



CX4000 Plus – Comfort Bed

User's Manual



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Because we care.

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INTRODUCTION

About this User Manual

This user manual contains instructions for the proper and safe use of the bed, and for patient & user safety and comfort, which has to be strictly followed.

This User Manual has to be read and followed by every person using or handling these beds. In case of any query, kindly contact Midmark India Pvt. Ltd.

ABOUT THIS PRODUCT

1. These CX4000 PLUS beds are non-invasive medical devices used for resting and treatment of the patients by medical/paramedical/hospital personnel to help and support the patient in diagnosis, prevention, monitoring, treatment or alleviation of the disease
2. These CX4000 PLUS beds are patient support and patient rest facility which help medical personnel in carrying out their medical procedures comfortably, minimizing the risks while moving and handling the patient
3. These CX4000 PLUS beds are manufactured and supplied in non-sterile condition for use in a normal hospital environment
4. These CX4000 PLUS beds are manually operated to provide clinical positions with the help of screw mechanisms
5. In these beds, there are four screw mechanisms used to attain the clinical positions of the backrest, upper Leg, height & Trendelenburg / Reverse Trendelenburg. These beds are available with removable head & footboards and 125 mm high-grade synthetic castors (with two diagonally positioned brakes)
6. These CX4000 PLUS beds are not diagnostic, measuring, monitoring or a therapeutic device or we say that it can prevent or alleviate disease
7. These CX4000 PLUS beds are also useful for intensive care, critical care in hospitals and nursing homes

CX4000 PLUS ICU Bed Features



Please refer to the CX4000 PLUS catalogue for the salient features of this product

Technical Data



Please refer to the CX4000 PLUS catalogue for the technical data of this product

Add-On Accessories



Please refer to the CX4000 PLUS catalogue for the add-on accessories of this product

DEFINITIONS

Operator

The operator is the person appointed by the owner (i.e. clinic, hospital management, etc.) who will be responsible for the safe operation of these bed

User


A user is a person who is capable of assessing the clinical condition of the patient e.g. specialist medical personnel, doctors, nursing staff, attendants, etc. based on their training experience or through the instructions, they are entitled to operate the bed on their responsibility or to carry out work on it and can recognize and control possible risks to the patient as well as the bed.


Patient


A patient is a person who is ill, infirm, disabled, or in need of medical assistance

SAFETY

In this User Manual, the following safety symbols are used

 **Danger:** This symbol will appear wherever safety instructions are designed to protect people from physical harm. The symbol stands for imminent danger of death or serious injury

 **Caution:** This symbol will appear where situations are described, which might be dangerous, and which might inflict slight injuries.

 **Advice:** This symbol will appear in front of additional helpful pieces of advice

● A dot in front of the text implies the action that is required to be taken.

Safety Instructions

- Always use original accessories that have been designed and approved for use with the bed
- Ensure that the beds are assembled and installed following the instructions given in this user manual (wherever required)
- Restrict child visitors without proper attendants. Supervision is necessary to avoid any mishap due to unintended movement of the bed
- Persons with reduced physical or mental abilities & children must not be allowed to use & handle the Bed without proper supervision
- Ensure that these beds are moved on a smooth steeples floor without any obstructions in its path, to prevent any inconvenience to user and damage to the ward care accessories and peripherals
- Do not allow any visitor to sit on the bed, as it may cause overloading. (Refer section - Operation)
- Accessories or any devices used along with the bed should be as per its intended use specified and approved by Midmark India Pvt. Ltd.
- The bed should always be kept and used in a normal indoor hospital environment
- Do not keep any articles below the bed mainframe. It can damage the linkages and screw mechanisms
- Keep some gap between walls and the bed while in a stationary position and also while moving from one place to another
- Keep the user manual handy with the operator/user for ready reference



The patient should be advised not to sit on edge of any section when it is in extended full-length position

