

Invacare® Alegio™ NG



en Bed
User Manual

This manual MUST be given to the user of the product.
BEFORE using this product, this manual MUST be read and saved
for future reference.



Yes, you can.®

©2023 Invacare Corporation

All rights reserved. Republication, duplication or modification in whole or in part is prohibited without prior written permission from Invacare. Trademarks are identified by ™ and ®. All trademarks are owned by or licensed to Invacare Corporation or its subsidiaries unless otherwise noted.

Contents

1 General	4	6.7.2 Cleaning Intervals.	26
1.1 Introduction	4	6.7.3 Cleaning by Hand.	26
1.1.1 Symbols in this Document	4	6.7.4 Disinfection Instructions.	26
1.2 Intended Use	4	6.8 Lubrication	26
1.2.1 Intended Operator	4	7 After Use	27
1.3 Service Life	5	7.1 Disposal	27
1.4 Compliance	5	7.2 Reconditioning	27
1.4.1 Product-specific standards	5	8 Troubleshooting	28
1.5 Warranty Information	5	8.1 Troubleshooting electrical system.	28
1.6 Limitation of Liability	5	9 Technical Data	29
2 Safety	6	9.1 Materials	29
2.1 General safety information	6	9.2 Dimensions	29
2.2 Mattresses	7	9.3 Weights	29
2.3 Safety information on electromagnetic interference	7	9.4 Mattress Dimensions	29
2.4 Labels and symbols on the product	8	9.5 Side Rails	30
2.4.1 Identification label	8	9.6 Environmental conditions	30
2.4.2 Other Labels	8	9.7 Electrical system	30
3 Setup	10	10 Electromagnetic compatibility (EMC)	31
3.1 General Safety Information	10	10.1 General EMC information	31
3.2 Main parts of the bed	10	10.2 Electromagnetic emission	31
3.3 Assembly of the bed	10	10.3 Electromagnetic Immunity	31
3.4 Control Box	11	10.3.1 Test specifications for immunity to RF wireless communications equipment	32
3.5 Wiring	12		
3.6 Installing bed ends	12		
3.6.1 Bed end brackets	12		
3.6.2 Bed ends with U-bracket style fitting	13		
3.6.3 Bed ends with Sanne style fitting	13		
3.6.4 Sabrine and Camila bed ends	13		
3.7 Installing side rails	13		
3.7.1 Verso II side rail	13		
3.7.2 Scala 2 side rail	14		
3.7.3 Britt V and Line side rail	14		
3.7.4 Lisa side rail	15		
3.8 Installing the mattress support extension	16		
3.9 Install Rastofix	16		
3.10 Dismantle the bed	16		
4 Operating the bed	18		
4.1 General Safety Information	18		
4.1.1 Mattress retainers	18		
4.2 Hand control	18		
4.3 Locking function	18		
4.4 Operating side rails	18		
4.4.1 Verso II side rails	19		
4.4.2 Operating Scala 2 side rail	19		
4.4.3 Britt V and Line side rails	19		
4.4.4 Lisa side rail	20		
4.5 Castors and brakes	20		
4.5.1 Castor brake	20		
4.5.2 Central brake system	20		
4.6 Lifting pole	20		
4.6.1 Place the lifting pole	20		
4.6.2 Adjusting the handle height	21		
4.7 Adjusting the leg section	21		
4.8 Emergency positions	21		
4.8.1 Emergency release of a mattress support section	21		
4.9 Transportation and Storage	21		
5 Options	22		
5.1 List of available options	22		
5.2 Transport trolley	22		
6 Maintenance	25		
6.1 General maintenance information	25		
6.2 Daily inspections	25		
6.3 General servicing information	25		
6.4 Checklist - Maintenance	25		
6.5 Inspection after relocation - Prepare for new user	25		
6.6 Checklist - After relocation	25		
6.7 Cleaning and Disinfection	26		
6.7.1 General safety information	26		

1 General

1.1 Introduction

This user manual contains important information about the handling of the product. To ensure safety when using the product, read the user manual carefully and follow the safety instructions.

Only use this product if you have read and understood this manual. Seek additional advice from a healthcare professional who is familiar with your medical condition and clarify any questions regarding the correct use and necessary adjustment with the healthcare professional.

Note that there may be sections in this document, which are not relevant to your product, since this document applies to all available models (on the date of printing). If not otherwise stated, each section in this document refers to all models of the product.

The models and configurations available in your country can be found in the country-specific sales documents.

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.

If you find that the font size in the printed document is difficult to read, you can download the PDF version from the website. The PDF can then be scaled on screen to a font size that is more comfortable for you.

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

In case of a serious incident with the product, you should inform the manufacturer and the competent authority in your country.

1.1.1 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. 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)



UK Responsible Person

Indicates if a product is not manufactured in the UK.



Triman

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

1.2 Intended Use

The medical bed is electrically operated, adjustable in height and features a profiling support surface intended to be used in combination with a mattress. Medical beds are designed for support of the patient and used for the mitigation, relief, and recovery from certain medical conditions. The medical bed also supports and eases the caregivers' working environment.

The Medical bed is intended to be used on:

- *Application environment 3*; Long-term care in a medical area where medical supervision is required and monitoring is provided if necessary and medical electrical equipment used in medical procedures may be provided to help maintain or improve the condition of the patient.
- *Application environment 4*; Care provided in a domestic area where medical electrical equipment is used to alleviate or compensate for an injury, disability or disease.

Intended Users

A person with a medical condition that needs to be cared for in bed.

Indications

The bed is intended for adult users, having a physical size equal to or more than 146 cm, a weight equal to or more than 40 kg and a body mass index (BMI) equal to or more than 17.

The bed is intended for indoor use only.

Maximum user weight is 135 kg and safe working load is 170 kg.

Contra-indications

The bed is not intended for transportation of users. It is mobile within a room with a user in it. Castors are lockable.

The bed is not intended for persons with a psychosocial disability.



WARNING!

Any other or incorrect use could lead to hazardous situations.

Invacare accepts no liability for any use, change or assembly of the product, other than stated in this user manual.

1.2.1 Intended Operator

A healthcare professional or private person who has received proper training is the intended operator of this product.

The hand control can also be operated by the occupant of the bed.

1.3 Service Life

The expected service life of this product is five years when used daily and in accordance with the safety instructions, maintenance intervals and correct use, stated in this manual. The effective service life can vary according to frequency and intensity of use.

1.4 Compliance

Quality is fundamental to the company's operation, working within the disciplines of ISO 13485.

This product features the CE mark, in compliance with the Medical Device Regulation 2017/745 Class I.

This product features the UKCA mark, in compliance with Part II UK MDR 2002 (as amended) Class I.

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

We only use REACH compliant materials and components.

We comply with the current environmental legislations WEEE and RoHS.

1.4.1 Product-specific standards

The product has been tested and conforms to IEC 60601-2-52 (Particular requirements for the basic safety and essential performance of medical beds) and all related standards.

For further information about local standards and regulations, contact your local Invacare representative. See addresses at the end of this document.

1.5 Warranty Information

We provide a manufacturer's warranty for the product in accordance with our General Terms and Conditions of Business in the respective countries.

Warranty claims can only be made through the provider from whom the product was obtained.

1.6 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

This section of the manual contains general safety information about your product. For specific safety information, refer to the appropriate section of the manual and procedures within that section.



WARNING!

Risk of injury or damage

- Do not use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as user manuals or instruction sheets supplied with this product or optional equipment. If you are unable to understand the warnings, cautions or instructions, contact a healthcare professional, Invacare provider or qualified technician before attempting to use this product.
- Do not make any unauthorized alterations or modifications to the product.



WARNING!

Risk of entrapment / suffocation

There's a risk of entrapment / suffocation between mattress support, side rail and bed end or between moving parts and objects placed nearby the bed.

- The bed must not be used by persons under 12 years of age, or by persons with a body size equivalent to an average 12 years old or smaller.
- The bed, in combination with side rails must not be used by persons having a physical size less than 146 cm, a weight less than 40 kg or a body mass index (BMI) less than 17.
- Due to mattress compression, an increased risk may occur over time. Periodically monitor gaps between the bed, mattress and/or side rail. Replace mattress if the gaps may lead to entrapment.



WARNING!

Risk of slipping through the openings

The bed fulfils all requirements regarding maximum distances. However, it is possible that persons with small body dimensions slip through the openings between the side rails or through the opening between the side rail and the mattress support.

- Pay special attention, if the bed is used for the care of persons with small body dimensions.



WARNING!

Risk of injury or damage

Inappropriate handling of cables, incorrect connections and use of unauthorized equipment can cause electrical shock and product failure.

- Do not kink, shear or otherwise damage the cables of the product.
- Make sure that no cables are jammed or damaged, when the product is used.
- Disconnect the plug from the mains before moving the bed.
- Make sure the wiring is correct and connections are proper.
- Do not use unauthorized equipment.



WARNING!

Risk of tripping, entanglement or strangulation

Improper routing of cables may cause tripping, entanglement or strangulation hazard.

- Ensure all cables are routed and secured properly.
- Ensure there are no loops of excess cable extending away from the product.



WARNING!

Risk of injury or damage

Ignition sources can cause burns or fire.

- Bed must be placed with a safety space from possible ignition sources (heater, fireplace, etc.)
- The patient and assistants must not smoke while using or operating the bed.



WARNING!

Risk of injury or damage

To avoid injury or damage when operating the product:

- Close supervision is necessary when the product is used near children or pets.
- Do not let children play with the product.



CAUTION!

- For a person entering or exiting the bed, always lower the bed to an appropriate height. For entering or exiting the bed, the backrest section of the mattress support can be used as an assistance. Make sure the patient is laid down at the centre of the backrest section. When the backrest section is being raised the allowed maximum weight for the backrest section is 45% of maximum safe working load.
- Always lower the bed to the lowest position before leaving a person in the bed unattended.
- Make sure that there is nothing under, over, or near the bed that can obstruct the height adjustment, like for example furniture, lifts or window frames.

