest

4.3.1 Adjustment height — Tension adjustable backrest

There are two ways of adjusting the height for the tension adjustable backrest:

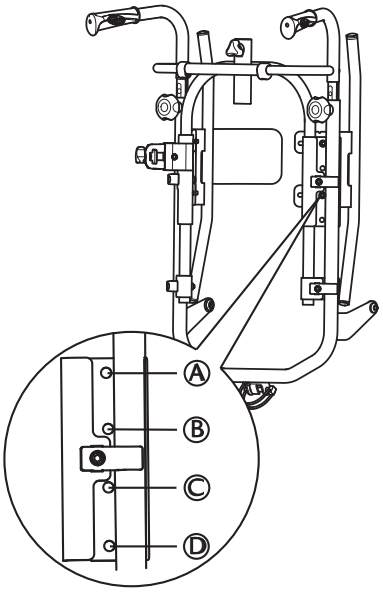
Height adjustment — alternative 1

You can easily adjust the tension adjustable backrest (max. +120 mm).



1. Loosen the four screws Ⓐ as shown above.
2. Set at the required height.
3. Retighten the screws.

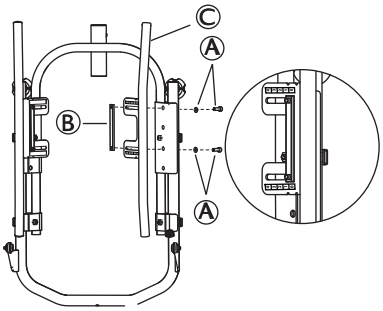
Height adjustment — alternative 2



Ⓐ to Ⓓ	Screws for alternative height adjustment

5 mm Allen key

An additional height adjustment can be made by mounting the backrest attachment either in position Ⓐ and Ⓒ or in position Ⓑ and Ⓓ on the backrest tubes, as shown in the picture above.



5 mm Allen key

1. Remove the screws and the washers Ⓐ, the long nut Ⓑ, and the backrest attachment Ⓒ.
2. Support nut Ⓑ, screws and washers Ⓐ in order to prevent them from falling to the ground.
3. When the position of the backrest attachment Ⓒ is changed, re-mount everything and tighten the screws.

4.3.2 Width adjustment — Tension adjustable backrest

NOTICE!
Risk of damage
Poor functionality on the backrest.
— Any adjustments made to the backrest should be evaluated by trained personnel.

The tension adjustable backrest must be adapted and adjusted according to the individual needs of the user. The following steps guides you through the adjustment of the backrest.

Turning of the backrest tubes

The tension adjustable backrest is designed with different angles as shown in picture Ⓐ and Ⓑ below. This allows for different adjustments according to how the backrest is mounted. Position Ⓐ (the part of the backrest with the longer angle turned upwards) gives the user more room for the shoulder area while position Ⓑ gives more room for the bottom.

Determine if the user needs more space in the shoulder area or in the bottom area. The design of the backrest tubes with different angles allows for these adjustments.

1. Loosen and remove screws on both sides.
2. Turn the backrest.
3. Reinsert the screws.
4. Make sure to fasten properly.

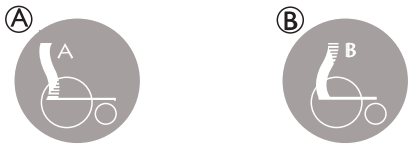
The user can not sit in the chair when the backrest tubes are removed.



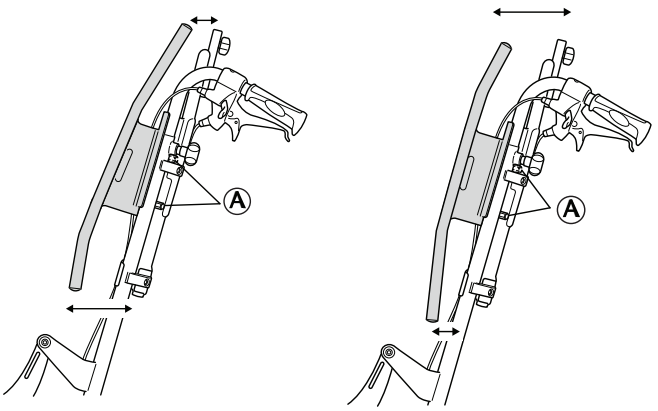
The backrest tubes have a width adjustment of 25 mm. The upper and lower parts of the tubes can be adjusted individually to accommodate for different needs. The outward movement will embrace the user and offer lateral support.

Backrest positioning

Angle the backrest- and seat tilt a couple of degrees in order to obtain a stable seating position for the user.



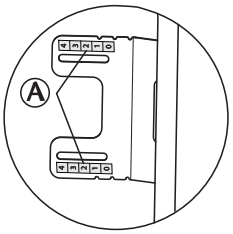
Ⓐ	Position A — The longer angle of the backrest is turned upwards.
Ⓑ	Position B — The longer angle of the backrest is turned downwards.



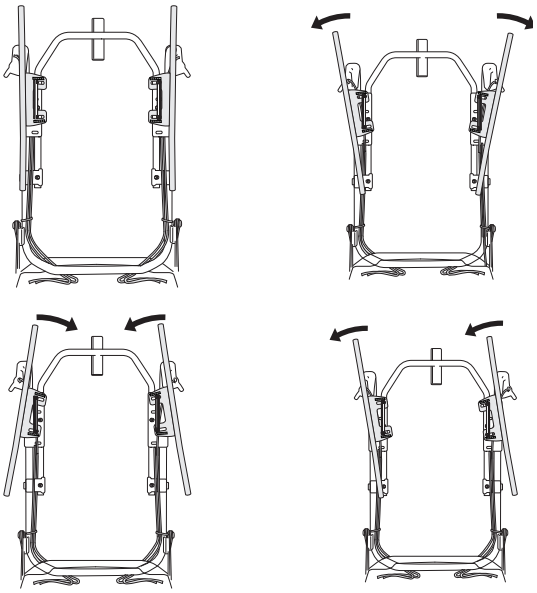
Ⓐ	Screws for adjustment of the backrest tubes.

5 mm Allen key

4.3.3 Angle adjustment — Tension adjustable backrest



The backrest tubes can be angled individually, the indication labels Ⓐ on the backrest tubes are a help in order to get the same angle on both sides.

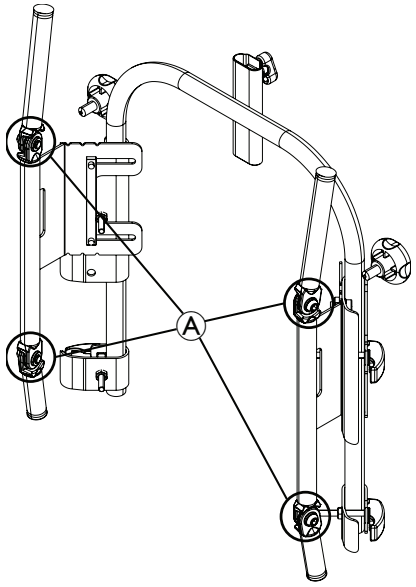


1. Move the user from the chair.
2. Remove the backrest cover and loosen the hook and loop straps - the straps should slack about 5 cm.
3. Loosen the backrest tubes and adjust them in order to fit the shape of the user.
4. Retighten the screws after adjustment.

Flex 3+ — Extra tube angle adjustment

The following information is only applicable to the Flex 3+ backrest.

The flex 3+ tension adjustable backrest allows, on top of all previously mentioned adjustments, to adjust 4 additional tube angles, accommodating even more specific patient back shapes.

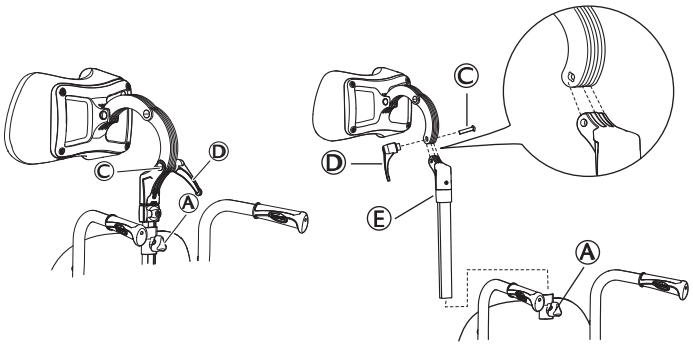


5 mm Allen key

1. Loosen the 4 screws Ⓐ.
2. Adjust tube angles according to the required orientation.
3. Retighten the screws.

4.4 Positioning the headrest / neckrest to the front

This additional depth adjustment will move the headrest another 7 cm forward.



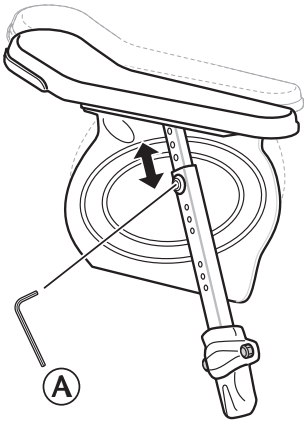
You can also adjust the angle and depth by turning the attachment for the headrest / neckrest.

1. Loosen the handwheel Ⓐ.
2. Remove the headrest / neckrest.
3. Loosen the handle Ⓓ.
4. Remove the screw and the handle.
5. Rotate the headrest / neckrest attachment pole including the attachment Ⓔ.
6. Return the headrest / neckrest to the attachment.

   Note that the screw to the headrest / neckrest attachment Ⓒ and the handle Ⓓ must be mounted on the opposite side due to the groves in the screw hole.
7. Return the headrest / neckrest to the attachment on the backrest.
8. Retighten the handle Ⓓ and the handwheel Ⓐ.

4.5 Armrest

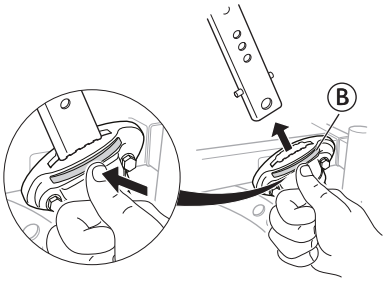
4.5.1 Adjusting the armrest height



1. Adjust the height of the armrests and / or side rests by turning the screw or the hand wheel Ⓐ depending on which type of armrest you have chosen.
2. Set the required height.
3. Retighten the screw / hand wheel.

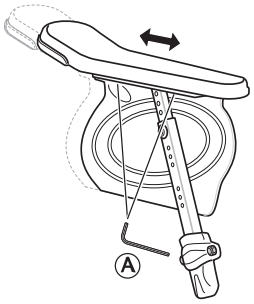
CAUTION!
Risk of injury or property damage
— Be careful not to trap your fingers between the armrest / side support pad and the armrest attachment when adjusting the armrest height.