ENVIRONMENTAL SPECIFICATIONS

Usage, Storage and Transport

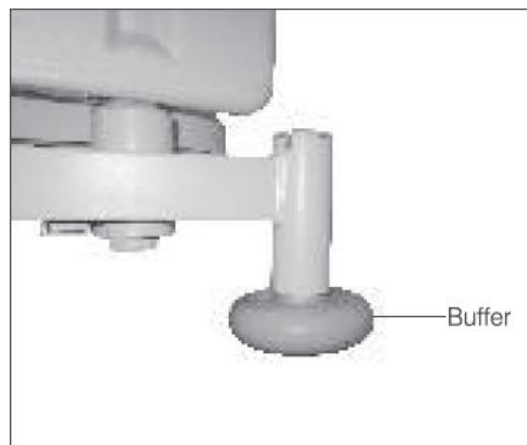
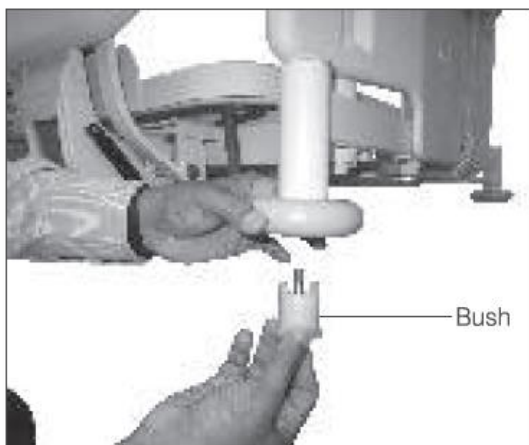
| | |
|----------------------|--------------------------|
| Temperature | -10° C to 50°C |
| Relative Humidity | 0% to 95% non-condensing |
| Atmospheric Pressure | 800 to 1060 hPa |
| Altitude | < 200Qm |

INSTALLATION

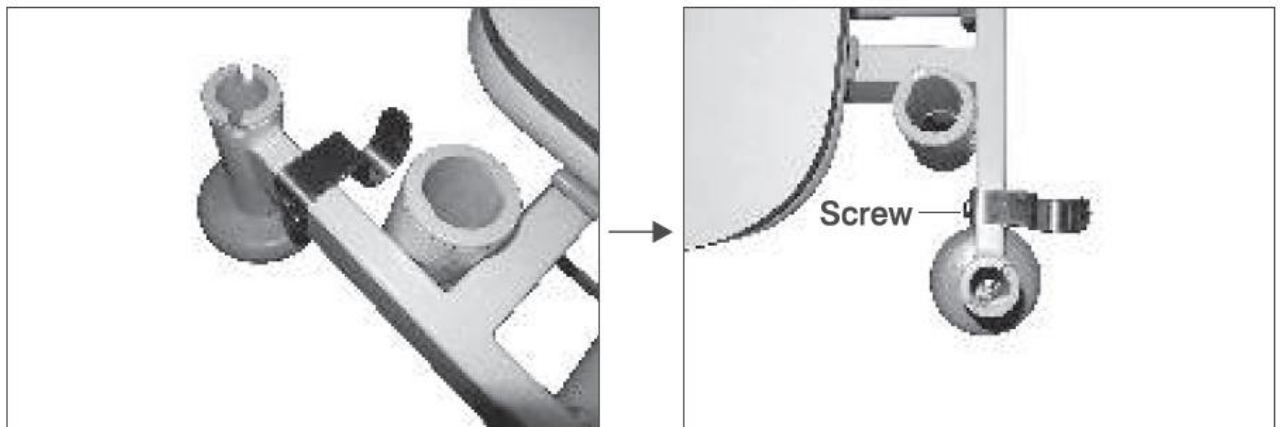


- Unpack all the components carefully.
- If the packing is drenched by rain, water, or other liquids, inform this matter to the operator
- Each Bed is supplied with the following components as per the packing list:

| | |
|--|------------|
| A bed fitted with castors and screw mechanism | - 1 No. |
| Rubber buffer with bush | - 4 Nos. |
| Removable head & foot board (product specific) | - 2 Nos. |
| Safety Side Railings (product specific) | - 1 Set |
| Removable handle | - 1 No. |
| Miscellaneous Items | - 1 Packet |
- **Rubber Buffer;** Fix the rubber buffer in the buffer holder with bush and bolt at all 4 corner