**CAUTION!**

Non-original or wrong accessories may affect the function and safety of the product.

- Only use original accessories for the product in use.
- 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.

**CAUTION!****Risk of injury or damage**

The product can get hot when exposed to sunlight or other heat sources.

- Do not expose the product to direct sunlight for prolonged periods.
- Keep the product away from heat sources.

**CAUTION!**

There is a risk of entrapment of fingers in the bed moving parts.

- Pay attention to your fingers.

**NOTICE!**

The bed has no isolator (main switch). If the bed needs to be electrically disconnected, it has to be unplugged from the mains socket.

- Always place the bed in a way so the mains socket is easily accessible to unplug the bed.

**NOTICE!**

Accumulation of lint, dust and other dirt can impair the product.

- Keep the product clean.

2.2 Mattresses

**WARNING!****Safety aspects regarding combination of side rails and mattresses:**

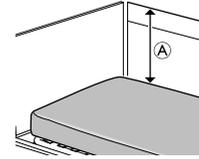
To get the highest possible safety level, when using side rails on the bed, the minimum and maximum measures for mattresses, must be respected.

- For correct mattress measures see mattress table in chapter 9 *Technical Data*, page 29.

**WARNING!****Risk of entrapment and/or suffocation**

– The user could get trapped and/or suffocate, if the horizontal space, between the mattress side and the inside of the side rail, is too big. Follow the minimum width (and length) of mattresses in combination with a side rail, as stated in the mattress table in chapter 9 *Technical Data*, page 29 .

- Be aware that using very thick or soft mattresses (low density), or a combination of these, increases the risk.

**WARNING!****Risk of falling**

The user can fall over the edge and get seriously injured, if the vertical distance (A) between the top of the mattress and the edge of the side rail/bed end, is too short. See image above.

- Always keep a minimum distance (A) of 22 cm.
- Follow the maximum mattress height in combination with the side rail as stated in the mattress table in chapter 9 *Technical Data*, page 29.

2.3 Safety information on electromagnetic interference

**WARNING!****Risk of malfunction due to electromagnetic interference**

Electromagnetic interference between this product and other electrical equipment can occur and disturb the electrical adjustment functions of this product. To prevent, reduce or eliminate such electromagnetic interference:

- Only use original cables, accessories and spare parts, to not increase electromagnetic emission or reduce electromagnetic immunity of this product.
- Do not use portable radio frequency (RF) communications equipment closer than 30 cm to any part of this product (including cables).
- Do not use this product near active high-frequency surgical equipment and the RF shielded room of a system for magnetic resonance imaging, where the intensity of electromagnetic disturbances is high.
- If disturbances occur, increase the distance between this product and the other equipment or switch it off.
- Refer to the detailed information and follow the guidance in chapter 10 *Electromagnetic compatibility (EMC)*, page 31.



WARNING!
Risk of malfunction due to electromagnetic interference

Do not use this bed adjacent to or stacked with other electrical equipment, than specified in the following, as it could result in improper operation. If such use is necessary, the bed and the other equipment must be closely observed to verify that they are operating normally.

This bed can be used together with Invacare approved accessories and medical electrical equipment connected to the heart (intracardially) or blood vessels (intravascularly) provided that following points are respected:

- Medical electrical equipment should not be fixed on the bed's metallic accessories such as side rails, lifting pole, drip rod, bed ends, etc.
- The medical electrical equipment power supply cord should be kept clear of the accessories or any other moving parts of the bed.

	Type B applied part
	WEEE conform
	European Conformity
	UK Conformity Assessed

Abbreviations for technical data:

- lin = Incoming Current
- Uin = Incoming Voltage
- Int. = Intermittence
- AC = Alternating Current
- Max = maximum
- min = minutes

For more information about technical data, refer to 9 *Technical Data, page 29.*

2.4 Labels and symbols on the product

2.4.1 Identification label

The identification label is placed on the frame of the bed and contains the main product information, including technical data.

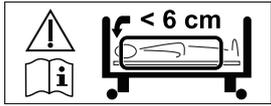
	Serial number
	Reference number
	Manufacturer
	Date of manufacture
	Medical device
	Max. user weight
	Max. safe working load
	CLASS II equipment

2.4.2 Other Labels

Read the user manual before using this product and follow all instructions for safety and use.	
	Definition of min. weight, min. height and min. body mass index of an adult user. See <i>Intended Use.</i>
	Refer to user documentation for the correct mattress measures. See 9 <i>Technical Data, page 29.</i>
	Total weight of the product with the maximum safe working load applied
	Temperature limit
	Humidity limitation
	Atmospheric pressure limitation

	Transport and storage conditions
	Operation conditions
	
Marks out the location of connection for means of potential equalization. (Not present on all versions of this product)	

Label on 3/4 length side rails


Indicates the maximum space between side rail and the head bed end. See the mounting instruction in this manual or the instruction delivered with the side rail.

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.



WARNING!

Risk of injury or damage to property

The assembly of the bed and installation of accessories must only be performed by a qualified technician or a person who has received proper training.

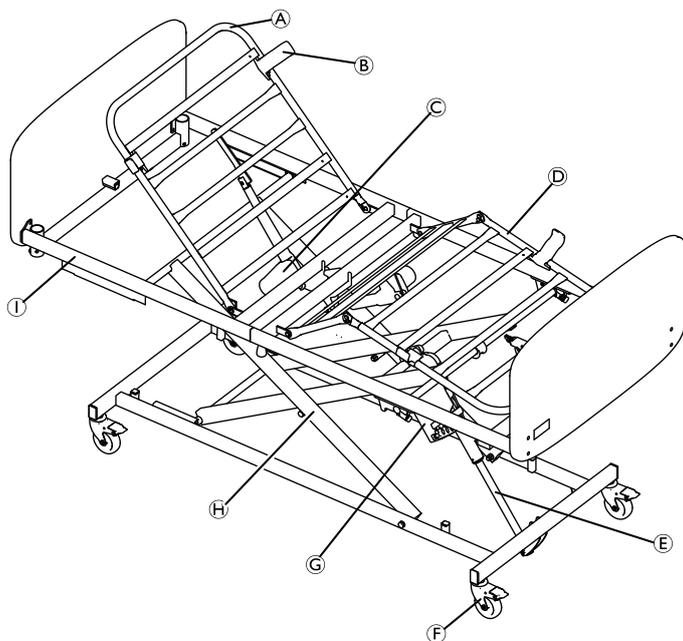
- Follow instructions carefully. If you have any question regarding the assembly, contact your Invacare provider.
- The electrical equipment of the bed must not be dismantled or combined with other electrical equipment.
- After each assembly, check that all fittings are properly tightened and that all parts have the correct function.



NOTICE!

- To prevent condensation, the bed should not be used until it has reached operating temperature. See 9 *Technical Data*, page 29

3.2 Main parts of the bed



- Ⓐ Mattress support, head section
 - Ⓑ Mattress retainers, 4 pcs
 - Ⓒ Motor, mattress support backrest section
 - Ⓓ Mattress support, thigh/leg section
 - Ⓔ Lift motor
 - Ⓕ Castor, 4 pcs
 - Ⓖ Control Box
 - Ⓗ Shear arms
 - Ⓘ Mattress support frame
- Hand control (not shown in image)



Side rails and bed ends are not delivered in the standard configuration. For more information about side rails, bed ends and other accessories, contact your Invacare representative.



WARNING!

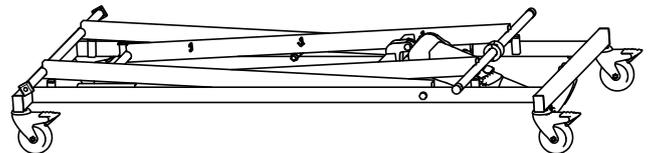
Risk of injury

The user can fall over the edge and get seriously injured if the bed is used without bed ends and side rails

3.3 Assembly of the bed

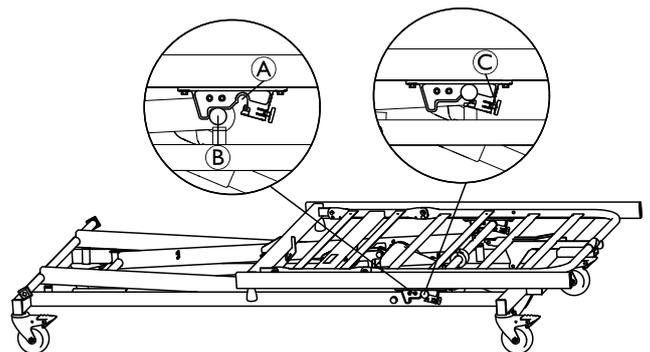
Mattress support

1.



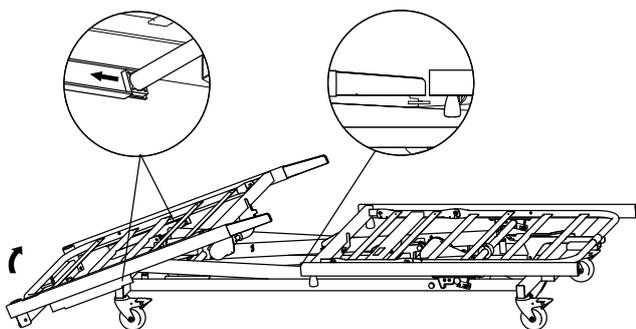
Place base and shear arm assembly on the floor and lock all castors.

2.