- Using low armrests, or adjusting the armrests in low heights, may cause conflicts with the rear wheels when tilting the chair.
- The longer armrest (330 mm), is only available with the “Ducktail” armrest pad.



- The armrests have an auto-lock to prevent involuntary movement or detachment. Press the button Ⓑ on the armrest to release before removing or adjusting the armrest.

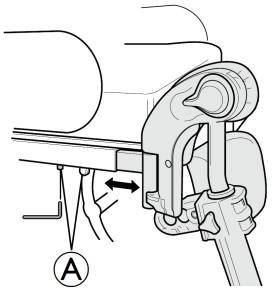
4.5.2 Adjusting the armrest/side rest depth



1. Loosen the screw or the handwheel Ⓐ, depending on which type of armrest you have chosen
2. Set the pad and or the side rest in the required position.
3. Retighten the screw / handwheel.

> **NOTICE!**
> **Risk of poor adjustment**
> There must not be any pressure on the armrest while adjusting the screw.

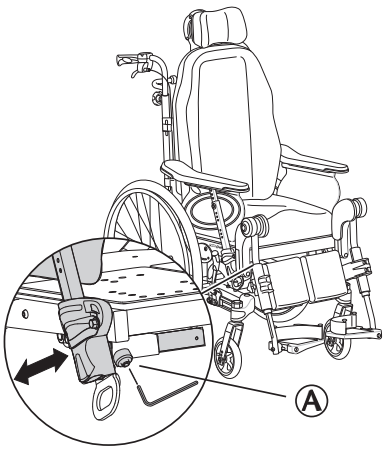
4.6 Adjusting the seat depth



1. Remove the seat cushion.
2. Loosen the screws Ⓐ with an 5 mm Allen key.
3. Move the front edge of the seat forwards or backwards.
4. Retighten the screws Ⓐ (5–6 Nm).
5. Put the seat cushion back.

> The distance between the back of the knee/calf and the cushion should be as small as possible, but without contact.

4.7 Adjusting the seat width



1. Loosen the screw Ⓐ with an allen key.

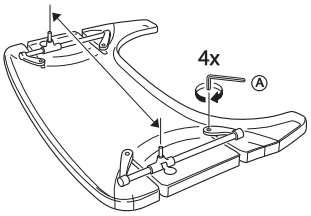
	5 mm Allen key

2. Adjust the armrest to the desired width.
3. Retighten the screw Ⓐ.

> **NOTICE!**
> Refer to the user manual of this product for information on:
> — There must not be any pressure on the armrest / legrest while adjusting the screw.

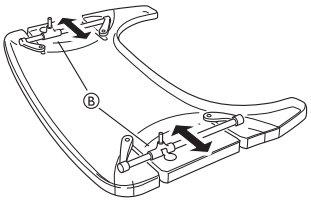
4.8 Adjusting the width of the table tray

1.



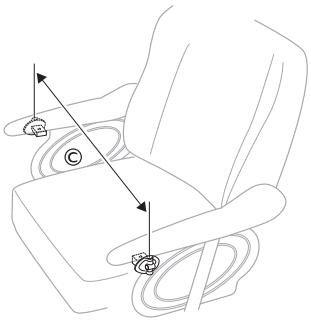
Loosen the 4 screws Ⓐ.

2.



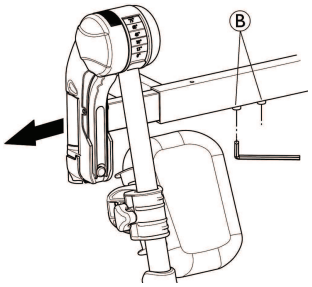
Adjust the attachment bars Ⓑ in order to fit the table to the desired width. Retighten the screws.

3.



Fit the table to fit the width of the chair Ⓒ.

4.9 Adjusting the width of the leg rest



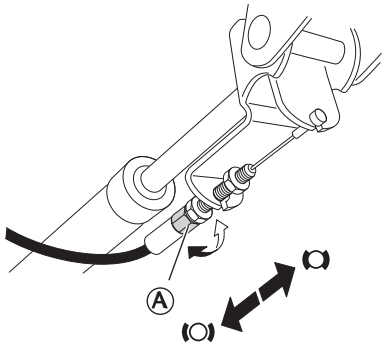
1. Loosen the screws Ⓐ.

	5 mm Allen key

2. Adjust the leg rests to the desired width.
3. Retighten the screws.

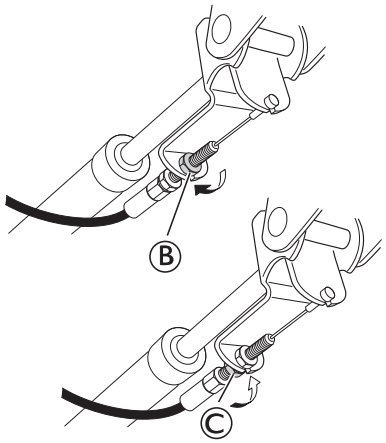
4.10 Adjusting the user operated tilt

1.



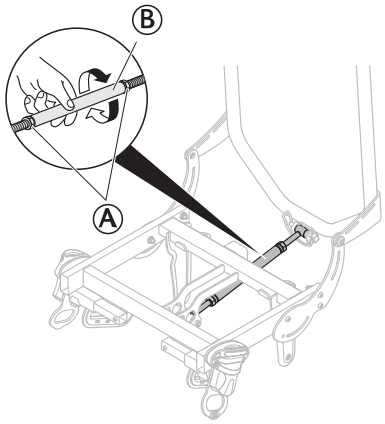
Adjust the tilt resistance with the adjustment nut Ⓐ on the wire.

2.



Fixate the wire in the holder with the fixation nut Ⓑ. When the desired tilt resistance is achieved, fixate the position with the fixation nut Ⓒ.

4.11 Backrest angle — rigging screw



1. To adjust the angle of the backrest, first loosen nuts Ⓐ on the rigging screw.

	17 mm fixed spanner

2. Turn the metal tube Ⓑ to set the desired angle for the back.
3. Retighten the nuts.

CAUTION!
Risk of discomfort for the user
The low pivot point causes shearing when the back is reclined, this might result in discomfort for the user.
— Make sure that the user is well positioned after each adjustment.

4.12 Foot box

WARNING!
Risk of injury
— When using the foot box, the settings and adjustments of the option and the wheelchair, must always be performed by an authorized personnel or competent person with knowledge of seating and positioning.

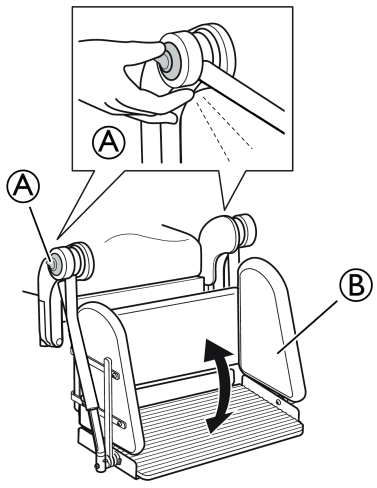
WARNING!
Risk of injury
The user might fall when getting in and out of the chair.
— When using the foot box, it is recommended to use a lifter.

WARNING!
Risk of injury
Risk of injury and/or damage to the product.
— Hold the foot box to secure it before releasing the levers, otherwise it will fall down.

The foot box should not be removed from the wheelchair during use, unless it needs to be replaced.

The adjustment of the foot box must be carried out by two persons.

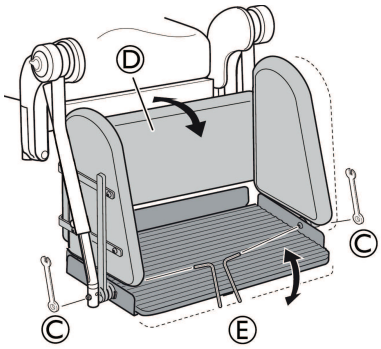
Position adjustment



1. Press the release handles Ⓐ.
2. Adjust the position of the foot box Ⓑ.
3. Let go of the release handles Ⓐ.

Make sure that the foot box is locked in position.

Angle adjustment



1. Loosen the nuts Ⓒ.
2. Adjust the foot box Ⓓ to the desired angle.
3. Retighten the nuts Ⓒ.

Fixate the screw with the Allen key Ⓔ and loosen the nut with the spanner Ⓒ.

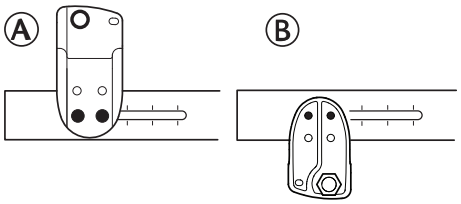
10 mm fixed spanner + 4 mm Allen key

4.13 Rear Wheel Attachment

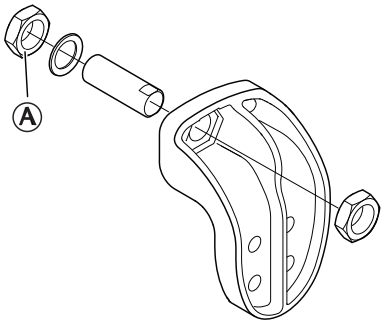
WARNING!
Safety risk
— When you have fitted the wheels in the correct position, it is important that you check thoroughly that the nuts and screws are tightened securely. This is important for your own safety!

WARNING!
Risk of tipping
The risk of tipping increases when the rear wheels are moved forward.
— Always use anti-tip devices.

Standard position



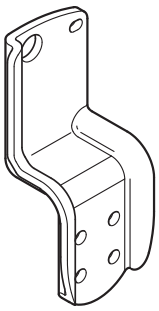
Position Ⓐ is the standard position for 20–24” rear wheels.
Position Ⓑ is the standard position for 16” rear wheels.



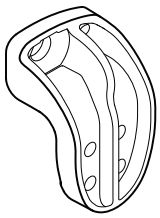
24 mm fixed spanner

4.14 Adjusting the seat height and balance point with the rearwheel attachment

For Dahlia, there are two different sizes of rearwheel attachment:



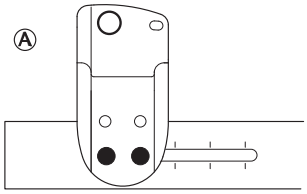
High

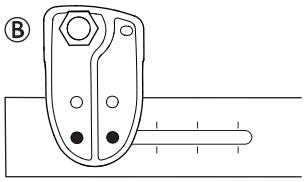


Low

The position of the rearwheel attachment can be adjusted, turned and changed in order to change the balance point and the seat height of the chair. The following sections will show and explain the different options of rearwheel position.

