

Invacare® SB® 755

en Bed

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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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.

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 Symbols in this Document

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. This document is printed in greyscale. For your information, the safety messages have the following colour coding according to ANSI Z535.6: Danger (Red), Warning (Orange), Caution (Yellow) and Notice (Blue). 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.

Other Symbols

(Not applicable for all manuals)



Triman

Indicates recycling and sorting rules (only relevant for France).



UKRP

Indicates if a product is not manufactured in the UK.

1.3 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
- Technical modifications
- Unauthorised modifications and/or use of unsuitable spare parts

2 Safety

2.1 General Safety Information



WARNING!

Risk of injury or damage to property

- The procedures in this manual must only be performed by a qualified technician.
- Use only original accessories and spare parts.
- Do not handle this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as user manuals, installation manuals or instruction sheets supplied with this product or optional equipment.
- After each assembly, check that all fittings are properly tightened and that all parts have the correct function.



WARNING!

Risk of contamination

- Clean and disinfect the product before servicing.



NOTICE!

Assembly of accessories might not be described in this service manual. Refer to the manual, delivered with the accessory.

- Additional manuals can be ordered from Invacare. See addresses at the end of this document.
- Due to regional differences, refer to your local Invacare catalog or website for available accessories or contact your local Invacare representative. See addresses at the end of this document.



NOTICE!

Some replacement parts are only available as a kit. Always use the complete new kit when replacing a part.

- Spare parts can be ordered from Invacare. Refer to your local Invacare website to access the electronic spare parts catalogue (ESPC).



NOTICE!

Refer to the user manual of this product for information on

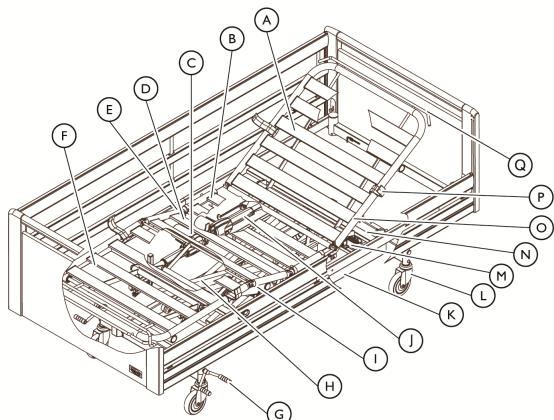
- Technical data
- Product components
- Labels
- Additional safety instructions



Tips and Recommendations

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

2.2 Main parts of bed



Parts of standard bed:

(A) Backrest	(I) Backrest actuator
(B) Seat Section	(K) Base Frame
(C) Leg section actuator	(L) Brake - castor with brake
(D) Thigh section	(M) Control Box
(E) Thigh section motor	(N) Height adjustment actuator
(F) Leg section	(O) Mattress support, upper half
(G) Brake pedal - central brake	(P) Mattress retainer
(H) Shear arms	(Q) Mattress support extension
Mattress support, lower half	

3 Setup

3.1 General safety information



WARNING!

Risk of injury or damage

Damaged parts may affect the safety of the product.

- Check all parts for shipping damage before use.
- In case of damage, do not use the product and contact your Invacare provider for further instructions.

3.2 Bed Ends

3.2.1 Bed ends with quick lock fitting



CAUTION!

Risk of squeezing

If the bed end is not correctly locked it can fall down and cause injury to user.

- Make sure the locking pins are engaged.



NOTICE!

Risks when using bed end with removable plate.

- If the user is restless, confused or has spasms; Victoria Bed ends (with removable plates) must NOT be used.



Make sure that the side rails are combined with the right type of bed ends.

- Line or Britt V side rails must be used with Susanne, Sophie, Anita or Victoria bed ends.
- The steel side rails are optional and designed to be used with Emma, Olivia or Piggy bed ends.



Mounting the bed ends

1. Lift the bed end and place on the bed end attachments.
2. Push down to click into place.
3. The locking pin must then be rotated and locked into position.

Dismounting the bed ends

1. Pull the locking pin out, and turn halfway to lock the pin.
2. Repeat on the other side.
3. Pull the bed end up and out.

3.2.2 Bed end with U-profile fitting



For the Piggy and Oda Bed ends, the bed end attachment with U-profile are required.

1. Replace the standard bed end attachments with the U-profile attachments (if not already assembled).
2. Press the bed end into the U-profile attachments.

3.3 Side Rails

3.3.1 Installing side rails



WARNING!

Risk of personal damage

There is a risk of entrapment or squeezing, while assembling or disassembling the side rail.

- Pay attention to your fingers.
- Follow instructions carefully.
- After each assembly, check that all fittings are properly tightened and that the side rail has the correct function.

Removable 3/4 length side rails



WARNING!

Risk of entrapment

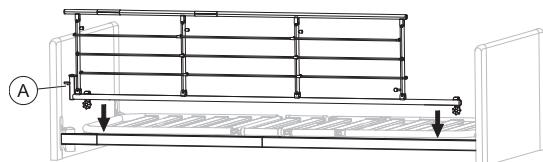
There's a risk of entrapment or suffocation between mattress support, side rail and bed end.

- When using removable side rails, always make sure that the distance between the bed end and the side rail's handle upper edge is less than 6 cm in the head end and more than 32 cm in the foot end of the bed.

3.3.2 Scala 2 side rail

Mounting side rail

1.



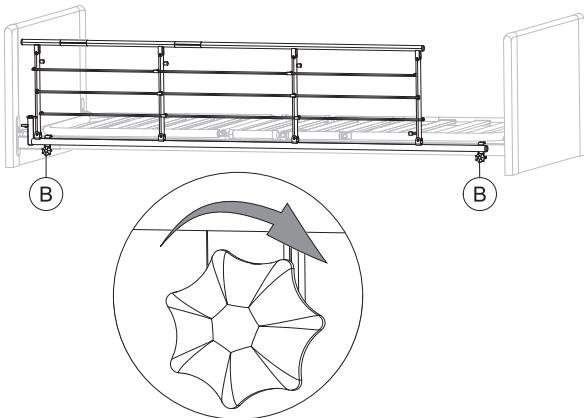
Place the side rail over the top frame with the release system **A** at the head end of the bed.



Tips and Recommendations

The fork links on the side rail must be mounted according to the instruction on the side rail.

2.



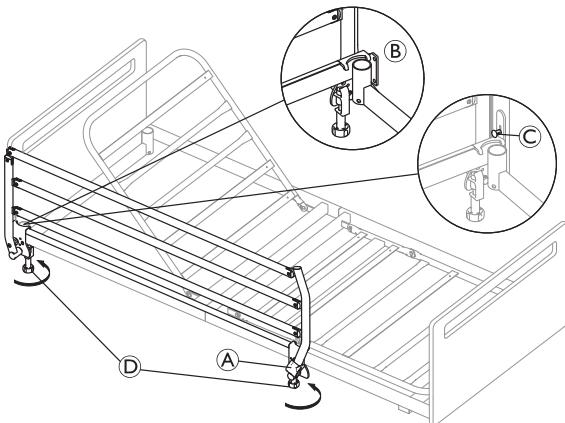
Tighten the finger screws **B** to attach the side rail on the top frame. Make sure it is steady and fastened.

Dismounting side rail

1. Loosen the two finger screws **B** and remove the side rail.

3.3.3 Verso II side rail

Mounting



The mounting of the side rail must be done with the side rail in locked position.

1. Place both brackets of the side rail on the frame of the bed, with the locking button **A** facing towards the foot end of the bed.