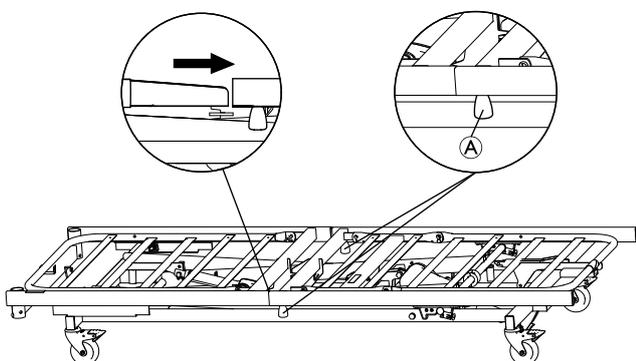
- a. Place the mattress support foot section at the end of the bed which has the lifting actuator.
- b. Align the plastic snap lock fittings Ⓐ on the mattress support with the pivot pins Ⓑ on the shear arm.
- c. Press down firmly to engage the pivot pins Ⓑ in the snap lock fitting Ⓐ. Rotate the locking pin Ⓒ on the snap lock fitting to prevent disengagement of the foot section.

3.



- Place the head section on the shear arms at the opposite end of the bed.
- Align the square plastic guides with the channel on the head section.
- Lift the lower end of the foot section to align the brackets with the frame tubes of the head section.

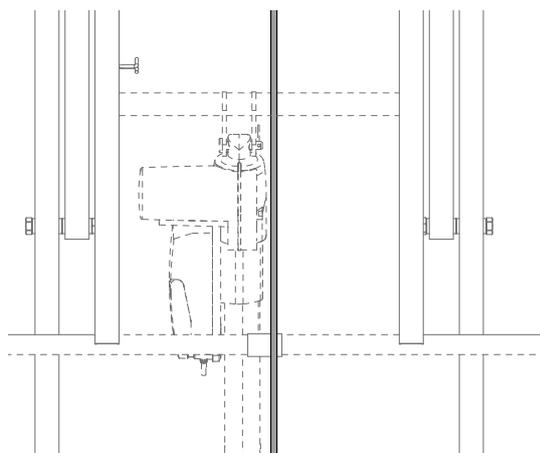
4.



- Push the foot section towards the head section until the frame tubes are touching.
- Secure the head and foot section on each side with the finger screw (A).

 If the bed is provided with a wire actuated foot section, follow steps 5–10.

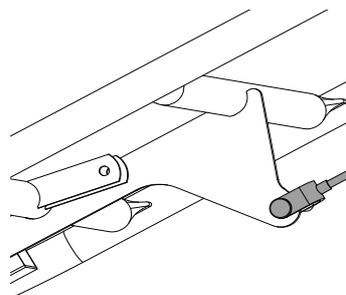
- Unfasten the cable from the head section.
-



Lift the foot section and lay cable over tube and guide pulley.

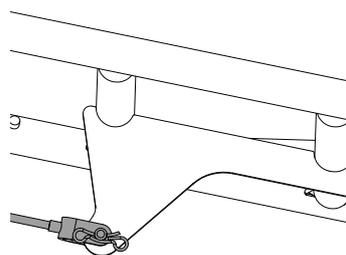
- Lower the foot section and raise the knee pivot point.

8.



Attach the cable fitting to the hole of the deck bracket with the clevis pin provided and make sure the head of the clevis pin is on the same side as the rastfix deck brackets.

9.

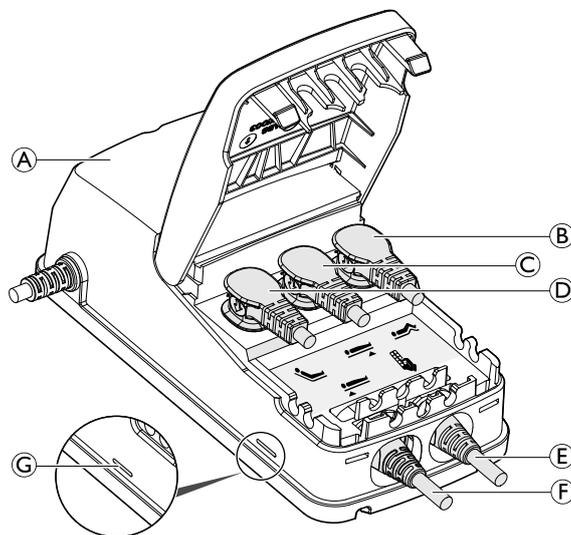


Fix the clevis pin with the hitch pin.

- Lower the knee pivot point and ensure the cable and pin are mounted properly.

3.4 Control Box

The control box is latched to the lift motor.



The control box (A) is provided with a label with symbols showing where to connect the motor plugs:

- Thigh section's motor (B).
- Lift motor (C).
- Backrest motor (D).
- Hand control (E).
- not used (F).

 The control box is equipped with a **green** LED (G) which indicates it is connected to mains power. When it is connected to mains power the **green** LED (G) is on.

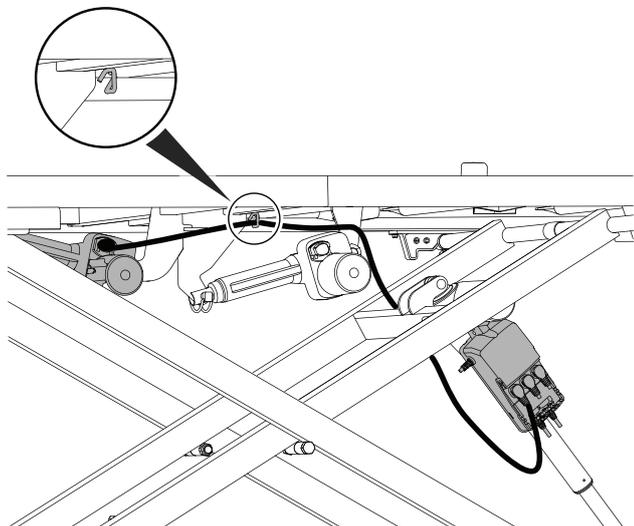
3.5 Wiring

! NOTICE!

– The cables must be mounted in such a way that they are kept clear off the floor and do not block the castors.

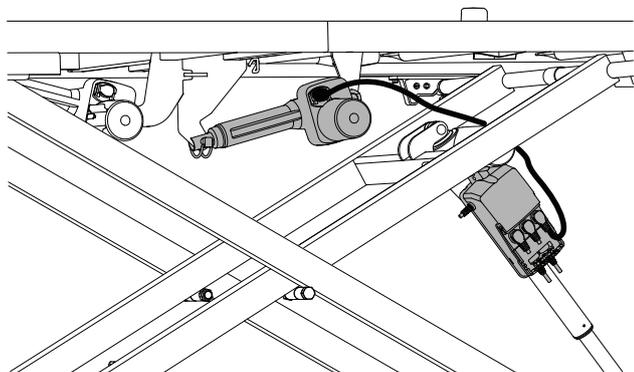
In order to prevent the cables from being damaged when activating the motors, follow the instructions below.

1.



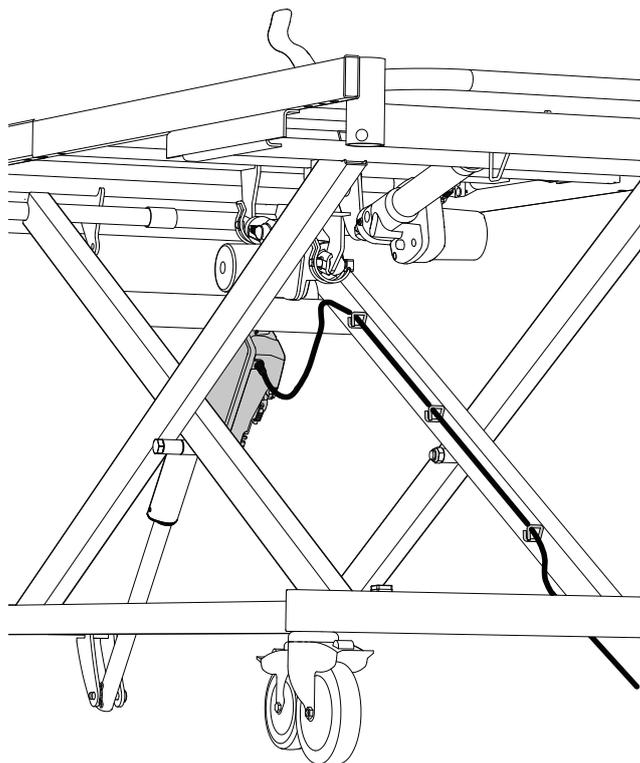
- a. Route the head section motor cable over the shear arm assembly cross tube and into the motor pipe pin and hook on the mattress support cross tube.
- b. Plug cable into the motor and secure with locking clip.

2.



- a. Route the thigh section motor cable over the shear arm assembly cross tube.
- b. Plug cable into motor and secure with locking clip.

3.



Route the power cable through the shear arm assembly hooks.

4. Route the hand control cable under the base frame.

3.6 Installing bed ends

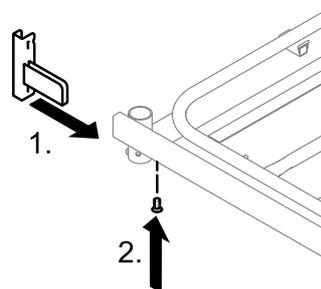


Allen key

3.6.1 Bed end brackets

Depending on the bed end to be mounted, it might be required to pre-mount or change the bed end brackets.

Mounting



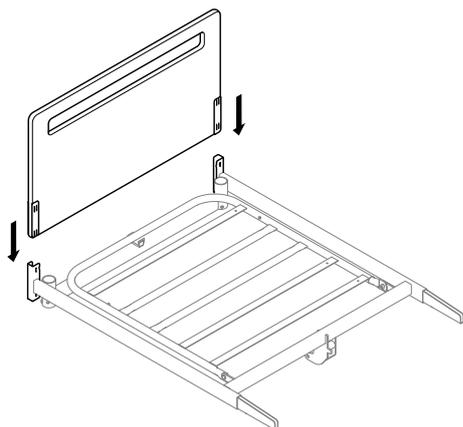
1. Insert the bed end brackets into the side tubes of the mattress support platform.
2. Fix the bed end brackets on the side tubes with the screws from below and tighten firmly.