4.14.1 Rearwheel attachment — standard position



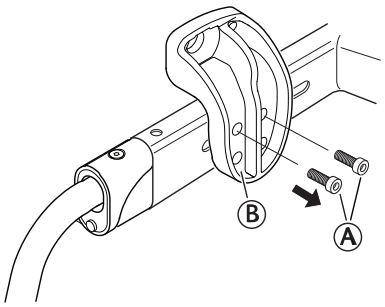


The standard position for the high rearwheel attachment Ⓐ and the low rearwheel attachment Ⓑ is in the most outer position. This is the position of the rearwheel when receiving the product. 3.11.2 Turning the rearwheel.

4.14.2 Turning the rearwheel attachment

It is only possible to turn the low version of the rearwheel attachment, not the high version.

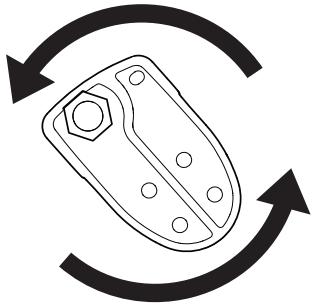
1.



Loosen and remove the attachment screws Ⓐ from the rearwheel attachment Ⓑ.

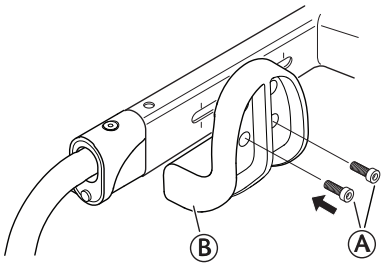
5 mm allen key

2.



Turn the rearwheel attachment around.

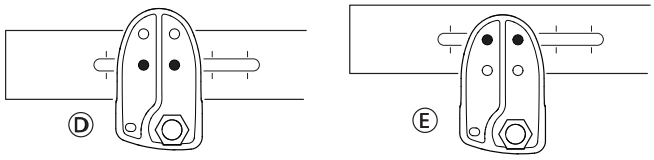
3.



Re-attach the rearwheel attachment Ⓑ on the same side.

4. Retighten the screws Ⓐ with 22 Nm.
5. Repeat the procedure on the opposite side.

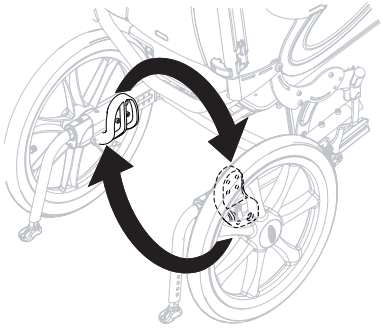
5 mm allen key



When turning the rearwheel attachment, you can mount it either in position Ⓓ or position Ⓔ. Position Ⓓ gives a lower seat height and position Ⓔ gives a higher seat height.

See section: “Seat height tables” for more information about position of the rearwheel attachment and seat heights.

4.14.3 Rearwheel attachment mounted on the opposite side

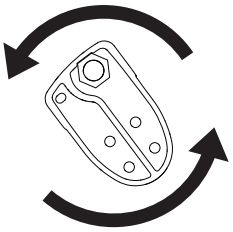


The rearwheel attachment can also switch sides in order to give more adjustment possibilities. By doing this, the seat height and the placement of the rearwheels can be changed even more.

See section: “Changing the rearwheel attachment” for instructions about how to demount and remount the rearwheel attachment.

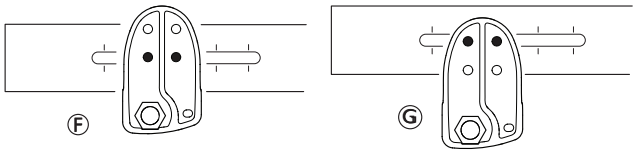
Remount the rearwheel attachment on the opposite side instead of on the same side.

4.14.4 Rearwheel attachment turned — opposite sides



When the rearwheel is mounted on the opposide side compared to the standard position, it can also be turned to give further adjustment possibilities.

See section: “Turning the rearwheel attachment” for instructions about how to demount and remount the rearwheel attachment.

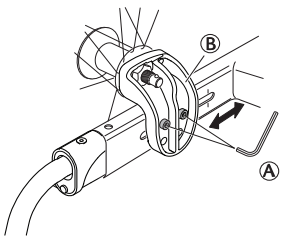
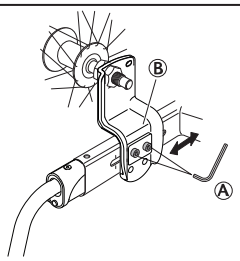


First position Ⓕ, gives a lower seat height and the second position Ⓖ gives a higher seat height.

See section: “Seat height tables” for more information about position of the rearwheel attachment and seat heights.

4.14.5 Rear wheel attachment — depth adjustment

WARNING!
Risk of tipping
When the rear wheel attachment is moved forward the centre of gravity will change. The risk of tipping increases the more the chair is tilted.
— Be careful when tilting the wheelchair if the rear wheel attachment is moved forward.

	
Low rearwheel attachment	High rearwheel attachment

1. Loosen the two screws Ⓐ.

5 mm allen key

2. Move the rear wheel attachment Ⓑ backwards or forwards.
3. Retighten the screws Ⓐ with 22 Nm for the low attachment and 18–24 Nm for the high attachment.

WARNING!
Risk of imbalance
— Make sure that the screws are tightened properly after adjustment (22 Nm for the low attachment and 18–24 Nm for the high attachment)).

CAUTION!
Risk of pinching
When the rear wheel attachment is adjusted to the most forward position and large rearwheels are used, there is a risk of pinching the fingers as the distance between the rear wheel and the armrest is too small.
— Move the rear wheel attachment backwards in order to reduce the risk.

4.15 Castor attachment

4.15.1 Removing and Installing the Fixed Front Castors

WARNING!
Risk of overturning
If a front castor is not properly assembling, the front castor can become loose during use. This can lead to overturning.
— Always ensure that the front castors are properly assembling whenever you install a front castor.

Removing the fixed front castors

1. Remove the castor knob.
2. Loosen and remove the nut and the two spacers.
3. With one hand, hold the wheelchair upright.
4. With the other, remove the front castor out of the castor axle bracket.

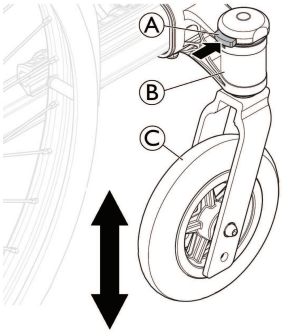
19 mm fixed spanner

Installing the fixed front castors

1. With one hand, hold the wheelchair upright.
2. With the other, push the castor axle into the castor axle bracket up to the stop.
3. Install the two spacers and tighten the nut with 40 +/- 2 Nm.
4. Make sure that the front castor axle is properly assemble.
5. Install the castor knob.

4.15.2 Installing and Removing the Detachable Front Castors (if so equipped)

WARNING!
Risk ofoverturning
If the locking mechanism of a front castor is not fully engaged, the front castor can become loose during use. This can lead to overturning.
— Always ensure that the front castors are fully engaged whenever you install a front castor.



Installing the front castors

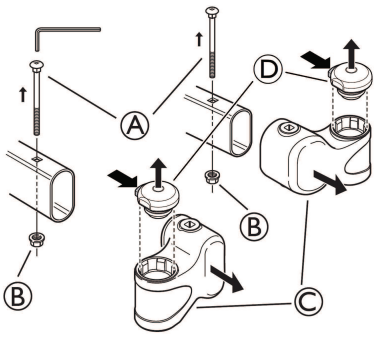
1. With one hand, hold the wheelchair upright.
2. With the other, push the castor axle into the castor axle bracket Ⓑ up to the stop.
3. Make sure there is an audible click and ensure that the front castor Ⓒ is secure.

Removing the front castors

1. With one hand, hold the wheelchair upright.
2. With the other, using your thumb, press the locking mechanism Ⓐ in top of the castor axle bracket Ⓑ.
3. Keep it pressed and pull the front castor Ⓒ out of the castor axle bracket Ⓑ.

4.15.3 Adjusting the castor attachment

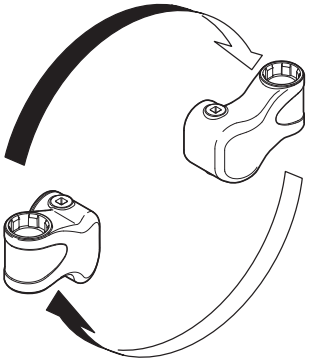
1.



a. Loosen and remove the screws Ⓐ and the nuts Ⓑ. Remove the castor attachment Ⓒ on both sides.
b. Remove the locking mechanism Ⓓ and the lower bearings on both sides, for detachable version only.

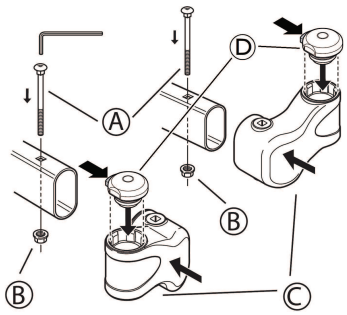
4 mm Allen key /10 mm fixed spanner

2.

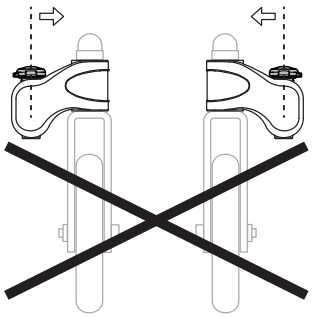


Turn the castor attachment and switch sides.

3.



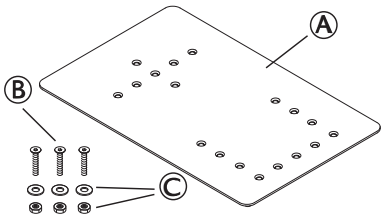
a. Re-mount the turned castor attachment Ⓒ to the opposite d side. Re-mount the screws Ⓐ and the nuts Ⓑ with 9 Nm.
b. Insert the bearings in the lower position and strongly engage the locking mechanism Ⓓ to the opposite side, for detachable version only.



WARNING!
Risk of tipping
— Make sure that the castor attachments are mounted, correctly, the castors must be placed on the outside of the frame. If the castor attachments are turned, they must be mounted to the opposite side, with the castors facing outwards.

4.16 Mounting the seat plate extension

The seat plate extension kit can be used in order to increase the width and depth of the seat plate according to the need of the user.



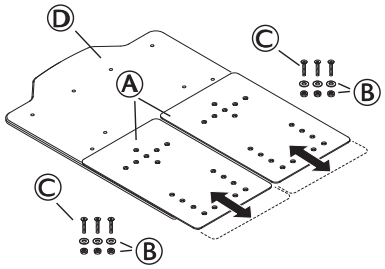
The seat plate extension kit consists of two extension plates Ⓐ and screws, washers and nuts Ⓑ to fixate the extension plates.

The following section will show some examples of how the seat plate extension kit can be used.