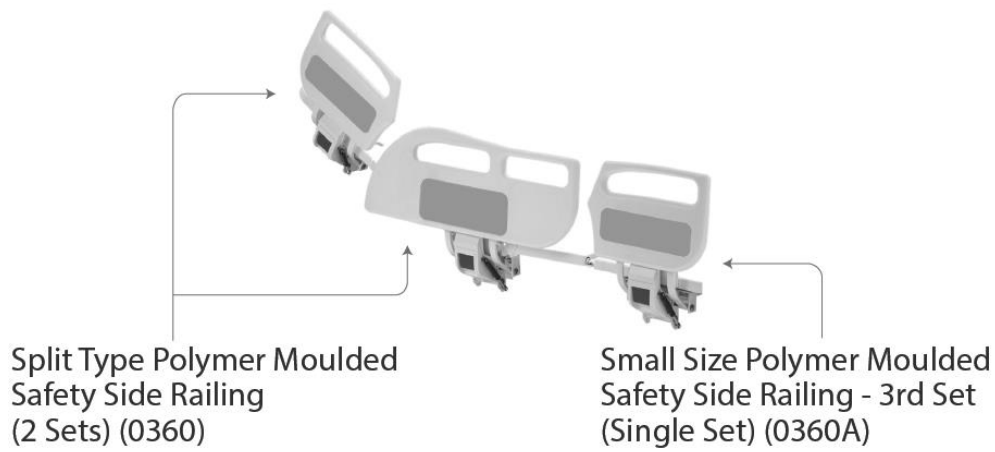


- **IV pole Holder;** Unscrew the IV pole holder from the mainframe. Change the direction of the hook to face outside and refit it by tightening the screws as shown in the figure



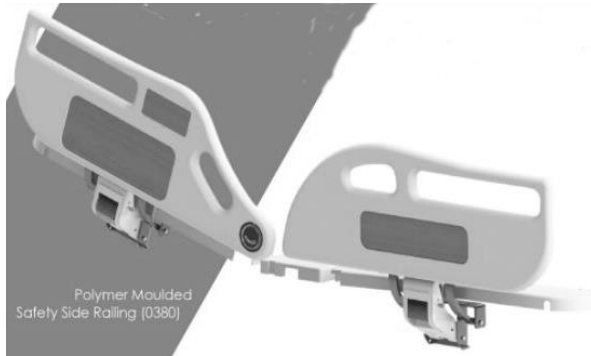
- **Safety Side Railing:**

1. 0360/0360A - Split Type Polymer Moulded Safety Side Railing (2 Sets/3rd Set)



- Loosen the two screws provided below the clamp
- Fix the safety side railings to the sides of the bed frame and tighten both the screws
- By holding the safety side railing with both the hands, pull out the Plunger Knob and push the safety side railing inside
- Press the SS pole with both the hands and lower the safety side railings for few cycles to check the smooth operation of the safety side railings

2. 0380 – Split Type Full-Length Polymer Moulded Safety Side Railing (2 Sets)



- Loosen the two screws provided below the clamp
- Fix the safety side railings to the sides of the bed frame and tighten both the screws
- By holding the safety side railing with both the hands, pull out the Plunger Knob and push the safety side railing inside
- Press the SS pole with both the hands and lower the safety side railings for few cycles to check the smooth operation of the safety side railings

- By holding the safety side railing with both the hands, pull out the Plunger Knob and push the safety side railing inside
- Press the SS pole with both the hands and lower the safety side railings for few cycles to check the smooth operation of the safety side railings

• Head & Foot Boards:

1. Fix head & footboards by extending equal forces with both the hands in the bracket



Polymer moulded head & footboards 0185 (pair)

Add-On Accessories

1. IV poles

These are used to hang IV bags for infusion of liquid substances directly into the vein of patients occupying the bed



Do not exceed the load capacity of 20 Kgs max. for four hooks and 10 kg. max for two hooks (equally distributed on all hooks) per IV pole, as damage to IV pole due to overloading, may result in personal injury or equipment damage

2. SS lifting pole

SS lifting pole helps the patient lying on the bed to lift themselves on their own, by holding the handgrips



3. Orthopaedic traction pulley

Orthopaedic traction pulley is used in the treatment of orthopaedic conditions like a prolapsed lumbar intervertebral disc (slipped disc)



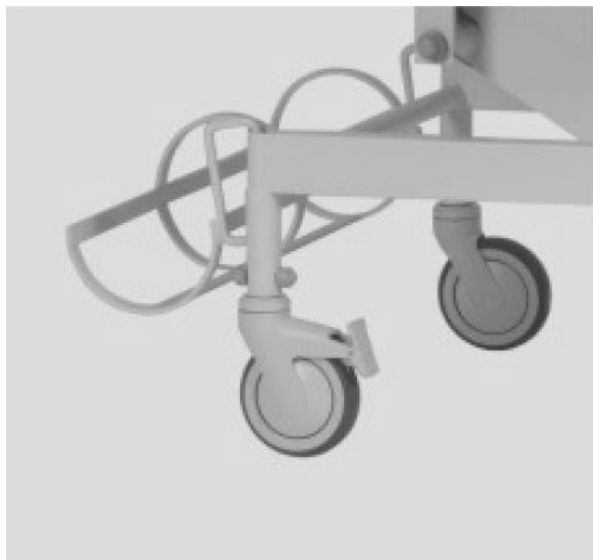
4. Moulded chart holder

Moulded Chart Holder is normally hung on the footboard (outer side) and facilitates placing of patient-related documents