2. Ensure that the bracket near the head end of the bed is placed encompassing the lifting pole support as shown in detail **B**.
3. For beds equipped with bed ends with Sanne style fitting, it is beforehand necessary to temporarily disengage the locking pin **C** from the head bed end to place the bracket.
 - a. Pull the locking pin **C** and rotate 1/4 turn to lock it in the disengaged position.
 - b. Position the bracket under the locking pin as described in step 2.
 - c. Rotate the locking pin and allow it to engage with the bed end.
4. After the brackets are positioned correctly on the frame of the bed, fix the side rail by firmly tightening the finger screws **D**.

Dismounting

1. Untighten the finger screws and lift the side rail of the bed frame.

3.3.4 Britt V and Line side rail

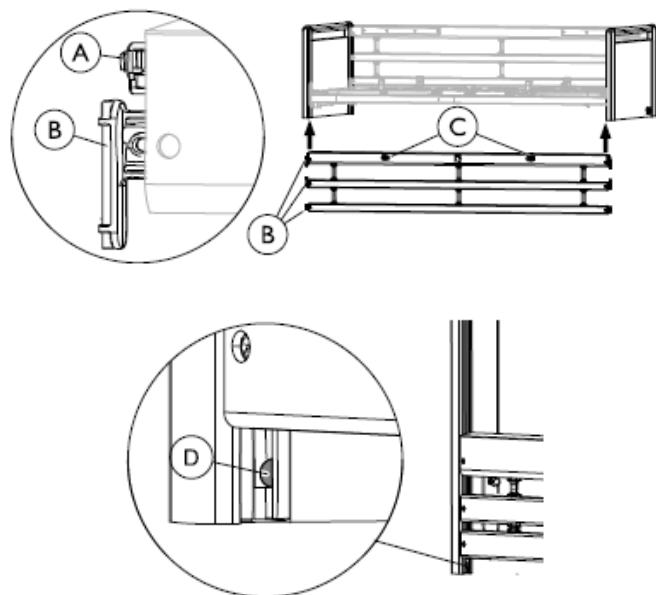


WARNING!

Risk of entrapment / suffocation

The user can get trapped or fall out of the bed if the side rail is not correctly mounted or damaged.

- Make sure that all gliding shoes are correctly guided into the bed end guideways.
- Make sure that all side rail bars are above the locking pin and properly locked.
- Make sure that the straps between the bars are not damaged or loose.



Mounting

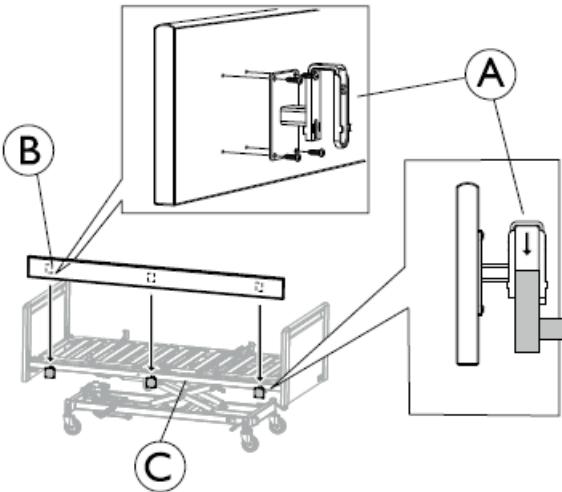
1. Lift the upper bar in one end of the side rail. The release buttons **C** must face up/outwards.
2. Press in the locking pin **A** in the end of the side rail.
3. Guide the three gliding shoes **B** (in the end of the side rail bars) up into the bed end guideways, until they have all passed the locking pin **D**.

4. Repeat steps 2 and 3 to mount the other side of the side rail.

Dismounting

1. Lower the side rail.
2. Lift the lower bar, in one end, to make the locking pin ④ visible and press it in with a screwdriver.
3. Lower all three bars, until they are out of the guideways.
4. Repeat steps 2 to 3 to dismount the other end of the side rail.

3.4 Wooden side panel



1. Use the four screws and fasten each attachment ④ in the pre-drilled holes on the panel's backside ⑤ (rounded corners up).
2. Hang the attachments ④ on the bed frame ⑥ and press it down firmly. Make sure it is pressed all the way down.

3.5 Mattress support



CAUTION!

Handling of heavy parts

The lower part and upper part of the mattress support may exceed the weight of 25 kg, depending on configuration and bed size. See weights table in chapter technical data.

- To reduce the weight below 25 kg per part, dismount the motor from the upper part and one or both motors from the lower part of the mattress support.

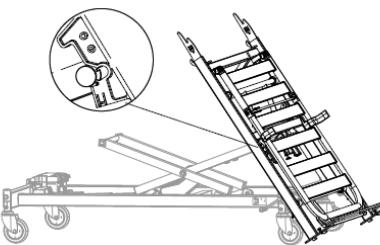
3.5.1 Markings on washable bed

 The upper half of the mattress support (head section) is marked by a red dot and the lower half of the mattress support (foot section) is marked by a green dot.

3.5.2 Assembly of mattress support

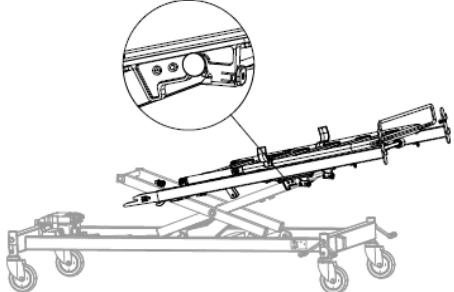
1. Lock the brakes.
2. Connect the plug to the mains socket.

3.



- a. Take the hand control.
- b. Tilt the lower part of the bed in over the shear arms (while it is leaning on the bed end attachments).
- c. Hold it and use the hand control to lower the bed until the snap locks are fitted on the shear arms pivots.

4.

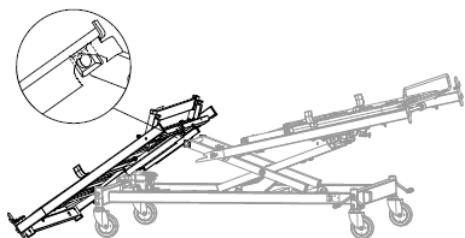


Push the section slightly towards the middle until the snap locks are activated with a clicking sound. Let it lean as shown in the image.

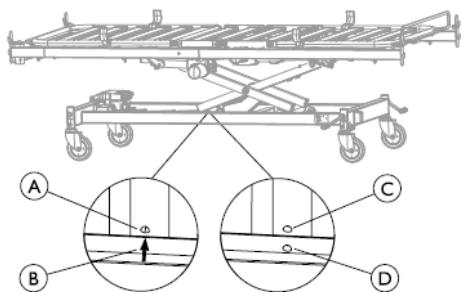
 Make sure the snap locks are properly engaged before proceeding. If not, turn the red buttons anti-clockwise to lock.

5. Move over to the upper part of the mattress support.

6.



- Take the hand control.
- From the upright position (resting on the bed end attachments); tip the section in over the control box.
- Use the hand control to raise the bed until the square plastic guides on the shear arms connect with the guideways on the mattress support frame.



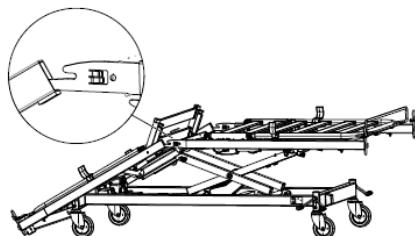
Bed width 85, 90 and 105 cm:

the arrow **B** on the base frame, and the welding point **A** on shear arms crossbar, must be in line.

Bed width 120 cm:

the welding point on the base frame **D**, and the welding point **C** on the shear arms crossbar, must be in line.