Dismounting

1. Remove the screws and pull the bed end brackets out of the side tubes.

3.6.2 Bed ends with U-bracket style fitting

Mounting



1. Lower the bed end into the U-bracket fitting.
2. Press down firmly and ensure the bed end is fully seated at the bottom of the U-bracket fitting.

Dismounting

1. Hold the bed end firmly on each side and pull up vertically on both sides at the same time.

3.6.3 Bed ends with Sanne style fitting



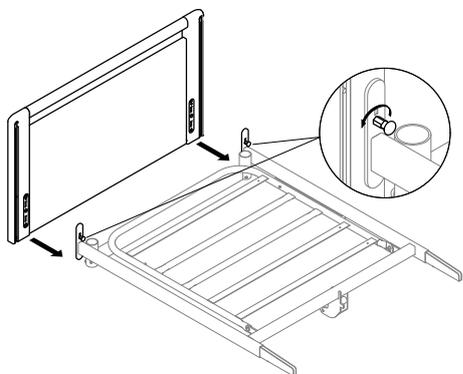
CAUTION!

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.

Mounting



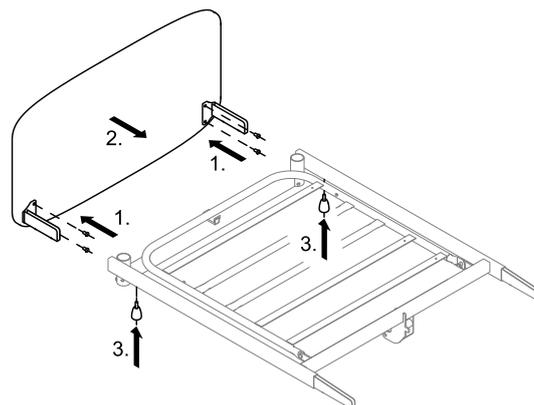
1. Align the slots in the bed end with the tabs on the Sanne fitting.
2. Place the bed end onto the tabs.
3. Push down firmly and ensure that the bed end is fully seated in the tabs.
4. Rotate the locking pin on both sides to allow it to engage with the bed end.

Dismounting

1. Pull out the locking pin and rotate to temporarily disengage from the bed end on both sides.
2. Hold the bed end firmly on each side and pull up vertically on both sides at the same time.

3.6.4 Sabrina and Camila bed ends

Mounting



1. Fix the bed end brackets on the bed end panel with the screws.
2. Insert the bed end brackets into the side tubes of the mattress support platform.
3. For Sabrina bed ends, fix the bed end on the side tubes with the finger screws inserted in the second hole. In some configurations you have to insert the finger screws in the first hole to fix the foot end. For Camila bed ends, fix the bed end on the side tubes with the screws.

Dismounting

1. Unscrew the finger screws or screws, that fix the bed end on the side tubes.
2. Pull out the bed end panel with the bed end brackets of the side tubes of the mattress support platform.

3.7 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!

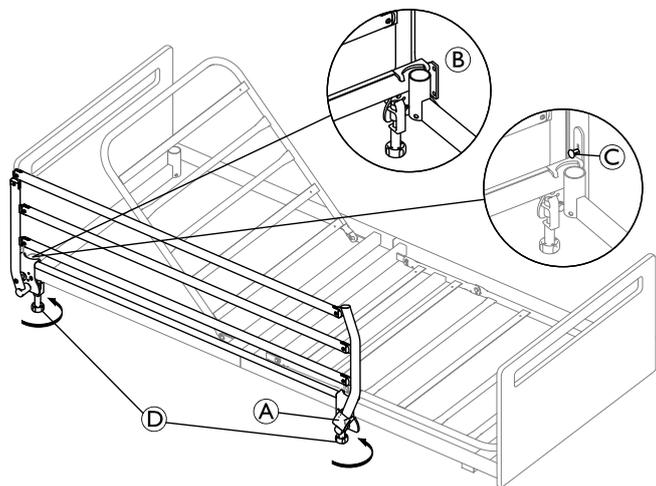
Risk of entrapment

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.

3.7.1 Verso II side rail

Mounting



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

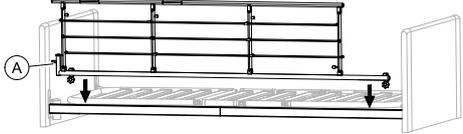
1. Place both brackets of the side rail on the frame of the bed, with the locking button **A** facing towards the foot end of the bed.
2. Ensure that the bracket near the head end of the bed is placed encompassing the lifting pole support as shown in detail **B**.
3. For beds equipped with bed ends with 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.

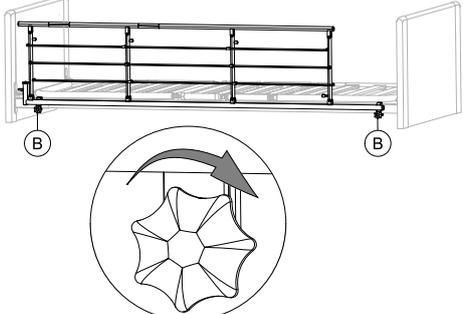
3.7.2 Scala 2 side rail

Mounting side rail

1. 

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

i 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.

3.7.3 Britt V and Line side rail

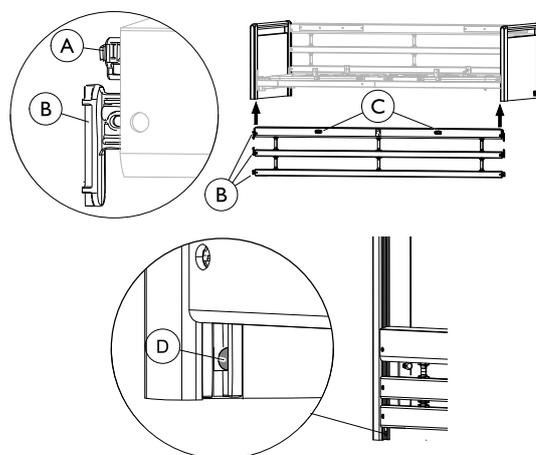


WARNING!

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 **Ⓑ** (in the end of the side rail bars) up into the bed end guideways, until they have all passed the locking pin **Ⓓ**.
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 **Ⓓ** 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.

3.7.4 Lisa side rail

Installing the side rail



Allen key



WARNING!

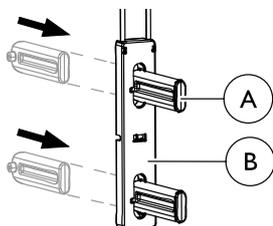
Risk of entrapment / suffocation

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 the locking screw and tab are properly installed at the bottom of the guideways.

Assembling the gliding system

1.

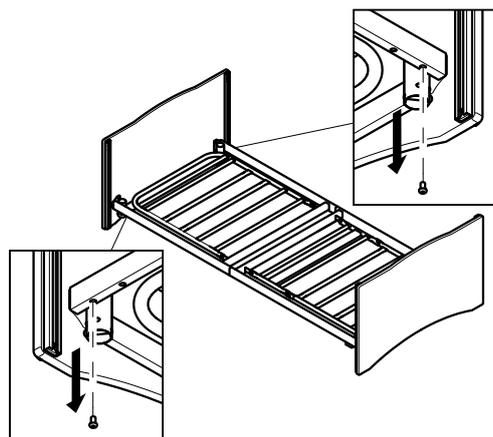


Push the pawl **Ⓐ** from the backside, through the glider **Ⓑ** and make sure it locks with an audible click.

2. Do the same for all four pawls in each glider.

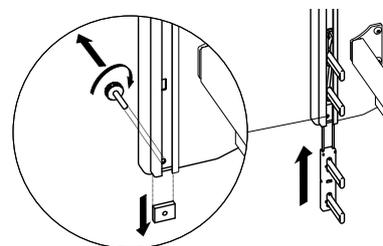
Attaching the gliding system and installing the side rail

1. Raise the bed to 1/3 of full height.
- 2.



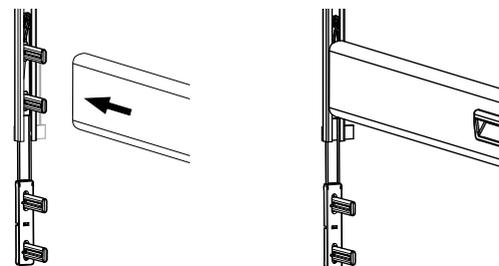
Remove the screws of the bed end brackets on both sides of one bed end.

3.



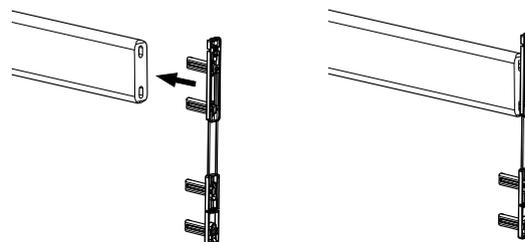
Loosen the screw and tab at the bottom of the guideways on the bed ends and on one side push the glider halfway up into the guideway until it attaches with an audible click.

4.



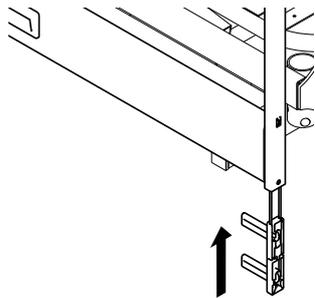
Push the upper side rail onto the two upper pawls.

5.



In the other end of the side rail bar, push the two upper pawls into the end of the bar.

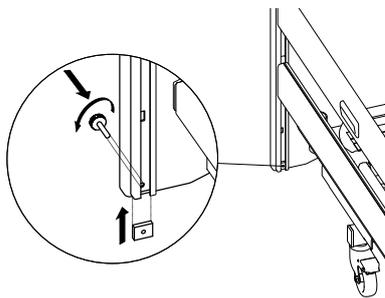
6.