5. Oxygen cylinder cage

Oxygen cylinder cage is placed on the base frame of the bed, and used to hold the oxygen cylinder



6. Urine bag holder

Urine bag holder is used to hold the urine bag and is hung on any side of the bed frame



7. Mattress (product specific)

The mattress is used for patients comfort



Midmark India Pvt. Ltd. recommends the use of original mattresses that have been designed & tested specifically for the CX4000 PLUS beds.



Ensure Mattress of correct size and firmness, to eliminate gaps causing entrapment risk, prevent accidental roll-over events in case of the low height of the railing, and safe patient transfers in & out of the bed



Mattress impermeability could be affected by needle sticks. Users should be instructed to avoid punctures caused by improper use of needle sticks. Failure to do so could result in cross-infection & patient injury. The mattress should be regularly inspected for punctures, rips, tears or other such damage & replaced with the suitable original mattress if required.



Smoking should be prohibited near the mattress with/without patient, as this is a fire hazard, and mattress, sheets & pillows generally do not have flame retardant properties



Use the Bed accessories following the manufacturer's instructions for patient safety and comfort. Use recommended spares and accessories of suitable design manufactured by Midmark India Pvt. Ltd. to eliminate hazards



Ensure that the accessories are properly secured and not overloaded to avoid any personal injury or equipment damage

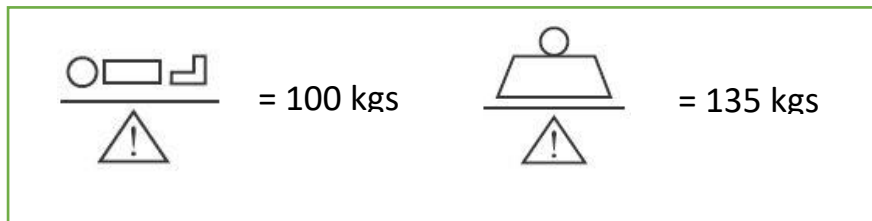


Notify if any damage has occurred during transportation either to the authorized agent or directly to Midmark India Pvt. Ltd.



Disposal of the packing material waste following the local waste disposal regulations prevailing

LOAD BEARING CAPACITY



Do not exceed the safe working load mentioned above

Operation

1. Before putting the bed into use for the first time ensure that all the transport securing devices and packing film are removed.
2. Clean and disinfect the bed before the first time use
3. The bed should be used on a flat floor
4. The force required to move the bed from one place to another with /without patient may vary depending on the flooring conditions.
5. Check if all the operations are functioning properly
6. This bed should be operated only by an authorized and trained person who knows its operation.



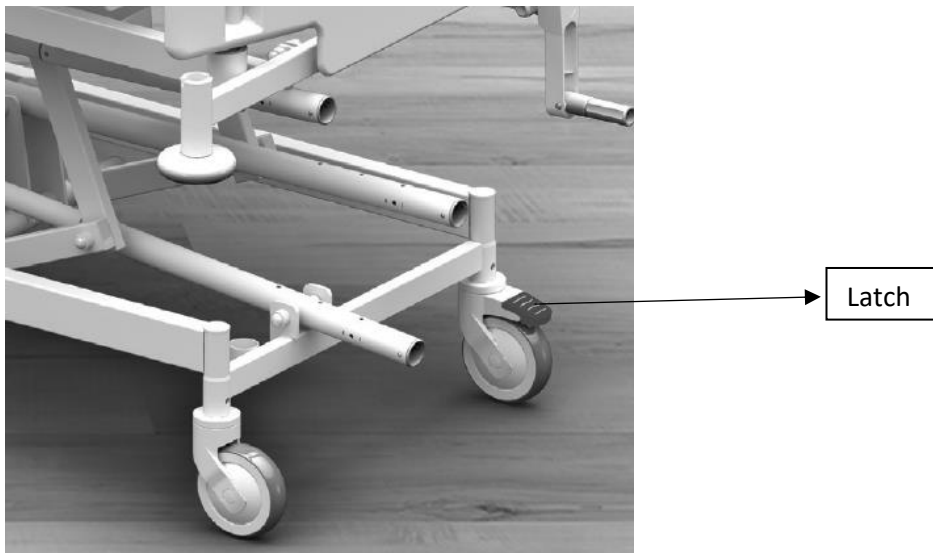
Do not use the bed for purposes other than the intended use as it may cause damage to the patient/equipment