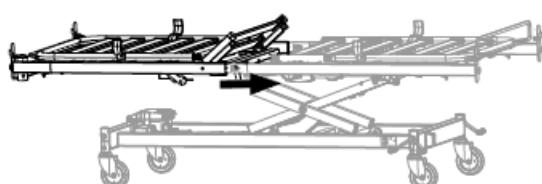
7.



- Lift up the lower section of the mattress support up to a horizontal position and hold it there.
- Lift the upper part of the mattress support slightly and fit the inserts in the openings of the side tubes.
- Let the inserts rest in the openings.

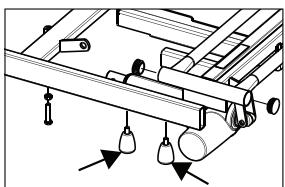
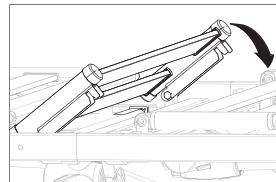
8. Move over to the bed head end.

9.



Lift the upper half of the mattress support and push it completely in over the inserts.

10. Lock the mattress support in the middle:



Bed width

85 and 90 cm:

Push down the seat section.

Bed width

105 and 120 cm: Tighten the finger-screws, under the side tubes on each side of the mattress support.

- Connect all plugs from the section motors in the control box.
- Attach the locking cam over the plugs.



NOTICE!

After assembly of the mattress support, check that:

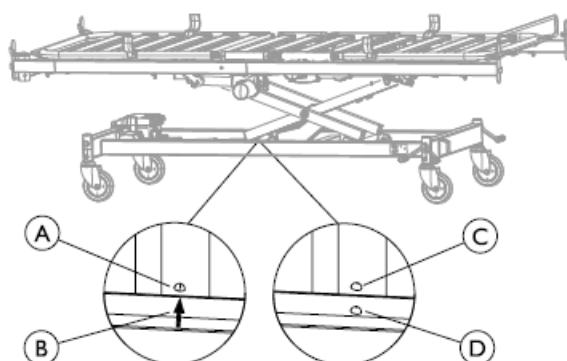
- All plugs (motors and hand controls) are correctly connected to the control box according to the printed symbols.
- Both sections of the mattress support are completely pushed together and the seat section completely down (locked).
- Bed ends are correctly attached and that the mattress support is attached to the shear arms (snap lock engaged).

3.5.3 Disassembly of mattress support



Before disassembly of the bed:

- Ensure that the castors in the head end of the bed are pointing towards the center of the bed.
- Use the hand control to adjust it to the correct ergonomic height:



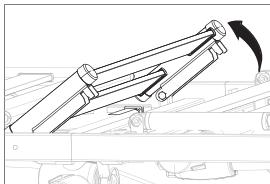
Bed width 85, 90 and 10 cm:

the arrow **B** on the base frame and the welding point **A** on the shear arms crossbar, must be in line.

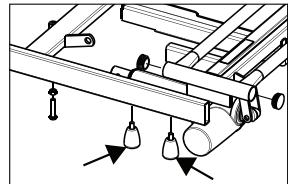
Bed width 120 cm:

the welding point on the base frame **D** and the welding point **C** on the shear arms crossbar, must be in line.

1. Lock the brakes.
2. Dismount the accessories (bed ends, side rails, lifting pole etc). Leave the bed end attachments in place.
3. Disconnect the main power by unplugging it from the main power socket. On the washable bed (IPx6w) also remove the power plug from the control box.
4. Open the control box lid and disconnect all plugs except for the hi/lo and the hand control.
5. Loosen the wires and make sure no wires are squeezed between moving parts.
6. Release the mattress support in the middle:

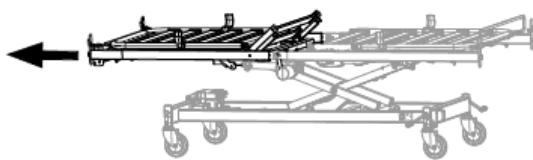


**Bed width
85 and 90 cm:**
Pull up the seat section.



**Bed width
105 and 120 cm:** Tighten the finger-screws, under the side tubes on each side of the mattress support.

7.



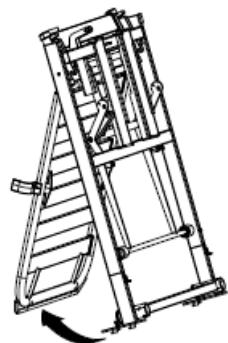
Stand at the end of the upper half of the mattress support, hold the sides of the frame, and pull it straight out until it comes to a stop.

8.



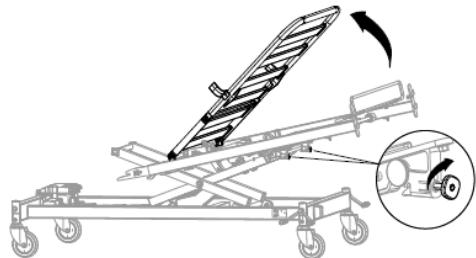
Tip it gently onto the floor while holding in the lower half of the mattress support (to avoid scratching the frame) and let it rest on the bed end attachments.

9.



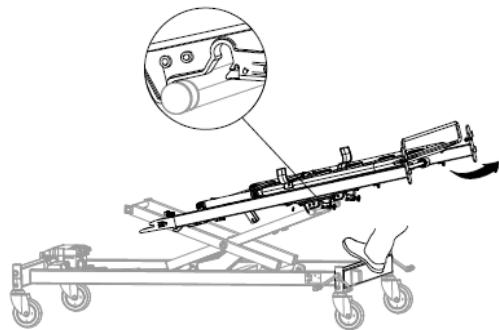
Tip the part to an upright position (on the bed end attachments) and fold out the backrest until it is in balance and let it stand aside.

10. Plug in the main power plug in the control box and connect the main power.
11. Move over to the lower part of the mattress support.
12. Put the hand control within reach.
- 13.



Lift the thigh/leg section up to reach the snap locks. Pull out the red, square locking buttons and turn them clockwise, until they stay out. Fold back the thigh/leg section.

14.

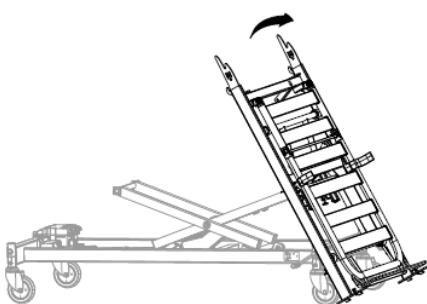


Stand in the foot end of the bed.

- a. Put your foot on the base and hold the sides of the frame.
- b. Lift the section slightly up and pull it backwards until it unlocks and leans on the shear arms pivots.

Don't pull the section completely off.

15.



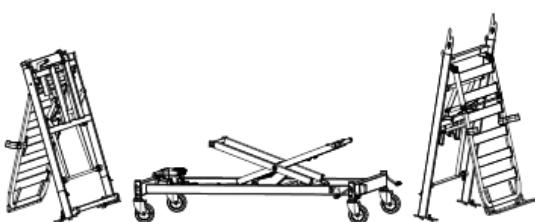
- Hold it steady and pull it slightly backwards to keep it out of the snap locks.
- Lower the bed with the hand control and tip the bed foot end down to the floor, until it rests on the bed end attachments.

16.



Tip up to an upright position (thigh section upwards). Fold out the thigh/leg section until it is in balance and let it stand aside.

17.



3.6 Shear arms (dismountable)



CAUTION!

Risk of personal injury

Personal injury can occur if the snap lock between the base and the shear arm is not correctly engaged.