Push the attachment into the guideway until it attaches with an audible click (=properly engaged in the lower position).

7. Mount the lower side rail bar in both ends as in step 4.
8. Push the side rail in both ends, all the way up until the upper bar locks in the upper position.

9.



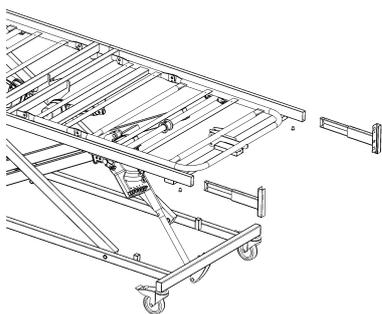
Retighten the screw and tab under the lower side rail bar, in each corner of the bed ends.

10. Reinsert and tighten the screws of the bed end brackets removed in step 2.

3.8 Installing the mattress support extension

(optional)

1. Remove the foot bed end.
- 2.



Loosen the screws that secure the standard bed end brackets and remove

3. Insert the extended length bed end brackets into the frame tubes and secure with screws.

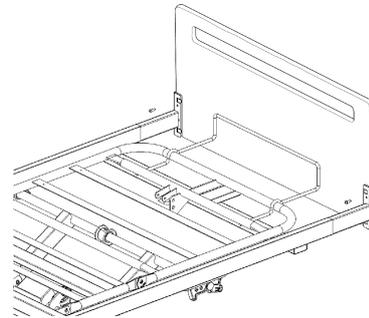
4. Reinstall the foot bed end and fix it to the brackets with the tapping screws.



NOTICE!

On an extended bed, the foot bed end must be secured by fixing it to the brackets with tapping screws.

5.

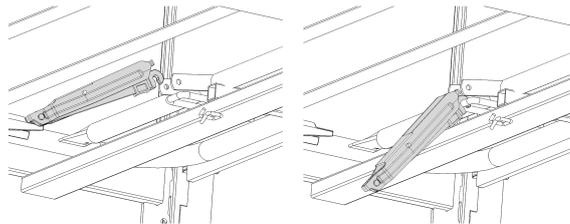


Attach mattress deck extender to the foot end of the mattress deck.

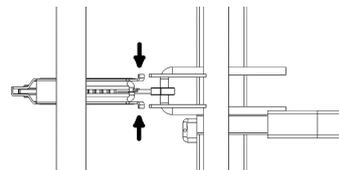
3.9 Install Rastofix

(optional)

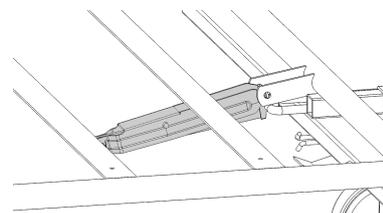
1. Press bottom of Rastofix at the foot end of the bed.



2. Squeeze upper end of Rastofix together.



3. Rotate Rastofix between tabs and release.



4. Slide the plastic cap and lock the bottom of the rastofix.

3.10 Dismantle the bed

1. Lock all castors and remove all accessories, end boards and mattress.
2. Bring the bed to its lowest position and adjust all mattress support sections to horizontal position.
3. Disconnect the power cable from the mains socket. Roll the cable onto the control box and lift motor.



If the bed is provided with a cable actuated foot section, follow step 4. Otherwise proceed with step 5.

4. Unfasten cable from foot section deck bracket, being sure to retain the clevis pin and hitch pin.
5. Unscrew the threaded knobs from the middle of both sides of the bed frame.
6. Pull the head section away from the foot section to disengage brackets and plastic glides.
7. On the foot section, rotate the locking pins and the snap-lock fittings. Pull the foot section up and away from the shear arm pivot pins.

4 Operating the bed

4.1 General Safety Information



WARNING!

Risk of personal injury and damage to property.

- The bed must be placed so that the height adjustment is not obstructed by, for example, lifts or furniture.
- Take care that no body parts are being squeezed between fixed parts (such as side rails, bed ends etc) and moving parts.
- The hand control must not be used by children.



WARNING!

Risk of injury

If the bed is used by confused or restless users or users with spasms:

- either, when the bed is equipped with a lockable hand control, lock the hand control functions,
- or make sure that the hand control is out of reach for the user.

4.1.1 Mattress retainers



WARNING!

Risk of injury

Without properly installed mattress retainers, the mattress can slip sideways and cause the user to fall out of the bed.

- Never use the bed without mattress retainers.
- Always make sure the mattress retainers are properly installed and facing upwards.
- Only use the original mattress retainers.

4.2 Hand control

The hand control can be equipped with either two or four buttons.

Sitting position



1. Up: press left side of the button (▲).
2. Down: press right side of the button (▼).

Backrest section



1. Up: press left side of the button (▲).
2. Down: press right side of the button (▼).

Thigh section



1. Up: press left side of the button (▲).
2. Down: press right side of the button (▼).

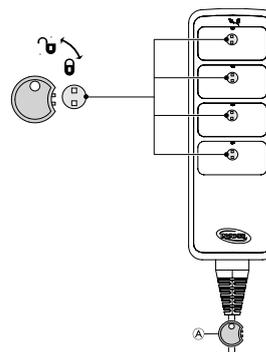
Height adjustment



1. Up: press left side of the button (▲).
2. Down: press right side of the button (▼).

4.3 Locking function

The locking function prevents usage of certain function buttons. Regardless of how many buttons your hand control has, they can all be locked individually.



1. Insert key (A) in the keyhole located just above the desired function.
2. To lock, turn the key clockwise.
3. To unlock, turn the key anti-clockwise.

4.4 Operating side rails



WARNING!

Risk of entrapment or suffocation

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

- Always ensure correct fitting and tightening of the side rails.



WARNING!

Risk of falling

If it has been decided that the user needs side rails:

- Never leave the user unattended in the bed with the side rail down.
- Make sure the side rail is in its highest position and properly locked while leaving the user unattended.



CAUTION!

Risk of Injury

If the side rail is not locked properly it can fall down.

- Pull/push the top bar of the side rail to ensure that the locking system is properly engaged.



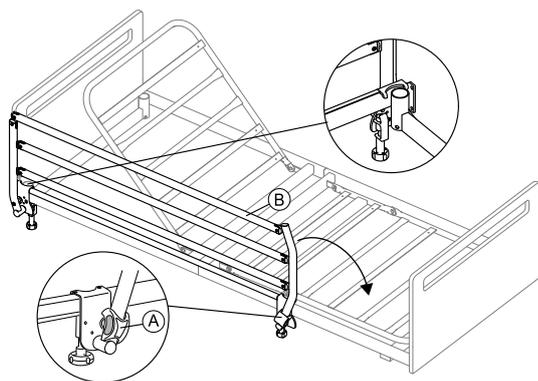
CAUTION!

Risk of Injury

There is a risk of entrapment or squeezing while operating the side rail.

- Pay attention to your fingers and body parts of the patient.
- Never force or drop the side rail while handling it.

4.4.1 Verso II side rails



Folding down to open the side rail

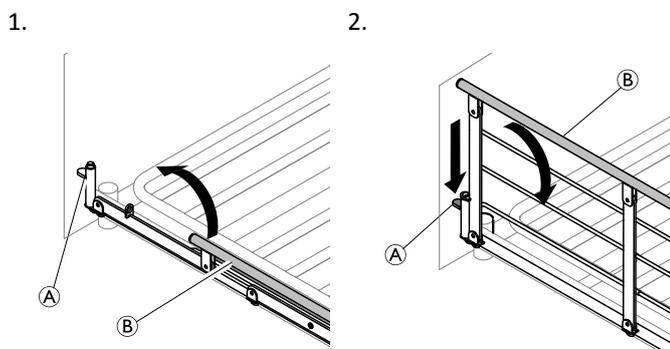
1. Hold the top bar **B** with one hand and pull the locking button **A** with the other hand.
2. Pull the top bar sideways and release the locking button.
3. Fold the side rail down to its lowest position.

Folding up to close the side rail

1. Pull the top bar **B** and raise the side rail until it is properly engaged in the locking system.

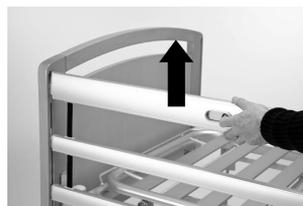
4.4.2 Operating Scala 2 side rail

NOTICE!
 – When manoeuvring the side rail, place your hands only in the areas marked with the grip label.

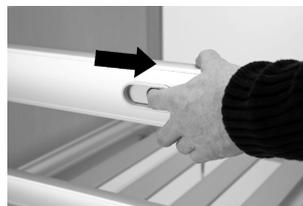


1. **Up:** Lift and pull the top bar **B** of the side rail towards the end with the locking mechanism (release button **A**). Ensure, it is locked in place.
2. **Down:** Press the release button **A** and push the top bar **B** of the side rail away from the locking mechanism.

4.4.3 Britt V and Line side rails



Lock / Upper position
 Pull up the top wooden side rail bar, until the locking pin locks with an audible click



Release
 Lift the top wooden side rail bar and press the two locking rings together.



Down / Lower position
 Lower the side rail.

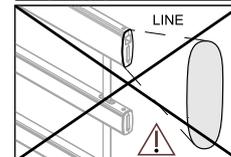
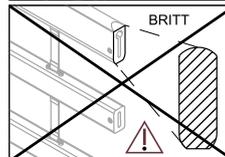
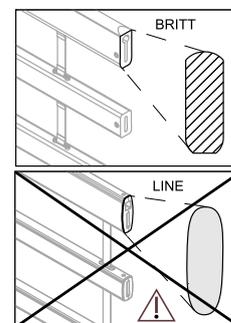
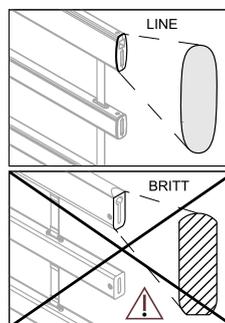
Using a side rail height extender

Line and Britt V side rails can be supplemented by a height extender. A side rail height extender increases the allowed mattress thickness by 15 cm.