With due consideration to environmental limitation, materials used to make the device are not affected by contact with any biochemicals or biowaste when used as per its intended purpose, all materials used in the product and accessories do not facilitate breeding or growth of bio-contaminants on their own

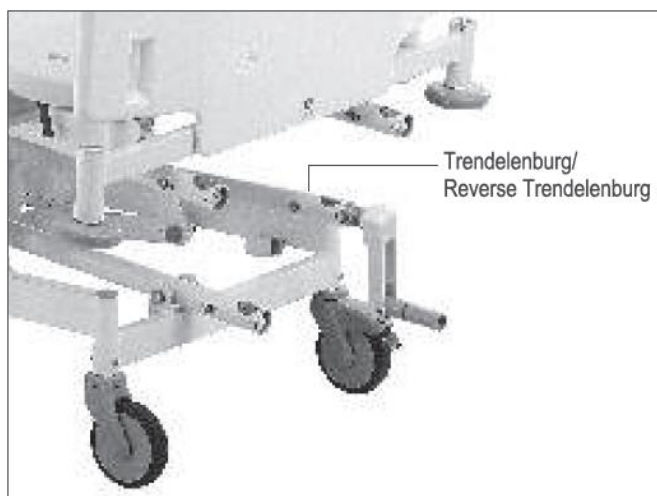
7. Castors & braking mechanism

The CX4000 PLUS bed is equipped with four 125 mm high-grade synthetic castors; two diagonally opposite castors are with brakes. To lock the castors press the latch, and to unlock release the latch



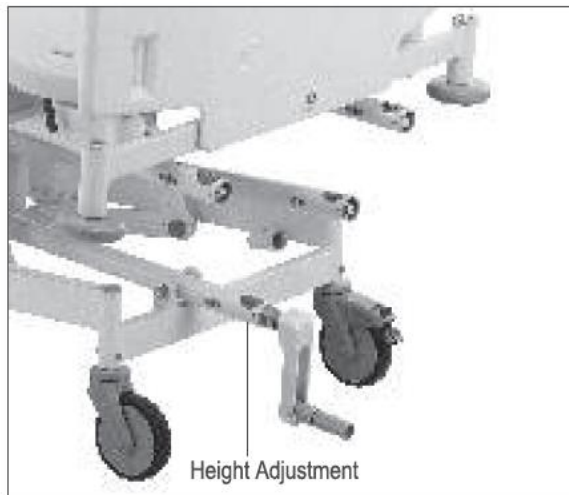
8. Adjusting the Trendelenburg / Reverse Trendelenburg tilt

To adjust the Trendelenburg position or Reverse Trendelenburg position first hold the mainframe firmly with one hand and insert the handle into the respective crank mechanisms as shown in the above figure. Raise or lower the frame by rotating the handle to the desired tilt position. Remove the handle and keep it safely under the mattress



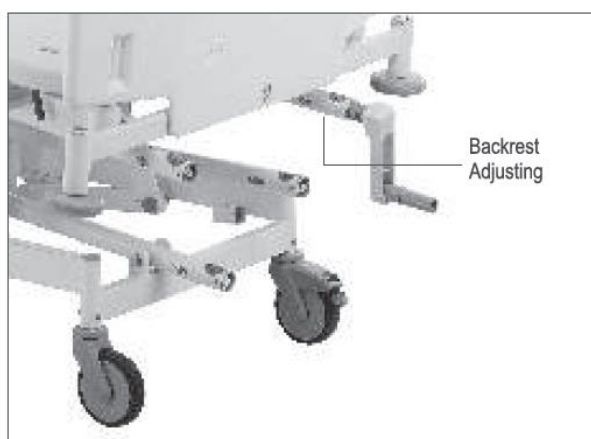
9. Adjusting the height

To adjust the Height, first, insert the handle on the respective crank mechanism and turn the handle anti-clockwise or clockwise to raise or lower the height respectively. Remove the handle and keep it safely under the mattress



10. Adjusting the backrest

To adjust the backrest, first, insert the handle on the respective crank mechanism and turn the handle clockwise or anti-clockwise to raise the Backrest respectively. Remove the handle and keep it safely under the mattress