The seat 2 seat plate extensions can be combined in many ways in order to give extra width / depth depending on the need of the user.

Screwdriver PH2 / fixed key 7 mm

4.16.1 Seat plate extension to the front

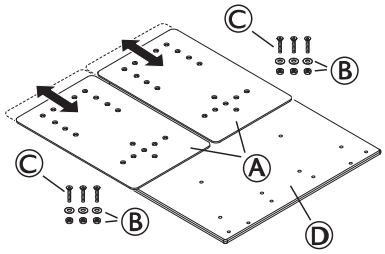


1. Remove the seat cushion.
2. Place the extension plates Ⓐ on the front of the seat plate Ⓓ.

   The extension plate can be adjusted 25 mm or 50 mm forward.

3. Attach the screws Ⓒ on the upper side of the seat plate. Attach the washers and nuts Ⓑ under the seat plate to fixate the extension kit.
4. Tighten the screws.

4.16.2 Seat plate extension to the rear

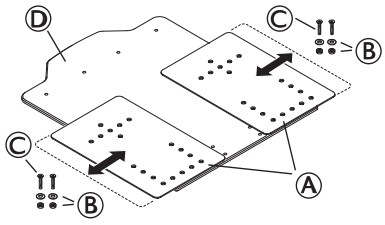


1. Remove the seat cushion.
2. Place the extension plates Ⓐ on the front of the seat plate Ⓓ.

   The extension plate can be adjusted 25 mm, 50 mm or 75 mm rearward.

3. Attach the screws Ⓒ on the upper side of the seat plate. Attach the washers and nuts Ⓑ under the seat plate to fixate the extension kit.
4. Tighten the screws.

4.16.3 Seat plate extension sidewise



1. Remove the seat cushion.
2. Place the extension plates Ⓐ on the front of the seat plate Ⓓ.

   The extension plate can be adjusted 25 mm or 50 mm sidewise.

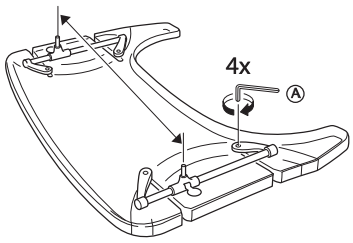
3. Attach the screws Ⓒ on the upper side of the seat plate. Attach the washers and nuts Ⓑ under the seat plate to fixate the extension kit.
4. Tighten the screws.

In order to use the extension kit in this position, the width of the armrests also needs to be increased. See section: “Width adjustment seat” for instruction on how to change the armrest width.

4.17 Adjusting the width of the table tray

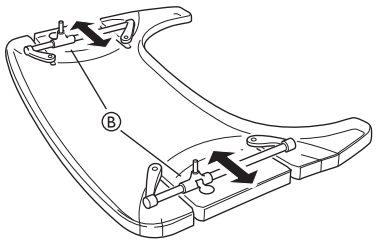
5 mm Allen key

1.



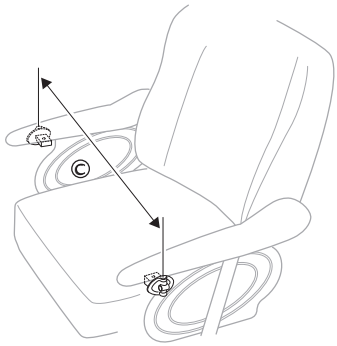
Loosen the 4 screws Ⓐ.

2.



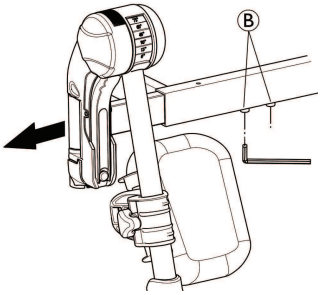
Adjust the attachment bars Ⓑ in order to fit the table to the desired width. Retighten the screws.

3.



Fit the table to fit the width of the chair Ⓒ.

4.18 Adjusting the width of the leg rest



1. Loosen the screws Ⓐ.

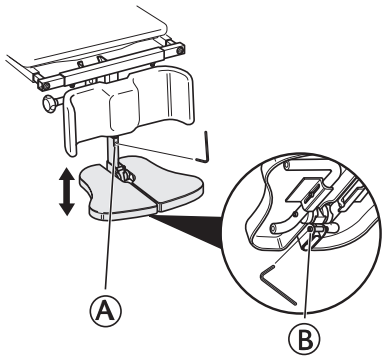
   5 mm Allen key

2. Adjust the leg rests to the desired width.
3. Retighten the screws.

4.19 Central legrest

4.19.1 Adjusting the height of the central legrest

You can adjust the height of the legrest in the following two ways:



Alternative 1:

1. Loosen the screw Ⓐ on the front of the telescopic tube.

   5 mm Allen key

2. Place the legrest in the desired position.
3. Secure the legrest into place using the Allen screw.

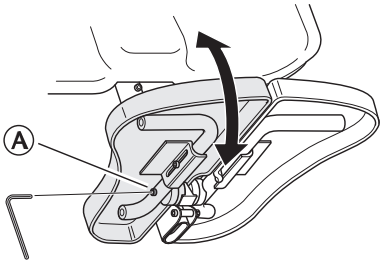
Alternative 2:

1. Loosen the Allen screw Ⓑ by the legrest attachment.

   5 mm Allen key

2. Adjust to the desired height.
3. Retighten the screw

4.19.2 Adjusting the foot angle of the central legrest



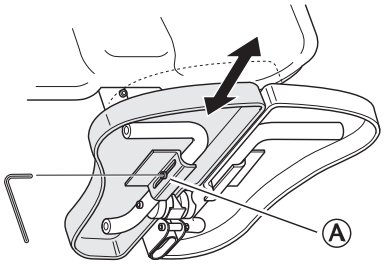
Ⓐ Screw for foot angle adjustment

1. Loosen the rear screw Ⓐ on the side of the tube.

   5 mm Allen key

2. Adjust the legrest to the desired angle.
3. Retighten the screw.
4. Repeat this procedure to adjust the angle of the other foot plate.

4.19.3 Adjusting the depth of the central legrest

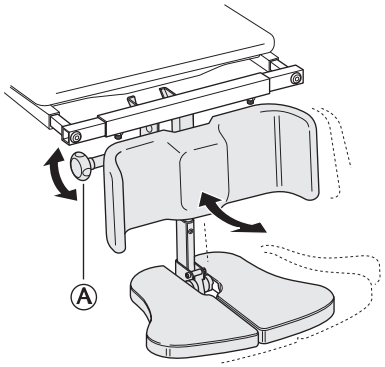


1. Loosen the frontal screw Ⓐ on the side of the tube.

5 mm Allen key

2. Adjust the depth of the foot plate.
3. Tighten the screw Ⓐ when you have found the desired depth.
4. Repeat this procedure to adjust the depth of the other foot plate.

4.19.4 Adjusting the angle of the central legrest



1. Loosen the adjustment knob Ⓐ.
2. Hold the foot plate with the other hand.
3. Adjust to the appropriate leg angle.
4. Retighten the knob.

WARNING!
Risk of trapping fingers
When adjusting the foot plate, the fingers might get trapped.
— Loosen the adjustment knob with one hand and hold the foot plate with the other hand to avoid trapping yours or anyone else's fingers.

CAUTION!
Risk of damage
The legrest might cause damage to the floor.
— When the seat is tilted forwards on a chair with a long legrest length and low seat height, there is a risk of the legrest hitting the floor and causing damage.

4.20 Adjusting the leg rests

To adjust the leg rests, refer to the User Manual paragraphs:

1. Swing away, angle adjustable leg rest.
2. Swing away leg rest (fixed).

5 mm Allen key

4.21 Assemble the Posture Belt for Positioning

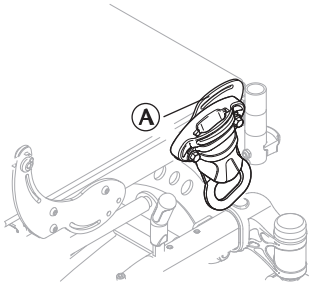
Belts/harnesses which are CE-marked for the purpose of using on wheelchairs, can be mounted on the chair with preserved CE-marking. The belt/harness should be fitted by the responsible prescriber and be mounted by a qualified technician. However, when using the wheelchair as a seat in a motor vehicle, Invacare's original posture belt must be used in addition to, but never as a substitute for an approved passenger restraint system (3-point belt)!

The purpose of using the posture belt as a positioning help is to position the user and to give him / her a better posture.

The posture belt should be placed in the front attachment bracket when used for positioning of the thighs/knees.

The posture belt should be placed in the lower slot on the backrest attachment bracket when used for positioning of the thighs.

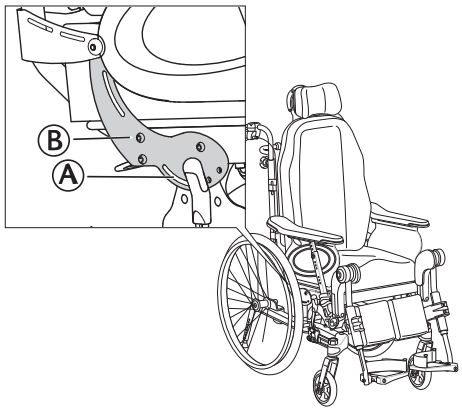
4.21.1 Assemble posture belt to front attachment



When using the posture belt for positioning of the knees, the front attachment slot Ⓐ can be used.

WARNING!
Risk of injury
— The attachment Ⓐ must not be used for safety belts when transferring the user in a vehicle.

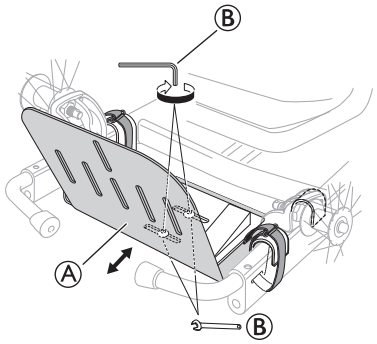
4.21.2 Assemble posture belt to rear attachment



When using the posture belt for positioning of the thighs, the attachment slot Ⓐ on the backrest attachment Ⓑ can be used.

WARNING!
Risk of injury
— The attachment slot Ⓐ must not be used for safety belts when transferring the user in a vehicle.

4.22 Adjusting the width of the accessory tray

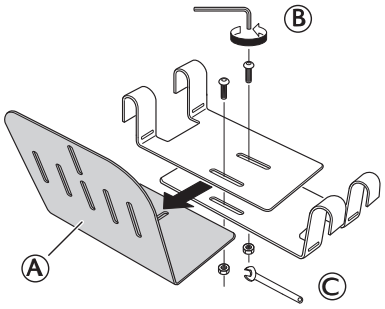


1. Loosen the 2 screws and nuts Ⓑ on the accessory tray Ⓐ, but do not remove them.
2. Adjust to the desired depth.
3. Retighten the screws again.