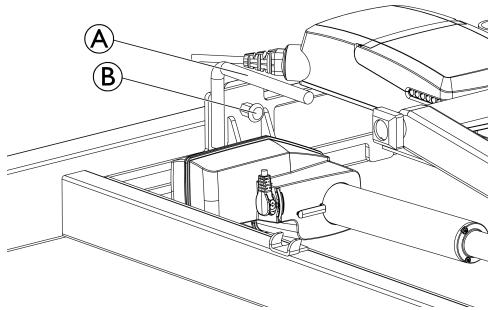
- Secure the snap lock.



NOTICE!

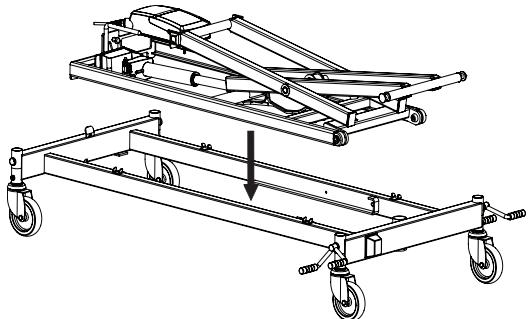
If wires get trapped between the base and the shear arm they can get damaged.

- Make sure the wires run free from moving parts.



3.6.1 Assembly of shear arms

- Lock the brakes.
- Take hold of the handle **A** on the shear arms.
- Lift the shear arm into the base, resting on the floor.
- 4.



Carefully lower the shear arm into place holding the handle.

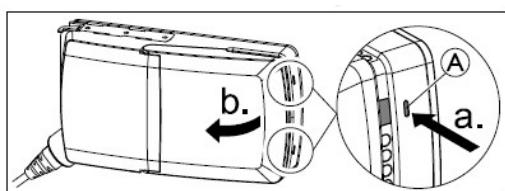
5. Insert it into the guideways on the base.
6. Make sure the snap lock **B** is engaged.

3.6.2 Disassembly of shear arms

1. Lock the brakes.
2. Use the hand control to lower the shear arms completely down.
3. Take hold of the small handle **A** located next to the controls with one hand.
4. Loosen the locking pin **B**.
5. Lift the shear arm to an upright position.
6. Turn the shear arm and hold it towards the boy before lifting.
7. Lift the shear arms out of the base.

3.7 Control Box

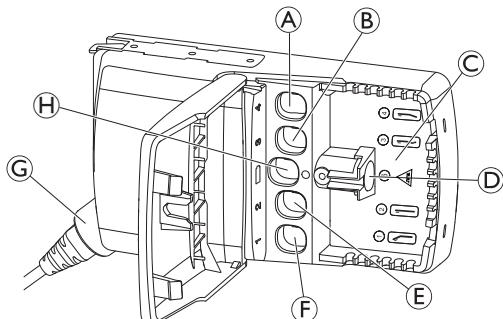
The control box is attached on the base near the height adjustment actuator.



To open the control box:

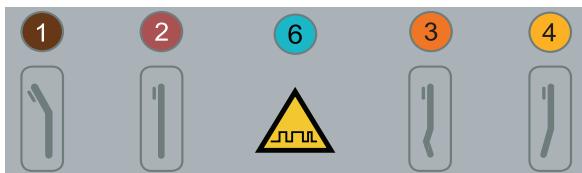
- Press in the two latches ④ on the control box with a pointed object (e.g., screwdriver)
- Open the lid.

The control box is provided with a label with color coded numbers and symbols, indicating where to connect the corresponding actuator plugs:



④ Leg section actuator (4) ⑤ Height adjustment actuator (2)
 ⑥ Thigh section actuator (3) ⑦ Backrest actuator (1)
 ⑧ Control box label ⑨ Mains power cable
 ⑩ Hand control (6 or 8) ⑪ Backup battery

The bed can be equipped with either an analog or a digital control box. These can be distinguished by the symbol present on the control box label ④, as shown below.



Analog symbol. Indicates an analog hand control for analog control box.



Digital symbol. Indicates a digital hand control for digital control box.

3.7.1 Hand control

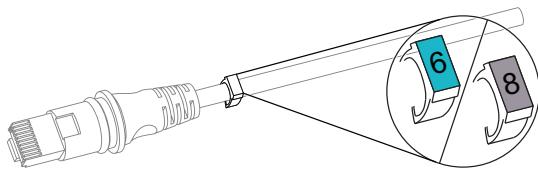


CAUTION!

Risk of personal injury or damage to property

Check the hand control cable marker against the control box label before installing the hand control.

Check the marker on the hand control cable and connect it to the corresponding number on the control box, according to the control box label.



The number in the cable marker, either 6 (blue) or 8 (grey), indicates an analog or a digital hand control, respectively.

If the hand control cable marker is missing, the type of hand control can also be checked via the label on the back of the hand control.



The number indicated by ④, either 6 or 8, indicates an analog or digital hand control, respectively.

! The Soft Control and the hand control with locking function are analogue.

3.7.2 Resetting the control box

! In case of fatal error on control box, the orange light turns on and a buzzing sound is heard on the control box when a button is pressed, and the bed does not move. To clear this error, the bed must be reset.

- To reset the bed, press sitting position (first line of the hand control) up + down, at the same time, for 5 seconds. After that, the orange light changes to green.

3.8 Wiring

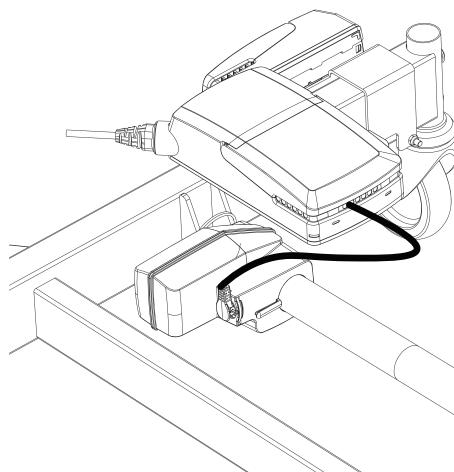


NOTICE!

- The cables must be mounted in such a way that they are not hanging on the floor and do not block the castors.
- Actuator and hand control cables are marked with a color coded number. They must be plugged into the corresponding color and number socket, identified on the control box. See 3.7 Control Box, page 10.

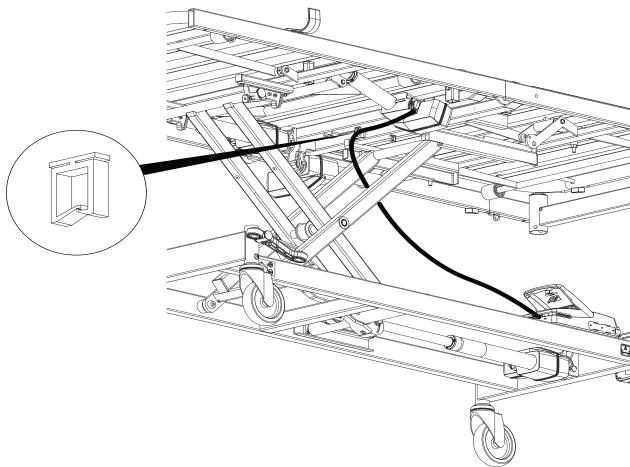
In the following wiring steps, the numbers refer to the cable markers:

1.



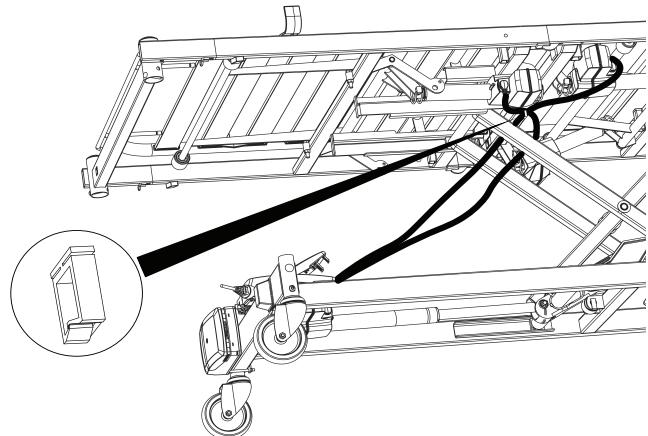
Route and connect the height adjustment actuator cable (number 2) to the control box.