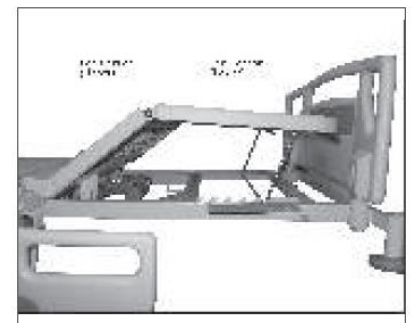
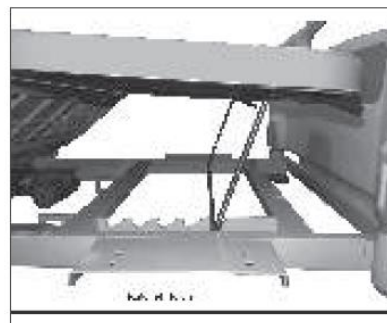
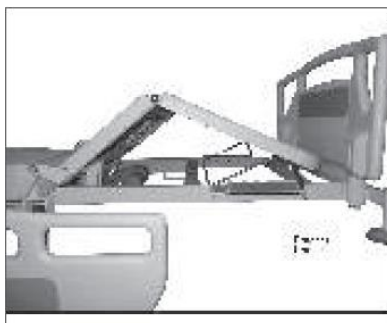
11. Adjusting the leg rest

To adjust the leg rest, first, insert the handle on the respective crank mechanism and turn the handle anti-clockwise to lower or clockwise to raise the rest section respectively. Remove the handle and keep it safely under the mattress



12. To attain the Calf Elevation position, the Lower Leg Section can be adjusted manually- Lower Leg Section

Lower leg section gets raised simultaneously when raising the upper leg section through electrical control. To attain the calf elevation position, the lower leg section can be adjusted manually



13. To raise leg section (lower part) manually

1. Firmly hold and lift the leg section (lower part) with one hand
2. With the other hand hold the ratchet handle to the required inclination
3. Place the ratchet handle in the desired ratchet notch to lock the position
4. Make the patient comfortable by readjusting his position on the bed

14. To lower leg section (lower part) manually

1. Firmly hold the leg section (lower part) with one hand
2. Pull out the ratchet handle from the ratchet notch to unlock the position.
3. Carefully place the leg section (lower Part) on the mainframe.



Always observe the correct adjustment sequence



Care should be taken to avoid fingers and hand getting entrapped between the Ratchet and the top frame

15. Head & Foot Boards (removable type)

Head Boards

- The headboard is located at the head end of the bed frame.
- The headboard can be removed or attached in a single step by extending equal force with both the hands in the bracket by ensuring the proper matching of the brackets with board holder fitted on the mainframe
- The headboard can be removed for the ease of access to the patient from the head side



Polymer moulded head & footboards 0185 (pair)

Footboards

- The footboard is located at the foot end of the bed frame
- The footboard protects the patients during transport and room docking
- The footboard can be removed or attached in a single step by extending the equal force with both the hands in the bracket by ensuring the proper matching of the brackets with board holder fitted on the mainframe



Do not hang any heavy items on the head & footboard



Pushing/pulling the bed from the head & footboards may cause play in the head/footboard mounting brackets in the long run to facilitate easy movement of the overbed table over the bed

16. Safety Side Railings:



Safety side rails should be fitted and properly secured by a trained technician



Always use the safety rails with the mattress of the correct size, which is approved for use with this bed for the safety of the patient



Do not use the safety side rails to move or lift the bed

Although the safety side railings have been designed to reduce the risk of patient injury, the potential exists for patient entrapment, particularly in agitated or disoriented patients, patients who have a cognitive disability or have uncontrolled body movement as well as patients who lack the physical strength to extract themselves if they get entrapped



Users should carefully evaluate the need for safety side rails and periodically check patients in ill accordance with facility protocols for safe positioning



The Safety Side Railings should always be in the raised position when attaining lowest height position or when attaining Trendelenburg / Reverse Trendelenburg tilt positions

If these safety measures are not observed, injuries can be caused to hands, knees, fingers, feet, legs or other body parts of the patient due to unintended and unintentional entrapment. In children or weak patients who are less than 146 cms tall, non-observance of these guidelines may even lead to death



17. X-Ray permeable backrest with cassette holder:

1. The Backrest Support Top in this option is made of a high-pressure laminated sheet which is X-Ray permeable
2. This facility is provided especially for patients who are seriously ill or too weak to stand unsupported and need the X-ray imaging without being moved out of the bed
3. Beds having with X-Ray Permeable Backrest come factory fitted to the bed, and do not need any special installation

CX4000 PLUS-XR

- Lower the Safety Side Rail before raising the backrest to its maximum position.
- Then slide the cassette holder in an outward direction by holding the handle as shown in Figure 2.
- Place the X-Ray plate on the Cassette holder to its desired position for X-Ray imaging.
- The Spring Mechanism (Figure 2) will hold the X-Ray plate in place.
- Slide the Cassette holder back onto its original position
- Adjust the Backrest to facilitate X-Ray imaging.