- 5 mm Allen key
- 13 mm fixed spanner

4.23 Adjusting the depth of the accessory tray

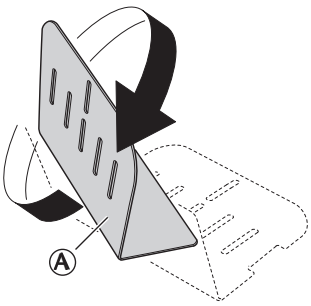
1.



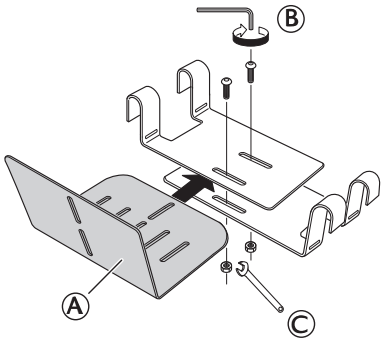
Loosen the screws Ⓑ and the nuts Ⓒ and remove the main plate Ⓐ.

- 5 mm allen key
- 13 mm spanner

2.



Turn the main plate Ⓐ 180°.



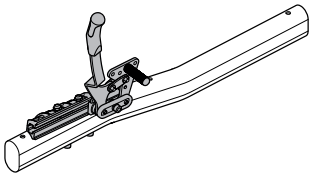
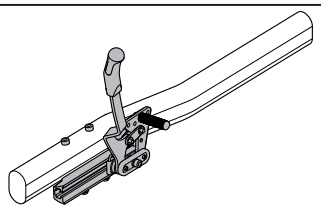
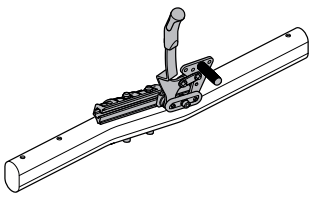
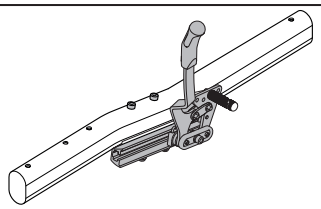
Re-mount the turned main plate Ⓐ and retighten the screws Ⓑ and nuts Ⓒ.

In this position, the anti-tip device can not be folded.

4.24 Brake attachment

WARNING!
Poor brake effect
— After every adjustment of the brake, make sure to adjust and test the brake effect.
— See *4.26 User brake — adjustment, page 39* for more information.

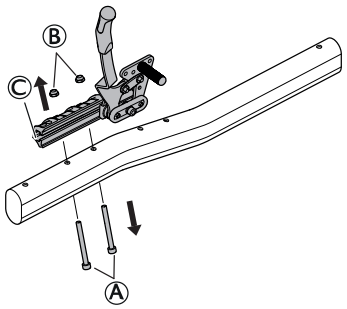
The brake attachment can be mounted in four different positions:

Pos 1 — 16”–22” wheels	Pos 2 — 22”-24” wheels
	
Pos 3 — 16”-20” wheels	Pos 4 — 16”-20” wheels
	

See “Seat height tables” in section “Technical Data” for a more detailed information.

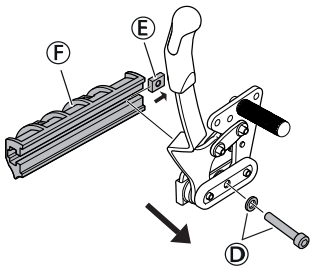
Change position

Change position from an upper placement of the attachment (pos 1 and 3), to a lower placement (pos 2 and 4):



1. Loosen and remove the screws Ⓐ and the nuts Ⓑ.
2. Remove the brake attachment with the brake Ⓒ from the chassis.

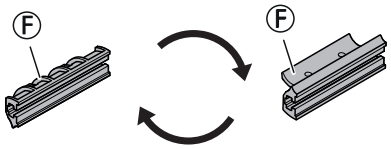
6 mm Allen key



3. Loosen and remove the screw and the washer Ⓓ.

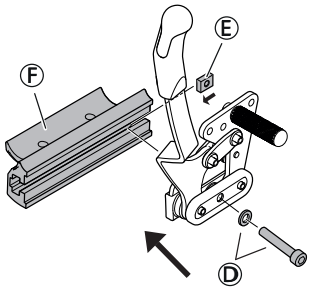
6 mm Allen key

4. Remove the brake from the brake attachment Ⓕ.
5. Be careful not to loose the nut Ⓔ which is located inside the brake attachment Ⓕ.

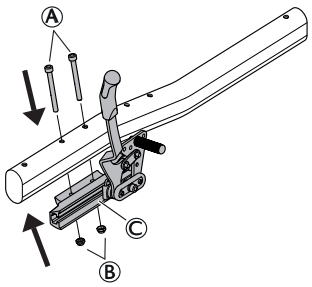


6. Turn the brake attachment Ⓕ 180 degrees.

6 mm Allen key



7. Re-mount the brake on the turned brake attachment Ⓕ.
8. Remember to re-insert the nut Ⓔ if this was removed from the attachment.
9. Re-mount the screw and the washer Ⓓ.
10. Tighten the screw with 10 Nm.



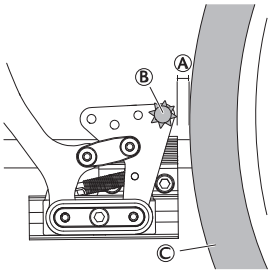
11. Re-mount the brake and the attachment C on the lower position on the chassis.
12. Re-mount the screws Ⓐ and the nuts Ⓑ.
13. Tighten the screws with 5 Nm.

6 mm Allen key

When changing the position from pos 1–3 or pos 2–4, steps 3–10 are excluded.

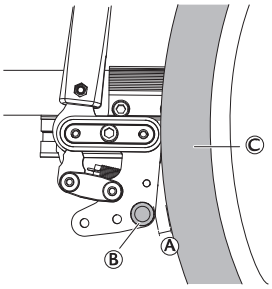
4.25 Adjusting the brake effect

Brake type 1



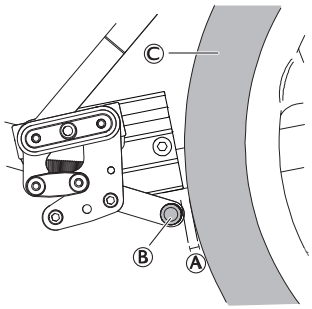
The distance Ⓐ between the pin Ⓑ and the tire Ⓒ should be max. 2 mm.

Brake type 2 (not available on all models)



The distance Ⓐ between the pin Ⓑ and the tire Ⓒ should be max. 15 mm.

Brake type 3 (16” wheels)

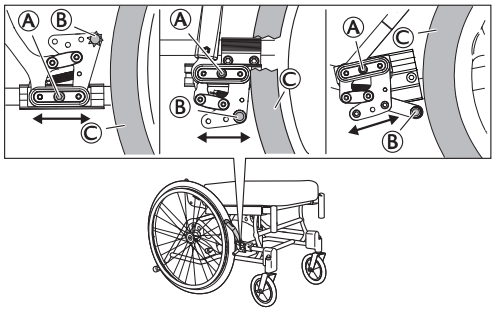


The distance Ⓐ between the pin Ⓑ and the tire Ⓒ should be max. 6 mm.

4.26 User brake — adjustment

To attain the correct braking effect, the brake pin should press into the tire when you apply the brake. The brake may therefore require depth adjustment.

WARNING!
Risk of reduced brake effect
— Incorrect setting or use of the brake reduces the braking effect.



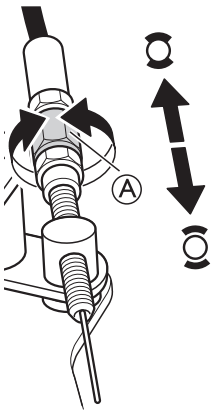
5 mm Allen key

1. Loosen the screw Ⓐ.
2. Move the brake to the required position.
3. Retighten the screw Ⓐ.

CAUTION!
Risk of trapping fingers
— Be careful not to trap your fingers between the brake pin Ⓑ and rear wheel Ⓒ.

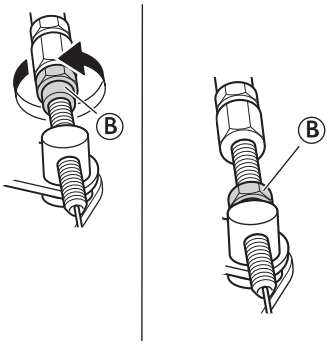
4.27 Drum brake — adjustments

1.



Adjust the brake effect with the adjustment nut Ⓐ on the wire.

2.

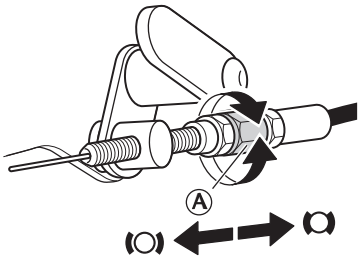


When the desired brake effect is achieved, fixate the brake wire with the fixation nut Ⓑ.

WARNING!
Risk of injury
Poor brake effect.
— Check the brake effect after mounting or adjusting the brake.

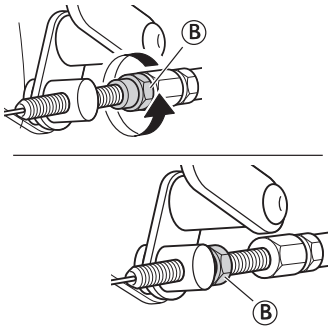
4.28 Foot maneuvered brake — adjustments

1.



Adjust the brake effect with the adjustment nut Ⓐ on the wire.

2.



When the desired brake effect is achieved, fixate the brake wire with the fixation nut Ⓑ.

WARNING!
Risk of injury
Poor brake effect.
— Check the brake effect after mounting or adjusting the foot maneuvered brake.

5 Maintenance

5.1 Safety information

Regular checks and maintenance of the wheelchair ensure the user's safety and the expected lifetime of the chair.

5.2 Maintenance Electrical Version

5.2.1 General

The electrical products are closed units and require no internal maintenance.

CAUTION!
Risk of damage to the product
- The plastic parts in the system cannot tolerate cutting oil.
- Do not use chemicals, inspect the system yearly for damage and wear.
- Do not use strong solvents, basic or alkaline liquids.
- The system must be cleaned at regular intervals to remove dust and dirt.
- The system must be inspected at regular intervals for mechanical damages, wear and breaks.
- The system must be inspected at attachment points, wires, piston rods, cabinets and plugs.

5.2.2 Battery

The electrical products are closed units and require no internal maintenance.