WARNING!
Risk of injury or death
 A misapplied side rail height extender could fall off. There's an increased risk for the user to fall out of the bed.
 – Make sure that the side rail height extender is properly attached to the side rail. Refer to the user manual of the side rail height extender.
 – Make sure to use the correct height extender for your side rail (the shape must match to the shape of the side rail. A label on the height extender determines to which side rail it belongs. See image below.

Height extender for LINE side rail:

Height extender for BRITT V side rail:



4.4.4 Lisa side rail

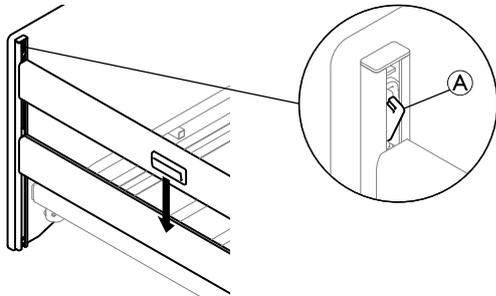
Operating the side rail

Raise the side rail

1. Use the two handles on the upper bar to raise the side rail until it locks in the upper position with an audible click.

Lower the side rail

- 1.



Press the gliding system latch **A** on one end of the bed and lower the side rail to the lowest position.

2. Repeat the procedure at the other end of the bed.

4.5 Castors and brakes



CAUTION!

Risk of trapping/squeezing

All brakes are foot-operated.

- Do not release the brake with the fingers.



CAUTION!

Risk of injury

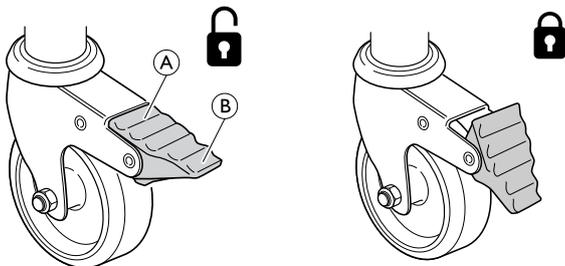
User can fall, while entering or exiting the bed, if brakes are not locked.

- Always lock the brakes before the user is moving in or out of bed or when attending to the user.



Castors might make marks on different types of absorbing floor surfaces - such as untreated or badly treated floors. To prevent marks, *Invacare*® recommends to place a suitable kind of protection between the castors and the floor.

4.5.1 Castor brake

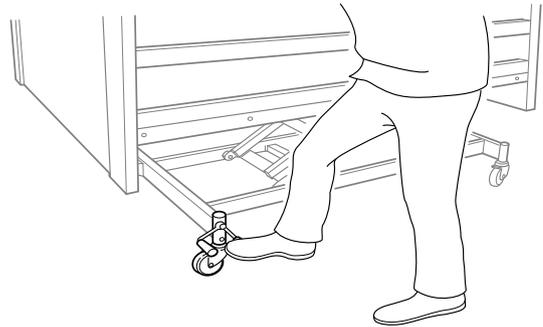


Locking the brake - Step on the outer part **B** of the brake pedal

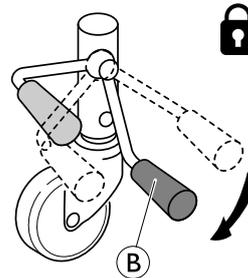
Unlocking the brake - Step on the inner part **A** of the brake pedal

4.5.2 Central brake system

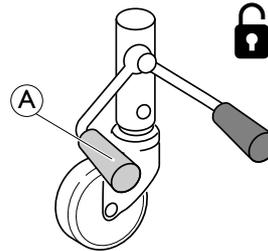
All the wheels are locked by locking one of the pedals.



Always stand in the middle of the bed's long side when locking the brakes.



1. Lock the brakes:
Step on the red pedal **B**.



1. Unlock the brakes:
Step on the green pedal **A** until the brake is in **neutral position** = Both pedals on the same level.

4.6 Lifting pole



WARNING!

Risk of injury

The bed can tip if the handle is used, while the lifting pole is turned away from the bed.

- The lifting pole always has to be positioned with the handle hanging over the bed area.
- Do not exceed the maximum load of the lifting pole; 80 kg.

4.6.1 Place the lifting pole

The lifting pole can be placed either on the left or the right side of the head end of the bed.

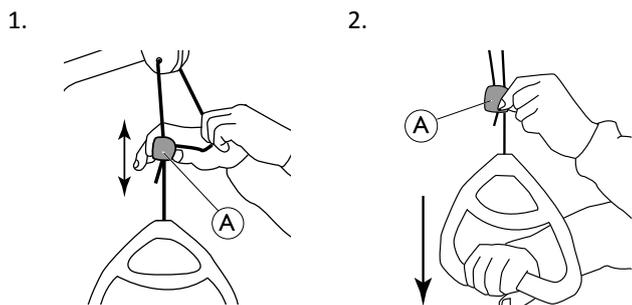
1. Insert the lifting pole into the lifting pole tube and fix it with the finger screw.



It's not required to tighten the finger screw, in case you want the lifting pole to swing away to the side of the bed.

4.6.2 Adjusting the handle height

The handle height should always be adjusted to the user's need.

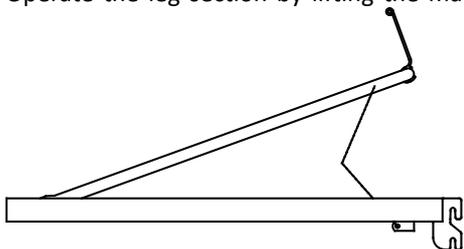


1. Hold the cord out while sliding the plastic cord lock (A) upwards or downwards until the handle reaches the preferred height.
2. Lock the handle by pressing back the cord in the lock (A) and pull the handle downwards.

NOTICE!
 After adjusting the handle height:
 – Check that the two cords above the cord lock are parallel and inside the cord lock.
 – Make sure the cord is properly locked by pulling the handle hard.

4.7 Adjusting the leg section

Operate the leg section by lifting the mattress handle:



1. **Up:** Lift the mattress handle on the leg section.
2. **Down:** Lift the mattress handle on the leg section right up and then lower the leg section.

4.8 Emergency positions

In case of a medical emergency, it might be required to bring all or certain mattress support sections into a flattened position - e.g. a flattened back section for cardiopulmonary resuscitation (CPR).

To bring a mattress support section into a flattened position,

- use the corresponding function on the hand control

OR

- in case of power failure or urgent need for action, use the manual emergency release and lower the mattress support section.

Refer to 4.8.1 *Emergency release of a mattress support section*, page 21.

4.8.1 Emergency release of a mattress support section

In case of a power- or motor failure, an emergency release of the back, thigh or leg section could be necessary. An emergency release of the height adjustment is NOT possible.



CAUTION!
Risk of injury

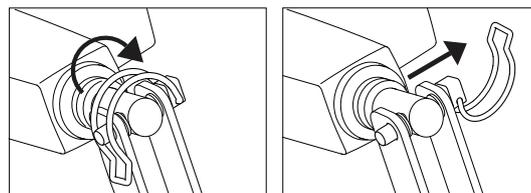
- A minimum of two persons is required for an emergency release of a mattress support section.
- When releasing a mattress support section, it might lower fast. Do not reach under the mattress support while lowering it.



NOTICE!

- Before an emergency release of the mattress support, remove the plug from the mains socket.

1. Both persons hold the mattress section.
2. One of them locates the motor in question and pulls out the safety pin.



3. Both persons slowly lower the mattress section until it is completely down.

4.9 Transportation and Storage

The bed can be transported or stored in assembled or disassembled state.

See 3.10 *Dismantle the bed*, page 16 for detailed instructions on how to disassemble the bed.

To transport or store the bed in its assembled state:

1. Disconnect the power cable from the mains socket.
2. Coil up the power cable and place it around the side tube of the bed, so it is kept clear of the floor and damage during transport or storage is prevented.

5 Options

5.1 List of available options

 Due to regional differences, refer to your local Invacare website or catalog for details about available options or contact your Invacare provider.

- Side rails
 - Verso II
3/4 length collapsible steel side rail mounted on the side tube. Release button in the foot section
 - Scala Basic 2
3/4 length collapsible steel side rail , mounted on the side tube. Release button in the head section
 - Scala Basic Plus 2
3/4 length collapsible steel side rail , mounted on the side tube. Release button in the head section
 - Scala Medium 2
3/4 length collapsible steel side rail mounted on the side tube. Release button in the head section
 - Britt V
Full length collapsible wood side rail mounted on the bed end guideways. Release buttons in the middle
 - Line standard
Full length collapsible aluminium side rail mounted on the bed end guideways. Release buttons in the middle
 - Line extendable
Full length collapsible aluminum side rail with telescopic extension mounted on the bed end guideways. Release buttons in the middle
 - Lisa
Full length collapsible wood side rail mounted on the bed end guideways. Release buttons in both ends
- Height extenders for Britt V and Line side rails
- Mattress support extension (foot end) – 15 cm
- Lifting pole
- IV drip rod

- Fixed support handles – 40 cm x 30 cm and 40 cm x 50 cm
- Hand controls
 - with back and height adjustment
 - with sitting position and back, thigh and height adjustment
 - with sitting position and back, thigh and height adjustment (lockable)
- Rastofix
- Transport trolley



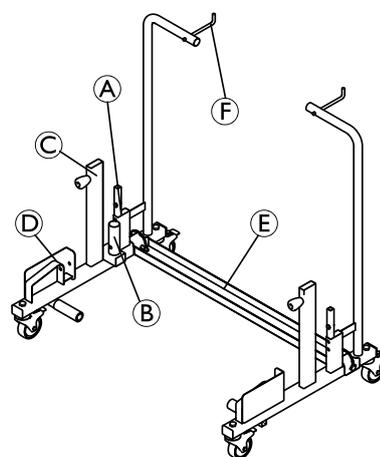
NOTICE!