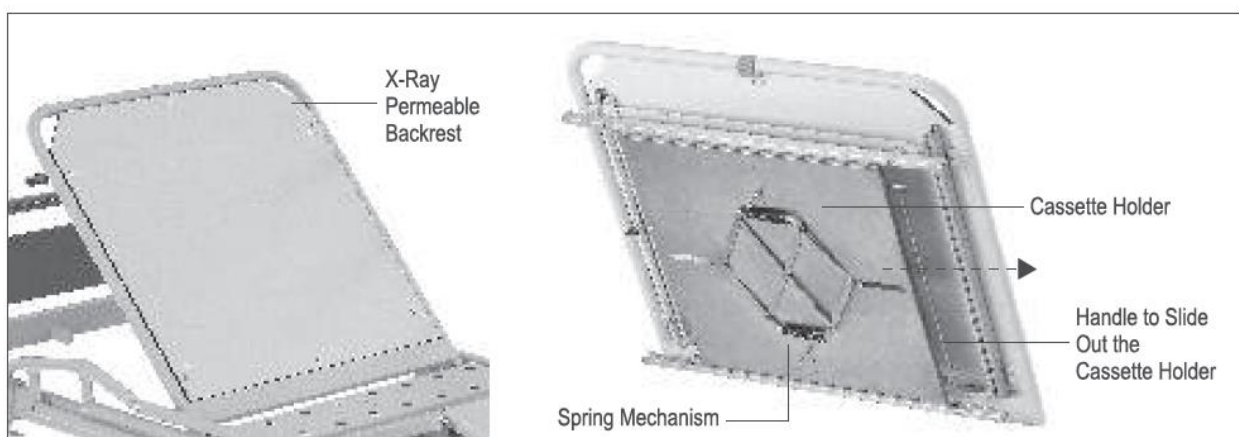


Fig. 1

Fig. 2

Only authorized and qualified persons designated by the Operator and having proper training should be allowed to prepare the bed with the patient for X-Ray imaging.

With due consideration to environmental limitations, materials used to make the device are not affected by contact with any biochemicals or biowaste. When used as per its intended purpose, all materials used in the product and accessories do not facilitate any breeding or growth of bio-contaminants on their own

MAINTENANCE & CLEANING

Maintenance

Each time before putting the bed into service the user must check that –

- 1.** All the functions are in satisfactory working condition before the Bed is allotted to the next patient
- 2.** Lubrication of all the mechanical joints/pins / moving parts / tightening of the bolts should be carried out at least once in three months, to avoid unnecessary sound and wear & tear of the bed
- 3.** At regular intervals carry out a visual inspection and check for any mechanical damage (e.g. loose /missing rivets, screws, etc.)
- 4.** If any damage or malfunction is observed, immediately report this matter to the operator
- 5.** If the Bed is not in use, it should be stored in a dry and rodent free indoor environment on a flat surface with a gradient, not more than 5 degrees
- 6.** If the Bed is not in use for a long term, it is necessary to conduct a test to check for functioning and any mechanical damage that may have been caused
- 7.** Depending on the usage, certain moving parts may require replacement due to wear & tear. We recommend timely replacement with original spares for safety and trouble-free operation

Cleaning & Disinfecting

1. The bed is not suitable for machine wash or steam cleaning
2. Do not use water jet for cleaning
3. The bed cannot tolerate the influence of strong solvent, basic or alkaline liquids & caustic agents
4. The cleaning agents must not contain any substances which bring about any change in the structure or adhesive property of the plastic
5. The Bed should be properly cleaned and disinfected to avoid infection and stains before allotment to a new patient
6. Immobilize the Bed & remove all the detachable accessories and components before cleaning. Any prolonged contact of urine or acid on mild steel can corrode the surface. Keep the surface dry at all times
7. Wearing suitable protective clothing, clean the surface with a disposable cloth soaked in a neutral detergent and hot water. We recommend the use of approved disinfectant and cleaning agents to clean the Bed. e.g. Bacillocid or other similar agents
8. Start by cleaning the upper sections of the bed & work along all horizontal surfaces. Work methodically towards the lower sections of the bed. Take extra care to clean areas that may trap dust or dirt. All detachable accessories and its component can be cleaned separately