2. Connect the hand control (6 or 8). Refer to *3.7.1 Hand control, page 11*. Route the hand control cable under the bed frame.
3. Connect the mains cable to the power outlet. Using the hand control, raise the bed to its highest position.
- 4.



Route and connect the backrest actuator cable (1) to both the control box and the backrest actuator.

5.



Route and connect the leg section actuator cable (4) and the thigh section actuator cable (3) to both the control box and the correspondent actuators.

i Make sure all the coiled cables are routed through the hoops located in the underside of the seat section.

6. Before using the bed:

- Check the wiring by operating the motors of the bed to their outer positions.
- There is no risk of squeezing the wires when correctly installed.
- It is normal for cables to stretch slightly after some usage.

i The wires are equipped with plugs at both ends and can be replaced independently.



NOTICE!

IP Protection

The **Hand Control, Control Box and Motors** are protected according to IPx6 or IPx6w.

- To guarantee the IP protection, you must install and close the lid of the **Control Box** correctly.

3.9 Storage of disassembled bed on base frame



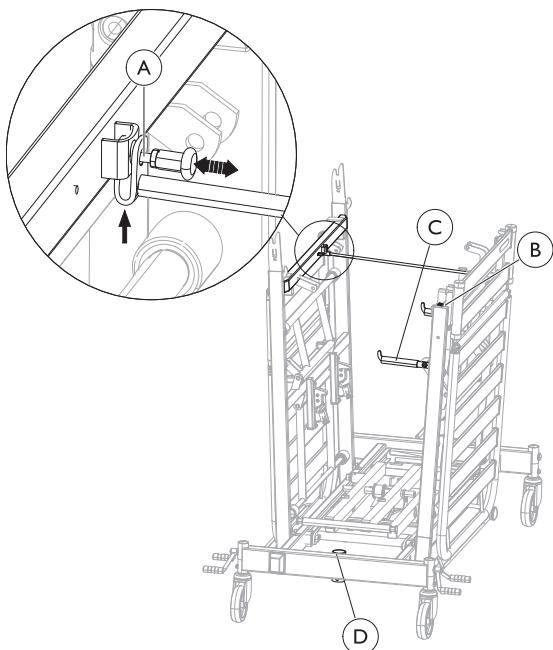
WARNING!

Risk of personal injury or damage to property

If the distance pin is not properly attached bed parts may fall off the trolley.

- Make sure the distance pin is correctly attached between the mattress support sections before hanging anything on the hooks.

Mounting the parts on the base frame



1. Lock the brakes.
2. Use the hand control to lower the shear arms completely down.
3. Disconnect the plug from the mains.
4. Place the power wire and the hand control securely around the shear arms.
5. Hang one mattress support section on each side, on the hooks on the base frame.
6. Lift the distance pin out of its place holder ⑧ and swing it over to the opposite side.
7. Place the motor wires around the slats on each mattress support sections.
8. Pull out the cotter pin ⑨ and push the distance pin, from underneath, into the bracket. Let go of the cotter pin and make sure that the spring is fully engaged and distance pin properly fastened.
9. Fold down both transport hooks ⑩ for the accessories.
10. Place the bed ends and side rails on the hooks.
11. Place the mattress between the sections.
12. Place the lifting pole in the tube ⑪ on the base frame.

 Make sure all wires and the hand control are properly secured, to avoid damage during transport.

Dismount the parts from the base frame

1. Lock the brakes.
2. Remove the accessories from the transport hooks ⑩.
3. Fold up the transport hooks.
4. Pull out the cotter pin ⑨ and remove it from the bracket. Swing it over to the opposite side and press it into its place holder ⑧.
5. Lift off the mattress support sections.

3.10 Mattress retainers

Mattress retainers keep the mattress in place when the user is moving in the bed or in/out of bed. They also enable the mattress to follow the movements when sections are positioned with the hand control.



WARNING!

Risk of injury

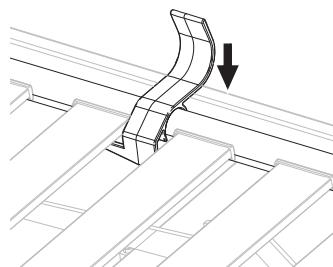
If the mattress retainers are removed, the mattress can slide sideways and cause the user to fall out of the bed or get trapped in the bed.

- Always use mattress retainers and be careful to put them back after any adjustments.
- Always use the right size of retainers depending on the bed width.
- Always place the retainers at the correct place according to instruction.



The mattress retainers come in different sizes depending on the width of the bed.

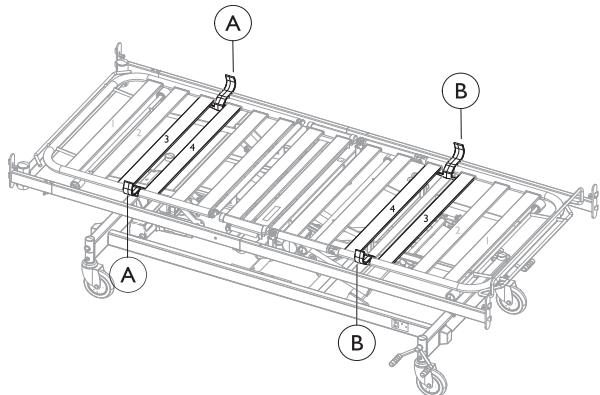
Mounting mattress retainers



Clip the mattress retainer down, over the mattress frame.

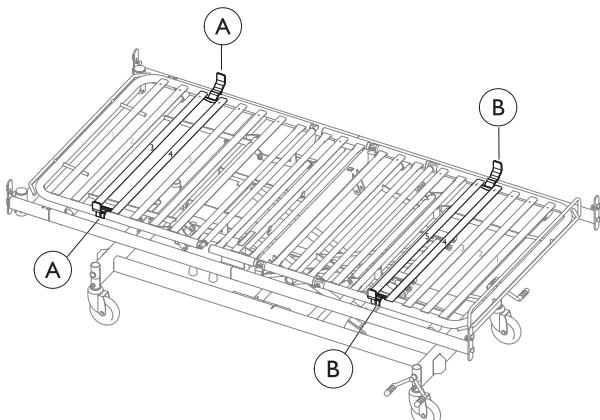


Make sure that the end with the hook is underneath the laths.

For bed width 85 – 90 cm

From head end of the bed - Place the mattress retainers (A) between lath 3 and 4.

From foot end of bed - Place the mattress retainers (B) between lath 3 and 4.

For bed width 105 - 120

From head end of the bed - Place the mattress retainers (A) between lath 3 and 4.

From foot end of bed - Place the mattress retainers (B) between lath 4 and 5.

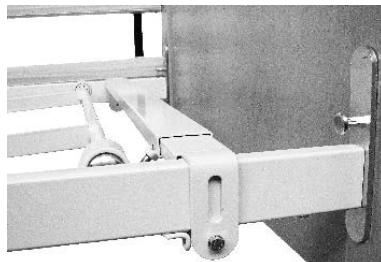
3.11 Limitation cross bar**WARNING!****Risk of squeezing or entrapment**

The user can get caught or squeezed when the leg section is lowered beneath the frame of the bed. Take special care when the user is restless or confused.