– Use only original option and spare parts. Spare parts lists and extra user manuals can be ordered from Invacare.

5.2 Transport trolley

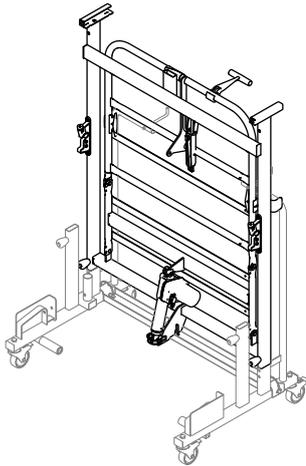


The transport trolley is not compatible with beds equipped with central brake.



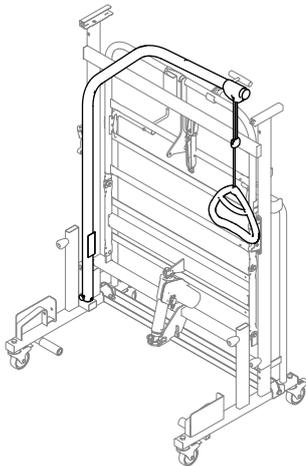
Mounting the bed on the transport trolley

1. Lock trolley castors.
- 2.



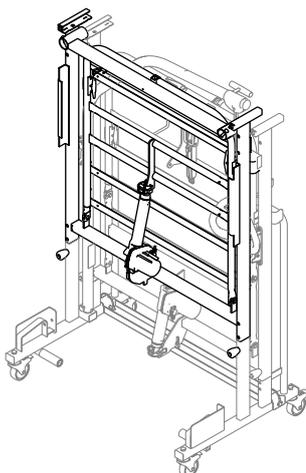
Mount the foot section onto the tubes **A** with the motor facing away from the trolley cross-channel **E**. Secure the foot section on the trolley with the finger screws.

3.



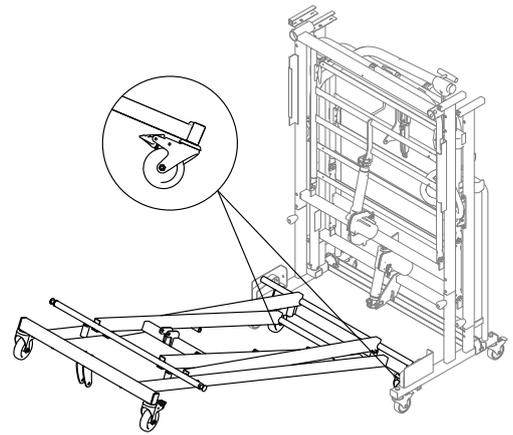
Place the lifting pole onto its location **B**.

4.



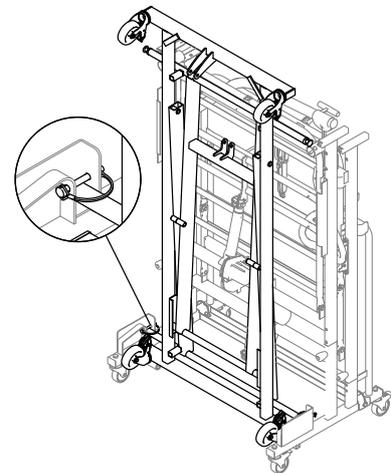
Mount the head section onto the tubes **C** with the motor facing away from the trolley cross-channel **E**. Secure the foot section on the trolley with the finger screws.

5.



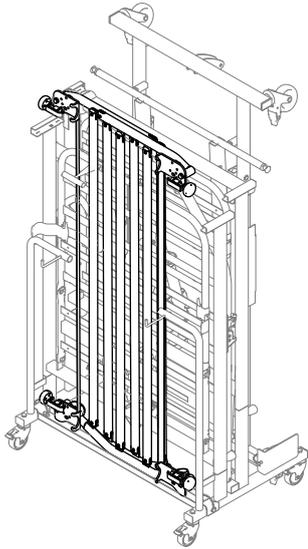
- a. Lock the brakes of the 2 bottom castors of the bed base and position them inwards to avoid that they touch the ground during the manipulation.
- b. Align square glide bushings of base assembly with brackets **D** and push the bed base onto the trolley as far as possible.

6.



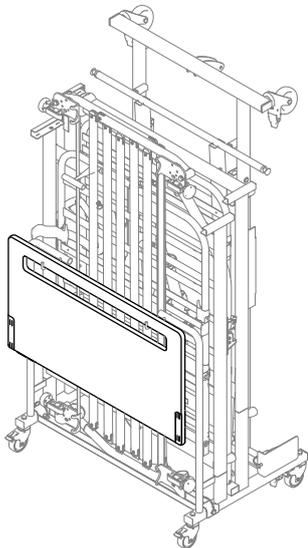
Lift end of base assembly into a vertical position, allowing the square glide bushings to engage into the brackets **D**. Secure base to trolley with spring pins.

7.



Place the Verso II side rails (if applicable) into cross-channel of the trolley ⑤.

8.



Place bed ends (if applicable) onto trolley hooks ⑥.

6 Maintenance

6.1 General maintenance information



CAUTION!

Risk of injury or damage

- Do not perform any maintenance or service procedures while the product is in use.

Follow the maintenance procedures described in this manual to keep your product in continuous operation.

6.2 Daily inspections



WARNING!

Risk of injury or damage

- Damaged or worn parts can affect the safety of the product.
- The product should be checked each time it is used.
 - Do not use the product if damage is found or you question the safety of any part of the product. Contact your Invacare provider immediately and ensure the product is not used until repairs are made.

Daily Inspection Checklist

- Visually inspect the bed. Check all parts for external damage or wear.
- Check all hardware, attachment points, stressed parts and any pivot points for signs of wear, cracking, fraying, deformation or deterioration.
- Check the hand control and all actuators for smooth operation.

6.3 General servicing information



NOTICE!

- The mattress support must be supported during service inspections, to prevent accidental lowering.
- Only personnel 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 unit are serviced by exchanging the faulty part.

6.4 Checklist - Maintenance

Checkpoints

- Circlips, cotter pins and plastic fixing ring - properly locked and intact.
- Screws - tightened.
- Weldings - intact.
- Side rail locking and moving system - properly locking and running smoothly.
- Castor fittings - tightened.
- Castor brakes - locking properly.
- Height adjustment motor - running properly.
- Backrest motor - running properly.
- Thigh section motor - running properly.
- Wires - correctly wired and undamaged.
- Electric plugs - undamaged.
- Damaged coating - repaired.
- Line side rail straps - not frayed or cracked.
- Accessories - correctly assembled and correct function.
- Rastofix fitting - check function.
- Motors, control unit and hand control - keep clean from dust and dirt. Check for damage.
- Anchor points, cables, piston rod, casing and plugs - Check for damage.

6.5 Inspection after relocation - Prepare for new user



NOTICE!

- When the bed has been relocated; before given to a new user it has to be thoroughly inspected.
- Inspection must be done by a trained professional.
 - For regular maintenance see maintenance chart.

6.6 Checklist - After relocation

Checkpoints

- Check the fittings between shear arm and mattress support (screws tightened properly).
- Check the locking of the motors (pipe pins correctly mounted).
- Check the electronic wiring for the motors (wires not squeezed).
- Check that the enclosing of the motors are intact (no cracks that enables fluids to pierce).
- 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 the locking function(s) of the side rails.

6.7 Cleaning and Disinfection

6.7.1 General safety information



CAUTION!

Risk of contamination

- Take precautions for yourself and use appropriate protective equipment.



CAUTION!

Risk of electric shock and product damage

- Switch off the device and disconnect from mains, if applicable.
- When cleaning electronic components consider their protection class regarding water ingress.
- Make sure that no water splashes to the plug or the wall outlet.
- Do not touch the power socket with wet hands.



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.

6.7.2 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.

6.7.3 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.

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

Removable textiles (including upholstery and mattresses)

- See attached label on each product.

6.7.4 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.

6.8 Lubrication

We recommend lubricating the bed according to the following table:

Part of bed	Lubrication method
Points of rotation in mattress support and base frame	Oil (medically clean)
Motor attachment points to mattress platform	Oil (medically clean)
Upper attachment point of Rastofix fitting	Oil (medically clean)
Scissor pivot bolts and attachment bolts	Oil (medically clean)



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

7 After Use

7.1 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.

7.2 Reconditioning

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

- Inspection
- Cleaning and disinfection

For detailed information, see *6 Maintenance, page 25*.