Do not expose the bed to excessive moisture as corrosion may cause personal injury or equipment damage

Disposal:



Product and its defective parts especially elements made of plastic, steel, rubber material should be disposed of following the statutory rules and regulations prevailing for such disposal. The user is advised to contact Midmarkindia Pvt. Ltd. for further assistance

Routine Inspection Check List: Inspection by the User (Recommended Frequency: Every new allotment but not later than three months)

| Checks | Observation | OK | Not OK | Description of faults |
|---|---|-----------|---------------|------------------------------|
| Visual check of the mechanical components | | | | |
| Main Frame | Damage/Deformation | | | |
| IV pole with Clamp (optional) | Damage, Bent | | | |
| Mattress | Damage | | | |
| Screw and rivets are tightened | Loosened, Missing | | | |
| Performance check of all mechanical components | | | | |
| Screw Mechanism | Smooth movement | | | |
| Detachable Head and Foot Boards accessories | Secure retention Fastening, Damage, Missing | | | |
| Castors | Locking, Release (mobilization) | | | |
| Safety Side Railings | Locking / Un-locking, Secure fastening | | | |
| Legrest | Engagement | | | |
| Accessories | Fastening, Damage, Missing | | | |
| Sign | Result of inspection | | Date | |

Troubleshooting Guide

| Problem | Possible Causes | Remedy |
|---|---|---|
| Castors not working | <ol style="list-style-type: none"> 1. Castors are damaged 2. Castors are not locking | <ol style="list-style-type: none"> 1. Replace the Castors 2. Check the Locking Lever for any damage & replace the Castor. |
| Abnormal sound vibrations during any operation | <ol style="list-style-type: none"> 1. Linkages are tight 2. Nut / Bolts are loosened | <ol style="list-style-type: none"> 3. Lubricate the Linkages from its joints. 4. Tighten the bolts. |
| Railing not locking in the raised position | <ol style="list-style-type: none"> 1. (0360) Gas spring is not working due to oil leakage | <ol style="list-style-type: none"> 1. Check & replace the gas spring |
| Screw Mechanism not working | <ol style="list-style-type: none"> 2. The mechanism is jam, very tight to rotate 3. The mechanism is bent or broken | <ol style="list-style-type: none"> 4. Check & do little oiling or greasing 5. Replace the screw mechanism |

WARRANTY & SERVICE

Midmark India Pvt. Ltd. warrants solely to the end-users of this bed that for a period specified in the warranty certificate, such bed shall perform as per its intended use. The foregoing warranties shall not apply if the Product has been subjected to:(a) physical abuse, misuse, abnormal use, or use not consistent with Midmark India Pvt. Ltd.'s published directions, (b) any modification by anyone other than Midmark India Pvt. Ltd., or third parties designated by Midmark India Pvt. Ltd., or (c) fraud, tampering, negligence or accidents, depending upon the nature of the products.

Limitation Of Liability: In no event shall Midmark India Pvt. Ltd., be liable or obligated to the end-user in any manner for any special, non-compensatory, consequential, indirect, incidental, statutory or punitive damages of any kind. Including, without limitation. For injury or loss of life, lost profits lost sales. Lost revenue, loss of any software or data. or loss of use of any hardware, software or data, regardless of the form of action, whether in contract, tort, negligence, strict product liability, or otherwise, even if Midmark India Pvt. Ltd., has been informed of or is aware of the possibility of any such damages in advance. Midmark India Pvt. Ltd.'s total aggregate liability under this agreement and in relation to anything which Midmark India Pvt. Ltd., has done or not done in connection with this agreement shall be limited to the price of the products purchased and paid for by the end-user during the period in which such liability arises. The limitations set forth above shall be deemed to apply to the maximum extent permitted by applicable law and notwithstanding the failure of the essential purpose of any limited remedies.

In order to maintain functional safety and right to claim under the warranty only original 'Midmark' replacements parts may be used for ordering replacement parts, customer service request and further question, please contact our technical support department.



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Disclaimer

Every effort has been made to ensure that the information in this user manual is valid. Midmark India Pvt. Ltd., reserves the right to change the information in this document without prior notice."

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