- To avoid the risk of entrapment a limitation crossbar can be fitted under the leg section of the mattress support.

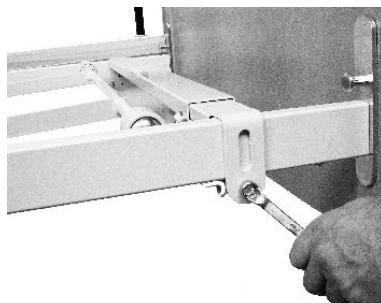
Mounting the limitation crossbar under the leg section

1.



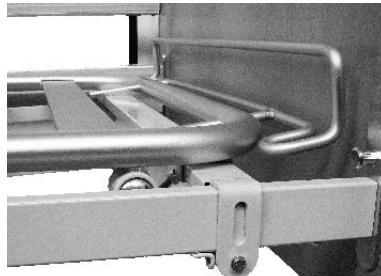
Lift the leg section of the mattress support to free the base.

2.



Fit the crossbar into place and tighten the screws.

3.



When properly installed, the leg section of the mattress support leans on the crossbar.

3.12 Mattress support extension

For patients, taller than two meters it is recommended to extend the bed with a mattress support extension.

**WARNING!****Risk of injury**

The user can fall out of bed, get trapped or suffocated.

- Always extend the mattress when extending bed.
- There must be a distance of more than 2,5 cm, between the bed end and the mattress bow, to avoid entrapment of fingers.

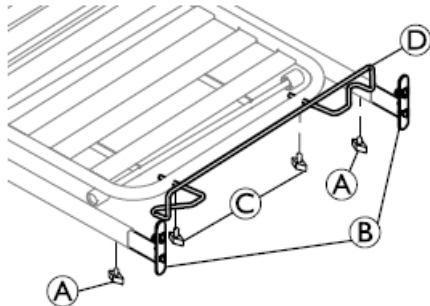
**WARNING!****Risk of injury**

The user can get hit by the lifting pole or fall out of bed.

- Always make sure to tighten the screws for the mattress support extension.

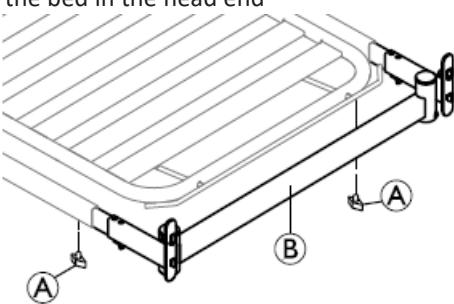
The bed can be extended 5 or 10 cm in both ends of the bed – to a maximum extension of 20 cm.

1. Dismount the side rail(s) and lifting pole (bed head end).
2. Extend the bed in the foot end.



- a. Loosen the screws **A** on the bed end attachments.
- b. Pull out the bed end attachments **B** 5 or 10 cm, and re-tighten both screws **A**.
- c. Loosen the screws **C** on the mattress bow **D** and pull it out to match the extension. Make sure there is at least 2,5 cm between the mattress bow and the bed end.

3. Extend the bed in the head end



- a. Loosen the screws **A** on the side tube of the mattress support frame.
- b. Pull out the cross tube **B** 5 or 10 cm, and re-tighten both screws **A**.

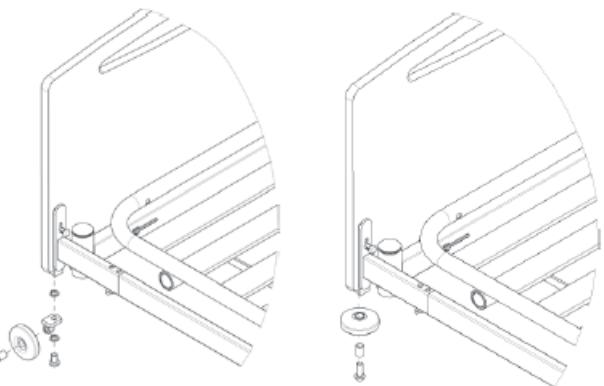
4. Replace the mattress or put in a fitting mattress piece.
5. Mount the side rail(s) and lifting pole (bed head end).

! Loose mattress pieces should always be fitted in the foot end of the bed.

3.13 Bumper wheels on Emma and Piggy bed ends

! Bumper wheels cannot be mounted onto other bed ends.

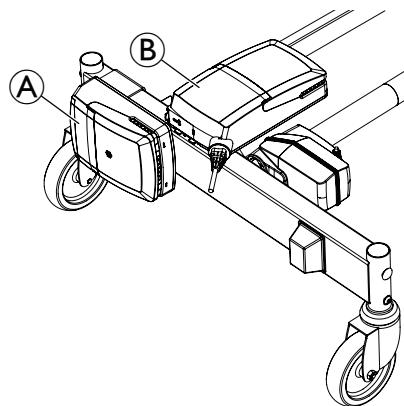
The bumper wheels can be mounted in two different ways. See illustrations.



1. Mount the bushing in the bumper wheel.
2. Fasten the bumper wheel with a screw into the bed end.

3.14 Backup Battery

Beds equipped with a backup battery have an additional box **A** next to the control box **B**. The backup battery ensures that the bed can be adjusted during a power failure or transport.

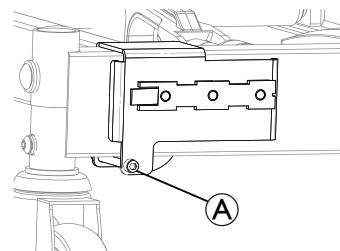


Low backup battery capacity

When the backup battery is running low, the control box will emit a sound after you press a button on the hand control.

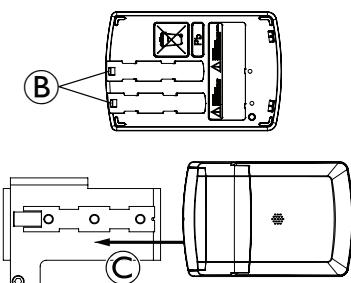
Mounting the backup battery

- 1.



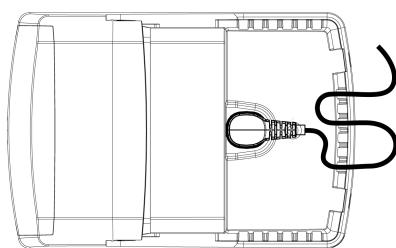
Install the support plate below the bed head end, next to the control box. Secure it with the bottom screw, as shown in **A**.

2.



Slide one of the two ② guides over the mounting bracket, as shown in ③. Check that the end tab is securely locked.

3.



4. Open the lid. Connect and route the power cable as shown.
5. Connect the other end of the cable to the control box. The correct socket is indicated by a battery symbol: refer to 3.7 *Control Box, page 10*.

Charging the batteries



WARNING!

Risk of explosion

Old or faulty backup batteries may generate an explosive gas mixture during charging.

- The backup battery box is provided with vents to ensure adequate ventilation of the box. Do not block or cover the vents, as this may result in pressure built-up and the risk of explosion.

1. Connect the control box to the mains.



- The control box must be connected to the mains for 24 hours prior to first use.
- Backup batteries must be charged, at least, every 6 months for maintenance purposes.

Preventive maintenance



- Frequent, sudden discharges reduce the backup battery's life.

We recommend that you test the backup battery at least once a year.

Backup batteries are not damaged by continuous connection to the mains.



WARNING!

Environmental Hazard

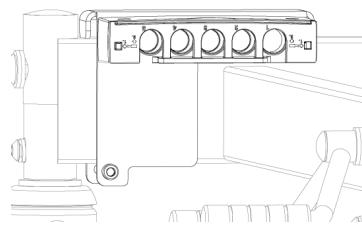
Device contains batteries.