CAUTION!
Risk of damage to the product
- Handle the battery carefully.
- The battery should be replaced after 4 years at the latest depending on the usage frequency.
- For an optimum lifetime, the product must be connected to the mains voltage as often as possible. It is recommended to load the battery at least every 3rd month.
- Test the battery function at least once a year.

5.3 Flat tire

In case of a tire puncture consult a suitable workshop (e.g. bike repair shop, bicycle dealer ...) to have the tube replaced by a skilled person.

5.4 Cleaning

- Wipe metal parts and the upholstery regularly with a damp cloth.
- A mild detergent may be used.
- If necessary, the upholstery can be washed at 60º C.
- Normal washing powder/liquid may be used.

If possible, always overlap hook and loop strips (the self-gripping parts) when washing, to minimize lint and thread build-up on hook strips and prevent damage to upholstery fabric by these.

5.5 Washing

1. Remove all loose and removable covers and wash them in a washing machine according to the washing instructions for each cover.
2. Remove all padded parts such as seat cushions, armrests, headrest or neckrest with fixed padded parts, calf pads and so on and clean them separately.

   The padded parts can not be cleaned with a high-pressure cleaner or water jet.
3. Spray the wheelchair chassis with detergent, for example a car-cleaning agent with wax, and leave on to work.
4. Rinse the wheelchair chassis with a high-pressure cleaning or ordinary jet of water depending on how dirty the wheelchair is. Do not aim the jet towards bearings and draining holes. If the wheelchair chassis is washed in a machine the water must not be hotter than 60º C.

   Only use water and soft soap to clean the table.
5. Leave the wheelchair to dry in a drying cabinet. Remove parts where water has collected for example in end tubes, ferrules etc. If the wheelchair has been washed in a machine, blow-drying with compressed air is recommended.

5.5.1 Multi stretch polyurethane (PU) coated fabric

Lighter stains on the fabric may be neutralized with a soft damp cloth and some neutral detergent. To neutralize larger, more persistent stains, wipe the fabric with alcohol or turpentine substitutes, and wash with hot water and a neutral detergent.

The fabric can be washed at temperatures up to 60º C. Normal detergents can be used.

All parts of the wheelchair with multi stretch polyurethane (PU) coated fabric upholstery, such as armrest pads, calf pads, headrest or neckrest, should be cleaned according to the instruction above.

5.5.2 Electrical version

NOTICE!

- The wheelchair with electrical backrest or tilt is protected according to IPX6. This means that the product can be washed with a brush and water. The water can be under pressure (garden hose or equivalent), but high pressure water must not be sprayed directly towards the electrical system.
- Max washing temperature 20º C.
- Do not use a steam cleaner.
- Before cleaning, make sure that the power plug is not connected.
- Interconnected cables must remain plugged in when cleaning the product.
- Retract the actuator to the innermost position when cleaning to avoid degreasing of the piston rod.

5.6 Disinfection

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

Spray a soft cleaning and disinfecting product (bactericidal and fungicide meeting the EN1040 / EN1276 / EN1650 standards) and follow the instructions given by the manufacturer.

1. Wipe down all generally accessible surfaces with a soft cloth and ordinary household disinfectant.
2. Allow the product to air-dry.

5.7 Reconditioning and annual maintenance

This product is suitable for reuse.
To recondition the product for a new user, carry out the following actions:

- Inspection
- Cleaning and disinfection
- Adaptation to the new user

Make sure that the user manual is handed over with the product.

If any damage or malfunction is detected, do not reuse the product.

<table>
<tr><th colspan="2">Main parts of the wheelchair</th></tr>
<tr><td colspan="2">Lubricate all removable parts with a dry Teflon® based spray, e.g. “Viso 900–B5”.</td></tr>
<tr><td>Chassis</td><td>All parts must be checked for cracks or other damages. Pay special attention to areas close to welds. If damages are discovered, the chassis must be discarded.</td></tr>
<tr><td>Backrest</td><td>Check that the angle is easy to adjust, it should be easy to fold and the locking mechanism must function properly.

WARNING!
Risk of damage / risk of injury
— The gas piston must not be opened, it contains oil and gas under high pressure.

Check the cables and controls, and change any damaged parts.</td></tr>
<tr><td>Push handles / Push bar</td><td>Check that the push handles / push bar works properly. They should be firm and the screws must be tightened properly.</td></tr>
<tr><td>Back- and seat cushions</td><td>• Check that the self-gripping strips are intact and can be fixed properly.
• Check that the covers are intact and clean, if not see section: “Washing” and “Disinfection”
• If the fabric is torn, replace the cover.
• Risk of injury: pressure sores

WARNING!
The cushion was chosen on an individual needs basis and may be not adapted to another user.
— Assess the new user's needs when the wheelchair is being reconditioned.

WARNING!
Risk of injury: pressure sores
Foam deteriorates with time, and there may be permanent deformation after unloading.
— Carefully examine the foam, looking for cracks, tearing or foam exposure, and checking its support and comfort. Change any damaged parts.
— Skin irritation or complaints of discomfort are other signals of foam deterioration.</td></tr>
<tr><td>Seat angle</td><td>Check the function by changing the angle from the lower to the upper position.

WARNING!
Risk of damage / risk of injury
— The gas piston must not be opened, it contains oil and gas under high pressure.
Visually check the seat plate and its fixings. If damaged, replace them.</td></tr>
<tr><td>Drum brakes</td><td>Check that the brake function is good, if not:
1. Check that the wire is intact, if not, it must be replaced.
2. Check that the wire cover is intact, if not, the wire must be replaced.
3. Adjust the wire at the handle and/or at the wheel hub.
4. Tighten the wire until the optimal brake function is achieved.

Any damaged wires must be replaced.</td></tr>
<tr><td>Brakes</td><td>• Check the set up of the user brakes.
• Check that the brake pin is not worn down. If so, replace it.
• Check that the screws are tightened. If there is excessive free play, change the brake/support.
• Test the brake function. When braking, the brake pin should press the tyre down by 2-3 mm.
Make sure that you have the correct air pressure in the tyres to attain the optimal brake effect.</td></tr>
</table>

Main parts of the wheelchair	
Armrests / side rests	Check that the armrests / side rests are intact, they should be easy to detach / attach. **WARNING!** **Risk of injury: pressure sores** Foam deteriorates with time. — Carefully examine the foam, checking its support and comfort. Change any damaged parts.
Leg rests / foot rests	Check that the leg rests are: • Easy to detach. • Easy to attach. • Easy to adjust in height and angle. If a support is woobly, replace it. If a component is damaged, replace it. **WARNING!** **Risk of injury: pressure sores** Foam deteriorates with time. — Carefully examine the foam, checking its support and comfort. Change any damaged parts.
Anti-tip device	• Check that the anti-tip device device is easy to adjust and fold. • Check that the screws are tight, if not, retighten. • Replace any damaged and/or missing part.
Rear wheels	• Change the tyres if the pattern is worn. • Replace missing spokes and tighten loose spokes. • Fasten the hand rim if it is loose. • Check that the hand rim is smooth and that there are no cracks or sharp edges. If so, replace the hand rim. • Check the rear wheel axle, it should be completely inserted into the axle housing. Check that the rear wheel axle locks properly. Pull on the rear wheel to check that the removable axle does not come off. • Check the air pressure — recommended max air pressure is written on the tyres.
Rear wheel attachment	Check: • That the screws on the rear wheel attachment are tight. • That the axle housing is correctly placed. The standard axle housing should be tightened with a manual and dynamometer wrench calibrated to 40 +/–5 Nm, the One Arm Drive axle housing to 45 0/+5 Nm.
Castors	• Detach the castors and clean the castor forks. • Remove any dirt or hair from the castors. • Attach the castors again and check that the castors turn freely. • If the castors are air filled, check the pressure — recommended max air pressure is written on the tyre. • If the castors are solid, check the tyres for cracks. If the tyres are dry and filled with cracks, they need to be replaced. • Check the fork axles — any cracked part must be replaced.
All fasteners for wear and tightness	Bolts and other fasteners can come loose due to constant use: 1. Check that the fasteners are tight on the castor forks, footrest, seat, side rests, backrest, handles etc. 2. Tighten any loose bolts or screws.

Options	
Lubricate all removable parts with a dry Teflon® based spray, e.g. “Viso 900–B5”.	
All fasteners for wear and tightness	Bolts and other fasteners can come loose due to constant use: 1. Check that the fasteners are tight on the castor forks, footrest, seat, side rests, backrest, handles etc. 2. Tighten any loose bolts or screws.
Headrest	• Check that the side- and angle adjustment for the “wings” works properly.

Options	
	• Check that the angle adjustment works and that there is a memory function.
Neckrest	• Check that the angle adjustment works and that there is a memory function.
Trunk support “Multi functional”	• Check that the angle adjustment works properly and that there is a memory function. • If the support is woobly, replace the part.
Abduction cushion	• Check that the depth adjustment works.
Table tray	• When re-mounting the table tray, try to find the thread manually before fastening the screws with tools. This spare the threading.

5.7.1 Check list

Wheelchair SN:	DATE:		
	OK	NOTE	SIGN
WASHING			
RECONDITIONING:			
Chassis			
Backrest			
Push handles / Push bar			
Backrest cushion			
Seat cushion			
Seat angle			
Drum brakes			
Brakes			
Armrests / Side rests			
Legrests			
Footrests			
Anti-tip device			
Rear wheels			
Rear wheel attachment			
Castors			
Fasteners for wear and tightness			
Headrest			
Neckrest			
Trunk support			
Abduction cushion			
Table tray			
TEST:			
Chair rolls in straight line			
Easy to propel			
DELIVERY CHECK:			
Include a user manual			

6 After Use

6.1 Recycling

The wheelchair can be divided into the following main components:

- Chassis
- Plastic parts
- Upholstery
- Wheels, tires and tube
- Packing

6.2 Waste disposal

Please be environmentally responsible and recycle this product through your recycling facility at its end of life.

Waste disposal must comply with the laws and regulations pertaining waste handling in each country.

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

We comply with the current environment legislation (e.g. WEEE and RoHS directive).

We only use REACH compliant materials and components.

The wheelchair can be divided into the following main components:

Chassis

- The chassis is produced in steel and is fully recyclable.
- Recycling of steel requires only 20-25% of the energy compared to new produced steel.
- The wheelchair has two gas pistons and they contain oil and must be disposed according to national requirements.

  Be aware of that the gas pistons contains high pressure and must be handled with care during destruction.

Plastic parts

- The plastic parts in the chairs are produced of "Thermoplastic" and are marked with recycling symbols (where it is possible due to part size).
- The main plastic material is polyamide.
- The plastic materials for the table are ABS and polyamide.
- This material can be recycled or burned in approved facilities.

Upholstery

- Upholstery is produced of polyester fibres (PUR) and Dartex®.
- The efficient way to recycle the parts is to burn them in approved facilities.