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

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

8 Troubleshooting

8.1 Troubleshooting electrical system

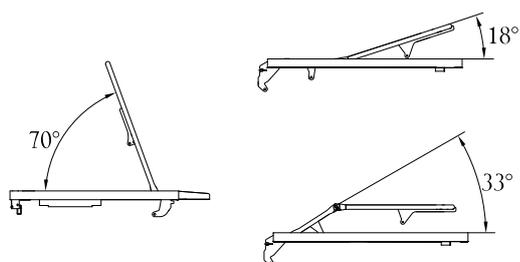
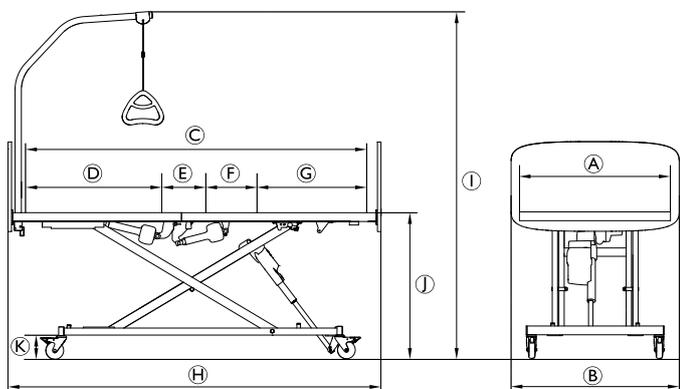
Symptom	Possible cause	Remedy
Mains indicator does not light up	Mains are not connected	Connect mains
	Fuse in the control unit is blown	* Replace the control unit
	Control unit is defective	* Replace the control unit
Mains indicator lights up, but the motor is not running. The relay in the control unit 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.		
<p>* Service and maintenance of the bed must only be performed by personnel who have received the necessary instruction or training.</p> <p>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.</p>		
<p> 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.</p>		

9 Technical Data

9.1 Materials

Mattress Platform	Steel (powder-coated)
Bed Ends	Steel (powder-coated) and MDF
Side Rails	Steel (powder-coated), wood or aluminium
Lifting Pole	Steel (powder-coated), PP and POM
Actuators housing, Hand control, Control box, Castors and other Plastic parts	Material according to marking (PA, PP, PE, ABS)
Bolts and nuts	Steel (Zinc-plated)
Mattress retainers	ABS

9.2 Dimensions



	Dimensions [cm]
Mattress support width A	90
Total width B (depending on bed end)	Emma, Vibeke, Piggy: 90
	Sabrine: 95
	Anita, Susanne, Sophie, Victoria: 100
	Camila: 102
Mattress support length C	200
Back section length D	80
Seat section length E	23
Thigh section length F	30
Leg section length G	67

	Dimensions [cm]
Total length H	211
Total height (with lifting pole) I	153 - 205
Mattress support to floor height J	28 - 80
Base to floor height K	16

All dimensions are stated without tolerances for a non-extended bed with castors of 125 mm diameter.

9.3 Weights

Maximum Loads

	Max. patient weight (provided that the weight of the mattress and the accessories do not exceed 35 kg)	135 kg
	Max. safe working load (patient + accessories)	170 kg

Bed Parts and Accessories

Alegio NG standard bed, complete, excluding accessories	65.0 kg
Mattress support, standard head end	14.0 kg
Mattress support with auto-regression, head end	17.0 kg
Mattress support, foot end,	15.5 kg
Mattress support, foot end, foot motor	17.0 kg
Mattress support, foot end thigh motor	17.0 kg
Base and shear arm	35.0 kg
Base	15.5 kg
Shear arm	19.5 kg
Bed End, Vibeke – 1 piece	6.0 kg
Bed End, Emma – 1 piece	7.0 kg
Bed End Susanne/Sophie – 1 piece	8.5 kg
Bed End, Camila – 1 piece	11.0 kg
Bed End, Sabrine – 1 piece	6.8 kg
Bed End, Victoria – 1 piece	10.0 kg
Bed End, Piggy – 1 piece	6.0 kg
Bed End, Anita – 1 piece	9.0 kg
Lifting pole	4.2 kg
Rastofix	0.3 kg
Mattress support extension (15 cm)	1.8 kg

9.4 Mattress Dimensions

Allowed mattress sizes, depending on the side rail

Side rail	Mattress measures (in cm)		
	Height	Width	Length*
Verso II	10 – 18	85,5 – 95	195 – 206
Line side rail	12 – 20	85,5 – 95	195 – 206

Lisa side rail	12 – 17	85,5 – 95	195 – 206
Britt V side rail	12 – 20	85,5 – 95	195 – 206
Scala Basic 2	10 – 17	85,5 – 95	195 – 206
Scala Basic Plus 2	10 – 17	85,5 – 95	195 – 206
Scala Medium 2	10 – 22	85,5 – 95	195 – 206

* For beds equipped with a mattress support extension, add 15 cm.

Min. density: 38 kg/m

9.5 Side Rails

Side Rail	Measures [cm]	Weights [kg/pc]
Verso II 3/4 length collapsible steel side rail	150 x 40	7.0
Scala Basic 2 3/4 length collapsible steel side rail	168 x 40	7.4
Scala Basic Plus 2 3/4 length collapsible steel side rail	168 x 40	7.4
Scala Medium 2 3/4 length collapsible steel side rail	165 x 46	8.9
Britt V Full length collapsible wood side rail	205 x 40	7.7
Line standard Full length collapsible aluminium side rail	206 x 40	4.5
Line extendable Full length collapsible aluminum side rail with telescopic extension	206-226 x 40	6.5
Lisa Full length collapsible wood side rail	205 x 40	7.0

9.6 Environmental conditions

	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	



Allow the product to reach operation temperature before usage:

- Warming up from minimum storage temperature might take up to 24 hours.
- Cooling down from maximum storage temperature might take up to 24 hours.

9.7 Electrical system

Voltage supply	U _{in} = 230 Volt, AC, 50/60 Hz (AC = Alternating current)
Maximum current input	I _{in} max. = 1.5 A
Intermittent (periodic motor operation)	I _{nt} = 10%, max. 2 min / 18 min
Degree of protection	IPX6 The control unit and motors are protected according to IPX6. IPX6 – The electrical system is protected against water projected in powerful jets from any direction.
Insulation class	Class II equipment
Type B Applied Part	Applied Part complying with the specified requirements for protection against electrical shock according to IEC60601-1.
Sound level	45 to 50 dB (A)



The bed has no isolator (main switch). If the bed needs to be electrically disconnected, it has to be unplugged from the mains socket.

10 Electromagnetic compatibility (EMC)

10.1 General EMC information

Medical Electrical Equipment needs to be installed and used according to the EMC information in this manual.

This product has been tested and found to comply with EMC limits specified by IEC/EN 60601-1-2 for Class B equipment.

Portable and mobile RF communications equipment can affect the operation of this product.

Other devices may experience interference from even the low levels of electromagnetic emissions permitted by the above standard. To determine if the emission from this product is causing the interference, run and stop running this product. If the interference with the other device operation stops, then this product is causing the interference. In such rare cases, interference may be reduced or corrected by the following:

- Reposition, relocate, or increase the separation between the devices.

10.2 Electromagnetic emission

Guidance and manufacturer's declaration

This product is intended for use in the electromagnetic environment specified below. The customer or the user of this product should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group I	This product uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	This product is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations /flicker emissions IEC 61000-3-3	Complies	

10.3 Electromagnetic Immunity

Guidance and manufacturer's declaration

This product is intended for use in the electromagnetic environment specified below. The customer or the user of this product should assure that it is used in such an environment.

Immunity test	Test / Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrostatic transient / burst IEC 61000-4-4	± 2 kV for power supply lines; 100 kHz repetition frequency ± 1 kV for input / output lines; 100 kHz repetition frequency	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line to line ± 2 kV line to earth	Mains power quality should be that of a typical commercial or hospital environment.

Immunity test	Test / Compliance level	Electromagnetic environment – guidance
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 0% U_T for 0,5 cycle at 45° steps 0% U_T for 1 cycles 70% U_T for 25 / 30 cycles < 5% U_T for 250 / 300 cycles	Mains power quality should be that of a typical commercial or hospital environment. If the user of this product requires continued operation during power mains interruptions, it is recommended that the product is powered from an un-interruptible power supply or a battery. U_T is the a. c. mains voltage prior to application of the test level.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Conducted RF IEC 61000-4-6	3 V 150 kHz to 80 Mhz 6 V in ISM & amateur radio bands	Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which this product is used exceeds the applicable RF compliance level above, this product should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating this product. Interference may occur in the vicinity of equipment marked with the following symbol: 
Radiated RF IEC 61000-4-3	10 V/m 80 Mhz to 2,7 GHz 385 MHz - 5785 MHz test specifications for immunity to RF wireless communication equipment refer to table 9 of IEC 60601-1-2:2014	Portable and mobile RF communications equipment should be used no closer than 30 cm to any part of this product including cables.

 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

10.3.1 Test specifications for immunity to RF wireless communications equipment

IEC 60601-1-2:2014 — Table 9

Test Frequency (MHz)	Band ^{a)} (MHz)	Service ^{a)}	Modulation ^{b)}	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380 - 390	TETRA 400	Pulse modulation ^{b)} 18 Hz	1.8	0.3	27
450	430 - 470	GMRS 460, FRS 460	FM ^{c)} ± 5 kHz deviation 1 kHz sine	2	0.3	28
710 745 788	704 - 787	LTE Band 13, 17	Pulse modulation ^{b)} 217 Hz	0.2	0.3	9
810 870 930	800 - 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation ^{b)} 18 Hz	2	0.3	28

Test Frequency (MHz)	Band ^{a)} (MHz)	Service ^{a)}	Modulation ^{b)}	Maximum power (W)	Distance (m)	Immunity test level (V/m)
1720 1845 1970	1700 - 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation ^{b)} 217 Hz	2	0.3	28
2450	2400 - 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation ^{b)} 217 Hz	2	0.3	28
5240 5500 5785	5100 - 5800	WLAN 802.11 a/n	Pulse modulation ^{b)} 217 Hz	0.2	0.3	9

 If necessary to achieve the immunity test level, the distance between the transmitting antenna and the Medical Electrical Equipment or System may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

^{a)} For some services, only the uplink frequencies are included.

^{b)} The carrier shall be modulated using a 50 % duty cycle square wave signal.

^{c)} As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.



United Kingdom & Ireland:

Invacare Limited
Pencoed Technology Park,
Pencoed
Bridgend CF35 5AQ
Tel: (44) (0) 1656 776 200
uk@invacare.com
www.invacare.co.uk



Invacare Portugal, Lda
Rua Estrada Velha 949
4465-784 Leça do Balio
Portugal



Invacare UK Operations
Limited
Unit 4, Pencoed Technology
Park, Pencoed
Bridgend CF35 5AQ
UK

1563578-H 2023-02-23



Making Life's Experiences Possible®



Yes, you can.®