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.

- DO NOT dispose of batteries in normal household waste.
- DO NOT throw batteries into a fire.
- Batteries MUST be taken to a proper disposal site. The return is required by law and free of charge.
- After each assembly, check that all fittings are properly tightened and that all parts have the correct function.
- Only dispose of discharged batteries.
- Cover terminals of lithium batteries prior to disposal.

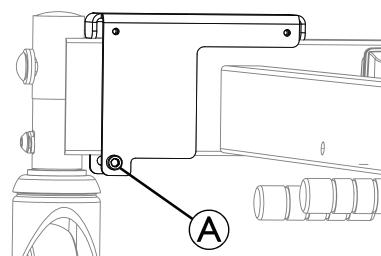
3.15 Modular junction box

The modular junction box is used to transform the analog signals from the Invacare Soft Control into digital signals, when used in combination with a digital control box.



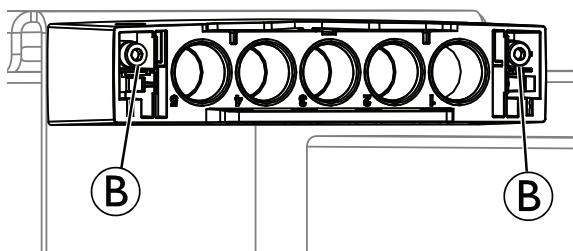
Mounting the modular junction box:

1.



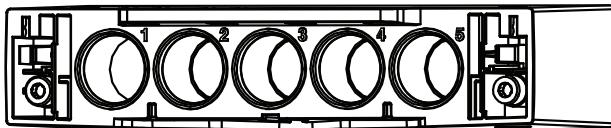
Install the support plate in the base frame below the head bed end, as shown. Secure it with the bottom screw, as shown in ④.

2.



Remove the junction box cover. Insert the screws on both **B** sides. Fasten them to the top two holes of the junction box plate.

3.



As shown above, the junction box is numbered from 1 to 5.

Insert the two blind plugs in sockets 2 and 4 of the junction box.

4. Connect the extension cable to socket 1 of the junction box.
5. Connect the other end to the control box hand control socket.
6. Connect the hand control to socket 5 of the junction box.
7. Reattach the junction box cover. The cover acts as a locking system.

4 Servicing

4.1 General servicing information

! NOTICE!

Refer to the user manual of this product for information on:

- The mattress support must be supported during service inspections, to prevent accidental lowering.
- Only qualified technicians who have received the necessary instructions or training may perform service and maintenance of the bed.
- After reconditioning the bed, or if bed functions change, service must be carried out according to the check list.

A service contract can be made in the countries, where Invacare has its own sales company. In certain countries Invacare offers courses in service and maintenance of the bed. Spare parts lists and additional user manuals are available from Invacare.

Before Use

- Ensure that all manual and electrical parts functions correctly and are in a secure state.
- Check, by raising and lowering the bed, that the shear arms run smoothly in the guideways.

After three months

- Ensure that all manual and electrical parts are functioning, and tighten bolts, screws, nuts, etc.

Every year

- We recommend a safety test comprising the actuators' performance and mechanical state.

Every second year

- We strongly recommend a service according to the below checklist after two years of normal use and then every second year.

 Actuators, hand control and control box are serviced by exchanging the faulty part.

4.1.1 Checklist - Maintenance

Checkpoints

- Circlips, cotter pins and plastic fixing ring - properly locked and intact.
- Screws - tightened.
- Weldings - intact.
- Check the guideways - no bending.
- Check the guideways reinforcement - properly fastened.
- Side rail locking and moving system - properly locking and running smoothly.
- Castor fittings - tightened.
- Castor brakes - locking properly.
- Height adjustment actuator - running properly.

- Back section actuator - running properly.
- Thigh section actuator - running properly.
- Leg section actuator - running properly.
- Wires - correctly wired and undamaged.
- Electric plugs - undamaged.
- Cable insulation and actuator housings – no cracks or damages.
- Damaged coating - repaired.
- Full length side rails - straps not frayed or cracked.
- Accessories - correctly assembled and correct function.

4.2 Inspection after relocation - Prepare for new user

! NOTICE!

When the bed has been relocated, before given to a new user, it must be thoroughly inspected.

- Inspection must be done by a qualified technician.
- For regular maintenance see maintenance chart.

4.2.1 Checklist - After relocation

- Check that the lifting wedge runs in the centre of the support rolls; upper and lower.
- Check that the locking between the lifting wedge and piston from the motor is secure (pipe pins correctly mounted).
- Check that the side tubes of the mattress support are fully inserted, aligned and locked.
- Check that the latches, locking the mattress support on the shear arms, are properly engaged (red button on the mattress support).
- Check the locking of the motors (pipe pins correctly mounted).
- Check the electronic wiring for the motors (wires not squeezed).
- Check that the enclosures of the motors are intact (no cracks that enable fluids to pierce).
- Check that the control box lid is securely closed and locked.
- Check the sections of the mattress support by using the hand control to activate all functions of the moving parts.
- Check the function of the brakes.
- Check that the snap locks on the bed ends are properly locked (pin all the way in = locked).
- Check the locking function(s) of the side rails.
- Check that all bed slats are intact and not loose.

4.3 Cleaning and Disinfection

4.3.1 General Safety Information



WARNING!

Risk of contamination

- Take precautions for yourself and use appropriate protective equipment.

! NOTICE!

Wrong fluids or methods can harm or damage the product.

- All cleaning agents and disinfectants used must be effective, compatible with one another and must protect the materials they are used to clean.
- Never use corrosive fluids (alkalines, acid etc.) or abrasive cleaning agents. We recommend an ordinary household cleaning agent such as dishwashing liquid, if not specified otherwise in the cleaning instructions.
- Never use a solvent (cellulose thinner, acetone etc.) that changes the structure of the plastic or dissolves the attached labels.
- Always make sure that the product is completely dried before taking into use again.

! For cleaning and disinfection in clinical or long-term care environments, follow your in-house procedures.

4.3.2 Cleaning Intervals

! NOTICE!

Regular cleaning and disinfection enhance smooth operation, increases the service life and prevents contamination.

Clean and disinfect the product:

- regularly while in use,
- before and after any service procedure,
- when it has been in contact with any body fluids,
- before using it for a new user.

4.3.3 Cleaning in automatic washing systems

! NOTICE!

Only certain components of the product tolerate cleaning in automatic washing systems or with high pressure cleaning equipment.

- The washability of the components must be determined by authorized personnel.
- If the components cannot tolerate cleaning in automatic washing systems, with high pressure cleaning equipment or if it is unclear, they must be cleaned by hand.

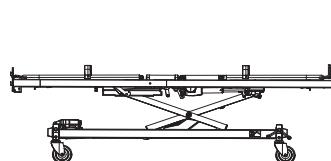
The IP classification determines the washability of a electrical component. The IP classification of each electrical component is stated on its serial label.

- **Electronics classified IPx4 and/or IPx6** may **NOT** be washed with high-pressure cleaning equipment or in a automatic washing system.
- **Electronics classified IPx6w** can be washed with high-pressure cleaning equipment or in a automatic washing system.