Wheels, tires and tubes

- The handrim, rim, spokes and hub are made of steel, stainless steel or aluminium and can be recycled according to above.
- Tires and tubes are made of rubber and can be recycled according to above.

Packing

- All packing material is developed to fit the products in an optimal way to reduce unnecessary material waste.
- All boxes are recyclable.

Electrical and Electronic equipment

This product has been supplied from an environmentally aware manufacturer that complies with the Waste Electrical and Electronic Equipment (WEEE) Directive 2012/19/EU. This product may contain substances that could be harmful to the environment if disposed of in places (landfills) that are not appropriate according to legislation.

End of life

At the end of this products life, it should be recycled according to laws and regulations for waste handling in each country.

Contact your local recycling agent to obtain the correct information on how to handle the above mentioned materials.

7 Troubleshooting

7.1 Troubleshooting electrical system

WARNING!
Risk of personal injury and damage to the product.
— The wheelchair must be unplugged from the main power source before opening or repairing electrical parts.

Symptom	Possible cause	Remedy
Mains indicator does not light up	Mains are not connected	Connect mains
	Fuse in the control unit is blown	Replace the control unit
	Control unit is defective	Replace the control unit
Mains indicator lights up, but the motor is not running. The relay in the control unit makes a clicking noise	Motor plug is not fully inserted into the control unit	Insert the motor plug properly into the control unit
	The motor is defective	Replace the motor
	Motor cable is damaged	Replace the cable
	Control unit is defective	Replace the control unit
Mains indicator lights up, but the motor is not running. No relay sound is heard from the control unit	Control unit is defective	Replace the control unit
	Hand control is defective	Replace the hand control
Control unit is in order except for one direction on one channel	Control unit is defective	Replace the control unit
	Hand control is defective	Replace the hand control
Motor is running, but the piston rod does not move	Motor is damaged	Replace the motor
The motor cannot lift full load		
Motor noise, but no movement of piston rod		
Piston rod operates inwards and not outwards		

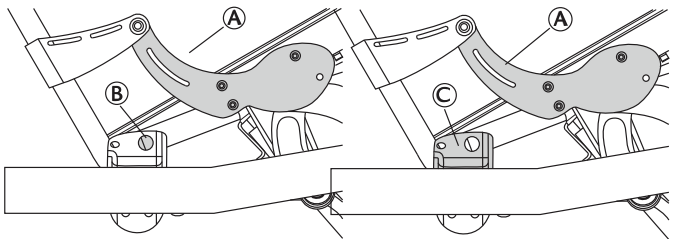
7.2 Limitation areas — Troubleshooting

When adjusting the centre of gravity, some settings can cause limitations in some positions. This can happen for example when adjusting the:

- Seat tilt
- Seat depth
- Backrest recline

The following sections will give some examples of the possible limitations, but also suggestions about solutions.

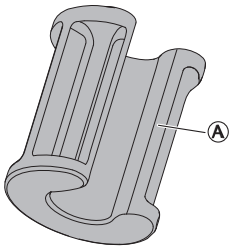
7.2.1 Seat tilt



When the seat is tilted, the backrest attachment Ⓐ can collide with the rear wheel axle Ⓑ or the rear wheel attachment Ⓒ.
Possible solutions:

- Move the rear wheel attachment Ⓒ further backwards.
- Turn the rear wheel attachment Ⓒ in order to have the rear wheel positioned further backwards.
- Choose the low mounting position for the rear wheel attachment Ⓒ.

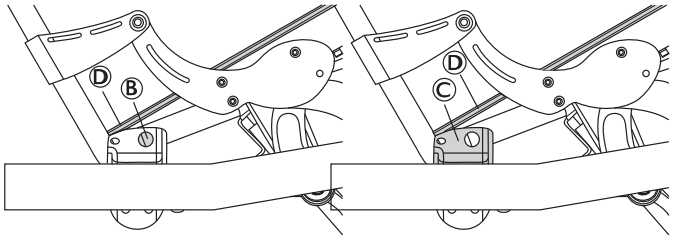
This will increase the seat height, to compensate, use a longer front wheel fork.



Use the tilt reduction bushing Ⓐ in order to avoid the limitation.

The seat tilt will have slightly reduced angling possibilities.

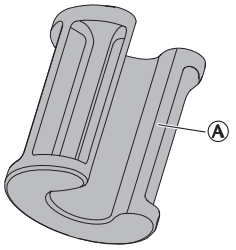
7.2.2 Seat depth



When the seat is tilted, and the seat plate Ⓓ is adjusted in depth, the seat plate Ⓓ can collide with the rear wheel axle Ⓑ or the rear wheel attachment Ⓒ.
Possible solutions:

- Move the seat plate Ⓓ forwards to increase the seat depth.
- Move the rear wheel attachment Ⓒ further backwards.
- Turn the rear wheel attachment Ⓒ in order to have the rear wheel positioned further backwards.
- Choose the low mounting position for the rear wheel attachment Ⓒ.

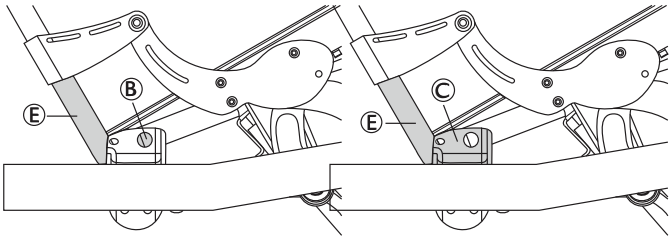
This will increase the seat height, to compensate, use a longer front wheel fork.



Use the tilt reduction bushing Ⓐ in order to avoid the limitation.

The seat tilt will have slightly reduced angling possibilities.

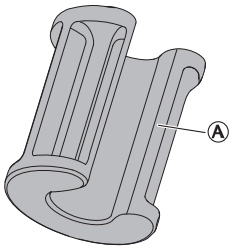
7.2.3 Backrest recline



When the backrest is reclined, the backrest tube Ⓔ can collide with the rear wheel axle Ⓑ or the rear wheel attachment Ⓒ.
Possible solutions:

- Move the rear wheel attachment Ⓒ further backwards.
- Turn the rear wheel attachment Ⓒ in order to have the rear wheel positioned further backwards.
- Choose the low mounting position for the rear wheel attachment Ⓒ.

This will increase the seat height, additional measures may have to be taken into consideration, for example to use a longer front wheel fork.



Use the tilt reduction and / or the backrest recline reduction bushing Ⓐ in order to avoid the limitation.

The seat tilt and / or the backrest recline will have slightly reduced angling possibilities.

See section: “Tilt and / or backrest recline reduction” for information about the tilt reduction.

8 Technical Data

8.1 Dimensions and weights Dahlia

For Rea Dahlia, 100 — 150 mm castor wheels are intended for indoor use only.

All dimension an weight specifications refer to a wide range of the wheelchair in a standard configuration. Dimension and weight (based on ISO 7176–1/5/7) may alter according to different configurations.

NOTICE!
- In some configurations, the overall dimensions of the wheelchair when it is ready for use exceeds the authorised limits and the access to emergency escape routes is not possible.
- In some configurations, the wheelchair exceeds the size recommended for travelling by train in the EU.

	DAHLIA 30°		DAHLIA 45°	
Maximum user weight	135 kg	135 kg	135 kg	135 kg
Overall length with leg rests	1010–1140 mm	1010–1140 mm	1010–1180 mm	1010–1160 mm
Overall width	550–700 mm	550–700 mm	550–700 mm	550–700 mm
Stowage width	from 570 mm	from 560 mm	from 580 mm	from 555 mm
Stowage height	from 600 mm	from 700 mm	from 570 mm	from 710 mm
Stowage length	785 mm	890 mm	825 mm	940 mm
Total mass*	>35 kg	>35 kg	>35 kg	>35 kg
Mass of the heaviest part	21 kg	25 kg	21 kg	25 kg
Static stability downhill	11° – 15°	11° – 15°	11° – 15°	11° – 15°
Static stability uphill	3° – 15°	3° – 15°	3° – 15°	3° – 15°
Static stability sideways	15° – 22°	15° – 22°	15° – 22°	15° – 22°
Seat plane angle	-1° – +30°	-1° – +30°	-1° – +45°	-1° – +45°
Effective seat depth	430–500 mm	430–500 mm	430–500 mm	430–500 mm
Effective seat width	390–540 mm	390–540 mm	390–540 mm	390–540 mm
Seat surface at front/rear edge	20”: 330–500 mm 22”: 350–430 mm 24”: 430–450 mm	330–480 mm	20”: 350–430 mm 22”: 380–450 mm 24”: 450–480 mm	350–500 mm
Backrest angle	0° – +30°	0° – +30°	0° – +30°	0° – +30°
Backrest height	500–800 mm	500–800 mm	500–800 mm	500–800 mm
Footrest-to-seat distance	362–627 mm	362–627 mm	362–627 mm	362–627 mm
Leg-to-seat-surface angle	105° – 180°	105° – 180°	105° – 180°	105° – 180°
Armrest-to-seat height	250–320 mm	250–320 mm	250–320 mm	250–320 mm
Front location of armrest structure	465–550 mm	465–550 mm	465–550 mm	465–550 mm
Hand rim diameter	445–535 mm	N/A	445–535 mm	N/A
Horizontal location of axle	-5.7/-94.3 mm	-5.7/-94.3 mm	-5.7/-94.3 mm	-5.7/-94.3 mm
Minimum turning radius	755 mm	755 mm	755 mm	755 mm
Overall length without leg rests	830–960 mm	830–960 mm	830–1000 mm	830–980 mm
Overall height	825–1250 mm	825–1250 mm	825–1250 mm	825–1250 mm
Pivot width	minimum 1280 mm	minimum 1280 mm	minimum 1280 mm	minimum 1280 mm
Maximum slope angle brake	7°	7°	7°	7°

* Overall weight in seat width 39 cm and with lightest configuration. With “Laguna 2” backrest plate and cushion. If fitted with electrical system, the weight increase is 4.2 kg.

	515 mm (20”)	560 mm (22”)	600 mm (24”)	405 mm (16”)
Width of the wheels	35 mm (1 3/8”)	25 mm (1”) - 35 mm (1 3/8”)	25 mm (1”) - 35 mm (1 3/8”)	45 mm (1 3/4”)

	515 mm (20”)	560 mm (22”)	600 mm (24”)	405 mm (16”)
Wheel inclination	0° +/- 1° (Wheelchair without load)			

8.2 Materials

Chassis, backrest tubes	Steel, powder coated
Plastic parts like push handles, brake handles, foot plates and parts of most options	Thermoplastic (e.g. PA, PE, PP, ABS and TPE) according to marking on the parts
Upholstery (seat and backrest)	Foam PUR and polyether, polyurethane-coated fabric and plush
Table	ABS
Seat plate	Coated Birch plywood
Other metal parts	Zinc alloys, aluminum alloys and steel
Screws, washers and nuts	Steel, corrosion free

All materials used are protected against corrosion. We use only REACH compliant materials and components.

Theft and metal detection systems: in seldom cases the materials used in the wheelchair may activate theft and metal detection systems.

8.3 Environmental conditions

	Storage and transportation	Operation
Temperature	-20 °C to 40 °C	-5 °C to 40 °C
Relative humidity	20 % to 90 % at 30 °C, not condensing	
Atmospheric pressure	800 hPa to 1060 hPa	

Be aware that when a wheelchair has been stored under low temperatures, it must be adjusted to operating conditions before use.

8.4 Environmental conditions Electrical Version

	Storage and transportation	Operation
Temperature	-10 °C to 50 °C	5 °C to 40 °C
Relative humidity	20 % to 80 %, not condensing	
Atmospheric pressure	700 hPa to 1060 hPa	

8.5 Electrical system — Models equipped with electric tilt and backrest

Voltage supply	U in 100–240 Voltage, AC, 50/60 Hz (AC = Alternating current), Battery (Lead acid) DC 24V (DC=Direct Current)
Maximum current input	I in max. 5 Ampere (battery = max 1,3 Ampere)
Intermittent (periodic motor operation)	10 % 2 min ON / 18 min OFF
Protection class 	CLASS II equipment
	Applied Part complying with the specified requirements for protection against electrical shock according to IEC60601-1.
Degree of protection	The control unit, external power supply, motors and hand controls are protected according to IPx6. See label and label on each electric device for correct IP class. The lowest IP-classification decides the overall classification of the system. **IPx6**- The system is protected against water projected from any direction (not high pressure).
Charging time	Approximate time of 6 hours using the charging via integrated charged.

The battery must be stored in an appropriate storage room to avoid direct sunlight. For full details contact your Invacare authorized provider.

8.6 Electromagnetic compliance (EMC)

General information

Products with electronic equipment needs to be installed and used according to the EMC information in this user manual.

WARNING!
Portable and mobile communications equipment can affect the operation of this product.
— In the case of the product moves itself unintentionally while being submitted to Electromagnetic interference, then stop immediately using the product and send it to check by a qualified technician.

This product has been tested and complies with the EMC limits specified by IEC 60601-1-2 for Class B equipment.

This product has a very low emission and should not interfere with other equipment.

However, if other devices nearby should react inexplicably, run and stop this product and observe the devices.

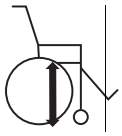
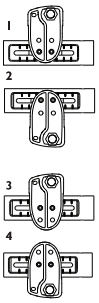
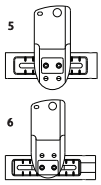
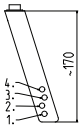
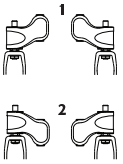
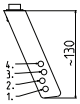
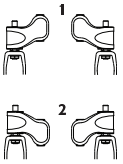
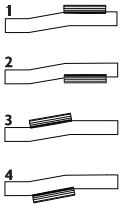
- If nothing happens with the other devices, then this product is not causing the error.
- If other devices are behaving in an inexplicable manner, then this product is causing the error. Solve the problem by moving or increasing the distance between them.

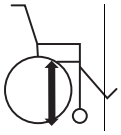
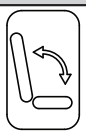
8.7 EMC - Manufacturer´s declaration

Test	Basic Standard	Compliance Level / Frequency Range
Mains PortConducted Emissions	EN 55011	Group 1 Class B
Radiated Emissions	EN 55011	Group 1 Class B
Mains Harmonics	EN 61000-3-2 +A1 + A2	Class A
Voltage Fluctuations	EN 61000-3-3	dc%/dmax/d(t)/Pst
Electrostratic Discharge	EN 61000-4-2	±2/4/6kV Contact, ±2/4/8kV Air
Radiated Field Immunity	EN 61000-4-3	3V/m, 80% 1kHz AM, 80MHz - 2.5 GHz
EFT/Bursts	EN 61000-4-4	±2kV L/N/E/LNE
Surge Immunity	EN 61000-4-5	±0.5/1kV L-N, ±0.5/1/2kV L-E/N-E
Conducted RF Immunity	EN 61000-4-6	3V, 80% 1kHz AM, 0.15MHz - 80MHz
Magnetic Field Immunity	EN 61000-4-8	3A/m, 50Hz-80Hz
Dips & Interruptions	EN 61000-4-11	-95%/-60%/-30%

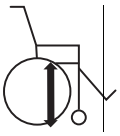
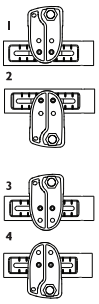
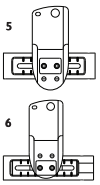
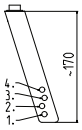
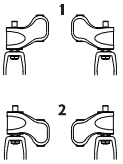
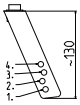
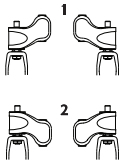
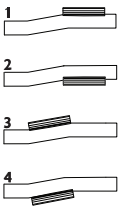
8.8 Seat height tables

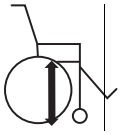
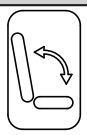
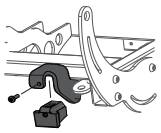
8.8.1 Dahlia 30 degrees

Seat height table — Dahlia 30 degrees:										
Seat height *	Wheel	Position of rear wheel attachment (STD)	Position of rear wheel attachment (High)	Fork 150		Castor housing Position	Fork 110		Castor housing Position	Position of brake attachment
										
330	16"	1	—	N/A	N/A	N/A	3	100	2	3
330	20"	—	6	N/A	N/A	N/A	3	100	2	1
350	16"	3	—	N/A	N/A	N/A	2	125	2	4
350	20"	—	5	N/A	N/A	N/A	2	125	2	1
350	22"	—	6	N/A	N/A	N/A	2	125	2	1
380	20"	1	—	N/A	N/A	N/A	1	150/140	2	3
400	20"	3	—	N/A	N/A	N/A	3	150/140	1	4
400	22"	1	—	N/A	N/A	N/A	3	150/140	1	1
430	22"	3	—	4	150/140	1	1	150/140	1	2
430	24"	1	—	4	150/140	1	1	150/140	1	2
450	16"	4	—	2	150/140	1	1	200	1	4
450	24"	3	—	2	150/140	1	1	200	1	2
480	16"	2	—	2	200	1	N/A	N/A	N/A	4
500	20"	4	—	2	200	1	N/A	N/A	N/A	4
* = Measured from floor to seat plate (cushion excluded).										

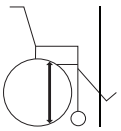
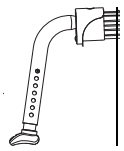
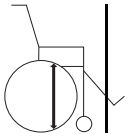
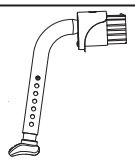
Seat angle / backrest recline angle — Dahlia 30 degrees:							
Seat height *	Wheel	Seat tilt		Number of bushings on seat piston	Backrest recline		Number of bushings on backrest piston
							
		Delivered from factory	Max tilt possible		Delivered from factory	Max recline possible	
330	16"	30°	30°	—	30°	30°	—
330	20"	10°	20°	2	30°	30°	—
350	16"	30°	30°	—	30°	30°	—
350	20"	20°	30°	1	20°	30°	1
350	22"	10°	20°	2	30°	30°	—
380	20"	20°	30°	1	10°	30°	2
400	20"	30°	30°	—	20°	30°	1
400	22"	20°	30°	1	10°	30°	2
430	22"	30°	30°	—	20°	30°	1
430	24"	20°	30°	1	10°	30°	2
450	16"	30°	30°	—	30°	30°	—
450	24"	30°	30°	—	20°	30°	1
480	16"	30°	30°	—	30°	30°	—
500	20"	30°	30°	—	30°	30°	—
* = Measured from floor to seat plate (cushion excluded).							

8.8.2 Dahlia 45 degrees

Seat height table — Dahlia 45 degrees:										
Seat height *	Wheel	Position of rear wheel attachment (STD)	Position of rear wheel attachment (High)	Fork 150		Castor housing Position	Fork 110		Castor housing Position	Position of brake attachment
										
350	16"	1	—	N/A	N/A	N/A	3	100	2	3
350	20"	—	6	N/A	N/A	N/A	3	100	2	1
380	16"	3	—	N/A	N/A	N/A	2	125	2	4
380	20"	—	5	N/A	N/A	N/A	2	125	2	1
380	22"	—	6	N/A	N/A	N/A	2	125	2	1
400	20"	1	—	N/A	N/A	N/A	1	150/140	2	3
430	20"	3	—	N/A	N/A	N/A	3	150/140	1	4
430	22"	1	—	N/A	N/A	N/A	3	150/140	1	1
450	22"	3	—	4	150/140	1	1	150/140	1	2
450	24"	1	—	4	150/140	1	1	150/140	1	2
480	16"	4	—	2	150/140	1	1	200	1	4
480	24"	3	—	2	150/140	1	1	200	1	2
500	16"	2	—	2	200	1	N/A	N/A	N/A	4
* = Measured from floor to seat plate (cushion excluded).										

Seat angle / backrest recline angle — Dahlia 45 degrees:							
Seat height *	Wheel	Seat tilt		Tilt block (One/side)	Backrest recline		Number of bushings on backrest piston
							
		Delivered from factory	Max tilt possible		Delivered from factory	Max recline possible	
350	16"	45°	45°	—	30°	30°	—
350	20"	30°	30°	Yes	30°	30°	—
380	16"	45°	45°	—	30°	30°	—
380	20"	45°	45°	—	10°	30°	2
380	22"	30°	30°	Yes	30°	30°	—
400	20"	45°	45°	—	30°	30°	—
430	20"	45°	45°	—	30°	30°	—
430	22"	45°	45°	—	30°	30°	—
450	22"	45°	45°	—	30°	30°	—
450	24"	45°	45°	—	30°	30°	—
480	16"	45°	45°	—	30°	30°	—
480	24"	45°	45°	—	30°	30°	—
500	16"	45°	45°	—	30°	30°	—
* = Measured from floor to seat plate (cushion excluded).							

8.9 Size of anti-tip device

DAHLIA 30		DAHLIA 45	
Seat height (mm)	Size of anti-tip device	Seat height (mm)	Size of anti-tip device
			
330	Extra low	350	Extra Low
330		350	
350	Short	380	Short
350		380	
350		380	
380	Short	400	Short
400	Long	430	Long
400		430	
430	Long	450	Long
430		450	
450	Long	480	Long
450		480	
480	Long	500	Long
500	Extra Long	—	—

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Yes, you can.