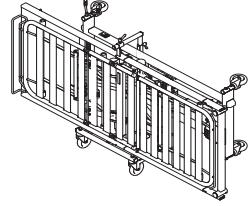
Preparation

- Before washing with high-pressure cleaning equipment or in automatic washing systems, perform the following:

- Remove all electronics not classified as IPx6w.
- Remove power plug from mains.
- Remove all textiles (including mattress and upholstery).
- Remove all wooden parts.
- Remove aluminium side rails.
- Make sure all plugs on the bed are placed in their sockets during washing.
- Protected all disconnected (loose) plugs with plastic covers and all empty sockets e.g. with blind plugs.
- Run the motors all the way down/in to prevent them from calcium sedimentation and corrosion.
- Place the bed in one of the following ways:



Placed on its castors



Placed on the side on a trolley

Cleaning

- Max temp: 70°C
- Max. Duration: 2 min
- Max pressure: 8 Bar, with a nozzle distance of 30 cm from part
- Recommended cleaning agents:
 - Sekumatic FDR or FRE from Ecolab
 - Neodisher Dekonta from Dr. Weigert
 - Thermosept NDR from Schülke or similar with a pH-value of 5-8 and in a concentration of 0.5 %

Rinsing/ flushing

- Max temp: 85°C
- Max. Duration: 20 sec
- Max pressure: 8 Bar, with a nozzle distance of 30 cm from part
- Recommended rinsing agents:
 - Sekumatic FKNfrom Ecolab
 - Neodisher BP or TN from Dr. Weigert
 - Thermosept BSK from Schülke or similar with a pH-value of 5-8 and in a concentration of 0.5 %

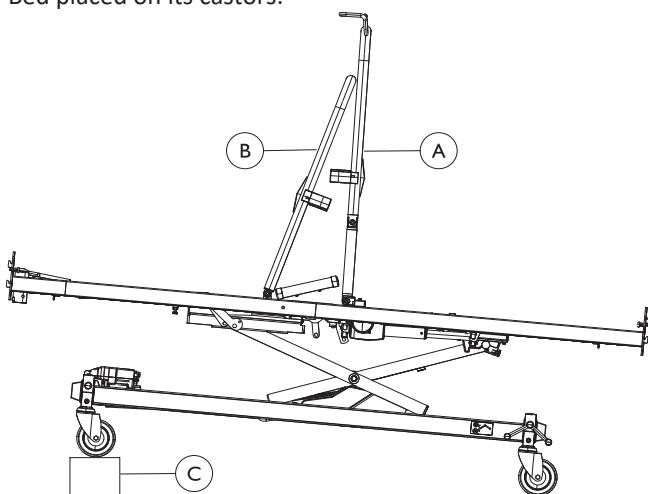
Drying

- Method: In washing system or drying cabinet
- Max temp: 50°C
- Max. Duration: 10 min

! Alternatively, let the bed dry in room temperature.

Depending on the placement of the bed, perform one of the following procedures, to allow the water to run out of the tubes:

- Bed placed on its castors:



1. Place the thigh/leg section Ⓐ and the backrest Ⓑ in an upright position.
2. Tilt the bed by placing an object (about 10 cm) Ⓒ under the head end castors.

- Bed placed on trolley
 1. Tilt the bed/trolley to one side, by placing an object (about 10 cm) under the castors. Leave it for 5 minutes.
 2. Tilt the bed/trolley, to the other side, by placing an object (about 10 cm) under the castors. Leave it for 5 minutes.

After washing

Necessary precautions before taking the bed into use again

1. Inspect carefully for remaining water and wipe off with a dry cloth. Especially check the guideways.
2. Test all electric functions.
3. Lubricate the bed according to lubrication chart.
4. Recondition the bed according to section *Inspection after relocation - Prepare for new user*.

4.3.4 Cleaning by Hand

All components (excluding removable textiles)

- Cleaning agent: We recommend using a mild detergent with neutral or near neutral pH (5-9).

! Commercially available consumer products like hand dishwashing liquid or all-purpose cleaners can be used. Read the instructions on the label of your cleaning agent and use it at the indicated concentration.

1. Max. water temperature: 40°C
2. Wipe surfaces thoroughly with a soft cloth slightly moistened with detergent solution until all visible soil is removed.
3. Remove all detergent residue with a clean damp cloth.
4. Wipe dry using a clean, soft cloth.

Removable textiles (including upholstery and mattresses)

- See attached label on each product.

4.3.5 Disinfection Instructions

In Domestic Care

- Disinfectant: We recommend using an alcohol-based surface disinfectant (with 70-90% alcohol).

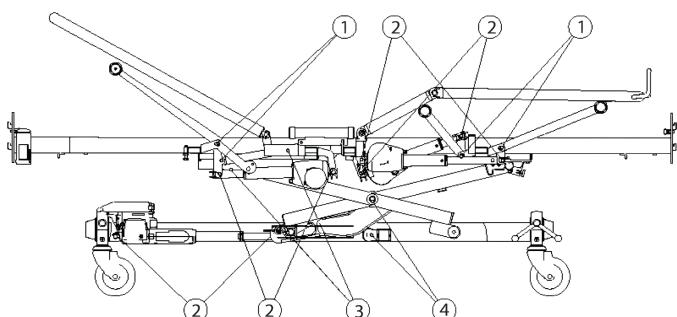
! Read the instructions on the label of your disinfectant. It provides information on the activity spectrum (bacteria, fungi and/or viruses), material compatibility and the correct exposure time.

1. Ensure the surfaces are cleaned before disinfection.
2. Moisten a soft cloth and wipe-disinfect all accessible surfaces and keep them moistened for the exposure time stated on the label of the disinfectant.
3. Allow the product to air-dry.

In Institutional Care

Follow your in-house disinfection procedures and only use the disinfectants and methods specified therein.

4.4 Lubrication



We recommend lubricating the bed according to the following table:

Part of bed	Lubrication method
1 Bearings for lifting- and shear arms	Oil (medically clean)
2 Motor suspension	Oil (medically clean)
3 Gliding shoes and guideways	Grease
4 Axles and rolls for shear arms (axle must be dismounted)	Grease



NOTICE!

The gliding shoes in the Line side rails' gliding system move sluggishly if lubricated with oil.

- Always use grease to lubricate the gliding shoes.



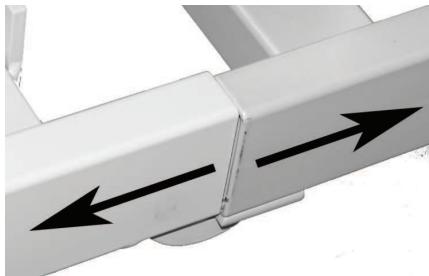
For ordering of correct oil and grease, please contact your Invacare dealer.

4.5 Adjusting misaligned platform tubes

This instruction only applies to beds 85–90 cm wide.

In the event that the side tubes are misaligned in the assembly, the inserts can be adjusted for better fit.

1.



Slide the side tubes apart.

2.



Use a large screwdriver to flip the little tongue 1-2 mm.

3.



Slide the side tubes along. Verify that the side tubes are aligned.

4.6 Disposal

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

Disassemble the product and its components, so the different materials can be separated and recycled individually.

The disposal and recycling of used products and packaging must comply with the laws and regulations for waste handling in each country. Contact your local waste management company for information.

5 Troubleshooting

5.1 Troubleshooting electrical system

Symptom	Possible cause	Remedy
Mains indicator does not light up	Mains are not connected	Connect mains
	Fuse in the control box is blown	* Replace the control box
	Control box is defective	* Replace the control box
Mains indicator lights up, but the motor is not running	Motor plug is not fully inserted into the control box.	Insert the motor plug properly into the control box
	The motor is defective	* Replace the motor
	Motor cable is damaged	* Replace the cable
	Control box is defective	* Replace the control box
	Hand control is defective	* Replace the hand control
Control box is in order except for one direction on one channel	Control box is defective	* Replace the control box
	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		

* Service and maintenance of the bed must only be performed by qualified technicians who have received the necessary instruction or training.



WARNING!

Risk of personal injury and damage to the product

- The bed must be unplugged from the main power source before opening or repairing electrical parts.



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